

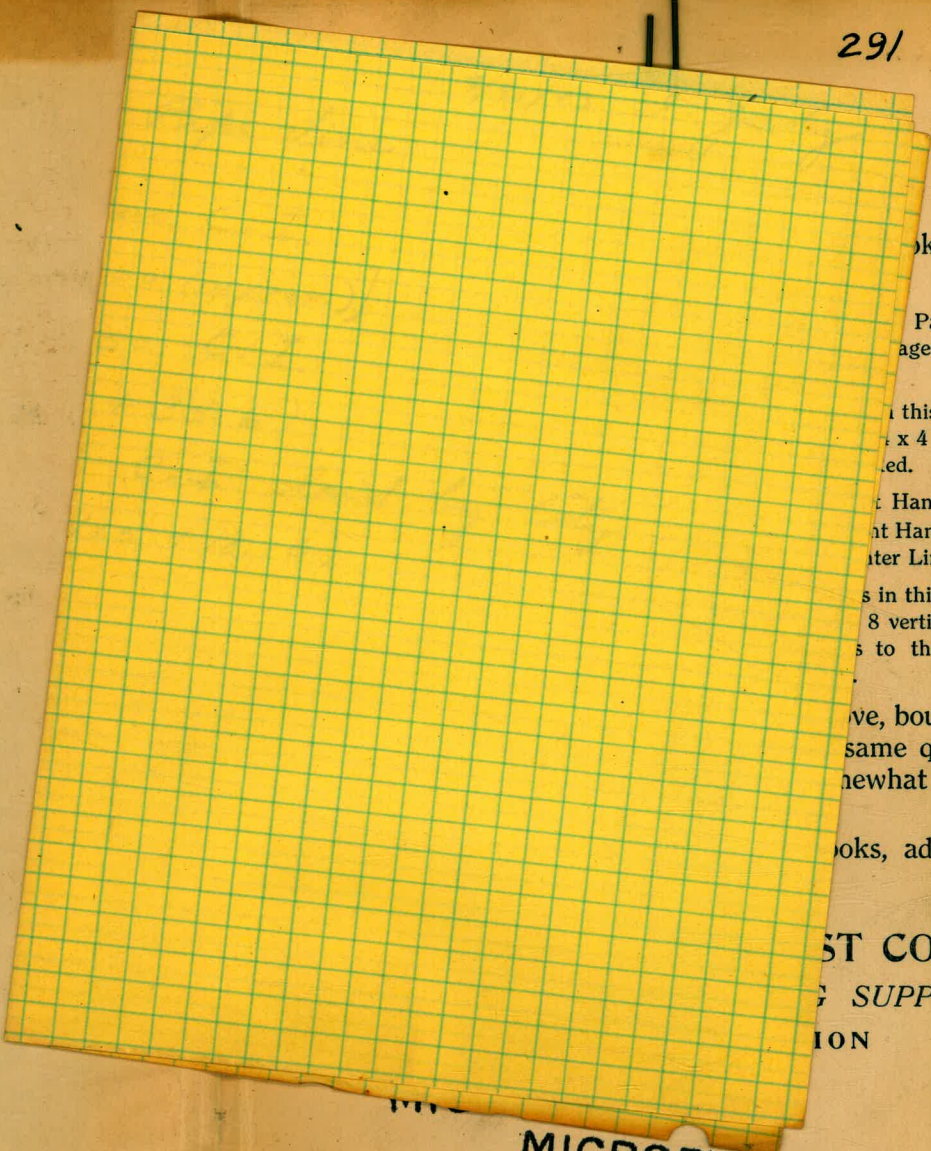
291



LEVEL BOOK

330F

291



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JUN 1 1965
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JAN 1 1965

9/30/43 J. Judy

36th St. Pipe Line

8728.5 ft. Class 200 C.I.

[0+00 to 87+00 (approx.)]

1728.6 ft. Class 250 C.I.

(87+00 to 104+35.6)

Additional Class 250 C.I. laid by City

(104+35.6 to 115+18.10)

O.R.-S.D. 2nd. Main Pipe Line.
City Datum.

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Final Cross Sections - Trench
Excavation - Schedule I.
Standard 4.50 Trench.

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O.R. - S.D. 2nd. Main Pipe Line.
Final Cross Sections - Schedule I.

Sta. 630+00 to Sta. 680+17.5

Contd. from Book # 290 - Page.

Standard 4.50 Trench.

Note - All Elevations in this Book are City Datum.

Sta.	Grade	Elev.	Dist	L.C.	±	R.C.	End. Area	Av. E.A.	Cu. Yds.
630	327.9	333.1			5.2		23.40 [✓]		
								25.20 [✓]	23.33 [✓]
+25	328.7	334.7			6.0		27.00 [✓]		
								26.32 [✓]	24.37 [✓]
+50	329.4	335.1			5.7		25.65 [✓]		
								27.48 [✓]	25.44 [✓]
+75	330.1	336.6			6.5		29.31 [✓]		
								25.68 [✓]	23.78 [✓]
631	330.9	335.8			4.9		22.05 [✓]		
								22.50 [✓]	20.83 [✓]

Computed, T.M.M.

Chd. P.O.C

March 11, 1930.
Clear & Warm

Converse - Notes
Hill - Grades
Elliott - ∇
Simpson - Rod

1

117.75[✓]

				End Area	Cu. Yds.
+25	331.6	336.7	5.1	22.95	22.95
					19.51
					19.55
+48	332.3	337.4	5.1	22.95	23.85
					45.94
632	333.9	339.4	5.5	24.75	25.65
					23.75
+25	334.6	340.5	5.9	26.55	26.55
					24.58
+50	335.4	341.3	5.9	26.55	27.00
					25.00
+75	336.1	342.2	6.1	27.45	26.78
					24.80
					163.62
				Comptd. T.M.M.	H.C.L.
				Chd. A.C.L. Ward	WARD

				End Area	Cu. Yds.
633	336.9	342.7	5.8	26.10 [✓]	
					26.32 [✓] 24.37 [✓]
+25	337.6	343.5	5.9	26.55 [✓]	
					26.78 [✓] 24.80 [✓]
+50	338.4	344.4	6.0	27.00 [✓]	
					27.92 [✓] 25.85 [✓]
+75	339.1	345.5	6.4	28.84 [✓]	
					28.38 [✓] 26.27 [✓]
					28.84 26.70 [✓]
634	339.9	346.1	6.2 [✓] 6.4	27.91 [✓] 28.84	
					27.91 [✓] 36.18 [✓]
					28.37 36.78 [✓]
+35	340.9	347.1	6.2 [✓]	27.91 [✓]	
					30.60 [✓] 34.00 [✓]
					171.47 [✓]
				Comptd. T.M.M.	A.C.L.
				Ch. ✓ A.C.L. 91913	91913

152.84

				End Area	Cor. Yds.
+65	340.4	347.7	7.3 ✓	33.28 ✓	37.14 ✓ 48.14 ✓
635	338.2 ✓	346.9	8.7 ✓	40.99 ✓	43.09 ✓ 39.90 ✓
+25	336.6	346.0	9.4 ✓	45.19 ✓	42.79 ✓ 39.62 ✓
+50	335.1	343.7	8.6 ✓	40.39 ✓	38.69 ✓ 57.32 ✓
+90	332.5	340.5	8.0 ✓	37.00 ✓	35.14 ✓ 13.02 ✓
636	331.9	339.2	7.3 ✓	33.28 ✓	32.51 ✓ 14.45 ✓ 212.45 ✓
				Compt. T.M.M.	R.C.L.
				Chd.	W.M.B. M.M.B.

				End Area	Cu. Yds.
+12	331.1	338.1	7.0 [✓]	31.75 [✓]	29.15 [✓] 29.83 [✓]
+35	329.7	335.6	5.9 [✓]	26.55 [✓]	27.46 [✓] 10.17 [✓]
+45	329.5	335.8	6.3 [✓]	28.37 [✓]	27.23 [✓] 20.17 [✓]
+65	329.1	334.9	5.8 [✓]	26.10 [✓]	29.43 [✓] 16.35 [✓]
+80	329.4	336.6	7.2 [✓]	32.76 [✓]	30.56 [✓] 22.64 [✓]
637	329.9	336.2	6.3 [✓]	28.37 [✓]	27.91 [✓] 51.69 [✓] 145.85 [✓]
				Comptd. T.M.M.	A.C.L.
				Chd. A.C.L.	NONB 929MB

				End Area	Cu. Yds.
+50	331.1	337.2	6.1	27.45	26.10 48.33
638	332.3	337.8	5.5	24.75	24.30 45.00
+50	333.6	338.9	5.3	23.85	23.85 44.17
639	334.8	340.1	5.3	23.85	24.52 45.41
+50	336.0	341.6	5.6	25.20	24.30 45.00
640	338.7	343.9	5.2	23.40	22.95 <u>25.50</u> 24.50 253.41

Comptd. M.M.

Chd. P.C.L. 9/11/13 9/11/13

End Area

Cu. Yds.

+30 340.3 345.3

5.0

22.50

23.40 17.33

+50 341.4 346.8

5.4

24.30

23.85 44.17

+61 345.5 350.7

5.2

23.40

25.20 23.33

+25 347.5 353.5

6.0

27.00

26.55 24.58

+50 349.6 355.4

5.8

26.10

27.00 25.00

+75 351.6 357.8

6.2

27.91

Compt. 26.10 24.17

Chd. A.C.L. 26.10 24.17

158.58

642 353.7 359.1

5.4

End Area

Cu. Yds.

24.30

24.52 45.41

+50 355.8 361.3

5.5

24.75

25.42 18.83

+70 356.6 362.4

5.8

26.10

27.23 20.17

+90 357.5 363.8

6.3

28.37

26.56 9.89

643 357.9 363.4

 $\frac{5.5}{2.25}$

5.5

 $\frac{5.5}{2.25}$

24.75

27.63 10.23

+10 358.3 365.1

 $\frac{7.2}{2.55}$

6.8

 $\frac{6.7}{2.30}$ 30.52
~~30.76~~

27.10 28.10

132.58
A.C.L.

Complete M.M.M.

Chd. A.C.L. 19MB 19MB

					End Area	Co. Yds.
+38	359.5	364.4	$\frac{6.4}{2.35}$	4.9	$\frac{4.9}{2.25}$	23.68
						25.56
						11.36
+50	360.0	366.0	$\frac{7.2}{2.55}$	6.0	$\frac{5.2}{2.25}$	27.45
						30.11
						39.03
+85	362.9	370.0	$\frac{8.2}{2.8}$	7.1	$\frac{6.4}{2.35}$	32.77
						32.77
						18.21
644	364.0	371.2	$\frac{7.8}{2.68}$	7.2	$\frac{6.6}{2.40}$	32.76
						30.33
						28.08
+25	366.0	372.2	$\frac{6.2}{2.30}$	6.2	$\frac{6.2}{2.30}$	27.91
						27.91
						25.84
+50	366.0	372.2	$\frac{6.2}{2.30}$	6.2	$\frac{6.2}{2.30}$	27.91
						27.23
						50.43
						177.95
						A.C.L.
					Computed. T.M. 7/21	
					Chd. A.C.L. 9/11/21	9/11/21

					End Area	Cu Yds.
645	366.0	371.9	$\frac{5.9}{2.25}$	5.9	$\frac{5.9}{2.25}$ 26.55	28.17 26.08
+25	365.1	371.7	$\frac{6.6}{2.40}$	6.6	$\frac{6.6}{2.40}$ 29.79	29.20 27.04
+50	364.2	370.4	$\frac{7.0}{2.50}$	6.2	$\frac{6.0}{2.25}$ 28.60	25.99 28.88
+80	363.1	368.1	$\frac{6.2}{2.30}$	5.0	$\frac{4.6}{2.25}$ 23.38	25.94 19.22
646	362.4	368.7	$\frac{7.2}{2.55}$	6.3	$\frac{5.5}{2.25}$ 28.51	28.91 42.83
+40	362.4	368.7	$\frac{7.6}{2.65}$	6.3	$\frac{5.8}{2.25}$ 29.31	27.45 20.33

Compt. T.M.M.

Chd. A.C.L. W.M.B. W.M.B.

R.C.L.

Subtotal 1693.04
 M. R. S. 10/2/50

End Area Cor. Yds.

+60 362.4 368.0

 $\frac{7.0}{2.50}$

5.6

 $\frac{4.6}{2.25}$

25.60 ✓

✓
25.89 38.36

647 363.8 369.5

 $\frac{6.8}{2.45}$

5.7

 $\frac{5.1}{2.25}$

26.18 ✓

✓
26.59 19.70

+20 364.6 370.8

 $\frac{6.4}{2.35}$

6.2

 $\frac{5.2}{2.25}$

27.01 ✓

✓
26.55 29.50

+50 365.6 371.4

 $\frac{5.8}{2.25}$

5.8

 $\frac{5.8}{2.25}$

26.10 ✓

✓
25.65 47.50

648 367.4 373.0

5.6

25.20 ✓

✓
25.65 47.50

+50 367.4 373.2

5.8

26.10 ✓

✓
24.97 23.12205.68 ✓
R.L.L.

Compta. M.M.

Chd. R.L.L. 9/11/12 9/11/12

				End Area	Cu. Yds.
+75	367.4	372.7	5.3	23.85	
					23.85 22.08
649	366.9	372.2	5.3	23.85	
					25.20 23.33
+25	366.3	372.2	5.9	26.55	
					26.32 24.37
+50	365.7	371.5	5.8	26.10	
					27.47 25.43
+75	365.2	371.6	6.4	28.84	
					28.84 26.70
650	364.6	371.0	6.4	28.84	
					31.32 23.20

Comptd. T.M.M.

A.C.L.

Chd. A.L.L.M.M.B. M.M.B.

					End Area	Cu Yds.
+20	364.2	371.6		7.4	33.79 [✓]	
						32.77 [✓] 36.41 [✓]
+50	365.6	372.6	$\frac{7.0}{2.50}$	7.0	31.75 [✓]	
						31.75 [✓] 29.40 [✓]
+75	367.1	374.1	$\frac{7.6}{2.65}$	7.0	31.75 [✓]	
						32.38 [✓] 29.98 [✓]
651	368.4	375.6	$\frac{8.0}{2.75}$	7.2	33.02 [✓]	
						35.36 [✓] 32.74 [✓] 35.42 32.80
+25	369.7	377.7	$\frac{9.6}{3.15}$	8.0	39.82 [✓] 37.55 [✓] 37.72 [✓]	
						40.08 [✓] 37.11 [✓] 40.13 37.16
+50	369.7	378.5	$\frac{11.2}{3.55}$	8.8	42.44 [✓] 43.92 [✓]	
						45.87 [✓] 44.95 [✓] 250.59 [✓] A.C.L.

Compld. T.M.M.

Chd. A.C.L. MB MB

						End Area	Cor. Yds.
652	369.7	379.5	$\frac{12.6}{3.90}$	9.8	$\frac{8.0}{2.75}$	49.31 ✓	51.83 ✓ 38.40 ✓
+20	369.7	380.3	$\frac{12.4}{3.85}$	10.6	$\frac{9.6}{3.15}$	54.35 ✓	100.17 ✓ 103.88 ✓
+48	369.6	390.2	$\frac{20.6}{5.90}$	20.6	$\frac{20.6}{5.90}$	145.99 ✓	144.00 ✓ 10.67 ✓
+50	369.6	389.8	$\frac{20.7}{5.85}$	20.2	$\frac{20.2}{5.85}$	143.02 ✓ <u>142.02</u> ✓	142.64 ✓ <u>137.36</u> ✓ 136.64 ✓
+76	369.5	389.8	$\frac{20.3}{5.88}$ 3.63	20.3	$\frac{20.3}{5.88}$	143.26 ✓ 143.26 ✓	Check my own. 145.81 ✓ <u>21.59</u> ✓ 21.54 ✓
+80	369.5	390.3	$\frac{20.8}{5.95}$	20.8	$\frac{20.8}{5.95}$	148.36 ✓	132.68 ✓ 58.96 ✓ 370.86 ✓

Computed T.M.M.

Chd. P.C.L. *WMB WMB*

						End Area	Cu. Yds.
+92	369.5	387.5	$\frac{18.0}{5.25}$	18.0	$\frac{18.0}{5.25}$	117.00 ✓	97.79 ✓ 28.98 ✓
653	369.5	383.5	$\frac{15.2}{4.55}$	14.0 ✓	$\frac{12.6}{3.9}$	78.58 ✓	67.12 ✓ 66.74 63.10 ✓ 24.86 ✓ 24.79 23.37 ✓
+10	369.5	379.9	$\frac{12.8}{3.95}$	10.4 ✓	$\frac{10.4}{3.35}$	77.56 ✓	55.64 ✓ 55.30 55.66 ✓ 48.94 ✓ 52.79 52.96 ✓ 78.71 ✓ 72.50 ✓ 48.46 ✓
+50	369.5	379.3	$\frac{12.6}{3.9}$	9.8 ✓	$\frac{8.6}{2.9}$	50.27 ✓	49.95 ✓ 46.25 ✓
+75	369.4	379.2	$\frac{13.0}{4.0}$	9.8 ✓	$\frac{7.8}{2.7}$	49.63 ✓	38.65 ✓ 35.79 ✓
654	369.4	375.4	$\frac{6.6}{2.4}$	6.0 ✓	$\frac{6.0}{2.25}$	27.68 ✓	31.90 ✓ 17.72 ✓ 232.06 ✓

Corrected. T.M.M.

A.C.L.

Cld. 17.6.6. N.M.B. N.M.B.

					End Area	Cur. Yds.
+15	369.4	376.8	$\frac{10.6}{3.4}$	7.4	$\frac{6.0}{2.25}$ 36.13	31.68 41.07
+50	369.4	375.4	$\frac{7.2}{2.55}$	6.0	$\frac{5.0}{2.25}$ 27.23	29.26 54.14 29.24 54.15
655	366.9	373.7	$\frac{8.4}{2.85}$	6.8	$\frac{5.6}{2.25}$ 31.29	32.02 14.23
+12	366.3	373.5	$\frac{7.2}{2.55}$	7.2	$\frac{7.2}{2.55}$ 32.76 33.28	33.02 28.13
+35	365.1	372.4		7.3	33.28	32.27 17.93
+50	364.4	371.3		6.9	31.26	30.28 28.04 183.59

Comp'd. T.M.M.

P.C.L.

Chd. P.C.L. W.M.B. W.M.B.

				End Area	Cu. Yds.
+75	361.9	368.4	6.5	29.31	27.48 25.44
656	359.4	365.1	5.7	25.65	25.20 28.00
+30	356.4	361.9	5.5	24.75	24.97 18.50
+50	354.4	360.0	5.6	25.20	24.30 45.00
657	351.0	356.2	5.2	23.40	23.85 17.67
+20	349.6	355.0	5.4	24.30	26.80 29.78

Comptd. T.M.M.

Chd. F.C.L. W.M.B. W.M.B.

164.39
F.C.L.

				End Area	Cu. Yds.
+50	347.5	354.0	6.5	29.31	33.99 31.47
+75	345.1	353.4	8.3	38.68	43.20 40.00
658	342.6	352.4	9.8	47.71	61.68 114.23
+50	337.7	351.3	13.6	75.64	75.25 89.19
+82	334.6	348.1	13.5	74.85	73.60 49.07
659	332.8	346.0	13.2	72.36	66.20 24.52
				Comptd. T.M.M.	P.C.L.
				Chd. P.C.L. 99mB	99mB
					348.48

					End Area	Cu. Yds.
+10	332.0	343.6	$\frac{11.6}{3.65}$	11.6 ✓	$\frac{11.6}{3.65}$ 60.04 ✓	52.46 ✓ 17.48 ✓
+19	331.4	340.8	$\frac{7.8}{2.7}$	9.4 ✓	$\frac{10.8}{3.45}$ 44.88 ✓	43.22 ✓ 25.61 ✓ 48.22 ✓ 28.58 ✓
+35	330.0	338.8	$\frac{8.8}{2.95}$	8.8 ✓	$\frac{8.8}{2.95}$ 41.56 ✓	36.16 ✓ 20.09 ✓ 41.16 ✓ 22.87 ✓
+50	328.8	335.6		6.8 ✓	30.76 ✓	30.27 ✓ 33.63 ✓
+80	326.4	333.0		6.6 ✓	29.79 ✓	31.03 ✓ 28.73 ✓
660+05	324.4	331.5		7.1 ✓	32.26 ✓	29.85 ✓ 33.17 ✓ 24.85 ✓ 27.61 ✓

Comptd. T.M.M.

P.C.L.

Chd. P.C.L. W.M.B.

W.M.B.

158.71 ✓

End Area Cu. Yds.

660 + 35 3211 330.5

6.1

27.45

35.41

17.05

+ 48 325.1 334.5

7.1

43.37

39.92

17.74

+ 60 326.1 334.3

 $\frac{7.9}{2.73}$

7.9

 $\frac{7.9}{2.73}$

36.47

32.43

48.05

661 329.6 335.8

 $\frac{7.6}{2.65}$

6.2

 $\frac{5.2}{2.25}$

28.39

32.28

35.87

+ 30 332.0 339.5

 $\frac{10.0}{3.25}$

7.5

 $\frac{6.7}{2.35}$

36.16

35.75

26.48

+ 50 333.6 341.0

 $\frac{10.0}{3.25}$

7.4

 $\frac{6.0}{2.25}$

35.35

39.50

51.20

Compld. N.M.M.

A.C.L.

Chd. A.C.L. N.M.M.

N.M.M.

196.39

Total to here
+ this book 3948.90
M.R.E 10/2/30

					End Area	Cu. Yds.
+85	333.6	342.6	$\frac{11.6}{3.65}$	9.0	$\frac{7.0}{2.5}$ 43.65	40.83 22.69
662	333.6	341.2	$\frac{11.2}{3.55}$	7.6	$\frac{6.4}{2.35}$ 38.02	32.03 47.10
		1.4704				
+39.7	333.6	339.0	$\frac{7.0}{2.5}$	5.4	$\frac{5.4}{2.25}$ 26.03	26.06 28.96
		30.00				
+69.7	334.9	340.7	$\frac{5.8}{2.25}$	5.8	$\frac{5.8}{2.25}$ 26.10	23.62 13.99
		5668				
+85	336.9	341.6		4.7	21.15	20.93 11.29
+99.5	338.8	343.4		4.6	20.70	21.60 16.40

Comptd. Min.

P.C.L.

Chd. P.C.L. 9191112

139.78

				End Area	Cu Yds.
663120	343.6	348.6	5.0	22.50 ^g	
		.3260			24.30 [✓] 7.92 [✓]
+288	345.2	351.0	5.8	26.10 ^g	
		.3427			27.47 [✓] 9.36 [✓]
+38	347.6	354.0	6.4	28.84 ^g	
		.6779			28.60 [✓] 19.39 [✓]
+56.3	352.4	358.7	6.3	28.37 ^g	
		.5444			28.14 [✓] 15.32 [✓]
+71	355.7	361.9	6.2	27.91 ^g	
		.5407			26.33 [✓] 14.24 [✓]
+85.6	359.0	364.5	5.5	24.75 ^g	
		.7185			24.98 [✓] 17.95 [✓]

Compld. T.M.M.

P.C.L.

Chd. P.C.L. 919m @ 919m @

8418

				End Area	Cu. Yds.
664+05	361.8	367.4	5.6 ✓	25.20	
		.3814			23.17 ✓ 8.84 ✓
+15.3	363.2	367.9	4.7 ✓	21.15	
		.3573			22.05 ✓ 7.92 ✓
+25	363.8	368.9	5.1 ✓	22.95	
		.7482			21.60 ✓ 16.16 ✓
+45.2	365.1	369.6	4.5 ✓	20.25	
		1.2890			21.60 ✓ 27.84 ✓
+80	366.0	371.1	5.1 ✓	22.95	
		.7408			23.62 ✓ 17.50 ✓
665	366.5	371.9	5.4 ✓	24.30	
					22.28 ✓ 20.63 ✓
				Comptd. P.M.M.	P.C.L.
				Chd. P.C.L. 919mB	919mB
					98.89 ✓

End Area Cu. Yds.

+25 367.1 371.6

 $\frac{4.5}{2.25}$ 4.5 $\frac{4.5}{2.25}$ 20.25

22.03 20.40

+50 367.7 372.9

 $\frac{6.2}{2.3}$ 5.2 $\frac{4.6}{2.25}$ 23.82

25.63 23.73

+75 368.4 374.4

 $\frac{7.8}{2.7}$ 6.0 $\frac{4.6}{2.25}$ 27.45

26.30 29.35

666 369.0 374.6

 $\frac{7.2}{2.55}$ 5.6 $\frac{4.0}{2.25}$ 25.14

25.12 23.26

+25 368.9 374.3

 $\frac{7.2}{2.55}$ 5.4 $\frac{4.4}{2.25}$ 25.11

29.89 23.05

+50 368.9 374.3

 $\frac{7.0}{2.5}$ 5.4 $\frac{4.2}{2.25}$ 24.68

23.89 22.12

Compld. T.M.M. F.C.L.

Chd. F.C.L. WMB WMB

136.91

End Area

Cu. Yds.

+75 368.8 373.8

 $\frac{6.6}{2.4}$

5.0

 $\frac{4.0}{2.25}$

23.10

24.45 22.64

667 368.8 374.4

 $\frac{7.8}{2.7}$

5.6

 $\frac{4.0}{2.25}$

25.79

26.02 33.73

+35 368.7 374.3

 $\frac{7.4}{2.6}$

5.6

 $\frac{4.8}{2.25}$

26.26

25.70 28.56

+65 367.1 372.5

 $\frac{6.8}{2.45}$

5.4

 $\frac{4.8}{2.25}$

25.14

25.38 18.80

+85 365.0 370.6

 $\frac{6.6}{2.4}$

5.6

 $\frac{5.0}{2.25}$

25.62

25.50 14.17

668 363.3 368.7

 $\frac{6.8}{2.45}$

5.4

 $\frac{5.0}{2.25}$

25.37

26.30 48.70

Comptd. P.M.M. A.C.L.

Chd. A.C.L. M.M.B. M.M.B.

166.60

					End Area	Cu. Yds.
+50	358.0	364.0	$\frac{6.8}{2.25}$	6.0 [✓]	$\frac{5.4}{2.25}$	27.22 28.35
						25.31 [✓] 46.87 [✓]
669	354.4	359.6	$\frac{5.8}{2.25}$	5.2 [✓]	$\frac{4.6}{2.25}$	23.40 ^g
						23.85 [✓] 44.17 [✓]
+50	350.8	356.2		5.4 [✓]		24.30 [✓]
						24.97 [✓] 23.12 [✓]
+75	349.0	354.7		5.7 [✓]		25.65 ^g
			1.1079			25.20 [✓] 27.91 [✓]
670+04.9	346.8	352.3		5.5 [✓]		24.75 ^g
			1.1079			23.85 [✓] 26.41 [✓]
+34.8	343.6	348.7		5.1 [✓]		22.95 ^g
			29.5			30.25 [✓] 33.05 [✓]
						Completed. M.M. A.C.L.
						Old. A.C.L. W.M.B. W.M.B.
						201.53 [✓]

				End Area	Cu. Yds.
+64.3	338.2	346.3	8.1	37.56 ⁹	52.57 [✓] 56.47 [✓]
+93.3	330.6	343.2	12.6	67.59 ⁹	74.60 [✓] 25.42 [✓]
		340.7			
671+02.5	327.8	342.1	14.3	81.61 ⁹	74.60 [✓] 75.98 [✓]
+30	327.6	340.2	12.6	67.59 ⁹	60.97 [✓] 45.17 [✓]
+50	327.2	338.0	10.8	54.36 ⁹	47.37 [✓] 43.86 [✓]
+75	327.0	335.6	8.6	40.39 ⁹	41.28 [✓] 38.22 [✓]
				Comp'd. Mitt.	P.C.L.
				Chd. P.C.L. NMB	NMB
					285.12

				End Area	Cu. Yds.
672	325.3	334.2	8.9	42.17	45.27 83.84
+50	321.7	331.6	9.9	48.37	50.35 46.62
+75	320.0	330.5	10.5	52.33	48.76 45.15
673	319.6	329.0	9.4	45.19	40.02 59.00
					1.4742
+39.8	318.8	326.4	7.6	34.84	32.56 36.06
					11.079
+69.7	317.1	323.8	6.7	30.28	30.04 15.36
					.5112
				Comptd. T.M.M.	P.C.L.
				Chd. P.C.L.	WMB WMB
					286.03

End Area

+83.5 312.0 321.6

6.6

29.79

.5889

27.27 16.06

+99.4 312.9 318.4

5.5

24.75

1.0853

23.85 25.88

674 +28.7 306.3 311.4

5.1

22.95

1.1779

23.17 27.29

+60.5 297.9 303.1

5.2

23.40

26.59 14.28

+75 292.8 299.4

6.6

29.79

.512

29.08 14.87

+88.8 288.1 294.4

6.3

28.37

.9198

30.06 12.47

Compt. M.M. ALL.

Chd. ALL W.M.B. 99MB

110.85

675 283.3 290.3 7.0[✓]

End Area Cu. Yds.

31.75[✓]

33.03[✓] 28.14[✓]

+23 273.5 281.0 7.5[✓]

34.32[✓]

32.79[✓] 12.75[✓]

+33.5 269.0 275.9 6.9[✓]

31.26[✓]

29.35[✓] 30.33[✓]

+61.4 258.1 264.2 6.1[✓]

27.45[✓]

27.68[✓] 29.92[✓]

+90.1 249.1 255.3 6.2[✓]

27.91[✓]

29.10[✓] 31.36[✓]

676+19.2 242.1 248.8 6.7[✓]

30.28[✓]

28.86[✓] 27.58[✓]

1.0333

1.063

1.0778

.9556

Comptd. T.M.M.

A.C.L.

Chd. A.C.L.

W.M.B. W.M.B.

159.58

65 +45 236.7 242.8 6.1

.5704

+60.4 233.5 238.8 5.3

29.5

676 +89.9 228.9 235.3 6.4
5.2

Continued on page 36

677 227.8 233.9 6.1

See Page 36

+20 225.7 231.5 5.8

+50 222.5 228.0 5.5

See page 36

End Area Cu. Yds.

27.45

25.65 14.63

23.85

26.34 28.78
24.08 26.31

28.84
24.30

28.14 10.53
25.87 9.68 43.41

27.45

26.77 19.83

26.10

25.43 28.26

24.75

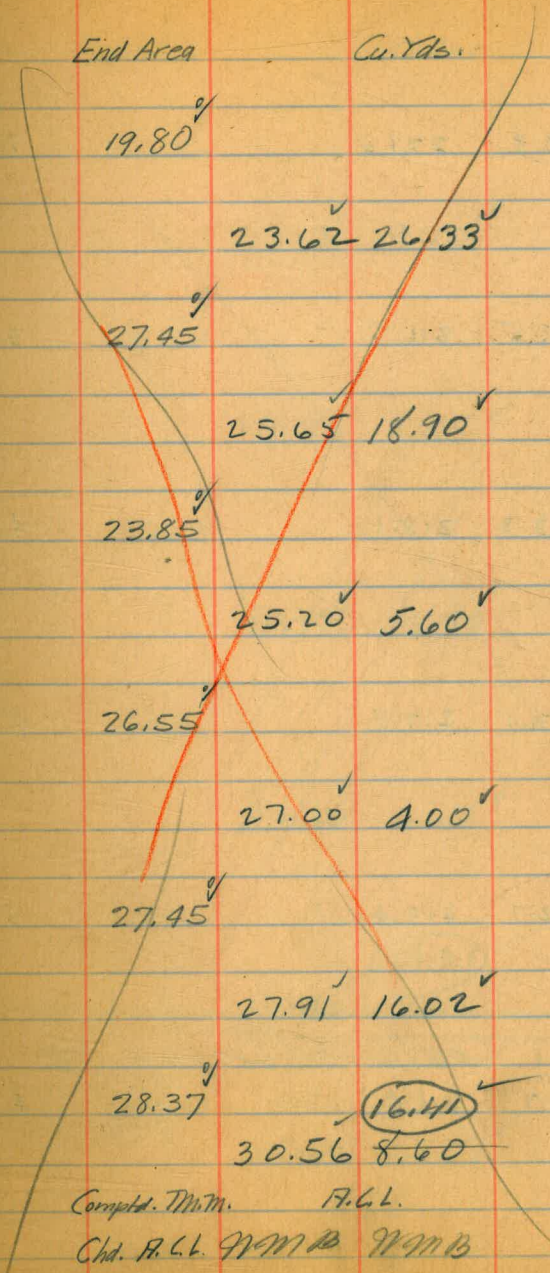
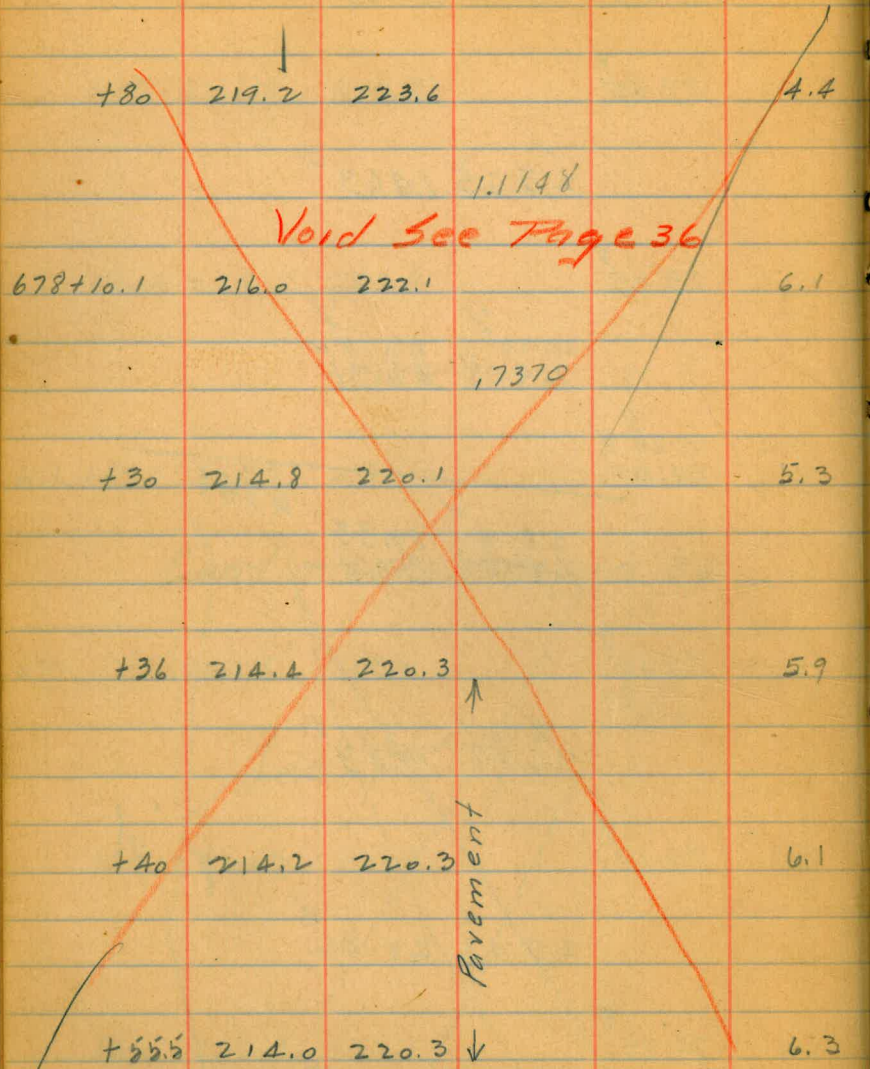
22.28 24.76

Comptd. T.M.M. A.C.L.

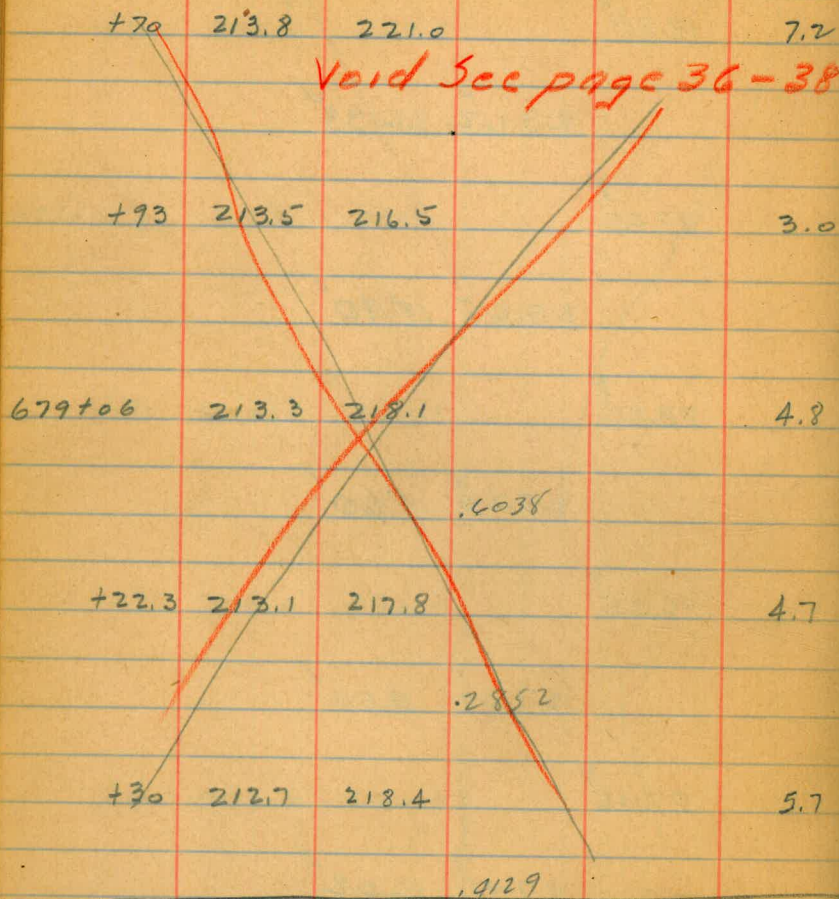
Chd. A.C.L. WMB WMB

126.79

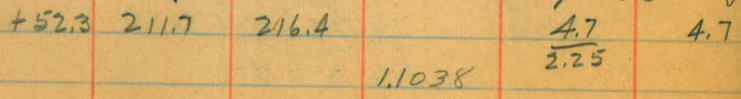
Void



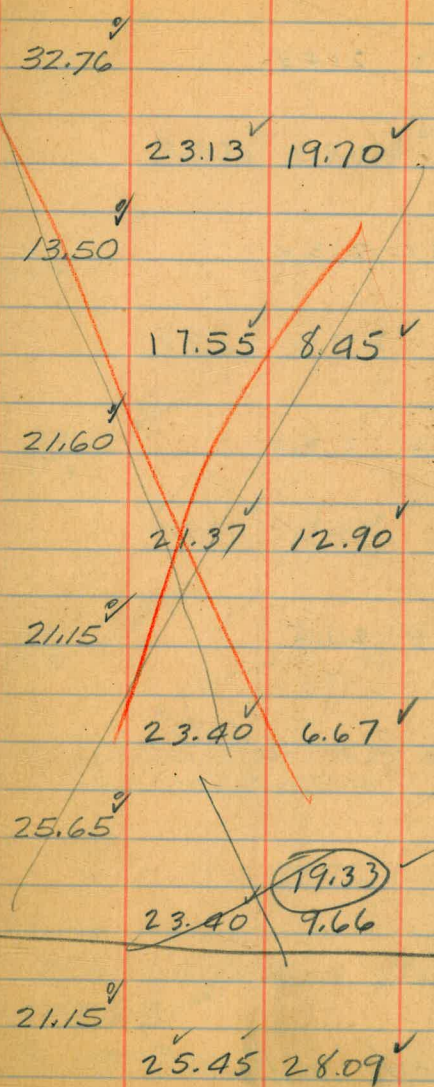
Compd. M.M. F.C.L.
 Chd. F.C.L. 99m 10 99m 13



Continued from p. 38



End Area Cu. Yds.



Comptd. T.M.M. A.C.L.
 Chd. A.C.L. W.M.B. W.M.B.
 28.09

End Area Cu. Yds.

+82.1 208.3 214.5

 $\frac{7.8}{2.7}$

6.2

 $\frac{6.2}{2.3}$

29.75

.6629

 \checkmark
34.75 \checkmark 23.04 \checkmark

680 205.0 213.0

 $\frac{10.0}{3.25}$

8.0

 $\frac{8.0}{2.75}$

39.75

 \checkmark
39.61 \checkmark 11.74 \checkmark

+08 203.5 213.0

 $\frac{9.6}{3.15}$

9.5

 $\frac{7.8}{1.0}$ $\frac{4.6}{2.25}$

39.47

.1333

 \checkmark
37.37 \checkmark 4.98 \checkmark

+11.6 202.9 211.5

 $\frac{8.6}{2.9}$

8.6

 $\frac{4.8}{2.25}$

35.27

 \checkmark

39.76 \checkmark

.2185

+17.5

This book Total pages 1 to 39 = 5984.31 \checkmark
Chkd. M.R.B. 10/2/3039.76 \checkmark

Contd. in Book #292. Page 1.

Total Cu. Yds. in Book 291 =
5984.31 \checkmark

Total cu yd 6039.60 (P.36-38 incl) 6/28/30 D.

Compld. M.M. P.L.L.

Chd. P.L.L. 99MB 99MB

Elliott Note
Simpson T
Bailey + Remmen

Final X Sections
April 16 1930

Continued from page 31

Sta	Grade	Elev.	Dist.	L.C.	¢	R.C.
676+89 ⁹³	228.9	235.3		$\frac{6.4}{2.35}$	6.4	$\frac{6.4}{2.35} = 28.84$ ✓
			10.67			28.15 ✓ 10.50 ✓
677	227.8	232.9		$\frac{6.1}{2.275}$	6.1	$\frac{6.1}{2.275} = 27.45$ ✓
			20.0			26.77 ✓ 19.83 ✓
+20	225.7	231.5			5.8	26.10 ✓
			30.0			25.42 ✓ 28.24 ✓
+50	222.5	228.0			5.5	24.75 ✓
			41.3			22.73 ✓ 34.77 ✓
+91 ³	218.1	222.7			4.6	20.70 ✓
			29.9			22.50 ✓ 24.92 ✓
678+21 ²	215.3	220.7			5.4	24.30 ✓
			8.8			23.40 ✓ 7.63 ✓

Check grade percent on layout sheet

Calc. B.F.M. Calc. B.F.M. Calc. B.F.M.
125.89 ✓

678+30 219.7 219.7

5.0 ✓

22.50 ✓

6.0

24.75 ✓ 5.50 ✓

+36 214.3 220.3

 $\frac{6.0}{2.25}$ 6.0 ✓ $\frac{6.0}{2.25}$ 27.00 ✓

15.5

29.37 ✓ 16.43 ✓

+51 213.3 220.3

 $\frac{7.0}{2.50}$ 7.0 ✓ $\frac{7.0}{2.50}$ 31.75 ✓

4.4

32.26 ✓ 5.76 ✓

+55 213.1 220.3

 $\frac{7.2}{2.55}$ 7.2 ✓ $\frac{7.2}{2.55}$ 32.76 ✓

15.5

36.00 ✓ 20.67 ✓
~~35.44~~ ✓ ~~20.25~~ ✓

678+71 212.5 220.9

 $\frac{8.2}{2.80}$ 8.4 ✓
8.2 $\frac{8.2}{2.80}$ 39.24 ✓
~~38.11~~ ✓

6.0

34.27 ✓ 7.61 ✓
~~33.71~~ ✓ ~~2.49~~ ✓

+77 212.3 218.8

 $\frac{6.5}{2.375}$ 6.5 ✓ $\frac{6.5}{2.375}$ 29.31 ✓

4.1

28.38 ✓ 4.31 ✓

Calc B.F.M. Calc B.F.M. Calc B.F.M.

59.78

678+81² 212.1 218.2 $\frac{6.1}{2.275}$

6.1 ✓

 $\frac{6.1}{2.275}$

27.45 ✓

8.9

24.52 ✓

8.08 ✓

+90 212.0 216.8

9.8 ✓

21.60 ✓

14.0

24.98 ✓

12.95 ✓

679+04 211.8 218.1

 $\frac{6.3}{2.325}$

6.3 ✓

 $\frac{6.3}{2.325}$

28.37 ✓

7.1

27.46 ✓

7.22 ✓

679+11² 211.7 217.6

5.9 ✓

26.55 ✓

18.9

28.17 ✓

19.72 ✓

+30 211.7 218.3

 $\frac{6.5}{2.40}$

6.6 ✓

 $\frac{6.6}{2.40}$

29.79 ✓

22.3

25.47 ✓

21.04 ✓

+52³ 211.7 216.4

4.7 ✓

21.15 ✓

Continued on page 33.

Calc. B.F.M. Calc. B.F.M. Calc. B.F.M.
69.01

Original X Sections in Book #286 pages 18

For Backfill X sections see Back this Book p. 47

O.R.-S.D. 2nd Main Pipe Line

9/8/30
Simpson - Notes
Jacobson - T
Saber - Rod
Remmer - Tape

40

clear and cool

Final cross-sections thru Deep cut
at Granada 'WYE'; sta. 129+50 to sta. 131+50

396.87 = E.M. #31

2.33 399.20

Sta.	Grade	Lft. cut			Rt. cut		End Area	Cu. Yds.
129+50	392.2	$\frac{36}{10}$	$\frac{0}{7.5}$	$\frac{0}{7.5}$	$\frac{0}{5}$			
129+75	392.2	$\frac{8}{13}$	$\frac{2}{12}$	$\frac{0}{10}$	$\frac{0}{5}$			
130+00	392.2	$\frac{13}{13}$	$\frac{0}{10}$	$\frac{0}{10}$	$\frac{0}{5}$			
130+25	392.2	$\frac{17}{16}$	$\frac{7}{14}$	$\frac{0}{10}$	$\frac{0}{5}$			
130+50	392.2	$\frac{20}{21}$	$\frac{9}{18}$	$\frac{8}{13}$	$\frac{0}{7.5}$	$\frac{0}{2.5}$	$\frac{5}{5}$	
130+70	392.3	$\frac{20}{20}$	$\frac{10}{17}$	$\frac{8}{14}$	$\frac{0}{14}$	$\frac{0}{5}$	$\frac{5}{5}$	
130+86	392.3	$\frac{11}{18}$	$\frac{9}{18}$	$\frac{2}{14}$	$\frac{2}{12}$	$\frac{0}{9}$	$\frac{0}{4}$	
131+00	392.3	$\frac{24}{19}$	$\frac{10}{15}$	$\frac{0}{12}$	$\frac{0}{2}$	$\frac{0}{8}$	$\frac{12}{5}$	

D.D. 100

	Grade	Lft. cut. ϕ				Rt. cut	
131+50	392.3	$\frac{25^6}{14^0}$	$\frac{7^6}{13^5}$	$\frac{0^0}{7^0}$	$\frac{0^0}{3^0}$	$\frac{1^3}{5^2}$	
132+00	392.4 ✓	$\frac{28^2}{14^0}$	$\frac{3^8}{11^0}$	$\frac{0^0}{5^0}$	$\frac{0^0}{4^2}$	$\frac{1^4}{5^0}$	
132+25	392.4	$\frac{28^9}{13^2}$	$\frac{2^7}{12^0}$	$\frac{2^6}{8^2}$	$\frac{0^0}{4^0}$	$\frac{1^6}{5^0}$	
132+47	392.4	$\frac{7^2}{14^5}$	$\frac{2^2}{11^0}$	$\frac{1^6}{7^5}$	$\frac{0^0}{4^0}$	$\frac{1^5}{5^0}$	
132+73	392.4	$\frac{29^9}{17^0}$	$\frac{3^2}{13^0}$	$\frac{2^3}{8^5}$	$\frac{0^0}{6^2}$	$\frac{1^5}{5^0}$	
133+00	392.5	$\frac{28^4}{13^5}$	$\frac{2^9}{13^0}$	$\frac{2^0}{8^0}$	$\frac{0^0}{7^5}$	$\frac{3^0}{4^0}$	
133+58	392.5	$\frac{24^7}{14^5}$	$\frac{3^8}{12^0}$	$\frac{2^6}{6^0}$	$\frac{0^0}{5^0}$	$\frac{2^1}{5^0}$	
134+00	392.5	$\frac{19^5}{13^0}$	$\frac{3^0}{12^5}$	$\frac{1^4}{7^0}$	$\frac{0^0}{5^0}$	$\frac{1^2}{5^0}$	
134+17	392.5	$\frac{17^9}{12^5}$	$\frac{4^2}{11^2}$	$\frac{0^5}{5^0}$	$\frac{0^0}{3^5}$	$\frac{3^2}{7^0}$	
	1.93	T.P. 5.50			393.70		
134+30	392.6	$\frac{15^7}{13^2}$	$\frac{4^0}{12^0}$	$\frac{1^4}{6^0}$	$\frac{0^0}{3^0}$	$\frac{3^2}{6^0}$	

$$\frac{73}{5}$$

$$365$$

Fine Graded

395.63 14 cut. $\frac{1}{4}$ R+ cut.

134+67	⁶³ Grade.	$\frac{12^1}{15^5}$	$\frac{4^3}{12^0}$	$\frac{2^5}{9^5}$	$\frac{0^0}{7^5}$	$\frac{0^0}{3^2}$	$\frac{2^6}{5^0}$
	392.6						

134+82	⁶⁴	$\frac{10^4}{14^2}$	$\frac{6^4}{12^5}$	$\frac{7^5}{10^2}$	$\frac{0^0}{8^0}$	$\frac{0^0}{4^2}$	$\frac{2^0}{7^0}$
	392.1						

134+97	⁵⁶	$\frac{7^2}{14^0}$	$\frac{0^0}{7^0}$	$\frac{0^0}{7^0}$	$\frac{0^0}{6^0}$	$\frac{2^4}{8^2}$	
	390.6						

135+12	³⁵	$\frac{8^2}{10^5}$	$\frac{5^3}{10^0}$	$\frac{1^4}{6^5}$	$\frac{0^0}{2^5}$	$\frac{0^0}{7^2}$	$\frac{3^3}{9^2}$
	388.05						

135+35	383.4	$\frac{10^2}{9^0}$	$\frac{1^2}{7^0}$	$\frac{0^0}{2^5}$	$\frac{0^0}{2^5}$	$\frac{0^0}{8^5}$	$\frac{3^8}{9^0}$	$\frac{6^2}{12^5}$
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92
68
20

TP	12.54	383.07
6.39	389.48	

135+50	380.31	$\frac{8^5}{9^7}$	$\frac{3^5}{9^0}$	$\frac{0^0}{5^0}$	$\frac{0^0}{3^0}$	$\frac{2^4}{6^5}$	$\frac{7^0}{11^5}$
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Tapers to standard Trench at sta. 135+77

X Sections thru cut from
Completed sections taken from

129+30 to 135+77
originals Book 286 page 48 & finals this book p. 40

	Lt.	¢	Rt.	End Area	Average	Cu. Yds.
129+30	36 241	48 0	40 241	20.77	23.33	17.28
129+50	00 36 16 25 25 75 10 50 2 0		0.0 5	25.90	60.45	55.97
129+75	00 26 83 80 77 45 100 120 135 110 54 0		0.0 38	95.00	114.27	105.81
130+00	00 03 138 127 98 84 50 100 131 118 58 0		0.0 50	133.54	158.12	146.41
130+25	00 06 70 170 148 116 110 90 50 100 140 165 120 69 15 0		09 00 30 25	182.69	223.50	206.94
130+50	00 03 86 92 200 195 152 150 145 135 77 25 95 137 180 210 160 90 72 30 10 0		20 10 05 00 30 55 50 25	269.32	263.42	195.14
130+70	00 07 86 102 204 175 160 150 83 50 100 142 170 200 120 72 30 0		30 12 00 30 55 50	262.52 233.55	197.34 211.86	116.94 125.55
130+86	00 09 26 79 99 116 113 112 68 41 24 99 120 140 180 180 130 80 52 0		30 23 00 10 55 40	132.16 190.17	222.20 251.20	115.21 130.25
					959.70	470.79

Completed m.l.s.

Lit

Kit

131+00

0° 0' 10" 24' 22' 19' 19' 14' 8' 5'
2' 12' 15' 20' 16' 8' 6' 1' 0'

50 15 13 00
19 55 50 35

312.24

131+50

00 4' 25' 24' 24' 19' 15' 12' 5'
7' 13' 15' 13' 9' 3' 1' 0'

33 24 13 00
40 55 50 30

317.38

50

132+00

00 38 28' 28' 27' 19' 14' 6'
50 110 140 105 90 65 20 0

31 26 00
10 40 40

250.70

132+25

00 2' 22 28' 26' 21' 14' 8'
40 80 120 130 110 80 20 0

35 19 15 00
20 55 50 40

241.61

rr

132+47

00 16 22 72 50 22
65 75 110 150 50 0

14 13 10 00
40 55 50 40

129.30

rb

132+73

00 23 32 29' 29' 26' 20' 16' 10'
60 85 130 170 160 100 70 20 0

23 20 15 00
20 55 50 40

324.80

133+00

00 20 22 28' 218 167 67
75 80 130 135 90 25 0

31 00
40 30

264.80

133+50

00 2' 38 24' 24' 23' 16' 8'
50 60 120 145 95 75 25 0

20 15 21 00
20 55 50 40

261.30

✓
312.24 ✓
✓ 314.81 582.98 ✓
✓ 317.38 ✓
526.01
284.04 552.00
250.70 ✓
246.15 227.92 ✓
153.13 124.77
185.46 151.12
64.65
129.30
194.72 187.52
227.05 218.64
294.80 294.80 ✓
264.80 ✓
2.63,05 487.12 ✓
261.30 ✓
253.35 469.17 ✓
2900.29 ✓
3859.99 ✓

Completed 7/11/06

134+00

00 14 30 19 19 18 14
50 70 125 130 85 40 0

09 00
42 40

245.40

219.84 138.42

134+17

00 05 42 17 17 13
25 50 115 125 79 0

35 22 00
15 35 35

194.27

183.60 88.40
782.60 87.92

13'

134+30

cut 00 14 40 15 16 13 72 55
25 60 120 130 70 30 20 0

12 00
55 30

172.94

165.37 230.48
756.54 218.17

37.63 1.3937

134+67⁶³

cut 00 25 43 12 12 11 11 89
75 95 120 155 150 120 60 0

84 17 00
20 40 30

157.79
140.14

15.01 .5558

134+82⁶⁴

00 45 60 10 9 88 86 73
80 100 125 140 120 52 30 0

63 22 00
40 45 40

121.27
125.68

14.92 .5525

134+97⁵⁶

00 04 72 62 72 74
25 70 140 100 53 0

44 00
65 60

109.78
89.08

14.74 5460
2530

115.52 63.82
107.38 59.34
111.14 60.68
110.68 60.42

135+12³

00 14 53 82 79 76 76
25 65 100 105 100 54 0

73 53 33 00
20 60 90 70

112.51
132.27

22.7 8407

140.40 118.03
150.28 126.35

135+35

00 12 10 94 100
25 70 90 58 0

10 67 38 05 00
65 125 90 85 25

168.30

153.09 85.05

chk. M. N. E.

862.43

135 + 50

$$\begin{array}{r} 00 \ 35 \ 85 \ 87 \ 87 \\ 52 \ 90 \ 92 \ 50 \ 0 \end{array}$$

$$\begin{array}{r} 85 \ 69 \ 24 \ 00 \\ 56 \ 115 \ 65 \ 30 \end{array}$$

137.88 ✓

Standard Tranch.
135 + 77
$$\begin{array}{r} 44 \ 47 \\ 24 \ 0 \end{array}$$

$$\begin{array}{r} 50 \\ 24 \end{array}$$

22.70 ✓

80.29 ✓ 80.29 ✓

Comptd. M.D.C.

Continued in Book 286 page 55

80.29 ✓

4802.71 ✓

A.C.L.

10/14/30

Sta	Cut x Width	End Area	Ave. Area	Cu. Yds.
650+30	8.3 x 4.5	37.35 ✓		57.37 ✓
650+75	7.0 x 4.5	31.50 ✓		56.25 ✓
651+25	6.5 x 4.5	29.25 ✓		62.08 ✓
651+75	8.4 x 4.5	37.80 ✓		80.00 ✓
652+25	10.8 x 4.5	48.60 ✓		44.38 ✓
652+50	10.5 x 4.5	47.25 ✓		300.08 ✓
<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small; margin-right: 5px;"> Not Included </div> </div>				
653+00	9.0 x 4.5	40.50 ✓		39.58 ✓
653+25	10.0 x 4.5	45.00 ✓		39.58 ✓
653+50	9.0 x 4.5	40.50 ✓		68.75 ✓
654+00	7.5 x 4.5	33.75 ✓		56.25 ✓
654+50	6.0 x 4.5	27.00 ✓		52.08 ✓
655+00	6.5 x 4.5	29.25 ✓		256.24 ✓

Comptd. M. N. E.

Total pages 1 to 39 ✓ ~~5984.31~~Total pages 40 to 43 ✓ ~~4807.70~~

Total this page ✓ 556.32

Total this book 11,426.83

M. N. E. 10/2/30

11,343.34

A. L. L.
10/14/30

45

11/12/30
Simpson
super
Remmon

47

O.R. to S.D. 2nd main Pipe line
Back Fill cross sections thru

(For original sections see p. 40) 396.87 = 3.M. 31

5.35 4.02.22

Deep cut: Sta. 129+50 to Sta. 132+50		Lf. cut.	Φ	Rt. cut
129+50	392.2	$\frac{2^7}{10^\circ}$	$\frac{2^8}{4^\circ}$	$\frac{1^2}{6^\circ}$
129+75	392.2	$\frac{6^6}{13^5}$	$\frac{4^6}{6^\circ}$	$\frac{4^0}{2^\circ}$
130+00	392.2	$\frac{5^2}{11^\circ}$	$\frac{4^4}{3^\circ}$	$\frac{2^6}{4^\circ}$
130+25	392.2	$\frac{7^1}{14^\circ}$	$\frac{4^6}{3^\circ}$	$\frac{3^0}{4^\circ}$
130+50	392.2	$\frac{6^5}{13^\circ}$	$\frac{4^3}{3^\circ}$	$\frac{3^2}{4^\circ}$
130+70	392.3	$\frac{5^8}{13}$	$\frac{4^6}{4^\circ}$	$\frac{2^9}{7^\circ}$
130+86	392.3	$\frac{6^2}{12^\circ}$	$\frac{4^3}{2^\circ}$	$\frac{3^1}{4^\circ}$
131+00	392.3	$\frac{5^4}{13^5}$	$\frac{4^2}{2}$	$\frac{3^1}{4^\circ}$
131+50	392.3	$\frac{6^4}{13^5}$	$\frac{6^3}{6^\circ}$	$\frac{3^3}{4^\circ}$
132+00	392.4	$\frac{6^4}{11^5}$	$\frac{6^0}{4^\circ}$	$\frac{4^3}{5^\circ}$

		4 cut.	Δ	Rt. cut.				
132+25	392.4	$\frac{62}{135}$	$\frac{78}{30}$	3^2	$\frac{13}{70}$			
132+47	392.4	$\frac{67}{130}$	$\frac{77}{70}$	3^2	$\frac{06}{50}$			
132+73	392.4	$\frac{74}{140}$	$\frac{73}{60}$	3^8	$\frac{15}{70}$	0.60	399.04	3.78 398.44
133+00	392.5	$\frac{61}{130}$	$\frac{61}{50}$	3^6	$\frac{17}{30}$			13.90. 385.14 = 0.60 on R. side Proc. El. 385.17
133+50	392.5	$\frac{65}{130}$	$\frac{59}{35}$	4^7	$\frac{24}{30}$			
134+00	392.5	$\frac{75}{125}$	$\frac{75}{30}$	2^7	$\frac{18}{30}$			
134+17	392.5	$\frac{53}{115}$	$\frac{72}{20}$	3^8	$\frac{16}{40}$			
134+30	392.6	$\frac{51}{115}$	$\frac{76}{30}$	3^0	$\frac{16}{30}$			
134+67 ⁽³⁾	392.6	$\frac{55}{125}$	$\frac{74}{20}$	3^2	$\frac{07}{70}$			
134+81 ⁽⁶⁾	392.1	$\frac{77}{70}$	$\frac{70}{20}$	3^0	$\frac{04}{50}$			
134+97 ⁽⁵⁾	390.6	$\frac{64}{90}$	$\frac{34}{60}$	3^2	$\frac{03}{50}$			
135+12 ⁽³⁾	388.011	$\frac{70}{100}$	$\frac{70}{90}$	$\frac{38}{50}$	3^0			
135+35	383.4	$\frac{71}{85}$	$\frac{73}{45}$	3^6	$\frac{37}{50}$			
						135+50	380.31	$\frac{50}{90}$ $\frac{45}{60}$ 3^8 $\frac{36}{50}$ $\frac{36}{70}$

For Calc. of above See Book 293

Profile - 36th St. Broadway to Main St.

B.M.	9.09	65.71		56.62
TP	3.46	56.62	12.55	53.16

0+00			5.3	51.3'
------	--	--	-----	-------

Top of pipe (Bonita Steel)			10.6	46.0'
----------------------------	--	--	------	-------

0+50			4.0	52.6'
------	--	--	-----	-------

1+00			5.2	51.4'
------	--	--	-----	-------

Set B.M.			5.68	50.94'
----------	--	--	------	--------

1+45			3.9	52.7'
------	--	--	-----	-------

1+50			1.9	54.7'
------	--	--	-----	-------

TP	6.80	62.40	1.02	55.60
----	------	-------	------	-------

1+65			4.3	58.1'
------	--	--	-----	-------

1+93 ⁴⁵			5.0	57.4'
--------------------	--	--	-----	-------

2+21 ³⁵			4.8	57.6'
--------------------	--	--	-----	-------

2+49 ²⁰			5.2	57.2'
--------------------	--	--	-----	-------

2+60			4.9	57.5'
------	--	--	-----	-------

+70			2.1	60.3'
-----	--	--	-----	-------

TP	12.95	75.11	0.24	62.16
----	-------	-------	------	-------

2+75			10.2	64.9'
------	--	--	------	-------

3+00			4.8	70.3'
------	--	--	-----	-------

TP	13.09	88.10	0.16	75.01
----	-------	-------	------	-------

TP	8.34	96.37	0.07	88.03
----	------	-------	------	-------

3+50			6.3	90.1'
------	--	--	-----	-------

Profile
Book 289-A
Page 78

5/19/41 Hill 49.
Soper
Brooks
Hodgeson

- Alternate, in Book # 289 H - page 78

B.P. in Conc. Man N.W. Cor. 35th Broadway

Top of 1/2" pipe, 10' Lt, 1+13⁵
(Toe of road fill)

Edge of Pavc.

£ " "

Edge " "

Profile - 36th St. Broadway to Main St.

B.M.	9.09	65.71		56.62
TP	3.46	56.62	12.55	53.16

0+00			5.3	51.3'
Top of pipe (Banita Steel)			10.6	46.0'
0+50			4.0	52.6'
1+00			5.2	51.4'
Set B.M.			5.68	50.94'
1+45			3.9	52.7'
1+50			1.9	54.7'
TP	6.80	62.40	1.02	55.60
1+65			4.3	58.1'
1+93 ⁴⁵			5.0	57.4'
2+21 ³⁵			4.8	57.6'
2+49 ²⁰			5.2	57.2'
2+60			4.9	57.5'
+70			3.1	60.3'
TP	12.95	75.11	0.24	62.16
2+75			10.2	64.9'
3+00			4.8	70.3'
TP	13.09	88.10	0.10	75.01
TP	8.34	96.37	0.07	88.03
3+50			6.3	90.1'

Profile
Book 289-A
Page 78

5/19/41
Hill 49
Super
Brooks
Hodgeson

- Alternate in Book # 289 A - page 78

B.P. in Conc. Man N.W. Cor. 35th Broadway

Top of 12" pipe, 10' Lt, 1+13⁵
(Toe of road fill)

Edge of Pavc.

£ " "

Edge " "

96.37

3+59			2.5	93.9
+72			1.4	95.0
4+00			9.5	86.9
+09			12.4	84.0
+21			12.4	84.0
+40			6.1	90.3
+50			5.3	91.1
TP	12.69	108.54	0.52	95.85
4+71			10.0	98.5
TP	13.11	121.44	0.21	108.33
5+00			4.6	114.8
TP	9.93	130.91	0.46	120.98
5+30			7.7	123.2
+50			6.6	124.3
6+00			4.6	126.3
+11			5.7	125.2
+40			11.8	119.1
+50			12.6	118.3
+75			12.1	118.8
7+00			7.1	123.8
+28			2.8	128.1
+50			1.7	129.2
TP	8.74	139.06	0.59	130.32
7+72			9.8	129.3
8+00			12.9	126.2

137.06

8+10			13.9	125.2
+ 50			8.2	130.9
9+00			1.1	138.0
TP	13.14	151.61	0.39	138.67
9+50			10.0	141.87
10+00			8.2	143.6
+ 30			6.8	145.0
+ 50			6.2	145.6
TP	6.14	151.52	6.43	145.38
11+00			5.7	145.8
+ 50			6.0	145.5
12+00			4.6	146.9
+ 50			4.7	146.8
13+00			7.0	144.5
+ 50			11.0	140.5
TP	0.33	138.81	13.04	138.48
14+00			2.1	136.7
+ 50			5.9	132.9
15+00			12.2	126.6
TP	5.38	131.65	12.54	126.27
15+34 ^L			9.2	122.5
15+74 ³			8.85	122.80
16+00			9.2	122.5
16+28 ³³			9.25	122.4
B.M.			9.24	122.41

Cont'd from Book # 295 - page 55

Note: Elev's taken on ground, but between sta 9+50 and 10+50 there is about 2 feet of rubbish, cans, plaster, concrete, tree limbs, etc.

Sta 12+00 to 12+50 about 1 1/2 feet of rubbish, etc.

or Edge of Pav.

or " " "

Edge " "

B.P. in curb N.W. Cor. 36th + Market

5/20/41 52
Soper
Brooks
Hedgcock

	131.65			
16+50		7.0	124.7	
+64		7.4	124.3	
+69		5.3	126.4	
TP	12.64	144.28	0.09	131.56
TP	12.64	156.29	0.55	143.65
TP	2.66	158.74	0.21	156.08
16+86		5.4	153.3	
17+00		3.6	155.1	
17+23		1.5	157.2	
+50		1.4	157.3	
+58		1.9	156.8	
18+00		8.9	149.8	
TP	0.35	146.00	13.09	145.65
18+50		6.7	139.3	
TP	0.35	133.63	12.72	133.28
19+00		3.8	129.8	
+36		8.6	125.0	
+38		10.0	123.6	
+50		10.8	122.8	
+58		10.8	122.8	
+60		11.6	122.0	
TP	0.56	121.24	12.95	120.68
20+00		3.4	117.8	
+50		6.5	114.7	
21+00		7.7	113.5	

121.24.

21+50			10.4	110.8
22+00			12.3	108.9
TP	1.94	110.60	12.58	108.66
22+50			2.6	108.0
23			4.7	105.9
+50			7.2	103.4
24			11.7	98.9
+50			13.1	97.5
+77			14.1	96.5
25			12.6	98.0
+50			13.3	97.3
+77			12.1	98.5
TP	0.33	98.19	12.74	97.86
26			1.5	96.7
+27			3.1	95.1
+50			7.4	90.8
26+99 ² L			11.4	86.8
27+42			21.0	77.2
+50			20.4	77.8
+67			14.8	83.4
+85			6.0	92.2
28+00			5.3	92.9
28+03 ⁸⁸ L			4.2	94.0
+12			5.7	92.5
+50			7.1	91.1

(hand level)

"

"

98.19

29+00			8.5	89.7
+50			9.9	88.3
30+00			10.4	87.8
+37			12.1	86.1
TP	0.35	85.62	12.92	85.27
30+50			0.3	85.3
31			3.2	82.4
+50			6.0	79.6
32			9.0	76.6
+50			11.9	73.7
TP	0.45	72.98	13.09	72.53
33			2.0	71.0
+50			4.4	68.6
33+77 ⁸	5' RT		5.4	67.6
"	"		15.7	57.3
34+00			6.8	66.2
B.M.			7.92	65.06
34+50			8.9	64.1
+85			11.7	61.3
			8.1	64.9
TP	0.56	60.55	12.99	59.99
35+00			2.5	58.1
+40			10.2	50.4
TP	0.98	48.76	12.77	47.78
35+50			3.7	45.1

Rim of sewer M.H.

Fl. line (10³ deep)ck. on B.M. Top of F. Hyd. S. E. Cor. 35th & Thompsons H. 65.04Fl. line 10" Conc. Culv. 19³ ft, Sta 33+63

		48.76		
		48.8		
35+55			5.7	43.1
35+63.89			4.85	43.91
+93			6.2	42.6
36+00			8.3	40.5
+07			10.3	38.5
+50			10.2	38.6
+55			10.4	38.4
+64			14.0	34.8
+75			13.2	35.6
+76			10.3	38.5
37+00			10.2	38.6
+28			9.4	39.4
+31			8.6	40.2
+50			8.1	40.7
37+58.2 (58 RT)			8.7	40.1
"			15.6	33.2
38+00			7.5	41.3
+21			6.6	42.2
+37			4.2	44.6
+50			0.6	48.2
TP	12.80	61.27	0.29	48.47
FF	12.18	73.32	0.13	61.14
39			10.4	62.9
+25			5.9	67.4
+50			2.6	70.7

Top of south rail.

Rim of sewer M. H.
Fl. line (6' deep)

73.32

TP	12.90	86.11 ^v	0.11	73.21 ^v
39+88			10.5	75.6 ^v
40+00			3.6	82.5 ^v
+05			2.7	83.4 ^v
+26			2.5	83.6 ^v
+35			2.0	84.1 ^v
+50			0.9	85.2 ^v
TP	12.51	98.52 ^v	0.10	86.01 ^v
40+96			10.0	88.5 ^v
41+01 ⁴⁰ L			8.4	90.1 ^v
+10			8.8	89.7 ^v
+50			7.3	91.2 ^v
42			4.2	94.3 ^v
42+08 ⁵⁵ L			3.7	94.8 ^v
+50			2.7	95.8 ^v
43			1.9	96.6 ^v
+50			1.8	96.7 ^v
44			1.4	97.1 ^v
TP	2.85	100.05 ^v	1.32	97.20 ^v
44+50		100.1	3.0	97.1 ^v
45			3.1	97.0 ^v
+50			3.8	96.3 ^v
46			3.2	96.9 ^v
+50			2.3	97.8 ^v
47			3.8	96.3 ^v

		100.05 (100.1)		
47+50			5.2	94.9
48			5.7	94.4
+50			4.7	95.4
49			4.1	96.0
+50			4.7	95.4
50			5.8	94.3
+50			6.8	93.3
51			10.0	90.1
+50			12.0	88.1
TP	0.83	87.94	12.94	87.11
52			2.4	85.5
+50			5.3	82.6
53			8.3	79.6
TP	0.59	75.51	13.02	74.92
+50			4.1	71.4
54			11.5	64.0
TP	1.34	64.09	12.76	62.75
54+11 ²		(64.1)	2.1	62.0
+23			2.4	61.7
+50			1.7	62.4
+78			2.5	61.6
+91 ^E			2.1	62.0
55+00			2.2	61.9
+50			3.1	61.0
56			4.8	59.3

Edge of Pave

Fl. line Sewer M.H. 120' Lt. 54+51 = 529

Edge of Pave

5/21/41

58

Soper
Brooks
Hodgeson

		64.09		
56+50	(64.1)		8.4	55.7
57			12.0	52.1
Set B.M			2.21	61.88
TP	0.26	51.61	12.74	51.35
57+50			4.5	47.1
58			8.6	43.0
+50			13.1	38.5
TP	9.74	48.35 ^v	13.00	38.61
58+54.5	(48.4)		11.35	37.0
59			11.4	37.0
+25			10.2	38.2
+50			8.0	40.4
+75			5.8	42.6
60			6.6	41.8
+50			7.6	40.8
61			3.1	45.3
+13			3.7	44.7
+50			8.5	39.9
62			14.8	33.6
+18			14.1	34.3
+20			13.1	35.3
+50			9.6	38.8
63			3.8	44.6
TP	12.15	60.28	0.22	48.13
63+50	(60.3)		10.7	49.6

On 7' Point (hd. stack) S.E. cor. 36th & Ocean View Blvd.

Top of 36" Conc. Storm drain (42" O.D.)

		60.28		
		(60.3)		
64+00			8.2	52.1
+50			7.7	52.6
65			6.9	53.4
+50			5.2	55.1
66			5.5	54.8
+50			4.6	55.7
67			4.2	56.1
+50			4.5	55.8
68			5.1	55.2
+50			6.3	54.0
69			8.7	51.6
+50			10.5	49.8
TP	1.01	50.86	10.49	49.79
70			2.2	48.6
+50			3.8	47.0
71			6.9	43.9
+50			9.1	41.7
72			11.0	39.8
+50			11.8	39.0
73			12.4	38.4
+17			12.6	38.2
+31			13.0	37.8
+56.6			12.6	38.2
			12.5	38.3
			17.9	32.9

Edge of Pav

Rim of Sew. M.H. 92 Rt 73+56.6

Fl line (5' deep)

	50.80		
73+82		13.9	36.9
+96 ²		13.4	37.4
B.M. & T.		11.48	39.32

3.60	42.90	39.30
		4.3
		38.6
		11.5
		31.4

B.M.	11.45	50.75	39.30
74		(50.8)	13.2
			37.6
+50			9.9
			40.9
75			8.4
			42.4
+50			8.4
			42.4
76			7.7
			43.1
+50			6.8
			44.0
77			4.2
			46.6
+50			2.4
			48.4
78			2.4
			48.4
T	1.92	50.38	2.29
		(50.4)	48.46
+50			2.3
			48.1
79			2.0
			48.4
+50			1.4
			49.0
80			2.2
			48.2
+36 ⁶⁵ C			2.7
			47.7
+50			3.6
			46.8

Edge of Pav.

Ch. on B.M. Top of F. Hyd. S.E. Cor 36th National
Elev. 39.30

Rim of Sewer M.H. 246' ± Lt of Sta 73+56⁶

Fl. line (7² deep)

	50.38			
	(50.4)			
81			6.6	43.8
+ 22 ⁹¹			7.8	42.6
+ 50			9.8	40.6
82			12.1	38.3
+ 50			12.4	38.0
π	0.81	38.52	12.67	37.71
83			1.4	37.1
+ 50			3.1	35.4
84			4.5	34.0
+ 50			6.3	32.2
85			7.0	31.5
+ 50			8.0	30.5
86			10.3	28.2
+ 50			10.7	27.8
87			11.8	26.7
π	2.56	29.22	11.86	26.66
+ 50			3.3	25.9
+ 64			3.9	25.3
+ 84 ⁷⁵			5.4	23.8
88+00			4.3	24.9
+ 50			4.5	24.7
89			5.7	23.5
+ 17 ⁶²			6.4	22.8
+ 50			7.2	22.0
90			9.3	19.9

29.22

90+50			12.2	17.0
TP	0.58	16.79	13.01	16.21
91		(16.8)	1.0	15.8
+50			1.7	15.1
92			3.8	13.0
+50			6.7	10.1
93			8.4	8.4
+50			10.6	6.2
+90			12.8	4.0
94			12.4	4.4
+50			12.7	4.1
TP	5.05	9.15	12.69	4.10
95		(9.2)	5.0	4.2
+50			4.8	4.4
96			5.5	3.7
+50			5.8	3.4
97			6.0	3.2
+50			5.7	3.5
98			5.0	4.2
			5.7	3.5
			15.8	-6.6
98+50			5.3	3.9
99			5.7	3.5
+50			5.6	3.6
+71			5.7	3.5

Rim of Sewer M.H. 15' RT 98+22⁶
 Ft. line 10' deep

	9.15 (9.2)		
99 +84		10.3	- 1.1'
100 +00		8.9	0.3'
+08		7.5	1.7'
+20		1.3	7.9'
+25		5.1	4.1'
TP	7.19	10.01'	6.33
100 +50		6.1	3.9'
		5.7	4.3'
		17.2	- 7.2'
100 +65		7.4	2.6'
101		7.2	2.8'
+50		8.0	2.0'
102		8.1	1.9'
		5.7	4.3'
		17.3	- 7.3'
		9.6	0.4'
		17.6	- 7.6'
102 +50		8.0	2.0'
103		8.4	1.6'
+50		9.3	0.7'
+60		8.0	2.0'
+70		3.5	6.5'
103 +72 ⁶⁰		5.4	4.6'
104 +126		5.1	4.9'
104 +32 ⁵		5.5	4.5'

Rim of sewer M.H. 11⁵ Rt. of 100 +50
Fl. line (11⁵ deep)

Rim of sewer M.H. 7³ Rt. 102 +22
Fl. line (11⁶ deep)

Rim of sewer M.H. 15' Rt. 102 +23
Fl. line (8⁶ deep)

Edge of Pav.

¢ of Pav.

10.01

9	Set B.M.			3.70	6.31 [✓]
1	π	7.19	14.35 [✓]	2.85	7.16 [✓]
	π	6.12	18.27 [✓]	2.20	12.15 [✓]
	B.M.			4.75	13.52 [✓]

Spike in power pole S.E. Cor. Jivar Main

Relocation 36th St. Line, On 36th Boston to Birch,
 On Birch to Vesta, On Vesta to Main

81+150' L. 22° 30' LT

80+36⁶⁵ L. 22° 31' RT

77+34⁴⁰ 90.7.

Cont'd from Book 289-A Page 71²

9/24/41
 Soper
 Brooks
 Hodgson

Pueblo Lot # 1343

Gene. Merit.

3320

39⁸⁵

10⁰⁰

436⁶⁵ St.

Pueblo Lot Line

790

80+97⁸⁸

30⁰⁰

784

7⁰⁰

39⁸⁵

300

Previous location

81+22⁹¹ old L.P.

P.L. 1161

Map of
 N.T.L.
 Boston.

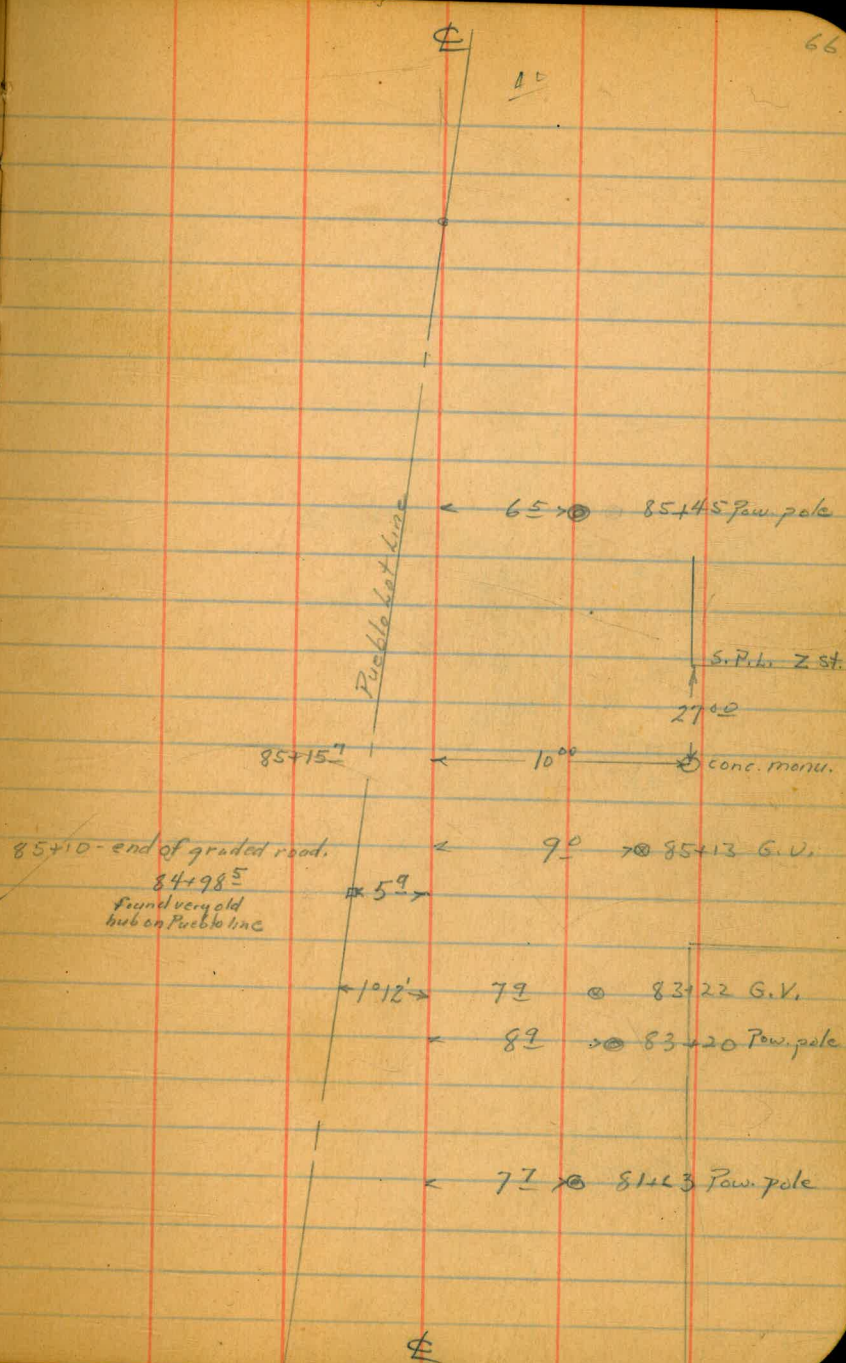
W. Th. Line 36th St.

65

⊕

⊕

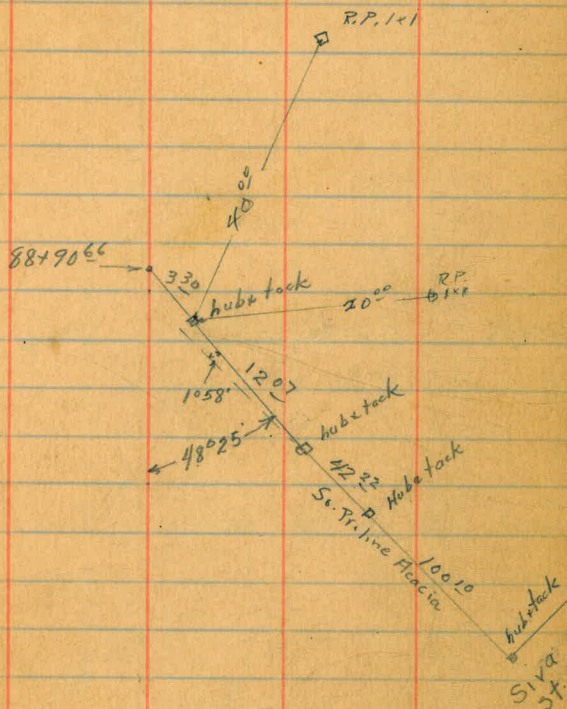
87+64²⁰ Intersection with Pueblo lot line



9/25/41
Saper
Brinks
Hodgeson

67

Lot #7



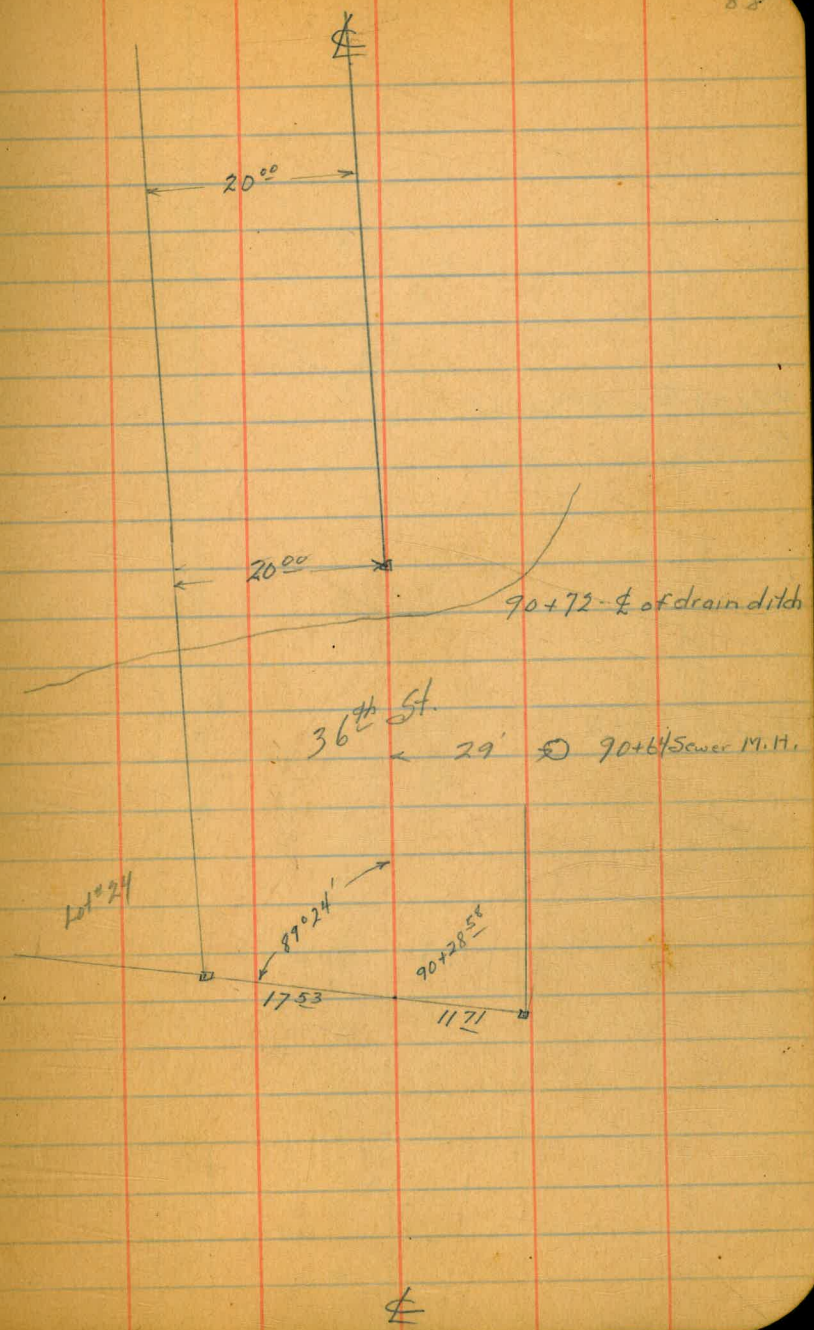
Lot #6

87+83⁹⁵ P.O.Y.

87+84⁷⁵
Previous
location

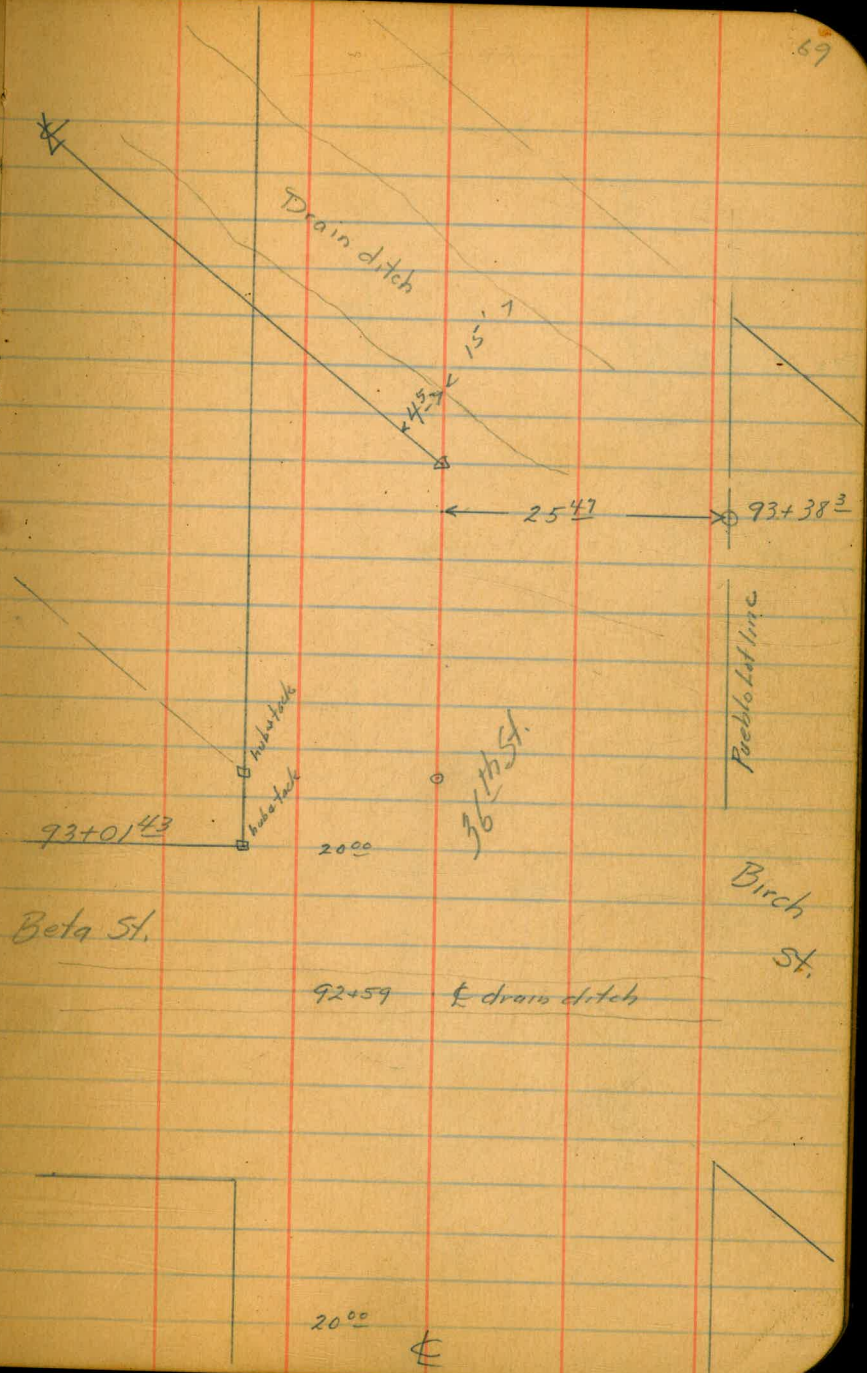
⊕

90+76 ⁷⁴ L. 2°36' Lt

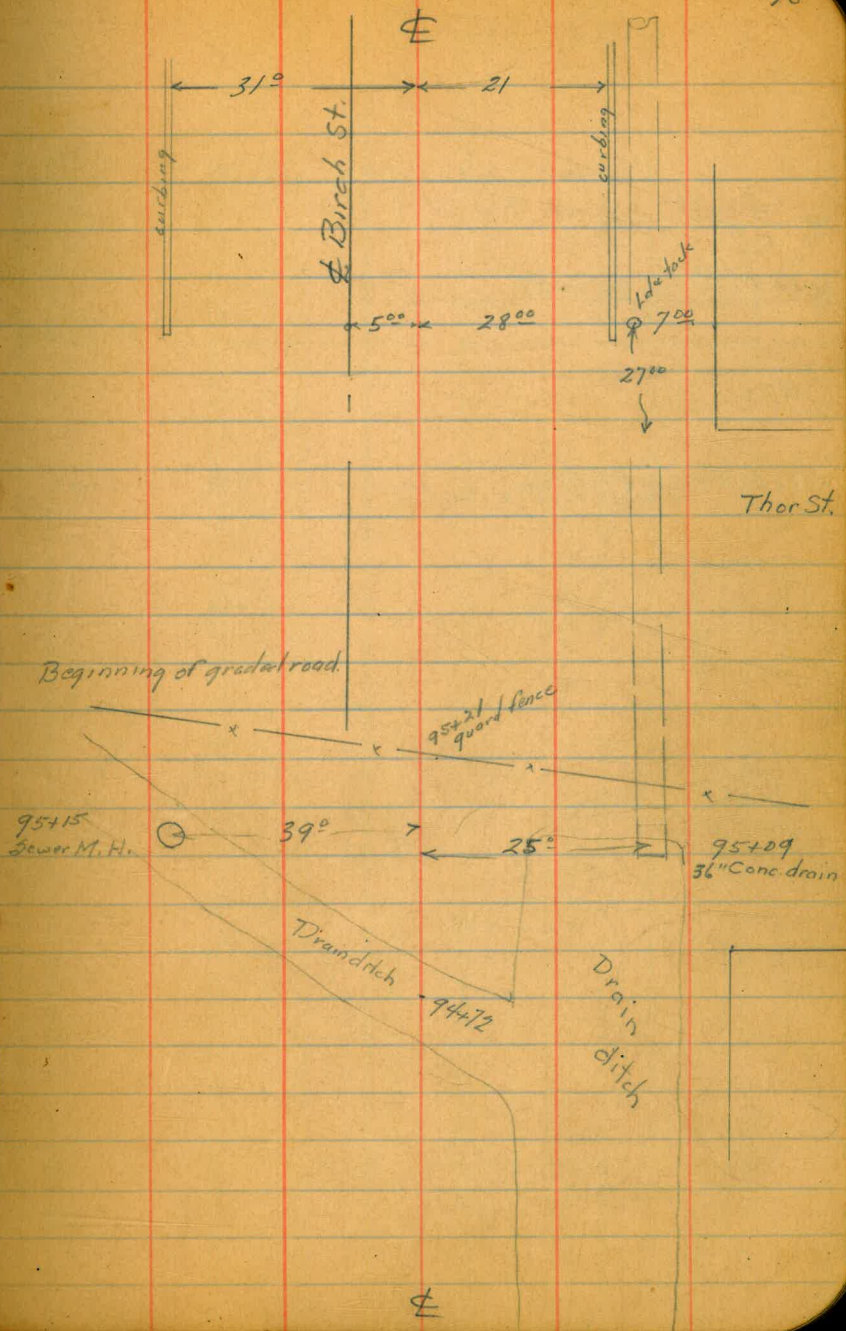


93+50⁹⁵ L. 47° 20' Lt.

93+08¹⁰ P.O.T.



95+75⁸⁸ P.O.T.



7/26/41
Super
Brooks
Hodgeson

71

5°

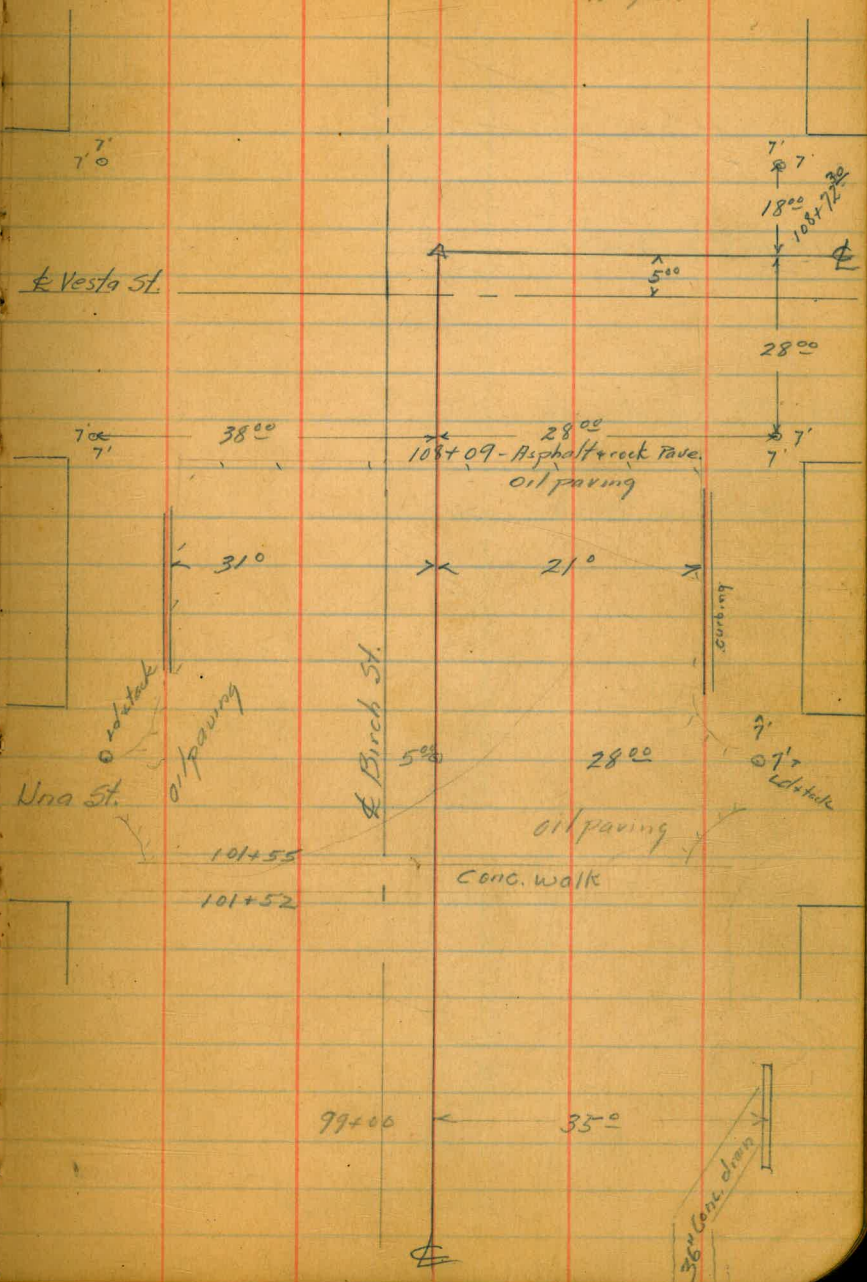
Change all stations beyond here 5'
near line 10' E Vesta

49³⁰

108+44³⁰ L: 90°00' Rt.

108+16³⁰ P.O.T. (7' off line)

102+02⁰⁰



115+66³² P.O.T. on 7 line

115+17³⁸ End of work.

Dalbergia St.

7' 0"

18°

28°

5'

114+09² Sewer M.H.

Cottonwood St.

flow

5'

110+29³ Sewer M.H.

5'

2' Vesicle

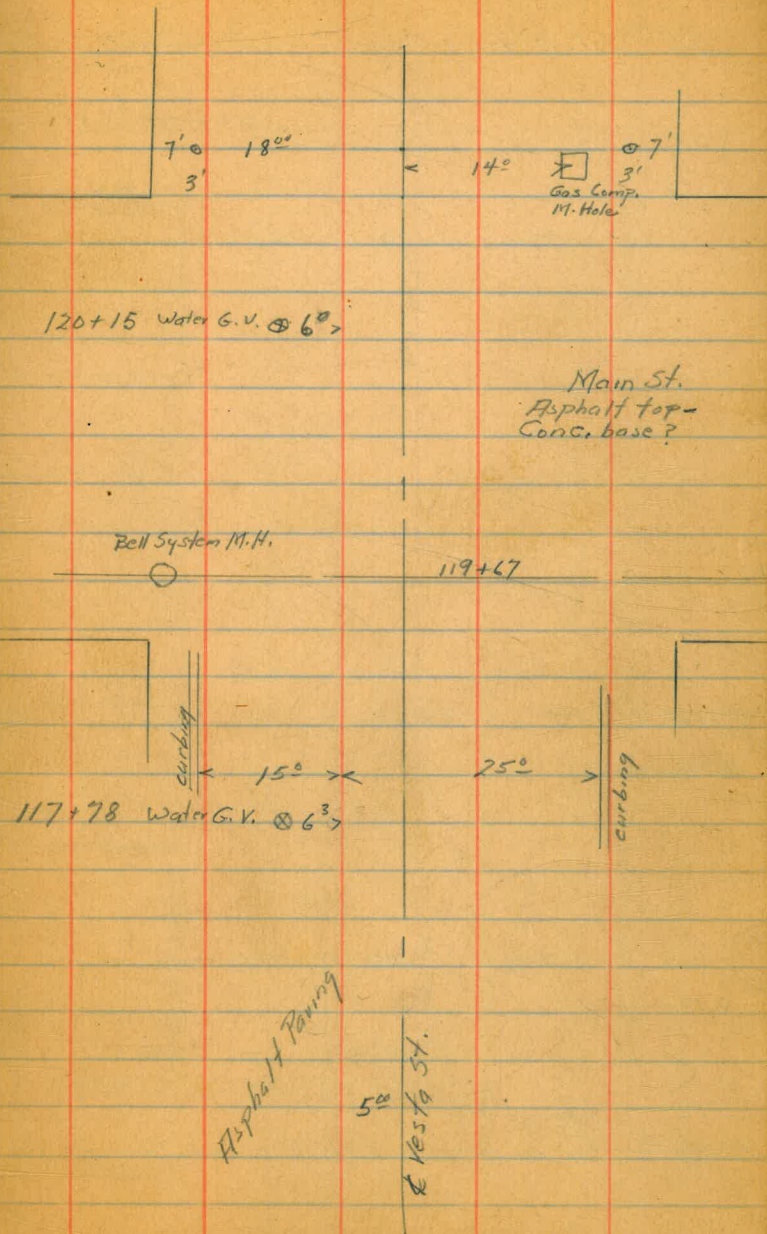
15°

25°

Asphalt Pavement.

Cont'd in Book "

120+42⁶³ (3' offset line on Main St)



⊕

73

⊕

36th St. alternate, on Thor from Birch to Main

107+22³

106+82³ - Approp. to Main

106+423
P.L. Main St.

20⁰⁰

10⁰⁰

30⁰⁰

Thor St

Dalbergia St.

20⁰⁰

10⁰⁰

30⁰⁰

14⁰⁰ back
7⁰⁰

47⁰⁰

→ 99+36⁶⁰

Cottonwood St.

P.L. Birch St.

P.L. Thor

20⁰⁰

10⁰⁰

30⁰⁰

Thor St

7⁰⁰

47⁰⁰

→ 95+56.22

14⁰⁰ back

8 95+54 - 36" Conc. drain

20⁰⁰

95428⁸⁸ 490⁰⁰ Rt
910.07 revision from Alacia to Main via Vesta St.

Revised line to Vesta.

9/27/41
Soper
Brooks
Hodgson

74

Profile; Thor St from Birch to Main

B.M.	2.70	9.64	6.94	
95+28 ⁸⁸			3.7	
+50			3.7	
			7.9	
96			4.7	
+50			5.0	
97			5.3	
+50			5.6	
98			5.6	
+50			5.0	
99			4.6	
+50			5.1	
100			5.6	
+50			5.5	
101			4.5	
+50			3.7	
102			2.9	
+50			1.7	
TP	5.79	13.67	1.76	7.88
103			4.5	
+50			4.6	
104			4.6	
+50			4.6	
115			4.4	
+50			4.6	

9/29/41
Soper
Brooks
Hodgeson

75

Nail in Pole, Thor & Birch

Fl. Line 36" Conc. Culv. 20' RT 95+54

106

13.67

+42

5.0

+82

6.1

5.8

Set B.M.

6.53

7.14

B.P.S.E.
Cor. Ther. Main

IP

10.12

17.72

6.67

7.60
→ 5.60

B.M.

4.21

13.51

(13.52)

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder
stake for any width roadway, slope 1% to 1.
If ground is nearly level, the cut or fill at side
stake is located by the double entry method in
left column and top row. The number in body
of table in same row and column gives the
distance of slope stake from side or shoulder
stake. If ground is nearly level, the cut or fill
amount is cut, elevation is added, and the amount
to cut or fill and horizontal distance in table. Set up
rod at target and hold distance in table. Cut
target.

IMPROVED TABLES
AND
INFORMATION

TABLE No. 2.

To find Tangent and External for curve of
any other degree, divide by degree of curve and
add constant found in column of tangents.
Degree of curve with given I may be found
by dividing tangent (or external), opposite I by
given tangent (or external).
The distance from a point on the tangent to
the curve is very nearly the square of the tangent
length divided by twice the radius.

$$634 + 35 = 340.93$$

$$630 = 327.88$$

$$435 \quad | \quad \begin{array}{r} 13.05 \\ 13.65 \end{array} \quad (3)$$

$$\begin{array}{r} 630 \\ 111 \\ 741 \\ 145 \\ 886 \\ 80 \\ \hline 85 \end{array}$$

14.4
3.6

16025' L

$$\begin{array}{r} 35 \\ 18 \\ 280 \\ 35 \\ \hline 630 \end{array}$$

$$\begin{array}{r} 777 \\ 8 \\ 16 \\ \hline 801 \end{array}$$

$$\begin{array}{r} 2265 \\ 2056 \\ \hline 13590 \\ 11325 \\ 4530 \\ \hline 4656840 \end{array}$$

$$\begin{array}{r} 38805 \\ 466 \\ \hline 383.39 \end{array}$$