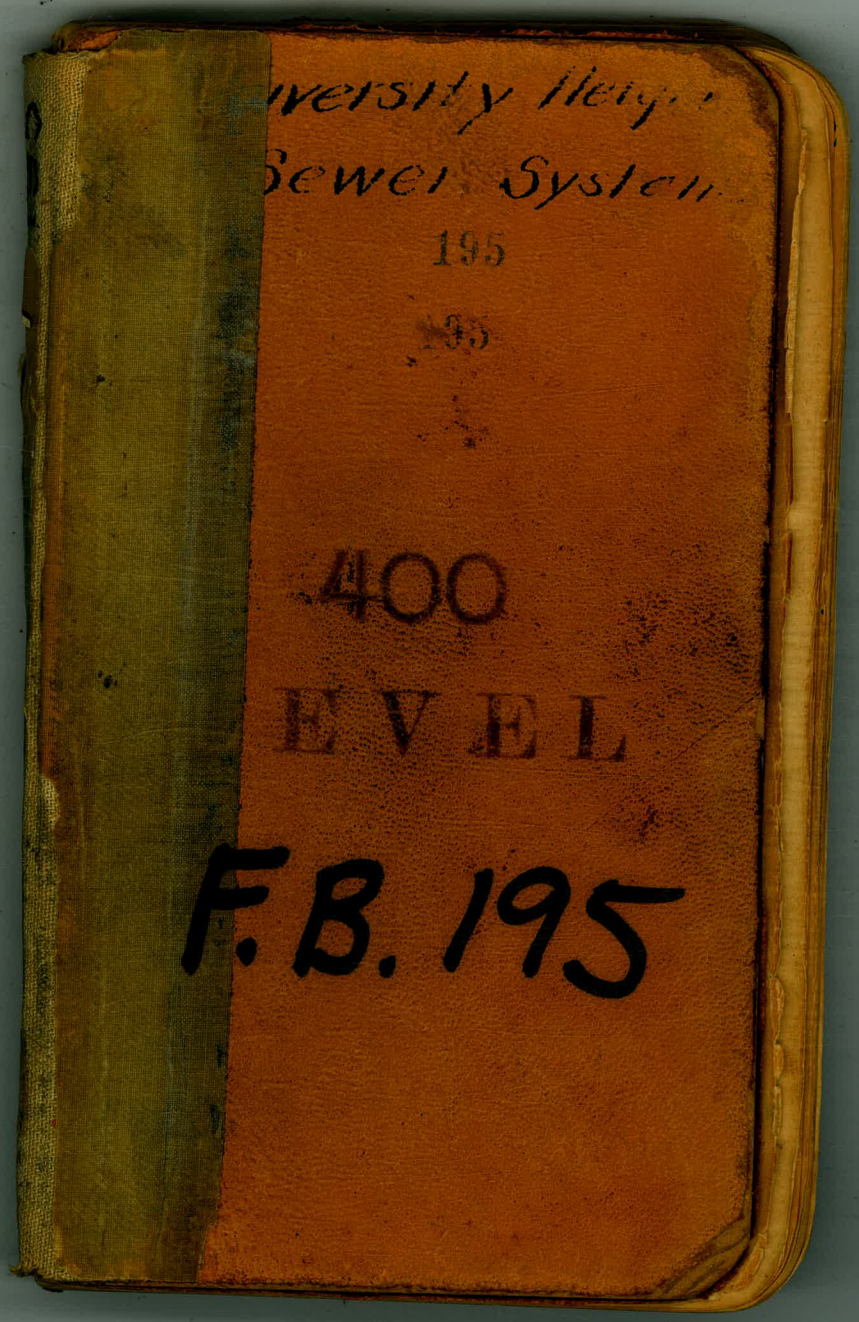

versity Heights
Sewer System
195
35
400
LEVEL
F.B. 195

195

Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

Minutes	Lks.	Minutes	Lks.	Minutes	Lks.
1	2⅓	21	49	41	95⅔
2	4⅔	22	51⅓	42	98
3	7	23	53⅔	43	100¼
4	9⅓	24	56	44	102⅔
5	11⅔	25	58⅓	45	105
6	14	26	60⅔	46	107⅓
7	16⅓	27	63	47	109⅔
8	18⅔	28	65⅓	48	112
9	21	29	67⅔	49	114⅓
10	23⅓	30	70	50	116⅔
11	25⅔	31	72⅓	51	119
12	28	32	74⅔	52	121⅓
13	30⅓	33	77	53	123⅔
14	32⅔	34	79⅓	54	126
15	35	35	81⅔	55	128⅓
16	37⅓	36	84	56	130⅓
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

MICROFILMED
DEC 81964

Return to City Engineers Office
City Hall, San Diego, Cal.

TABLE FOR RUNNING ON SLOPES.

In the following table the first column shows the angle, the second the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle	Cor. in Links	Angle	Cor. in Links	Angle	Cor. in Links	Angle	Cor. in Links
o		o		o		o	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24	9.47	35	22.07

307.47
296.0
11.47

282.44
9.02
291.46
3.70
25.16

286.29
3.70
289.99

283.54
5.64
289.18
211.97
277.21

.89
12.86

6.01
283.17
270.96
12.21

5.27
283.91
271.12
12.79

5.57
283.66
271.28
12.38

5.51
301.96
5.34
307.30
295.28
12.02
307.29
296.57
10.72
297.14
10.15
297.71
9.58
298.28
9.01
270.86
307.29
298.85
8.44
299.42
7.87
6.35
~~286.3~~ 5.46
.89

5.00.75 / 500000 (99.8
450675
493250
450675
42575

.42.25

317.42
9998
318.418
319.416
320.414
321.412
.595
907

~~.249~~
.499
9.68
305.84
315.52
.58.5

290.32
3.13
293.45
3.87
289.58
270.20
19.38
3.40
290.05
270.07
19.98

330.56
4.45
326.11
5.54
331.65
5.92
332.03

307.4
296.0
11.

B.M. 16.47 24th & Pierce
Spk in Cor Fence Post

20.85 25th & Pierce N.E. Cor.
Spk in Ball G Fence

22.28 26th & Pierce
Spk in Cor. of Fence

Pierce & R.R.
Ct of Alley

22nd to 27.

38/190

1

about S.E. 24			
19+75	16.47 2.32 18.79 H.I.	5.515	
+50	4.42 14.37 3.75 18.12 H.I.	5.61	13.18
+			13.09
19		5.80	12.99
			12.90
+50	Hutchison Evans Wetmore 2/27/05	5.99	12.82 12.80
	Stakes from 19+75 to 14+25		12.70
18		6.18	12.61
			12.51
+50		6.37	12.42
			11.655
17		6.56	11.56
+82.5		6.625	11.495
+50		6.75	11.37
			11.27½
16		6.94	11.18
			11.09½

+50	18,12	7,13	10.99
	221		
	15,91		
	677		
	22,68		
	1 83		
15	20.85	7,81	10.81
			10.78½
+50		7,50	10.62
			10.52½
14		7,69	10.43
+50		7,88	
13		8,07	
+50		8,26	
12		8,45	
+50		8,64	

11	8,83
+50	9,02
10	9,21
+50	9,40
9	
+50	
18	
7	

2/27/05 Hutchison
Wetmore
Evans.

8.5
2.2
10.70

		H.''			
0	7.15	11.326	4.176	0.50	10.825
+25				0.555	10.77
+50				0.61	10.715
+75					10.665
1				0.71	10.615
+25					10.56
+50				0.82	10.505
+75					10.45
2				0.93	

Note.

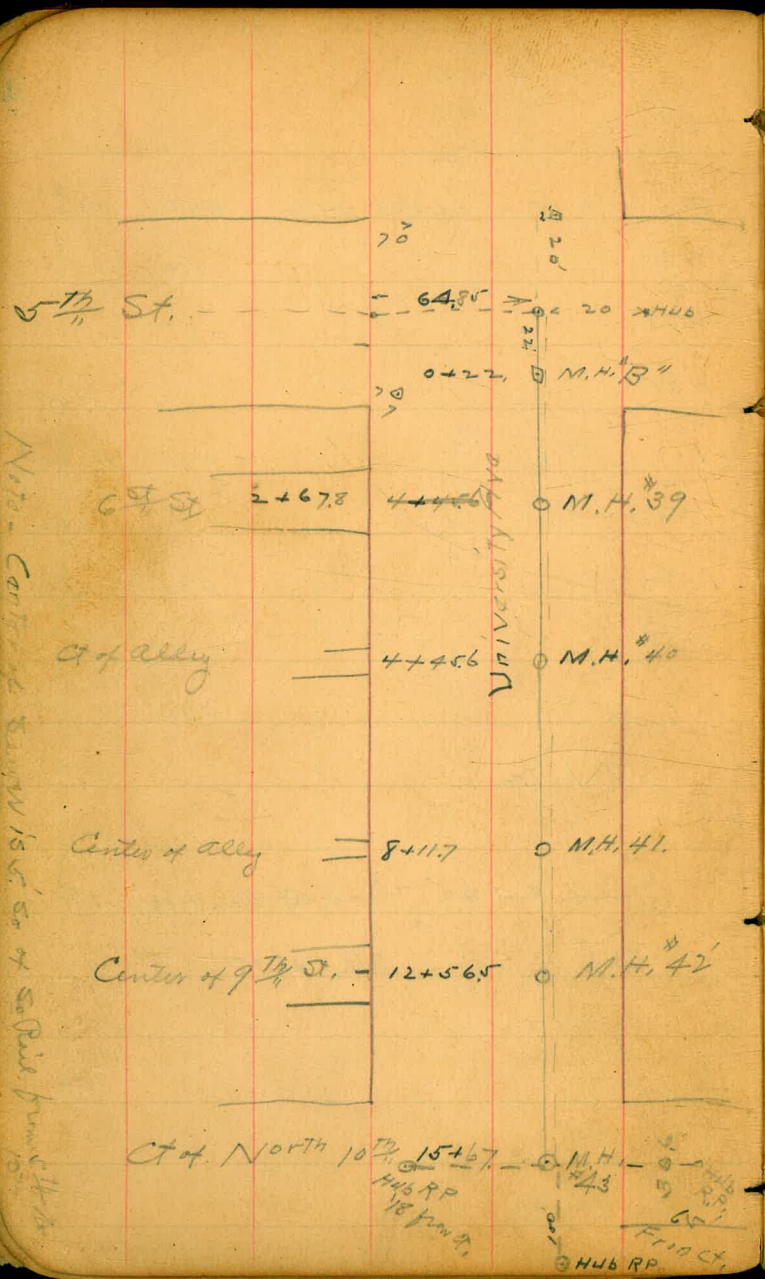
Hub set 80' ahead at Man Hole 21st

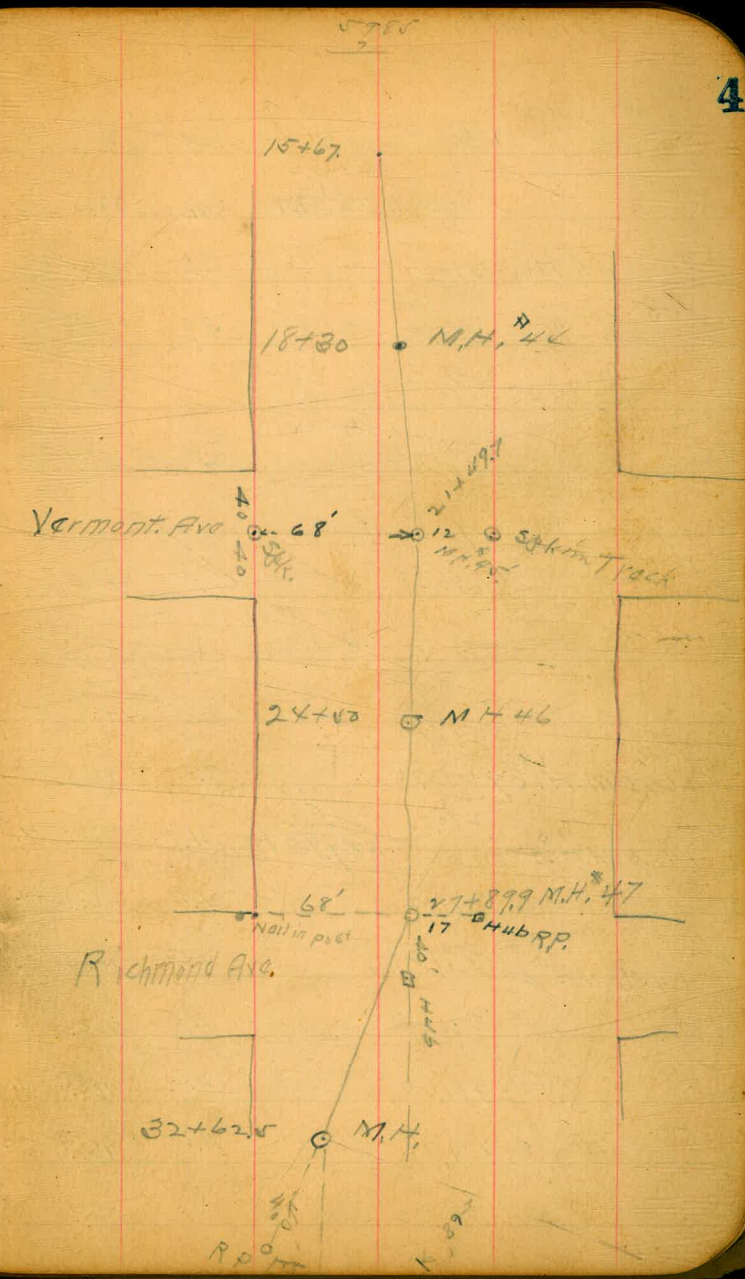
Spk on line on R.R. at 14

0.00

Ct of 5.27th Sicard

13.00 M.H.


5th St.
64.85
20
Hub
0+22
M.H. "B"
6th St
2+67.8
M.H. #39
University Ave
Ct of Alley
4+45.6
M.H. #40
Center of Alley
8+11.7
M.H. 41.
Center of 9th St.
12+56.5
M.H. #42
Ct of North 10th
15+67
M.H. #43
Hub RP
18 from Ct.
Hub RP
Hub RP
Front Ct.
Note - Center of Sewer is 5' So of So Rail from 5th to 10th


5785
15+67
18+30
M.H. #44
Vermont Ave
68'
12
Spkr.
Spkr. Track
24+50
M.H. 46
68'
Nail in post
27+89.9
M.H. #47
17
Hub RP.
Richmond Ave.
32+62.5
M.H.
RP

University Ave.
5½ Studs to 10th

		Grade	H.I.	Rod	Elevation	
0		270.00	290.32 / 293.44	3.9	289.5	19.5
+11	M.H.	270.07		3.6	289.8	19.7
+58		270.18		3.8	289.5	19.3
1		270.87		5.0	288.4	18.1
+50		270.48		6.95	286.5	16.0
2		270.64 / 270.80		8.5	284.9	14.3
+50						
+67.8	M.H. #39	270.86		9.8	283.6	12.8
3		270.96	9.90 / 283.86 / 4.86 / 287.90	4.9	283.0	12.
~~+47.6 M.H. #40~~						
+50		271.12		4.8	283.1	12.
4		271.28		4.5	283.4	12.
+45.6	MH #40					
+50		271.44		4.5	283.4	12.
5		271.60		4.3	283.6	12.
+50		271.76		4.1	283.8	12.
6		271.92		4.1	283.8	11.9

3/4/05 Hutchison
Evans
Wetmore

3/30/05

Graded Cut from St 4 to Sta 8

		Grade	287.90			
6+50		272.08	4.00 / 283.90 / 5.42 / 289.32	4.0	283.9	11.8
7 ~~+00~~		272.24		5.1	284.2	12.
+50		272.40		5.0	284.3	11.9
		272.55			284.5	12.0
8+00		272.57		4.8		
8+11.7	M.H. #41	272.71		4.7	284.4	11.7
+50						
9		272.87		5.0	284.3	11.6
+50		273.03		5.1	284.2	11.0
10		273.19		5.1	284.2	11.0
+50		273.35	5.07 / 284.25 / 3.56 / 287.81	3.8	284.0	10.7
11		273.51		4.2	283.6	10.1
+50		273.67		4.4	283.4	9.7
12		273.83		4.6	283.2	9.4
+50		273.99				
+56.5	M.H. #42	274.01		4.9	282.9	8.9
13		274.15		4.9	282.9	8.7
+50		274.31		4.9	282.9	8.6
14		274.47		5.1	282.7	8.2
+50		274.63		5.1	282.7	8.1

University

		H.I	Rod		
15	274.79	287.81	5.4	282.4	7.6
+50	274.95		5.4	282.4	7.4
~~16~~			~~5.3~~		

275.00

15+67 M.H. #43

Cont on Pg 11 THIS BOOK

16

+50

17

+50

18

+30 M.H. #44

+50

21+50
3 20
18 30
2 60
15+70

21+50
15+67
5 83

2 60
3 20
5 80

6

3.40
28425
287.65 H.I.

27401
13.6
47
8.9

96
75
21

75.00
12.65
5 3
7.35

19

32+62.5
15+67
1695.5

+50

21.000 (1.2385
16955
40450
33910
65400
50865
145350
135640
97100

124
30
3720

20

1.2385
33

+50

124
33
372
372
4092

124
62

21

+49.7 M.H. #45

+50

22

23

+50

24

+50 M.H. #46

25

+50

26

+50

27

124
340
4960

124
125
62
248
124
1550

+50

27+89.9 MH 47

28

+50

29

+50

30

+50

31

275.41
62
276,03
62
276,65
62
277,27
62
277,89
62
278,51
62
279,13
62
279,75
62
80,37
62
80,99
62
81,61
62
82,23
62
82,85
62
83,47
62
84,09
62
84,70
62
85,32
62
85,94
62
86,56
62
87,18
62
87,80
62
88,42
62
89,04
62
89,66
62
90,28
62
90,90

90,90
62
91,52
62
92,14
62
92,76
62
93,38
62
94,00
62
94,62
62
95,24
62
95,86
14
96,00

+50

32

+50

32+62,5 M.H. #48

283
275

University Ave. 5th to Univ Boulevard

Main Sewer. Profile #6

0		270,00
+22	MH #38	
+55		
+75		
2		
+25		
+50		
+678		
3		
+25		
+50		
4		
+456		
+50		
5		
+50		
6		

Univ. Ave.

+50

7

+50

8

+11,7

+50

9

+50

10

+50

11

+50

12

+50

+56,5

13

+50

Cont from Pg 6 THIS BOOK Univ Ave.

		Sewer Grade		H.I.	B.M.	Elev.	Cut
14							
+50							
15							
+50		276.95		x	6.7	282.4	7.4
+67	N.H. #43	275.00	6.85	289.09	282.24		
16		275.45			6.6	282.5	7.0
+50		276.14			6.3	282.8	6.7
17		276.82	5		5.7	283.4	6.6
+50		277.51			4.9	284.2	6.7
18		278.21			3.8	285.3	7.1
+80	N.H. #44	278.62					
+50		278.88			2.8	286.3	7.4
19		279.57			2.3	286.8	7.2
+50		280.25			1.7	287.4	7.2
20		280.94	8.06	296.17	0.98	288.11	7.2
+50		281.62			7.15	289.0	7.4
21		282.31			6.63	289.5	7.2

282.74
4.60
287.34 H.I.

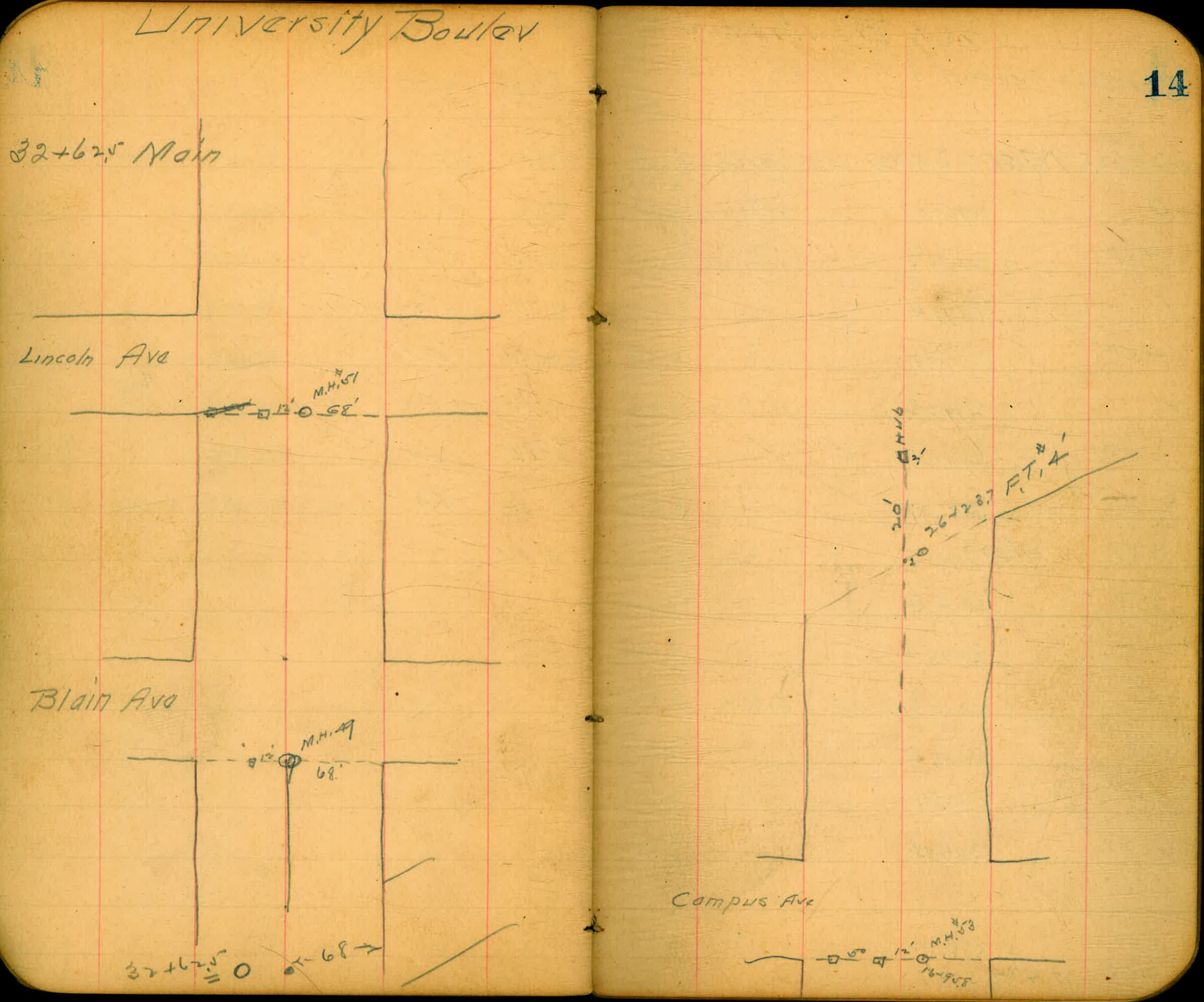
275 = 12.34

4/3/05
Hutchison
Berison
Evans

+49.7	MH #45	283.0		296.17	6.07	290.1	7.1	296.46 290.71 5.75
22		283.59			5.66	290.5	6.9	
+50		284.17			4.95	291.2	7.0	
23		284.76			4.37	291.8	7.0	
+50		285.34			3.70	292.5	7.2	
24		285.93			3.1	293.1	7.2	
+50	MH #46	286.51			2.62	293.5	7.0	
25		287.10	6.83	301.06	1.54	294.23	7.1	
+50		287.68			6.46	294.6	6.9	
26		288.26			5.90	295.2	7.0	301.12 288.81 12.27
+50		288.85			5.40	295.7	6.8	
27		289.43			4.80	296.3	6.9	301.12 289.43 11.69
+50		290.02			4.29	296.8	6.8	301.12 290.02 11.10
+49.9	MH #47	290.48			4.1	297.0	6.5	301.12 290.48 10.64
28		290.60			4.06	297.0	6.4	
+50		291.19			3.57	297.5	6.3	
29		291.77	6.47	304.78	2.95	298.11	6.3	

		Elev		H.I.	Rod	Elev.	Cut
+50	~~[illegible]~~	292.36		304.78	6.37	298.4	6.0
30		292.94			6.0	298.8	5.9
+50		293.52			5.50	299.3	5.8
31		294.11			4.90	299.9	5.8
+50		294.69			4.60	300.2	5.5
32		295.28			4.20	300.6	5.3
+50		295.86			3.50	301.3	5.4
+62.5	MH*48	296.00			3.50	301.3	5.3
					2.82	301.96	

University Boulev



University Boulevard

Main Sewer from M.H. #48 to F.T. #4

Map #7 8/18/05

32+62.5 Main Sewer University Ave.				Rod.	Elev	Cut.
					from 5" to Univ. Boul. = Stat 0. of Univ. Boulevard	
					301.96 B.M.	
0	296.00		308.67	7.87	301.3	5.3
+50	296.57			6.87	302.3	5.7
1	297.14	6		6.83	302.8	5.7
+50	297.71			6.03	303.6	5.9
2	298.28			4.67	304.0	5.7 5.3
+50	298.85	8"		4.47	304.4	5.4
3	299.42			3.97	304.7	5.3
+38	M.H. #49 299.85			3.47	305.2	5.3
+50	299.99			3.47	305.2	5.2
4	300.56			2.97	306.1	5.5
+50	301.13	7.05	313.57	2.15	306.52	5.4
5	301.70			6.80	306.8	5.1
+50	302.27			6.04	307.5	5.3
6	302.84			5.68	307.9	5.1
+						
+50	303.41			5.40	308.2	4.8
+68	M.H. #50 303.62					

		Stadia		H.I.	Rod	Elevation	
7		303.98		313.57	4.8	308.7	4.7
+50		304.55			4.3	309.2	4.6
8		305.12			3.97	309.6	4.5
+50		305.69			3.30	310.3	4.6
9		306.26			2.6	311.0	4.7
+50		306.83	11.14	323.45	1.86	311.71	4.9
10		307.40			10.3	313.2	5.8
+17.8	MH #1	307.60			9.8	313.7	6.1
+50		308.61			8.9	314.6	6.0
11		310.19			6.6	316.9	6.7
+50		311.77			4.26	319.2	7.4
12		313.35	12.52	334.25	1.72	321.73	8.4
+50		314.93			10.4	322.9	9.0
13		316.51			8.0	326.3	9.8
+50		318.08			5.4	328.9	10.8
+58	MH #2	318.33					
14		319.66	11.90	343.32	11.3	331.42	11.8

Grades set up to 14+37

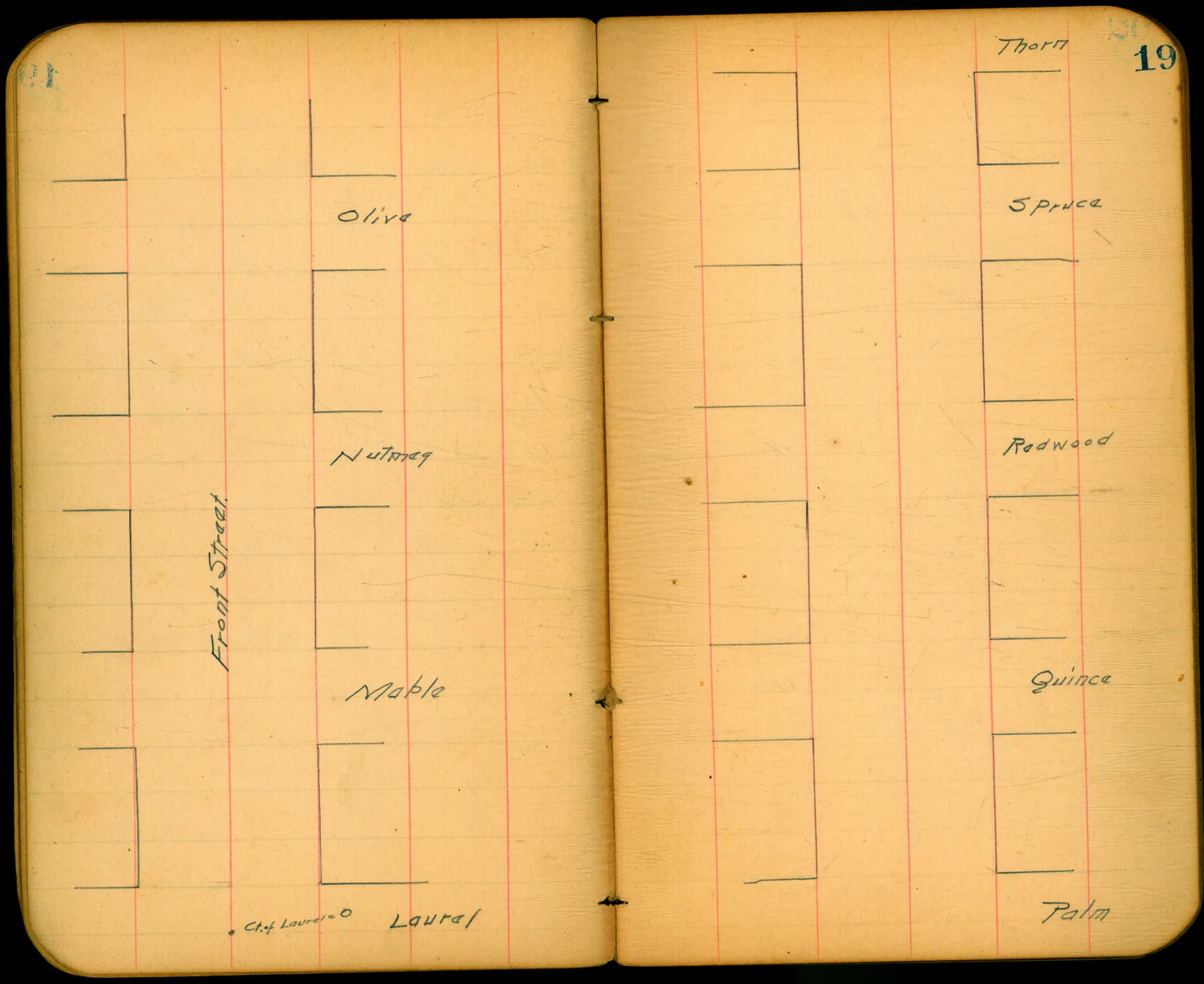
				Childs Sears Gum				
+50		321.24		343.32	8.9	334.4	13.2	
15		322.82			6.6	336.7	13.9	
+50		324.40			4.7	338.6	14.2	
(15+52) last grade								
16		325.98			2.3	341.0	15.0	
+50		327.56	6.84	349.60	0.56	342.76	15.2	
+95.8	M.H. #53	329.0			6.0	343.6	14.6	Grades set to M.H. 53
17		329.02						
+50		329.26			5.1	344.5	15.3	
18		329.50			4.8	344.8	15.3	
+50		329.74			4.8	344.8	15.1	
✓ +86 last grade								
19		329.98			4.7	344.9	14.9	
+50		330.22			4.8	344.8	14.6	
20		330.46			4.7	344.9	14.4	
+04	MH. #54	330.5						
✓ +50		330.70			4.7	344.9	14.2	
21		330.94	4.26	349.02	4.84	344.76	13.8	
+50		331.18			4.12	344.9	13.7	

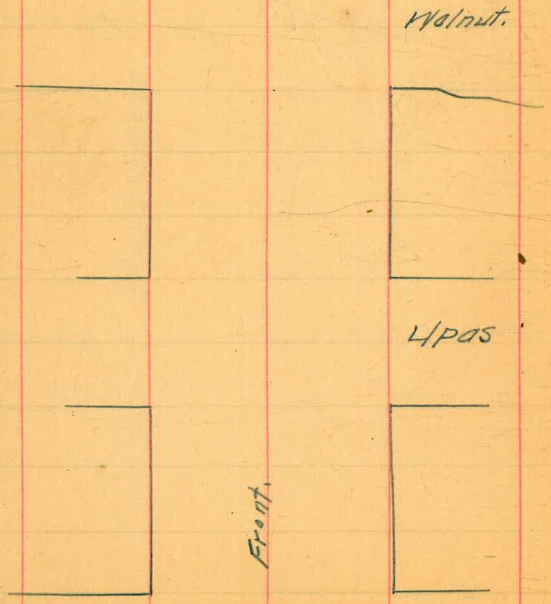
344.11
549
349.60

University Boulevard

		Grade	H.I.	Rod		
22		331,42	349,02	4,6	344,4	13,0
+50		331,66		4,5	344,5	12,8
23		331,90		4,6	344,4	12,5
+14	M.H. #55					
+50		332,14		4,8	344,2	12,1
24		332,38		4,7	344,3	11,9
+50	8"	332,62		4,7	344,3	11,7
25		332,86		4,7	344,3	11,4
+50		333,10		4,5	344,5	11,4
26		333,34		5,0	344,0	10,7
26+23,7	F.T. #4	333,5		5,02	344,0	10,5

34505
393
34898


Front Street
Olive
Nutmeg
Maple
Laurel
Ct. of Laurel
Thorn
Spruce
Redwood
Quince
Palm


Walnut.
4/pas
Front.

Front Street Sewer.

0

+50

1

+50

2

+50

3

+50

4

+50

5

+50

6

Trestle No. 2

+44 Bent 1.

6+99 Bent 2

7+54 " 3

8+09	Bant. 4
8+64	" 5
9+19	" 6
9+74	7
10+29	8
10+84	9
11+39	10
11+94	11
12+49	12
13+04	13
13+59	14
14+14	" 15

+ 50

15

+ 50

16

3/27/05 Hutchison Evans Scriven

+50

Trestle No. 3.

17+00	Bent 1.	50 Left
+55	" 2	
18+10	" 3	
18+65	" 4	
19+20	" 5	
19+75	" 6	
20+30.	" 7	70 Left
+50		
21		
+50		
22		
+50		
23		

Trestle #4

23+02 Bent 1.

23+57 " 2

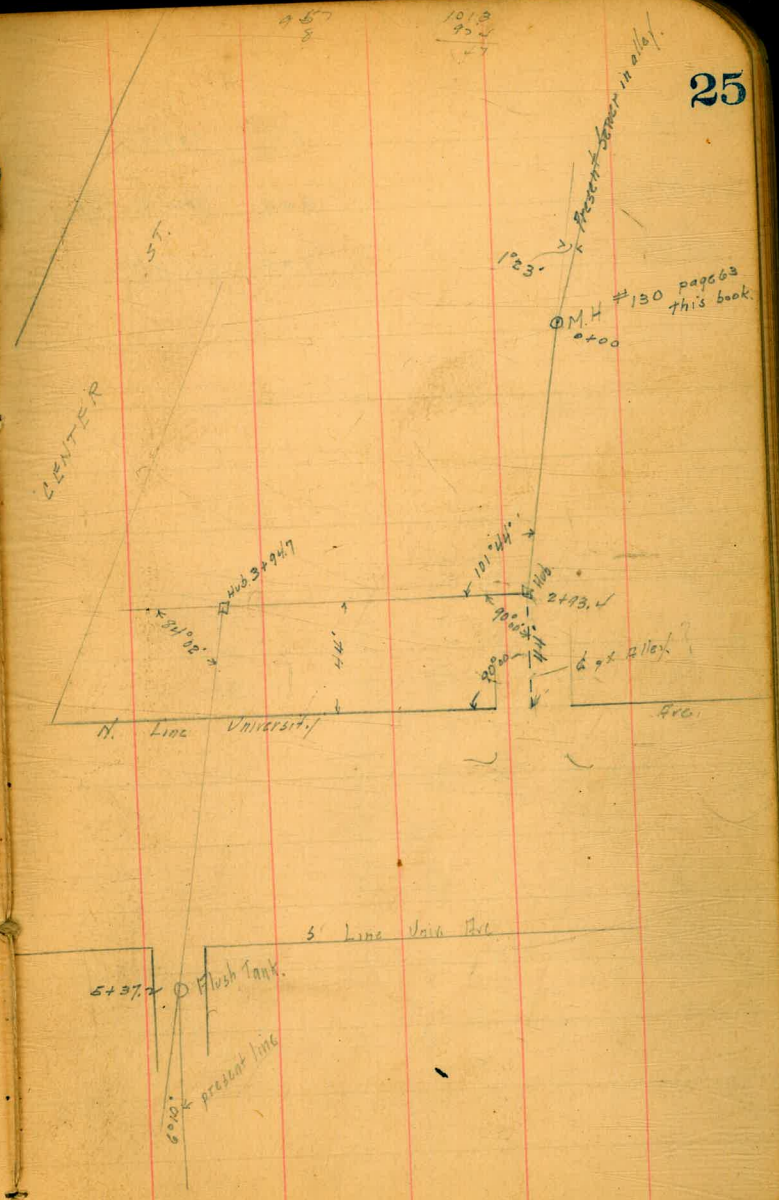
24+12 " 3

24+67 " 4

25+22 " 5

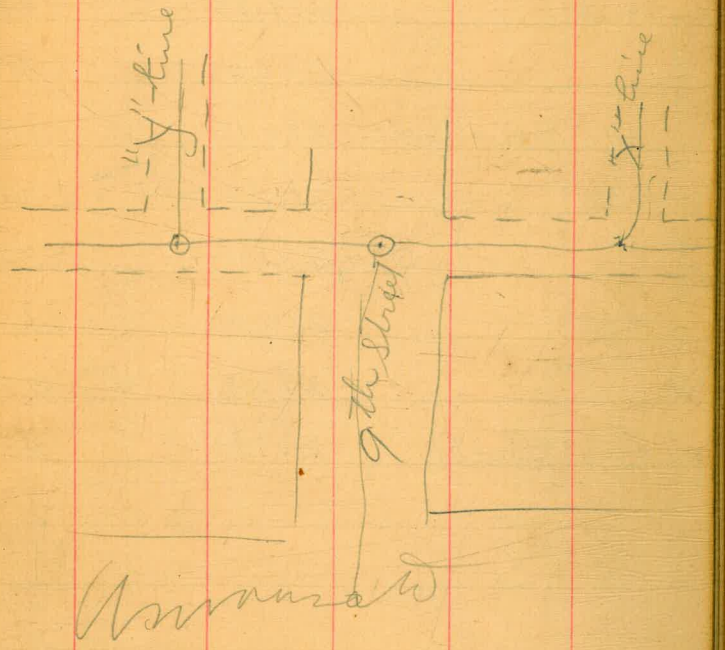
#1/22 Gregory Moore Miller Shaw — Levels for change of Sewer Univ. Ave bet Center & Park Blvd.

	6.87	310.75		303.88	B.P. NW Center & Univ.
	8.05	312.64	6.16	304.59	
M.H #130 page 663			6.55	306.09	= Flow M.H
0+00			1.70	310.9	= ground
0+50			2.8	309.8	
1			5.2	307.4	
+50			6.5	306.1	
2			8.8	303.8	present pipe 6' west
+50			12.2	300.4	
+66	crosses present trestle				
+93.4	△		12.60	300.04	on stub
3			12.8	299.8	
T.P.	10.60	310.94	12.30	300.34	
+50			13.0	297.9	
+87			14.0	296.9	
+94.7	△ 84°02' L		14.51	296.4	on stub
4+20			14.4	296.5	
+40			12.3	308.6	
+50			12.6	308.3	
5			3.8	307.1	



310.9 ✓

5+28	3.8	307.1	
+37.2	6.00	304.9	Top of F.T.
Chk B.M.	7.05	303.89	



X April 7, 1905

Childs
Gewis
Gunn

"Y" Line See Pg 26.

Sta		Grade	H.I.	Rod	Elev.	cut
0 =	1+65 "Z" line M.H. # 78	279.20	289.62	5.2	284.4	5.2
+50		279.42		5.0	284.6	5.2
1		279.63		5.0	284.6	5.0
1 +50		279.85		4.9	284.7	4.8
2		280.06		4.7	284.9	4.8
+15	M.H. # 134	280.12		4.4	285.2	5.1
+50		280.28		4.4	285.2	4.9
3		280.48		3.6	286.0	5.5
+50		280.70		3.3	286.3	5.6
4		280.91		4.1	285.5	4.6
+20	F.T. # 17	281.00		4.7	284.9	3.9

X

April 7. 1905

"X" Line

See Pg 26

Childs
Lewis
Gunn

Sta.		Grade	H.I.	Rod	Elev.	cut
0	= 1+65 "X" Line	279.20	289.45	5.5	284.0	4.8
+50		279.42		4.0	285.5	6.1
1		279.63		5.8	283.7	4.1
+50		279.85		6.7	282.8	2.9
+85	M.H. # 132	280.0		6.9	282.6	2.6

b

5.5
282.74
288.29
279.42
8.87

279.85
8.44

279.63
8.66

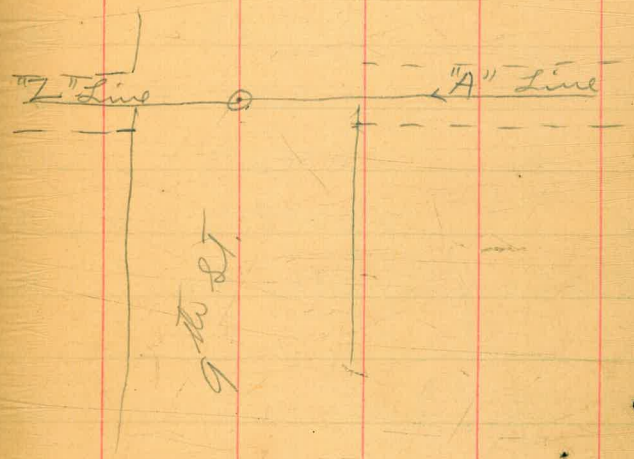
April 7. 1905

Childs
Lewis
Gunn

"Z" Line see page 30.

Sta.		Grade	H.I.	Rod	Elev.	cut
0	M.H. #133	278.0	289.45	5.2	284.3	6.3
+50		278.36		5.1	284.4	6.0
1		278.78		5.1	284.4	5.6
+50		279.09		5.1	284.4	5.3
+65	M.H. #78	279.20		5.1	284.4	5.2
2		279.45		5.3	284.2	4.7
+50		279.81		5.9	283.6	3.8
+75	F.I #16	280.0		6.1	283.4	3.4

"A" Line & "Z" Line

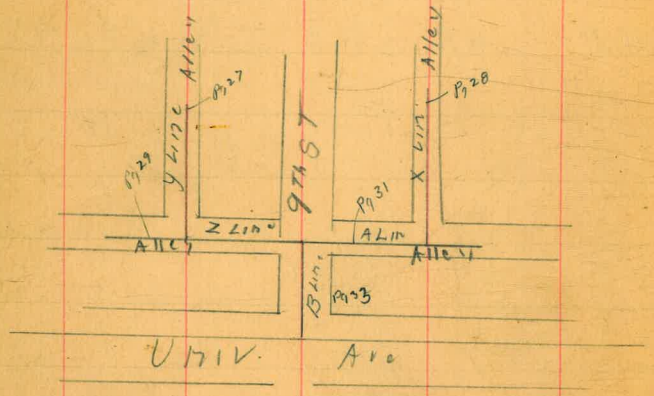


april 7. 1905

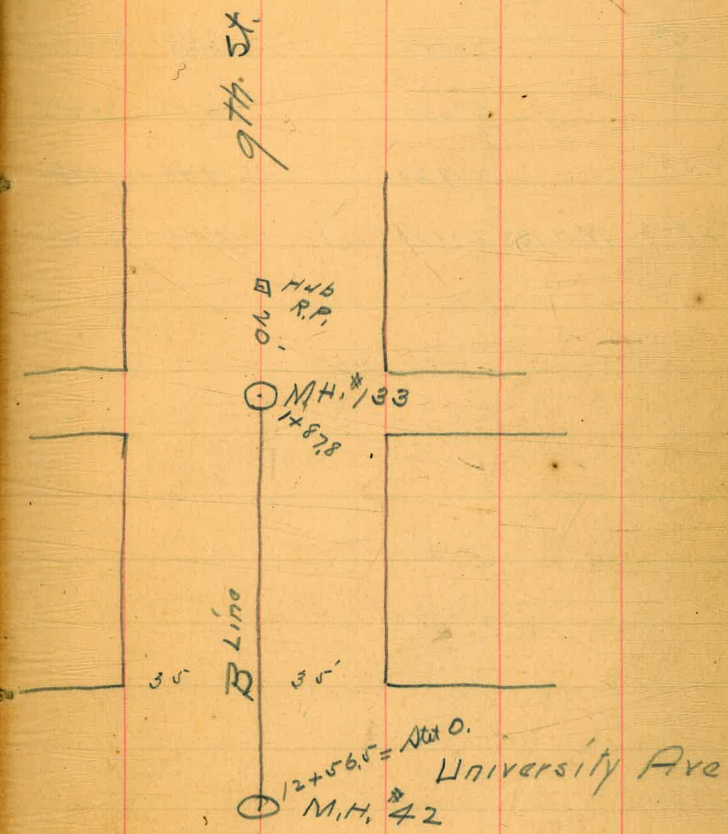
Childs
Lewis
Gunn

"A" Line See p 30.

Sta.		Grade	H.I.	Rod	Elev.	cut
0	M.H.# 133	278.0	289.45	5.2	284.3	6.3
+50		278.36		5.4	284.1	5.7
1		278.73		5.9	283.6	4.9
+50		279.09		5.9	283.6	4.5
2		279.45		5.0	284.5	5.0
+50		279.81		5.0	284.5	4.7
+75	F.J. # 18	280.0		4.6	284.9	4.9


Y Line
Alley
Pg 27
Pg 29
9th St
Z Line
Alley
Pg 31
X Line
Alley
Pg 28
A Line
Alley
B Line
Pg 33
Univ. Ave

"B" Line


9th St.
Hub
R.P.
M.H. #133
1+87.8
B Line
35
35
12+56.5 = Sta 0.
University Ave
M.H. #42

"B" Line

9th St. from University Ave. North.

			H.I.	Rod	Elev.	Cut
0	M.H. #42	274.01	287.80			
+50		275.07		4.76 ~~12.73~~	283.04	8.0
1		276.13		4.04	283.76	7.6
+50		277.20		3.99	283.80	6.6
1+87.8	M.H. 133	278.00	↳	3.53	284.27	6.3

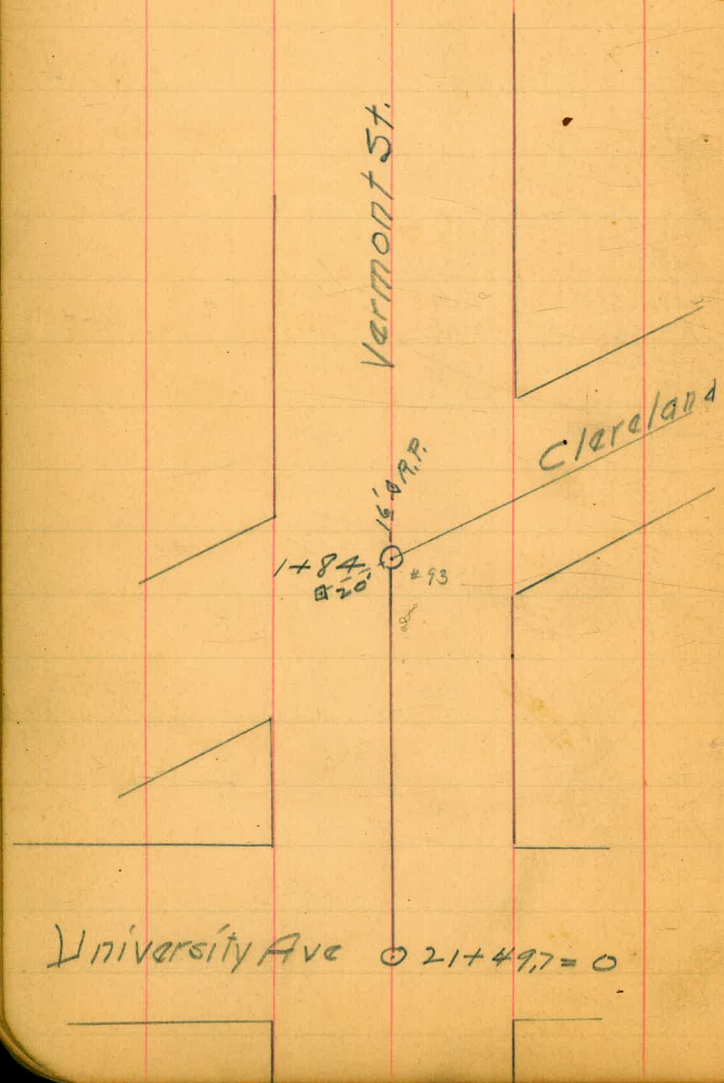
284.25
4.27
288.52 H.I.
5.58
282.94
4.86
287.80 H.I.

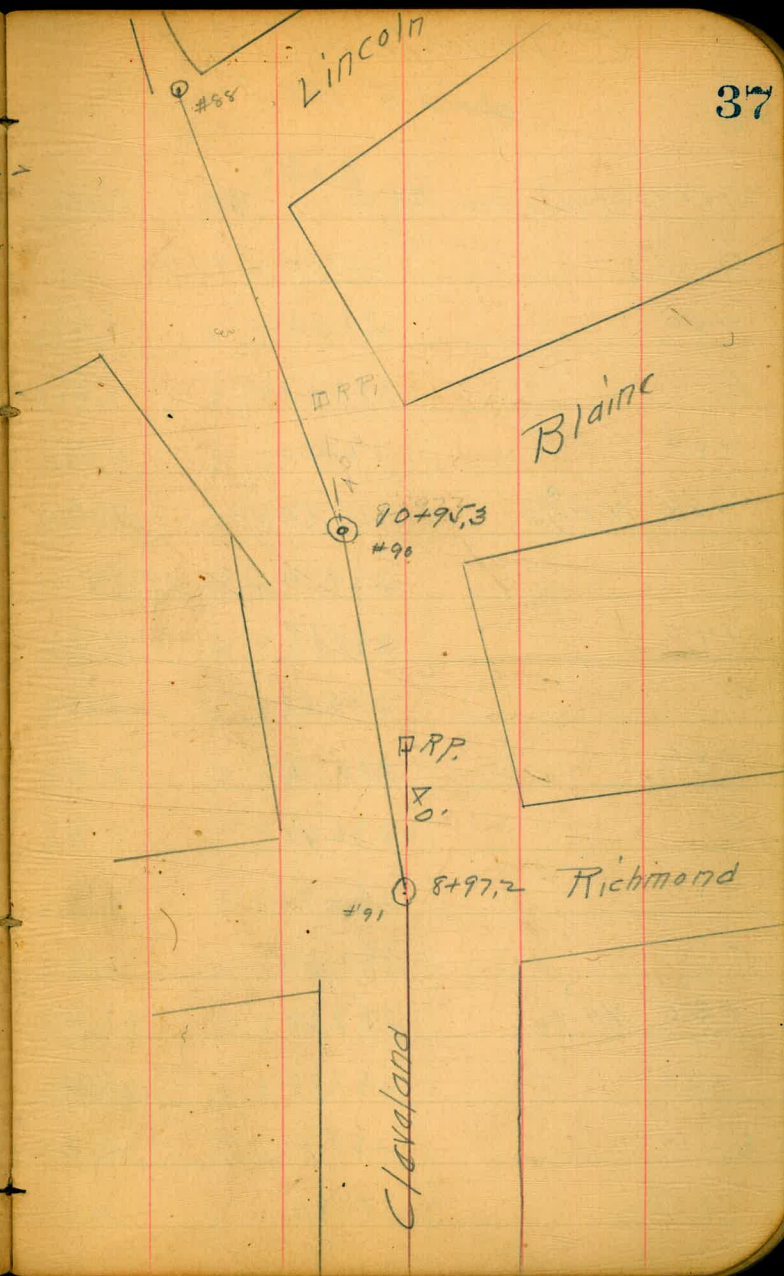
212
1.06

212
37.8
1696
1494
626
.79236

74.01
13.79

1878) 39900 (2.12
3756
~~110~~
2340
1878
4620
3756
8640


Vermont St.
Cleveland
16' R.P.
1+84
20'
#93
University Ave
21+49,7 = 0


Lincoln
#88
R.P.
Blaine
10+95,3
#90
R.P.
0'
8+97,2
#91
Richmond
Cleveland

Cleveland Ave

april 5 1905

Childs Lewis Gunn

21+49.7 of Univ Ave = Sta 0

		Grade	H.I.	Rod	Elev.	cut
0		283.00	297.40			
+50		283.43		8.3	289.1	5.7
1		283.87		7.8	289.6	5.7
+50		284.30		7.9	289.5	5.2
+84	M.H.#93	284.60	297.57	7.86	289.54	4.9
2		284.74	297.59	8.1	289.5	4.8
+50		285.17		7.7	289.9	4.7
3		285.61		7.0	290.6	5.0
+50		286.04		6.5	291.1	5.1
4		286.48		5.7	291.9	5.4
+50		286.91		4.9	292.7	5.8
5		287.34		3.9	293.7	6.4
+30	MH #92	287.60		3.7	293.9	6.3
+50		287.77		3.6	294.0	6.2
6		288.21		2.2	295.4	7.2
+50		288.64		2.0	295.6	7.0

april 5th 1905

Sta		Grade	H.I.	Rod	Elev.	cut
7		289.08	297.59	6.6	291.0	1.9
+50		289.57		3.3	294.3	4.8
8		289.95		0.37	297.22	7.2
+50		290.38	305.46	7.5	298.0	7.6
+97.2	M.H. # 91	290.78		6.5	299.0	8.2
9		290.81		6.5	299.0	8.2
+50		291.24		6.1	299.4	8.2
10		291.68		5.8	299.7	8.0
+50		292.11		5.2	300.3	8.2
+95.3	M.H. # 90	292.50		4.9	300.6	8.1

Cont on Next Pg.

Grades set To Blair M.H. 90

Childs
Lewis
Gunn

april 6 1905

Sta.	Grade	H.I.	Rod	Elev.	cut
11+50	292.75	306.44	5.9	300.5	7.8
12	292.98		4.9	301.5	8.5
+50	293.22		4.3	302.1	8.9
13	293.45		4.3	302.1	8.7
+50	293.69		5.6	300.8	7.1
14	293.92		6.8	299.6	5.7
+15 M.H #89	293.99		5.5	300.9	6.9
+50	294.15		3.9	302.5	8.4
15	294.38		2.1	304.3	9.9
+50	294.62		2.7	303.7	9.1
16	294.85		2.0	304.4	9.6
+50	295.09		2.0	304.4	9.3
17	295.32		3.5	302.9	7.6
+50	295.55		2.2	304.2	8.7
18	295.78		1.8	304.6	8.8
+44.8 M.H. #88	296.0		0.8	305.6	9.6

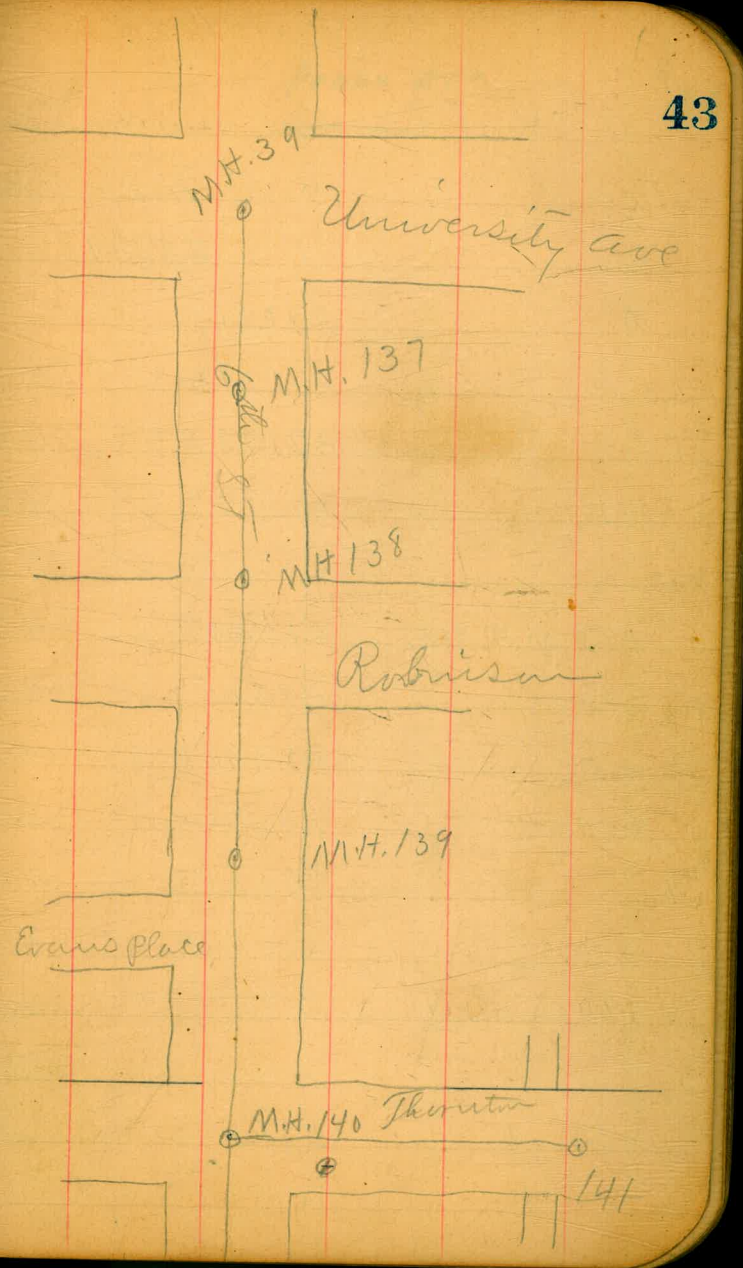
Cont on Pg 52 This Book

℄ 10th St. line North — April 7, 1905 — Schilds, Lewis, Gunn

Sta		Grade	H. I.	Rod	elev.	cut
0	M.H. #43	275.00	288.22			
+50		275.81		5.8	282.4	6.6
1		276.63		5.0	283.2	6.6
+50		277.44		4.1	284.1	6.7
2		278.26		3.7	284.5	6.2
+38.1	M.H. #79	278.50		3.5	284.7	6.2
+50		278.62		3.5	284.7	6.1
3		279.12		3.32	284.90	5.8
+50		279.62	289.77	4.6	285.2	5.6
4		280.12		4.1	285.7	5.6
+50		280.63		4.1	285.7	5.1
5		281.13		3.3	286.5	5.4
+40	M.H. # 131	281.53		3.4	286.4	4.9
+50		281.63		2.9	286.9	5.3
6		282.13		3.2	286.6	4.5
+50		282.64		5.3	284.5	1.9

Sta.	Grade	H.I.	Rod	Elev.	Cut.	
7+00	283.14	283.75	14.3	269.5	13.6	Fill
+50	283.64	289.77	2.8	287.0	3.4	
+85 F.T.#15	284.00		1.5	288.3	4.3	

6th Street Sewer Line



April 8 1905

Childs Lewis Gunn

Penna Ave

6th Street line from University Ave. to 135' So. [illegible]

Sta.		Grade H.I. 289.99	Rod	Elev.	Cut
0		270.86			
+50		271.29	5.7	284.3	13.0
1		271.72	4.9	285.1	13.4
+50		272.15	4.6	285.4	13.3
2		272.58	4.7	285.3	12.7
+25	M.H. #137	272.80	4.3	285.7	12.9
+50		273.01	4.5	285.49	12.5
3		273.45	4.0	286.0	12.6
+50		273.88	4.6	285.4	11.5
4		274.31	4.9	285.1	10.8
+50		274.74	5.0	285.0	10.3
+80	M.H. #138	275.0	5.4	284.6	9.6
5		275.12	5.3	284.65	9.6
+50		275.41	3.9	286.1	10.7
6		275.69	3.3	286.7	11.0

April 8 1905

Sta.		Grade	H.I.	Rod	Elev.	cut
	+50	275.98	289.99	3.4	286.6	10.6
7		276.27		3.4	286.6	10.3
	+50	276.56	291.46	5.17	286.29	9.7
	+90 M.H.#139	276.79		5.2	286.3	9.5
8		276.85		5.4	286.1	9.3
	+50	277.14		5.1	286.4	9.3
9		277.43		4.5	287.0	9.6
	+50	277.72		3.3	288.2	10.5
10		278.01		4.0	287.5	9.5
	+50	278.30		4.1	287.4	9.1
11		278.59		4.7	286.8	8.2
	+40.8 North line Thendara	278.83		4.7	286.8	8.0
	+70.8 M.H.#140	279.0		4.3	287.2	8.2
12		279.23		4.4	287.11	7.9
	+50	279.62		6.0	285.5	5.9
13		280.02		6.2	285.3	5.3
	+35.8 H.J.#21	280.30		5.7	285.8	5.5

April 8. 1905

Childs
Lewis
Gunn.

Thornton Line from 6th Street 170' East.

Sta		Grade	H.I.	Rod	Elev.	cut
0	M.H. # 140.	279.0	291.46	4.3	287.2	8.2
+50		279.25		4.5	287.0	7.7
1		279.51		5.8	285.7	6.2
+50		279.76		7.0	284.5	4.7
+97.5	M.H. # 141	280.0		8.3	283.2	3.2

I

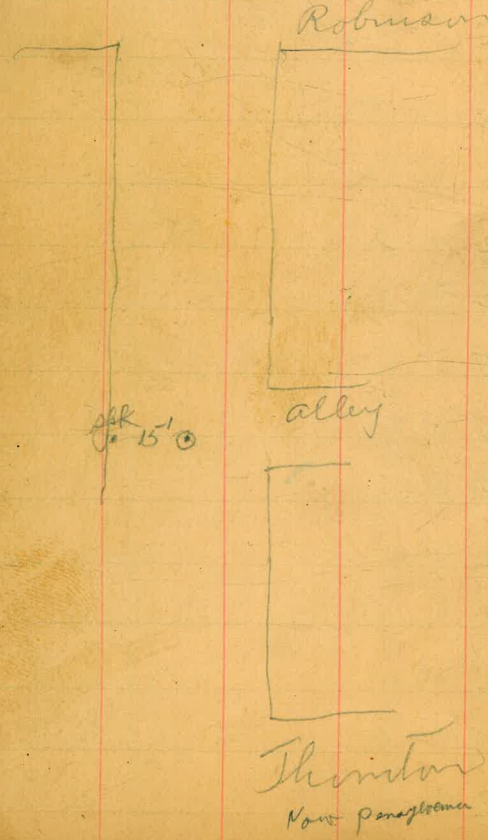
April 10 1905

Childs
Lewis
Gunn

10th Street South from University ave

Sta		Grade	H.I.	Rod	Elev.	cut	
+0	M.H. #146 on ℄ Alley South of Robinson	278.0	290.31	9.1	281.2	3.2	
+50		277.84		9.2	281.1	3.3	
1 +00		277.68		9.0	281.3	3.6	
+50	5	277.53		10.0	280.3	2.8	4+59 3+79.9 3+09.6
2		277.37		8.6	281.7	4.3	
+50		277.21		7.5	282.8	5.6	275.75 1.92
3		277.05		8.0	282.3	5.2	285.08 276.8
+50		276.89		6.7	283.6	6.7	11.28
+79.4	M.H. #144	276.8		6.8	283.5	6.7	
4		276.73		6.2	284.1	7.4	
+50		276.56		6.5	283.8	7.2	
5		276.39		5.7	284.6	8.2	
+50		276.22		6.2	284.1	7.9	
6		276.05		7.0	283.3	7.2	
+50		275.88		8.9	281.4	5.5	
+89		275.75	281.89	6.3	275.6	-0.2 Fill	

Sta.		Grade	H.I.	Rod	Elev.	cut
7+25	Og line Ft	275.63	281.89			
8+74.8		275.12		6.6	275.3	0.2
9+10.3	M.H# in Univ Ave	275.0				



April 11 1905

Childs
Lewis
Lunn

Alley line bet. Cleveland & Campus North from Lincoln

Sta.		Grade	H.I.	Rod	Elev.	cut
0	M.H.#88 E of Lincoln & Cleveland	296.0	318.20	12.6	305.6	9.6
+30		298.93		10.7	307.5	8.6
1		301.87		8.5	309.7	7.8
+50		304.80		6.7	311.5	6.7
2		307.74		5.1	313.1	5.4
+50		310.67		2.06	316.14	5.4
3		313.61	328.27	8.1	320.2	6.6
+50		316.54		3.5	324.8	8.3
+57.75	M.H.#87	317.0		2.8	325.5	8.5
4		317.42		3.6	324.7	7.3
+50		317.92		2.6	325.7	7.8
5		318.42		2.3	326.0	7.6
+50		318.92		1.7	326.6	7.7
6		319.42		1.01	327.26	7.9
+50		319.92	330.56	3.6	327.0	7.1
7		320.41		2.8	327.8	7.4

April 11 1903

Childs
Lewis
Gunn

Sta.		Grade	H.I.	Rod	Elev.	cut	
+50		320.91	330.56	2.1	328.5	7.6	
8		321.41		3.2	327.4	6.0	
+50		321.91		4.7	325.9	4.0	
+59.0	M.H. #86 N.L. TYLER	322.00	332.03	6.5	325.5	3.5	
9		322.89		5.7	326.3	3.4	
+50		323.97		5.5	326.5	2.5	
10		325.06		4.4	327.6	2.5	
+50		326.14		4.4	327.6	1.5	
11		327.23		9.9	322.1	5.1	Fill
+50		328.31		0.99	331.04	2.7	
+59	M.H. #85	328.50	343.56	10.5	333.1	4.6	
12		329.40		7.5	336.1	6.7	
+50		330.48		5.6	338.0	7.5	
13		331.56		4.4	339.2	7.6	
+50		332.64		3.8	339.8	7.2	
14		333.73		3.0	340.6	6.9	

April 12 1905

Childs
Lewis
Gunn

Sta.		Grade	H.I.	Rod	Elev.	cut
+50		334.81	343.56	2.2	341.4	6.6
+58.5	M.H.#84	333.50		1.82	341.74	6.7
	+96.8 = ℄ S.L. Van Buren	335.18				
15		335.19	350.78	8.3	342.5	7.3
+50		335.42		8.0	342.8	7.4
16		335.65		7.5	343.3	7.6
+50		335.88		6.6	344.2	8.3
17		336.11		5.7	345.1	9.0
+50		336.34		4.9	345.9	9.6
18	M.H.#83	336.57		4.0	346.8	10.2
+50		336.80		3.8	347.0	10.2
19		337.03		4.2	346.6	9.6
+50		337.26		4.5	346.3	9.0
20		337.48		4.6	346.2	8.7
+50		337.71		4.8	346.0	8.3
21		337.94		3.2	347.6	9.7
+125	H.J.#5 (25' South of ℄ Meadow)	338.0		3.5	347.3	9.3

Cont in Book 342 Pg 18

Continued from Pg 40 This Book

April 12 1905

Childs
Lewis
Linn

52

I From Lincoln up Cleveland and Line T.

Sta		Grade H.I.	Rod	Elev. cut	
0	M.H. #88	296.0			
	+50	296.26	316.18	10.10	306.08 9.8
1		296.52	314.32	5.9	308.4 11.9
	+50	296.78		5.8	308.5 11.7
	+77.45 M.H. #94	296.92		5.2	309.1 12.2
2		297.02		5.2	309.1 12.1
	+50	297.24		5.6	308.7 11.5
3		297.45		8.2	306.1 8.6
	+50	297.67		10.1	304.2 6.5
4		297.88		11.8	302.5 4.6
	+50	298.11		12.2	302.1 4.0
	+70.5 M.H. #95	298.20		11.8	302.5 4.3
5		298.32		11.0	303.3 5.0
	+50	298.52		10.3	304.0 5.5
6		298.72		11.5	302.8 4.1
	+50	298.92		12.9	301.4 2.5
	+69 F.I. #22	299.00		13.4	300.9 1.9

April 13 1905

Childs
Lewis
Gunn.

Alleyline bet. Cleavland and Maryland.

Sta.		Grade	H.I	Rod	Elev.	cut	
0 = M.H#95		298.20	314.13	11.62	302.51	4.3	
+50		298.48	307.84	7.6	300.2	1.7	
1		298.76		11.4	296.4	-2.4	Fill
+50		299.04		15.1	292.7	-6.3	Fill
2							
+50		299.59		6.4	301.4	1.8	
3	b	299.87		5.7	302.1	2.2	
+50		300.15		6.5	301.3	1.1	
+75		300.28		11.7	296.1	-4.2	Fill
4+21 angle point							
4+60 ℄ Tyler Ave		300.76					
+75		300.84		7.8	300.0	-0.8	Fill
5+02.65 M.H.#96		301.00		4.5	303.3	2.3	
+50		301.78	318.69	13.9	304.8	3.0	
6		302.60		12.4	306.3	3.7	
+50		303.43		12.0	306.7	3.3	
7		304.25		11.4	307.3	3.1	

April 13 1905

Sta.		Grade	H.I.	Rod	Elev.	cut
+50		305.08	318.69	9.3	309.4	4.3
8		305.90		9.7	309.0	3.1
+50		306.73		9.5	309.2	2.5
9		307.55		9.1	309.6	2.0
+50		308.38		8.7	310.0	1.6
+58	M.H.#97 Angle	308.51		8.6	310.1	1.6
10		309.20		8.8	309.9	0.7
+50		310.04	327.14	10.2	316.9	6.9
11		310.86		8.2	318.9	8.0
+08	M.H.#98	311.00	326.11	6.6	319.5	8.5
+47.7	℄ VAN BOREN	312.46		4.6	321.5	9.0
+97.7		314.30		3.2	322.9	8.6
12 +47.7		316.14	330.16	1.16	324.95	8.8
+97.7		317.99	335.16	8.0	327.2	9.2
13 +47.7		319.83		7.1	328.1	8.3
+97.7		321.67		5.5	329.7	8.0

April 14 1905

Childs
Lewis
Gunn

Sta		Grade	H.I.	Rod	Elev.	cut
14+47.7		323.51	335.16	5.1	330.1	6.6
15+88	M.H.# 99	325.00		4.8	330.4	5.4
+97.7		325.26		5.0	330.2	4.9
15+47.7		326.62		5.9	329.3	2.7
+97.7		327.99		5.1	330.1	2.1
16+47.7		329.35		3.9	331.3	2.0
+97.7		330.72	[illegible]	0.62	334.54	3.8
17+47.7		332.09	345.26	6.4	338.9	6.8
+62.7	F.J. # 6	332.50		5.4	339.9	7.4

See Book #435 Pg 9
For Ext. North

April 15, 1905

Childs
Lewis
Gunn

University ave East of Boulevard

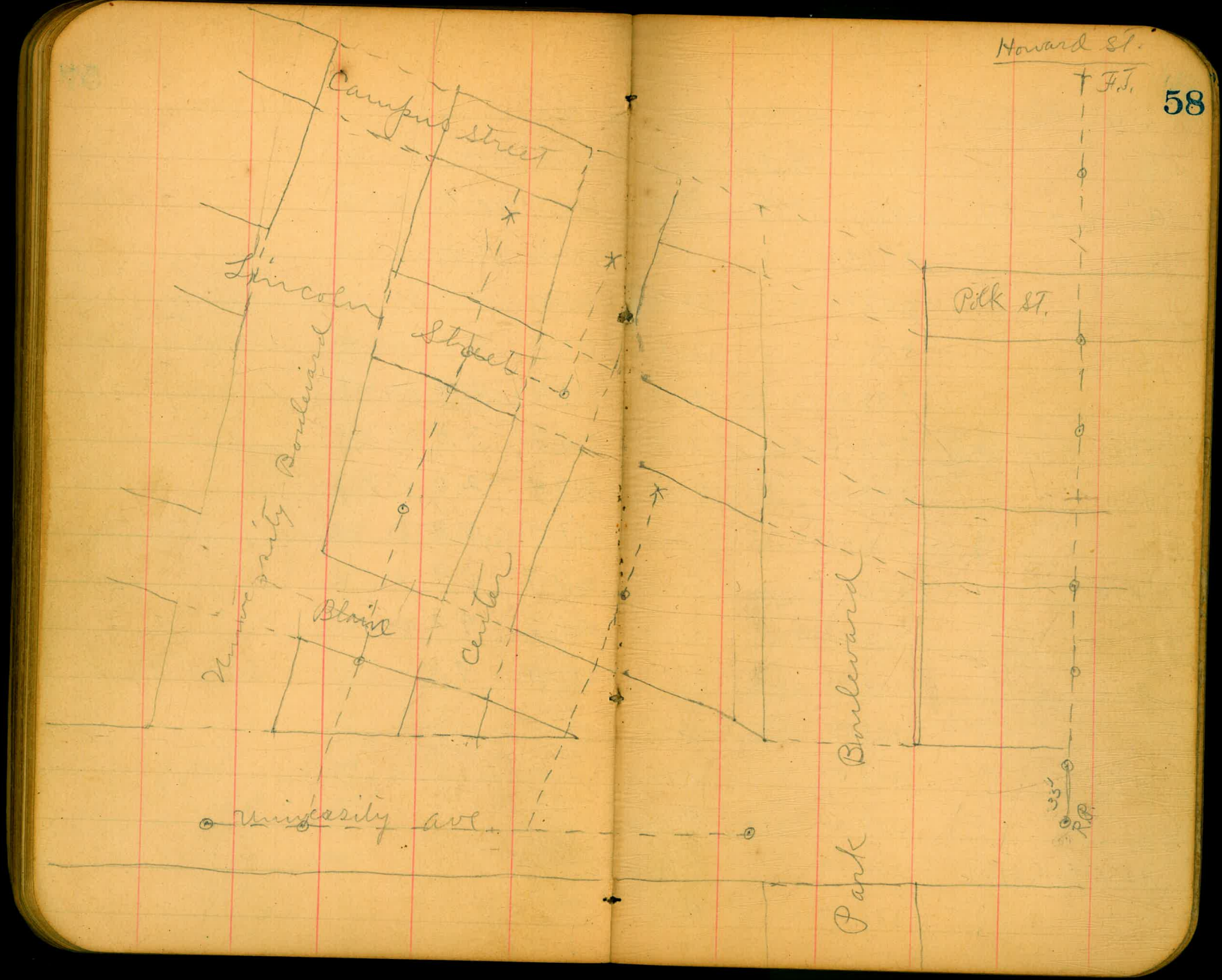
Sta		Grade	H.I.	Rod	Elev.	cut	
0	M.H. #48	296.00	309.69				
+50		296.21		8.1	301.6	5.4	
1		296.42		6.7	303.0	6.6	
+50		296.63		5.7	304.0	7.4	
2		296.84		4.8	304.9	8.1	
+36.7	M.H. #114	297.00		3.7	306.0	9.0	303.4
+50		297.13		3.5	306.2	9.1	
3		297.61		2.0	307.7	10.1	
+50		298.09		1.2	308.5	10.4	
4		298.57		2.4	307.3	8.7	
+50		299.05		5.7	304.0	5.0	
+86.25	M.H. #115	299.40		7.9	301.8	2.4	305.0
5		299.66		8.7	301.0	1.3	
+30		300.22		10.31	299.38	-0.8	Fill

April 15 1905

Sta.	Grade	H.I.	Rod	Elev.	cut	
9+30	307.63	311.47	4.8	306.7	-0.9	Fill
+50	308.01		3.65	307.82	-0.2	
10	308.93		0.5	311.0	2.1	
+03.65 M.H.#117	309.00		0.3	311.2	2.2	315.0
+50	311.03	320.51	7.1	313.4	2.4	
11	313.22		3.8	316.7	3.5	
+50	315.40		3.1	317.4	2.0	
12	317.59	332.70	11.2	321.51	3.9	316.5
+50	319.78		6.0	326.7	6.9	
13	321.97		1.5	331.2	9.2	
+03.45 M.H.#118	322.12		1.3	331.4	9.3	314.9

10 03.65
4 86 21
3-17.40

Note: See Book 212-51 For change


Howard St.
F.S.
Polk St.
Park Boulevard
33'
R.R.
Campus street
Lincoln Street
University Boulevard
Stone
center
University ave.

April 17 1905

Childs
Lewis
Gunn

Alley line bet. University Boulevard & Center St.

Sta.		Grade	H.I.	Rod	Elev.	cut
0	M.H #114	297.00	310.75	4.75	306.0	9.0
+50		297.41		4.0	306.7	9.3
1		297.81		2.9	307.8	10.0
+50		298.22		2.4	308.3	10.1
2		298.63		4.1	306.6	8.0
+45.5	M.H. #128	299.00		4.4	306.3	7.3
+50		299.09		4.4	306.3	7.2
3		300.06		5.5	305.2	5.1
+50		301.03		5.4	305.3	4.3
4		302.01		3.9	306.8	4.8
+50		302.98		3.8	306.9	3.9
5		303.95		2.5	308.2	4.3
+50		304.92		1.09	309.66	4.8
6		305.89	321.35	9.8	311.5	5.6
+25.5	M.H. #127	306.39		9.6	311.7	5.3
+50		306.87		9.4	311.9	5.0

april 17 1905

Sta.		Grade	H.I.	Rod	Elev.	cut
7		307.85	321.35	9.8	311.5	3.7
+50		308.82		9.5	311.8	3.0
8		309.79		8.1	313.2	3.4
+50		310.76		6.9	314.4	3.6
9		311.73		5.6	315.7	4.0
+50		312.70		2.6	318.7	6.0
+65	M.H. #125	313.00		2.0	319.4	6.4
10		315.33		1.38	319.97	4.7
+50		318.67	330.34	8.1	322.2	3.5
11		322.00		5.2	325.1	3.1
+50		325.33		2.14	328.20	2.9
12		328.66	340.58	6.7	333.9	5.2
+50		332.00		2.3	338.3	6.3
+80	M.H. #124	334.00		1.1	339.5	5.5
13		334.27		0.83	339.75	5.4
+50		334.93	348.39	6.3	342.1	7.2

April 17. 1905

Sta.	Grade	H.I.	Rod	Elev.	cut
14	335.60	348.39	5.1	343.3	7.7
+50	336.27		4.9	343.5	7.2
15	336.93		4.6	343.8	6.9
+50	337.60		4.5	343.9	6.3
+80 F.I.#9	338.00		4.7	343.7	5.7

April 18. 1905

Line L up Lincoln and Center Streets.

Sta.		Grade	H.I.	Rod	Elev.	cut
0	M.H. #125	313.00	331.26			6.4
+50		314.62		11.0	320.3	5.7
1		316.23		9.5	321.8	5.6
+50		317.85		7.5	323.8	6.0
+90	M.H. #126	319.14		5.9	325.4	6.3
2		319.46		6.2	325.1	5.6
+50		321.08		2.6	328.7	7.6
3		322.69		1.7	329.6	6.9
+50		324.30	340.91	9.9	331.0	6.7
4		325.92		9.0	331.9	6.0
+50		327.53		8.1	332.8	5.3
5		329.15		6.2	334.7	5.5
+50		330.76		4.0	336.9	6.1
6		332.38		1.9	339.0	6.6
+50	F.J. #10	334.00		1.9	339.0	5.0

April 19. 1905

Alley line between Childs Lewis Gunn Center and Park Boulevard

Sta		I line	Grade	H.I.	Rod	Elev	Cut	
0 = 7+38.5		Begins on trestle	304.08					
2			305.09	311.47	7.5	304.0	-1.1	Fill
	+50		305.34		5.1	306.4	1.0	
3			305.59		3.8	307.7	2.1	
	+50		305.84		1.61	309.86	4.1	
	+61.4	M.H. # 130	306.00	320.81	10.2	310.6	4.6	
4			306.72		8.8	312.0	5.3	
	+50		308.66		7.7	313.1	4.4	
5			310.60		6.2	314.6	4.0	
	+50		312.53		4.4	316.4	3.9	
6			314.47		1.93	318.88	4.4	
	+50		316.41	330.43	8.3	322.17	5.7	
7			318.34		5.5	324.9	6.6	
	+17	F.I. # 11	319.00		4.4	326.0	7.0	

717
321
336

April 22 1905

Childs
Lewis
Gunn

Line J. alley bet. Park Boulevard and Georgia St.

Sta.	Grade	H.I.	Rod	Elev.	cut
0 M.H. #118(?)	322.28	338.78	7.8	331.0	8.7
+50	322.50		8.2	330.6	8.1
1	322.73		8.1	330.7	8.0
+50	322.95		6.8	332.07	9.1
2	323.17		5.9	332.9	9.7
+50	323.39		5.3	333.5	10.1
3	323.61		4.8	334.0	10.4
+05 M.H. #119	323.63		4.7	334.1	10.5
+50	323.83		4.8	334.0	10.2
4	324.06		4.5	334.3	10.2
+50	324.28		4.9	333.9	9.6
5	324.51		5.2	333.6	9.1
+50	324.73		4.8	334.0	9.3
6	324.96	341.75	6.67	334.48	9.5
+05 M.H. #120	324.98		6.7	334.4	9.4

april 22 1905

Sta.		Grade	H.I.	Rod	Elev.	cut
+50		325.18	341.15	6.6	334.5	9.3
7		325.41		6.3	334.8	9.4
+50		325.63		6.2	334.9	9.3
8		325.86		5.8	335.3	9.4
+50		326.08		5.7	335.4	9.3
9		326.31		5.6	335.5	9.2
+45	M.H.# 121	326.51		5.5	335.6	9.1
+50		326.53		5.4	335.7	9.2
10		326.76		4.9	336.2	9.4
+50		326.98		5.3	335.8	8.8
11		327.21		4.2	336.9	9.7
+50		327.43		4.7	336.4	9.0
12		327.65		4.7	336.4	8.8
+50		327.87		4.5	336.6	8.7
+84.2	M.H.# 122	328.03		4.2	336.9	8.9

309.01
11.87
7.14

April 22 1905

Sta.		Grade	H.I.	Rod	Elev.	cut
13		328.10	348.15	11.2	336.94	8.8
7 +50		328.32	341.91	5.0	336.9	8.6
		328.55		4.8	337.1	8.6
8 +50		328.77		5.1	336.8	8.0
		329.00		5.1	336.8	7.8
9 +50		329.22		4.8	337.1	7.9
6		329.45		5.8	336.1	6.7
+44.2	M.H. # 123	329.65		6.1	335.8	6.2
10 +50		329.67		6.3	335.6	5.9
7		329.90		7.0	334.9	5.0
11 +50		330.12		7.0	334.9	4.8
8		330.35		6.8	335.1	4.8
12 +50		330.57		7.3	334.6	4.0
19		330.80		7.3	334.6	3.8
+44.2	F.J. # 8	331.00		8.1	333.8	2.8

April 24 1905

Childs
Lewis
Shaw

alley line bet. Essex and Robinson. East of 10th St.

Sta.		Grade	H.I.	Rod	Elev.	cut
0	= M.H.#144	276.80	294.39		283.5	6.7
+50		277.36		10.2	284.2	6.8
1		277.92		10.4	284.0	6.1
+50		278.48		9.9	284.5	6.0
2		279.04		9.5	284.9	5.9
+50		279.60		10.0	284.4	4.8
+95	M.H.#153	280.11		9.0	285.4	5.3
3		280.16		8.7	285.7	5.5
+50		280.72		7.7	286.7	6.0
4		281.28		6.9	287.5	6.2
+50		(281.87)	281.84	6.3	288.1	6.2
5		282.40		6.2	288.2	5.8
+50		282.95		6.5	287.9	5.0
6	M.H.#152	283.51		5.5	288.9	5.4

April 24 1905

Childs
Lewis
Shaw

Sta.		Grade	H.I.	Rod	Elev.	cut
+50		284.07	294.39	4.6	289.8	5.7
7		284.63		3.7	290.7	6.1
+50		285.19		3.7	290.7	5.5
8		285.75		3.2	291.2	5.4
+50		286.31		2.2	292.2	5.9
9	M.H.# 151	286.87		2.0	292.4	5.5
+50		287.43		1.5	292.9	5.5
10		287.99		0.84	293.55	5.5
+50		288.55	297.26	3.2	294.1	5.5
11		289.11		2.5	294.8	5.7
+50		289.67		2.3	295.0	5.3
+80	F.I.# 13	290.00		2.3	295.0	5.0

~~See Book B20 pg 75 for Extention.~~

May 12. 1905

Alley line bet. University ave & Essex, East of 10th

Childs
Lewis
Gunn

Sta.		Grade H.I.	Rod	Elev. cut	
0	on trestle	275.63			
1+90		277.92 285.49	9.0	276.5	-1.4 Fill
2		278.04	6.5	279.0	1.0
+50		278.65 294.28	11.0	283.3	4.7
3		279.25	9.7	284.6	5.4
+10	M.H.# 154	279.37	9.5	284.8	5.4
+50		279.85	9.1	285.2	5.4
4		280.46	8.2	286.2	5.7
+50		281.06	8.1	286.2	5.1
5		281.67	5.6	288.7	7.0
+50		282.27	5.3	289.0	6.7
6		282.87	4.9	289.4	6.5
+14.25	M.H.# 155	283.04	5.1	289.2	6.2
+50		283.47	5.0	289.3	5.8
7		284.08	4.8	289.5	5.4

May 12 1905

Sta.		Grade	H.I.	Rod	Elev.	cut
+50		284.68	294.28	4.3	290.0	5.3
8		285.28		3.4	290.9	5.6
+50		285.89		3.0	291.3	5.4
9		286.49		2.1	292.2	5.7
+15	M.H. # 156	286.67		2.0	292.3	5.6
+50		287.10		1.6	292.7	5.6
10		287.70		0.81	293.47	5.8
+50		288.30	297.66	3.4	294.3	6.0
11		288.91		2.9	294.8	5.9
+50		289.51		2.1	295.6	6.1
+90	F.J. # 14	290.00		1.6	296.1	6.1

See 820-75 for Exten.

10.62
297.29 HI

Hatch
Metmore
Thomas } 7/15/05

8.99
10.80

287.70
9.59

288.30
8.99

288.91
8.38

289.51
7.78

290.-
7.29

287.10
10.19

286.67

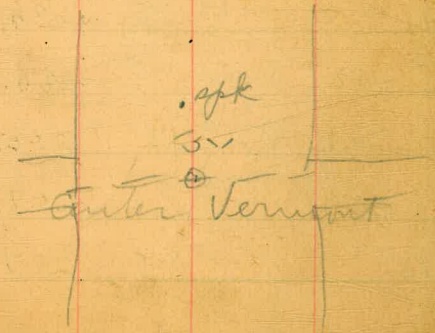
219.51
8.085
297.595
290
7.595

X June 5, 1905

Childs
Munson
Haslam
Thornton.
Nott Penn.

Line H alley bet. Robinson and

Sta.		Grade	H.I.	Rod	Elev.	cut
0	M.H.# 146	278.00	289.05	7.9	281.2	3.2
+50		278.27		6.96	282.09	3.8
1		278.53	288.66	6.7	282.0	3.5
+50	5	278.80		6.1	282.6	3.8
2		279.07		5.3	283.4	4.3
+50		279.34		4.6	284.1	4.8
+55	M.H.# 147	279.36		4.7	284.0	4.6
3		279.61		4.5	284.2	4.6
+50		279.88		5.2	283.47	3.6
4		280.14		5.4	283.3	3.2
+50		280.41		4.9	283.8	3.4
5		280.68		4.4	284.3	3.6
+50		280.95		3.8	284.9	4.0
+60.5	M.H.# 148 ℄ of Vermont	281.00		4.1	284.6	3.6
6		281.36		2.2	286.5	5.1



June 6. 1905

Childs
Munson
Haslam

Sta	Grade	H.I.	Rod	Elev.	cut
+50	281.81	288.66	1.5	287.2	5.4
7	282.27		0.37	288.29	6.0
+50	282.72	295.24	5.7	289.5	6.8
8	283.18		5.1	290.1	6.9
+50	283.63		4.9	290.3	6.7
+60 M.H. #149	283.72		4.7	290.5	6.8
9	284.09		5.0	290.2	6.1
+50	284.54		5.7	289.5	5.0
10	285.00		6.04	289.20	4.2
+50	285.45	297.03	6.8	290.2	4.8
11	285.90		6.4	290.6	4.7
+50	286.35		5.5	291.5	5.1
12+00.7 M.H. #150	286.81		5.5	291.5	4.7
+ 10 E of Richmond	287.17				
+50	287.26		4.5	292.5	5.2
13	287.72		3.9	293.1	5.4

Sta.		Grade	H.I.	Rod	Elev.	cut.
+50		288.17	297.03	3.4	293.6	5.4
14		288.63		3.7	293.3	4.7
+40	F.J. #12	289.00		4.0	293.0	4.0

322.12
157
322.277

8.88

560.5 | 30.000 | .535
28025 | 535
19750 | 1.070
16815
29350

.00535
60.5
2685
3210
.00323685

279.070
279.605
.140
.675

.27

.00.535
55
2675
2675
29.425

535
5
5

X Trestle 2

		223,73		
	0,30	211,18	12,85	210,88
Bent 15			4.2	207,0
	0,32	199.66	11,84	199,34
	0,71	187,72	12,65	187,01
B 14			3,7	184,0
	0,10	175,04	12,78	174,94
	2,65	165,24	12,45	162,59
B 13			6,3	159,0
	1,01	153,01	13,24	152,00
12			8.8	144.2
11			19.3	133.7
10				
91			21,0	132,0
8			12,4	140.6
7			6,9	146.1
6			8,0	145,0

6+91
55
6+36

5,			2,9	150,1
4			8,3	144,7
3			2,6	150,4
	4,19	213,78		209,59
	2,75	206,67	9.86	203.92
1				206,7
	1,31	196,62	11,36	195,31
2			12,4	184,2

7+20 = 205,00

10+60 – 209.

340) 4,00 (1,17
340
600
340
2600
2380
2200

6+36 = 204,02 = 203,0 – 4

6+91 204,66 178,7 – 5

3 = 205,30 = 147,3 – 3

4 205,94 = 146,0 + 1.

5 206,58 150,6 + 10

6 = 207,22 147,0 + 2

1,17
84
468
936
.9828

117
55
585
585
.6435

207,22
64

7 = 207,86 = 147,0 + 1.
64

8 = 208,50 140,5 + 00
64

9 = 209,14 132,0 00
64

10 = 209,78 132,8 – 00
64

11 = 210,42 135,4
64

12 211,06 ~~145~~,6 146,
64

13 211,70 156,7 –

14 212,34 171,3

15 213,0 212,

℄ Sewer Trestle #3

		H.1. 113,67				
Bent 1.			1,5	212,2	216,5	214,5
" 2			8,1	205,6	217,0	206,
	-0,1	100,54	13,03	200,64	2	
" 3			11,9	188,6	217,6	28 89,6
	0,80	88,54	12,80	087,74		
Bent 4			11,8	~~101,9~~ 176,7	218,1	4,77
" 5			15,7	172,8	218,7	172,7

℄ (#4)

212,2
17,1
229,30

16,07
213,27
229,34 H.1.
12,13
217,21
0,35
217,56

Bent 1.		9,1	208,5	222,5-14.208,5
0,50	205,41	12,65	204,91	
B 4		10,6	194,8	-224,4-27. = 97,4
1,08	193,29	13,20	192,21	
B 3		19,0	174,3	223,6-47=176,6
B 2		10,8	182,5	-223,-40,183,
10,80	219,30		208,5	
B 5		1,6	217,7	225-6=19.

Water Trestle #3

Grand Ave bet. 27th + 28th

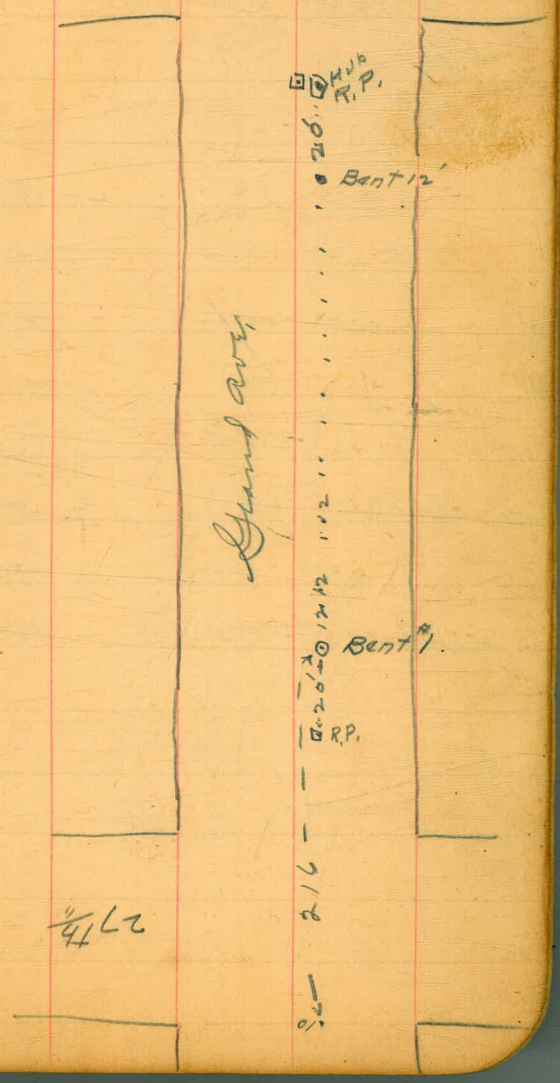
1991
17
216

3/23/05

Hutchison Evans Survey

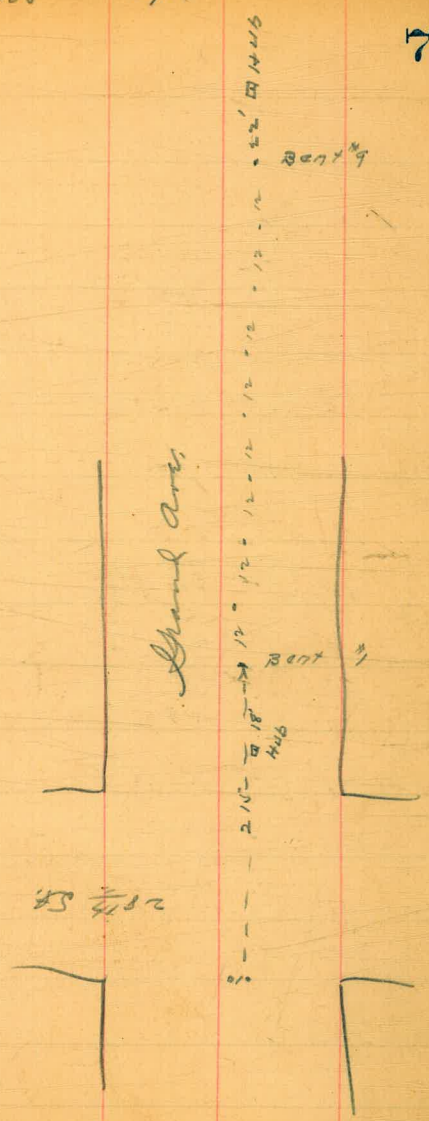
44.48
10.
54.48

	Grade of Pipe	H.I.	Rod	Elev	Cut Slopes Set 3' Mo of Line
216' East of west line of 27th	4.41	54.42		50.01	
Bent 1	44.14		8.45	46.0	1.9 + 2.6 = 4.4
2	44.23		8.29	46.1	1.9 + 5.5 7.4
3	44.32		7.81	46.6	2.3 + 8. = 10.3
4	44.41		8.11	46.3	1.9 + 11.5 13.4
5	44.50		7.88	46.5	2.0 + 12. 14.0
6	44.59		7.60	46.8	2.2 + 11.5 13.7
7	44.68		7.53	46.9	2.2 + 10.5 12.7
8	44.77		7.60	46.8	2.0 + 8.5 10.5
9	44.86		7.21	47.2	2.3 + 7.5 9.8
10	44.95		7.11	47.3	2.3 + 5.5 7.8
11	45.04		6.90	47.5	2.5 + 3.5 6.0
12	45.14		6.90	47.5	2.4 + 2.0 4.4



Trestle #4 3/23/05 29th

		H.I.		Elevation	Cut
	6,07	56.08	5	50,008	
215' East of West Line of 28th	Grade of Pipe				
Bent #1	48,49		5,69	50,39	1.90 + 3,0 = 4,9
2	48,54		5,84	50,24	1.70 + 7,0 = 8,7
3	48,60		5,65	50,43	1.83 + 9,5 = 11,3
4	48,65		6,35	49,73	1.08 + 10.0 = 11,1
5	48,71		5,96	50,12	1.41 + 9.0 = 10,4
6	48,76		6,01	50,07	1.31 + 7.0 = 8,3
7	48,82		6,04	50,04	1.22 + 5,5 = 6,7
8	48,87		5,77	50,31	1.44 + 3.5 = 4,9
9	48,93		5,97	50,11	1.18 + 2,0 = 3,2



B.M.

University

5th	290.32	N.E.	Cor Spk in Pole
6th	283.54	S.E.	" NW Bolt & Mas
7	283.90	N.E.	Cor Spk in Phone P
8th	284.25	" "	" " " "
10th	282.74	N.W.	" " " " "
Vermont	290.71?	N.E.	" " " Elect P.
Main	296.40	125' West	Spk in " "
Boul.	301.96	N.W.	Cor. Elect Pole
100 ft N. of Blaine	306.97	N.E.	Spk in New Phone Pole
Lincoln	312.55	S.E.	" " " " "
Campus	344.11	S.E.	" " " " "
Van Buren	344.85	SW	" " " " "
El Cajon Ave.	340.08	NE	" " " " "
Jackson	342.86	N.	" " old Elec "
Munroe	345.06	S	" " " " "

Thornton & S

28th

50,008	Grand + 28	Spk in Elect Cor	NW
44,48	" " 27	" " Phone Pole	N.E.
55,28	" " 29	" " Fence Cor,	NW

312.55
6.76
319.31
307.60
11.71

5th & Thornton 282.44 S.E. cor E.P.

Georgia 316.21 S.W. Spk. in phone pole

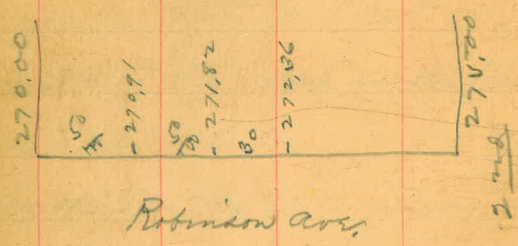
69.3
34.65

284.84
0.43
285.27 ft.
9.93
275.34
2.24
277.58

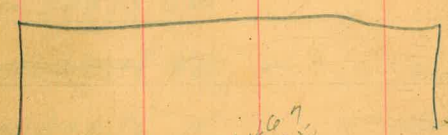
275.34
2.28
277.62 ft.

30763
300.22
4 7.41
1.85

947
35
4+29.7
10
4+39.7
7
446.7
33



Robinson ave.



446.7
90
537.7

4+46.7
81
527.7

3.68
270.86
274.54
270.80
3.74
3.08
273.94
270.80
3.14
270.64
3.30
270.48
3.46
270.32
3.62
2.05
270.86
272.91
270.48
2.43
270.32
2.59

1.975 | 10000
9875
1250
1885
303.41
7.00
303.62
6.79
862

279.253
279.506
279.759
2750
270.8
4+8.0 | 4.140
3360
3840
3000
2880
1200

.862

327.26
33
330.56
8.05
306.08
314.13

310.41
302.84
7.57
299.42
10.99
310.41
299.85
10.56
299.99
10.42
300.56
9.85
301.73
9.28
301.70
8.71

312.55

282.74
7.57
290.31

3.63
316.18

275.3
15.01

355
10.3
25.2

11.44
278.87
3.02
281.89

275.0
275.339

00339
25.2
678
1695
678
.085428

.00339
30
.10170

275.678
.102
275.780

.00339
10.3
1017
339
.034917

275.035
.085
275.120

169

12.10
306.10
318.20

12.13
316.14
328.27

275) 5.00 (1.818
275
2250
2200
500

1.82
1.45
910
728
182
2.6390

72.64
4.98

1.82
.25
910
364
.4550

1.82
.37
1274
546
.6734

1.82
.12
364
182
2184

1.45
.37
108
1.82
216
864
108
1.9656

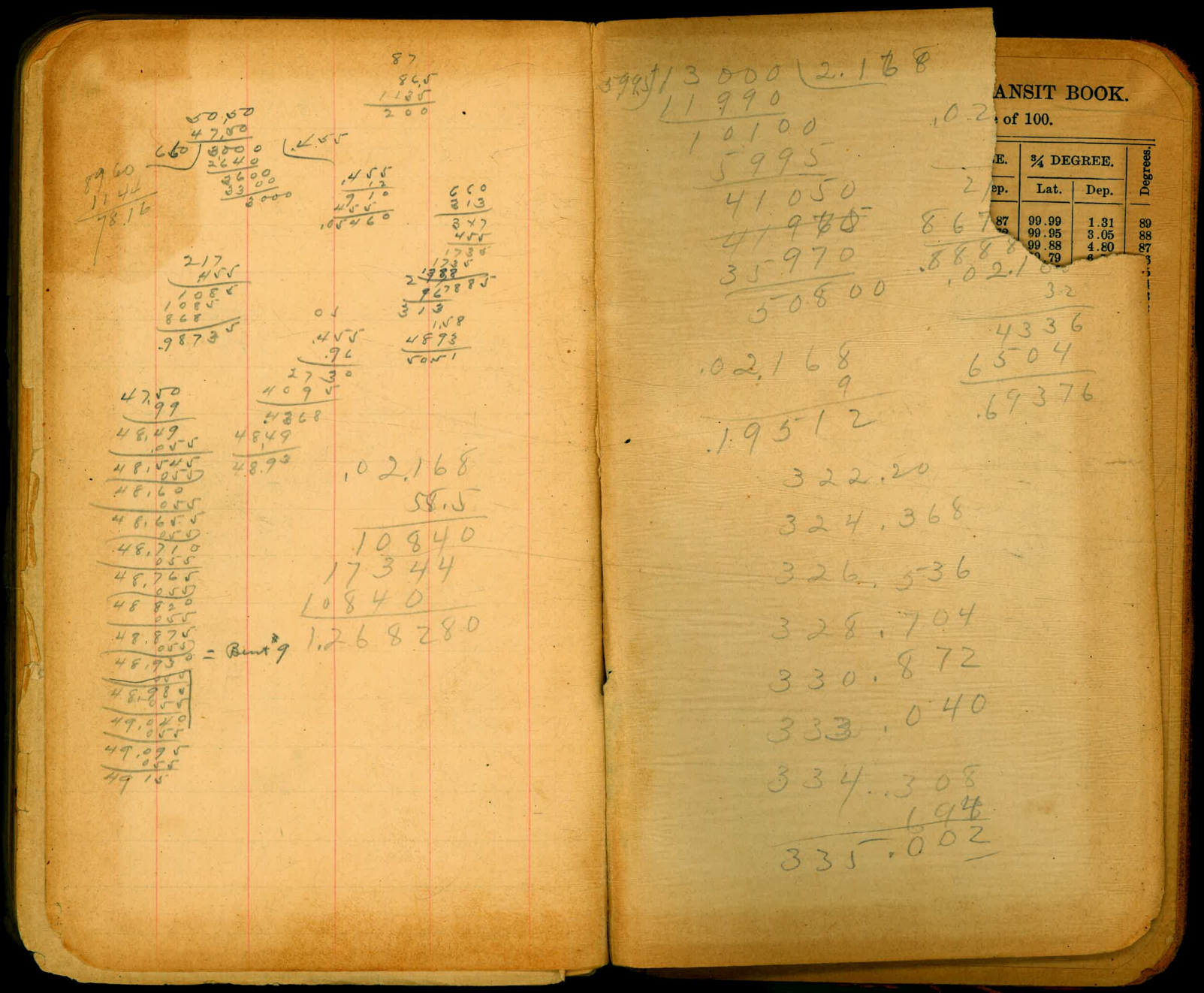
70.45
7.17

70.67
6.95
197
4.98

30697
3.24
310.21
299.65
10.81
.56

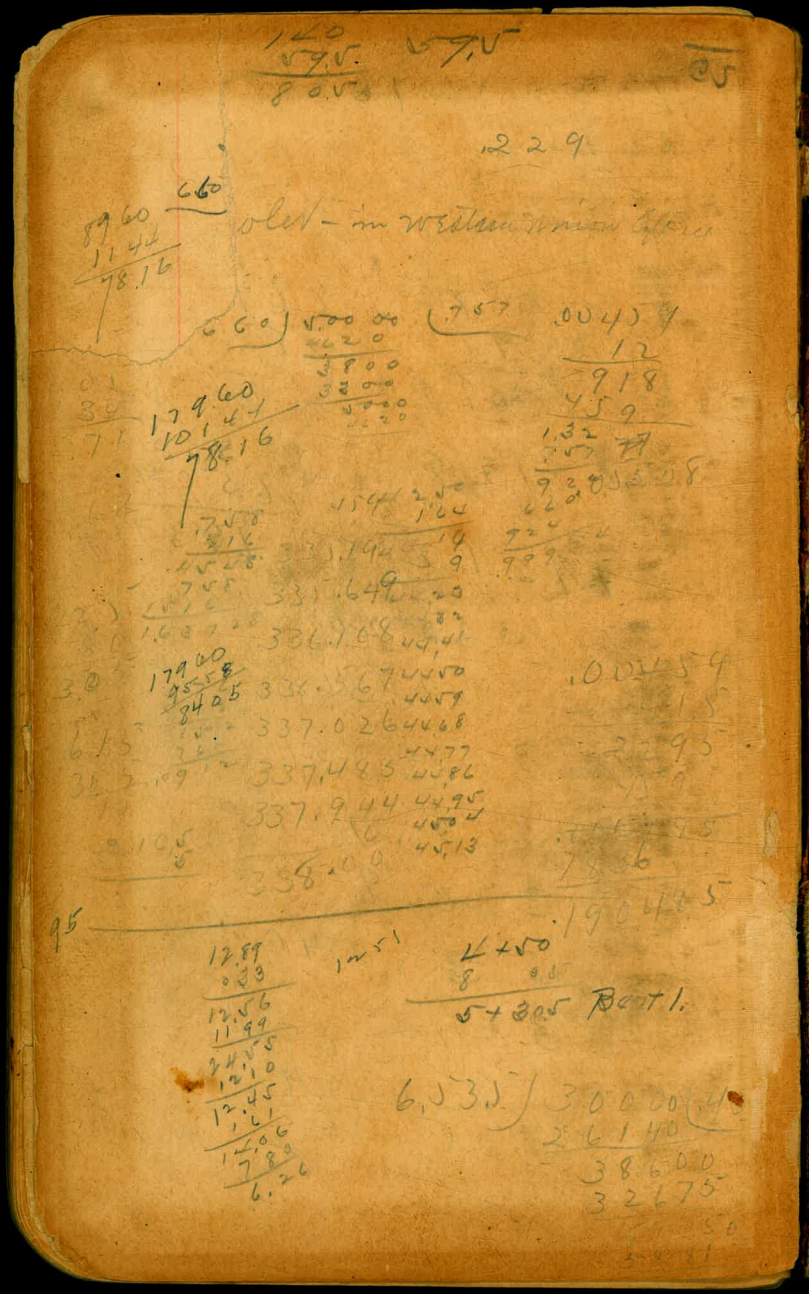
1.85
.95
925
1665
.17575

101



ANSIT BOOK.
of 100.

E.	¾ DEGREE.		Degrees.
ep.	Lat.	Dep.	
87	99.99	1.31	89
	99.95	3.05	88
	99.88	4.80	87
	99.79	6	



TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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