33

MINING
TRANSIT BOOK
363

F.B.33-2

Indexed

KEUFFEL & ESSER CO.

DRAWING MATERIALS
AND
SURVEYING INSTRUMENTS.
NEW YORK.
CHICAGO. SAN FRANCISCO. ST. LOUIS.

TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.
FOR SINGLE TRACK EXCAVATION.

WILL S. KING

"Copyright, 1895, by Keuffel & Esser Co."

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	0
1	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	1
2	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	2
3	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	3
4	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	4
5	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	5
6	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	6
7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	7
8	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	8
9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	9
10	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	10
11	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	11
12	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	12
13	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	13
14	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	14
15	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	15
16	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	16
17	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	17
18	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	18
19	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	19
20	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	20
21	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	21
22	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	22
23	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	23
24	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	24
25	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	25
26	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	26
27	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	27
28	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	28
29	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	29
30	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	30
31	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	31
32	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	32
33	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	33
34	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	34
35	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	35
36	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MICROFILMED
APR 5 1965

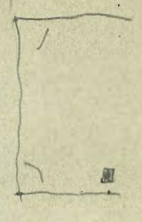
WILL S. KING

Sept 20-1870 Riverside

195.
25.
220.

25.02

100468
25
502340
200936
25.11700



					100.73	BM. N.W. Cor Ventilator
	6.56	107.29				
1' S.W. of N.E. Cor Central Blo on Hub			4.79	102.50		102.50 Grade set Hub to Gr 1' S.W. of Cor Blog
N.E. Cor Central Blog on Corne			3.93	103.36		103.65 Road Grade fill .3
			4.70	102.59	cut 3'11½"	98.63 Grade for walk between Central Manual Arts
			4.91	102.38	cut 3'9"	
				102.59	Fill 1.96	Gr. 104.5 Grade for Road E. of Central Blog
				102.38	cut 4.38	Gr. 98.
S.E. Cor Cen. set to Grade			5.25	102.04	Grade	102.03 Grade for Blog
						99. Gr. for Road cut 3.00

102.08
98.
4.38

102.38
98.63
3.75

102.59
98.63
3.96

104.5
102.6
1.9

60.00
4.75
55.25

3.2

Levels on Road between Cen + Manual B.M.

					100.73	N.W. Cor Ventilator	
	7.11	107.84				Fill	Cut
					Grade		
			5.15	102.69	104.5	1.8	
			5.40	102.44	104.33	1.89	
			4.90	102.94	104.16	1.22	
			4.40	103.44	103.99	.55	
			4.40	103.44	103.82	.38	
			4.45	103.39	103.65	.36	
			5.45	102.39	102.50	.11	

Cuts on four Corners of Excavated Area S.S. Central Bldg in center 100.73

	6.72	107.45			Grade	Cut
S.W. Cor			6.10	101.35	100.	1.35
N.W Cor			6.15	101.30	100.	1.30
N.E. Cor			5.25	102.20	100.	2.20
S.E Cor			5.10	102.35	100	2.35

Basement Levels Open Area Corners

S.E. Cor Manual Arts Bldg 100.73

	3.25	103.98			Grade	
						cut
S.W Cor open Area			3.60	100.38	93.63	6.75
N.W Cor open Area			1.90	102.08	93.63	8.45

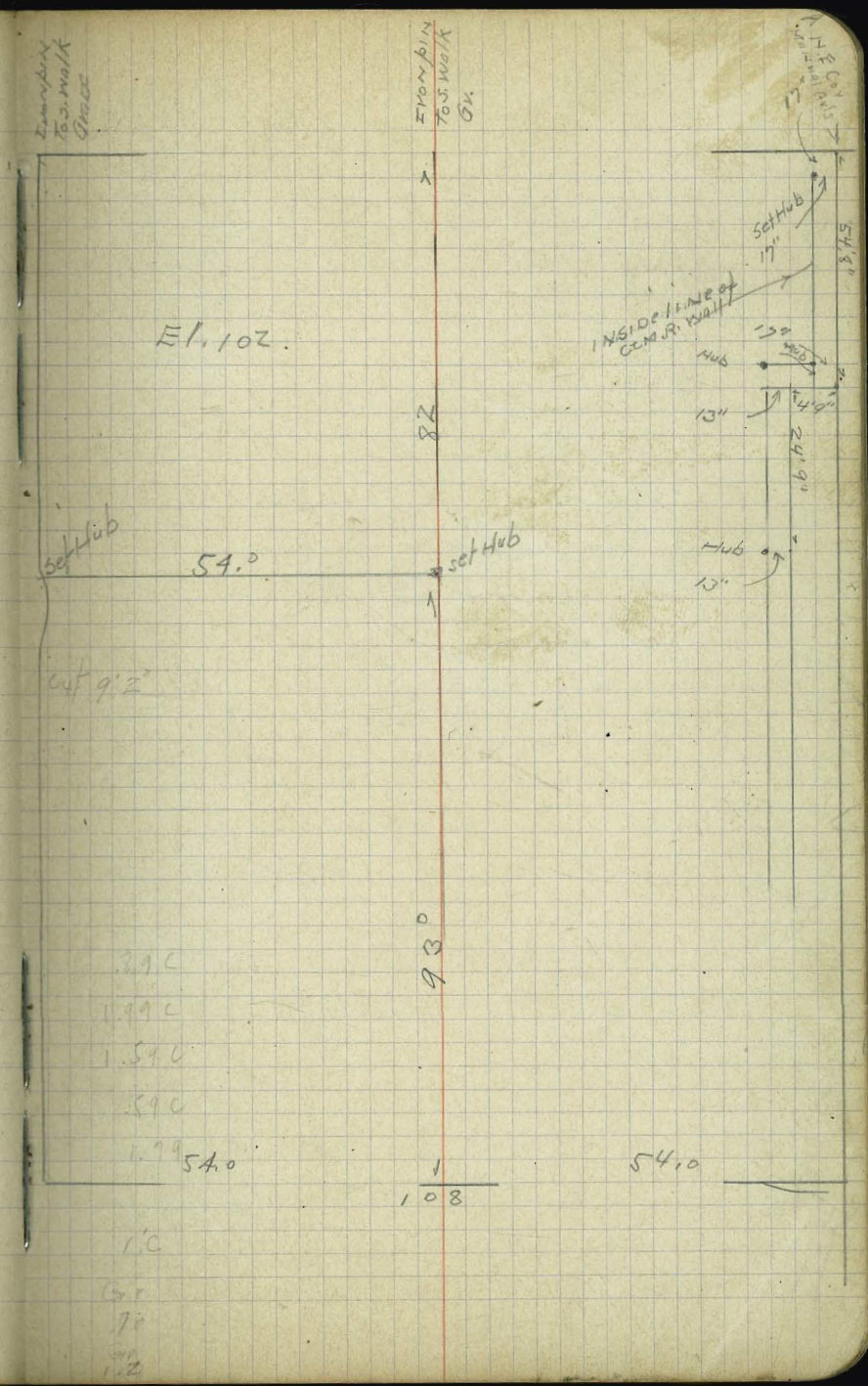
Basement Levels N.W. Cor Manual Arts Bldg. 100.73

	6.22	106.95			Grade	Fill	cut
S.W. Cor of Basement			4.88	102.07	102.0		.07
S.E. " " "			5.62	101.33	102.0	.67	
N.E " " "			1.65	105.30			

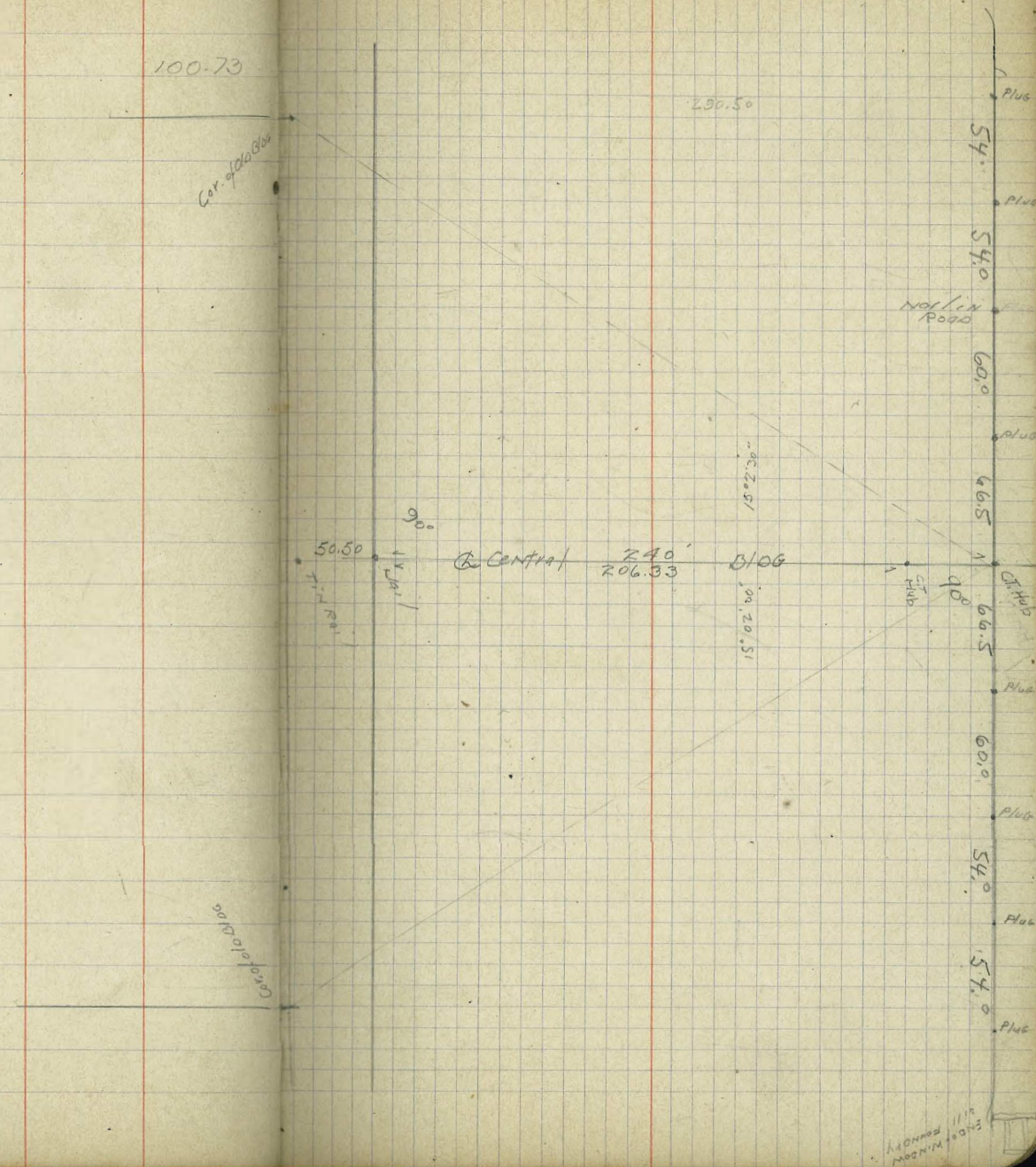
N.W. Basement Hub to Grade

Hubs set to Grade

				100.73
8.77	109.50			Grade
N.W. Cor Manual Arts Bldg set to sidewalk Gr.		5.85	103.65	103.65
N.E. Cor Basement Manual Arts Bldg set to sidewalk Gr.		5.85	103.65	103.65
(Iron pins set at these points to S. walk Gr. Not accurate for line within 4.10)				
Grade Hubs for Boiler Room				
				100.73
2.45	103.18		Grade	
N.W. Cor B. Room		9.55	93.63	
S.W. Cor B. Room		9.55	93.63	
S.E. Cor B Room		9.55	93.63	
N.E. Cor Hub		5.98	97.80	Gr 88.63
Hub S.S. Manual Arts to Grade		9.55	93.63	
		1.18	102.00	Gr. 102
				100.73
8.14	108.84			
		5.19	Gr 103.65	
		4.30	104.54	Gr 103.65
		3.20	105.64	103.65
		4.10	104.74	Gr 103.15
		4.6	104.24	103.65
		3.9	104.94	103.15
		5.24	103.60	103.15
		4.70	104.14	103.15
		5.2	103.64	103.65
		4.9	103.94	103.15
		5.1	103.74	103.15
		4.5	104.34	103.15

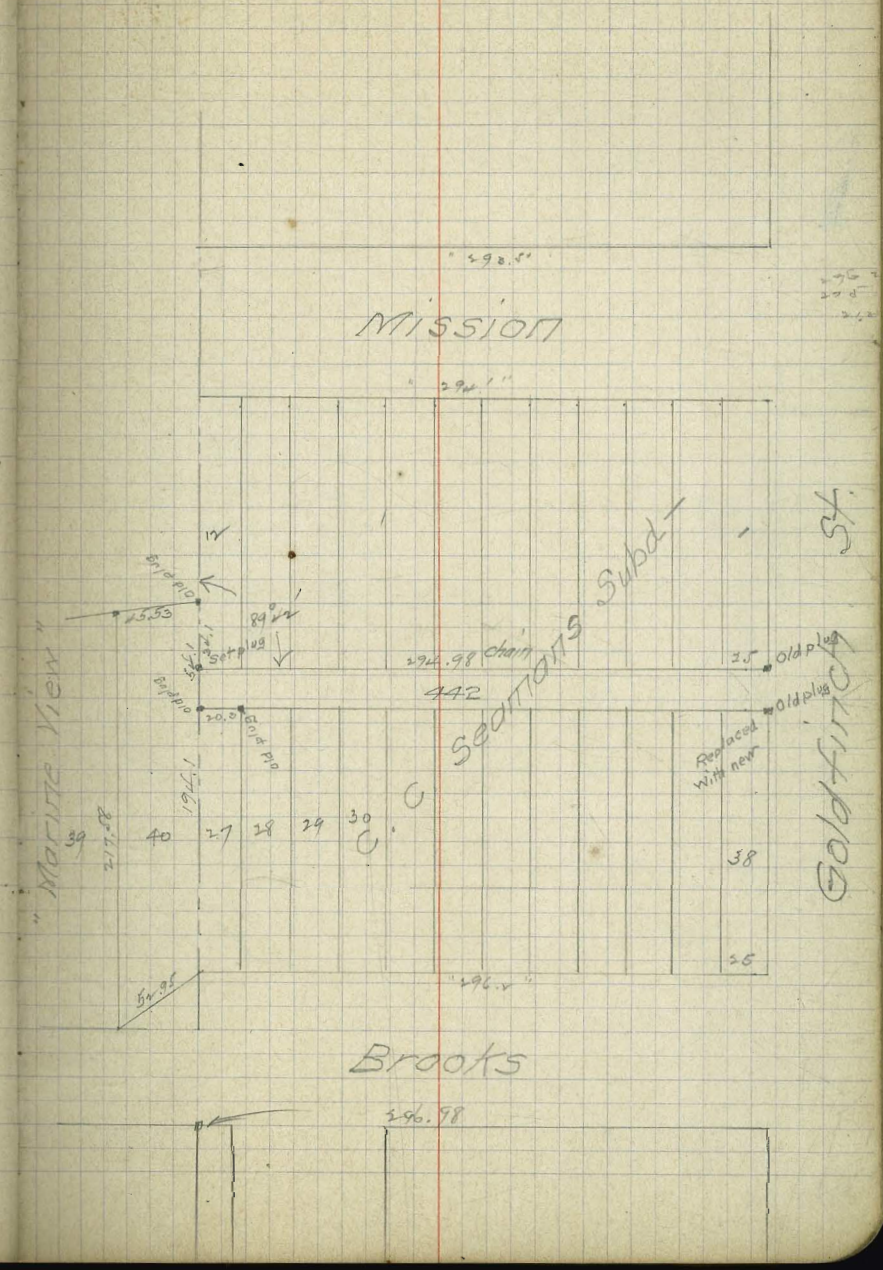


6.95	107.68		100.73
		2.68	
66.50			
60.00			
126.50			



3/16/2

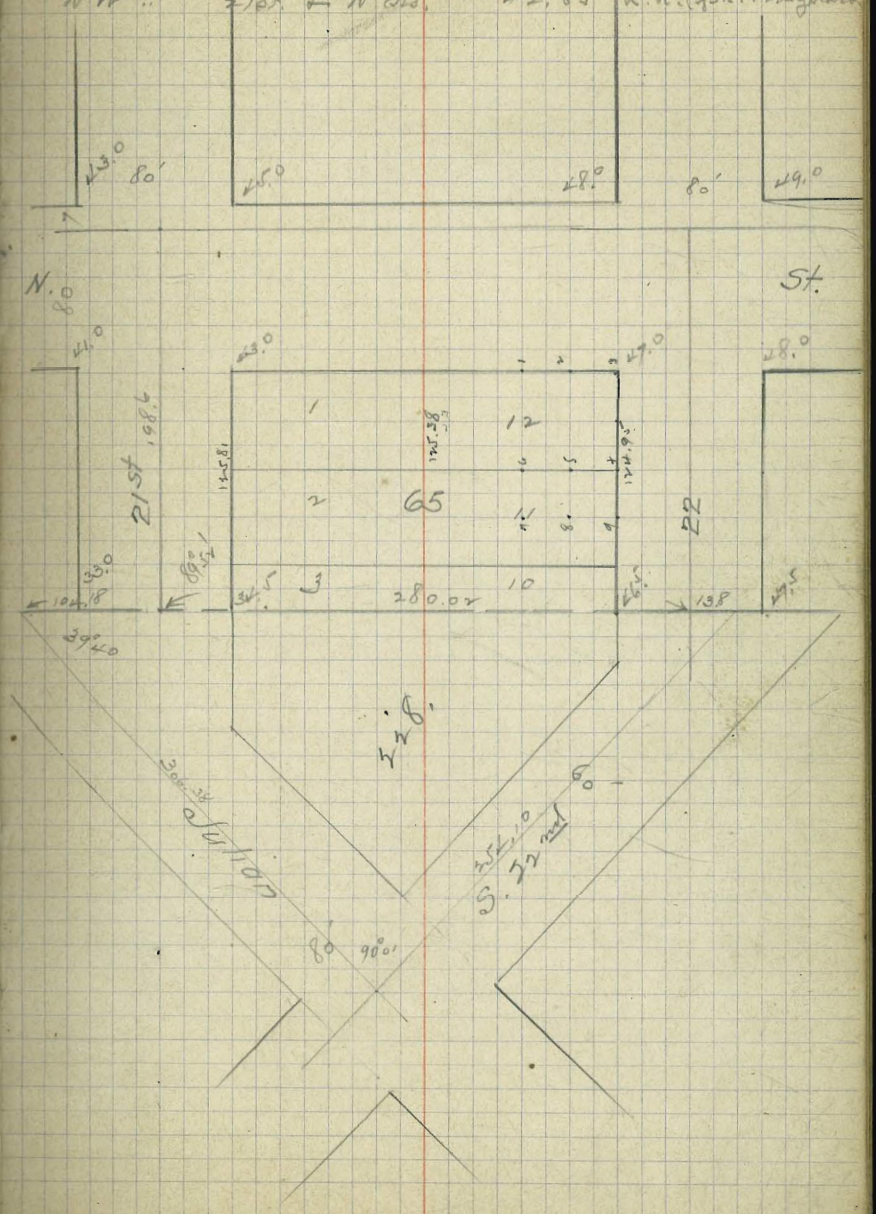
Wm Purdy
803 - West. Brooks.



Board of Education

Lots 10-11-12 Blk. 65 Sherman

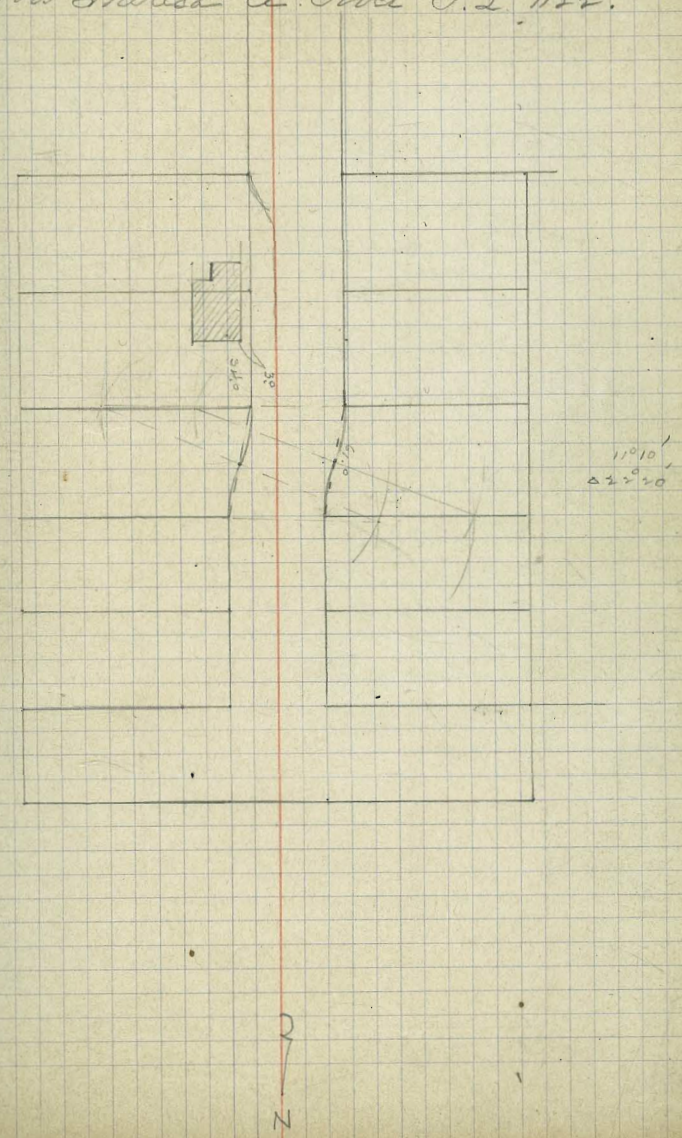
	7.97	50.82		42.85
N.W. Cor			4.2	46.6
1			4.6	46.2
2			4.8	46.0
3			4.3	46.5
4			5.9	44.9
5			6.6	44.2
6			7.0	43.8
7			8.3	42.5
S.W. Cor			12.1	38.7
8			7.8	43.0
9			6.3	44.5
S.E. Cor.			7.7	43.1

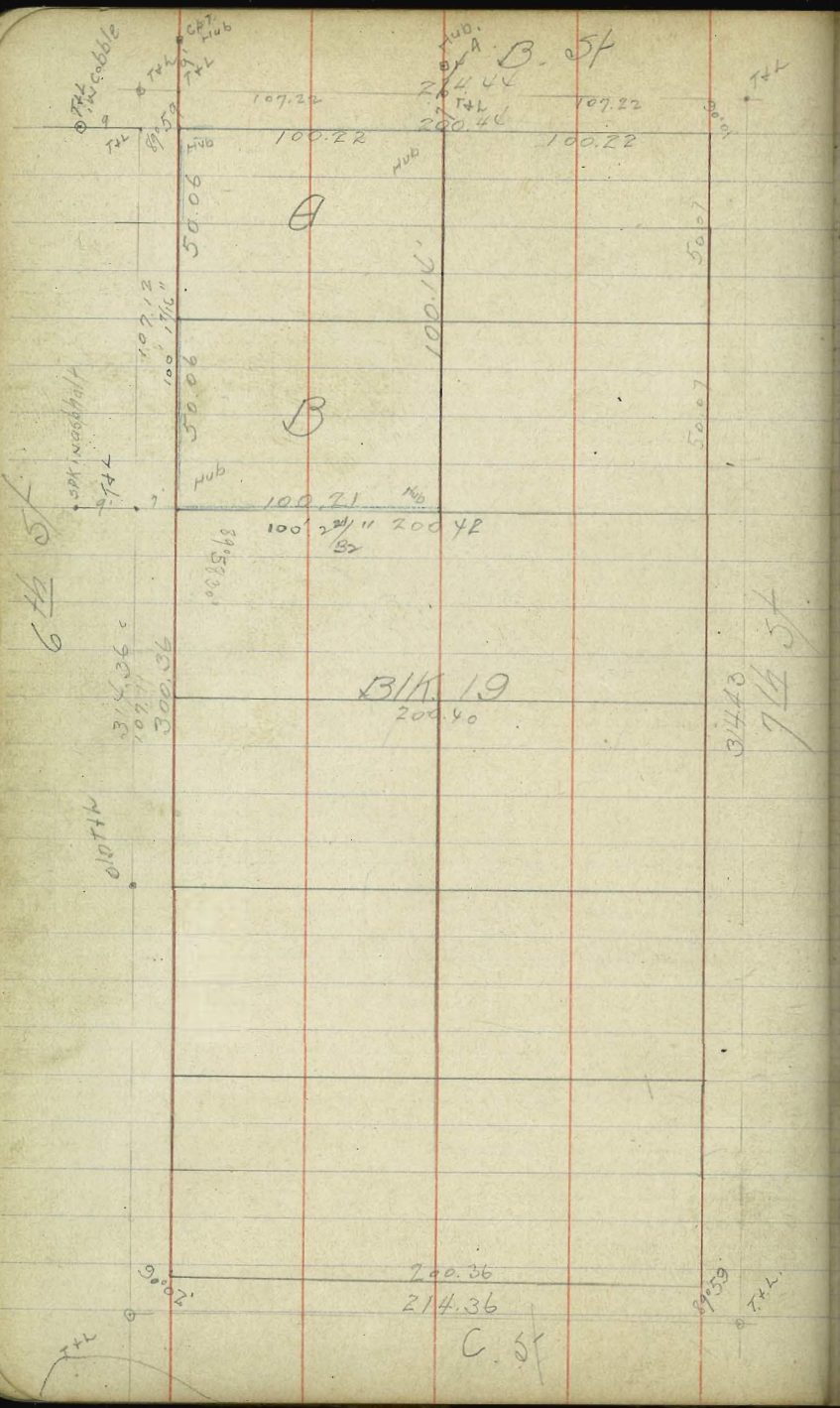


.1974
2
.3948) 30.500
27636
28640
27636
19240
19896
23440

(77.26

Mrs Theresa A. Rice P.L. 1122.





7

Survey of Lot A & B Blk 19 Horton
for P M Anderson

2-29-1912

Williams
Wetchell
Keeler

Pearl Heights Hubs to Grade on Property Line

Williams
Wenchell
Grenandt
4-4-12

Myrtle Ave

Sta	B.S	H.I.	F.S	Elev	Grade BM
					295.31
	1.55	296.86			
4+87.63 S.S			3.26	293.60	293.60
5+31.92 EC			4.98	291.88	291.88
6+17.50			8.29	288.58	288.57
6+58.0			9.86	287.00	287.0
	Irving St N side				300.
	1.12	301.12			
	4.05	296.27	8.90	292.22	
0+00 N			3.27		293.0
0+50 N			3.78		292.40
1- N			4.29		291.98
1+50 N			4.81		291.46
2- N			5.32		290.95
2+50 N			5.83	290.77	290.46
	T.P. 5.05	295.82	5.50		
3- N			5.90		289.92
3+50 N			6.41		289.4
4 - N			6.92		288.90
4+50 N			7.44		288.39
5- N			7.95	71	287.87
5+50 N			8.47	7.35	287.36
5+85.56			8.82		287.00
	TP		8.52	287.30	
	5.48	292.78			
6+45.56				287.30	287.00

B.C. 4+43.40 S.S Myrtle

Def 16°37-15 Ch. 43.66

Set Spk BM in Fencepost S. of SEC or Property

290.77
5.05
295.82

295.82
289.41
6.41

295.82

287.36
5.41
292.77

C. 10 1/8"

C. 7 1/8"

C 3 5/8"

Irving St N. side

		292.78			
7+00 N			6.09	286.69	286.64
7+50 N			4.71	288.07	286.38
8+00 N			6.71	286.07	286.07
8+50 N			7.02	285.76	285.76
8+94.1 N			7.28	285.50	285.50
					BM
		Hub to Grade on Myrtle			300
	8.73	308.73			
			5.67	303.06	
	291	305.97			
			12.30	293.67	
	4.80	298.47			
			11.53	286.94	
					Grade
7+47.30			5.47		293.00
6+97.30			0.43		295.04
6+47.30			0.57		297.90
		302.76			
6+00			3.76		299.0
5+56.8			3.98		298.78
Bisection of Curve 0.57		302.50			
4+78.4			5.44	297.06	298.39
					BM
	West side Edwin				293.67
	8.64	302.31			Grade
0+00			10.04	292.27	292.0
0+50			9.95	292.36	293.25
1+00			7.18	295.13	294.50

303.06
0.57
302.50
298.39
4.11

C. 1.69 - 18 7/8"

Pipe N.E. Cor Myrtle

BM E.S. EDWIN

On Pipe N.E. Cor Edwin on pipe

Hub N.E. Cor Pearl Heights & Proj

Pipe N.E. Cor Edwin 0+00

C. 3 1/8"
F. 11"
C. 7 1/2"

298.47
293
5.47

298.47
295.04
3.43

298.47
297.90
.57

4.88

298.47
.59
297.88
4.88
302.76
299.00
3.76

302.76
298.78
3.98

298.39
297.06
1.33

302.50
295.00
4.50

293.25
292.36
.89

295.13
294.50
.63

	West Side EDWin					
		302.31			30	
1+50			6.10	296.21	295.75	C 5½"
2+00			5.16	297.15	297.00	C 2"
2+50			6.51	295.80	295.28	C. 6¼"
3+00 PC			7.31	295.00	293.56	C. 1'5½"
3+52.37			9.90	292.41	291.76	C 7¾"
4+04.65 EC			12.29	290.02	289.96	C 1"
	T.P.		11.54	290.77		
	1.98	292.75				
4+50			3.79	288.96	288.4	C. 6¾"
4+90.60			5.45	287.30	287.00	C. 3¾"
	South Side Irving Ave from Angle Point west					
3+00		292.75	2.87	289.88	289.80	C 1"
3+50			3.64	289.11	289.31	F 2½"
4+00			4.77	287.98	288.82	F. 10"
4+50			4.34	288.41	288.33	C 1"
5+00			4.60	288.15	287.83	C 4"
5+50			4.54	288.21	287.34	C 11"
			5.55	[illegible]	[illegible]	C
6+10.5			5.32	287.43	287.00	C 5"
6+70.5			5.27	287.48	287.00	C 6"
7+20.5			6.40	286.35	286.67	F 4"
7+70.5			6.70	286.05	286.33	F 4½"
8+20.5			6.90	285.85	286.00	F 2"
8+70.5			6.79	285.96	285.66	C 3½"
8+95.1			7.44	285.31	285.5	F 2½"

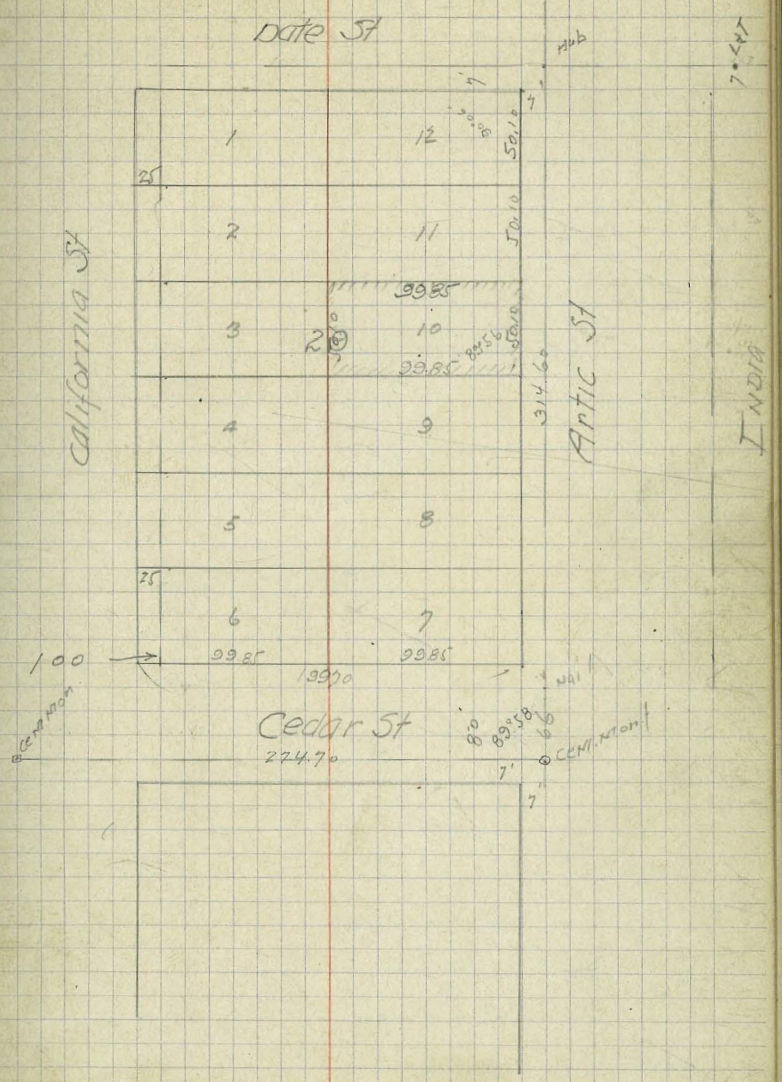
Grades on Pearl Heights Blvd

		292.75				
3+81.50			7.26	285.49	285.50	Grade
	8.26	293.75				
					2	
3+50			6.38	287.37	286.75	C 11"
3+00			6.04	287.71	287.97	F 3"
2+50			3.70	290.05	289.48	C 7"
2+00			3.06	290.69	291.0	F 3 3/4"
1+50			2.48	290.77	290.25	C 6 1/4"
1+00			1.58	292.17	289.50	C 2' 8"
0+50			4.08	289.67	288.75	C 11"
0+00			6.86	286.89	288.0	F 1' 1"

4/15/12

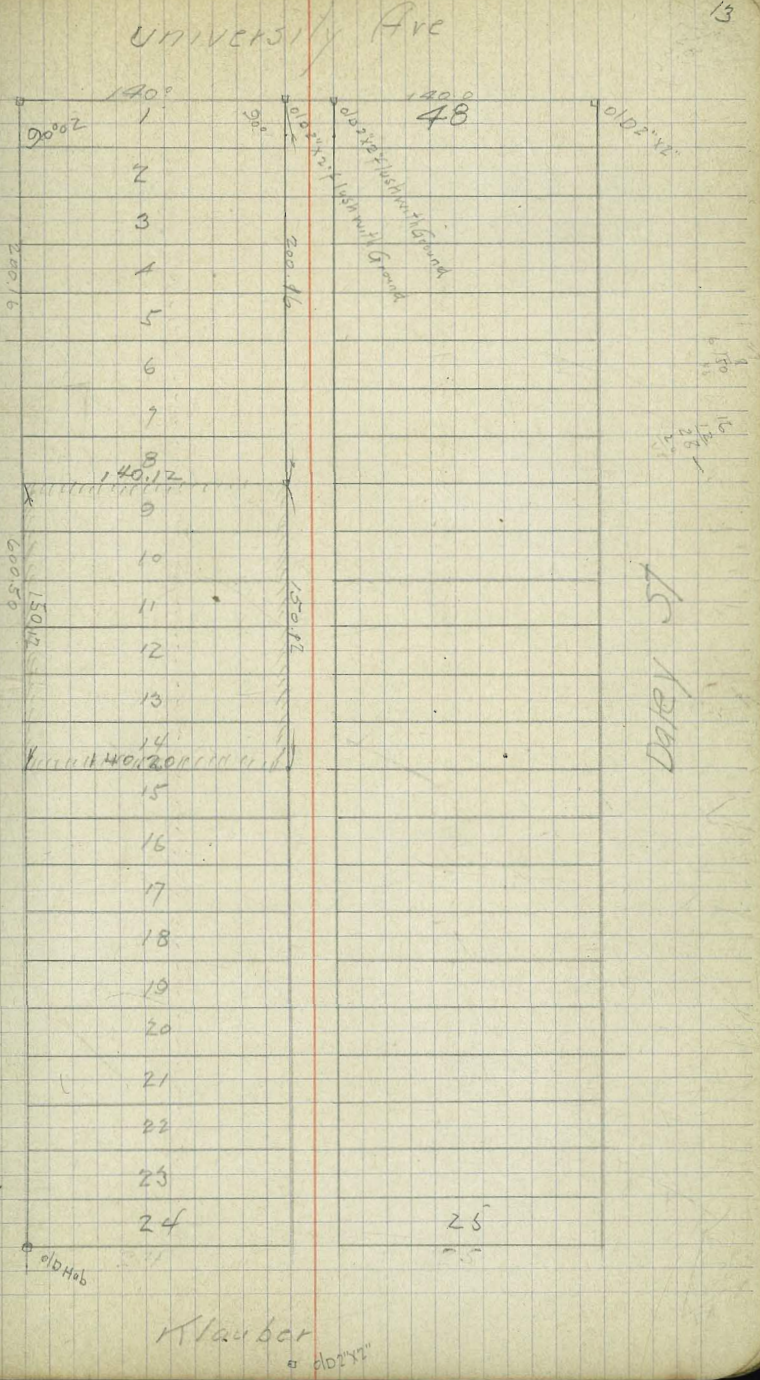
Survey of Lot 10 Blk 29 Middletown
for
Mr John H. Crippen

Williams
Gernandt



4/17/12 Survey of Lots 9-10-11-12-13-14 Block 55
Steiners Add. City Heights

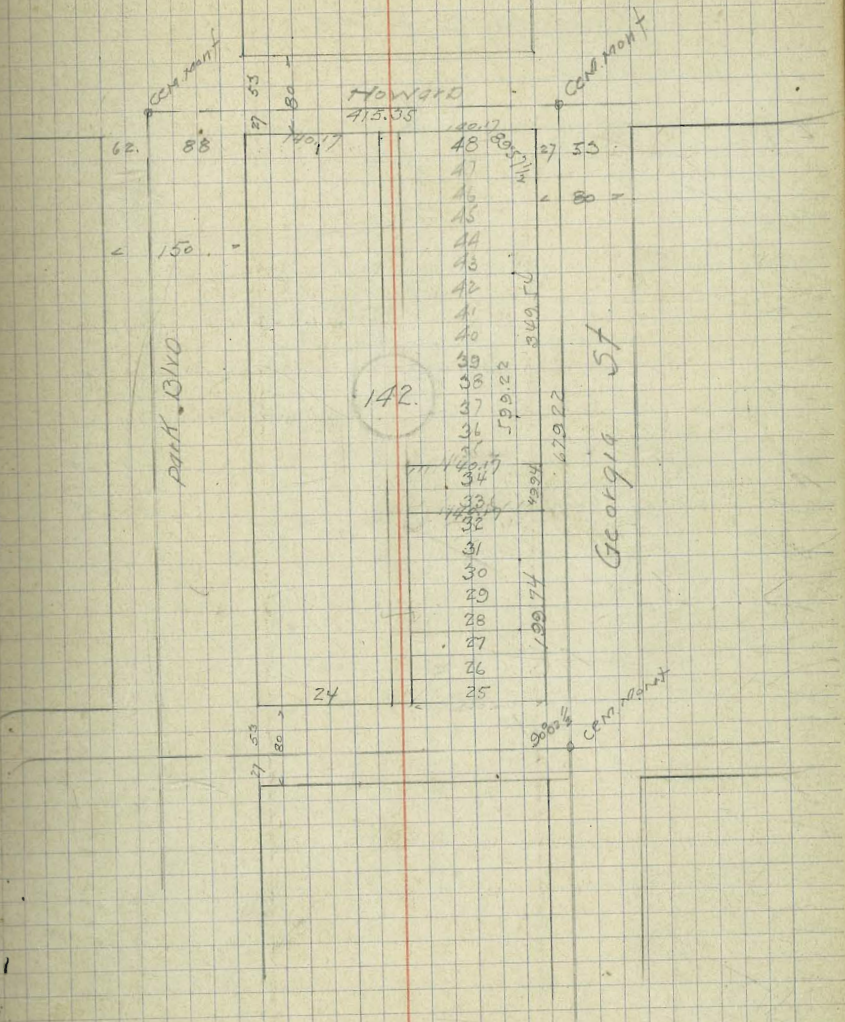
Williams
Butterme
Butterme



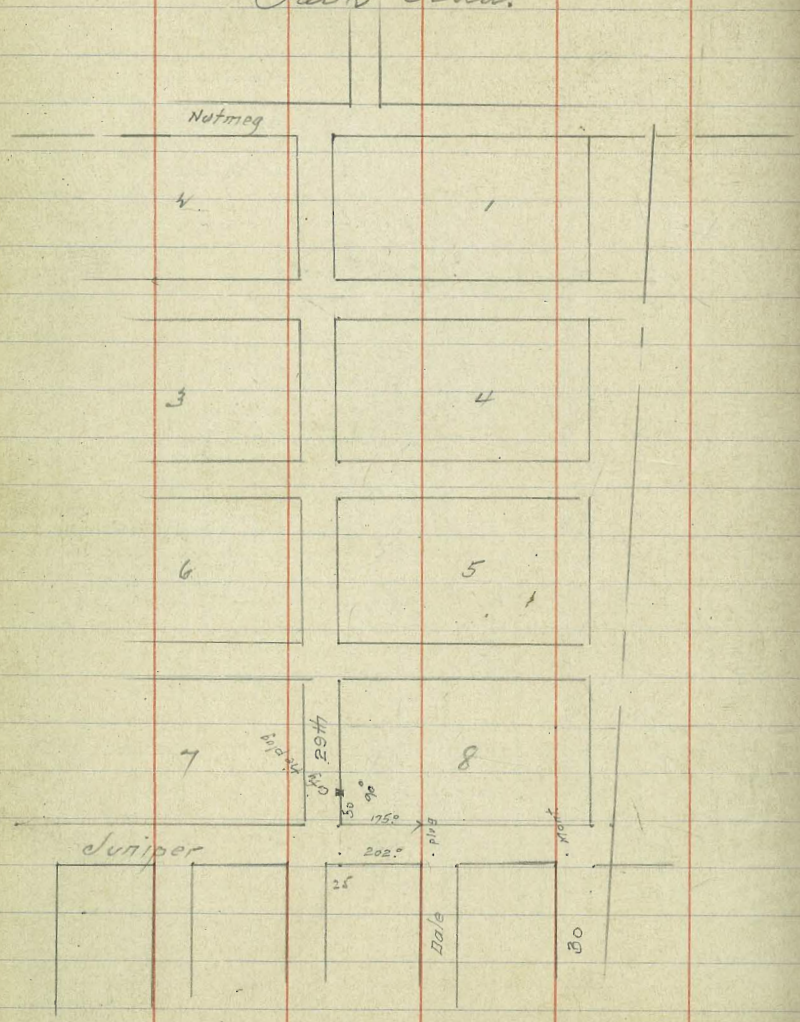
4/17/12

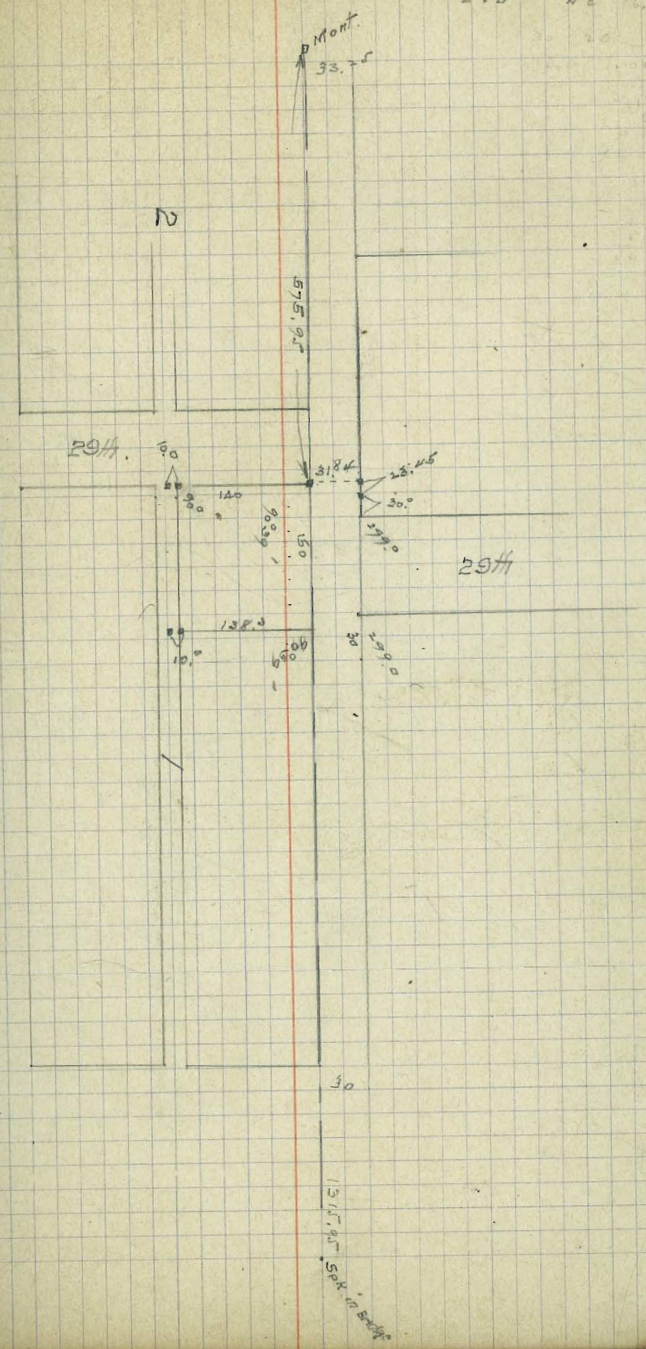
Survey of lots 33-34 Block 142
University Hts.
for J.M. Chapman
University & Georgia St

Williams
Butterner
Butterner



Mt. Arthur
Lots 19-24 Blk. 1
Park Add.





4/23/12 Levels North Alley Blk. 2

	7.23	357.98		350.75
			7.10	350.88
			4.13	53.85
			3.83	354.15 ✓
Sta. 0.			5.1	54.9
1			7.7	50.3
2			8.6	49.4
3			8.4	49.6
4			7.0	51.0
5			5.5	52.5
⊙			5.18	352.80
	6.15	358.95		
6			5.0	54.0
7			4.6	
8			4.7	
9			4.9	
10+00			4.6	
⊙			3.43	355.52
	5.03	360.55		
11			4.7	
11+97			4.7	
12			4.8	
B.M.			3.16	357.39
13			3.4	
⊙			3.91	356.64
	4.77	361.41		

City Hts Annex No 1. 16

N.W. Cor. Stemmer + Highland

Curb E. side Highland 100' N. of Cor.

E. side Alley N. side Stemm.

Curb E. side Elsmall 100 N. of Cor.

350.9
354.2
705.1
352.5
2
354.5
50.9
3.6

350.9
354.2
705.1
352.5
349.5

1880 / 3.000 / 15
.0016 / 1880
11280 / 11200
1880 / 9400
3.0080 / 1800

Anna St.

352.5
2
350.5

18.80
.4
7.520
5.640
349.53
355.17
1.5
353.6

.00.1600

1.5

352.5
75
345.0

349.5
345
4.5

350.9
2
348.4

352.9
349.5
3.4

352.9
1.5

1880
.3
5.64
349.5
355.1
352.9
2.2

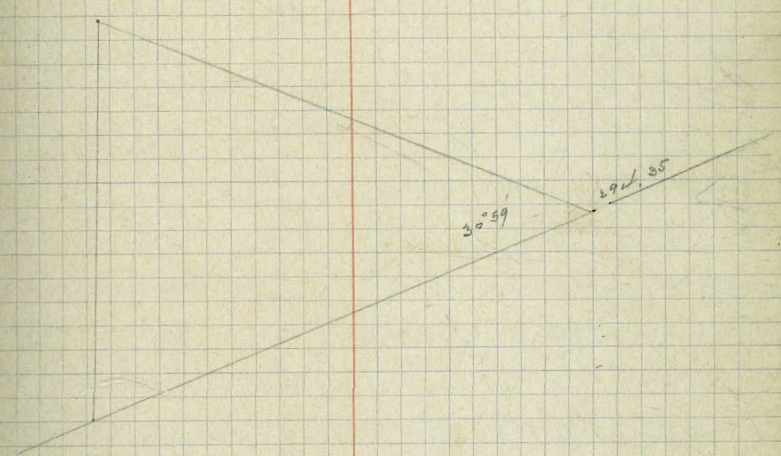
N. Side Orange

352.5
1
354.0

Curb N.E. Cor. Orange + Highland

		361.21		
14				
15			4.9	
16			4.9	
17			5.1	
⊙			5.15	356.26
	3.97	360.23		
18			4.2	
18+82			5.3	
			10.70	349.53

Intersect Sewer line 43.0 ft. East, of Man hole
Elev bottom Sewer pipe at Man hole.



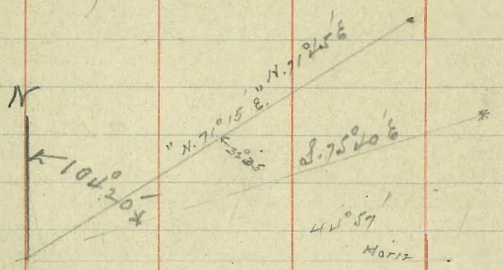
4/12/26

N. A. Shanks Add
Lot 30. Encanto
Map 281.

		Hour	Vert
l.m.t.	1	8h 44	32°35	44°57
	2	8h 53'	34°01	46°30

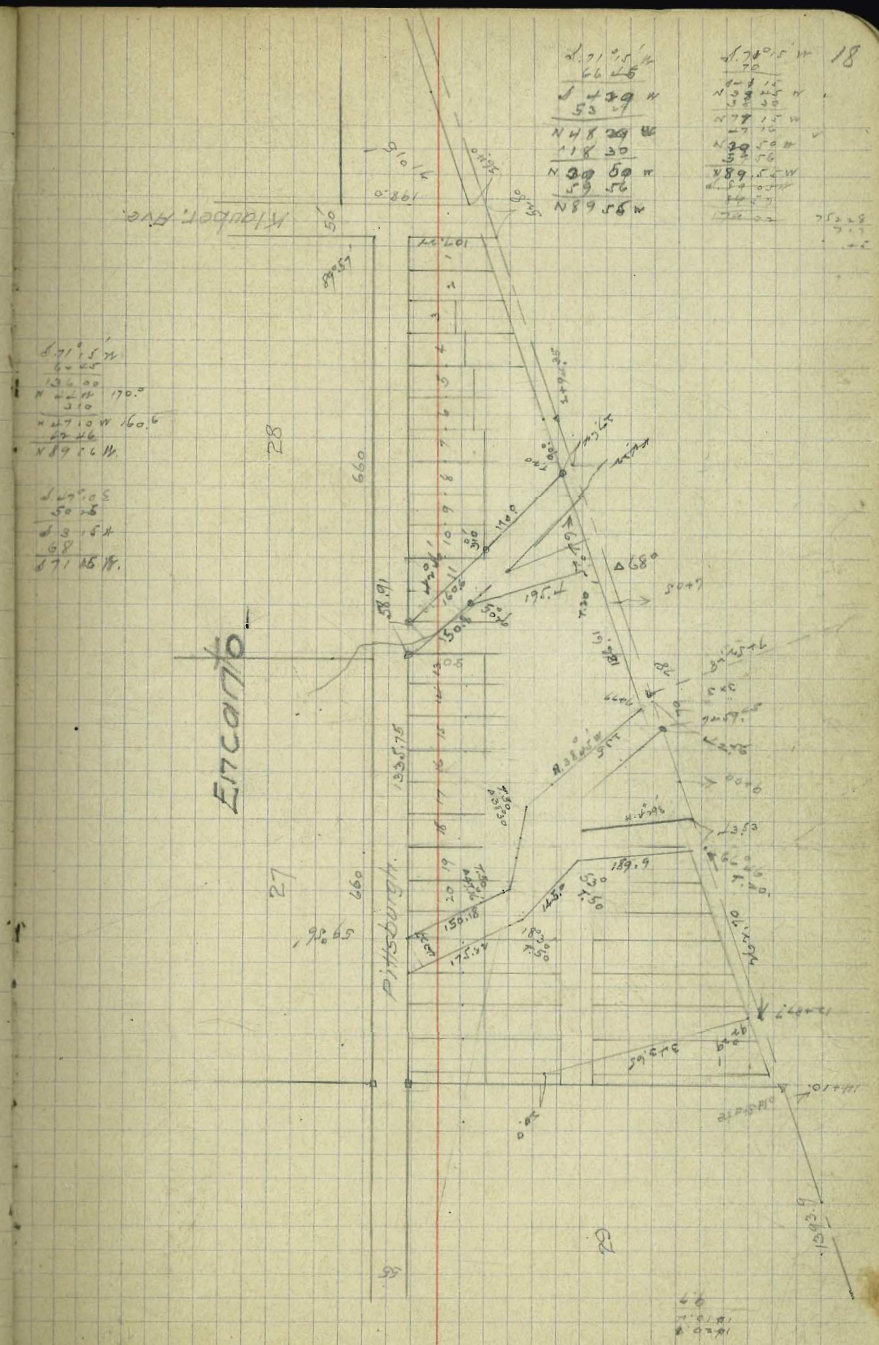
Apr. 26 1912 Declw = 13°32'

P = 76°28' Sine S = 9.999979
C = 57°18' " S-P = 9.350443
Z = 45°04' Colog " C = .074940
S = 89°25 " " " Z. = 150010
2/19.575372
9.787686 = 52°10'
104°20'
S-P. = 12°57'



North	133.62	133.62			
N. 89°56' W.	1335.65	1.16			1335.65
South	588.3		588.20		
N 71°45' E.	1410.4	453.36		1335.55	
		588.14			

70° = 225.
38°30' 133.62
47°16 150.18



1

6645
2315
23°15

50 1.698970
9.963217
54.42 1.735753

60 1.778151
9.963217
65.30 1.814934

1.698970
9.972986
53.21 1.725984

1.778151
9.972986
1.805165 63.85

20 = 1.000000
31.55 1.498999
9.501001 18°29

20) 1109
100
109
100

55.4
4.8
4432
2216
265.42
240
25.9

4°26'

1.602060
671
1.602731

4675
2337

51 11
38.49 1.602060
9.891624
1.710436 = 51.34

257238
1.28619
5
1.64309 50

10 = 1.
114.3 = 2.058046
8.941954 = 5°01'

10 = 1.000000
63.73 = 1.804344
9.195656 9°02
10.02

20) 301
300
101
100
10

(15.05 = 1.
25
7525
3010
37625
360

6°16

20) 542
40
142
140
20

(27.1 = 1.4
2.2
542
542
59.62

89
5956
3004

1.698970
9.937238
1.761732

5777

7.55 = 0.877947
9.447326
0.17891
2.20 0.343164

1616
9004
12620
7340

1616
755

10 1.000000
100.3 2.001301
8.998699

0.877947
0.17891
7.87 0.895838

10) 100.3 (100.3
10
.030

5°43

20) 343 (17.15
20
143
300

33.4
100.3

17.15
33
5145
5145
56595
540
9.259

17.15
334
6860
5145
5145
572810
540

9°33

50 1.698970
89°56' = 10.017891
7340 1.716861 52.10

1.698970
9.998699
1.700271

50.55

50.25
55
25125
25125
50) 27.6375 (50.52
25
263
250
137

25

1.740363
9.998699
1.941664

1

955.3
33

922.3

1.000000
2.964872
8.035128

25 1.397940
2.964872

Dist 1°33 = 8.433068

Lot. 2. Blk. 39
Tract. "S" Ro El. Lyon

	2.975307		2.975307
59°01'	9.933141	60°27'	9.939482
60°34	.060160		.060160
930.3	2.968608	943.9	2.974949

842.4	2.925518	842.4 =	2.925518
42°14'	9.827467	77.19	9.989271
60°27'	.060518	60°27	.060518
650.9	2.813503	943.7	2.975307

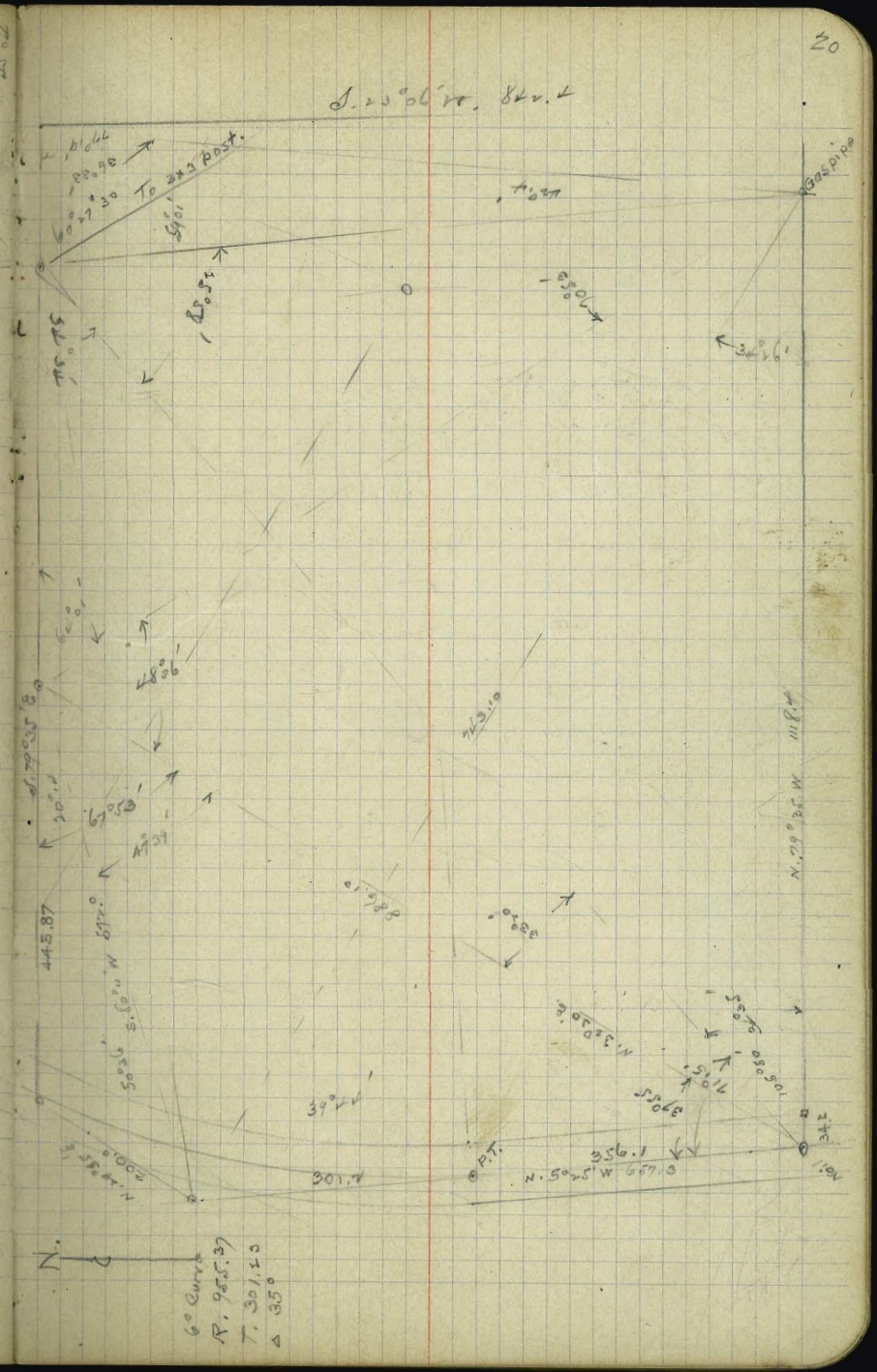
7719
4214
11933
6027

657.3 = 2.	2.817764
39°44'	9.805647
34.6	.247608
743.1	2.871019

	2.817764
74°10'	9.983204
	.247608
1118.4	3.048574

136

200 =	2.301030	200 =	2.301030
50°36	9.888030		9.975233
20.14	.461120		.461120
445.87	2.650180	571.97	2.757373



55°08
64
11908
6052
6027
12119
6584

842.4 = 2.925518
9.827467
.060518
42°14
60°27
2.813503 = 650.9

2.925518
77°19 9.989271
.060518
60°27
2.975307 = 944.7

944.7 = 2.975307
60°27' = 9.937482
60°52 = .058742
2.971531
936.6

Stems 3.60
Bowd 4.15
Beam 8.05
15.75

2.975307
60°27 9.939482
6032 .060160
943.9 = 2.974949

2.975307
59°01 9.933141
.060160
930.3 2.968608

2.975307
58°41 9.931614
.058742
924.0 2.965663

2.974949
60°32' 9.939840
64° .046340
914.4 2.961129

2.974949
55°28' 9.915820
.046340
936.3 2.937609

2.971531
55°08' 9.914070
64° .046340
854.9 2.931941

2.971531
60°52 9.941258
64° .046340
910.2 2.959129

2.959129
64° 9.953660
67°55 .033090
2.945879

2.959129
48°06 9.871755
67°55 .033090
2.863974

2935
7935
10910
7050

2.961129
64 9.953660
6755 .033090
887.9 2.947879

9.961129
48°06 9.871755
.033090
9.865974

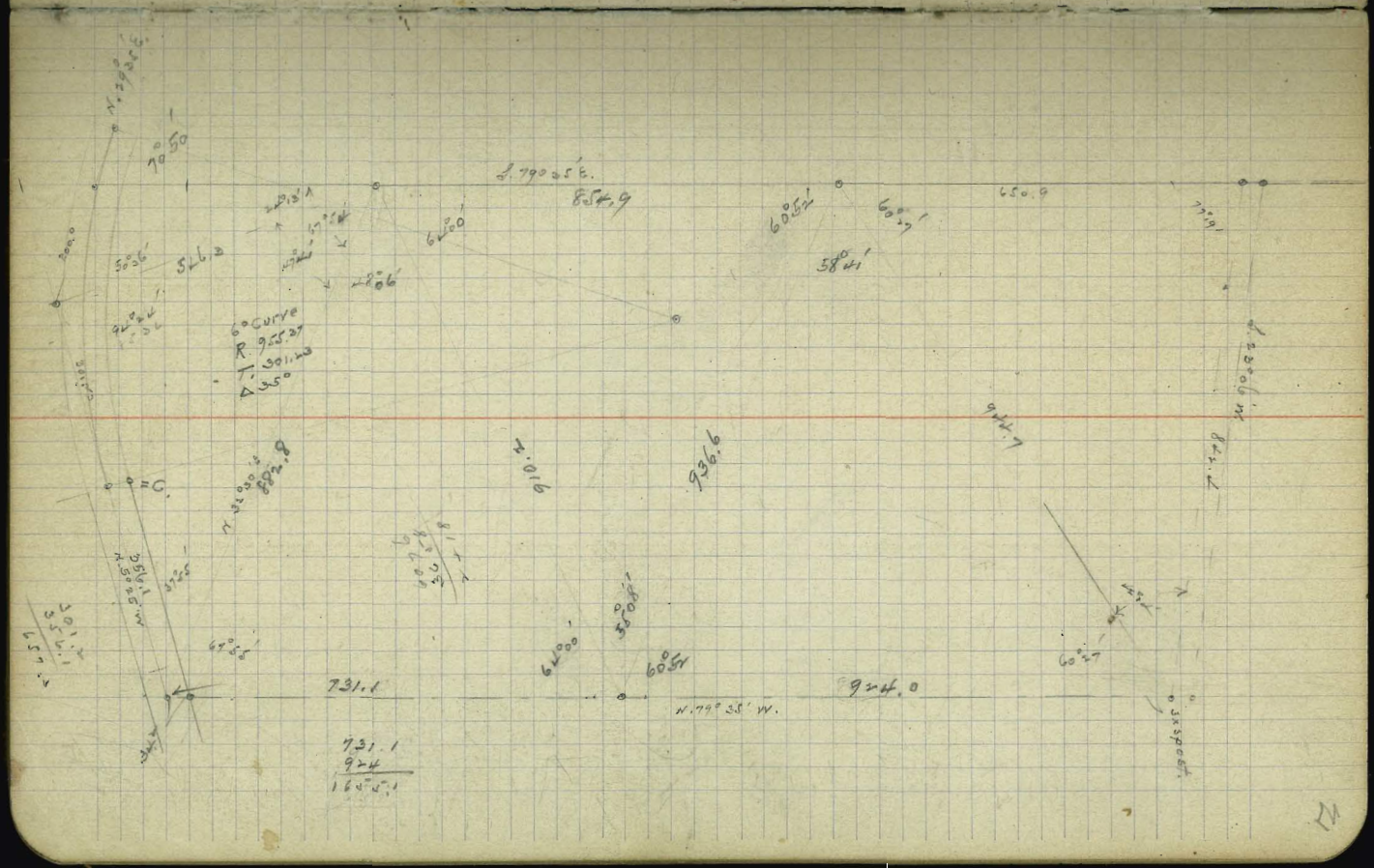
3755 342
6755 591.5
930.3
1656.0

2.947879
47°41 9.868900
.001482
85°36 2.818061 = 657.7

9425
3755
4741
180120

657.3
37°55 2.817764
9.788532
.131100
4741 2.737396

2.817764
85°36' 9.998718
1311
2.947582 = 886.3



5/3/4/12 1

9h 50m A.M. Vert 59°19' Hori. 17°02' R.

Inst at A. △	F. S. N. 5°25' W.	1	4.1	118°23 R.	P.C
		2	3.5	97°25' R	P.T
		3	3.1	82°25 R	P.C
		4	2.9	70°20' R	P.T.
		5	2.75	46°10 R	P.C
		6	3.36	27°10' R.	P.T
Inst. at B.	F. S. E. along H. Bdg	1	1.04	83°40' R	P.C.
		2	0.27	17°50' L	P.T

Inst a C. B.S. A'

81° R. 1.2 to Flume
5.0 " P.I. Vert. 3°38'
T. 50°

54°30' R 2.25 to P.I. Vert. 2°48'
T. 50.°

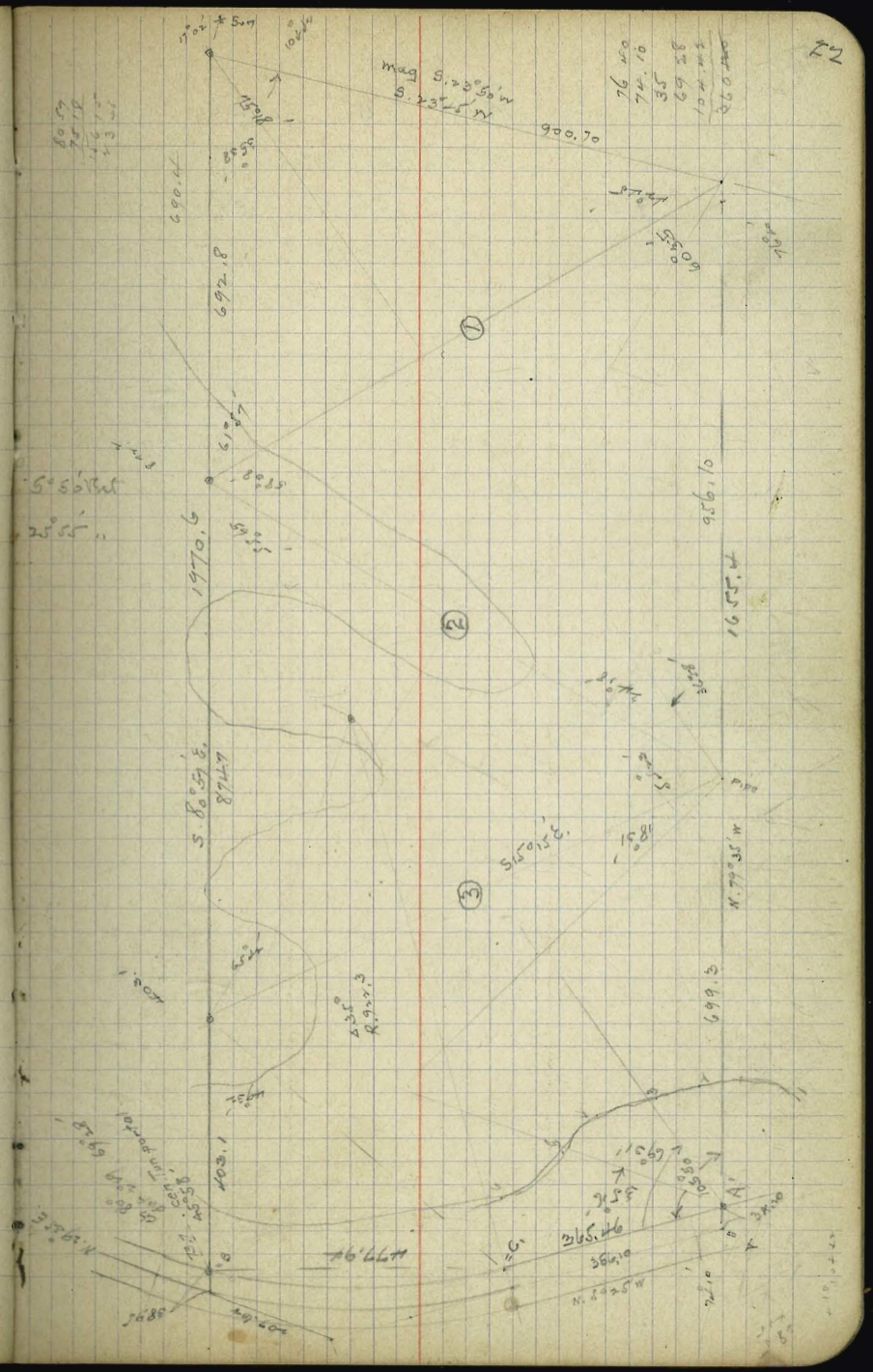
72° L 2.40 Vert. 6°
1.60 to P.I. " 2°45'
T. 120.0

109°30' R. Vert 0°47'

55°59' R to lath on Ridge Vert 3°56'
133° L " " " 6°32'
88°55' R " Well " 5°55'
42°45' R. " House 88.0

Vert ang from Well to E. Ridge 6°23'
" " " " " Middle " 6°42'
" " " " " West " 6°30'
" " " to House 5°54'

From A' N. 86° E. 114.6 to Well.



		N	S	E	W		+	−
N 9° 36′ E.	477.9	471.2		79.7		79.7	37554.6	652643.0
S. 80° 57′ E.	1970.6		310.0	1946.2 (59)		2105.3		
S. 23° 45′ W	900.7		824.4		362.8 (3)	3688.2		3040552.1
N 79° 35′ W	1655.4	299.3	-		1628.1	1697.1	507942.0	
N. 5° 25′ W	365.5	363.9			34.5	34.5	12554.6	
		1134.4	1134.4	2025.8	2025.4		557051.2	3693195.1
								557051.2
								3136143.9
								1568071.9
								130680
								261271
								261360

Degment 36.00 / 2 / 36.26

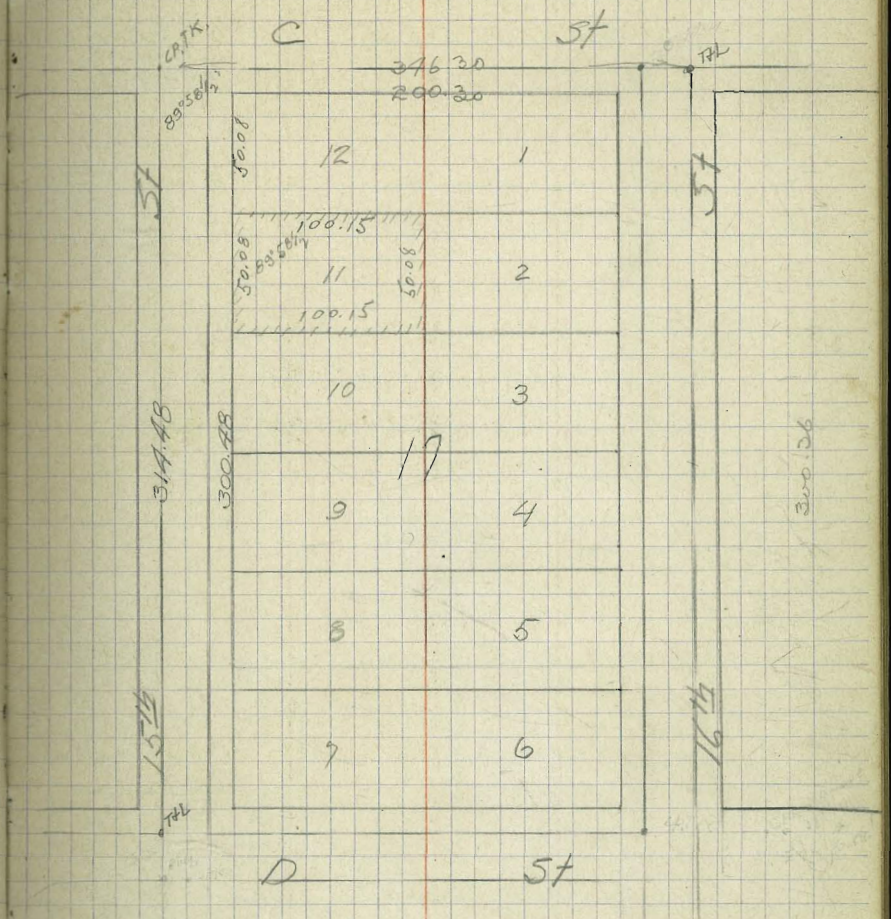
10.001.
922.3 2.964872
8.035128

20) 37 / 20 / 170 / 16 — 1.85 / 8 / 14800 / 120 / 28 — 2°28

1.85 / 31 / 185 / 555 / .5735

5/20/12 Survey of Lot 11 Block 17 Gardners

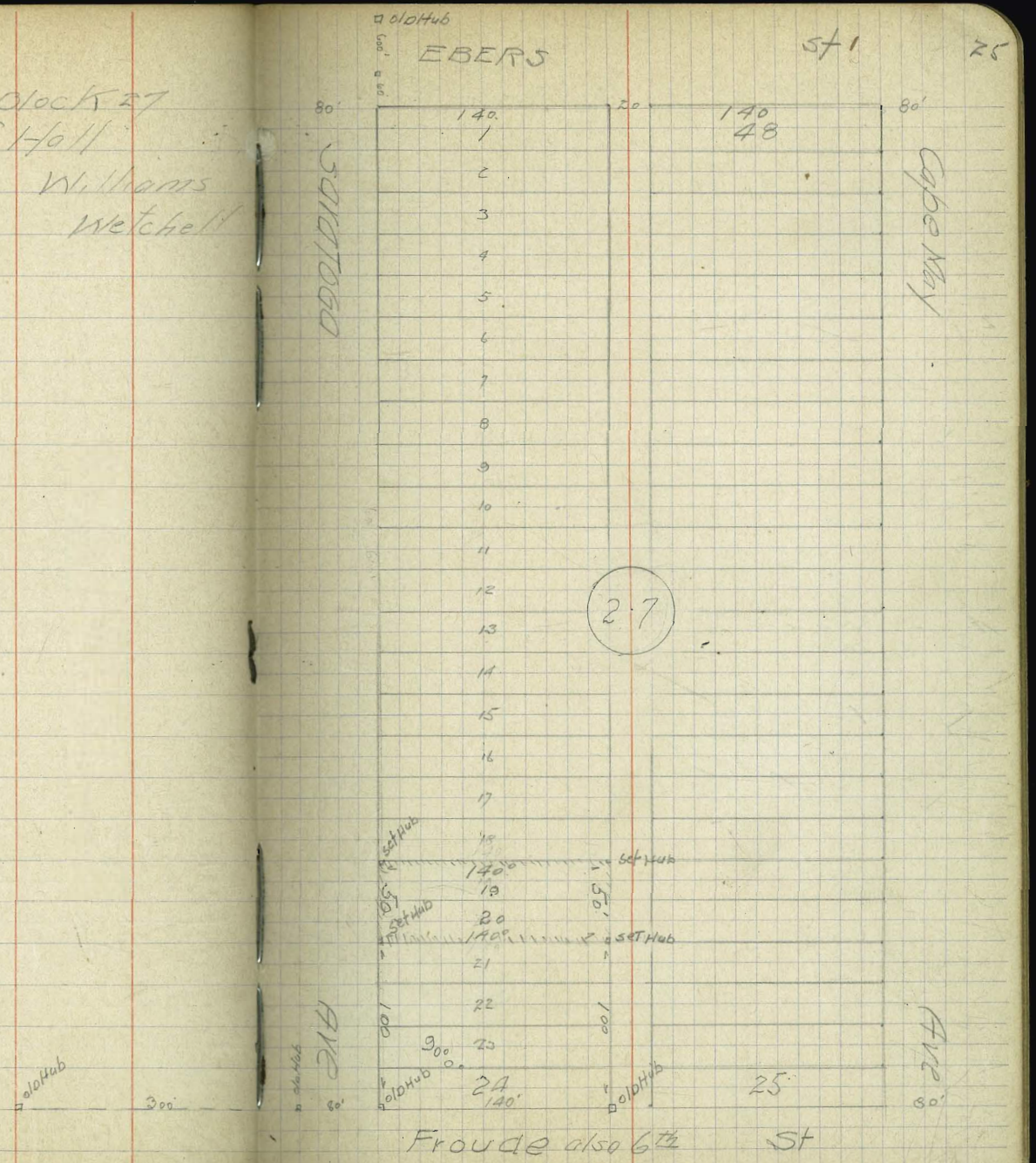
Williams
Wetchell



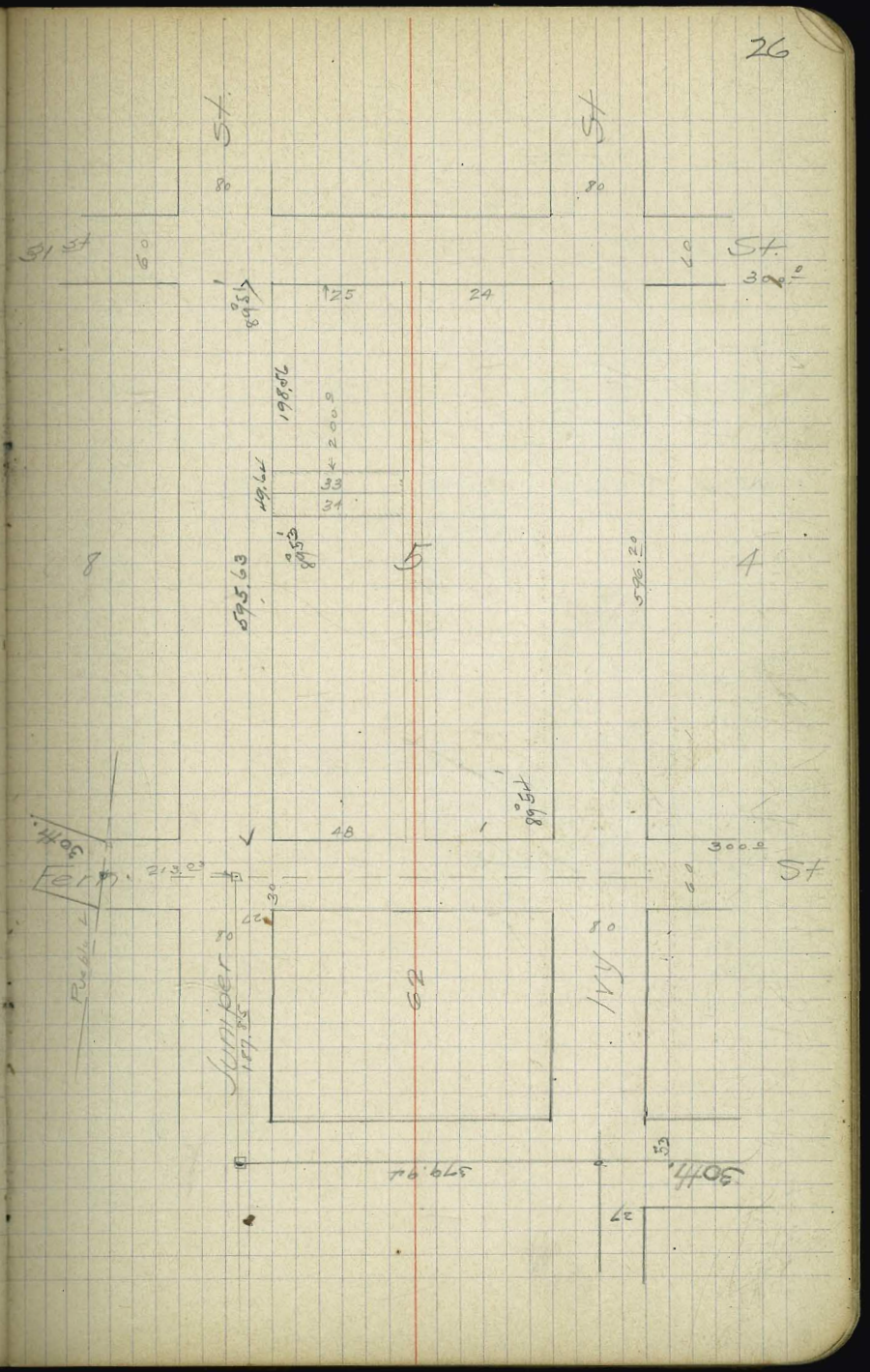
5/20/12

Survey of Lots 19-20 Block 27
Ocean Beach for C.G. Hall

Williams
Wetchell



Survey of Lots 33 & 34 Blk 5
Watkins & Biddles Addn.
Chas Moore.



6/5/14

King
King
Collins

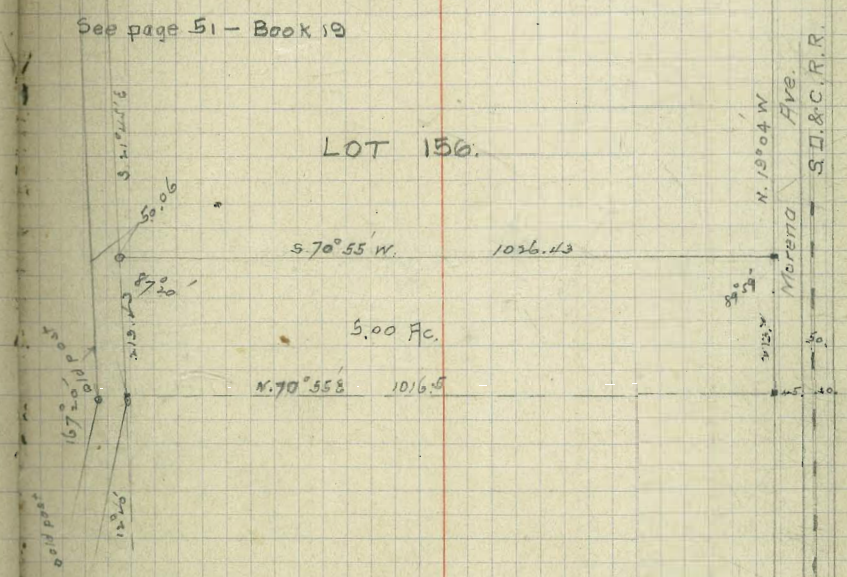
S. 5 ac. of Lot 156
El Cajon Valley Crs. Lands.

		N	S	E	W.
N. 19°04' W.	213.2	201.50			69.65
S. 70°55' W.	1026.43		335.57		970.00
S. 21°45' E.	213.43		198.20	79.08	
N. 70°55' E.	1016.50	332.32		960.64	
		533.82	533.77	1039.72	1039.65

1016.5
1026.43
2042.93
1021.46
213.2
2042.92
306438
102146
204292
217775.272

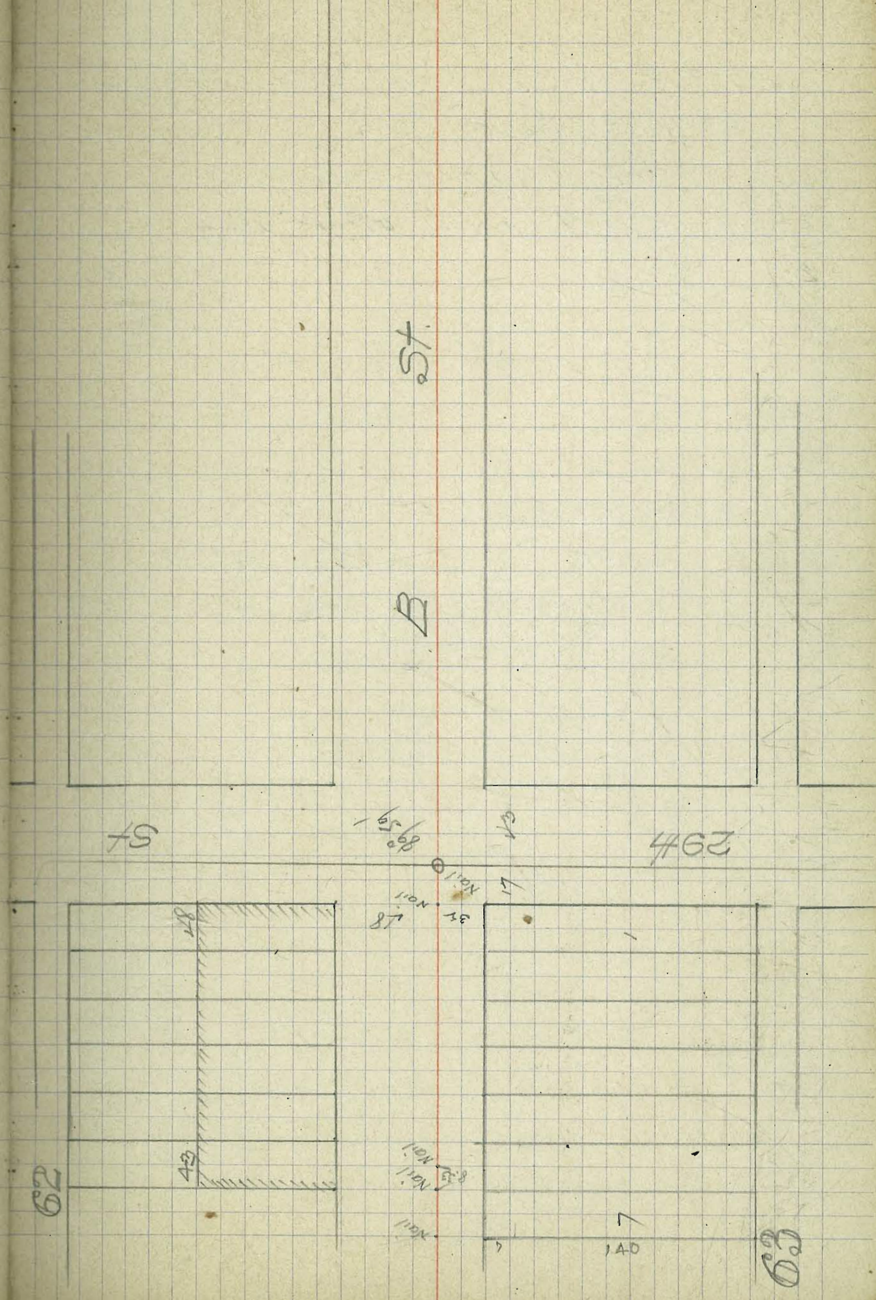
92 40
70 55
21 45

See page 51 – Book 19



6/6/15

S½ Lots 43-48 inc. Blk 62
All of " 1-7 " " 63
E. N. Morse Add

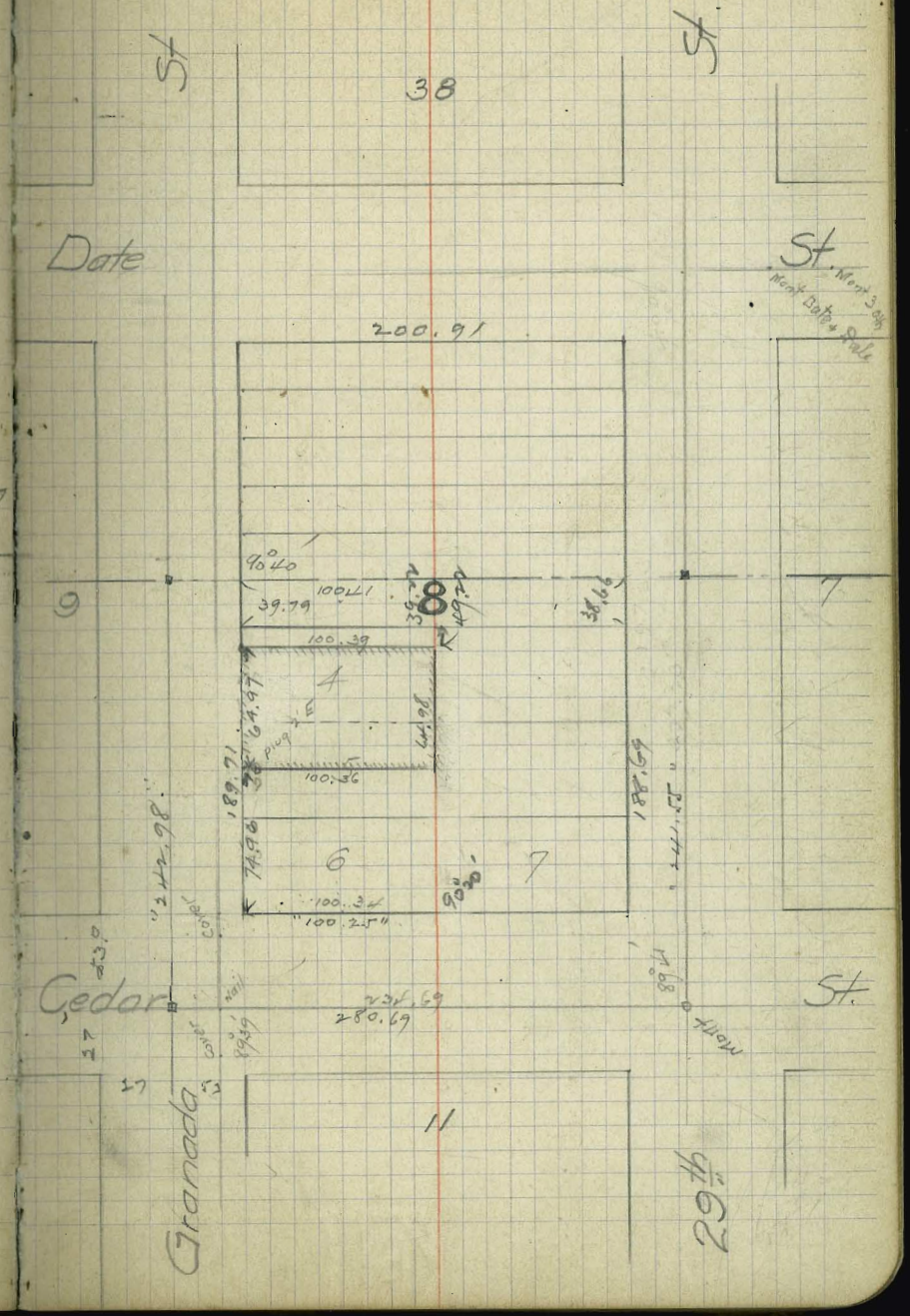


6/7/12

540 ft. of Lot 4 & N. 25 ft. of Lot 5
Blk. 8 South Park
For Ralph Conklin

7/24/15 N. 10 ft Lot 4 all of Lot 3.

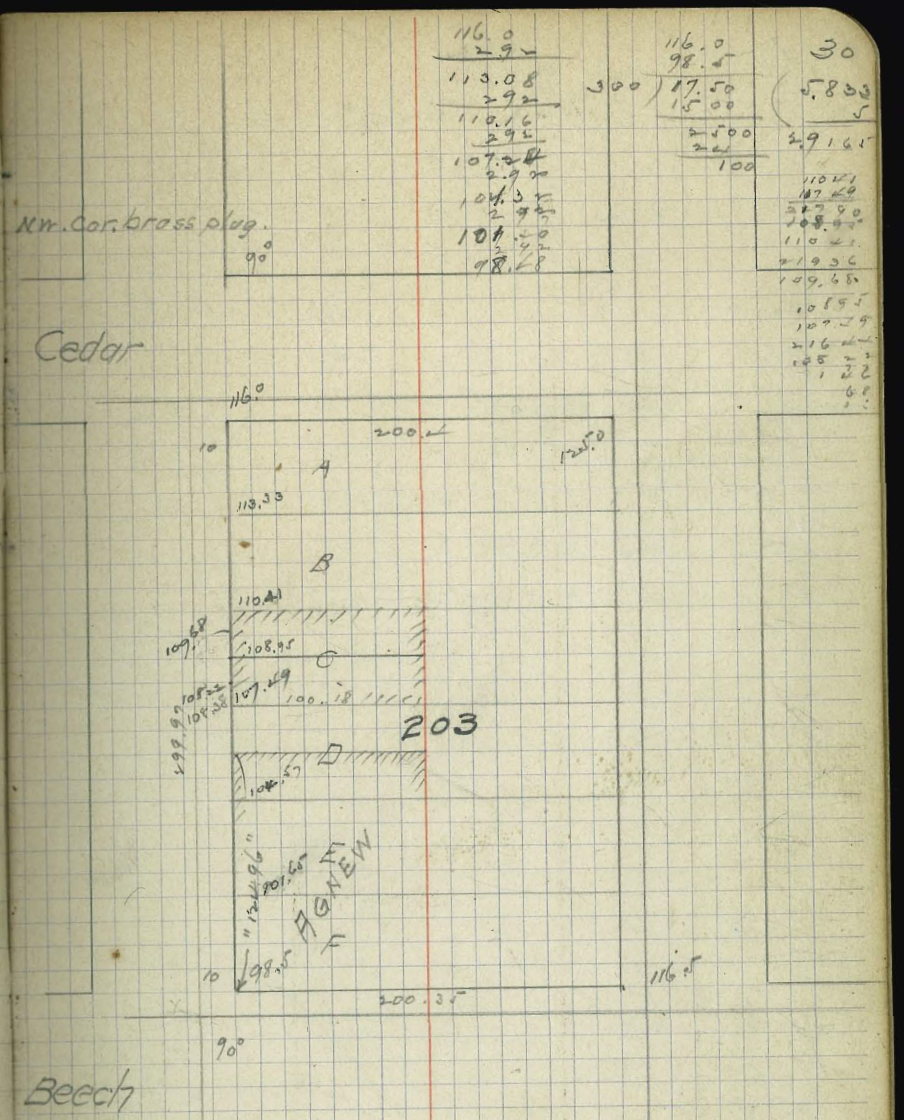
		N	S	E	W
South	297.03		297.03		
N. 89°41' W	200.70	1.11			200.70
N 0°02' W	296.21	295.80			.17
S. 89°56' E.	200.91		.03	200.91	
		296.91	297.46	200.91	200.87



1.57

Blk. 203 Lot C.
Horton's.

B. M.	12.85	110.87			98.02
Cut S. W. Cor.			3.79	107.08	
Plug N. W. Cor.			0.20	110.67	
			1.31	109.56	
			1.02	109.85 *	1.27
	6.47	114.85	2.49	108.38 *	
			2.75	112.10	+ 3.72
			2.95	111.90	+ 2.05



Road from Cheney Road to Quarry Road

(℄ P.O.T) N.78°17'E. 30.° from E.C. 111°17' L from F.S

N.78°17'E

0	111°17' L	N.33° W	
0 + 21.46			
1 + 83.46	58°30' L	S.88°30' W	T.40.°
3 + 07.46	65°30' L	S.23° W	T.40.°
4 + 87.46	71° R	N 86° W	T.70.°
7 + 52.46	58° R.	N.28° W.	T.50.°
9 + 69.46	55°30' R	N 27°30' E	T.70.°
12 + 39.46	48°09 L	N.20°39' W.	T.45.37
13 + 30.20			

		N	S	E	W
N.78°16 E	60	12.20		58.75	
N.33° W	183.5	153.9			99.94
S.88°30' W	124.0		3.25		123.96
S.23° W	180.°				
N.86° W	265.0				
N.28° W	217.°				
N 27°30' E.	270.°				
N 20°39' W.	90.7				

T.30.° } 226.0 P.I. to Δ
Δ 20°14'

N.33 W
58 30 L
9130
D 88 30 W
6530
S 23 W
71 R
94
N 86 W
58 R
N 28 W
5530
N 27 30 E
48 09 L
N 20 39 W

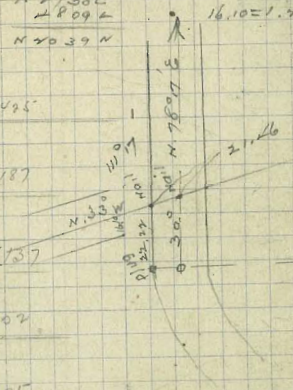
111°17' L
78 17
3300

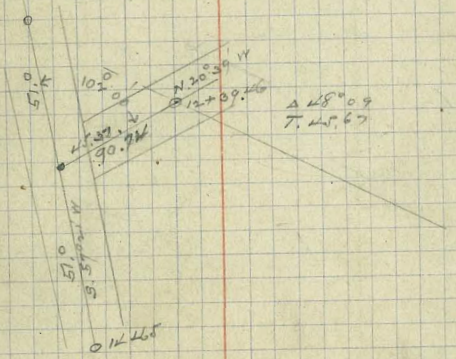
20 = 1.301030
cos 21°17 9.969321
21.46 = 1.331709

15 = 1.176091
9.969321
16.10 = 1.206990

Intersect N. Line Cheney Road.

Δ 58°30	cot 29°15	0.2517911	
℄T = 40		1.6020600	
℄R = 71.43		1.8538511	71.425
Δ = 65°30	32°45'	0.1916394	
℄T = 40.°		1.6020600	
℄R = 62.19		1.7936994	62.187
Δ = 71°	35°30'	0.1467320	
℄T = 70.		1.8450980	
℄R = 98.14		1.9918300	98.137
Δ 58°	29°	0.2562480	
℄T = 50		1.6989700	
℄R = 90.2		1.9552180	90.202
Δ = 55°30'	27°45	0.2789107	
℄T = 70		1.8450980	
℄R = 133.05		2.1240087	133.05

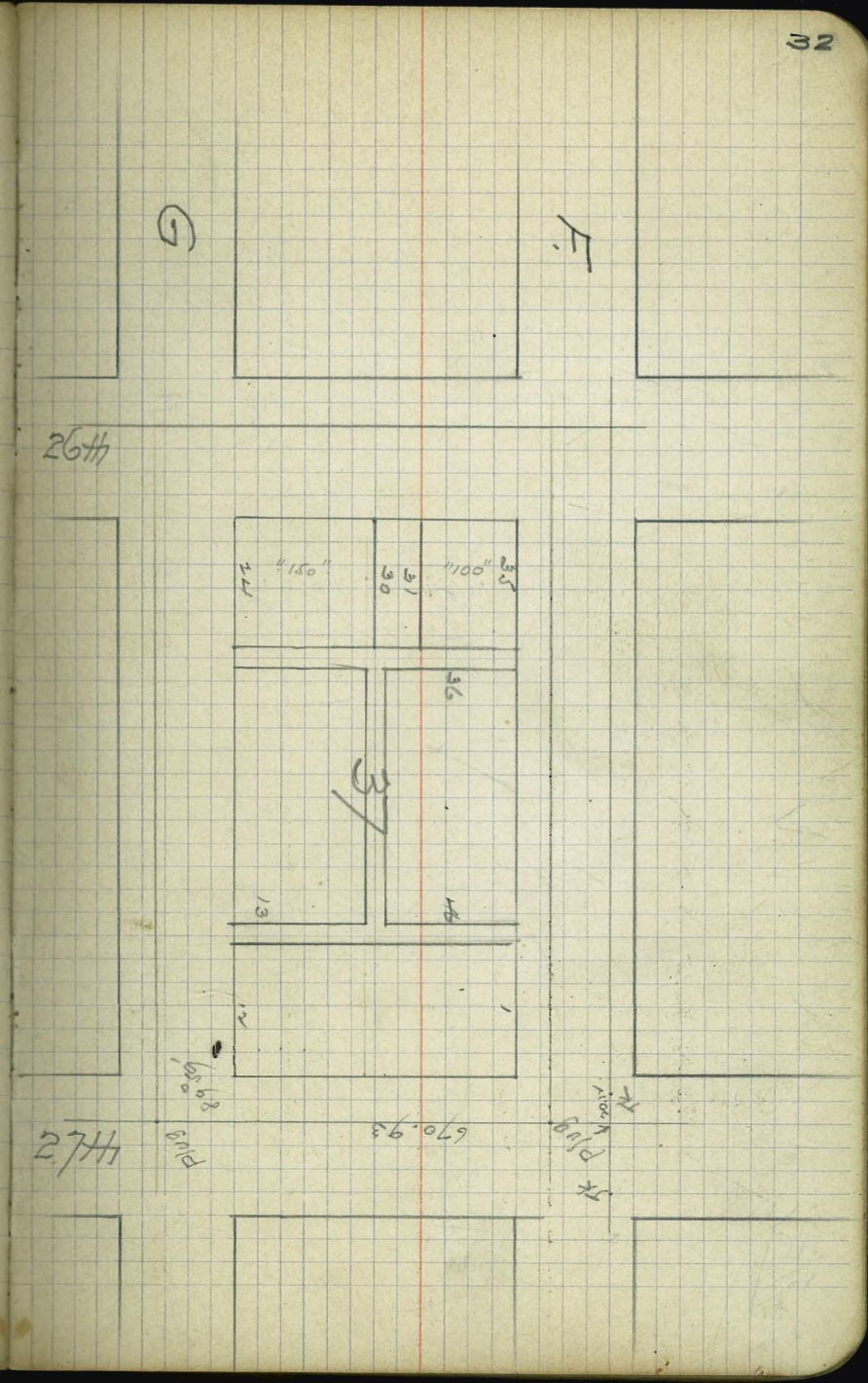




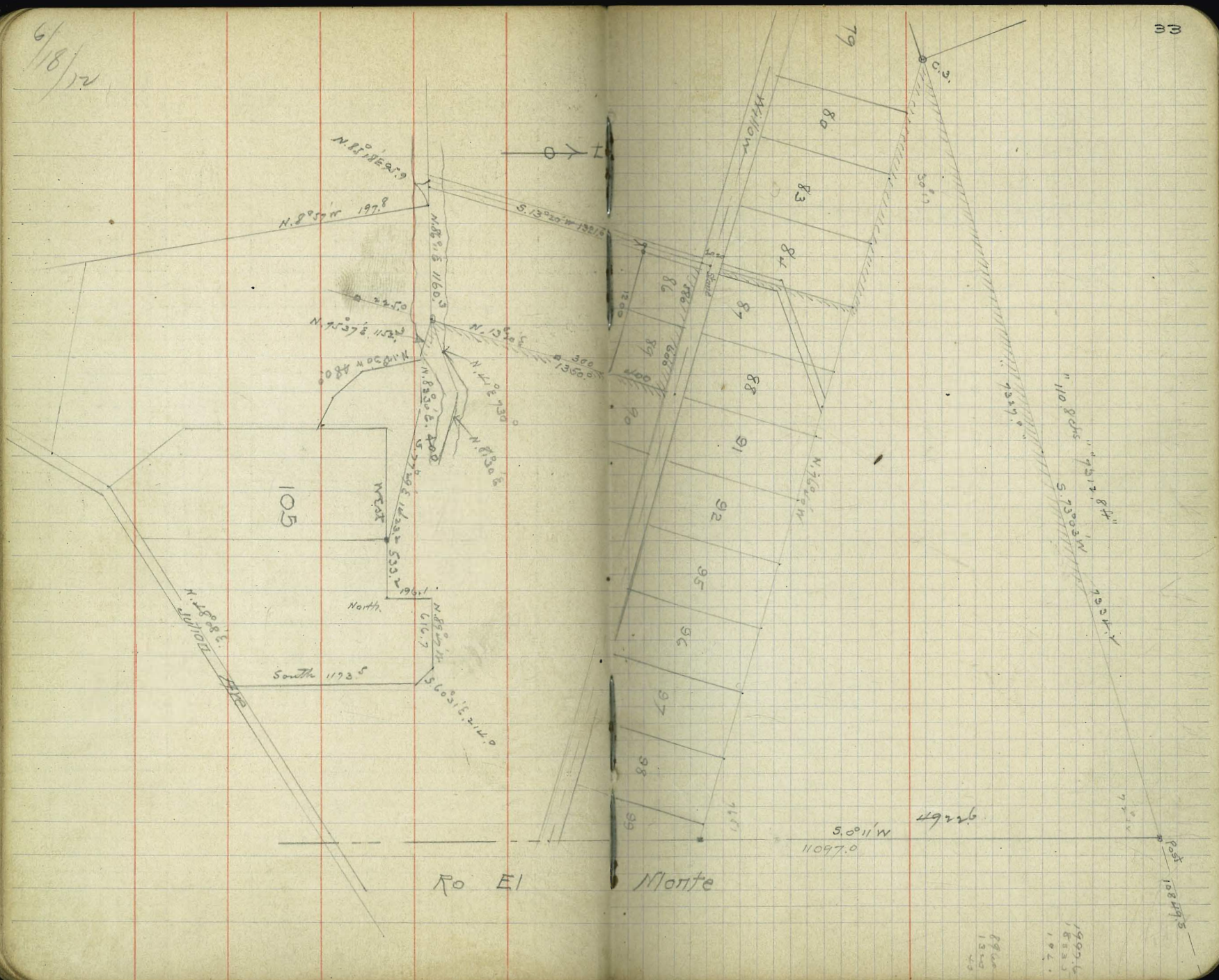
Δ = 48°09	24°04'30"	0.3498887	
℄T = 45.37		1.6567688	
℄R = 101.55		2.0066575	101.55

6/12

Lot 30-31 Blk 37
Parrish + Loomis



6/18/12

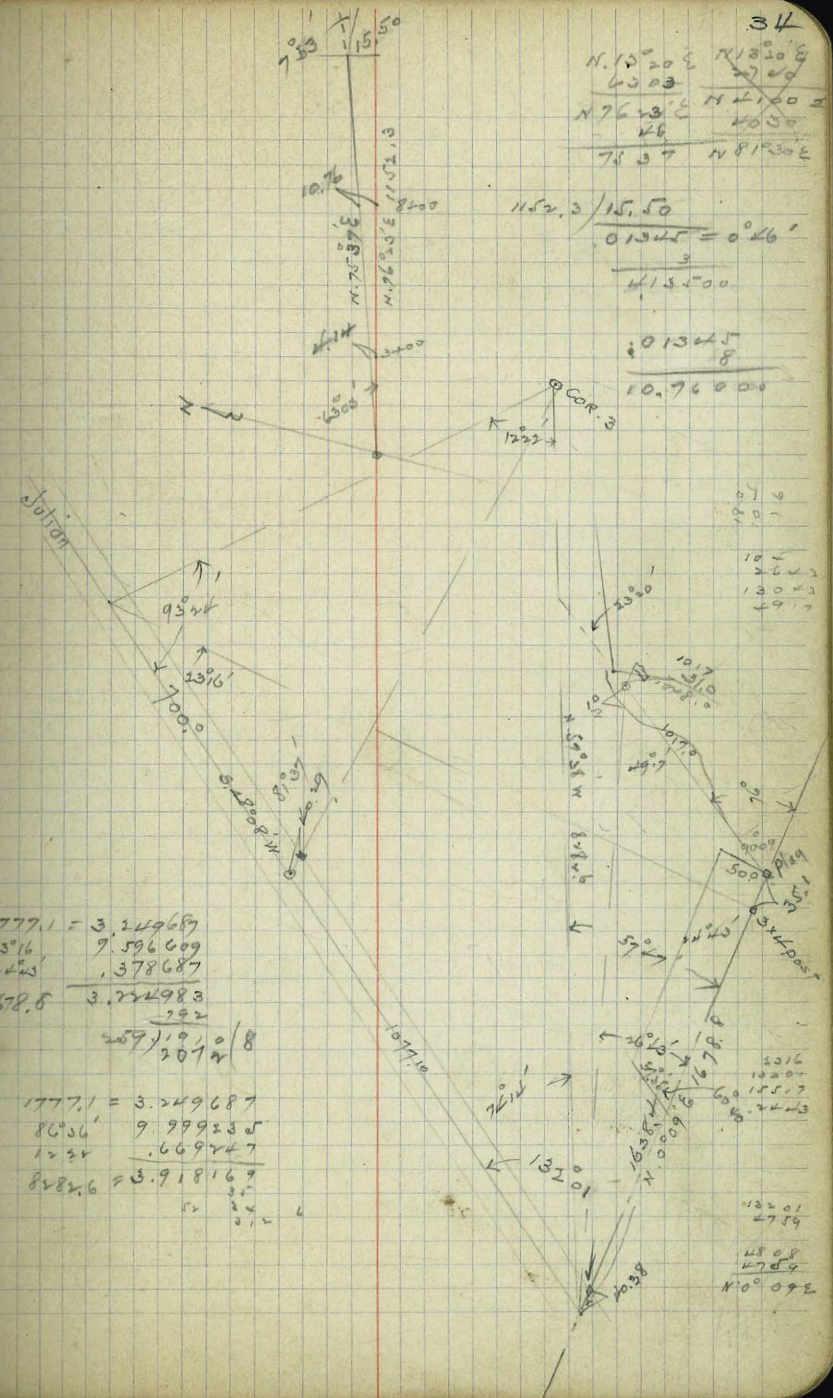


N.85°18'E 95.9
N.8°57'W 197.8
S.13°20'W 1321.6
N.86°11'E 1160.3
225.0
N.75°37'E 1152.3
N.13°30'E
300
1350.0
N.41°E 730.0
N.81°30'E
N.83°30'E 400
S.77°29'E 1423.2
533.2
196.1
West
North
South 1173.5
616.7
N.89°47'W
S.60°31'E 214.0
N.48°08'E
Julian
105
Ro El Monte
S.0°11'W
11097.0
49226
Post
108495
Willow
C.3.
79
80
83
84
86
87
88
89
90
91
92
95
96
97
98
99
1200
1600
400
30°
7327.0
"110.8 chs" 7312.8 ft"
S.73°03'W
7334.2

6/19/14

Traverse up Centre of S. D. River
Beginning at S. E. Cor. of area
tract: Bearing N. 13°20' E
B. S. S. 13°20' W
63°03' R N. 76°33' E. on random for cor.

	3.249687
74°14	9.983345
12 22	.669247
7985.0	3.902279



1777.1 =	3.249687
23°16'	9.596609
24°43'	.378687
1678.8	3.224983
	792
	259)1910(8
	2072

1777.1 =	3.249687
86°36'	9.999235
12 22	.669247
8282.6 =	3.918169

N. 13°20' E
6303
N 76°33' E
46
7537

N 13°20' E
2740
N 4100 E
4030
N 81°30' E

1152.3 / 15.50
.01345 = 0°46'
3
413500

.01345
8
10.76000

N 0° 09' E

Apportion of the Elcayon Valley Crs Lands

		N	S	E	W
N. 0°09' E.	1186.0	1186.0		3.1	
	1212.1	1212.1		3.2	
N. 60°31' W	160.3	78.9			139.5
N. 89°44' W	616.7	2.3			616.7
South	194.1		194.1		
West	533.2				533.2
N. 77°29' W	1423.2	308.4			1389.4
S. 83°30' W	400.		45.3		397.4
S. 75°37' W	1152.3		286.2		1116.2
N 13°20' E.	1390.0	1352.5		320.6	
N 76°40' W	1180.0	272.1			1148.2
N. 13°20' E.	593.9	577.9		137.0	
N 46°59' W	23.0	15.7			16.8
N 13°20' E.	604.6	587.8		139.4	
N 76°40' W	2256.1	520.3			2195.3
N 73°03' E.	7338.2	2139.4		7019.4	
S. 0°09' W.	4857.5		4857.5		12.7
N 89°51' W	50.0	0.1			50.0
S. 0°09' W	471.9		471.9		1.2
		5855.1	5855.0	7616.4	7616.6

		466663	
5	13771.5	1,086,571.4	
6	13015.3	29935.2	
7 8	12398.6		2,406,568.3
8	11865.4		
9	9942.8	3,066,359.5	
10	8156.0		3,69466.8
11	6642.4		1901054.9
12	5846.8	7,907797.0	
13	5019.0	1,365669.9	
14	4007.6	2,315992.0	
15	4127.8	64806.5	
16	4250.4	1498385.1	
17	2195.3	1142214.6	
1	7019.4	15,017,304.4	
2	14026.1		68,131,780.8
3	13963.4	1396.3	
4	13912.2		6565167.2
		34496431.9	79374038.0
			34496432.
			44877606.
			22438803
			217800
			65880
			43560
			223203
			217800
			54030
			43560

515,101

47000
43560

△

173
53

8° 43° 225 = 651.55

Triangulation.

8° 43' 15"
34° 53' 30"
8° 43' 30"

Oct 21, 1912

Time	Hor. Ang.	Vert. Ang.	
3-23-0	12° 55' 30" L	20° 06'	
3-25-0	12° 36' 00" L	19° 46'	Lasolla East
3-27-0	12° 15' 00" L	19° 43'	Bound + V
3-24	12° 46' L	19° 56	= 574° 36" W

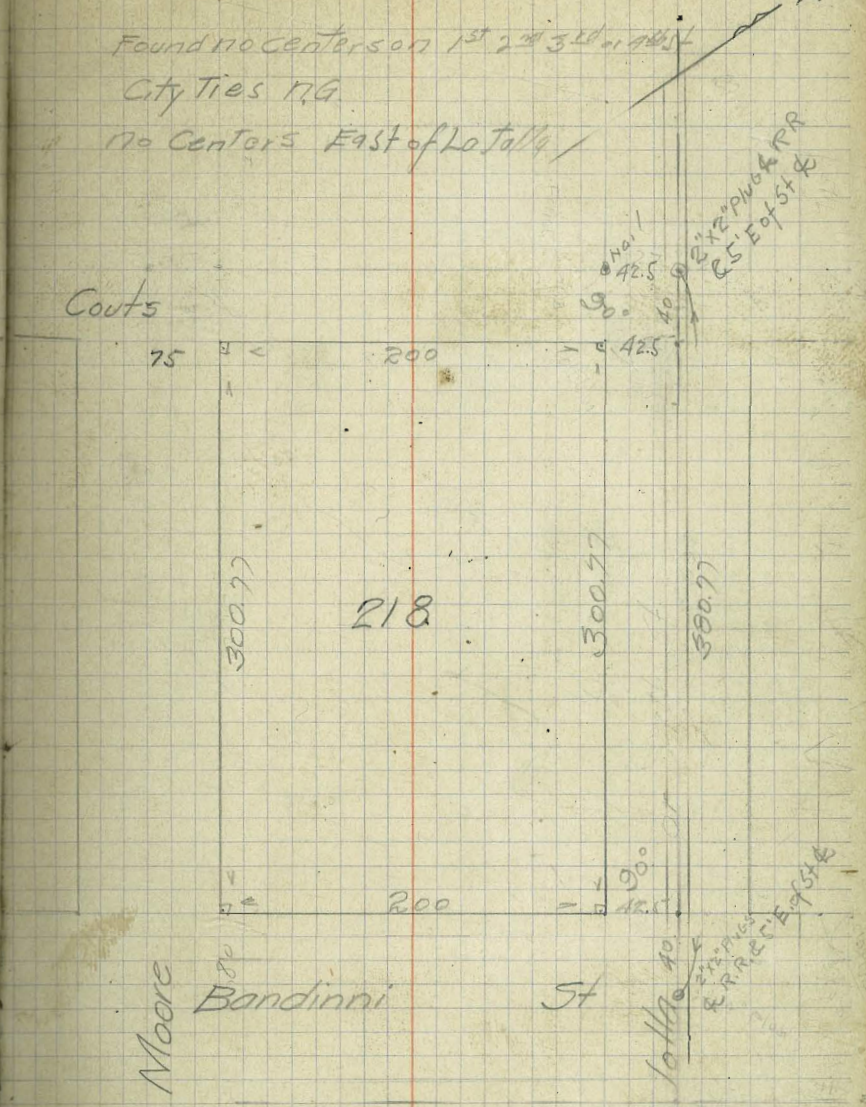
6/25/12

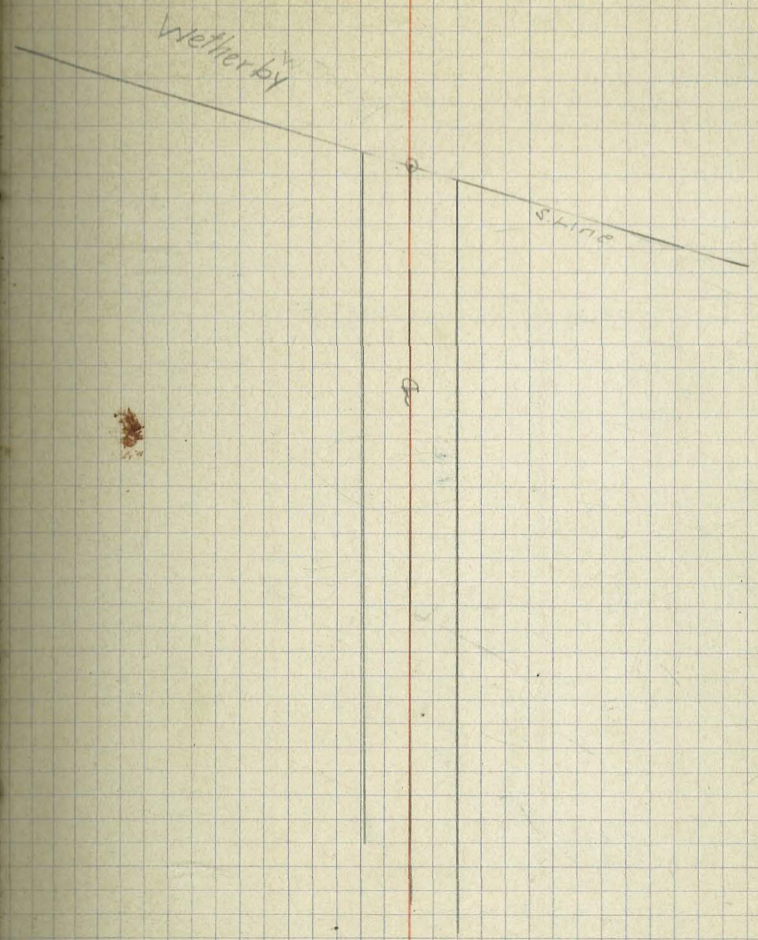
Survey of Block 218
Middletown

Williams
McCallum
Strode

On Hancock St. Ctrs. 380 bet. Coutts.
Bandini
On Kurtz St. Ctrs Kurtz 75'

Found no centers on 1st 2nd 3rd and 4th St
City Ties N.G.
no Centers East of La Talla




Wetherby
Shine
g

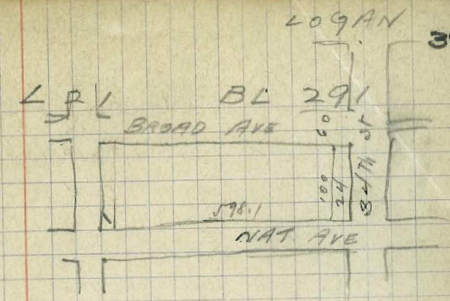
GREENE TRANSIT

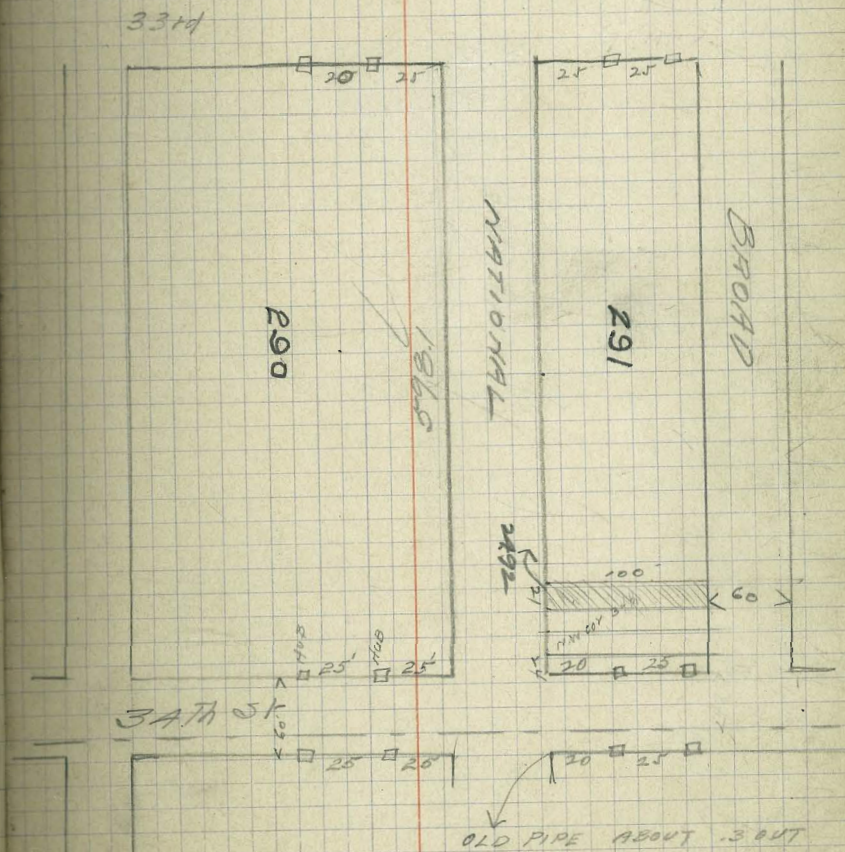
JULY 3rd PAUL LABINSKY owner

Blk 291 Lot 21

Seaman & Choate Add.

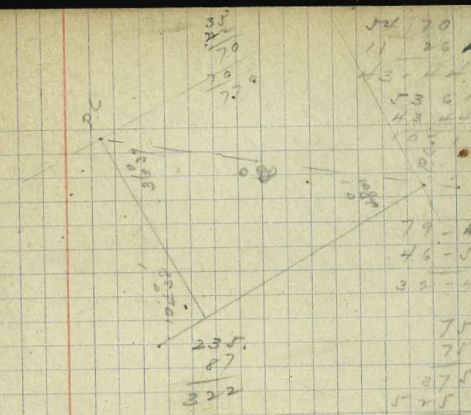
24.92
5
74.76
60
134.76





JULY 5

	NEEDLE		Stadia		
	N60-30E		.80	6°	
	N66-30E	185-42	1.47	6°	
	N60-10 E	173-38	1.17	"	
	N64- E	184-05	1.48		
	N61-20E	177-25	1.27		
	N66-30E	184-57	1.28		
	N60-E	173-24	0.47		
	N61-40E	181-40	0.75		
		"			
B.S 19+94.4					
21+49	S11-50E	228-01	80.0 chord		
P.T. #1		146-37	15.0		
"		"	25.0		
"	S68-20W	236-37	87.0		
21+49		122-53	15.0		
		"	25.0		
P.O.T. #2	S68-20W	00	99.81	100	3° 30
			100		
			35.19		
2+35.0		90°	15		
			25		
		500	500		
5+00		90°	75.		



236-37
90
146-37

228-01
32
195-17

235
87
322

54 70
11 26
43-44
53 61
43 44
105 17

79-43
46-59
32-44

75
75
375
525
5621

77
047
21 | 727
63
97
84
130

Sta. 2 P.T. #1 Δ = 104° 38' R = 101.09
R.P.
"
HUB P.O.T. #2
R.P
RP

75
822

1.875061
2.914872
8.960189

HUB
"
R.P
R.P.

5-13
2.914872
9.998225
2.916647
825.94

fang. changed

87
99.81
100
35.19
500
822.00

JULY 8

	NEEDLE	L R	HDIST
B.S. 21+49			
P.T. #1	S63 W	231° 27'	825.94
3		90	15
"		"	25
"		00	100
4		00	74.06
5		00	76.29
6	S60° E	56° 46	76.29
7		00°	305.0
8		180°	15
8		"	20
8	N88 W	332° 12 ✓	460.0
9	N83° W	214° 55 ✓	201.0
9	S29-40E	57° 56	15.0
9	"	"	20.0
10	S50-30W	103° 10'	15
10			20
	N27° W	208° 49	154.0
		102° 12	20.0
	S79-30W	103° 36	

214 55
180 00
34 55

332 12 56-49 11 6

86
34
52

179 60
27 48
152° 12

110
60
104
60
230
564

201
133 23
67 77

Sta 3
R.P.
"
Sta 4
S P.C. 10+00
P.I. 6
P.T. #7
P.I. #8
R.P.
R.P.
P.I. 9
P.I. 10
R.P.
"
"
"
R.P.
Cor Lot 1

Δ = 152° 12
½Δ = 76° 06

24747
30
R = 742410

3.16
7.4
1264
2212
E = 23.384

134 04
Δ = 34.55
E = 20.
R = 414.17
17-27-30
S.T. = 133.23

180-00
103-36
76° 24

Δ = 25°-55
12-57-30
ST = 67.77

	F.S.	B.S.
		9.22
	0.90	10.25
	1.27	10.15
	(7.45)	
	4.55	11.83
C		
21+49	5.1	11.6 F0.7
	0.50	9.30 C.3.9
	4.90	
	0.06	12.80 C.1.80
	8.60	C0.16
	1.95	00

9.30
5.40
3.90

0.50
4.90
5.40

11.6
5.1
6.5

7.2
6.5
.7

180
0
133

B.M. 224.63

P.T. Sta. 2 227.53

50

50

50

to P.T. Sta. 2

Sta.	BS.	H.I.	F.S.	ELEV.
PT. no 2				227.53
			C2.9	
	10	237.53	1.6	235.93
			0.45	237.1
			C2.9	
	11.8	248.9	7.5	241.4
			C0.8	
			4.1	244.8
			0.4	248.5
	12.50	261.0		
			C1.5	
			10.0	251.0
			C2.5	
			3.5	257.5
			0.7	260.3
			C3.5	
	10.9	271.2	7.2	264.0
			C1.9	
			3.3	267.9
			0.1	271.1
			C2.5	
	11.6	282.7	8.7	274.0
			C0.3	
			5.4	277.3
			0.7	282.0
	11.9	293.9		
			12.5	281.4
			3.7	290.2
			0.7	293.2
	12.1	305.3	13.1	292.2
			8.5	296.8
			2.7	302.6
			0.9	304.4
	10.7	315.1		

1.1% grade

0+50 238

1+00 238.5

1+50 244.0

2+00 249.5

2+50 255.0

3+00 260.5

3+50 266

4+00 271.5

4+50 277

5+00 282.5

5+50 288

6+00 293.5

6+50 299

7+00 304.5

BM

10.80
2.50

	315.1	5.5	309.6	7+50 3.0
		0.3	314.8	
12.00	326.8	8.2	318.6	8+00 315.5
		6.9	319.9	HUB 8+25
		5.2	321.6	8+50 3.. ^ rade change here
		4.5	322.3	9+00 319.0
		6.9	319.9	HUB 9+25
		8.5	318.3	9+50 317.1
		11.65	315.15	
3.05	318.2	5.9	312.3	312 HUB 10+00
		7.3	310.9	10+40 308 M.C.
		9.4	308.8	304 HUB P.T. T.P.
2.50	311.3	6.1	305.2	299 0+50
		12.4	T.P. 298.9	
0.4	299.3	0.8	298.5	294 1+00
		8.2	291.1	289 1+50
		9.0	290.3	284 2+00
		12.7	T.P. 286.6	
9.05	295.65	12.2	283.45	279 2+50
		10.4	285.25	T.P. 279.8 P.C. ST V30
		4.4		HUB P.T.
		13.0	282.7	
0.8	286.05	7.5	278.55	P.T. center gulch
		4.3	281.75	0+50
		17.2	268.85	1+00

318.3
38
315.8
279.8
305
80

312.3
7.3
305.0
318.2
7.3
310.9
9.4
308.8
2.5
311.3

315.1
5.5
309.6
315.1
.3
314.8
~~315.1~~
326.8
8.2
318.6
326.8
6.9
319.9
326.8
5.2
321.6
326.8
4.5
322.3
326.8
8.5
318.3
326.80
11.65
315.15
3.05
318.20
5.9
312.3
286.6
9.05
295.65
12.20
283.45
291.45
4.25
295.70
13
282.7

19
321.6
318.3
3.3
321.6
310.9
10.7
5.63
1.9) 10.7
9.5
12.6
11.4
6.0
318.3
37
281.3
1.10
.55
321.0
2.8
318.2
321.0
3.3
317.7
312.3
285.2
27.1
321.0
17
319.3
80
275
355
321.0
.55
320.45
90
250
30
370
321
318.0
1.5
319.5

355

				181.43	tel. pole
10.1		0.4			
10.1		0.3			
6.6		0.6			
12.3		0.5			
11.6		0.8			
10.4		4.6			nail
61.1		7.2			
	286.05			268.85	
		12.8			
0.10		10.8			1+50
		12.4			
-0.1		6.7			2+00
		11.0			2+50
		10.8			3+00
		12.9			
0.7		5.2			3+50
		12.2			85' M.C
		12.8			50
0.60		7.2			100
		11.9			
		12.5 +p			
0.3		3.2			150
		6.7			50 MC
		7.0			0+50
		5.0			100
		2.5			1+50 S.L.

110
60
104
50
324

1175
1259
1175
.84

61.1
7.2
53.9
18

564

53.9
6.1
57.8

266.3
128
2536
124
2411
129
2282
7
223.7
12.2
211.5
126
2109

			221.7			
				2.25 tp.		
		10.34	22	5.2	227.6	nail
Profile Levels on New St.						
					BM 224.63	Nail in Hub 50 SW. So load Blk 70
	4.88	226.51				
			12.75	213.76		
	2.31	216.07				
19+20 ℄			12.6	203.5		
19+20 15' N			11.0	205.1	203.5	C = 1.6
19+50 ℄			8.2	207.9	208.5	F 0.6
19+50 15' N			7.1	209.0	208.5	C. 0.5
20+00 ℄			0.0	216.1	216.1	
T.P			2.31	213.76		
	12.85	226.61				
20+00 15' N			9.5	217.1	216.4	C 0.7
20+50 ℄			2.0	224.6	224.3	
20+50 15' N			3.0	223.6	224.3	F. 0.7
T.P.			1.97	224.64		
	12.72	237.36				
20+75 ℄			9.4	228.0	228.3	
20+75 15' N			9.1	228.3	228.3	Gr
21 — ℄			4.6	232.8	232.10	
21 — 15' E			6.2	231.2	232.10	F 0.9
21+25 ℄			0.7	236.7	236.1	
21+25 15' E			2.7	234.7	236.1	F. 1.4

Profile Levels on New St. Sol. pad Continued

		237.36				
T.P.			0.40	236.96		
	11.14	248.10				
21+50 ℄			8.1	240.0	240	
21+50 15'E			6.3	241.8	240	C = 1.8
21+64 = 0+00 ℄			8.8	239.3	242	
21+64 15'E			5.0	243.1	242	C = 1.1
0+50 ℄			2.3	245.8	247.2	
0+50 15'E	T.P.		0.16	247.94	247.2	C = 0.7
	12.60	260.54				
1+00 ℄			8.30	252.2	252.4	
1+00 15'E			5.30	255.2	252.4	C = 2.8
1+50 ℄			4.6	255.9	257.6	
1+50 15'E			1.1	259.4	257.6	C = 1.8
T.P.			0.02	260.52		
	12.41	272.93				
2+00 ℄			10.7	262.2	262.8	
2 – 15'E			5.5	267.4	262.8	C = 4.6
2+50 ℄			4.3	268.6	268.0	
2+50 15'E			0.02	272.91	268	C = 4.9
	11.13	284.04				
3+00 ℄			10.6	273.4	273.2	
3+00 15'E			5.7	278.3	273.2	C = 5.1
3+50 ℄			5.6	278.4	278.4	
3+50 15'E			0.7	283.3	278.4	C 4.9
4+00 ℄ T.P.			0.01	284.03	283.6	

Δ = 48°02 cot 24°01 0.3510770
T = 40 1.6020600
R = 89.77 1.9531370
89.771

Δ = 51°27 cot 25°43 30
T = 40.° 0.3171287
R = 83.02 1.6020600
1.9191887
83.021

13+75.7
8+76.4
4.99.3

N 64°16' E
56 46
121 02
S 58 58 E

Profile Levels on New Street Solroad Produced

				284.03		
	12.50	296.53				
4+00 15' E			8.0	288.5	283.6	C = 4.9
4+50 ℄			8.6	287.9	288.8	
4+50 15' E			2.6	293.9	288.8	C = 5.1
5- ℄			2.4	294.1	294.	
T.P.			0.27	296.26		
	12.67	308.93				
5- 15' E			8.2	300.7	294	C = 6.7
5+50 ℄			8.2	300.7	299.2	
5+50 15' E			4.0	304.9	299.2	C = 5.6
6- ℄			6.1	302.8	304.4	
6+50 ℄			1.4	307.5	309.6	
T.P.			0.06	308.87		
	12.75	321.62				
6+00 15' E			12.0	309.6	304.4	C = 5.2
6+50 15' E			8.2	313.4	309.6	C = 3.8
7- ℄			8.3	313.3	314.8	
7- 15' E			1.7	319.9	314.8	C = 5.1
7+50 ℄			1.6	320.0	320.00	
T.P.			0.45	321.17		
	12.09	333.26				
7+50 15' E			7.30	326.0	320	C = 6.0
8+00 ℄			4.40	328.9	325.2	B.C. Vertical
8+00 15' E			0.40	332.9	325.2	C 7.7 8+20
1+50 ℄	T.P. 4.56	336.54	1.28	331.98		

Profile Levels on New St. Sol. Road Produced

		336.54			
8+50 15'E			0.60 above H.I.	337.10	
9+00 ℄			3.9	332.6	
9+00 15'E			0.3	336.7	
9+50 ℄			8.1	328.4	
9+50 15'E			3.9	332.6	
10+00 ℄	P.C		13.6	322.9	X
10+00 15'E			10.0	326.5	322.7
T.P.			3.01	333.50	✓
	0.01	333.54			
10+22.17 ℄			11.6	322.0	
10+22.17 15'E			9.4	324.1	320.6
10+44.34 ℄			13.2	320.3	
10+44.34 15'N			9.6	323.9	318.6
10+66.51 ℄			14.8	318.7	
10+66.51 15'N			10.6	322.9	316.6
10+88.68 ℄ P.T	Grade to be 1' below ℄ from here		14.4	319.1	
10+88.68 15'N			9.4	324.1	314.6
11+00 ℄			14.3	319.2	
11+00 15'N			8.9	324.6	313.6
T.P.			12.65	320.89	
	1.00	321.89			
11+50 ℄			7.5	314.4	
11+50 15'N			0.1	321.8	308.05
12+00 ℄			14.4	307.5	
12+00 15'N			7.0	314.9	309.8
T.P.			12.60	309.29	

180 − 1
157 − 12
27 48

123°14

150°00
123 14
56°46

10+88.68

P.I. 13+93.68

123°14

76.3

P.C.
10+00
Δ = 123°14
T = 76.3
R = 41.23
C = 72.63
L = 88.68

10758.68
305
10+93.68

123-14
61°37
61.616

100.00
88.68
11.32

61°37

C = 3.8

SET O.M. Hub East of 10+00 P.C

9.732653
2.882525
11.615178
1.789651
9.241877
11.646706

44.34
4 | 88.68
22.17

C = 3.5

15°25
30 50
46 15
61 40

C = 5.3

C = 6.3

13+93.68
80.00
13+13.68
26.30
13+39.98
26.30
13+66.28

15°25 def
4 | 61°37

152°12
76°06

C = 9.5

C = 11.0

27.45

152°12' = 152.2 Rad
76°06
38°03

2.182415
11.296621
8.241877
1.220913
52.59

P.T. = 13+66.28

Δ = 152°12
T = 80.
R = 19.8
L = 52.6

BC = 13+13.68
52.6
26.3

9.893531 cos
1.403090
11.296621
19.8

C = 13.3

C = 12.1

Profile Levels on Nerr St Sol. dad Produced

				309.29	
	1.53	310.82			
12+50 15'N			4.1	306.7	297.4
12+50 ℄			10.4	300.4	
13+00 ℄			11.3	299.5	
13+00 15'N			3.1	307.7	292.1
13+13.68 15'N P.C.			4.4	306.4	290.7
13+13.68 ℄ P.C.			15.4	295.4	
T.P.			12.47	298.35	
	1.96	300.31			
13+39.98 ℄			17.3	283.0	
			18.0	282.3	
13+66.28 ℄	P.T.		11.2	289.1	
13+66.28 15'S	P.T.		3.5	296.8	285.
14+00 15'S			11.4	288.9	281.4
14+00 ℄			18.9	281.4	
			12.93	287.38	
	0.17	287.55			
14+50 15'S			6.0	281.6	275.1
14+50 ℄			15.9	271.7	
15+00 15'S			15.8	271.8	268.8
T.P.			13.07	274.53	
	0.27	274.80			
15+00 ℄			11.3	263.5	
T.P.			12.43	262.37	
	1.49	263.86			

208.49
180.00
28°49

19+42.30
57.70
20+00.00

C = 9.3

1942.3
154.0
2096.3

C = 15.6

C = 15.7 565°40' W
14 45
80°35

Δ = 28°49 cot 14°24'30"
50.0 0.5902166
1.6988700
2.2890866

R = 194.63

C = 11.8

C = 7.5

C = 6.5

C = 3.0

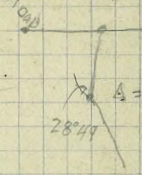
100.00
66.28
33.72
16.86
1.276858
2.405691
8.821167 = 3°48'

50.
25. = 1.397940
2.405691
8.992249 = 5°38'

S 74°25' W

33.72 = 3°48
50 = 5°38
9°26
18°.04
20°.42

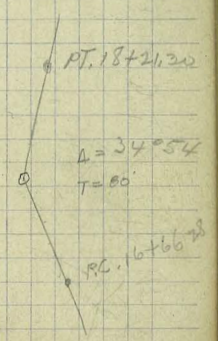
Cor. 80.0 ft



Δ = 34°54 17°27 0.502601
T = 80 1.903990
R = 254.5 2.405591
L = 155.02 R 254.5

2.405691
1.542825
8.241877
1.190393 = 155.02
82
61

16+66.28
155.02
18+21.30



233.44
241.51
8.07

Profile Levels on New Road Solidad Prolonged

15+50 ℄		263.86	5.0	258.9		
15+50 15'N			-2.1	261.8	262.5	F 0.7
16+00 ℄			6.5	257.4		
16+00 15'N			1.1	262.8	256.3	C= 6.5
16+50 ℄			7.7	256.2		
16+50 15'N			1.6	262.3	250.00	C= 12.3
16+66.28 15'N P.C			5.3	258.6	248.00	C=10.6
16+66.28 ℄ P.C.			13.4	250.5		
T.P.			12.89	250.97		
	0.51	251.48				
17+00 ℄			7.7	243.8		
17+00 15'N			2.4	249.1	243.8	C=5.5
17+50 15'N			6.1	245.4	239.9	C= 5.5
17+50 ℄ T.P.			12.67	238.81		
	-.13	238.68				
18+00 ℄			3.6	235.1		8.14
18+50 ℄			6.6	232.1		
19+00 ℄			10.2	228.5		
△ 19+42.3 ℄			13.3	225.4		Straight Grade to Solidad
			5.24	233.44		Set. B M on 2mo Reference Hub S. of 19+42.3 △ ℄
17+50 ℄ T.P.	2.70	241.51		238.81		C= 4.3
19+42.3 15'S			11.8	229.7	225.4	
18+00 15'N			3.8	237.7	236.10	C= 1.6
18+50 15'N			9.0	232.5	232.30	C= 0.2
19- 15'N			13.6	227.9	228.5	F= 0.6
20- 15'S			10.7	230.8	226.6	C= 4.2
T.P.			12.54	228.97		
	3.80	232.77				

Profile Levels on New Road Solidad Prolonged

		237.77				
20 ~ ℄			6.2	226.6		
20+50 ℄			5.3	227.5		
20+50 15' S			4.9	227.9	227.[illegible]	C = 0.3
20+96.3 ℄			2.3	228.5		
20+96.3 5' S			4.4	228.4	228.[illegible]	F = 0.2
5+02 Solidad	5+00 ~ E.C Vertical Curve		3.9	228.9	228.6	C = 0.3
4+45			5.7	227.1	227.9	F = 0.8
3+90			7.8	225.0	226.4	F = 1.4
3+35			10.9	221.9	224.15	F = 2.25
2+80			13.5	219.3	221.10	F = 1.80
			6.55	226.22	226.66	

Vertical Curve on Hill Solidad Prolonged

	8.5	347.03			333.53	
9+60 15' E			10.9	331.1	326.3	C = 4.8
9+20 15' E			6.7	335.3	328.9	C = 6.4
8+80 15' E			5.4	336.6	329.6	C = 7.0
8+40 15' E			6.0	336.0	328.3	C = 7.7
8+00 15' E			9.8	332.2	325.2	C = 7.0

8+00 = 325.2
8+40 = 328.3
8+80 = 329.6
9+20 = 328.9
9+60 = 326.3

Profile Levels on Exchange Place 20' Road

	11.80	238.46			226.66	
0+00 ℄			14.1	224.4		
0+00 5' S Prop			15.6	222.9	224.4	F 1.5
0+50 ℄			5.2	233.3		
0+50 5' S Prop			8.5	230.0	232.1	F = 2.1
T.P.			0.11	238.35		

Profile Levels on Exchange Place

	12.73	251.08	238.35		
1+00 5'S Prop			10.5	240.6	239.6
1+00 ℄			6.9	244.2	
1+50 5'S Prop			0.4	250.7	247.3
T.P			0.10	250.98	
	13.25	264.23			
1+50 ℄			11.4	252.8	
2+00 ℄			6.2	258.0	
2+00 5'S Prop.			8.5	255.7	257.9
T.P.			0.27	263.96	
	12.80	276.76			
2+50 ℄			11.6	265.2	
2+50 5'S Prop			12.0	264.8	262.6
3- ℄			7.5	269.3	
3- 5'S Prop			6.1	270.7	270.2
T.P.			0.14	276.62	
	12.39	289.01			
3+50 5'S Prop			11.2	277.8	277.7
3+50 ℄			13.0	276.0	
4+02.3 ℄			4.2	284.8	
4+02.3 5'S Prop			3.2	285.8	285.7
4+02.3 Prop S.			3.95	285.06	285.00

F = 1.0

C = 3.4

C = 0.8

C = 2.2

C = 0.5

C = 0.1

C = 0.1

Old plug S.E. Cor Exchange + Prop.

7/27/12

Levels on St Dividing Blk 70 Lafollo

Williams
MacCallum
McGuire

					224.63	
	4.59	229.22				
℄ 0+00 = 20+00	Solidat		12.4	216.8		
0+30 ℄			16.1	213.1		
0+30 15' E			13.8	215.4	213.2	C=2.2
0+55 ℄			16.4	212.8		
0+55 15' E			13.3	215.9	213.5	C=2.4
1+00 ℄			12.6	216.6		
1+00 15' E			9.6	219.6	214.0	C=5.6
1+50 ℄			14.7	214.5		
1+50 15' E			10.0	219.2	214.6	C=4.6
2+00 ℄			13.8	215.4		
2+00 15' E			10.4	218.8	215.2	C=3.6
2+50 ℄			13.4	215.8		
2+50 15' E			10.6	218.6	215.8	C=2.8
3+00 ℄			11.9	217.3		
3+00 15' E			8.2	221.0	216.3	C=4.7
3+25 ℄			12.6	216.6		
3+25 15' E			9.7	219.5	216.6	C=2.9
3+50 ℄			11.7	217.5		
3+50 15' E			8.6	220.6	218.9	C=1.7
4+00 ℄ T.P.			4.70	224.52		
4+00 ℄	13.03	237.55				
4+00 15' E			11.90	225.1	223.4	C=2.3
4+50 ℄			9.5	228.1		
4+50 15 E			6.4	231.2	228.0	C=3.2

Levels on St. Center B/K to Lobb

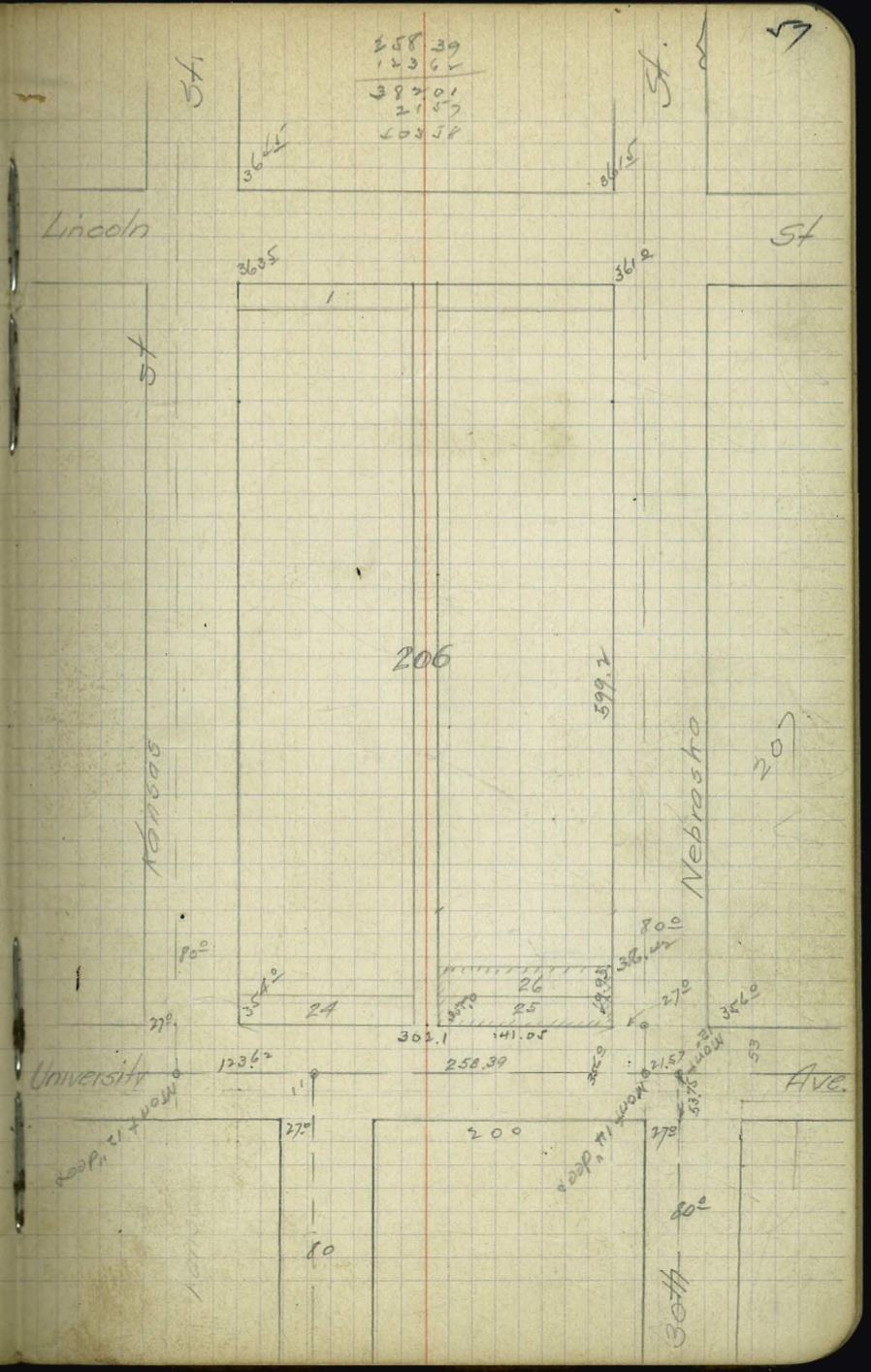
5+00 ℄		237.55	3.6	234.0		
T.P.			0.43	237.12		
	12.78	249.90				
5+00 15' E			13.0	236.9	232.6	C=4.3
5+50 15' E			7.0	242.9	237.2	C=5.7
5+50 ℄			10.7	239.2		
6+00 ℄			6.75	243.2		
6+00 15' E			2.0	247.9	241.8	C=6.1
6+50 ℄			3.6	246.3		
T.P.			0.25	249.65		
	11.81	261.46				
6+50 15' E			11.1	250.4	246.3	C=4.1
7+00 ℄			11.3	250.2		
7+00 15' E			5.7	255.8	250.8	C=5.0
7+50 ℄			7.9	253.6		
7+50 15' E			2.5	259.0	255.4	C=3.6
T.P.			0.37	261.09		
	12.47	273.56				
8+00 ℄			16.4	257.2		
8+00 15' E			10.5	263.1	260.0	C=3.1
8+50 ℄			9.4	264.2		
8+50 15' E			4.4	269.2	264.6	C=4.6
9+00 ℄			4.0	269.6		
T.P.			1.2	272.44		
	12.20	284.64				
9+00 15' E			8.2	276.4	269.2	C=7.2

Levels on St. in Center Blk 70 La Salle

		284.64				
9+50 ℄			9.8	274.8		
9+50 15 E			3.9	280.7	273.7	C = 7.0
10+00 15 E			0.1	284.5	278.3	C = 6.2
10+00 ℄			6.9	277.7		
T.P.			0.63	284.01		
	12.23	296.24				
10+50 ℄			11.4	284.8		
10+50 15 E			5.6	290.6	287.9	C = 7.9
11+00 15 E			3.7	292.5	287.5	C = 5.0
11+00 ℄			7.7	288.5		
11+30 ℄			6.0	290.2		
11+30 15 E			2.0	294.2	290.2	C = 4.0
11+50 ℄			8.3	287.9		
11+50 15 E			5.3	290.9		
12+00 ℄			18.4	277.8		
T.P.			0.02	296.22		
	13.02	309.24				
			0.15	309.09		
	12.93	322.02				
			1.11	320.91		
	12.91	333.82				
			0.33	333.49	333.53	D.M. Top Hill East Side 10+00 P.C.

Survey of Lots 25 and 26 Blk. 206
University Hts.
for Stevens & Hartly.

Lots 25 x 140



S.P.B.Co.

Washington + University Blk 211 University Hts Lots 25-26-27-28 cut into 3-50'

Washington narrowed 10' East + West

58

Lots facing on University Ave

East Half 13 + 14 Blk. 19. University Hts

8/5/7

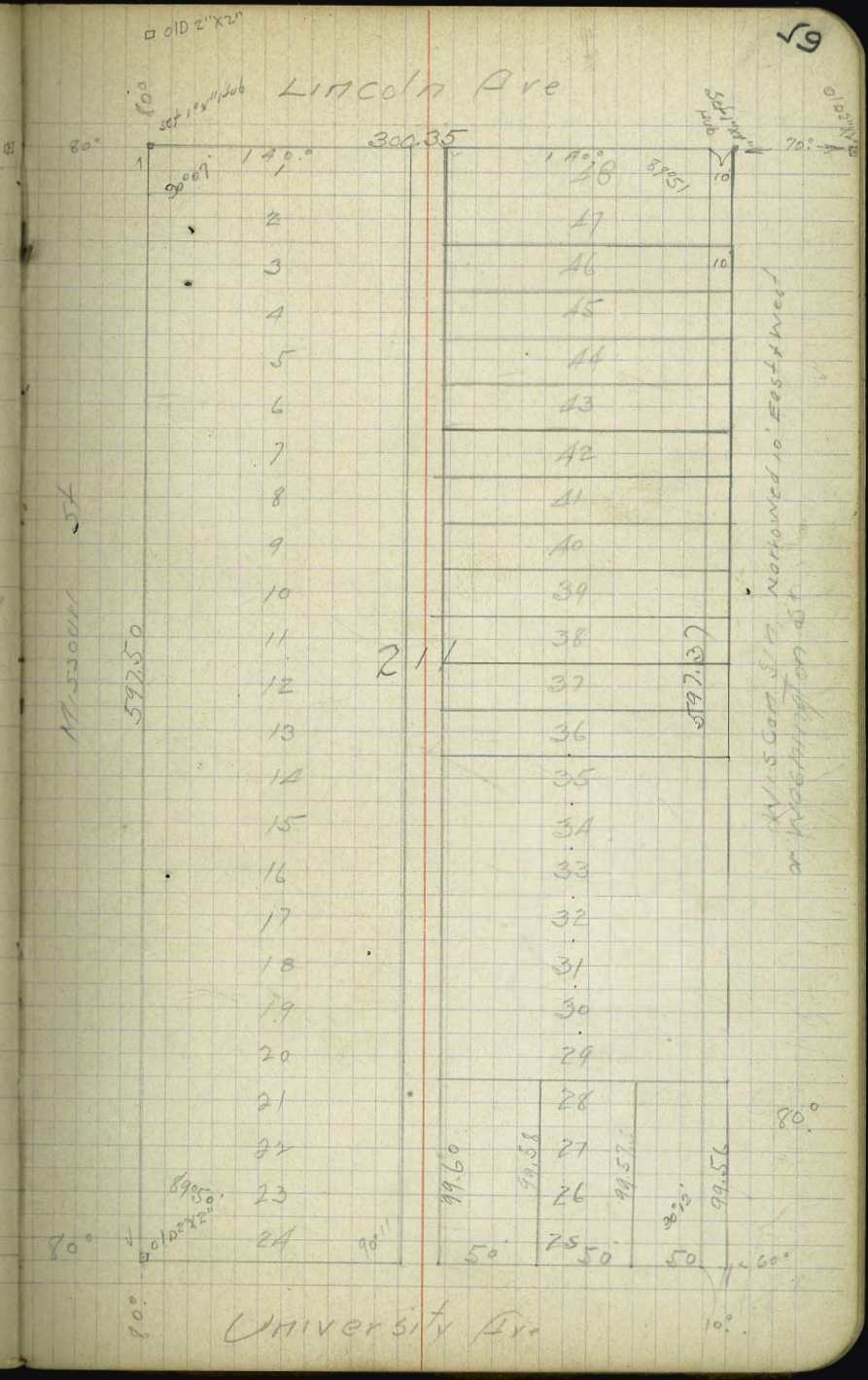
Survey & subdivision of Lots 25, 26, 27-28 Blk 211 University Hts.
S. D. Bldg Co

10.35

5/23/22.

Lots 38 to 46 Blk 211.

Line of University Ave Produced from Hub on Illinois St.



8/15/12

Survey of East 1/2 Lot 13 + 14 Blk 19
University Hts for S.D. Bldg. Co.

252°
194.4
300 | 57.600 | .142 Tan 10°52'
300
2760
2700
600

1.01826
20.36
5.09

1.01826
15
5.09130
20.3652
25.4565
50.91

299.92

.192
50
9.600

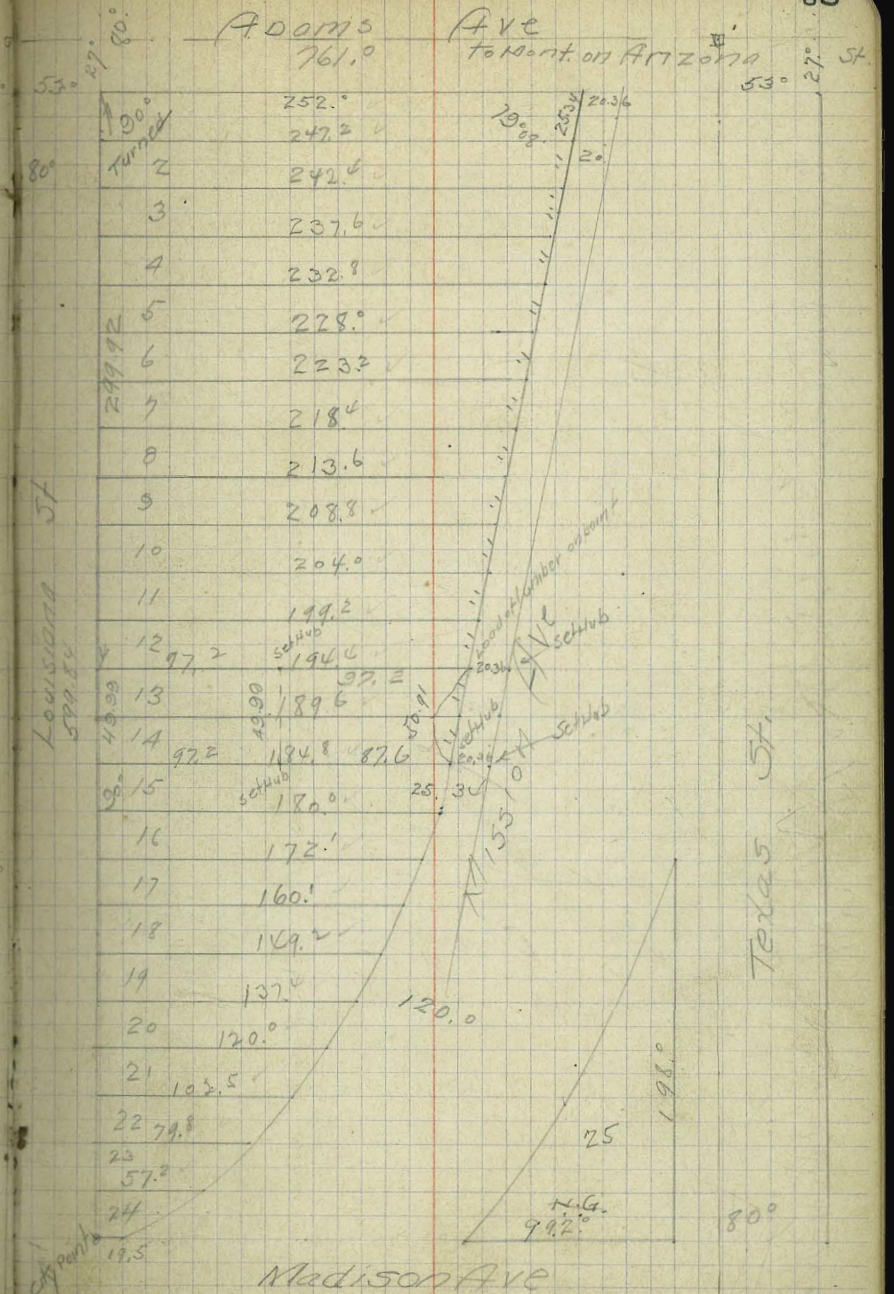
97.20
20.36
117.56

184.8
97.2
87.6
20.36
107.96

90°00
10°52
79.08

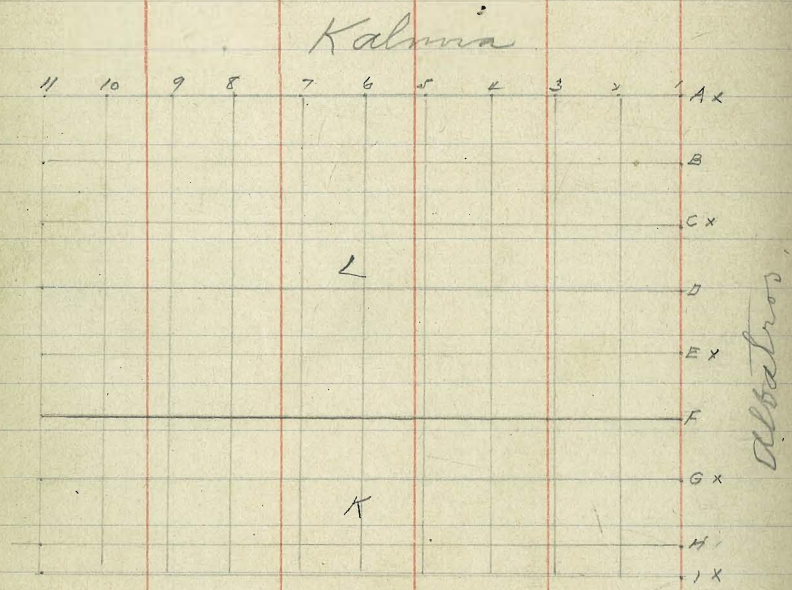
189.6

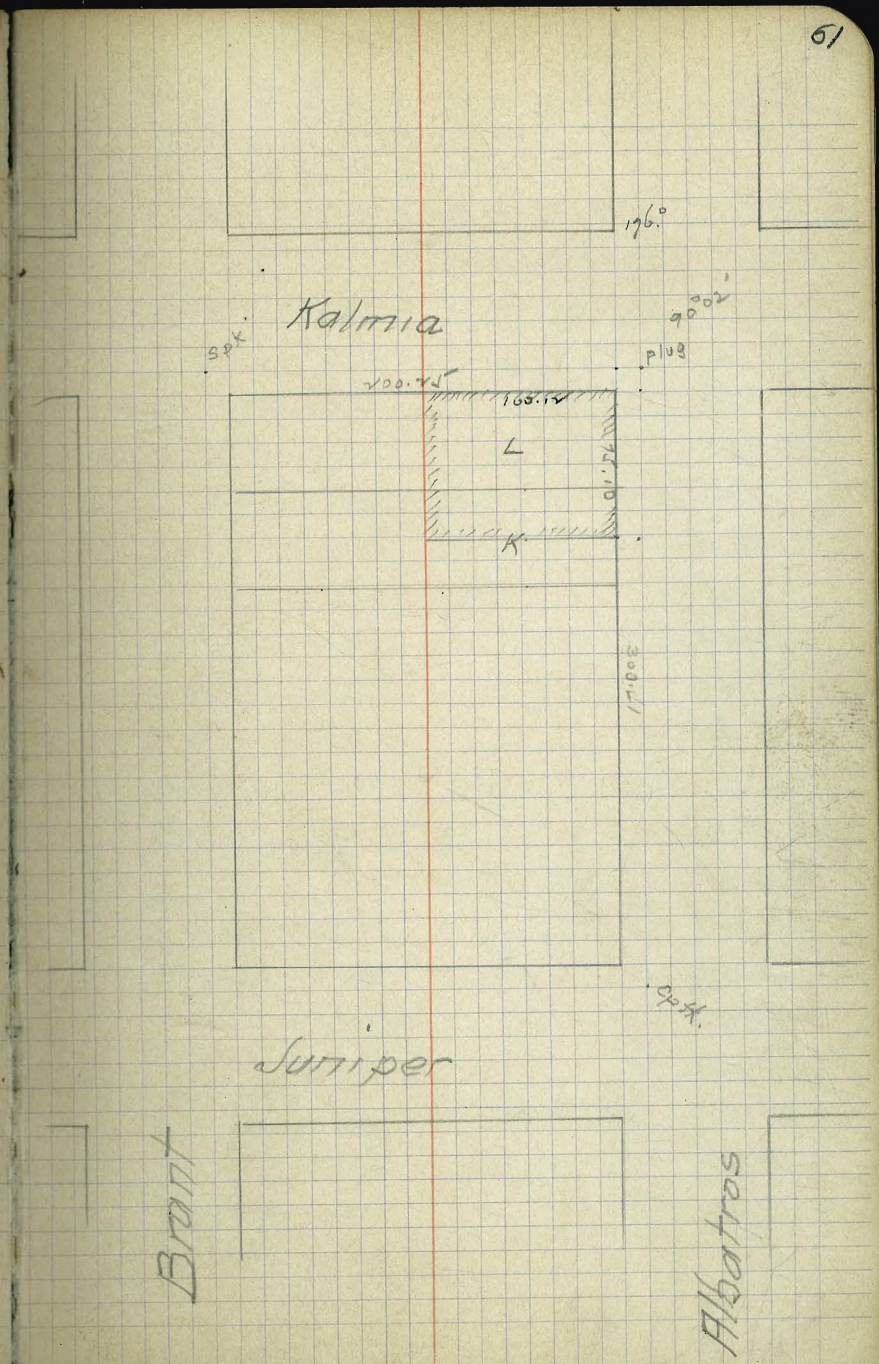
R = 472°



8/30/12

Rosfus Chvate
Lots L & S½ of K. Blk 268
Horton add.





Sta	B.S.	H.I	F.S	Elev	B.M.
					197.0
⊙	0.96	197.96	12.68	185.28	
	0.01	185.29			
			7.61	177.68	
Sta. A1			9.4	175.9	
B1			10.2	175.1	
C1			10.45	174.8	
D1			10.8	174.5	
E1			11.2	174.1	
F1			11.4	173.9	
G1			11.4	173.9	
H1			12.2	173.1	
I1			12.1	173.2	
~~I1~~					
⊙	2.36	174.8	12.85	172.44	
I.2			7.4	167.4	
H.2			7.1	167.7	
G.2			7.0	167.8	
F.2			6.45	168.3	
E.2			6.9	167.9	
D.2			7.2	167.6	
C.2			7.2	167.6	
B.2			3.45	170.3	
A.2			0.4	174.4	

N.W. Cor. Kalmia & Front Sts.

197
.96
197.96
12.68
185.28
.01
185.29
12.85
172.44
2.36
174.80

Curb. N.E. Cor.

Toe of slope
" " "

Sta	B.S	H.I	F.S.	Elev	B.M.	
A3		174.8	2.5	172.3		
13			10.2	164.6		
L3			8.9	164.9		
G3			9.4	165.4		
F3			9.0	165.8		
E3			9.2	165.6		
D3			9.2	165.6		
C3			9.4	165.4		
B3			9.1	165.7		Toe of slope
A4			4.5	170.3		
A5			6.9	167.9		
A6			8.9	165.9		
A7			11.0	164.8		
A8			13.0	161.8		
14			12.1	162.7		
L4			12.0	162.8		
G4			11.7	163.1		
F4			11.6	163.2		
E4			11.3	163.5		
D4			11.1	163.7		
C4			11.6	163.2		
B4			11.8	163.0		Toe of slope
15			14.0	160.8		
L5			13.0	161.8		
G5			13.3	161.5		

Sta	B.S	H.I.	F.S	Elev.	B.M.
		176.8			
F. 5			13.0	161.8	
E. 5			13.2	161.6	
D. 5			13.5	161.3	
C. 5			13.7	161.1	
B. 5			13.5	161.3	
O	1.91	165.56	12.55	162.55	
1.9			5.0	159.5	
4.10			7.0	157.5	
1.11			9.2	155.3	
1.6			5.3	159.2	
1.7			6.7	157.8	
1.8			8.6	155.9	
1.9			10.5	154.0	
1.10			12.4	152.1	
1.11			16.2	150.3	
H.6			5.4	159.1	
G.6			5.0	159.5	
F.6			4.7	159.8	
E.6			5.0	159.5	
D.6			5.2	159.3	
C.6			5.9	158.6	
B.6			4.7	159.8	

Toe of slope.

176.8
12.55
164.25
1.91
162.56

Toe of slope

Sta	B.S.	H.I.	F.S.	Elev	B.M.
		164.46			
H.7			6.2	157.3	
G.7			6.6	157.9	
F.7			6.6	157.9	
E.7			6.6	157.9	
D.7			6.8	157.7	
C.7			6.3	158.2	
B.7			6.3	158.2	Toe of slope.
H.8			8.3	156.2	
G.8			8.7	155.8	
F.8			8.7	155.8	
E.8			8.7	155.8	
D.8			9.1	155.4	
C.8			8.9	155.6	
B.8			8.7	155.8	
H.9			10.5	154.0	
G.9			10.5	154.0	
F.9			10.6	153.9	
E.9			10.3	154.2	
D.9			11.3	153.2	
C.9			11.2	153.3	
B.9			10.9	153.6	
3.0 North			10.5	154.0	Toe of slope

Sta	B.S	H.I. 164.46	F.S	Elev	B.M.
H 10			12.2	152.3	
G 10			12.2	152.3	
F 10			12.3	152.2	
E 10			12.4	152.1	
D 10			12.8	151.7	
C 10			12.8	151.7	
B 10			12.6	151.9	
H 11			14.0	150.5	
G 11			14.1	150.4	
F 11			14.3	150.2	
E 11			14.6	149.9	
D 11			14.7	149.8	
C 11			14.6	149.9	
B 11			14.4	150.1	
①	12.05	175.96	0.55	163.91	
①	6.72	181.82	0.86	175.10	
①	12.36	193.41	0.77	181.05	
	5.78	198.75	0.44	192.97	
			1.8	196.95	196.95

Loc of slope.

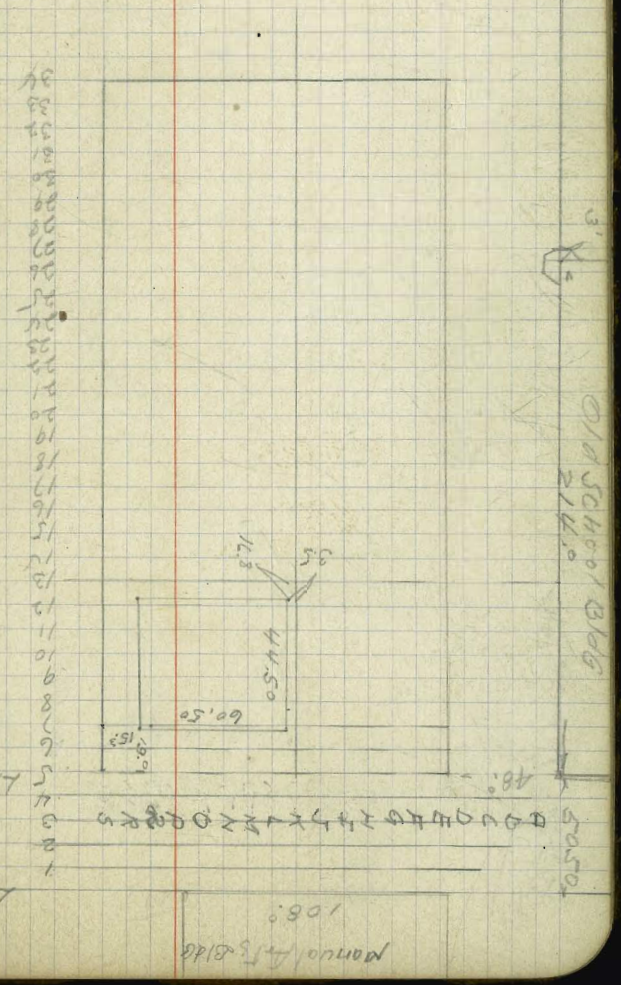
Loc of slope.

164.46
.55
163.91
12.05
175.96
.86
175.10
6.72
181.82
.77
181.05
12.36
193.41
.44
192.97
5.78
198.75
1.80
196.95

1/8/12

La Jolla Traverse Reverse Curve Solidad Ave

		N	S	E	W
N74°38'E	104.53	27.10		100.79	
N55°12'E	222.7	127.10		182.87	
S34°48'E	40.°		32.85	22.83	
S55°12'W	25.4		14.50		20.86
S48°14'W	179.7		119.70		134.18
S76°38'W	104.3		24.11		101.47
N53°58'W	61.81	36.36			49.98
		N	S	E	W
S30°54'E	255.49		219.22	131.20	
S74°41'W	365.67		96.59		352.68
N26°22'E	163.40	146.4		72.57	
N41°19'E	225.60	169.44		149.05	
		315.84	315.81	352.87	352.68
		N	S	E	W
S48°41'E	150.0		99.03	112.66	
S24°28'W	212.9		193.79		88.18
S74°41'W	158.95		41.99		153.30
N21°03'E	359.°	335.05		128.95	
		335.05	334.81	241.61	241.48
		N	S	E	W
S30°54'E	195.53		167.78	100.41	
S74°41'W	36.°		9.51		34.72
N41°19'E	60°	45.06		39.61	
N38°32'W	164.04	132.23			105.30



Williams
McCallum

Cross Section of Tennis Court Site H.S.

					100.73	N W Cor Ventilator H.S. Bldg.
	4.82	105.55				
A 1			4.6	101.2		
A 3			5.2	100.4		
A 5			5.27	100.28		on cem walk
A 7			5.70	99.85		" " "
A 9			6.06	99.49		" " "
A 11			6.40	99.15		" " "
A 13			6.76	98.79		" " "
A 15			7.13	98.42		" " "
A 17			7.31	98.24		" " "
A 19			7.65	97.90		" " "
A 21			8.32	97.23		" " "
A 23			9.00	96.55		" " "
A 25			9.67	95.88		" " "
A 27			10.60	94.95		" " "
A 29			11.43	94.12		on cem walk
A 31			11.50	94.1		
C 34			12.27	93.3		
C 31			11.63	94.0		
C 29			11.13	94.5		
C 27			10.33	95.2		
C 25			9.57	96.0		
C 23			9.00	96.6		
C 21			8.2	97.4		
C 19			7.7	97.9		

		105.55		
C17			7.4	98.2
C15			7.5	98.1
C13			7.3	98.3
C11			6.7	98.9
C9			6.4	99.2
C7			6.1	99.5
C5			5.6	100.0
C3			5.1	100.5
C1			4.9	100.7
E1			5.1	100.5
E3			5.3	100.3
E5			5.1	100.5
E7			5.8	99.8
E9			6.1	99.5
E11			6.5	99.1
E13			7.0	98.6
E15			7.4	98.2
E17			7.5	98.1
E19			7.7	97.9
E21			8.2	97.4
E23			8.9	96.7
E25			9.3	96.3
E27			9.9	95.7
E29			10.9	94.7
E31			11.3	94.3
E33			12.0	93.6
E35			12.7	92.9

H.S. Gutter Line

					101.05
	4.47	105.52			
			5.24	100.28	G T.S B.S
0+72.7			6.30	99.22	97.72 98.12 92.17
1+00			6.85		
1+20			7.05		
1+40			7.50		
1+60			8.18		
1+80			8.85	96.67	
2+00			9.40	96.12	
	2.97	99.09			
3+40			8.23		
2+60			5.83		
1+80			3.45	95.54	94.04
	Sub Grade Court #1 = 92.17				
					100.28
	3.72	104.00			Gr. C
			7.75	96.25	92.17 4.08
			~~11.83~~	~~9~~	~~92.17~~
					100.28 BM
	1.75	102.03			
6.5 B. Play 1st Court 7.85 out			3.52	98.51	
			10.36	91.67	91.67
					BM
					94.04
					BM
					92.00
	3.97	95.97			
			4.47	91.50	BM
					100.28
	1.14	101.42	9.92	91.50	
			10.92	90.50	

	105.55		
	105.6		
G35		17.9	92.7
G33		12.4	93.2
G31		11.7	93.9
G29		10.7	94.9
G27		10.2	95.4
G25		9.3	96.3
G23		8.8	96.8
G21		8.4	97.2
G19		7.7	97.9
G17		7.1	98.5
G15		7.1	98.5
G13		6.6	99.0
G11		6.1	99.5
G9		5.7	99.9
G7		5.5	100.1
G5		5.1	100.5
G3		4.8	100.8
G1		6.7	98.9
I1		7.6	98.0
I3		4.7	100.9
I5		5.5	100.1
I7		5.6	100.0
I9		5.6	100.0
I11		5.3	100.3
I13		5.6	100.0
I15		5.9	99.7
I17		6.8	98.8

Bottom Gr Gutter		Top slope
0+00	98.96	
0+20	98.60	
0+40	98.17	
0+60	97.92	
0+80	97.55	
1+00	97.17	
1+20	96.95	1+29 Break in grade 96.87
1+40	96.52	
1+60	95.87	
1+80	95.17	
2+00	94.60	
2+20	94.00	
2+40	93.4	
2+60	92.8	93.2
2+80	92.2	
3+00	91.6	
3+20	91.0	
3+40	90.4	

99.22	101.47
1.10	92.50
98.12	8.97
92.50	5.17
5.67	3.75
2.81	
8.43	

		105.55			
I 19			7.5	98.1	
121			7.9	97.7	
123			8.5	97.1	
125			8.8	96.8	
127			10.4	95.2	
129			11.2	94.4	
131			12.2	93.4	
133			12.8	92.8	
I 35			13.3	92.3	
K 31			11.6	94.0	
K 29			10.9	94.7	
K 27			10.0	95.6	
K 25			8.7	96.9	
K 23			7.2	98.4	
K 21			6.5	99.1	
K 19			5.2	100.4	
K 17			4.7	100.9	
K 15			4.8	100.8	
K 13			5.0	100.6	
S.W. Cor Bldg Temporary			9.8	95.8	
K 11			6.1	99.5	
K 9			5.4	100.2	
K 7			5.8	99.8	
K 5			6.2	99.4	
K 3			6.1	99.5	
K 1			9.0	96.6	

M1		105.55 105.60	10.6	95.0
M3			8.5	97.1
M5			10.8	94.8
N.W. Cor. Temporary Bldg			8.4	97.2
O'			12.6	93.0
			12.80	92.25
	7.90	100.65 100.70		
K13 +2 E			00.0	100.70
K15 +5 E			00.4	100.3
K17 +7 E			00.8	99.9
K19 +10 E			1.0	99.7
K21 +11 E			1.8	98.9
K23 +11 E			2.0	98.7
K25 +11 E			3.0	97.7
K27 +12 E			3.7	97.0
K29 +12 E			4.8	95.9
K31 +12 E			6.6	94.1
K33 +12 E			8.1	92.6
K35 +11 E			9.2	91.5
K35			8.8	91.9
K33			7.8	92.9
M35			13.9	86.8
M33			12.8	87.9
M31			11.9	88.8
M29			10.2	90.5
M27			9.2	91.5

		100.65		
M25			8.5	92.2
M23			7.5	93.2
M21			7.4	93.3
M19			8.5	92.2
M17			9.4	91.3
M15			11.3	89.4
M13			13.0	87.7
M Line to Blag			15.3	85.4
T.P.	—		12.5	88.13
	0.50	88.63		
O Line at Blag			6.9	81.7
O13			8.5	80.1
O15			9.0	79.6
O17			7.6	81.0
O19			7.6	81.0
O21			8.1	80.5
O23			8.8	79.8
O25			9.0	79.6
O27			9.9	79.7
O29			9.7	78.9
O31			11.1	77.5
O33			11.5	77.1
O35			11.6	77.0
Q35			16.9	71.7
Q33			16.8	71.8
Q31			15.1	73.5

		88.63		
Q 24			14.1	74.5
Q 27			14.0	74.6
Q 25			13.3	75.3
Q 23			13.3	75.3
Q 21			12.5	76.1
Q 19			12.0	76.6
Q 17			12.1	76.5
Q 15	—		13.1	75.5
Q 13			11.9	76.7
SF. Cor Temporary			10.2	78.3
S 7			5.8	82.8
S 9			7.0	80.7
S 11			11.3	77.3
T.P.			12.77	75.86
	2.92	78.78		
S 13			4.6	74.2
S 15			6.9	71.9
S 17			7.6	71.2
S 19			6.3	72.5
S 21			5.8	73.0
S 23			6.8	72.0
S 25			7.4	71.4
S 27			8.7	70.1
S 29			8.8	70.0
S 31			8.3	70.5
223			9.9	68.9
S 35			10.7	68.1

T.P.		78.78	0.36	78.42		
	13.08	91.50				
S5			4.1	87.4		
S3			2.9	88.6		
S1			1.2	90.3		
Q1			0.0	91.5		
Q3			1.7	89.8		
Q5			1.8	89.7		
Q and Bldg			5.4	86.1		
NE Cor Temperory Bldg			5.7	85.8		
O and Bldg			3.4	88.1		
O5			1.5	90.0		
M and Bldg			1.57	89.93		also basement floor Temporary Bldg
T.P.			0.07	91.43		
	12.96	104.39				
O3			12.5	91.9		
O1			11.5	92.9		
N.E. Cor Manual Arts Bldg			11.0	93.4		
Elev Floor Temperory Bldg			3.4	101.0		
			3.64	100.75	100.73	BM N.W. Cor Ventilator

		N	S	E	W
S. 28° 07' W	300.7		265.2		141.7
S. 70° 30' W.	35.3		11.8 -		33.3
N. 19° 30' W	600.0	565.6			200.3
N. 35° 55' E.	776.3	628.7		455.4	
S. 81° 38' E.	524.0		76.2	518.4	
S 19° 44' W.	294.0		277.9		96.0
S 41° 44' W	754.8		563.3		502.4
		1194.3	1194.4	973.8	973.7

+		—
609.1		161533.3
434.1		5122.4
200.3	113289.7	
455.4	286310.0	
1429.2		108905.0
1851.6		514559.6
1253.2		705802.6
	399599.7	1495922.9
		399599.7
		1096323.2
		548161.6
	12.81	43560
		111261
		87120
		354416 0
		348480
		59360

73x67 / 630000 (86 = R.
586186
438440
440002

Tang. 5°45' 1.41497
86
848982
1131976
121.67742

625.

24 / 595.63 (24.80
48
115
96
196
168
280
216
40
196
192
40
24

24.79
24
19916
4958
594.96

24.8x
7
9928
198.56
1.24

24.8x
24
9928
496x
595.68

24.8x

Natural Trigonometrical Ratios.

Angle.	Sine.	Tan.	Sec.	Cosec.	Cotg.	Cosin.		Angle.	Sine.	Tan.	Sec.	Cosec.	Cotg.	Cosin.	
° ′								° ′							
0	0	0	1.	∞	∞	1.	90	8	.1392	.1405	1.0098	7.185	7.115	.99027	82
10	.0029	.0029		343.8	343.8	1.	50	10	.1421	.1435	1.0102	7.040	6.968	.98986	50
20	.0058	.0058		171.9	171.9	.99998	40	20	.1449	.1465	1.0107	6.900	6.827	.98944	40
30	.0087	.0087		114.6	114.6	.99996	30	30	.1478	.1495	1.0111	6.766	6.691	.98902	30
40	.0116	.0116	1.0001	85.94	85.94	.99993	20	40	.1507	.1524	1.0115	6.636	6.561	.98858	20
50	.0145	.0145	1.0001	68.76	68.75	.99989	10	50	.1536	.1554	1.0120	6.512	6.435	.98814	10
1	.0175	.0175	1.0002	57.30	57.29	.99985	89	9	.1564	.1584	1.0125	6.394	6.314	.98769	81
10	.0204	.0204	1.0002	49.11	49.10	.99979	50	10	.1593	.1614	1.0129	6.277	6.197	.98723	50
20	.0233	.0233	1.0003	42.98	42.96	.99973	40	20	.1622	.1644	1.0134	6.166	6.084	.98676	40
30	.0262	.0262	1.0003	38.20	38.19	.99966	30	30	.1650	.1673	1.0139	6.059	5.976	.98629	30
40	.0291	.0291	1.0004	34.38	34.37	.99958	20	40	.1679	.1703	1.0144	5.955	5.871	.98580	20
50	.0320	.0320	1.0005	31.26	31.24	.99949	10	50	.1708	.1733	1.0149	5.855	5.769	.98531	10
2	.0349	.0349	1.0006	28.65	28.64	.99939	88	10	.1736	.1763	1.0154	5.759	5.671	.98481	80
10	.0378	.0378	1.0007	26.45	26.43	.99929	50	10	.1765	.1793	1.0160	5.665	5.576	.98430	50
20	.0407	.0407	1.0008	24.56	24.54	.99917	40	20	.1794	.1823	1.0165	5.575	5.485	.98378	40
30	.0436	.0437	1.0010	22.93	22.90	.99905	30	30	.1822	.1853	1.0170	5.488	5.396	.98325	30
40	.0465	.0466	1.0011	21.49	21.47	.99892	20	40	.1851	.1883	1.0176	5.403	5.309	.98272	20
50	.0494	.0495	1.0012	20.23	20.21	.99878	10	50	.1880	.1914	1.0181	5.320	5.226	.98218	10
3	.0523	.0524	1.0014	19.11	19.08	.99863	87	11	.1908	.1944	1.0187	5.241	5.145	.98163	79
10	.0552	.0553	1.0015	18.10	18.07	.99847	50	10	.1937	.1974	1.0193	5.164	5.066	.98107	50
20	.0581	0582	1.0017	17.20	17.17	.99831	40	20	.1965	.2004	1.0199	5.089	4.989	.98050	40
30	.0610	.0612	1.0019	16.38	16.35	.99813	30	30	.1994	.2035	1.0205	5.016	4.915	.97992	30
40	.0640	.0641	1.0020	15.64	15.60	.99795	20	40	.2022	.2065	1.0211	4.945	4.843	.97934	20
50	.0669	.0670	1.0022	14.96	14.92	.99776	10	50	.2051	.2095	1.0217	4.877	4.773	.97875	10
4	.0698	.0699	1.0024	14.34	14.30	.99756	86	12	.2079	.2126	1.0223	4.810	4.705	.97815	78
10	.0727	.0729	1.0027	13.76	13.73	.99736	50	10	.2108	.2156	1.0230	4.745	4.638	.97754	50
20	.0756	.0758	1.0029	13.23	13.20	.99714	40	20	.2136	.2186	1.0236	4.682	4.574	.97692	40
30	.0785	.0787	1.0031	12.75	12.71	.99692	30	30	.2164	.2217	1.0243	4.620	4.511	.97630	30
40	.0814	.0816	1.0033	12.29	12.25	.99668	20	40	.2193	.2247	1.0249	4.560	4.449	.97566	20
50	.0843	.0846	1.0036	11.87	11.83	.99644	10	50	.2221	.2278	1.0256	4.502	4.390	.97502	10
5	.0872	.0875	1.0038	11.47	11.43	.99619	85	13	.2250	.2309	1.0263	4.445	4.331	.97437	77
10	.0901	.0904	1.0041	11.10	11.06	.99594	50	10	.2278	.2339	1.0270	4.390	4.275	.97371	50
20	.0929	.0934	1.0043	10.76	10.71	.99567	40	20	.2306	.2370	1.0277	4.336	4.219	.97304	40
30	.0958	.0963	1.0046	10.43	10.39	.99540	30	30	.2334	.2401	1.0284	4.284	4.165	.97237	30
40	.0987	0992	1.0049	10.13	10.08	.99511	20	40	.2363	.2432	1.0291	4.232	4.113	.97169	20
50	.1016	.1022	1.0052	9.839	9.788	.99482	10	50	.2391	.2462	1.0299	4.182	4.061	.97100	10
6	.1045	.1051	1.0055	9.567	9.514	.99452	84	14	.2419	.2493	1.0306	4.133	4.011	.97030	76
10	.1074	.1080	1.0058	9.309	9.255	.99421	50	10	.2447	.2524	1.0314	4.086	3.962	.96959	50
20	.1103	.1110	1.0061	9.065	9.010	.99390	40	20	.2476	.2555	1.0321	4.039	3.914	.96887	40
30	.1132	.1139	1.0065	8.834	8.777	.99357	30	30	.2504	.2586	1.0329	3.994	3.867	.96815	30
40	.1161	.1169	1.0068	8.614	8.556	.99324	20	40	.2532	.2617	1.0337	3.949	3.821	.96742	20
50	.1190	.1198	1.0072	8.405	8.345	.99290	10	50	.2560	.2648	1.0345	3.906	3.776	.96667	10
7	.1219	.1228	1.0075	8.206	8.144	.99255	83	15	.2588	.2679	1.0353	3.864	3.732	.96593	75
10	.1248	.1257	1.0079	8.016	7.953	.99219	50	10	.2616	.2711	1.0361	3.822	3.689	.96517	50
20	.1276	.1287	1.0082	7.834	7.770	.99182	40	20	.2644	.2742	1.0369	3.782	3.647	.96440	40
30	.1305	.1317	1.0086	7.661	7.596	.99144	30	30	.2672	.2773	1.0377	3.742	3.606	.96363	30
40	.1334	.1346	1.0090	7.496	7.429	.99106	20	40	.2700	.2805	1.0386	3.703	3.566	.96285	20
50	.1363	.1376	1.0094	7.337	7.269	.99067	10	50	.2728	.2836	1.0394	3.665	3.526	.96206	10
							82								74
	Cosin.	Cotg.	Cosec.	Sec.	Tan.	Sine.	Angle.		Cosin.	Cotg.	Cosec.	Sec.	Tan.	Sine.	Angle.

WILL S. KING

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

WILL S. KING