Fulton's Survey
Book No. 3

9

TRANSIT

F.B. 61

61

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

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	100⅓
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	130⅔
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 4 1964

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DRAWING PAPER & MATERIAL, MATHEMATICAL INSTRUMENTS, ETC.,
STATIONERS AND PRINTERS,
SAN FRANCISCO, 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.
°		°		°		°	
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

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

MICROFILMED

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1 Nov. 22 1888

5 grades

Sidewalk grades on Blk C lots 4,5,6 & 7 Middletown add for Hoskins

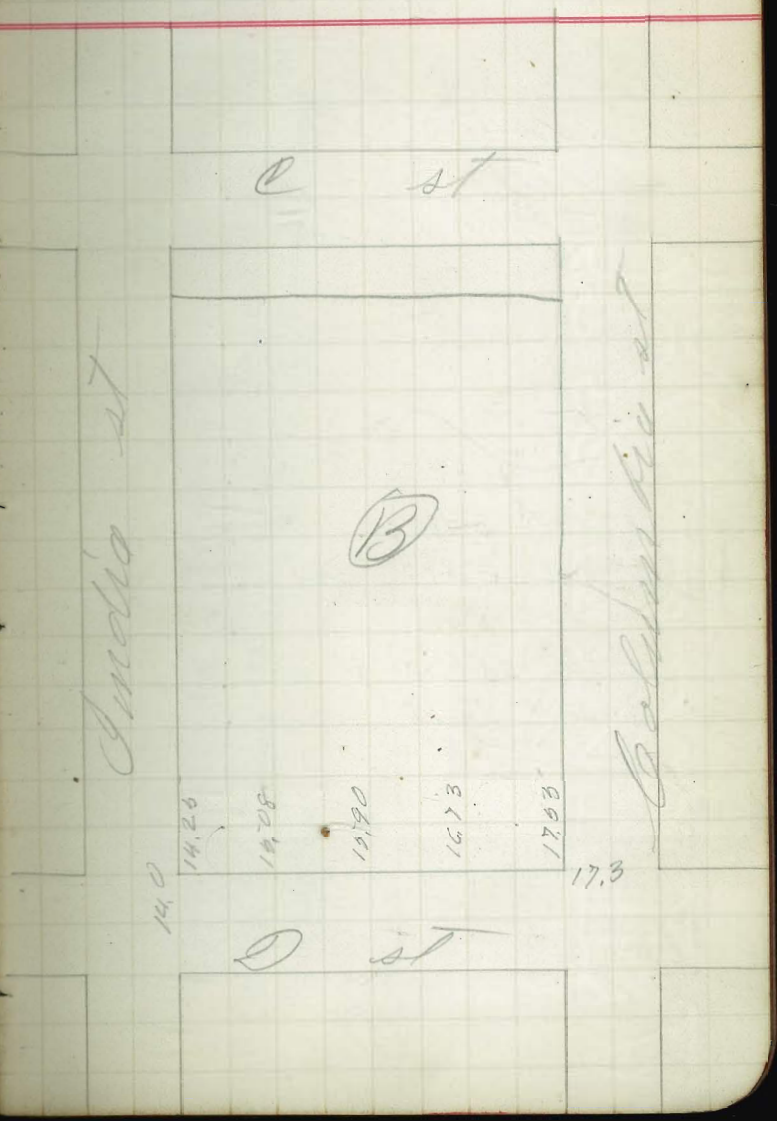
4,40	22,91			18,51
		18,45	4,46	
		19,35	3,56	
		20,25	2,66	
		21,15	1,76	
		22,05	0,86	

3 Nov. 22 1888

2 grades

Sidewalk grades on Blk "B" Lot "5" Middletown add for Haskins

65-00	20.184			13,614
		14.25	5,864	
		15.08	6.034	
		15.90	4,214	

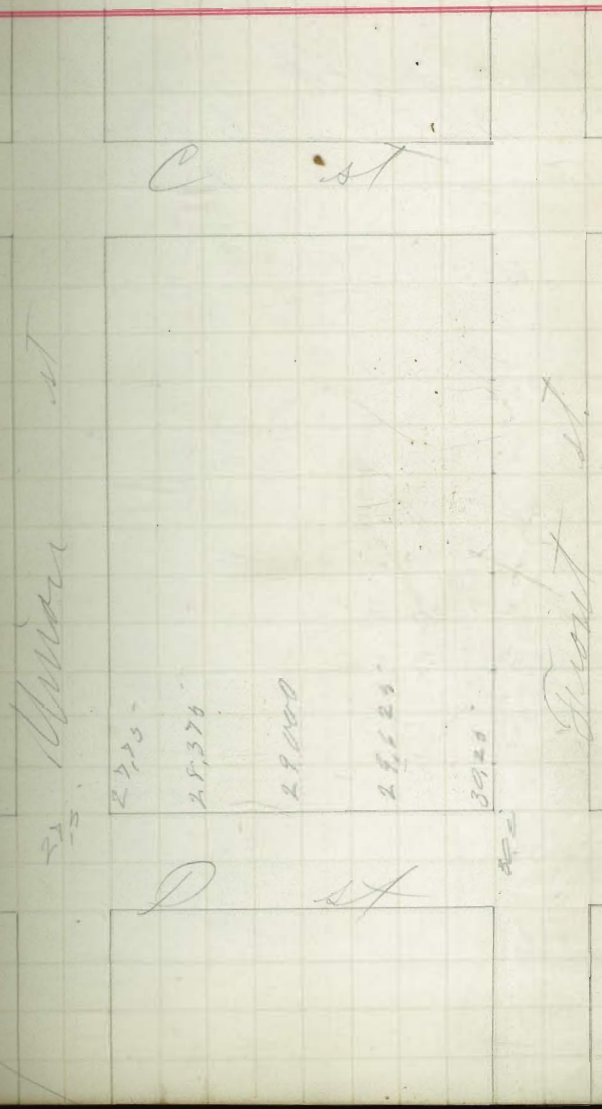


5 Nov 23 1888

5 grades

Sidewalk grades
on Blk D in Middletown
& Blk 2 in H.A.
for McDonald

6,54	33.554			27,014
	27,75	5,804		
	28,375	5,179		
	29,000	4,554		
	29,625	3,929		
	30,25	3,304		

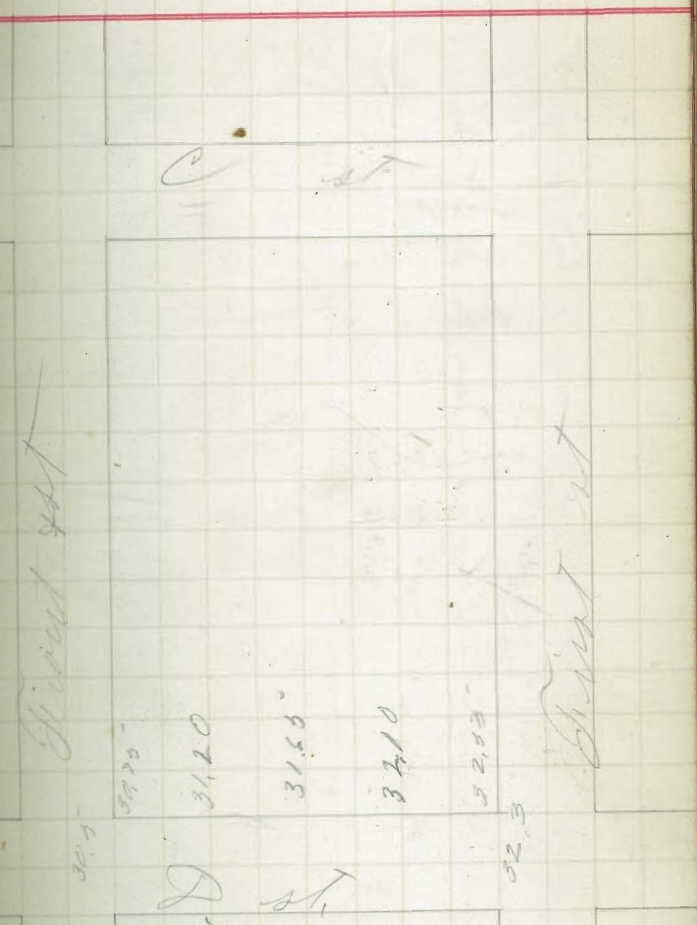


7 Nov 23 1888

5 grades,

Sidewalk grades on Blk G lot F & G. H.O. for Haskins

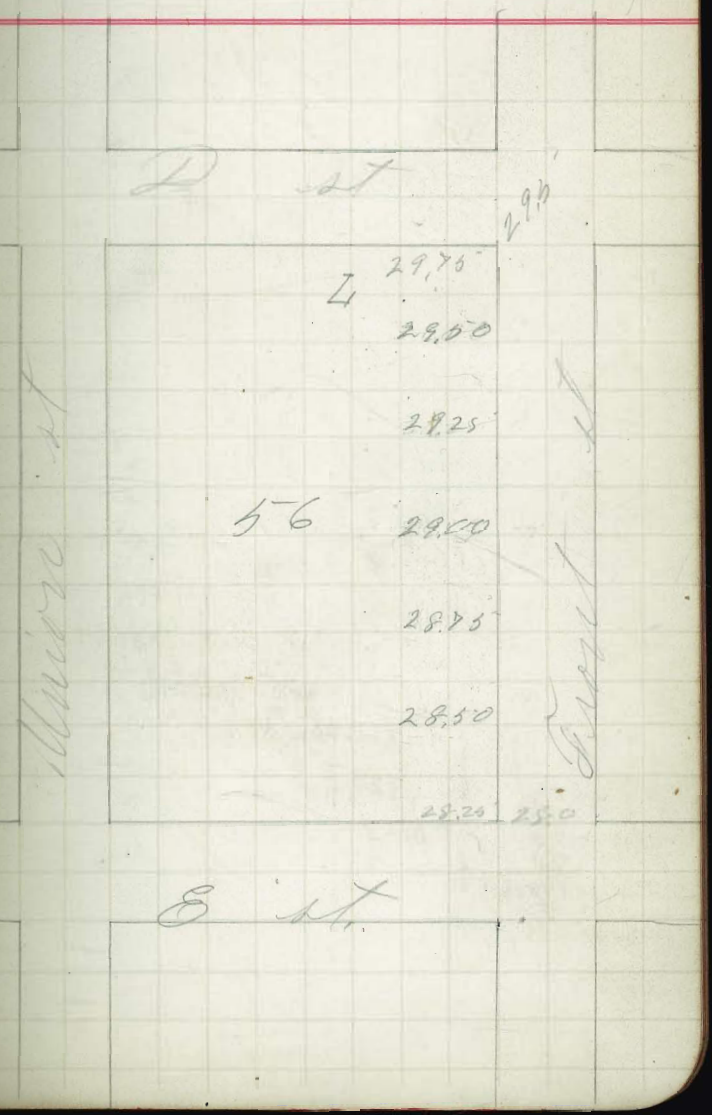
4,477	36,150			31,673
	32,55	3,60		
	32,10	4,05		
	31,65	4,50		
	31,20	4,95		
	30,75	5,40		



9 Dec 1st 1888

Side Walk grades
on Blk. 56 lot L
New Town
McDonald.

2.23	34,376			32,146
		29.75	4.626	
		29.50	4.876	

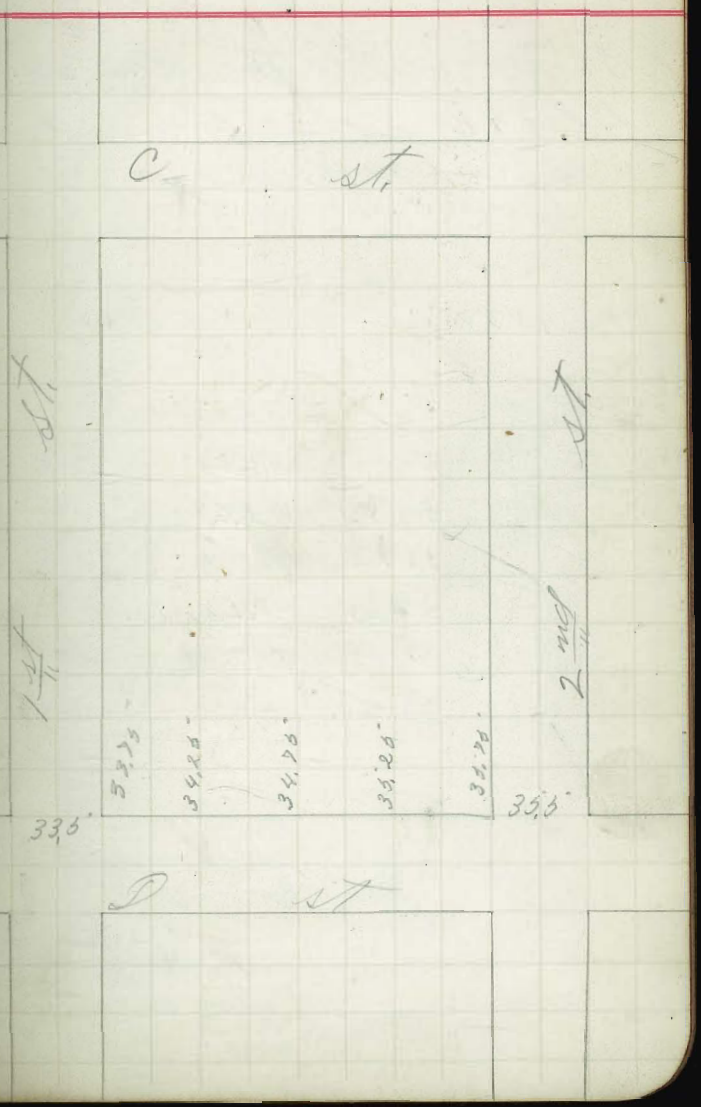


11 Dec 6 1888

4 grades

Side walk grades
on Blk. 39 Lot F. + W. ½ G.
Wortons add
Mc. Donald.

1.779	38.978			37.199
		33.75	5.228	
		34.25	4.728	
		34.75	4.228	
		35.25	3.728	

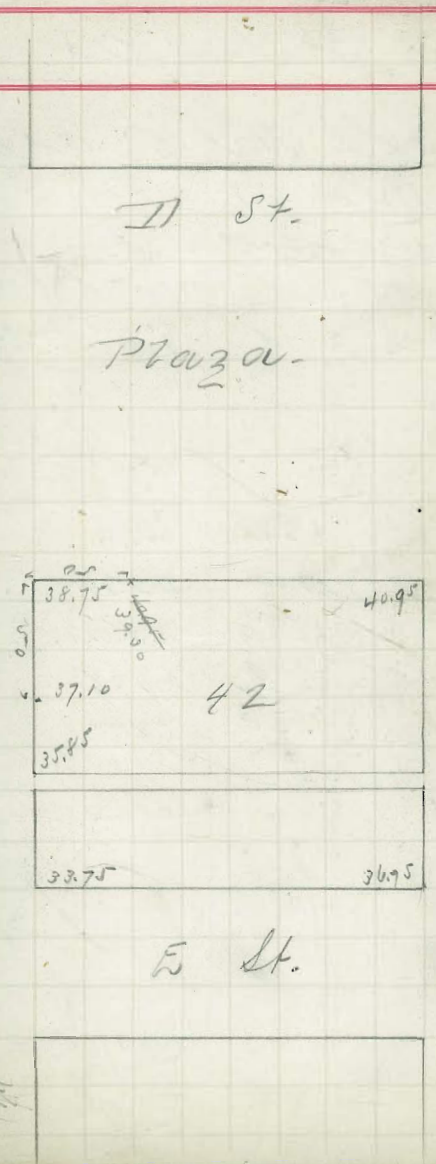


13 Dec 7 1888

4 grades

Side walk grades on
Blk 42 lot — H.9
for Haskins

2.97	42.97			40.00
		~~40.05~~	~~2.92~~	
		39.30	3.67	
		38.75	4.22	
		35.85	7.12	
		37.10	5.87	



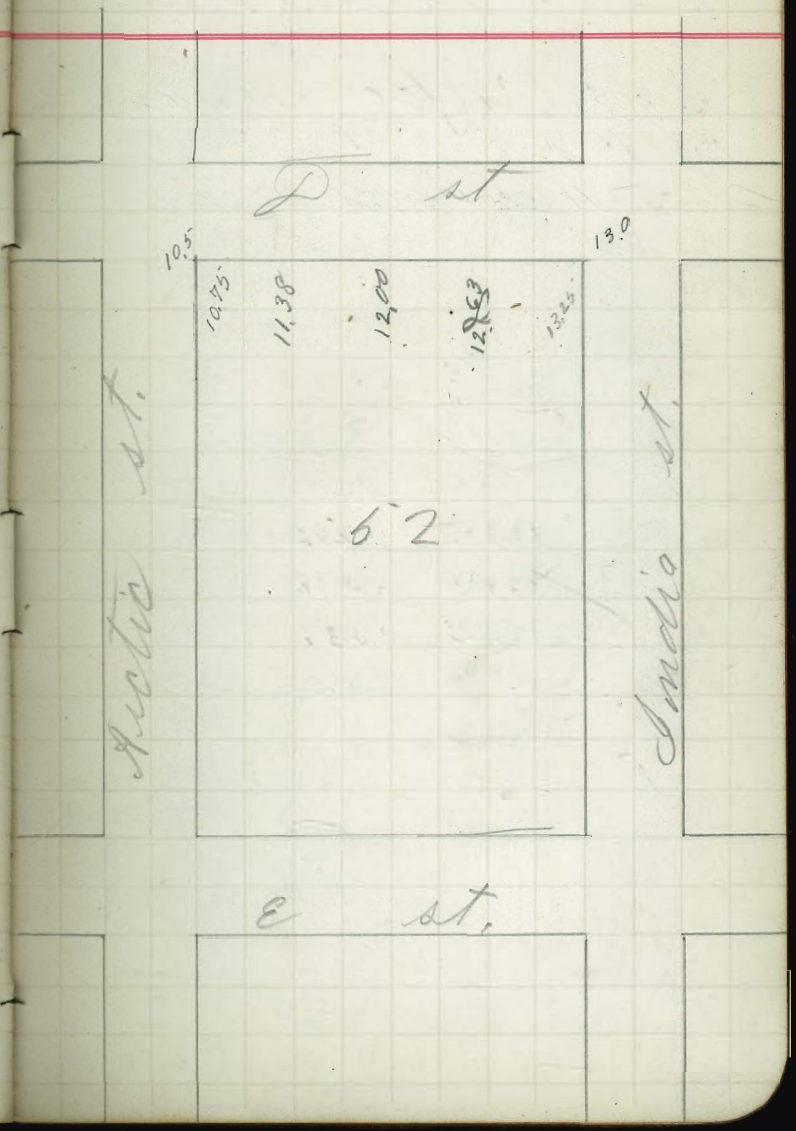
15 Dec. 7 1888

3 Grades.

Side Walk grades on Blk 52 Lot 2 New San Diego. for Cowman.

3,922 17,536 13,614

13.25 4.286
12.63 4.936
12.00 5,536



17

Dec. 10 1888

4 Grades

Sidewalk grades on Blk lot L Ha for Haskins

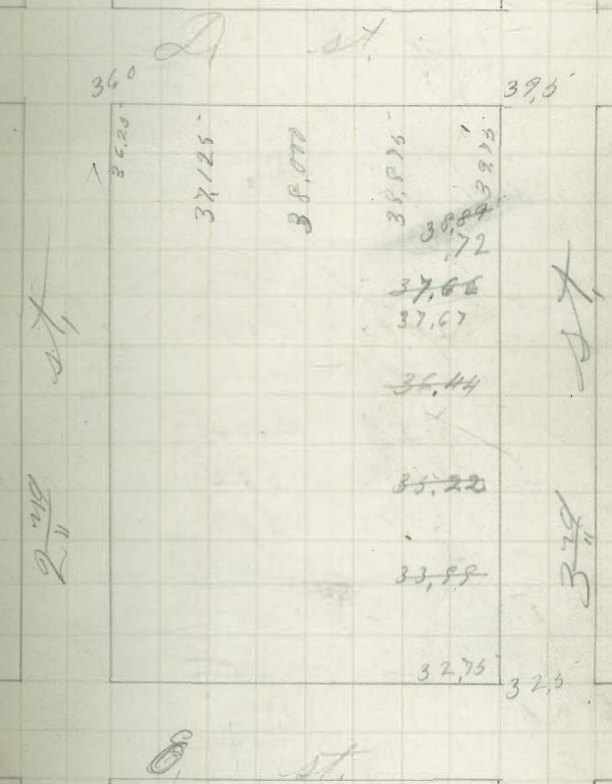
4,557	44,557			40.000
		39,75	4.807	
		38,875	5,682	
		38,00	6,557	
		38.72	5.837	
		37,125	7.432	

245 43
42 46
733 83
980 50
1,0270 131
1,0535

12)100
.0833

5.682
.083
5.599

39,75
1 03
38 72
1 05
37,67

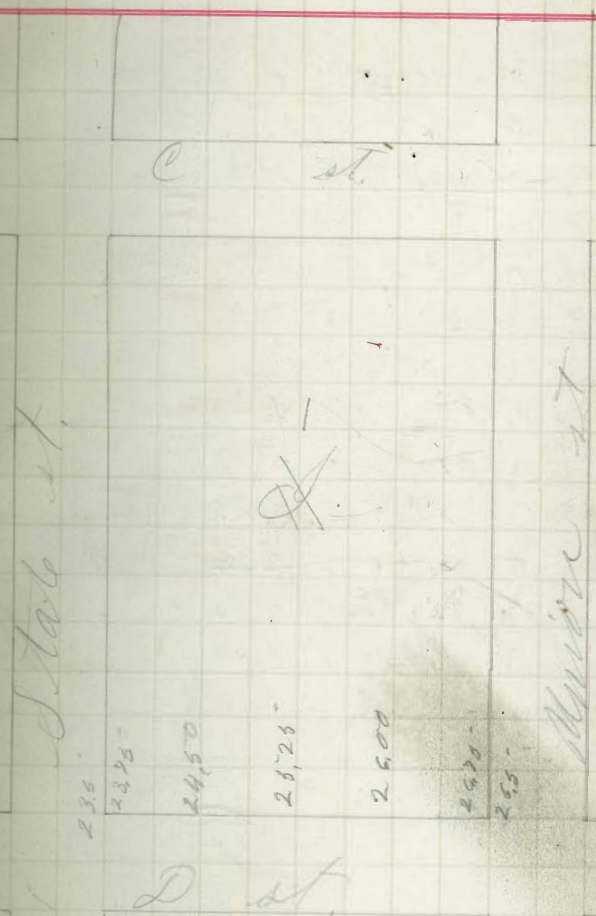


19 Dec 10 1888

5 grades

Side walk grades
on Blk I lots 5, 6, 7 & 8
Middletown
Mc. Donald.

3,07	30,084			27,014
		26,75	3,334	
		26,00	4,084	
		25,25	4,834	
		24,50	5,584	
		23,75	6,334	



21 Dec, 11 1888

5 grades

side walk grades
on Blk 283 lots D, E, & F,
for Dr W. B. Woodward,

7,925	257.589			249.664
3,				
		251,25	6.34	
		251,8	5,79	
		251,53	6.06	
		~~252,0~~	~~5.09~~	
		253,13	4.46	
		255,0	2,69	

253.75
21.25
41.25
6.25

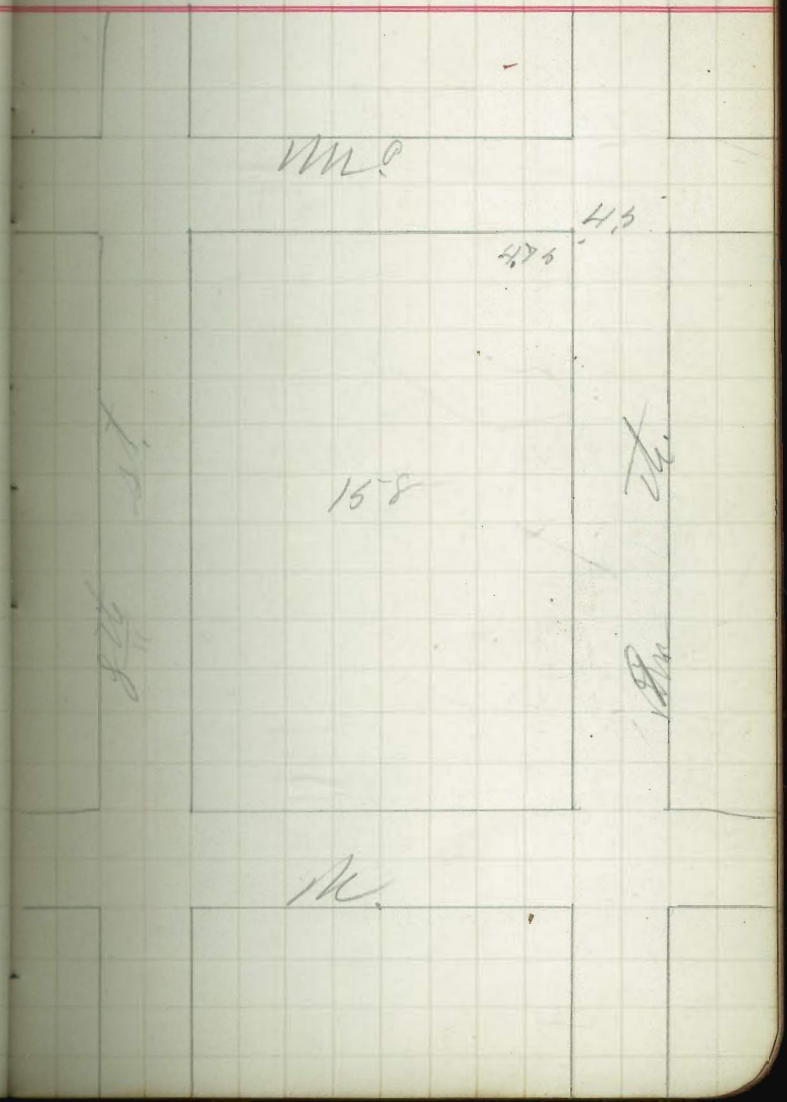
Maple

258.5
258.75
257,50
256,25
255,00
253,75
253.13
252,5
251,25
251,0
181
181,80
252,25
252,0
Laurel st
5th st
Park

Dec 15 1888

Building grades on
Blk 158, Lot L.
Eisenmeyer, Marshall &c

+	H.I.	−	Elev.		
1,615	10,118				8,503
		5,368	4,750		
		7,690	2,428		24,25



25 Dec 18 1888
+ sec on c

M S

14

between 12 + 13

2.24	88.14			85,90							
					0	1.3		1.9	3.7	4.2	4.2
					+5.0	6.1		6.2	7.4	7.5	6.9
					1	16.5/45		11.0/34	11.0	11.0	10.5
1.29	77.93	11.50	76.64								
					+5.0	9.3/40		4.3/31	5.4	5.2	5.7
					2	10.2	8.9/31	8.9	9.8	10.0	9.9
		8.95	68.98	68.99							

27 Dec 15

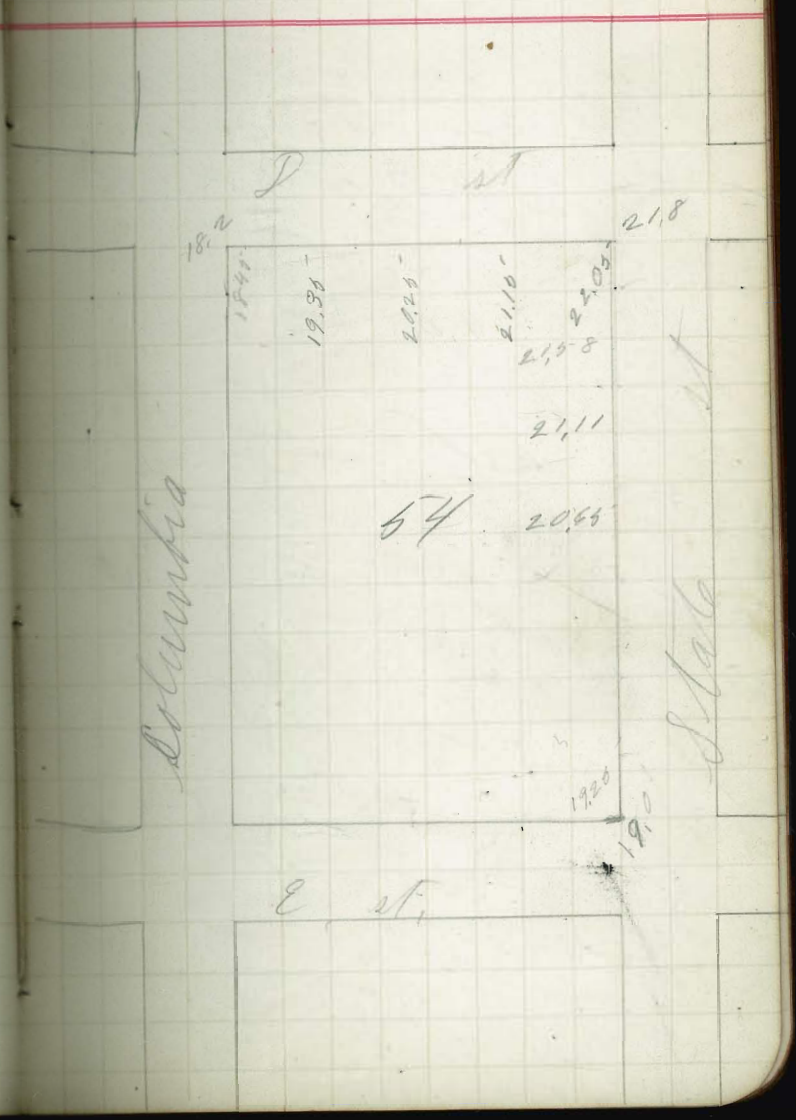
43.4 42.7
42.73 42.03

+	H.I.	−	Elev.		Bm
3.092	47.781				44.689
		5.75	42.03		
		5.05	42.73		
		2.219	45.562		45.596
5.108	46.743				41.635
		2.048	44.695		44.689

29 Dec 20 1888

Sidewalk grades on Blk 54 Lots K & L. in New Town

7.400	25.911			18.511
		3.86	22.05	
		4.76	21.15	
		5.66	20.25	



31 Dec. 29 88

Grades for Scales
by order of city
Lot A B Lk 58 H.a.

3,	2,42	9,03		6.61
		4.0	5.03	

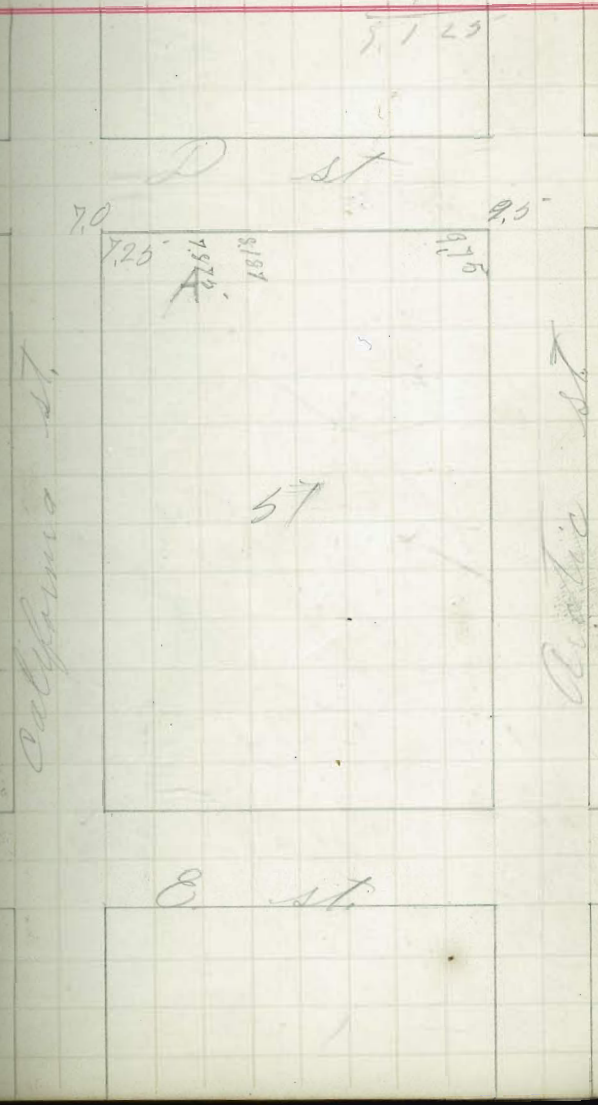
 Dec 31 88

3 grades

Sidewalk grades on Blk 51 lot A New Town for Haskins.

3.849	12,282		8,433
	7,25	5.032	
	7,875	4.407	
	8,500	3,782	
	9,125	3,157	

7875
625
8500
625
9125

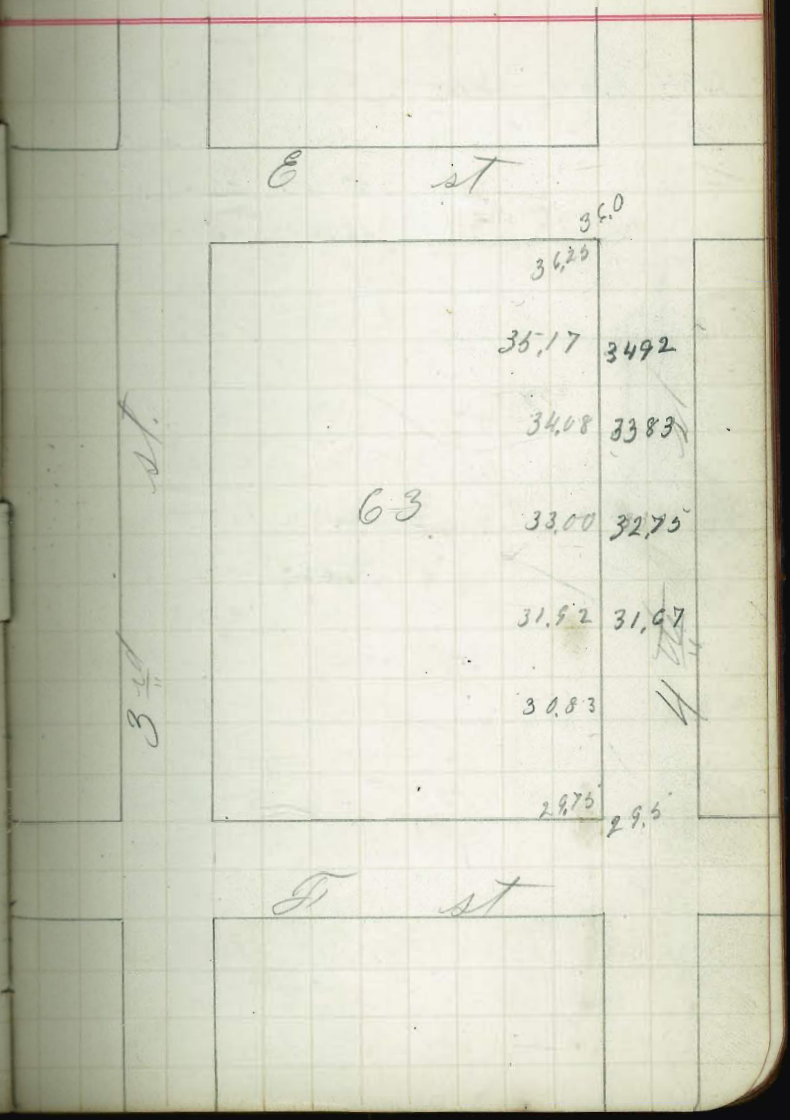


Schuyler
89

37 Jan. 2nd '89

sidewalk line and grades on Blk 63 lot J. Hortons add
A.M. Van Horn

0.787	39.215			38.428
		33.83	5.385	
		32.75	6.465	



39 Consol. 21

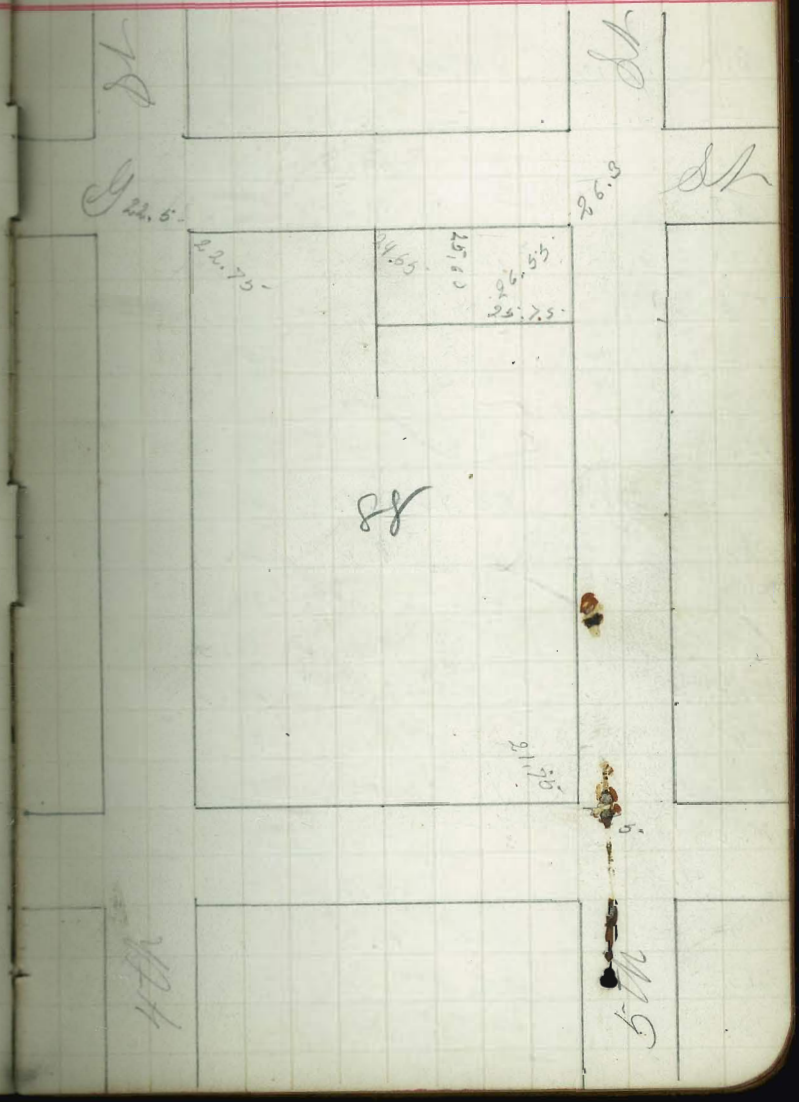
Grades for First National Bank Jan 19 1888

BM	+	HI	Grade	Rod
28.33	2.84	31.22		
			26.55	4.67
			25.75	5.47
			25.60	5.62
			24.65	6.57

Block

BM	+	HI	-	Elev
24.47	5.26	29.73		
			5.08	24.65
			4.13	25.60
			3.18	26.55
			3.14	26.55
			3.98	25.75

H Hamlin
H.P. Orton
H. Bryant
B.O. Winnek



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22

Levels along Annie Old Town flats

Sta	+	HI	-	Elev	
BM	0.12	32.08		31.96	Cor Wetherbee & 2nd St N.D.
#	1.31	21.50	11.89	20.19	
			10.79	10.71	BM 2nd & Courth
134+70			11.25	10.25	2nd & Wetherbee set
#	7.32	16.90	11.92	9.58	
134			9.4	7.5	
133			10.7	6.2	
132			7.2	9.7	
131			3.0	13.9	
#	10.71	26.79	0.82	16.08	
130			7.6	19.2	
129			3.0	23.8	
128			3.3	26.5	
127+13.5			2.7	24.1	
127			3.6	23.2	
BM #	0.96	16.12	11.65	15.14	
126			5.0	10.6	3/4 in til new Cemetery.
RR +61			9.1	7.0	
#	0.42	4.93	11.71	4.41	
125		4.8	6.7	- 1.9	
124			6.1	- 1.3	

43 Levels along Adrie Old Town flats

Sta	+	HI	−	Elev
		(4.8)		
123		4.80	6.6	− 1.8
122			6.2	− 1.4
121			5.6	− 0.8
120			6.0	− 1.2
#	5.50	4.78	5.55	−0.72
119		(4.8)	5.5	− 0.7
118			4.7	+ 0.1
117			4.3	0.5
116			5.3	− 0.5
115			6.9	− 2.1
114			4.0	+ 0.8
113		(4.4)	4.3	0.5
#	3.83	4.41	4.20	0.58
112			3.3	+ 1.1
111			5.9	− 1.5
110			6.1	− 1.7
109			5.0	− 0.6
108			6.1	− 1.7
107			7.2	− 2.8
106			3.6	+ 0.8
105			3.2	+ 1.2

45 Levels along A Line Old Town flats

Sta	+	HI	-	Elev
#		4.41		
#	3.67	5.49	2.59	+1.82
104		5.5	4.3	1.2
103			5.0	0.5
102			5.0	0.5
101			5.1	0.4
+40			5.9	0.1
100			6.8	-1.3
~~+90~~			~~5.2~~	~~0.3~~
99			4.8	0.7
98			4.8	0.7
97			5.0	0.5
#	4.06	5.13	4.42	1.07
96		5.1	5.3	-0.2
95			4.6	0.5
94			4.4	0.7
93			4.8	0.3
92			5.5	-0.4
91			5.4	-0.3
90			5.2	-0.1
89			5.3	-0.2

47 Levels along A Line — Old Town plate

Sta	+	H.I	−	Elev
		5.13		
#	4.64	4.61	5.20	− 0.07
88			4.5	+ 0.1
87			4.8	− 0.2
86			4.5	+ 0.1
85			5.1	− 0.5
84			4.9	− 0.3
83			5.2	− 0.6
82			5.0	− 0.4
81			5.1	− 0.5
80			5.1	− 0.5
#	4.24	4.54	4.81	− 0.20
79		(4.5)	5.1	− 0.6
78		Left	6.5	− 2.0 Right
77	5.2	−0.7 / 20	3.9	+ 0.7
Rod	Elev	Rod	Elev	Rod — Elev
764.6	−0.1 / 100	5.3 Center	− 0.8	4.4 ± 0.1 / 20
75		4.9	− 0.4	4.8 − 0.3 / 40
74		4.8	− 0.3	5.2 0.7 / 70
73		4.9	− 0.4	5.5 −10/100 +0.3/10

Sta	+	H.I	−	Elev
76		4.54		
75				
74				
73				

49 Levels along A Line. Old Town Plate

Sta	+	H.I.	−	Elev	
		Left 4.54			Right
72		+0.3/100	4.0	+0.5	-0.5/108 +0.5/120
#	3.94	4.62	3.91	0.63	
71			5.2	-0.6	-0.1/70
70			5.4	-1.2	+0.1/40
69		-0.3/100	6.2	-1.6	+0.2/15
68			5.7	-1.1	+0.2/10
67			5.6	-1.0	0.0/10
66			6.1	-1.5	-0.4/20
65			5.4	-0.8	+0.2/60
64			6.1	-1.5	-0.2/100 0.0/150
#	6.21	5.43	5.46	-0.78	
63		-0.6/100	7.9	-2.8	-1.8/30 0.0/40
62			6.0	-0.6	-0.6/10 +1.1/15
61			5.2	+0.2	+1.7/35
60		+0.4/100 -1.0/35	5.2	+0.2	+2.2/45
59		+1.2/50 -1.6/10	5.8	+0.4	+1.2/15
58			5.4	0.0	-1.6/30 +2.3/50
57			4.6	0.8	
#	4.02	5.39	4.06	1.37	
56			4.6	0.8	

51 Levels along A Line — Old Town Plats

Stn	+	-	H.I.	-	Elev	
			5.39			Right
55+16			Left	5.0	0.4	
55				5.1	0.3	1.0/65
54				5.4	0.0	0.8/30 0.9/75
53			+0.8/100	5.9	-0.5	0.5/15
52			+0.3/100	4.1	1.1	
51				4.7	0.7	2.4/70
50			+0.9/100	4.9	0.5	1.6/80
49				4.8	0.6	2.1/100 2.3/125
48			+0.6/100	2.3	3.1	5.0/50
~~#~~	1.51		5.05	1.85	3.54	
47			+0.6/100	3.7	1.3	1.5/12
46			+0.5/100	6.0	-1.0	1.4/20
45				5.7	-0.7	0.6/40
44				5.3	-0.3	-1.3/50 0.3/55
43+46.3			+0.2/100	5.4	-0.4	
43				6.6	-1.6	+1.0/20
42				5.3	-0.3	+1.7/16
41			-0.2/12	2.0	3.0	
40				5.2	-0.2	1.4/30
39				5.2	-0.2	1.2/40

5-3 Levels along A Line — Old Town flats

Sta	+	H.I.	−	Elev	
		Left 5.05			Right
#	4.41	5.05	4.41	0.64	
38		−0.6 / 100	5.5	− 0.5	+0.5 / 40
37			5.3	− 0.3	−0.5 / 40
36			5.7	− 0.7	1.0 / 60
35		−0.3 / 100	6.7	−1.7	1.8 / 75
#	5.30	9.90	0.45	4.60	
34			5.40	4.50	Top of embankment.
26+50 #	5.23	10.43	4.70	5.20	
16+50 #	4.81	10.93	4.31	6.12	
6+50 #	5.36	15.39	3.90	10.03	
0			4.22	11.17	

55

29

Sta	+	H.I.	−	Elev	

57

30

Stu	+	H.2.	-	Elev	

Sta	+	HI	−	Elev

Sta	Elev / Rod x	Sta	Elev / Rod	Sta	Elev / Rod

63

33

65

34

81

82

	25				
	106/100				
	3				
	107/38				
	38				

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

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

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

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.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		

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