TRANSIT

F.B.35

35

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

MICROFILMED
DEC 4 1964

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	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

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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

35

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

93 + 52

MICROFILMED

DRAWING
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In t
links to be a

Angle.	Cor.
°	
4	0
5	0
6	0
7	0
8	0
9	1
10	1

P.L. 1178	3 - 7
" "	8 - 10
4th St Bridge X sect	12 - 20
Miss K.O. Sessions	21.
Orange Hill Water Main levels	22 & 23
Water pipe on Sargent Ave	24
Blaisdell & Morrison	27
31st Center	29
32nd Center	31
H St X sect att to 4th	34 - 38
" " " " 6th to 16th	39 - 42
E St. X sec 200' W of 25th	43
S 21st X sec Borrow Pits	44 - 45

Preliminary survey around Pueblo lot 1178

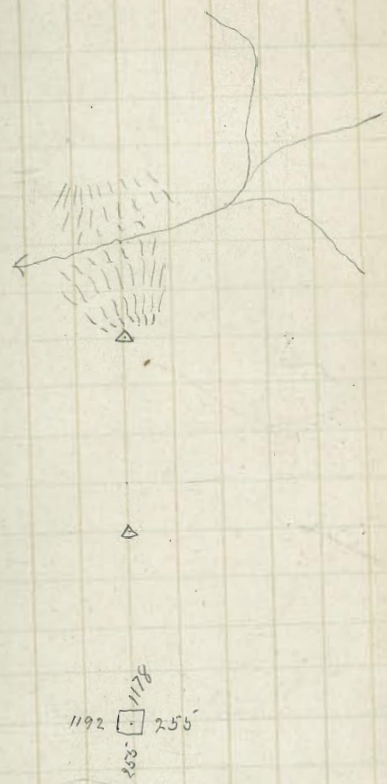
Jan 18 1892

Hamlin Nemsick
Williams } Chain
Shaw
Van Hook

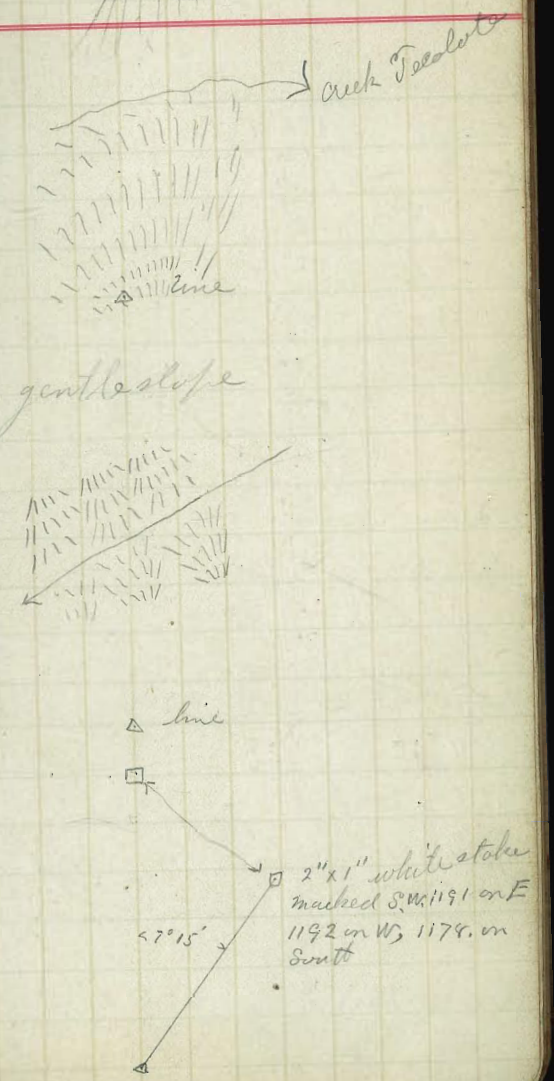
3

Sta	Ref	Course	M.C.		
19+35					
18+0	△				
13+09	△			top of Mill	
0	△	0° 0'	East	N 76° 0' E	

Beginning at a stake in 4th Ave bet M & N Sts in Moreno, stake is marked 1192 on north, 253 on West and South and 1178 on East, stake 30" under ground 4x4" square Run east on a random line Mag var 14°



Sta	Ref	Course	M.C.		
25					
17+70					
17		Top of flat hill west of Pecolate			
6+40		Bottom of canon			
1					
0		S 89° 23' E	N 76° 15' E		
31+73.5	6° 38' L	S 89° 23' E	N 76° 15' E	(calculated back course and produced line east)	
29	7° 15' R	S 82° 45' E	N 82° 0' E	Some local attraction at this point	



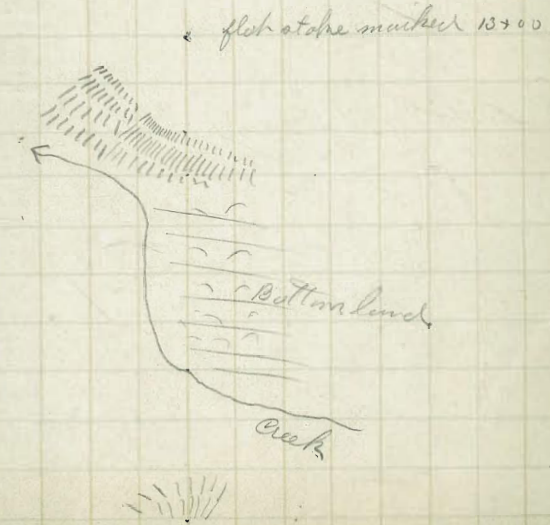
Sta	Def	Course	M.C.		
26 + 52.5					
17.					
12+75					
10+50					
400'					
0		S0° 37' W	S14° 0' W along East line 1178		
26+28=0					

Scarf stake in Md ⊕ 8.5 ⊡ of Stone (marked 1178 on N.W. side

Struck 3' north & 1' West of Stake.

30 X 4 X 4" stake in mound of rock, marked 1191 on N.W. face

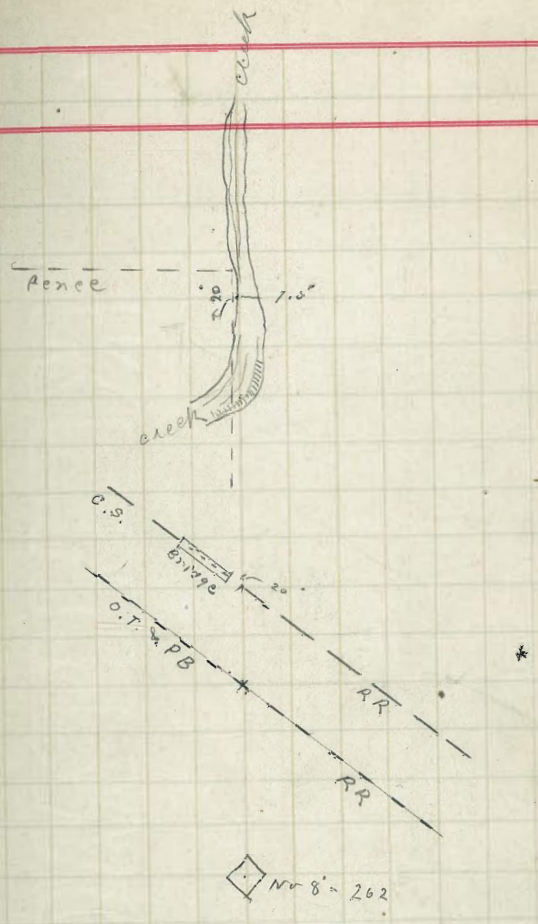
Sta	Def	Course	MC
13+0			
+80			
10+40			
4+50			
0		N 89°23'W	



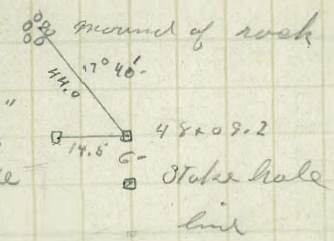
1178

Sta	Ref	Course	M.C.		
21+70	fence north line				
21+50					
20+52					
5+96.5					
4+71.5					
0	N 35° 15' E		N 22° 0' E		

Begining at the northerly corner of Pueblo lot 262 by Pooler Map, a stake set by O.N. Sanford , marked Pole No 8, 262 of Southerly face, B.S. to Westerly cor 262 Rev, and produced line ahead

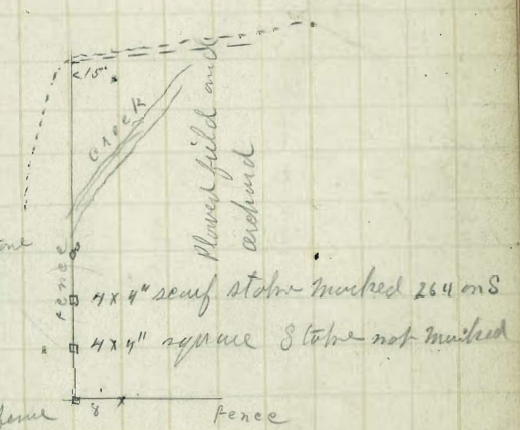


Sta	Def	Course	M.C.		
48+09.2	0 = 90° D	N 54°45' W	N 68° W		
39+5.5					
+20	trail				
37+03	fence				
27+60					
26+71	10'	left of line			
26+36	8.0	left of line			
26+10	9.0	left of line			
25+86	8.0	left of line			



white stake 1 x 2" marked 255 W
N.W. 266 East side
1178 on N.E.

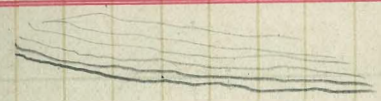
Stake in md of Rock
11.5' west line



two rocks sand stone under fence.

Stake at cor of fence
36 x 3 x 3" marked 364
on South face

Sta	Def	Course	M.C.
36+54.3	high water line False Bay		
36+15.8	center of O.T. & PB RR		
34+83.8	center of C.S. RR		
27+54.3			
21+88.1			
1854.3			
1189.1			
5+14			



a Stake 30 x 4 x 4"
marked 1178 on 7' x
East 1192 on
North and 255 on West

Mound of rock 0.00 50. 70.5 00 mound of rock
102° 05' L 77° 40' R.

x secs for Bents for Bridge on 4th St. bet Palm & Redwood

Feb 8th 1892 Hamlin, Williams, Shaw, Van Hook chain

West Rod	West Elev.	Center Rod	Center Elev.	East Rod	East Elev.

Sta	+	HI	−	Elev

X secs for Bent for Bridge on 4th St bet Palm & Redwood Sts

Sta	+	HI	−	Elev		West		Centre line				East
B.M.	1.58	278.78		277.20	B.M.	5th & Palm						
#	3.05	272.90	8.93	269.85								
0	North line of Palm Street											
0+25						40 / 259.8		0 / 257.8	18 / 259.5	33 / 264.0	36 / 269.0	40 / 269.4 ✓
#	0.58	261.55	11.93	260.97								
0+41						40 / 247.5		0 / 248.0			24.0 / 253.6	40 / 262.8 ✓
#	0.08	250.00	11.63	249.92								
0+57						40 / 237.9		0 / 241.8				40 / 261.0 ✓
#	0.00	238.58	11.42	238.58								
0+73						40 / 228.0	25 / 229.8	0 / 240.4			36 / 262.5	40 / 268.6 ✓
#	3.01	229.69	11.90	226.68								
0+89						40 / 221.0		0 / 237.6				40 / 263.6

X sect for Bents for Bridge on 4th St bet Palm & Redwood Sts

Sta	+	HI	−	Elev	West			Center			East		
		229.69											
1+05					40 / 218.7			0 / 238.8			40 / 264.0		
#	11.51	240.68	0.52	229.17									
1+21					40 / 221.7			0 / 239.3			34 / 262.0	35 / 268.0	40 / 269.1
#	112.74	253.06	0.36	240.32									
1+37					40 / 230			0 / 243.7			40 / 264.4		
1+53					40.0 / 237.8			0 / 248.5			30 / 263.3	40 / 268.5	
1+69					40 / 245.0			0 / 256.7			21 / 264.1	23.0 / 267.8	40.0 / 270.4
#	11.36	264.00	0.42	252.64									
1+85					40 / 251.6			0 / 263.5					
2+01					40 / 257.4	36 / 260	30 / 267.0						
#	7.17	269.57	1.60	262.40									
2+17					40 / 256.6	29 / 267.8							

Sta	+	HI	−	Elev		West		Center		East
								X		
		269.57								
2+38						40 / 256.8	27 / 267.0			
B.M.			4.43	264.47 / 265.14 / .67	4th & Dain					
2+49						40 / 253.5	27 / 262.2	8 / 268.0		
B.M.			− 0.76	269.75 / 270.33 / .58	4th & Dain					
2+65						40 / 248.1	16 / 257.8	0 / 264.4		
B.M.	4.40	268.90		264.47	change	Elev				
2+81						40 / 247.1		0 / 262.0		
#	0.55	257.78	11.67	257.23				0		264.4
2+97						40 / 241.2		254.0		40 / 264.4
#	0.50	246.41	11.87	245.91				0		40
3+13						40 / 238.1		246.2		260.8
#	6.80	241.51	11.70	234.71				0		40
+29						40 / 229.0		242.5		259.9
#	11.67	252.83	0.35	241.16				0		40
+45						40 / 232.7		244.6		262.6
+61						40 / 237.9		0 / 251.7		40 / 263.8
#	11.40	263.54	0.69	252.14				0		40
+77						40 / 245.2		261.0		269.5

Sta	+	HI	−	Elev	West	Center	East
		263.54					
3+93					40 / 251.8	10 / 264.4	
#	8.45	270.01	1.98	261.56			
4+09					40 / 257.3	20 / 266.5	
4+25					40 / 258.9	10 / 265.5	
+41					40 / 251.4	10 / 262.7	
+57					40 / 247.4	10 / 263.0	
#	11.13	259.25	11.89	258.12			
+73					40 / 246.2	10 / 263.8	
+89					40 / 245.6	12 / 259	
5+05					40 / 248.3	10 / 261.1	
+21					40 / 251.5	10 / 266.0	
+37					40 / 250.7	20 / 265.6	10 / 268.3

Sta	+	HI	−	Elev	West		Center	East
		259.25						
5+53					40 / 247.8	10 / 264.8		
+69					40 / 249.3	10 / 258.2		
+85					40 / 258	10 / 268.2		
#	10.70	269.93	0.02	259.23				
6+01					40 / 263.4	10 / 265.7		
+17					40 / 264.8	10 / 267.4		
+33					40 / 262.0	31 / 266.2	10 / 267.9	
+49					40 / 261.9	35 / 265.4	10 / 268.4	
+65					40 / 258.8	26 / 266.5	10 / 268.5	
+81					40 / 257.9	26 / 265.5	10 / 269.2	
+97					40 / 260.6	30 / 265.9	10 / 269.2	

Sta	+	HI	−	Elev		West	center	East
		269.90						
7+13						40 / 258.2	30 / 265.2	10 / 269.1
+29						40 / 257.7	26 / 252.	10 / 269.7
7+45						40 / 262.5	30 / 267.9	10 / 270.0
+60					North of	40		
BM			.17	269.76	Redwood			

Grader on 48th St Palmer to Bed'd

Sta	West	Centre	East		
0	266.50		267.50		North line of Palm
+25	266.62		267.62	✓	
+41	266.70		267.70	✓	
+57	266.78		267.78	✓	
+73	266.86		267.86	✓	
+89	266.94		267.94	✓	
1+05	267.02		268.02	✓	
+21	267.10		268.10	✓	
+37	267.18		268.18	✓	
+53	267.26		268.26	✓	
+69	267.34		268.34	✓	
+85	267.42		268.42	✓	
2+01	267.50		268.50	✓	
+17	267.58		268.58	✓	
+33	267.66		268.66	✓	
+49	267.74		268.74	✓	
+65	267.82		268.82	✓	
+81	267.90		268.90	✓	
2+97	267.98		268.98	✓	
3	268.00		269.00		South line of Lunnee St.
+13	268.00		269.00	✓	

3+29	268.00		269.00	✓	
+45	268.00		269.00	✓	
+61	268.00		269.00	✓	
+77	268.00		269.00	✓	
+80	268.00		269.00	✓	North line of Lance
+93	268.06		269.06	✓	
4+09	268.14		269.14	✓	
+25	268.22		269.22	✓	
+41	268.30		269.30	✓	
+57	268.38		269.38	✓	
+73	268.46		269.46	✓	
+89	268.54		269.54	✓	
5+05	268.62		269.62	✓	
+21	268.70		269.70	✓	
+37	268.78		269.78	✓	
+53	268.86		269.86	✓	
+69	268.94		269.94	✓	
+85	269.02		270.02	✓	
6+01	269.10		270.10	✓	
+17	269.18		270.18	✓	
+33	269.26		270.26	✓	

+45	269.34		270.34	✓	
+65	269.42		270.42	✓	
+80	269.50		270.50		South line Redwood
+81	269.50		270.50		
+97	269.50		270.50		
7+13	269.50		270.50		
+29	269.50		270.50		
+45	269.50		270.50		
+60	269.50		270.50		North line Redwood

Tract of Land in N.W. Cor of City Park granted to Miss Session NW 1/4 1131

Set a Stake 200' East of the N.W. Cor of the City Park, thence South parallel to the west line of City Park 1550' over level mesa thence east and parallel with the north line of the City Park 200' to Bank of canon (set Plg.) 350' to steeper slope (set Plg) 850' to bottom of canon 900' set 1"x1" stake in md of rock thence north 1200' set flat stake 1550' set 1"x1" stake in md of rock thence West along the north line of the City Park 80' to bottom of Creek 180' to foot of slope 900' to stake point of beginning

Set a stake marked water pipe and Wyas St 85' south of N.W. Cor;

Sta	+	HI	−	Elev	
B.M.	5.04	92.05		87.01	30th & R St plg NE cor
197			4.73	87.32	
197+78			2.64	90.41	
198			3.67	88.38	
198+44			4.09	87.96	
199			4.85	87.20	
200			4.84	87.21	
201			10.47	81.58	
#	1.43	82.19	11.29	80.76	
202			4.87	77.32	
203			8.70	74.49	
203+60			10.0	72.19	
#	1.70	72.06	11.83	70.36	
204			2.49	69.57	
204+90			9.54	63.52	
204+95			12.1	59.96	Bottom Ditch
205			10.6	61.46	
205+3			8.90	63.16	
205+54			2.45	69.41	
206			1.57	70.49	
#	9.18	80.47	0.87	71.19	

Sta	+	HI	−	Elev	
		80.47			
207			6.24	74.23	
208			5.73	74.74	
209			5.68	74.79	
210			4.84	75.53	
211			6.35	75.02	
# 212	1.81	75.19	7.09	73.38	
213			3.68	71.51	
214			5.19	70.00	
215			5.97	69.22	
# 216	2.61	70.59	7.21	67.98	
217			5.34	65.25	
217+54			6.1	64.49	
BM			6.67	63.92	South West cor Spik in fence post
BM			4.44	65.93	Hyd King

+20		End of line
7		
6		
5		
4		
+46	90° 0' L	Intersection of pipe line on 28th with pipe line on Sargent
3		
+66.4	50° 15' R	Intersection of pipe line on Franklin with pipe line on 28th
2		
1		
0		

Sta 0 is a point on the east line of S 26th 7' South of the center line of Franklin ave
Ran East along Franklin ave to 28th
28th to Sargent, Sargent to lot 38 Blk 318

Sta	+	HI	−	Elev.
190	6.1	77.12		71.02
+50			7.55	69.57
191			4.23	72.89

Survey of tract in City Park for Blaisdel & Morrison

Dist	Ref	Course	M.C.
482.0	+ 23.0	dist west to Bd = 505' on line bet Morrison & Blaisdel	
440.5'			
0	East	thence east on a line bet Morrison & Blaisdel	
600'		set a plug, thence west 23' to East line of Bd, and East at about 482	⊡ Set a stake marked M on NE & B on SW.
472			▵ line
0	South		
Returned to point of beginning and ran South			
482.0			⊡ stake marked M on SW
330			▵ line
0	East		
Begining at a point on the east line of the Park boulevard 485' East of the N.E. cor of fractional blk in Hartons add			⊡ stake marked M on SE.

Description of a tract of in the City Park
Granted to Morrison Feb 20 1892

Begining at a point 486' East of the N.E. Cor of fractional blk 260 in Hortons Add thence East 482; thence south 600 thence West 505' to the easterly line of the park boulevard thence northerly along the easterly line of said boulevard to the point of begining, containing $6\frac{50}{100}$ acres

Description of tract of land in the city Park granted to Blaisdell

Begining at a point 482' East and 600' south of the N.E. Cor of Blk 260 in Hortons add, thence east 505' thence south 10 1/4° West 701 feet thence west 396 feet to the easterly line of the Park Boulevard thence northerly along said Boulevard to point of begining containing 7. acres

Tract granted jointly to Blaisdel & Morrison

begining at a point on the easterly line of the park boulevard where the south line of Fir st in H.A. produced easterly intersects the easterly line of said boulevard thence east 330' thence North 17° 0' West 245' to the S.E. Cor of tract granted to Blaisdel thence West 396' to the East line of the Park Bd thence S Easterly along the easterly line of said

Boulevard to the point of beg
ining containing 2.1 acres

Tract of land Granted to Blandell

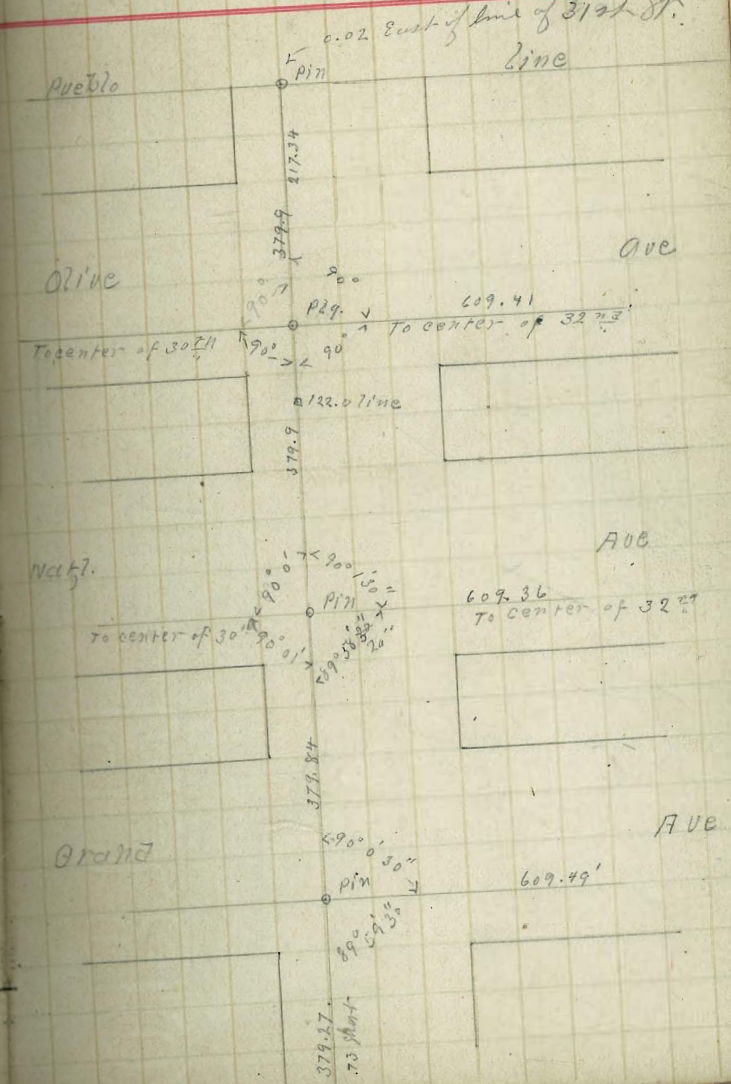
Begining at a point on the
Boulevard where the south line
sects the east line of said
505' thence S 10° 15' W 701' then
along the easterly line of the
of begining containing
easterly line of the park
of Morrison's tract inter
Boulevard thence east
West 396', thence Northerly
park boulevard to the point
7.0 acres

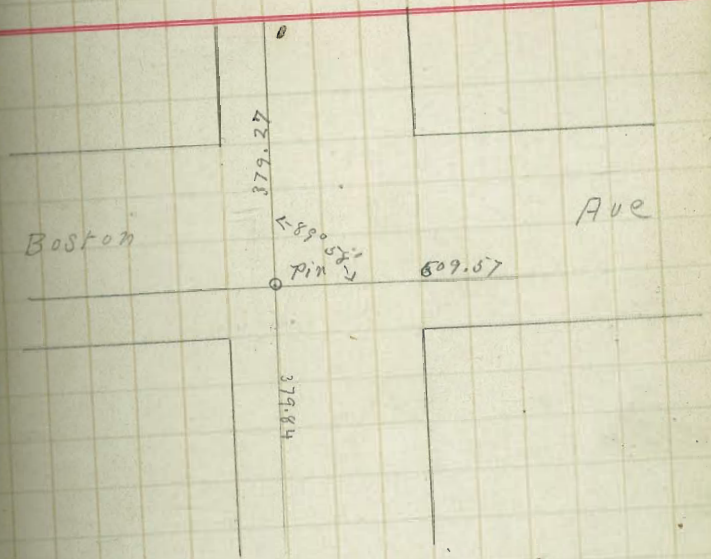
St Centers on 31st St.

set up on center of Olive & 31st St sight to 30th St 90° L to line of 31st St.
Sight to center of Olive & 32nd St R to line of 31st St

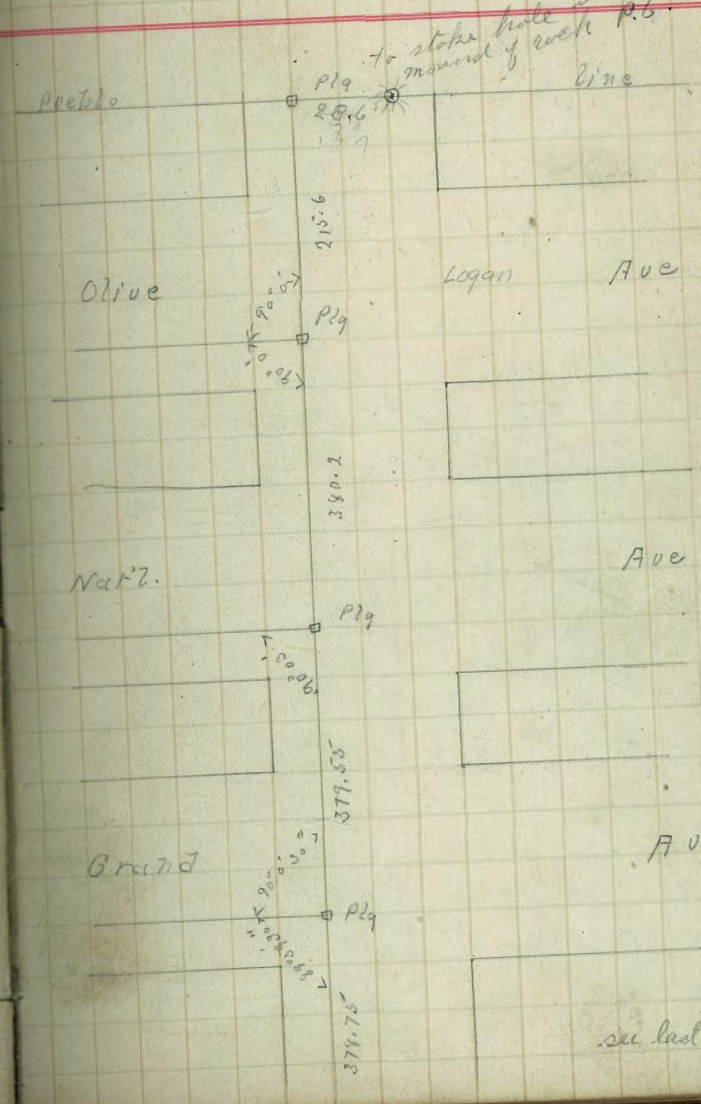
Mar 11 1892

Hamlin
Williams
Shaw
Van Hook




379.27
Boston
Ave
89° 58'
Pin
609.57
379.84

Center on 32nd St bet Olive and Boston.

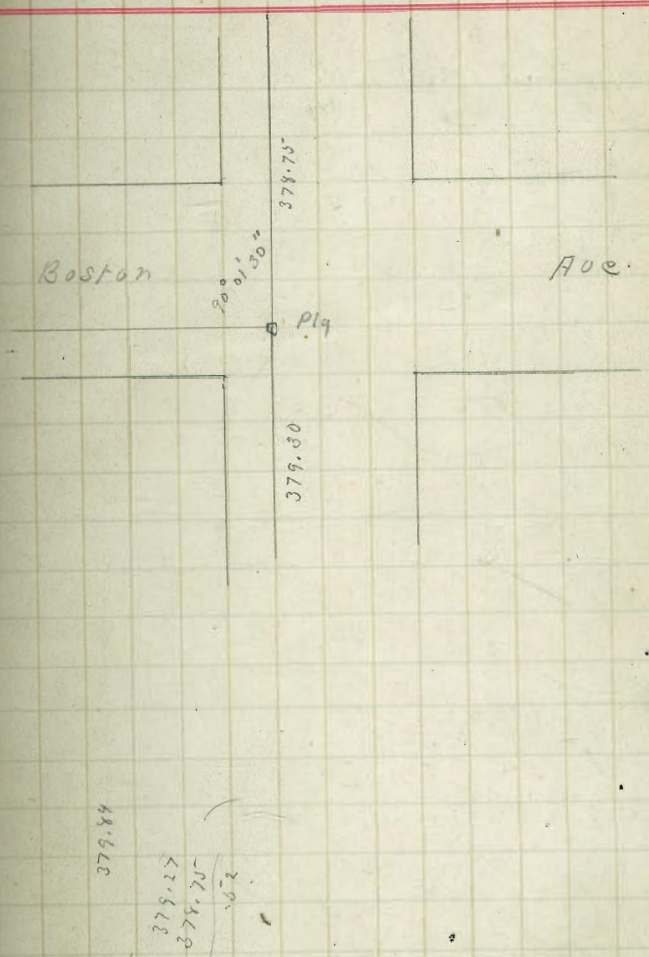


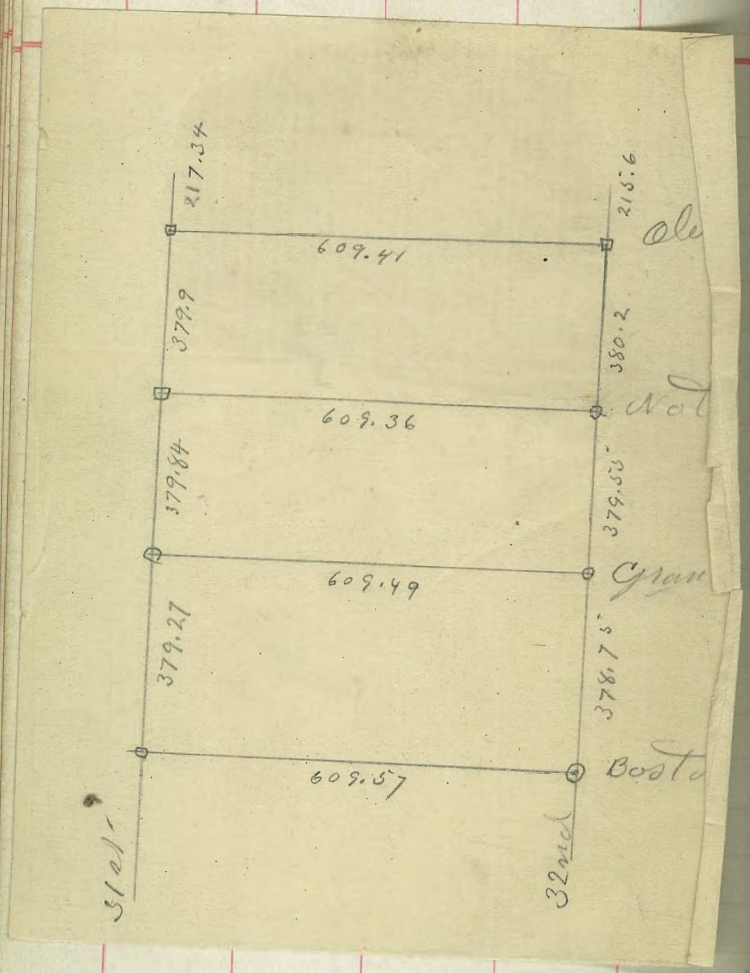
Set up on center of 31st & Natt
Light to 28th & Natt

29 th St	line		
30 st	0.07	~~East~~ North	
31st st	line		
32nd St	0.25	South	

Set up on center of 31st and Olive
B.S. to 32nd & Olive produced line west

32n	line		
31 st	line		
30 th	0.10	north	
29 th.	0.10	north.	
Set up on	29 th	B.S. 27	Grand
27 th	line		
28 th	out		
29 th	line		
30 th	0.15	South.	
31 st	0.52	South.	
32nd	0.94	South.	





Set up on center of 31st & Boston
B.S. to 32nd St
32nd St line
31st St line
30th St line
29th St 0.06 North
28th St —"—
27th St 0.48 North.
Set up on center of Topeka & 29th
B.S. to 28th
28th St line
29th St line
30th " 0.07 South.
31st " 0.42 South.
32nd "

X sect of H St att to 4th 1892

N	S Walk	Gutter	Center	S. Walk	Gutter
			(5.12)		
1-8			2.4		
3.3			2.7		
			3.2		
			1.9		
2.5					
2.6	Top of Rail S.F. on N of att.				
0.5			2.4		
4.6			2.7		
0.0	-0.5	-0.5	1.0	-0.5	-0.5
5.1	5.6	5.6	4.1	5.6	5.6
-1.2	-0.6	-0.6	0.5	-1.3	-1.0
6.3	5.7	5.7	4.6	6.4	6.1
-0.8	-0.9	-0.9	0.1	-1.5	-1.1
5.9	6.0	6.0	5.0	6.6	6.2
-1.4	-1.0	-1.0	0.0	-1.5	-0.9
6.5	6.1	6.1	5.1	6.6	6.0
-1.3	-1.0	-1.0	-0.3	-1.8	-1.1
6.4	6.1	6.1	5.4	6.9	6.2
			(4.6)		
-1.5	-1.1	-1.1	-0.4	-1.8	-1.4
6.3	5.7	5.7	5.0	6.4	6.0
-2.0	-1.5	-1.5	-0.4	-1.8	-1.4
6.6	6.3	6.3	5.0	6.4	6.0
-1.5	-1.7	-1.7	-0.4	1.8	-1.2
6.1	6.3	6.3	5.0	6.4	5.8
-1.7	-1.4	-1.7	-0.4	-1.7	-1.4
6.3	6.0	6.3	5.0	6.3	6.0
			(5.19)		
-0.7	-1.0	-1.3	+0.1	-1.4	-1.0
5.9	6.2	6.5	5.1	6.4	6.2
-0.3	-0.7	-1.1	+0.3	-1.2	-0.7
5.5	5.9	6.3	4.9	6.4	5.9
-0.2	-0.3	-0.9	+0.2	-1.0	-0.9
5.4	5.5	6.1	5.0	6.2	6.1

S	Sta	+	HO	−	Elev	
3.2	B.M.	3.87	5.12		1.25	Att & H St.
1.9	2					N of att.
	Level of Carlsons wharf					
3.4						
1.7	Top of St. Cas. Rail on S.F. wharf.					
3.5						
1.6	" " CS Rail " " "					
1.7						
3.4	2+50					center of
-0.9						
6.0	0					atlantic
-0.8						
5.9	+50					
-0.8						
5.9	1					
-0.7						
5.8	+50					
-1.2						
6.3	2					
-1.1	#	5.58	4.61	6.09	-0.97	
5.7	+12					
-1.1						
5.7	+37.5	Center Cal and H				
-1.3						
5.9	+62					
-0.9						
5.5	0					
					-0.95	
-1.2	B.M. #			5.53	-0.92	Cal & H
6.4	0+50	6.14	5.19			
-1.0						
6.2	1					
-0.7						
5.9	1+5					

N	cut	Gutter	Center	Gutter	cut	S	Sta	+	HO	−	Elev
			5.20								
−0.21	−0.11	−0.11	(5.19) −0.01	−0.80	−0.5	−0.7					
5.40	5.3	5.3	5.2	6.0	5.7	5.9	2				
−0.01	−0.11	−0.11	+0.19	−0.90	−0.70	−0.71					
5.2	5.3	5.3	5.0	6.1	5.8	5.9	2+72				
+0.49			+0.49			−0.71					
4.7			4.7			5.9	2+37.5		arctic and H		
+0.39	−0.01	−0.01	−0.49	−1.00	−0.71	−0.71					
4.8	5.2	5.2	4.7	6.2	5.9	5.9	2+62				
+0.49	−0.00	−0.21	+0.59	−1.19	−0.69	−0.71					
4.7	5.2	5.4	4.6	6.0	6.5	5.9	0				
+0.59	+0.39	−0.01	+0.79	−0.60	−0.30	−0.49					
4.6	4.8	5.2	4.3	5.8	5.5	5.7	0+60				
+0.59	+0.79	+0.49	+1.10	−0.80	+0.10	+0.10					
4.6	4.4	4.7	4.1	5.5	5.1	5.1	1				
+1.00	+0.90	+0.70	+1.40	−0.01	+0.20	+0.60					
4.2	4.3	4.5	3.8	5.2	4.8	4.6	1+50				
+1.70	+1.00	+0.40	+1.60	+0.50	+0.50	+1.10					
3.5	4.2	4.8	3.6	4.4	4.4	4.1	2		west line of India		
+1.50	1.50	0.90	(2.15) +1.60	0.60	0.70	0.50					
3.5	6.5	7.3	6.5	7.6	7.5	7.7	2+72	7.33	8.15	4.37	0.82
2.3			1.80			0.90					
5.9			6.4			7.3	2+37.5			7.43	0.72 0.73
1.60	1.30	2.20	2.20	0.90	1.10	1.50					
6.6	6.9	6.0	6.0	7.3	7.1	6.7	2+42				
1.80	1.60	1.60	2.30	1.20	1.20	1.60					
6.4	6.6	6.6	5.9	7.2	7.0	6.6	0				
2.60	2.10	2.00	2.60	2.20	2.20	1.90					
5.6	6.1	6.2	5.4	6.0	6.0	6.3	0+50				
3.60	2.70	2.50	3.40	1.80	2.00	1.70					
4.6	5.5	5.7	4.8	6.4	6.2	6.3	1				
4.10	3.70	2.90	4.30	2.50	2.70	3.00					
4.1	4.5	5.3	4.1	5.7	5.5	5.2	1+50				
4.70	4.60	3.70	4.50	3.30	3.50	3.50					
3.5	3.6	4.5	3.7	4.9	4.7	4.7	2				
4.70	4.50	3.70	3.60	3.60	3.60	3.50					
3.5	3.7	4.5	3.6	4.6	4.6	4.4	2+12				
5.20	4.50	5.20	4.50			4.20					
3.0	3.7	3.0	3.3			4.3	2+37.5				
3.4	3.3	3.6	3.0	4.2	3.9 4.30	4.50	2+62				
5.10	5.10	4.70	5.30	4.10	4.30	3.4					
3.1	3.1	3.5	2.9	4.1	3.9 4.30	3.7	0	East line Columbia			

N	Cent	Gutter	Centre	Gutter	Cent
4.20	5.80	5.80	13.30	5.90	4.60	4.70
7.1	7.5	8.0	7.4	8.7	8.6
6.40	6.10	5.90	6.60	5.30	5.30
6.9	7.2	7.4	6.7	8.0	8.0
6.90	6.40	6.30	7.40	6.40	6.40
6.4	6.5	7.0	5.9	6.9	6.9
7.80	7.70	6.90	7.90	6.90	6.90
5.4	5.6	6.4	5.4	6.4	6.4
7.50	7.30	7.00	8.10	7.10	7.10
5.4	6.0	6.3	5.2	6.2	6.2
8.70					
4.6			5.20		
8.80	8.10	8.10	8.40	7.40	7.40
5.0	5.2	5.2	4.9	5.9	5.9
8.40	8.20	8.00	8.50	7.50	7.50
4.9	5.1	5.3	4.8	5.8	5.8
9.30	8.90	8.50	9.20	7.90	8.00
4.0	4.4	4.8	4.1	5.4	5.3
9.10	9.30	9.00	9.70	8.30	8.30
4.2	4.0	4.3	3.6	5.0	5.0
10.20	9.80	9.60	10.10	8.70	9.00
3.1	3.5	3.7	3.2	4.6	4.3
10.70	10.30	9.80	10.50	9.40	9.40
2.6	3.0	3.5	2.8	3.9	3.9
10.40	10.00	10.00	10.50	9.40	9.40
2.9	3.3	3.3	2.8	3.9	3.9
11.20			10.70		
2.1			2.6		
10.90	10.70	10.70	10.90	9.60	10.10
2.4	2.6	2.6	2.4	3.7	3.2
11.10	10.90	10.70	10.90	9.90	10.10
2.2	2.4	2.6	2.4	3.4	3.2
		(16.40)			
11.50	11.00	10.40	11.10	9.60	9.80
4.9	5.4	6.0	5.3	6.8	6.6
11.50	11.00	10.60	11.20	9.70	9.90
4.9	5.4	5.8	5.2	6.7	6.5
12.00	11.60	11.00	11.60	9.80	10.10
4.4	4.8	5.4	4.8	6.6	6.3
12.00	11.80	11.40	11.90	10.60	10.70
4.4	4.6	5.0	4.5	5.8	5.6

S	Sta	+	HI	−	Elev
4.90					
8.4	0+50	B M		2.47	5.64.0
5.60					
7.7	1	8.78	13.27	3.66	4.49
6.50					
6.8	1+50				
6.80					
6.5	2				
7.00					
6.3	2+12				
7.70					
5.6	2+37.5	Centre	Line	State	
7.70					
5.6	2+62				
7.70					
5.6	0				
7.90					
5.4	0+50				
8.30					
5.0	1				
8.30					
4.0	1+50				
9.40					
3.9	2				
9.40					
3.9	2+12				
9.90					
3.4	2+37.5				
10.00					
3.3	2+62				
10.30					
3.0	0	East	Line	Union	
		4.27	16.44	8.30	10.17
9.90					
6.5	0+50			5.36	11.08	11.09
10.20					
6.2	1				
10.20					
6.2	1+50				
10.70					
5.7	2	West	Line	Fronut	

N	curb	Gutter	center	Gutter	curb	S	Sta	+	HO	−	Elev	
11.70	11.30	11.40	(1440) 12.00	10.40	10.90	10.90						
4.7	5.1	5.0	4.4	6.0	5.5	5.5	2+14					
12.30			11.90			11.80						
4.1			4.5			5.0	2+44					
11.80	11.90	11.40	12.00	10.60	11.00	11.00						
4.4	4.5	5.0	4.4	5.8	5.4	5.4	2+74					
12.10	11.90	11.40	12.10	10.80	11.10	11.00						
4.3	4.5	4.8	4.3	5.6	5.3	5.4	0	BM		4.16	12.28	12.27
12.10	12.10	11.30	12.10	10.70	11.00	11.20						
4.3	4.3	5.1	4.3	5.7	5.4	5.2	0+50					
12.10	11.90	11.40	12.20	10.80	11.10	11.30						
4.3	4.5	5.0	4.2	5.6	5.3	5.1	1					
12.20	12.10	11.60	12.10	10.90	11.00	11.00						
4.2	4.3	4.8	4.3	5.5	5.4	5.4	1+50					
22.30	12.20	11.40	12.20	11.00	11.00	11.40						
4.1	4.2	5.0	4.2	5.4	5.4	5.0	2	West	Line	1	st	
11.90	11.90	11.90	12.20	11.10	11.10	10.90						
4.5	4.5	4.5	4.2	5.3	5.3	5.5	2+14					
			(1530)									
12.30								4.15	16.30	5.29	11.05	
3.0			12.10			10.90						
			3.2				2+40					
11.00	11.50	10.80	11.60	10.60	10.60	11.00						
4.3	3.8	4.5	3.7	4.7	4.7	4.3	2+66					
11.60	11.60	10.40	11.40	10.60	10.60	10.90						
3.7	3.7	4.9	3.9	4.7	4.7	4.4	0					
10.60	10.80	9.80	11.20	10.10	10.10	10.00						
4.7	4.5	5.5	4.1	5.2	5.2	5.3	0+5					
10.40	10.50	9.80	10.70	9.60	9.60	9.20						
4.9	4.8	5.5	4.6	5.7	5.7	6.1	1					
10.90	10.50	9.70	10.50	9.40	9.60	10.30						
4.4	4.8	5.6	4.8	5.9	5.7	6.0	1+5					
10.20	10.20	9.20	10.40	9.20	9.20	10.10						
5.1	5.1	6.1	4.9	6.1	6.1	5.2	2					
9.90	9.90	9.30	10.20	8.60	9.00	9.20						
5.5	5.5	6.0	5.1	6.7	6.3	6.3	2+14					
10.10			10.20			9.60						
5.2			5.1			5.7	2+40					
9.80	9.80	9.50	10.20	8.70	9.20	9.30						
5.5	5.5	5.8	5.1	6.6	6.1	6.0	2+66					
10.40	10.30	9.60	10.30	9.10	9.30	9.40						
4.9	5.0	5.7	5.0	6.2	6.0	5.9	0	East	Line	2	st	

N	curb	Gutter	Center	Gutter	curb
			15.95		
			16.00		
10.70	10.40	10.00	10.70	9.30	9.60
5.3	5.2	6.0	5.3	6.7	6.4
11.10	10.70	10.30	10.90	9.50	9.60
4.9	5.3	5.7	5.1	6.5	6.2
11.50	11.20	10.90	11.20	10.00	10.20
4.5	4.8	5.1	4.8	6.0	5.8
11.90	11.50	11.30	11.70	10.50	10.50
4.1	4.5	4.7	4.3	5.5	5.5
11.40	11.50	11.50	11.70	10.50	10.50
4.6	4.5	4.5	4.3	5.5	5.5
13.0			11.90		
3.0			4.1		
12.40	12.50	11.90	12.50	11.40	11.30
3.4	3.5	4.1	3.5	4.6	4.7
12.60	12.50	11.80	12.80	11.60	11.50
3.4	3.5	4.2	3.2	4.4	4.5
13.6	13.3	12.4	14.90	13.40	11.50
5.3	5.4	6.5		5.5	7.0
14.4	14.1	13.4	14.1	12.8	13.0
4.5	4.8	5.5	4.8	6.1	5.9
15.4	15.0	14.5	14.7	13.3	13.8
3.5	3.9	4.4	4.2	5.6	5.1
16.8	16.4	16.0	15.6	15.2	15.4
2.1	2.5	2.9	3.3	3.7	3.5

S	Sta	+	HI	−	Elev
6.3	BM	4.40	15.95	3.75	1155
9.70	0+50				
6.3					
10.00	1				
6.0					
9.90	1+5				
6.1					
10.20	2				
5.7					
10.10	2+14				
5.9					
11.30	2+40				
4.7					
11.40	2+64				
4.6					
11.40	0	5.36	15.94	2.37	135.8
4.4					
12.40	0+50				
6.5					
12.5	1				
6.1					
13.7	1+5				
5.2					
15.3	2			1.31	17.63
3.4					

N. St 6th to 16th

N	curb	~~Gutter~~	centre	~~Gutter~~	curb	S	Sta	+	HI	−	Elev	
	26.06		30.96		24.96							
	4.9		25.76		6.0		0	4.91	30.96		26.05	
	26.26		5.8		24.76			← East of 6th				
	4.7		25.66		6.2		0+50					
	26.26		5.3		24.96							
	4.7		26.26		6.0		1					
	26.66		4.7		25.16							
	4.3		26.46		5.8		1+50					
	26.86		4.5		25.36							
	4.1		26.86		5.6		2					
	27.76		4.1		26.36			← 7th St				
	3.2		26.96		4.4		2+40	4.06	31.69	3.33	27.63	27.615
	27.79		4.0		26.49							
	3.9		31.69		5.2		0					
	27.89		4.3		26.79							
	3.8		27.77		4.9		0+50					
	28.39		3.9		26.99							
	3.3		28.09		4.7		1					
	28.69		3.6		27.39							
	3.0		28.39		4.3		1+50					
	28.99		3.1		27.79							
	2.7		29.09		3.9		2					
	29.79		2.6		28.19			← 8th St				
	1.9		29.49		3.5		2+40	4.64	35.67	0.66	31.03	31.03
	29.97		2.2		28.77							
	3.7		35.67		6.9		0					
	30.57		5.7		29.67							
	5.1		30.67		6.0		0+50					
	31.57		5.0		30.67							
	4.1		31.47		5.0		1					
	32.37		4.2		31.47							
	3.3		32.37		4.2		1+50					
	32.97		3.3		32.27							
	2.7		33.17		3.4		2					
	34.27		2.5		32.97							
	1.4		33.57		2.7		2+40	9th St				
	34.17		2.1		32.87							
	1.5		34.27		2.8		0					
	34.97		1.4		34.17							
	0.7		35.17		1.5		0+50					
	36.02		0.5		35.52							
	7.9		43.92		8.4							
			7.8			#	1	8.74	43.92	0.49	35.18	

N.	curb	Elev	centre	Elev	curb	Elev.	Sta	+	HI	−	Elev	
			(43.92)									
	6.9	37.02	6.5	37.42	7.6	36.32	1+50					
	5.9	38.02	5.4	38.52	6.3	37.62	2					
	5.5	38.42	4.8	39.12	5.4	38.52	2+40	10 th	8 h			
	4.9	39.02	4.2	39.72	5.4	38.52	0					
	3.8	40.12	3.2	40.72	4.3	39.62	0+50			3.30	40.62	40.59 BM
	2.5	41.42	2.1	41.82	3.4	40.52	1					
	1.1	42.82	1.0	42.92	2.2	41.72	1+50					
	7.8	43.91	(37.7) 7.6	44.11	8.9	42.81	2	8.66	51.71	0.87	43.05	
	7.0	44.71	6.9	44.81	8.1	43.61	2+40	11 th	8 h			
	6.5	45.21	6.1	45.61	7.5	44.21	0					
	5.6	46.11	5.3	46.41	6.8	44.91	0+50					
	4.8	46.91	4.6	47.11	5.9	45.81	1					
	4.2	46.51	3.8	47.91	4.9	46.81	1+50			4.0	47.71	47.71 B.M.
	3.4	48.31	3.2	48.51	4.4	47.31	2					
	2.5	49.21	3.0	48.71	3.7	48.01	2+40	12 th	8 h			
	3.1	48.61	2.8	48.91	4.1	47.61	0					
	2.9	48.81	2.5	48.21	4.0	47.71	0+50					
	2.6	49.11	2.3	49.41	3.7	48.01	1					
	4.7	47.01	4.6	47.11	6.1	45.61	1+50	4.77	54.23	2.25	49.46	
	4.2	47.51	4.5	47.21	5.9	45.81	2					
	4.1	47.61	4.5	47.21	5.3	46.41	2+40	13 th	8 h	4.20	50.03	50.04 BM

N.	Curb		Centre		Curb.	S	Sta	+	HI	—	Ele.	
			52.24									
	2.3	49.94	2.7	49.54	3.8	49.44	0	2.21	52.24		50.03	
	3.0	49.24	3.1	49.14	4.1	48.14	0+50					
	3.8	49.44	3.6	49.64	4.5	47.74	1					
	4.5	47.74	4.3	47.94	4.9	47.34	1+50					
	5.3	46.94	4.9	47.34	5.3	46.94	2					
	5.7	46.54	5.7	46.54	5.9	46.34	2+40	14th St				
	7.4	44.84	6.6	45.62	7.3	44.92	0			5.09	47.15	B.M.
	9.2	43.04	8.4	43.84	9.2	43.04	0+50					
	11.1	41.14	10.7	41.54	11.1	41.14	1	1.88	43.53	10.39	41.65	
	4.1	39.43	433.3 4.2	39.33	4.3	39.23	1+50					
	6.4	37.13	6.2	37.33	6.7	36.83	2					
	8.2	35.32	8.0	35.52	8.3	37.23	2+50		Bridge			
	10.1	33.43	9.6	33.93	8.4	33.13	3	2.28	35.64	10.17	33.36	
	4.0	31.64	35.69 3.5	32.14	4.5	31.14	3+50			4.0	31.64	31.658 BM
	5.7	29.94	4.6	31.04	6.2	29.44	4					
	5.3	30.34	4.9	30.74	6.0	29.64	4+40	15th St				
	5.2	30.44	4.7	30.94	6.2	29.44	0					
	4.7	30.94	4.1	31.54	5.2	30.44	0+50					
	3.8	31.84	3.2	32.44	3.9	31.74	1					
	2.8	32.84	2.4	33.24	2.9	32.74	1+50					
	1.8	33.84	1.3	34.34	1.6	34.04	2	6.09	39.85	1.88	33.76	37.56 BM

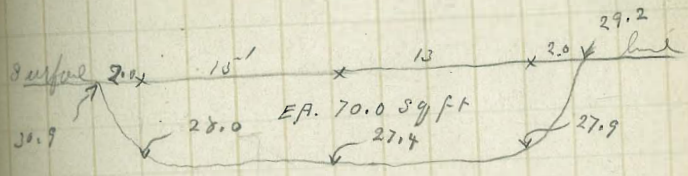
N.	Curb		Centre (3986)		Curb		Sta	
	4.7	35.15	4.5	35.35	4.7	35.15	2+40	16th St
	4.3	35.55	3.8	36.05	4.4	35.45	0	East line of 16th St

x sect of F St 200' W of 25th

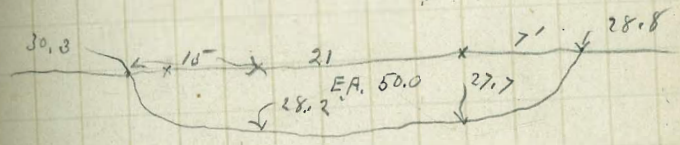
North	Curb	Gutter	Center	Gutter	Curb	North	Sta	+	+	HI	−	Elev
BM	24th & F											
								8.48	166.83			158.35
							#	11.28	178.03	0.08		166.75
			(186.0)				#	9.67	186.00	1.70		176.33
							#					
177.3 8.7	177.1 8.9	176.5 9.5	176.9 9.1	175.2 10.8	175.8 10.2	175.5 10.5	4					
178.6 7.4	178.5 7.5	177.5 8.5	178.0 8.0	176.4 9.6	177.0 9.0	176.9 9.1	+50					
180.0 6.0	179.8 6.2	178.7 7.3	179.0 7.0	177.7 8.3	178.2 7.8	178.3 7.6	5					
181.1 4.9	180.7 5.3	180.0 6.0	180.5 5.5	179.0 7.0	179.6 6.4	179.7 6.3	+50					
182.5 3.5	182.2 3.8	181.7 4.3	182.1 3.9	180.7 5.3	181.3 4.7	181.3 4.7	6					
											0.24	185.76

X. sec's of Borrow pit on 821st St
bet Logan & Milton

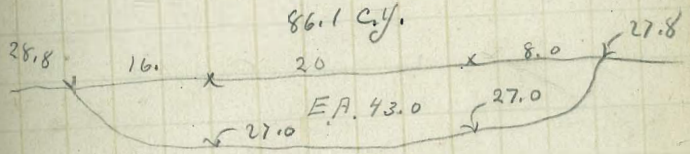
Sta	+	1+0	−	Elev
BM	2.12	33.91		31.79
0	South – line of Logan			
		Elev's are 2' low.		
0+25				
			55.5	
			86.1	
			62.9	
			16.2	
			9.0	
0+75			229.7	cubic yds
1+25				
1+50				



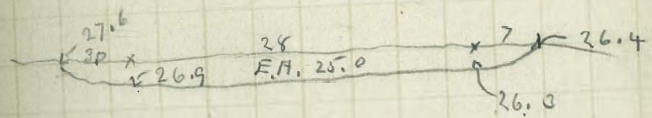
55.5 cu yds



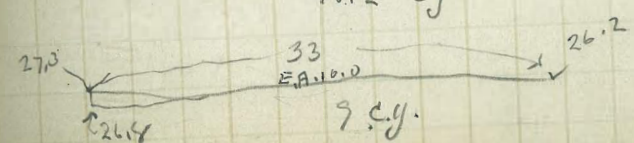
86.1 c.y.



62.9 c.y.



16.2 cy

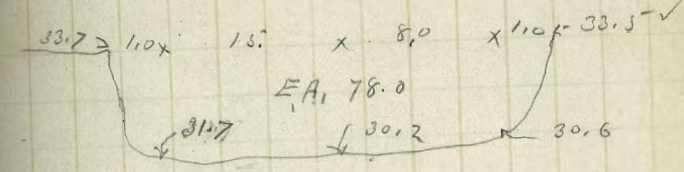


9 c.y.

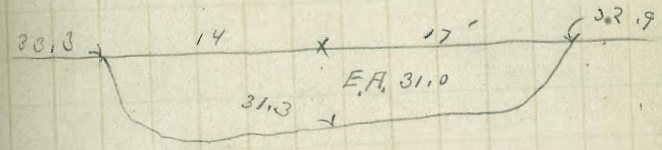
x secs of Borrow pit on the
North side of Sogan bet Sogan & Rea

		H.I.			
0		33.9			
+25					
+50					
+75					

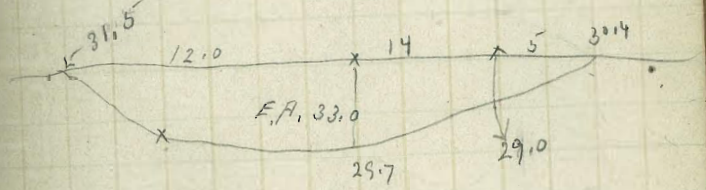
50.4
29.6
16.0
96.0
230.0
326.0 total borrowed



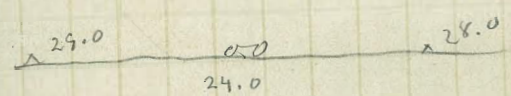
50.4 c.y.



29.6 c.y.



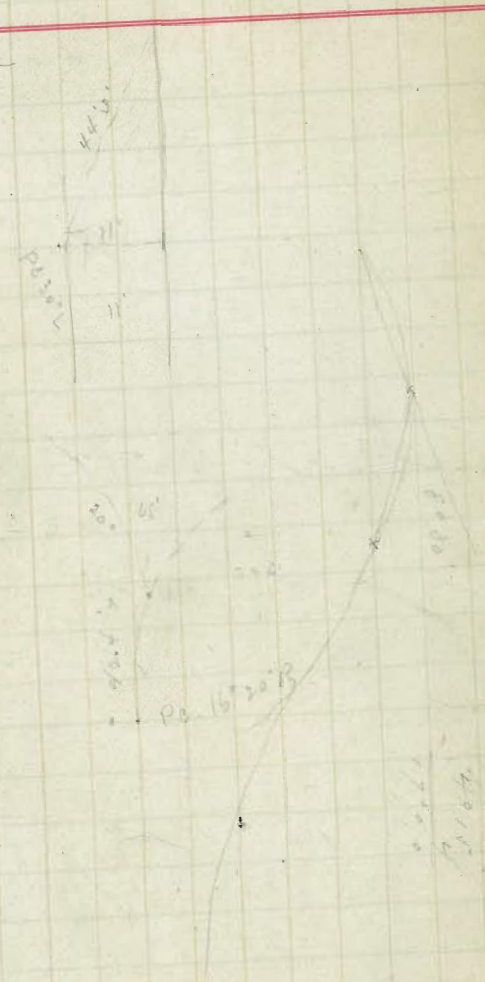
16 c.y.



50'	4°24'	L
100'	3°00'	L
74.8	16°20'	L

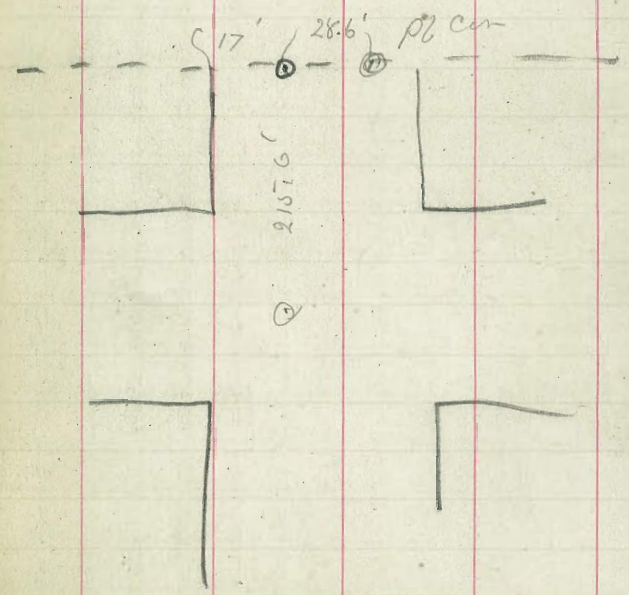
+ 25
+ 50
+ 65

} 20° Curve



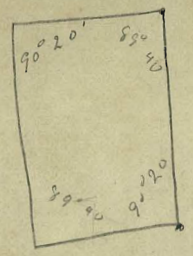
				9000	
+25	345				
+50	730				
+75	1145				
	1500				
+25	1845				
+50	2230				
+75	2615				

198+54 R St
202+33 S St
206+12.5 T St
209+92.4 U St
213+74.5 Olive ave



BM 30 & R 37.01

178 80
180 40
337 120



30
13
17

N

39
3 3 37
60

67.4

213.74.5
3 8.05
2175.4.5

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

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 99° 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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