369

TRANSIT.

F.B.77

77
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.	Links.	Minutes.	Links.	Minutes.	Links.
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

MICROFILMED
DEC 1954

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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

77
Return to City Engineers Office
City Hall, San Diego, Cal.

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F.B 77

01

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Random line along north line of Pueblo Lot 1167

Apr 18 - 1893

Hamlin
Shaw
Crowell
Williams

✓2

Set up at the N.W. corner of Pueblo Lot 1167. F.S. to a post about 3/4 mile east. Found bearing to be N 75°30' E mag

946' to a plug set in turnpike on Main St

20.60 to a plug set in flat

26.37 found a stone set in ground and old back furrows leading to it from N, S & East side This is the N.E. cor of 1167

Corrected line.

Set up over stone at the N.E. cor of 1167 fore sight to the N.W. cor of said lot, and found the bearing of the line to be S 75° 15' W magnetic; Thence measured on said line

1320. Set plug

1678.7 set plug on east side of turnpike in Main St.

1980' set plug and witness in marsh

2640.5 to a 4"x4" white stake on the South side of hill about 40' from marsh; the N.W. corner of 1167 Set a plug 1320.25' from N.E. cor for 1/4 cor on North line of 1167

Set up over 1/4 cor as located above F.S. to flag at N.W. cor 1167 turned 90°30' to left and measured South 650' to a 2½"x2½" stake 1' above ground the S.E. cor of N.E. 1/4 of N.W. 1/4 of 1167

Proceed to the N.E. cor of 1167 Thence run S 14° E mag 662' to a scarf stake the S.E. cor of N 1/2 of NE 1/4 of 1167, angle 89°55' to left and measured 1319.4' to the S.E. cor of NE 1/4 of N.W. 1/4 of 1167

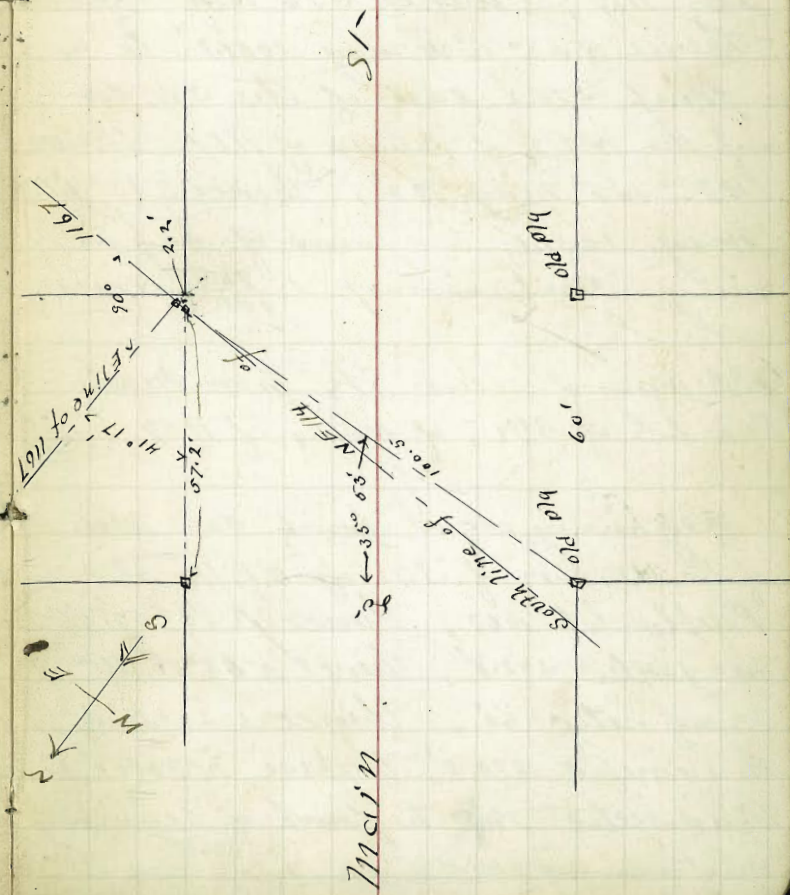
Sketch showing the relation of S.E. cor of N.E. 1/4 of Pueblo lot 1167 to the crossing of Main St and Una St

3

Begun at SE cor of N1/2 of NE 1/4 of 1167 run south 662' to a scarf stake the S.E. cor of S1/2 of N.E. 1/4 of 1167 Struck 1.75' East of Stake

The N.E. line of Main St intersects the South line of the N.E. 1/4 of 1167, 2.2' West of the S.E. cor and makes an angle of 41°17' to the north with the south line, Point of intersection is 57.2' S.E. from N cor of Crossing of Main & Una Sts

a/v 18 - 1893

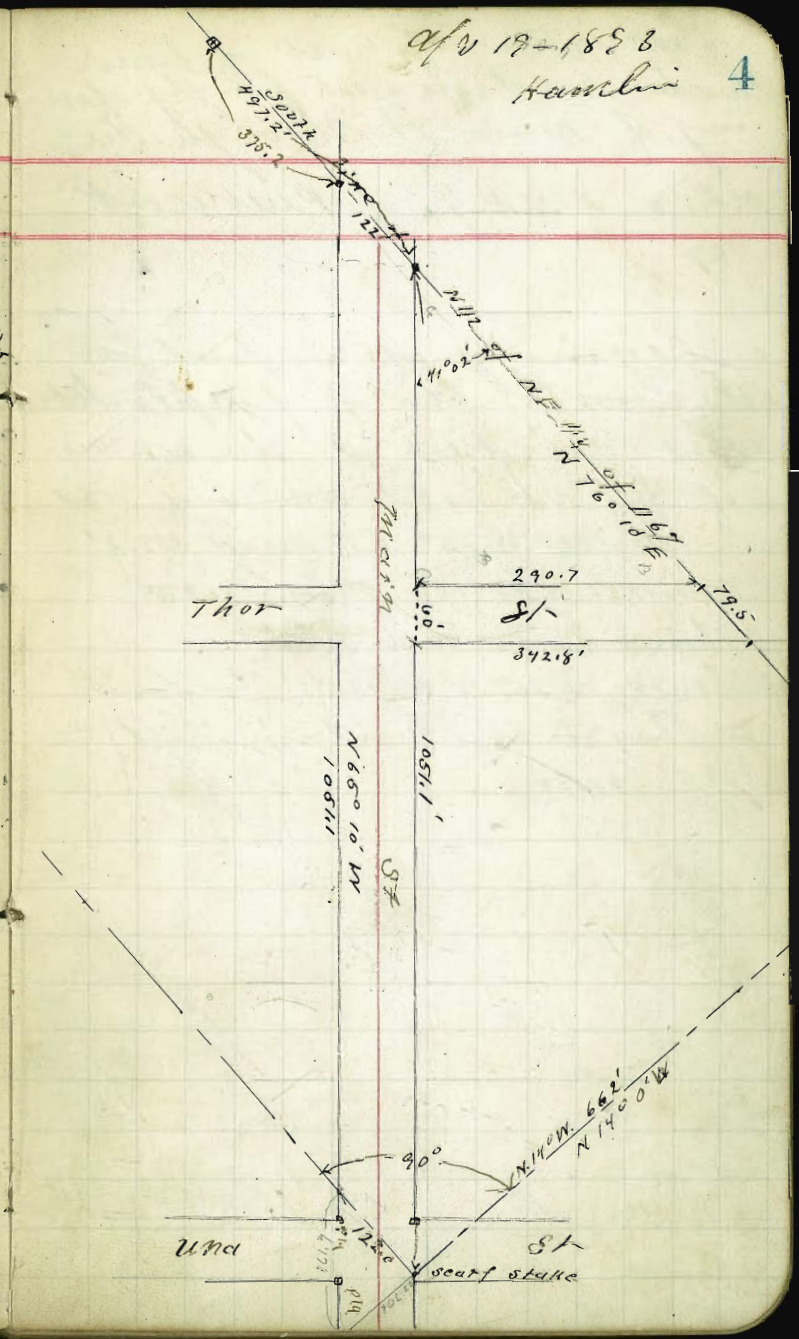


Description of tract of land to be condemned in the opening of Main St through the S 1/2 of N.E. 1/4 of 1167

Beginning at a plug 2.2 west from the S.E. corner of the N.E. 1/4 of Pueblo Lot 1167; thence S 76° 10' W mag 122' thence N 65° 10' W mag 1051.1' to a point 375.2' east of the S.W. cor of the N 1/2 of NE 1/4 of 1167, thence N 76° 10' E mag 122', thence S 65° 10' E mag 1051.1' to point of beginning containing 1.$\frac{28}{100}$ acres

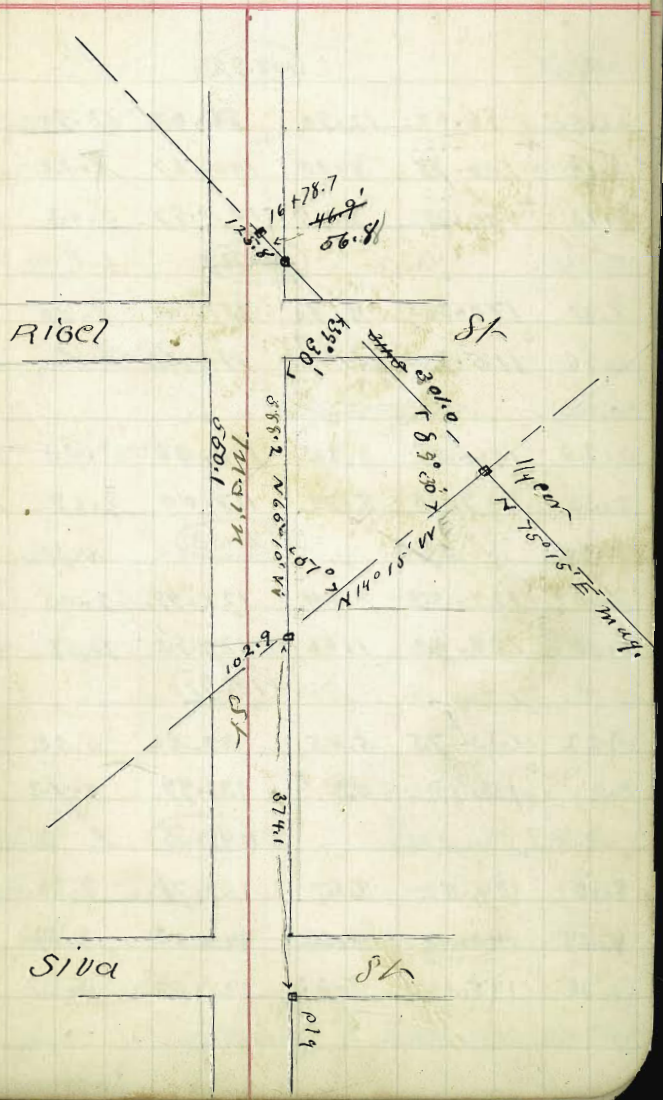
Opening of Thor St from Main to N line of S 1/2, of N.E. 1/4 of 1167

Beginning at a point 300' West of the N.E. Cor of S 1/2 of N.E. 1/4 of Pueblo lot 1167, thence S 24° 50' W magnetic 342.8', thence N 65° 10' W magnetic 60', thence N. 24° 50' W magnetic 290.7', thence N 76° 10' E magnetic 79.5 to point of beginning containing $\frac{44}{100}$ acres



Description of tract of land to be condemned for the opening of Main St through the N.E. 1/4 of N.W. 1/4 of Pueblo Lot 1167

Beginning at a point on the north line of Pueblo lot 1167 301' west of the N.E. cor of the N.E. 1/4 of N.W. 1/4 of 1167
thence S 66° 10' E mag 388.2'
thence S 14° 15' W mag. 102.9',
thence N 66° 10' W 660.1',
thence N 75° 15' E 125.8' to point of beginning containing $\frac{86}{100}$ acres



Check levels over H St from 20th to 26th Street

Apr 24 1892 Hamlin Shaw tape Williams rod

6

North		Center		South						
Rod	Elev	Rod	Elev	Rod	Elev	Sta	+	HI	−	Elev
			(108.92)			B.M.	12.01	108.92		96.91
12.90	96.02	12.90	96.02	12.90	96.02	0	East of 20th			
8.14	+ 100.78 −.22	8.25	+ 100.67 −.33	8.21	+ 100.71 −.3	+ 50				
3.13	+ 105.79 −.2	2.95	+ 105.97	3.03	+ 105.89	1				
			(119.71)			#	11.14	119.71	0.35	108.57
8.81	110.90	8.70	111.01	8.70	111.01	+ 50				
3.96	+ 115.95	3.68	116.03	3.86	115.85	2 West of 21st				
						B.M.			3.74	115.97
3.23	116.48	3.25	116.46	3.33	116.38	+ 40	21st			
2.55	117.16	2.72	117.00	2.69	117.06	0				
			(129.53)			#	10.71	129.53	0.89	118.82
7.00	122.53	7.04	122.49	7.05	122.48	+ 50				
1.50	128.03	1.60	127.93	1.58	127.95	1	# 10.95	138.97	1.51	128.02
			(138.97)							
5.22	133.75	5.45	133.52	5.52	133.45	+ 50				
0.0	138.97	0.0	138.97	0.03	138.96	0				
			(148.38)			#	9.41	148.38	0.0	139.97
8.86	139.52	8.67	139.71	8.90	139.48	+ 40	22nd St			
8.38	140.00	8.35	140.03	8.39	139.99	0				
3.36	145.02	3.33	145.05	3.39	144.99	+ 50				
						#	11.72	159.26	0.84	147.54

Check levels over 16th from 20th to 26th St

North Rod	North Elev	Center Rod	Center Elev	South Rod	South Elev
		(159.26)			
9.27	148.99	9.27	148.99	9.30	148.96
4.32	154.94	4.26	155.00	4.27	154.99
		(170.64)			
10.60	160.04	10.57	160.07	10.72	159.92
9.88	160.76	10.23	160.41	10.13	160.51
9.62	161.02	9.65	160.99	9.63	161.01
5.39	165.23	5.24	165.40	5.35	165.29
1.01	169.63	0.97	169.67	0.82	169.52
		(179.62)			
5.65	173.97	5.55	174.07	5.61	174.01
4.57	175.05	4.80	174.82	4.55	175.07
4.23	175.39	4.48	175.14	4.60	175.02
2.82	176.80	2.87	176.75	3.15	176.47
1.05	178.57	1.18	178.44	1.30	178.32
		(180.29)			
9.67	180.83	10.13	180.07	10.23	179.97
7.80	182.24	8.20	182.00	8.46	181.74
6.03	184.17	6.27	183.93	6.93	183.27
4.23	185.97	4.65	185.55	5.30	184.90
3.88	186.32	4.32	186.88	4.88	185.32

Sta	+	HI	−	Elev.
		159.26		
1				
+50				
#	11.87	170.64	0.49	158.77
2				
+25	23rd St			
0				
+50				
1				
#	9.99	179.62	1.01	169.63
+50				
+80	24th St			
0				
+50				
1 / #	11.88	190.20	1.30	178.32
+50				
2				
+50				
3				
+50				

Check levels over 16th St from 20th to 26th St

North		Center		South		Sta	+	HI	−	Elev
Rod	Elev	Rod	Elev	Rod	Elev					
		(190.20)						190.20		
3.63	186.57	3.95	186.25	4.48	186.72	4				
3.23	186.97	3.70	186.50	4.10	186.70	+50				
2.87	187.33	3.41	186.79	3.83	186.37	5				
2.52	187.68	3.05	187.15	3.47	186.73	+50				
2.23	187.97	2.73	187.47	3.17	187.03	6				
		(192.57)				##	5.71	192.57	3.84	186.86
4.55	188.02	5.00	187.57	4.85	187.72	+50	24th St			
4.65	187.92	5.33	187.24	5.67	186.90	0				
						BM 25th St. +B			7.61	184.96
4.43	188.14	5.07	187.50	5.47	187.10	+50				
4.27	188.30	4.90	187.67	5.37	187.20	1				
4.12	188.43	4.77	187.80	5.25	187.32	+50				
3.90	188.67	4.57	188.00	5.07	187.50	2				
3.88	188.69	4.20	188.37	4.82	187.75	+50				
3.57	189.00	3.90	188.67	4.60	187.97	3				
3.41	189.16	3.83	188.74	4.45	188.12	+50				
3.25	189.32	3.61	188.96	4.18	188.39	4				
2.99	189.58	3.37	189.20	4.05	188.52	+50				
2.82	189.75	3.17	189.40	3.87	188.70	5				
2.57	190.00	3.19	189.47	3.63	188.94	+50				

Check levels over 26 St from 20th to 26th St

North		Center		South						
Rod	Elev	Rod	Elev	Rod	Elev	Sta	+	HO	=	Elev
			(192.57)							
2.50	190.07	3.00	189.57	3.25	189.32	5+20	26th St			
2.50	190.07	3.10	189.47	3.63	188.94	0				

Survey of Block 6 Park add
for Mr Mertzman

Apr 24 1893

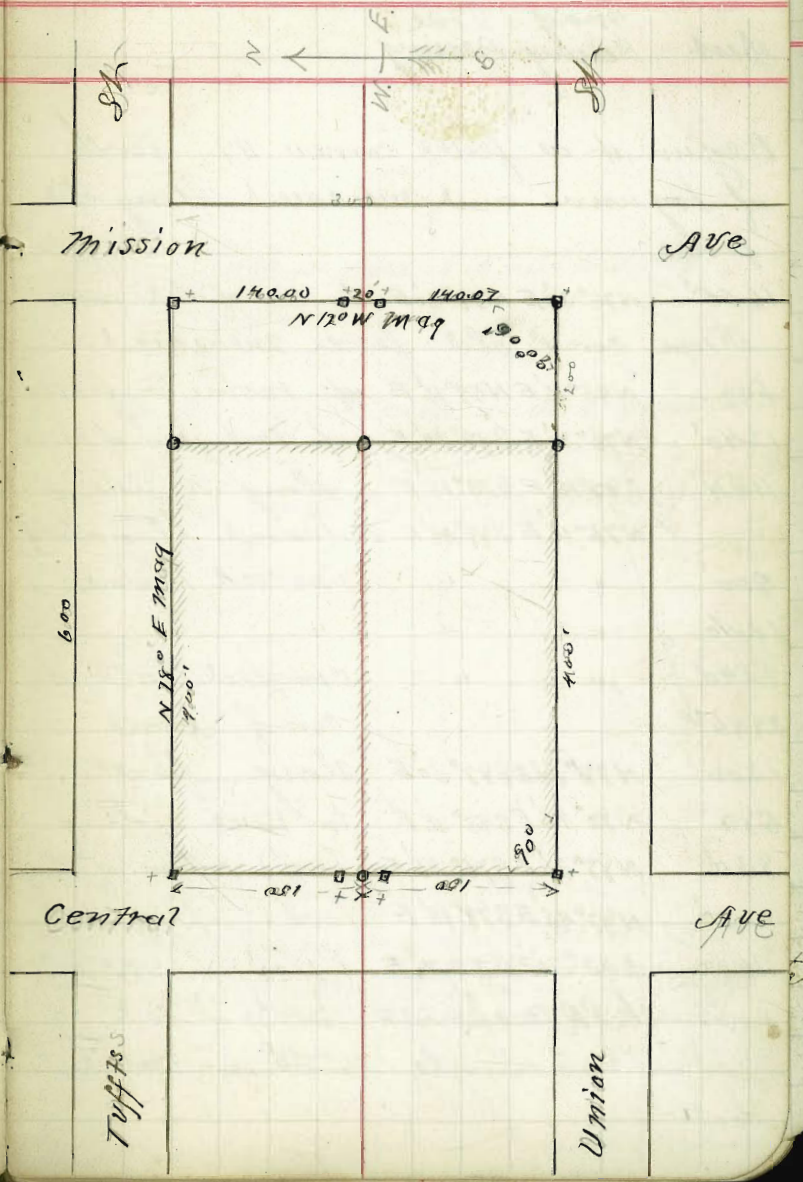
Hamlin
Shaw
Williams

10

The corners of this block were set by Ryan, no other corners were found in the addition and this survey not certified to.

⊡ old corner

⊙ new corner set



Survey to locate fence running Easterly from the N.W. cor of Pueblo Lot 1300

Dist	Mag Bearing	True Bearing	
			Begun at a fence corner 119 North of Laguna and measured along old fence
1655'	N75°30'E	N89°30'E	to cor of old fence
	From cor of old fence measured along		
600	N45°15'E	N59°15'E	up ravine to forks
1240'	N76°30'E	S89°30'E	up east fork of ravine
1144'	S87°15'E	S73°15'E	along N side of
	N76°15'E	S89°15'E	Toward flag about
900'	"	"	Crossed ravine
1700	"	"	" "
2540'	"	"	crossed track at cor of fence
2845'			
1200	N78°30'E	S87°30'E	along fence
680	N80°45'E	S85°15'E	to west side of
830'	N88°30'E	S76°45'E	(400') bottom of deep
2050'	N87°45'E	S78°15'E	(400') top of ridge
2400	S43°30'E	S29°30'E	(1700') to N side
2 Struck RR track 235'			West of B.C. mg
Struck Left 35 angle		16°30'	in curve
Left			

Apr 26 1888 Hamlin Williams Shaw

11

from which it Bears S15°30'E Mag

new fence

one to N.E. other to east

(780' to foot of hill ravine branches

ravine

1/2 miles east (along fence)

course NE

" SE

gate

ravine

ravine

(1150') to bottom of ravine

of San Buenventura ravine

course No 33, which is 2° curve to

33 on RR 2° to left

Miscellaneous notes on Pueblo Corners

From N.W. cor of Pueblo Lot 1300 run west (by prismatic compass) 1400' to east side of Wheat field 2690' to West side of Wheat field
Returned to Sta 1400 and run north along east side of wheat field 4500' to N.E. cor from which the field runs NW

Apr 25 - 1893

At Mon. 3 on Easterly line of Pueblo, Stone mound from which a fence runs N 61° W Mag and fence to South runs S 41° 30' E Mag. The mound is at an opening in the fence and is on the north side of said opening

Hamlin

Elev of Mon 3 is 330' by aneroid

Elevations above sea level by aneroid
Wilson Ranch mud sill at base of wind mill +325
(Sorenta divide +325
near pile of rocks along road)
Works Store at Sorenta +25
Head of grade up Murrays Canon 4375
Crossing of river in Pueblo Lot 1166 +40.0'

Check levels over 16th St from 15th to 20th Streets

a/pr 27 1892

Hamlin
Shaw
Williams

North Rod	North Elev	Center Rod	Center Elev	South Rod	South Elev
		(60.70)			
3.20	57.50	3.40	57.30	4.21	56.49
3.51	57.19	3.87	56.83	4.34	56.36
4.03	56.67	4.28	56.42	4.34	56.36
4.38	56.32	4.70	56.00	4.47	56.23
4.70	56.00	4.54	56.16	4.70	56.00
4.70	56.00	4.60	56.10	4.70	56.00
4.70	56.00	4.50	56.20	4.70	56.00
2.70	58.00	2.65	58.05	2.68	58.02
0.68	60.02	0.70	60.00	0.69	60.01
		(70.81)			
8.81	62.00	8.80	62.01	8.80	62.01
6.82	63.99	6.75	64.06	6.80	64.00
6.11	64.70	6.10	64.71	6.04	64.77
5.72	65.09	5.37	65.44	5.62	65.19
0.80	70.00	0.80	70.01	0.80	70.01
		(80.82)			
5.80	75.02	5.70	75.12	5.81	75.01
0.70	80.12	0.70	80.12	0.83	79.99
		(91.40)			
6.40	85.00	6.37	85.03	6.40	85.00

Sta	+	HI	−	Elev
BM	2.32	60.70		58.38
0	East of 15th St			
+50				
1				
+50				
2				
+40	16th St			
0				
+50				
1 #	10.80	70.81	0.69	60.01
+50				
2				
+40	17th St			
0				
+50				
#	10.64	80.82	0.63	70.18
1				
+50				
#	11.41	91.40	0.83	79.99
2				

Check Levels over H Street from 15th to 20th Street

North Rod	North Elev	Center Rod	Center Elev	South Rod	South Elev	Sta	+	H.I.	−	Elev.
		(91.40)						91.40		
5.70	85.70	5.60	85.80	5.90	86.50	+40	18th St			
5.38	86.02	5.20	86.20	5.40	86.00	0				
4.57	86.83	4.47	86.93	4.65	86.75	+50				
3.85	87.55	3.80	87.60	3.91	87.49	1				
3.13	88.27	3.07	88.33	3.15	88.25	+50				
2.40	89.00	2.30	89.10	2.40	89.00	2				
1.70	89.70	1.70	89.70	1.90	89.50	+40	19th St			
1.40	90.00	1.20	90.20	1.40	90.00	0				
		(99.83)				#	9.88	99.83	1.45	89.95
8.63	91.20	8.65	91.18	8.60	91.23	+50				
7.38	92.45	7.45	92.38	7.47	92.36	1				
6.15	93.68	6.17	93.66	6.27	93.56	+50				
4.85	94.98	4.85	94.98	4.80	94.93	2				
4.20	95.63	4.16	95.67	4.20	95.63	+40	20th St			
3.63	96.20	3.57	96.26	3.68	96.15	0				
		(107.14)				BM #	10.25	107.14	2.94	96.89
6.27	100.97	6.14	101.00	6.20	100.94					
1.40	105.74	1.13	106.01	1.20	105.94					

Checking Profile on 188 St 300' East of 25th St

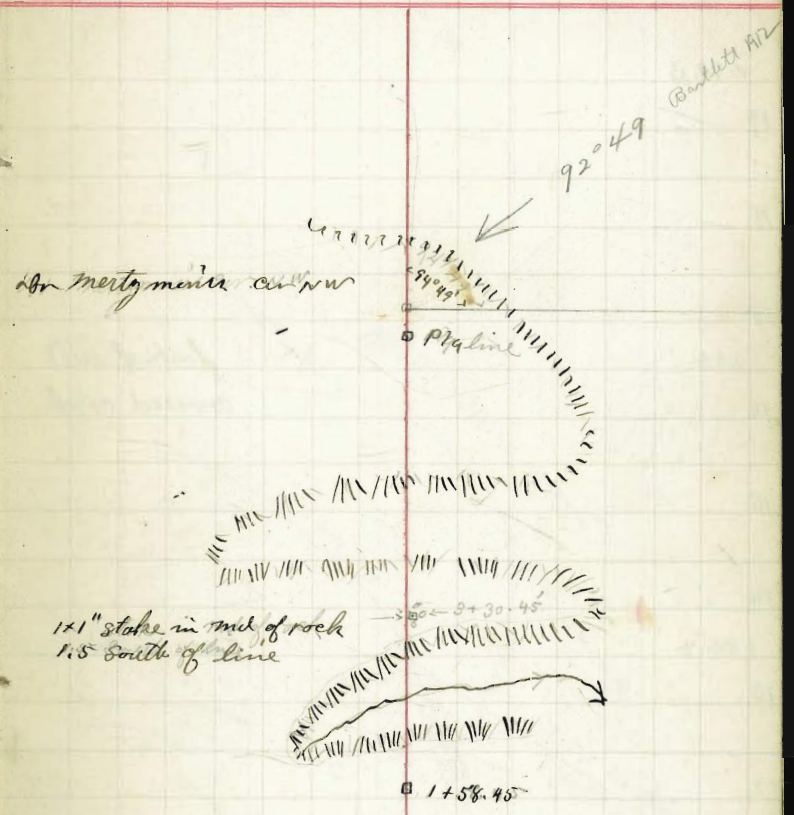
North Rod	North Elev	Center Rod	Center Elev	South Rod	South Elev	Sta	+	HI	=	Elev
		(192.92)					7.43	192.42		184.99
4.42	188.00	5.00	187.92	5.50	187.42	0				
4.25	188.17	4.90	188.02	5.30	187.42	+ 50				
4.05	188.37	4.67	188.25	5.00	187.92	1				
3.95	188.47	4.30	188.62	5.00	187.92	+ 50				
3.70	188.72	4.30	188.62	4.83	188.09	2				
3.63	188.79	3.95	188.47	4.57	188.35	+ 50				
3.33	189.09	3.60	188.82	4.40	188.52	3				
		(192.42)				0				
4.42	188.00	5.00	187.42	5.50	186.92	0 + 50	East line of 25th St			
4.25	188.17	4.90	187.52	5.30	187.12	1 + 50				
4.05	188.37	4.67	187.75	5.00	187.42	1 + 50				
3.95	188.47	4.30	188.12	5.00	187.42	2 + 50				
3.70	188.72	4.30	188.12	4.83	187.59	2 + 50				
3.63	188.79	3.95	188.47	4.57	187.85	+ 50				
3.33	189.09	3.600	188.82	4.40	188.02	3				

Survey of the North line of 1138

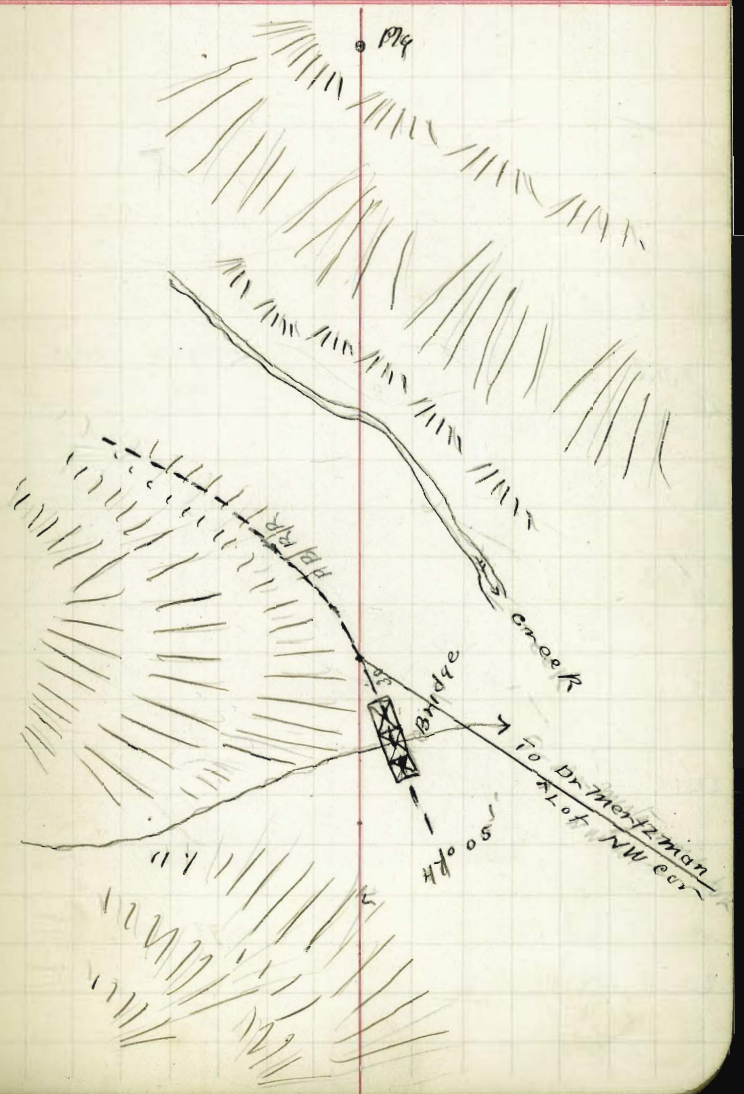
Apr 28 1892

Hamlin
Williams
Shaw

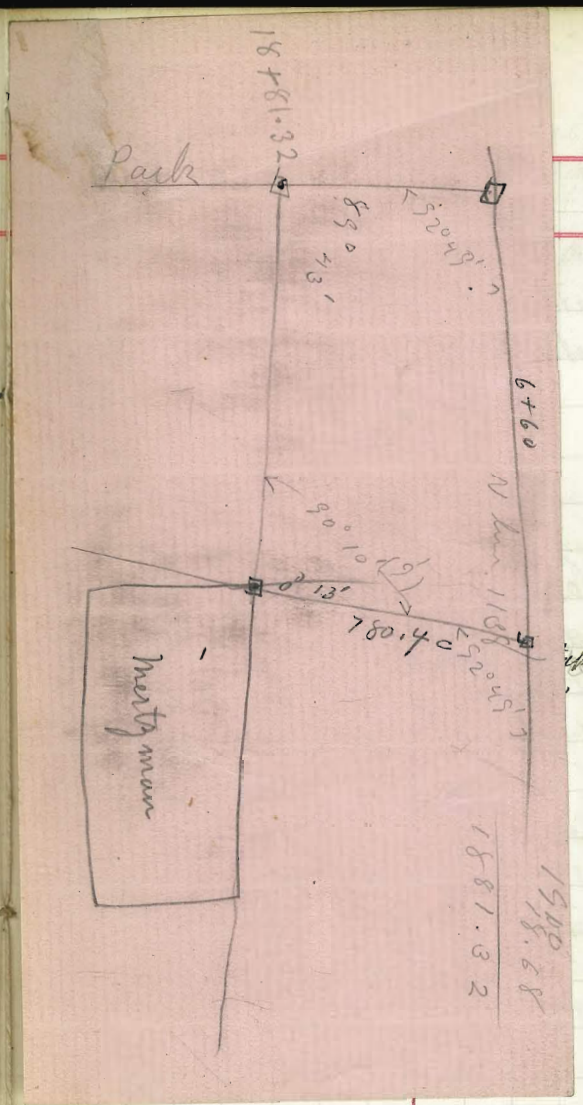
Sta	Angle	Bearing	Mag. Bearing	
9				
8				
7				Bank of ravine +60 92°49' R to Set Pkg.
	+60			
6	+38.95			
5				
4				
	+30.45			
	+20			
3				East bank of ravine
2	+13			West bank of ravine.
	+58.45			
1				
0			N 75° 30' E	



Sta	angle	Bearing	mag Bearing		
+94.3					
19					
18					
17					
+86				foot of hill	
16				crossed creek	
15					
14					
+46.4				Tack in Tie	
13					
12					
11					
10					



Sta	Angle	Bearing	Mag Bearing
26 +31.6			
25			
24 +63			
23			
22			
21			
20			



like near fence

Sta	Angle	Bearing	Mag Bearing		
26 +31.6					
25					
24 +6.3					
23					
22					
21					
20					

seal stake near fence corner

P.G.

Final measurement of slopes on 16th St.

May 1 1893 Hamblin
Shaw
Williams

			North				South			
		cu yds	End Area	Width Out	cut or Fill	+	cut or Fill	Width Out	End Area	cu yds
			Fence at 8th & Stu				on North and Bridge or South			
1	100' East of 16th St			10.5	6.0	-3.5				
+17	East side of bridge on south						-3.3	16.0	26.4	
+50			32.6	24.8	11.0	-4.5	-4.1	14.0	28.7	33.6
2		<168.4> cu yds	52.4	31.9	11.0	-5.8	-6.3	8.0	25.2	49.8
			85.00							83.4
+22	along slope to bridge on north		26.0		0.6					
	(Ramp 108' long x 71' wide Slopes 1½ to 1)									
+40	Center of 16th St						-5.5	9.0	24.8	37.0
	Containing 860 cu yds									
0		<139.0> cu yds					-9.4	14.0	65.8	67.1
			26.0							104.0
+50							-12.6	16.0	100.8	154.2
+75	End of Bulkhead added 1/4 of cone 11.2' high			117.6	21.0	-11.2				
1	and 42' diam of base for fill which		105.2	109.8	18.0	-12.2	-12.8	17.0	108.8	184.1
	ran around end of bulk head 501.5'.		153.2							348.3
+50	(198.0 cu yds)		219.1	126.9	18.0	-14.1	-13.1	18.0	117.9	209.8
2		861.0 cu yds	264.7	159.0	20.0	-15.9	-10.5	12.0	63.0	167.4
			483.8							377.2
+40	Center line of 17th St		216.4	138.1	22.0	-12.1	-9.8	11.0	53.9	86.7

Bridge and Bulkhead and Slope

Final measurement of slopes on
Lb St

						cu yds	End area	Hist out	cut on Fill	cut on Fill	Hist out	End area	cu yds
0				<519.1 cu yds		169.0	95.2	17.0	-11.2	-3.2	6.0	9.6	47.0
						385.4				0.0			133.7
+28													
+50						132.6	48.0	12.0	-8.0				3.3
+95						26.7			0.0				
				<162.6 cu yds									
						159.3							3.3

Final measurement of slopes on 18th St

				North				South			
				cu yds	End area	Dist out	cut or Fill	cut or Fill	Dist out	End area	cu yds
2+53	grade 2+66 grade on South						0.0				
0	East side of 19th St	3.44 cu yds		2.4 / 2.4	7.3	5.0	-2.9	-1.7	2.0	1.7	1.0 / 1.0
+50				27.2	22.0	8.0	-5.5	-2.5	5.0	6.3	7.4
1		112.1 cu yds		65.9 / 93.1	49.2	12.0	-8.2	-3.2	4.0	6.4	11.6 / 19.00
+50				76.3	33.3	9.0	-7.4	-2.7	1.0	1.5	7.2
2		1132.2 cu yds		46.1 / 122.4	16.5	7.0	-4.7	-2.5	1.0	1.3	2.6 / 9.8
+40	(ramps on north & South but within limit of have center line of 20th St 500' of cut.			13.6	1.9	2.4	-1.6	-0.8	1.2	0.5	1.3
0		17.7 cu yds		2.1 / 15.7	0.8	2.0	-0.8	-0.6 / -2.6	2.0 / 5.0	0.6 / 6.55	0.7 / 2.0
+50				3.7	3.3	3.0	-2.2	-6.1	8.0	24.4	28.6
1		93.2 cu yds		15.9 / 19.6	14.0	7.0	-4.0	-4.4	-11.0	24.2	45.0 / 73.6
+50				27.2	15.4	7.0	-4.4	-3.5	9.0	15.8	37.7

Final measurements of slopes on 18th St

					North				South			
					cu yds	End area	Slope	cut	cut	Slope	End area	cu yds
2			120.7	cu yds	26.3	12.9	6.0	-4.8	-4.2	8.0	16.8	30.2
					53.6							67.2
	(ramp 45'x35' long on north side											
+40	Center of 21st St				13.9	5.9	4.2	-2.8	-3.7	5.5	10.2	20.0
	ramp 75x35' long on South side											
0			53.8	cu yds	7.6	4.2	3.0	-2.9	-2.6	4.9	6.3	12.3
					21.5							32.3
	abate against bank at Sta 24+80											
	on 0.											
	pyramid											pyramid
6+60	9 rods											
0	East of 25th St		4.4	cu yds	2.3	4.8	4.0	-2.4	-2.2	4.0	4.4	2.1
+50					18.1	14.7	6.0	-4.9	-5.2	7.0	18.2	29.9
1			176.6	cu yds	63.5	54.9	12.0	-9.0	-10.3	12.0	61.8	74.1
					81.6							95.0
+50					233.3	198.0	24.0	-16.5	-15.8	29.0	229.1	269.2
2			132.67	cu yds	375.9	208.8	24.0	-17.4	-23.2	22.0	255.2	448.3
					609.2							717.5
+50					304.1	119.7	19.0	-12.6	-19.6	34.0	333.2	544.8
3			1350.0	cu yds	139.6	31.1	9.0	-6.9	-8.8	13.0	57.2	361.89
					443.7							906.3

Final measurement of slopes on H St

						North				South			
						Cu Yds	End Area	Dist Out	Cut for Fill	Cut or Fill	Dist Out	End Area	Cu Yds
+50						1912	Pyramid		0.0	-2.6	4.6	5.2	59.8
+75				78.6 cu yds						0.5			1.6
						1912							59.4

Final measurement of slopes on C Street bet. 16th & 22nd Sts

May 1 1893 Hamlin Shaw Williams

		cu yds	End area	Dist Out	cut on Fill	cut on Fill	Dist Out	End Area	cu yds
1						-3.7	4.0	7.4	
+50						-4.2	5.0	10.5	16.5
2			2.7	2.0	-2.7	-3.6	4.0	7.2	16.4
									32.9
+40	Center line of 17th St	6.1	5.4	4.0	-2.7	-3.7	4.0	7.4	10.8
0		8.0	5.4	4.0	-2.7	-2.9	3.0	4.4	8.8
		14.1							19.6
+50						-3.0	4.0	6.0	9.6
1						-3.5	5.0	8.8	13.7
+50						-6.0	9.0	27.0	33.2
2		7.4	3.4	2.6	-2.6	-6.3	9.0	28.4	57.3
									107.8
+40	Center line of 18th St	4.7	3.0	3.0	-1.9	-6.1	8.0	24.4	39.1
0		11.6	12.6	6.0	-4.2	-6.4	10.0	32.0	41.8
		16.3							80.9

No Slope

Section 1×1 = 1.0 × 200 / 27 = 7.4 cu yds

Cut 1' on Property
Section about fig 1 sq ft

Final measurement of slopes on Left between 16th St and 26th Streets

				Cu yds	End area	Slope	Cut or Fill	Cut or Fill	Slope	End area	Cu yds
+80				225.5	12.8	5:0	-5.1	-7.9	8:0	31.6	58.9
175				23.1	37.0	10:0	-7.4				
1				33.6	35.6	9:0	-7.9	-8.4	8:0	33.6	60.3
+25								0.0			10.3
+50				76.3	46.8	11:0	-8.5				
2				26.7	57.6	12:0	-9.6				
				253.2							129.5
+40	Center line of 19th St.			64.0	28.6	11:0	-5.2				
0				14.1	Pyramid		0.0				
				78.1							
+50					pyramid		0.0				
1				3.4	5.5	5:0	-2.2				
+80				30.5	27.5	10:0	-5.5				
2				72.0	50.4	14:0	-7.2				
				105.9							
+40	Center line of 20th St.			53.3	21.6	12:0	-3.6				

						North				South			
						Cu Yds	End Area	Slope	Cut or Fill	Cut or Fill	Slope	End Area	Cu Yds
0						10.7		0	0.0				
						64.0							
+50													
1													
+50													
2													
+40	Center line of 21st St												
0													
+50									0.0				
1						88.1	13.2	6.0	-4.4				
+50						31.3	20.7	7.0	-5.9				
2						29.1	10.8	6.0	-3.6				
+74						68.5							

Slopes do not amount to anything

C.St. Summary of amount of Embankment in proper bet. 16th & 22nd

Location	cu yds of Embank't	
16 – 17	32.9	cu yds
17th St.	33.7	"
17th to 18th	115.2	"
18th	97.2	"
18th to 19th	382.7	"
19th St.	78.1	"
19th to 20th	105.9	"
20th St.	64.0	"
20th to 21st	0.0	"
21st St.	0.0	"
21st to 22nd	68.5	"
22nd St.	5.4	"

Survey and grades for lot C
blk 212 Horton's Add for
Packard Stevens & Packard

May 2. 1893

Hamlin
Shaw
Williams.

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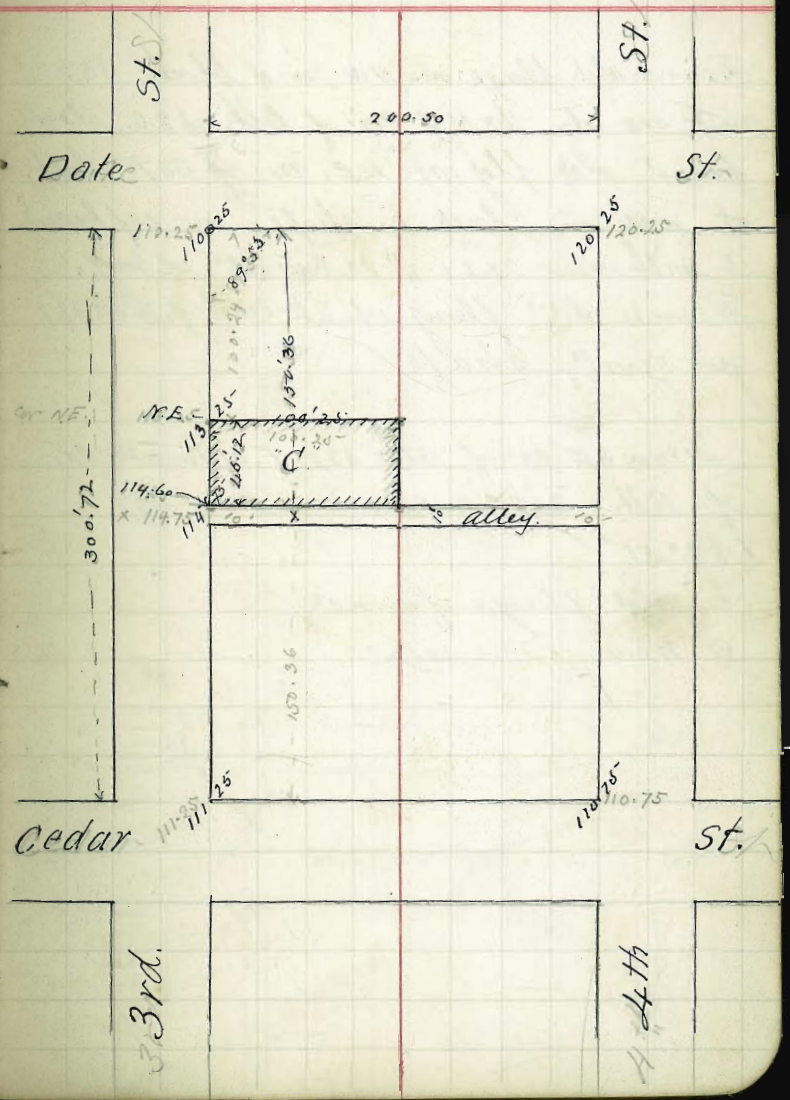
Sta	Rod +	Ground	Grade	Rod −	B.M.
Lot C is fractional the south 5 feet being dedicated for an alley.					B.M.
Sta	+	H.I.	Grade	Rod	Elev
B.M. 3rd & Cedar	10.40	116.89			106.49
1+45 3rd & Date			114.60	2.29	−0.8
2+0			113.25	3.64	−0.8
B.M. 3rd & Date				6.68	110.21
#	5.85	115.88		6.86	110.03
B.M. 4th & Cedar				5.07	110.81
Checked May 5/1893					
Sta	+	H.I.	−		Elev.
B.M. 3rd & Cedar	8.36	114.85			106.49
1+55 N side of alley			0.25		114.60
2 N line of lot			1.59		113.26
B.M. 3rd & Date			4.62		110.23
Bushy head walnut Stake on			4.26		110.59
" " Sta 0 on "			6.78		108.12

Remarks & Plans.



Survey for Herman Diehlmann of E 1/2 of Blk 337 of Choate Subd of E 1/2 of Pueblo Lot 1159

May 3 1898 Hamlin transit Shaw Head chain Williams rear chain

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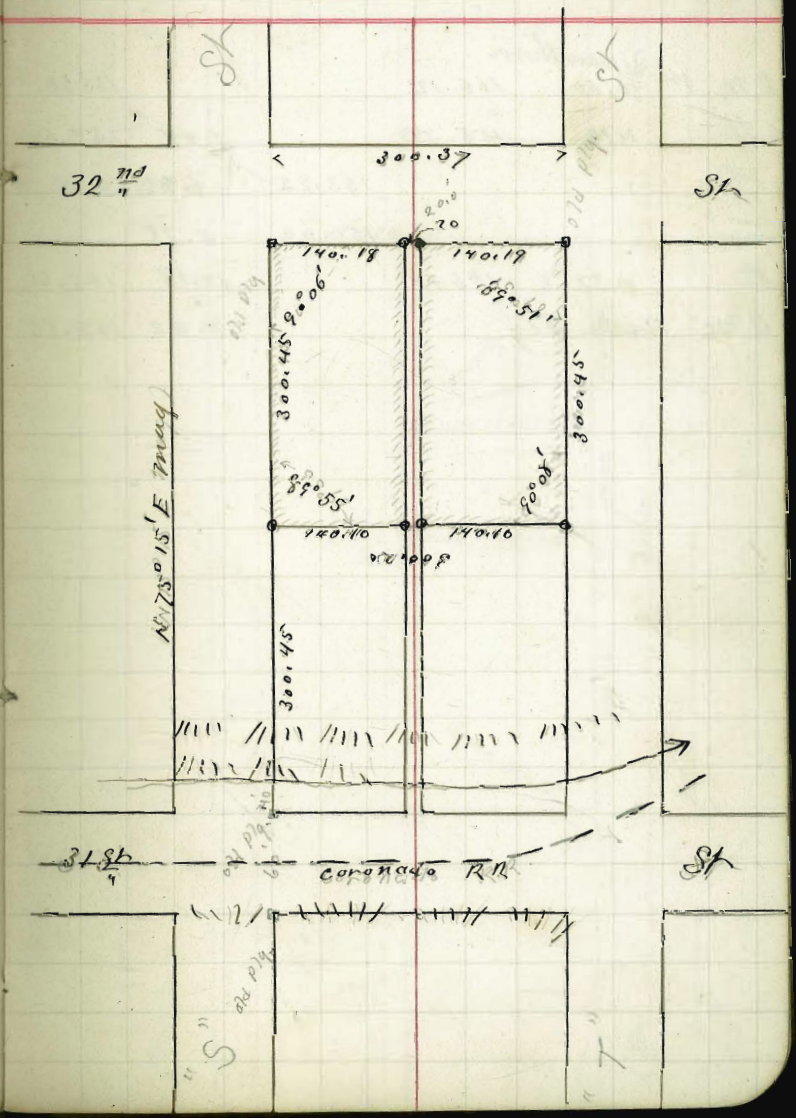
Found old plugs at NW cor of block 337 and one at the N.E. cor of Blk 326 also found old plug at N.E. cor of 337 both it was in bad shape so replaced it with new 2x2x8" redwood plug. Found old plug at S.E. cor of Blk 337 in good shape

From S.E. cor of Blk 337 F.S. to S.W. cor of Blk 326 angle to N.E. of 337 89° 51"

⊡ old plugs found

⊙ new " set

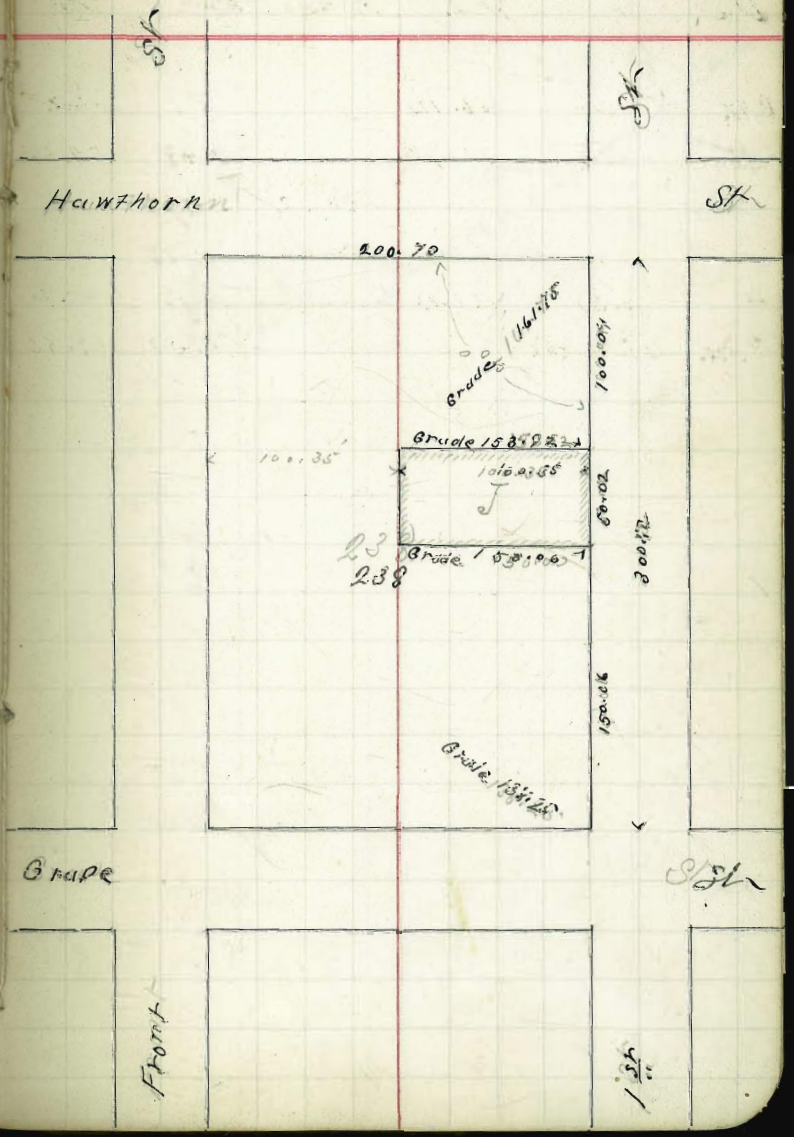


Survey of Lot J Blk 238 Hunters add for Patterson Spragg

May 8 1893

Hamlin
Shaw
Williams

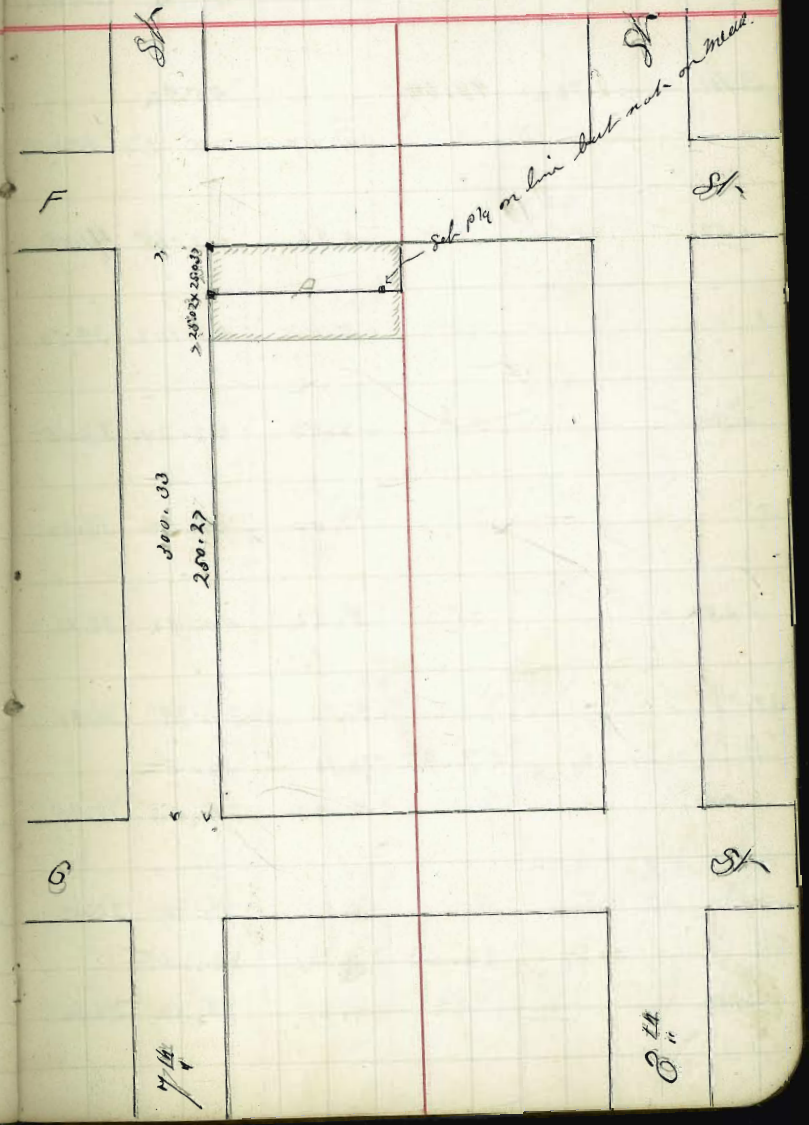
Stn	+	H.I.	Grade	Rod	Elev.
B.M. 1st & Hawthorn	0.50	166.12			165.62
#	1.14	155.78		11.48	154.64
			153.92	1.86	
			150.00	5.78	
#	0.57	146.17		10.18	145.60
B.M. 1st & Fir				8.32	137.83



Survey of south line of 8 1/2 of Lot A Blk 72 Horton's add for G.W. Marsh

May 8 1893

Hamlin
Shaw
Williams



Cross Sections of Grading on Main Street East of 31st St.

Sta.	+	H.I.	=	Elev.	Grade	Cut	Left.	Center	Right.
B.M.	2.72	48.64		45.92					
0			4.47	44.17	44.0	+ 0.2	-0.4 / 12.0	+ 0.2	0.0 / 12.0
+50			4.96	43.68	41.85	+ 1.83	+1.7 / 12.0	+1.8	+2.8 / 12.0
1			5.53	43.111	39.70	+ 3.41	+3.6 / 12.0	+3.4	+3.9 / 12.0
+50			6.40	42.24	37.55	+ 4.69	+4.5 / 12.0	+4.7	+5.8 / 12.0
2			7.00	41.64	35.40	+ 6.24	+6.1 / 12.0	+6.2	+7.3 / 12.0
+50			8.22	40.42	33.25	+ 7.17	+6.7 / 12.0	+7.2	+7.6 / 12.0
3			9.76	38.888	31.10	+ 7.78	+7.5 / 12.0	+7.8	+8.2 / 12.0
#	1.42	37.96	12.10	36.54					
+50			2.483	35.53	28.95	+ 6.58	+7.1 / 12.0	+6.5	+7.6 / 12.0
4			6.57	31.359	26.80	+ 4.559	+4.7 / 12.0	+4.6	+4.9 / 12.0	+8.1 / 7.0	+8.7 / 12.0
#	0.39	26.63	11.72	26.244					
+50			1.271	25.36	24.65	+ 0.771	+0.9 / 12.0	+0.7	+0.7 / 3.0	+4.6 / 2.0	+1.0 / 12.0

Cross Sections for the grading of Main Street East of 31st St

Lengthen culvert 17' or Left
" 16' or Right } to be deducted

Section of culvert

7 + 20 − 33 below grade at 7+0

Sta	+	HI	−	Elev	Grade	Cut	Left	Centre	Right
		26.63				+			
5			8.17	18.46	22.50	−4.0	−12.7 / 31.1 −13.0 / 26.0 −9.1 / 12 −3.9 / 10	−4.0	−4.1 / 7.0 −5.7 / 12.0 −4.7 / 19.1
#	0.35	16.05	10.93	15.70					
+50			2.37	13.68	20.35	−6.67	−12.9 / 31.4 −13.3 / 18.0 −8.4 / 12.0 −7.4 / 10.0	−6.7	−6.8 / 5.0 −9.8 / 12.0 −13.5 / 15.0 −13.7 / 32.5
6			4.23	11.82	18.20	−6.38	+ −5.6 / 20.4 −6.7 / 12.0	−6.4	−6.6 / 12.0 −12.7 / 31.0
+50			4.28	11.77	16.05	−4.28	Vert Bank −3.7 / 16.0 −4.7 / 12.0	−4.3	−4.8 / 12.0 −4.9 / 19.4
7			3.36	12.69	13.90	−1.21	0.0 / 3.0	−1.2	−2.4 / 12.0 −2.5 / 15.8
+50			5.81	10.24	11.75	−1.51	−1.0 / 13.5 −1.1 / 12.0	−1.5	−2.6 / 12.0 −2.7 / 16.0
+80				6.80	10.46	−3.66	−1.2 / 13.8 −2.2 / 12.0	−3.7	−4.4 / 12.0 −4.6 / 18.9
8			11.25	4.80	9.60	−4.8	−7.9 / 23.8 −7.5 / 12.0	−4.8	−4.7 / 12.0 −4.7 / 19.0
+15			11.55	4.50	9.00	−4.5	−12.2 / 36.4 −11.4 / 15 −10.0 / 12.0	−4.5	−4.6 / 12.0 −4.9 / 18.0 −9.8 / 26.0 −10.4 / 32.4
+50			11.90	4.15	7.45	−3.30	−10.3 / 32.2 −10.8 / 15.0 −3.4 / 6.0	−3.3	−4.1 / 12.0 −8.5 / 19.0 −9.4 / 30.8
9			10.90	5.15	5.30	−0.1	−8.8 / 29.6 9.4 / 20 −6.2 / 12.0 −0.8 / 8.0	−0.1	−1.1 / 9.0 −8.6 / 12.0 −7.3 / 26.6
B.M. #	3.37	6.07	13.35	2.70			correct when bridge is built		
+50									
#67			1.48	4.59				0.0	−0.2 / 4.0 −6.8 / 8.0 −8.7 / 15.0 −7.3 / 20.0 −6.8 / 25.6

Sta	+	HI	−	Elev	Grade	cut	Left	Center	Right
		6.07							
10			3.17	2.90	2.90	0.0		✓ 0.0	−0.7 / 7.0 −6.5 / 8.0 −6.5 / 12.0 −6.5 / 14.0 −5.6 / 15 −5.1 / 22.2
B.M.			2.96	3.11			S/k top of New Wing pile S.W. cor		
+50			4.90	1.17	1.20	0.0		0.0	−0.4 / 5.0 −4.0 / 12.0 −4.0 / 20.0
11			5.46	0.51	1.00	−0.5		−0.5	−0.8 / 5.0 −4.1 / 12.0 −4.0 / 20.0
+50			5.50	0.47	1.00	−0.5		−0.5	−0.9 / 5.0 −4.3 / 12.0 −4.2 / 20.0
12			5.40	0.67	1.00	−0.3		✓ −0.3	−0.5 / 5.0 −4.4 / 12.0 −4.6 / 21.2
+50			5.50	0.57	1.00	−0.4		✓ −0.4	−0.8 / 4.0 −4.1 / 10.0 −4.4 / 12.0 −5.2 / 22.4
13			5.50	0.57	1.00	−0.4		✓ −0.4	−0.8 / 5.0 −4.9 / 12.0 −5.3 / 22.6
+50 #	5.04	5.51	5.60	0.47	1.00	−0.4		−0.4	−0.9 / 5.0 −4.4 / 12.0 −5.0 / 22.0
14			4.81	0.71	1.00	−0.3		−0.3	−0.7 / 4.5 −5.1 / 12.0 −3.8 / 15.0 −3.5 / 19.0
+50			4.55	0.96	1.00	0.0		✓ 0.0	−0.5 / 5.0 −4.4 / 12.0 −3.5 / 17.0 −3.4 / 18.8
15			4.40	1.11	1.00	+0.1		+0.1	−0.4 / 5.0 −4.0 / 12.0 −3.6 / 19.2

Sta	+	HI	−	Elev	Grade	Cut	Left	Center	Right
+50		5.571	4.56	0.955	1.00	−0.1		−0.1	−0.5 / 5.0 · −3.5 / 12.0 · −4.1 / 14.0 · −3.3 / 18.6
16			4.60	0.971	1.00	−0.1		−0.1	−0.6 / 5.0 · −4.2 / 12.0 · −3.5 / 16 · −3.5 / 19.0
+50			4.73	0.788	1.00	−0.2		−0.2	−0.8 / 6.0 · −4.0 / 12.0 · −3.4 / 17.0 · −3.5 / 18.6
17			4.66	0.883	1.00	−0.1		−0.1	−0.8 / 5.0 · −4.0 / 12.0 · −3.5 / 19.0
+50			4.90	0.661	1.00	−0.4		−0.4	−0.7 / 5.0 · −3.8 / 9.0 · −3.5 / 12.0 · −3.7 / 16.0 · −3.1 / 18.1
18			4.80	0.771	1.00	−0.3		−0.3	−0.8 / 4.0 · −3.4 / 10 · −3.8 / 12.0 · −3.5 / 19.0
+50			4.60	0.971	1.00	−0.1		0.1	−0.4 / 3.0 · −3.1 / 8.0 · −3.7 / 12.0 · −4.3 / 20.6
+90			2.71	2.860	2.80	0.0		0.0	−1.0 / 10 · −2.8 / 12.0 · −5.1 / 16.0 · −6.0 / 24.0
19									
B.M., offset culvert			6.91	−1.40					
+50									
20									
+50									

Excavation and Embankment on Main Street Sta 0 to 18+80

Sta.	cu yds Cut	cu yds Fill	End area cut	End area Fill
0	0.0	0.0	0.0	0.0
+50	45.0	0.0	48.6	0.0
1	121.0	0.0	82.2	0.0
+50	185.6	0.0	118.2	0.0
2	252.8	0.0	154.8	0.0
+50	302.8	0.0	172.2	0.0
3	333.3		187.8	0.0

Left	Section	Right
-0.4 / 12	+0.2	0.0 / 12.0
+1.7 / 12.0	+1.8	+2.8 / 12
+3.0 / 12.0	+3.4	+3.9 / 12.0
+4.5 / 12.0	+4.7	+5.8 / 12.0
+6.1 / 12.0	+6.2	+7.3 / 12.0
+6.7 / 12.0	+7.2	+7.6 / 12.0
+7.5 / 12.0	+7.8	+8.2 / 12.0

Sta	cu yds Cut	cu yds ~~Cut~~ Fill	end area Cut	end area Fill
3+50	327.8	0.0	166.2	0.0
4	283.3	0.0	139.8	0.0
+50	176.8	0.0	51.3	0.0
5	11.4	158.0	0.0	224.5
	2039.8	158.0		
+50	0.0	588.9 29.0 569.9	0.0	422.3
6	0.0	620.3	0.0	247.8
+50	0.0	355.2	0.0	135.8

← deduct 29.0 cu yds for calculs

Section

Left	Center	Right
+7.1 / 12.0	+6.5	+7.6 / 12.0
+4.7 / 12.0	+4.6	+4.9 / 2.0 ; +8.1 / 7.0 ; +8.7 / 12.0
+0.9 / 12.0	+0.7	+0.7 / 3.0 ; +4.6 / 7.0 ; +7.0 / 12.0
4+55 Grade	4+58 Grade	4+77 Grade
-12.7 / 31.1 ; -13.0 / 26.0 ; -9.1 / 12.0 ; -3.9 / 10.0	-4.0	-4.1 / 7.0 ; -5.7 / 12.0 ; -4.7 / 19.1
-12.9 / 31.4 ; -13.3 / 18.0 ; -8.4 / 12.0 ; -7.1 / 10.0	-6.7	-6.8 / 5.0 ; -9.8 / 12.0 ; -13.5 / 15.0 ; -13.7 / 32.0
-5.6 / 20.4 ; -6.7 / 12.0	-6.4	-6.6 / 12.0 ; -12.7 / 31.0
-3.7 / 16.0 ; -4.7 / 12.0	-4.3	-4.8 / 12.0 ; -4.9 / 19.4

Sta	cu yds cut	cu yds Fill	End cut	area Fill
7	0.0	151.5	0.0	27.9
+20	0.0	31.6	0.0	57.3
+50	0.0	57.5	0.0	46.1
+80	0.0	81.8	0.0	101.1
8	0.0	108.4	0.0	191.5
+15	0.0	142.7 ~~142.7~~	0.0	322.2 ~~205.2~~
+50	0.0	380.5 ~~304.7~~	0.0	265.1

Sections

Left		Center		Right		
	0.0 / 3.0	-1.2		-2.4 / 12.0	-2.5 / 15.8	
-1.8 / 14.7	1.8 / 12.0	-2.0		-2.5 / 12.0	-2.6 / 15.5	
-1.6 / 13.5	-1.1 / 12.0	-1.8		-2.6 / 12.0	-2.7 / 16.0	
-1.2 / 13.8	-2.2 / 12.0	-3.7		-4.4 / 12.0	-4.6 / 18.9	
-7.9 / 23.8	-7.5 / 12.0	-4.8		-4.7 / 12.0	-4.7 / 19.0	
-12.2 / 36.4	-11.4 / 15.0	-10.0 / 12.0	-4.5	-4.6 / 12.0	-4.9 / 18.0	-9.8 / 26.0	-10.4 / 32.4
-10.3 / 32.2	-10.8 / 15.0	-3.4 / 6.0	-3.3	-4.1 / 12.0	-8.5 / 19.0	-9.4 / 30.8

Sta	cu yds Cut	cu yds Fill	End area Cut	End area Fill	Section Left	Section center	Section Rt.
9	0.0	405.3	0.0	172.7	-8.8 -9.4 -6.2 -0.8 / 29.6 20.0 12.0 8.0	-0.1	-1.1 -8.6 -7.3 / 9.0 12.0 26.6
	0.0	2954.4	2954.4 / 108.3 → 3062.7				
1 +50	Bridge correct for slopes around wings				3062.7 / 131.2 less shortage in slopes see Book 55 Page 18 / 2931.0 total fill to bridge		
1 +67	0.0	10.6	0.0	102.0			
						0.0	-0.2 -6.8 -8.7 -7.3 -6.8 / 4.0 8.0 15.0 20.0 25.6
10	0.0	101.2	0.0	63.5		0.0	-0.7 -6.5 -6.5 -5.6 -5.1 / 7.0 8.0 14.0 15.0 22.2
+50	0.0	88.7	0.0	32.4		0.0	-0.4 -4.0 -4.0 / 5.0 12.0 20.0
11	0.0	64.1	0.0	36.7		-0.5	-0.8 -4.1 -4.0 / 5.0 12.0 20.0
+50	0.0	70.7	0.0	39.8		-0.5	-0.9 -4.3 -4.2 / 5.0 12.0 20.4
	0.0	324.7					

Sta	cu yds cut	cu yds Fill	End area cut	End area Fill	Section Left	Center	Right
12	0.0	731	0.0	39.3	-0.3	-0.5 / 5.0	-4.4 / 12.0	-4.6 / 21.2
			0					
1+50	0.0	813	0.0	48.5	-0.4	-0.8 / 4.0	-4.1 / 10.0	-4.4 / 12.0	-5.2 / 22.4
13	0.0	802	0.0	48.9	-0.4	-0.8 / 5.0	-4.9 / 12.0	-5.3 / 22.6
1+50	0.0	859	0.0	43.8	-0.4	-0.9 / 5.0	-4.4 / 12.0	-5.0 / 22.0
14	0.0	772	0.0	39.7	-0.3	-0.7 / 4.5	-5.1 / 12.0	-3.8 / 15.0	-3.5 / 19.0
1+50	0.0	670	0.0	32.7	0.0	-0.5 / 5.0	-4.4 / 12.0	-3.5 / 17	-3.4 / 18.8
					+0.1	-0.4 / 5.0	-4.0 / 12.0	-3.6 / 19.2
15	0.0	590	0.0	31.2				
	0.0	5337						

Sta	cu yds cut	cu yds Fill	End area Cut	End area Fill	Section Left	Section Center	Section Right
+50	0.0	55.9	0.0	29.2		0.0	-0.5 / 5.0 -3.5 / 12.0 -4.1 / 14.0 -3.3 / 18.6
16	0.0	56.8	0.0	32.2		-0.1	-0.6 / 5.0 -4.2 / 12.0 -3.5 / 16 -3.5 / 19.0
+50	0.0	57.9	0.0	30.4		-0.2	-0.8 / 6.0 -4.0 / 12.0 -3.4 / 17.0 -3.3 / 18.6
17	0.0	55.9	0.0	30.0		-0.1	-0.3 / 5.0 -4.0 / 12.0 -3.5 / 19.0
+50	0.0	58.5	0.0	33.3		-0.4	-0.7 / 5.0 -3.3 / 9.0 -3.5 / 12.0 -3.7 / 16.0 -3.1 / 18.2
18	0.0	63.5	0.0	35.3		-0.3	-0.8 / 4.0 -3.4 / 10. -3.8 / 12.0 -3.5 / 19.0
+50	0.0	68.7	0.0	39.0		-0.1	-0.4 / 3.0 -3.1 / 8.0 -3.7 / 12.0 -4.3 / 20.6
+90	0.0	53.3	0.0	33.0		0.0	-1.0 / 10. -2.8 / 12.0 -5.1 / 16.0 -6.0 / 24.0
	0.0	470.5					

Line shortage on slope
See Book 59 Page 20 — 124. cu yard

1329
124
1205 cu yard

Total fill beyond bridge 1329.0

Levels to ascertain highest point in Pueblo Lot 1208

May 12 1893 Hamlin Williams

Sta	+	HI	−	Elev.	
Took extreme high water as a datum					
0	12.00	12.00		0.0	Point of extreme H.W. in marsh S.E. of race track
#	11.97	23.65	0.32	11.68	
#	11.43	34.70	0.38	23.27	
B.M.			2.61	32.09	3/4 in tel pole
#	11.80	46.08	0.42	34.28	
#	11.87	57.40	0.55	45.53	
B.M. #	11.57	68.54	0.43	56.97	on Ply cor Blk 238+21
#	10.55	79.01	0.08	68.46	
#	11.44	90.43	0.02	78.99	
#	11.70	101.94	0.19	90.24	
#	12.30	114.17	0.07	101.87	
#	12.35	126.21	0.31	113.86	
#	11.15	136.81	0.55	125.66	
#	11.76	148.21	0.36	136.45	
B.M.			3.29	144.92	226+5 BM on Ply.
#	11.90	159.41 ~~159.41~~	0.70	147.51	
#	12.10	171.51	0.00	159.41	
#	12.20	183.71	0.00	171.51	
#	12.04	195.75	0.00	183.71	

Sta	+	HD	−	Elev
		195.75		
#	11.93	207.68	0.0	195.75
#	12.00	219.68	0.0	207.68
#	12.75	232.48	0.0	219.68
#	12.96	245.39	0.0	232.43
#	11.67	255.79	1.27	244.12
#	12.15	267.94	0.0	255.79
#	12.60	279.19	1.35	266.59
#	12.30	290.34	1.15	278.04
B.M.	Add	to H.?	0.66	291.00
NE cor	1194	325'		
	Draw	290	centre	1207
250'	on Hill East of	cor Lots 18 + 19		
300'	Sheep Ranch			
325'	Old Sheep Ranch			
350	1245 SE cor	City line		
370	East gate Wilsons Ranch			
370	NE cor 1203			
325	Linda Vista Survey			

+ Top of scarf stake NE cor 1208

Preliminary survey for a tract of land in the City Park for the County Fair Grounds

May 12 1893 Hamlin Shaw Williams

45

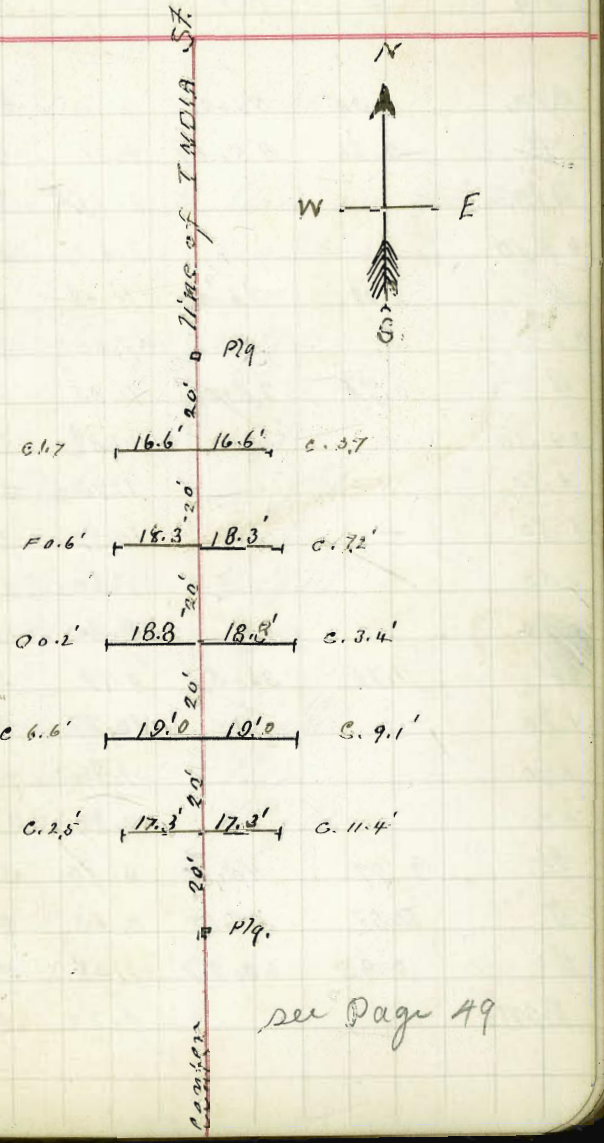
Begun at a mound of stone the S.E. Cor 1124 & S.W. Cor of 1125 and ran as follows all courses magnetic

S 75° 30' W	373.0'	to Cor	2
S 19° 30' E	948.0'	" "	3
N 67° 30' E	473.0'	" "	4
N 31° 0' E	454.8	" "	5
S 11° 45' E	204.0'	" "	6
S 89° 0' E	308.0'	" "	7
N 1° 30' W	867.0' (867)?	" "	8
S 75° 30' W	1002.0	" "	1

Location of bents of India St. Bridge

May 13. 1893 Hamlin Shaw Williams

Line Plg	20' N of N end of bridge	
0 + 90	Bent	5
0 + 70	Bent	4
0 + 50	Bent	3
0 + 30	Bent	2
0 + 10	Bent	1
Line Plg	20' S of S end of bridge	



see Page 49

Cut 2 to dig pits for cells of India St. Bridge at Kalmia

May 13 1893

Hamlin
Shaw
Williams

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Sta	+	HI	−	Elev	Grade	cut ×		
B.M.	5.34	52.07		46.73			India & Day St	
#	2.26	45.09	9.21	42.83				
B.M.			7.12	37.97			India & Kalmia nw. of b. tel	
0+10			7.65	37.44	27.0 ~~26.00~~	+10.4 ~~+11.4~~	Bent 1	Right side
#	2.08	36.09	11.08	34.01				
0+10			7.60	28.49	27.0 ~~26.00~~	+1.5 ~~+2.5~~	Bent 1	Left "
#	0.74	25.00	11.83	24.26				
0+30			4.38	20.62	14.00	+6.6	Bent 2	Left "
+30			1.93	23.07	14.00	+9.1	Bent 2	Right "
+50			10.80	14.20	14.00	+0.2	Bent 3	Left "
+50			7.60	17.40	14.00	+3.4	Bent 3	Right "
+70			6.60	18.40	19.00	−0.6	Bent 4	Left "
#	11.76	36.57	0.19	24.61				
+70			10.37	26.20	19.00	+7.2	Bent 4	Right "
+90			4.86	31.71	30.00	+1.7	Bent 5	Left "
+90			2.86	33.71	30.00	+3.7	Bent 5	Right "
#	9.57	45.16	0.96	35.59				
#	11.57	56.10	0.63	44.53				
#	5.95	60.97	1.08	55.02				
B.M.			0.22	60.76				

Excavation for 6th St. Bridge

May 13 1893

Hamlin
Shaw
Williams

Average breadth	21.0'
Average cut	6.4
Average length	192'

21
64
84
126
134.4
192
2688
12096
1344
27) 2580 4.8 (953.7
243
150
135
154
135
198
189
9

Of amount excavated from 6th Bridge (see opposite page) —

206
~~412~~ cu yards put in 18th St.
120.0 cu yards wasted on bank
~~232.0~~.
326

~~956.0~~	956.
~~232.0~~	326
724.6	630

Grades for sills at India Street Bridge bet Kal & Laurel

May 17 1893 Hamlin Shaw Williams

Sta	+	H.I.	Grade	Rock	Elev	
B.M.	1.05	39.02			37.97	India & Kalmia S/k til
Bent 1			27.00	12.02		West side
#	2.44	29.81		11.65	27.37	
#	3.67	24.73		8.75	21.06	
Bent 2			14.00	10.73		East & West sides
Bent 3			14.00	10.73		" " " "
Bent 4			19.00	5.73		West side
#	4.50	28.12		1.11	23.62	
Bent 4				19.00	9.12	East side
#	9.06	36.90	0.27	27.85		
Bent 5			30.80	6.10		East & West sides

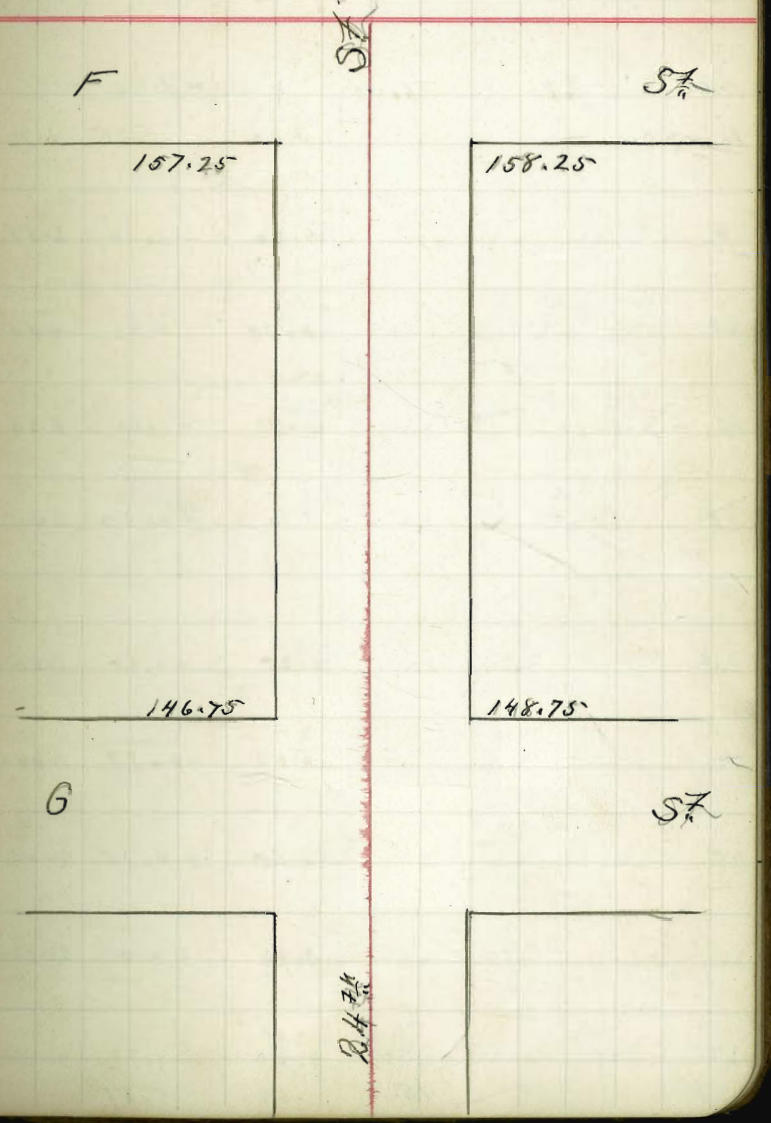
	+	H.I.	−	Elev	
B.M.	0.79	38.76		37.97	
Bent 1			11.77	26.99	West side
Bent 5			7.97	30.79	" " check of grade
" 5			7.98	30.78	East side
#	0.25	28.09	10.92	27.84	stakes set
Bent 4			9.06	19.03	East side
" "			9.09	19.00	West side
#	8.14	24.85	11.38	16.71	
Bents 2 & 3			10.85	19.00	Bents 2 & 3 both sides

Grades for street grading in 24th St bet F & G for E.W. Morse

May 17 1893

Hamlin
Shaw
Williams

Sta	+	HI	Grade	Rod	Elev
F & 24th					
B.M.	3.23	161.88			158.35
			158.25	3.33	F1.5
			157.25	4.33	F2.0
	Checked on old grade stake				
B.M.	7.28	153.59			146.31
G & 24th					
			148.75	4.84	F0.25
			146.75	6.84	F0.25



Cross Sections of Main St for 24' Roadway (From Sta 18+90 to Sta 34)

May 19 1893

Hamlin
Shaw
Williams
Crowell

Sta	+	HI	−	Elev	Grade	Cut x	Left	Center	Right
B.M.	7.70	6.30		−1.40		Sfk in culvert			
18+90			3.60	2.70	2.70	0.0			
19			4.20	2.10	2.50	−0.4	−0.4 / 12.0	−0.4 −6.0 / 12.0	−6.0 / 24.0
20			6.30	0.00	1.00	−1.0	−1.0 / 14.0	−1.6 −1.3 / 4.0	−3.3 / 8.0 −3.1 / 18.2
21			6.90	−0.60	1.20	−1.8	−1.7 / 15.4	−1.8 −2.0 / 3.0	−2.9 / 7.0 −3.1 / 18.2
22			7.10	−0.80	1.40	−2.2	−2.0 / 16.0	−2.2 −3.2 / 12.0	−2.7 / 17.4
23			6.25	+0.05	1.60	−1.6	−1.6 / 15.2	−1.6 −1.9 / 15.8	
24			5.63	+0.77	1.80	−1.0	−1.0 / 14.0	−1.6 −0.9 / 13.8	
25			5.55	+0.75	2.00	−1.2	−1.7 / 14.8	−1.2 −0.9 / 13.8	
26			5.73	+0.57	2.20	−1.6	−1.6 / 15.2	−1.6 −1.5 / 15.0	
27			4.60	+1.70	4.03	−2.3	−2.3 / 16.6	−2.3 −2.5 / 12.0	−2.5 / 17.3
ft	11.00	15.61	1.69	4.61					

Cross Section of main Street for 24' road way (from Sta 18+90 to Sta 34)

May 19 1893

Sta	+	H.I.	—	Elev	Grade	Left.	Center	Right
27+42	Grade							
28		15.61	7.13	8.48	5.86	+ 2.62	+4.3 +3.8 +2.4 / 44 25 12.0 + 2.6	+2.8 +3.8 +2.8 / 9.0 12.0 36
29			4.82	10.79	7.69	+ 3.10	+4.4 +3.5 / 44.0 12.0 + 3.1	+2.7 +2.3 / 12.0 36.0
30			2.60	13.01	9.52	+ 3.49	+4.0 +3.1 +3.5 / 44 36 12 + 3.5	+3.5 +3.4 / 22.0 36
31	4.88	20.41	0.08	15.53	11.35	+ 4.18	+3.3 +3.5 / 44.0 12.0 + 4.2	+4.4 +4.1 / 12.0 36.0
32			4.55	15.86	13.18	+ 2.68	+ 2.2 +2.4 / 44.0 12.0 + 2.7	+2.8 +3.5 / 12.0 36
33			5.18	15.28	13.43	+ 1.80	+1.8 +1.6 / 44.0 12.0 + 1.8	+2.4 +3.2 +3.2 / 12.0 14.0 36.0
34			6.70	13.71	13.71	0.0	+0.1 −0.2 / 44.0 12.0 0.0	+0.7 +0.3 / 12.0 36.0
35			6.65	14.76				
36			6.97	13.44				
B.M.			7.87	12.54				

Main & Maw Street S.W. cor on plug.

Extra fill at South End of Pluto St Bridge

South End of Bridge 16'x6'x 6' = 22.0 cu yard
from this deduct 8.0 cu yards thrown
East along bank. = 14.0 cu yards
this amount to be diminished but
amount held back by wings, measure
when fill is completed

do not diminish in any way.

at North End of Bridge add
24 + 30 = 54 ÷ 2 = 27 x 4 x 2 = 8.0 cu yds

Survey to replace block corners at the crossing of Main & Thor Sts

May 19 1893

Hamlin
Shaw
Williams
Crowell

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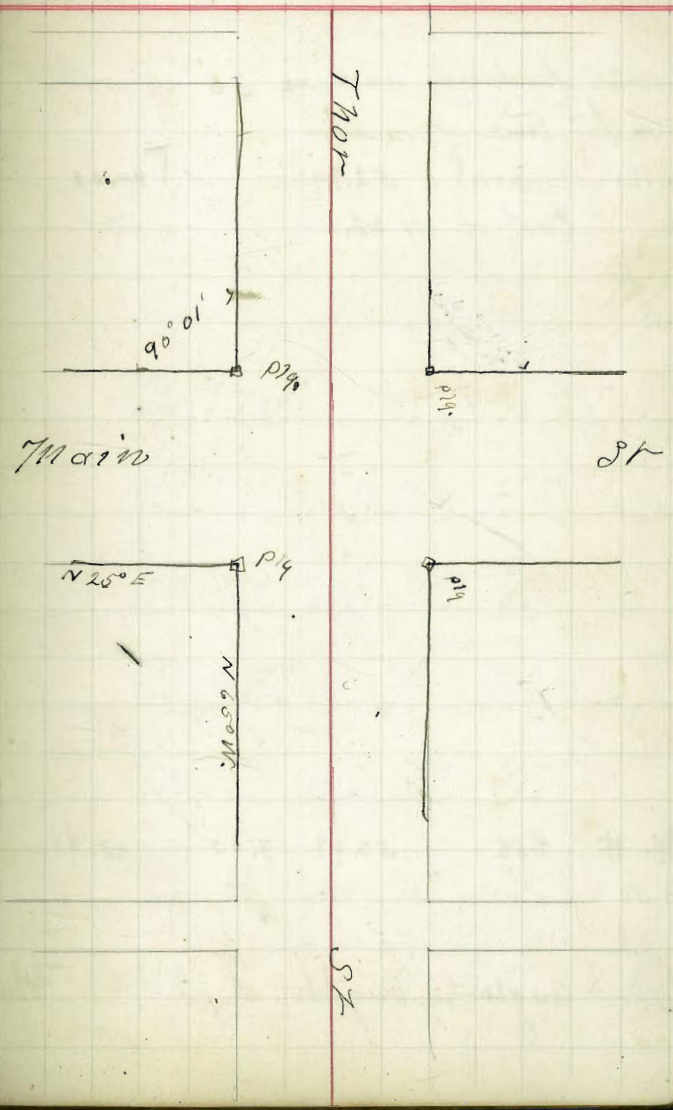
Found old plug at the N.E. cor of J ave & Thor St; also one at the S.E. cor of H ave & Thor St.
Found the magnetic bearing of the East line of Thor St to be N 25° E
Set up over old plug at the S.E. cor of Main & Nina Sts. B.S. to S.W. cor of Main & Vesta; — Intersected the East line of Thor St. With the South line of Main St; — Set Plg. — Then measured West along the South line of Main St 60' and set a plug for the S.W. cor of Main & Thor
Set up at the S.W. cor. Main & Thor F.S. to H & Thor Set Plug 80' across Main St. And the same at S.E. cor of Main & Thor



Cross Sections of Main St from 31st to angle, For 24' roadway.

May 19 1892 Hamlin
Crowell
Shaw
Williams

Sta	+	HI	−	Elev	Left		Center of Road	Right	
Center of road way is 36' North of South line of Main							Legend	{Elevation / Dist. out}	
B.M.	8.32	52.94		44.62					
0	East of 31st				44.5 / 44.0	45.8 / 12	45.8	45.8 / 12	42.0 / 36
+50					47.6 / 44	46.4 / 12	45.9	46.7 / 12	46.5 / 36
1					47.8 / 44	47.1 / 12	47.4	46.9 / 12.0	47.2 / 36
+50					47.7 / 44.0	47.6 / 12.0	47.8	48.5 / 12.	48.4 / 36
2					48.3 / 44.0	47.6 / 12.0	47.6	47.4 / 12.0	47.4 / 36
+50					48.5 / 44	47.7 / 12	47.6	47.6 / 12	47.7 / 36
3					46.4 / 44.0	46.5 / 12.0	46.6	47.3 / 12.0	47.9 / 36
B.M. #	4.58	50.49	7.03	45.91					
+50					44.7 / 44	44.4 / 12	44.5	45.3 / 12	46.9 / 36.0
+76	Angle to Right				43.7 / 44	43.6 / 12	44.1	44.1 / 12.	46.3 / 36

Excavation and Embankment on Main Street Sta 18+90 to 34

Sta	cu yds Cut	cu yds Fill	Areas Cut	Areas Fill	Section Left	Section Center	Section Right
18+90						0.0	
19	0.0	14.6	0.0	79.0	-0.4 / 12.0	-0.4	-6.0 / 12.0 -6.0 / 24.0
20	0.0	238.5	0.0	49.8	-1.0 / 19.0	-1.0	-1.3 / 4.0 -3.3 / 8.0 -3.1 / 18.2
21	0.0	209.6	0.0	63.5	-1.7 / 15.4	-1.8	-2.0 / 3.0 -2.9 / 7.0 -3.1 / 18.2
+ 25	Distance for 450 yds. for footbody						
22	0.0	248.2	0.0	70.6	-2.0 / 16.0	-2.2	-3.2 / 12.0 -2.7 / 17.4
23	0.0	215.2	0.0	45.7	-1.6 / 15.2	-1.6	-1.9 / 15.8
24	0.0	131.5	0.0	25.3	-2.0 / 14.0	-1.0	-0.9 / 13.8
25	0.0	104.1	0.0	30.9	-1.4 / 14.8	-1.2	-0.9 / 13.8
26	0.0	136.3	0.0	42.7	-1.6 / 15.2	-1.6	-1.5 / 15.0
27	0.0	204.8	0.0	67.9	-2.3 / 16.6	-2.3	-2.5 / 12.0 -2.5 / 17.0
42	0.0	52.7	0.0	0.0	0.0 / 12.0	0.0	0.0 / 12.0
		1555.5					

Station	Cubic Yards ~~cut~~ Fill	~~Fill~~ cut	End Area cut	Area Fill	Section Left	Section center	Section Right
28	0.0	70.0	0.0	65.1	+2.4 / 12.0	+2.6	+2.8 / 9.0 +3.8 / 12.0
29	0.0	258.1	0.0	74.4	+3.5 / 12.0	+3.1	+2.7 / 12
30	0.0	293.3	0.0	84.0	+3.5 / 12.0	+3.5	+3.5 / 12.0
31	0.0	341.1	0.0	100.2	+3.9 / 12.0	+4.2	+4.4 / 12.0
32	0.0	303.3	0.0	63.6	+2.4 / 12.0	+2.7	+2.8 / 12.0
33	0.0	202.2	0.0	45.6	+1.6 / 12.0	+1.8	+2.4 / 12.0
34	0.0	100.0	0.0	8.4	0.0 / 12	0.0	+0.7 / 12.0
		1568.0					
35							
36							

Excavation on Main Street bet. 31st & 32nd for Fill in 31st St

Station	Cubic cut	Yards fill	End cut	Area fill
0			54.00	00
+50	97.40	0.0	51.3	0.0
1	85.0	0.0	40.5	0.0
2	150.0		40.5	0.0
3	137.4		33.7	00
+50				
+76	47.3		0.0	
	517.0			

Left	Right
+2.0 / 13.5	+2.0 / 13.5
+2.0 / 13.5	+1.5 / 13.5
+1.5 / 13.5	+1.5 / 13.5
+1.5 / 13.5	+1.5 / 13.5
+1.0 / 13.5	+1.5 / 13.5
	0.0

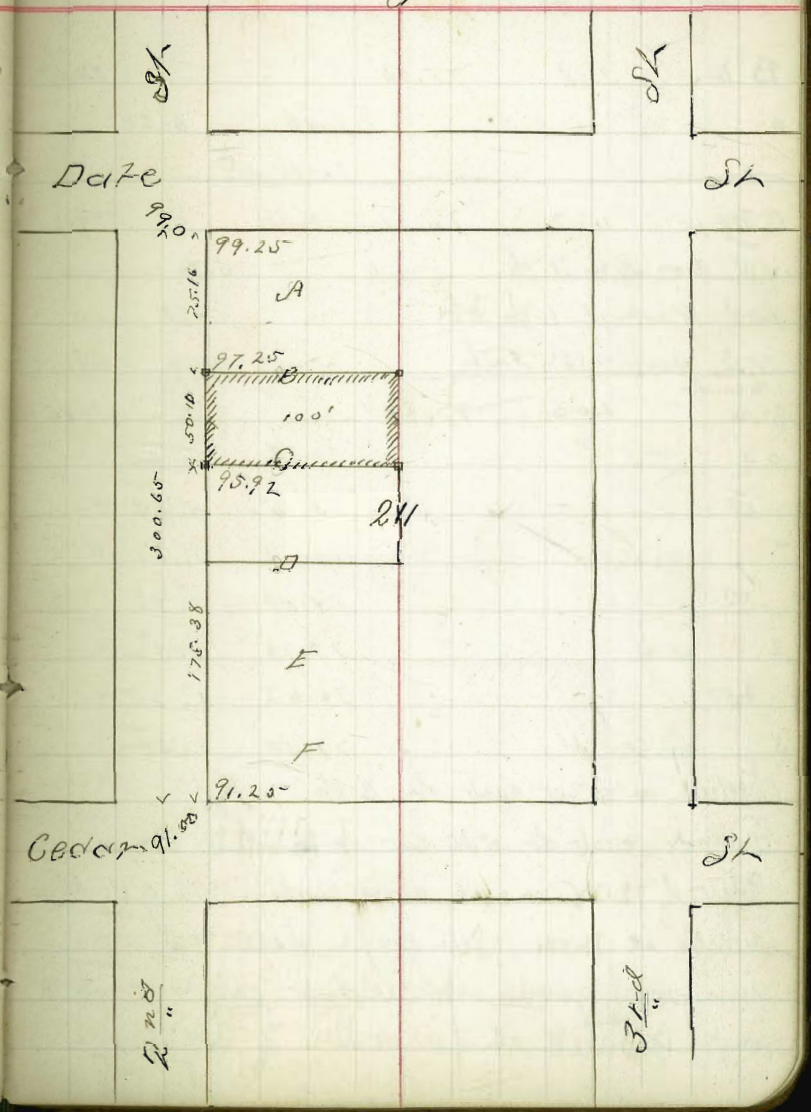
No grade is established for this work. Object was to fill ravine in 31st St to the amount of about 600 cu yds

May 20 1893 Hamlin

Survey of N 1/2 of Lot C & S. 1/2 of Lot B Blk 211 Horton Add
From T. J. Dillon

Sta	+	BS	Grade	Rod	Elev
Abate 2nd					
BM	0.88	101.07			100.19
			97.25	3.82	
			95.92	5.15	
#	6.25	96.71		10.61	90.46
B.M.	Second Cedar	sp hot cut		4.82	91.89

May 20 1893
Hamlin
Shaw
Williams



Grades for Lots G & H Blk 30 Horton Add for M German

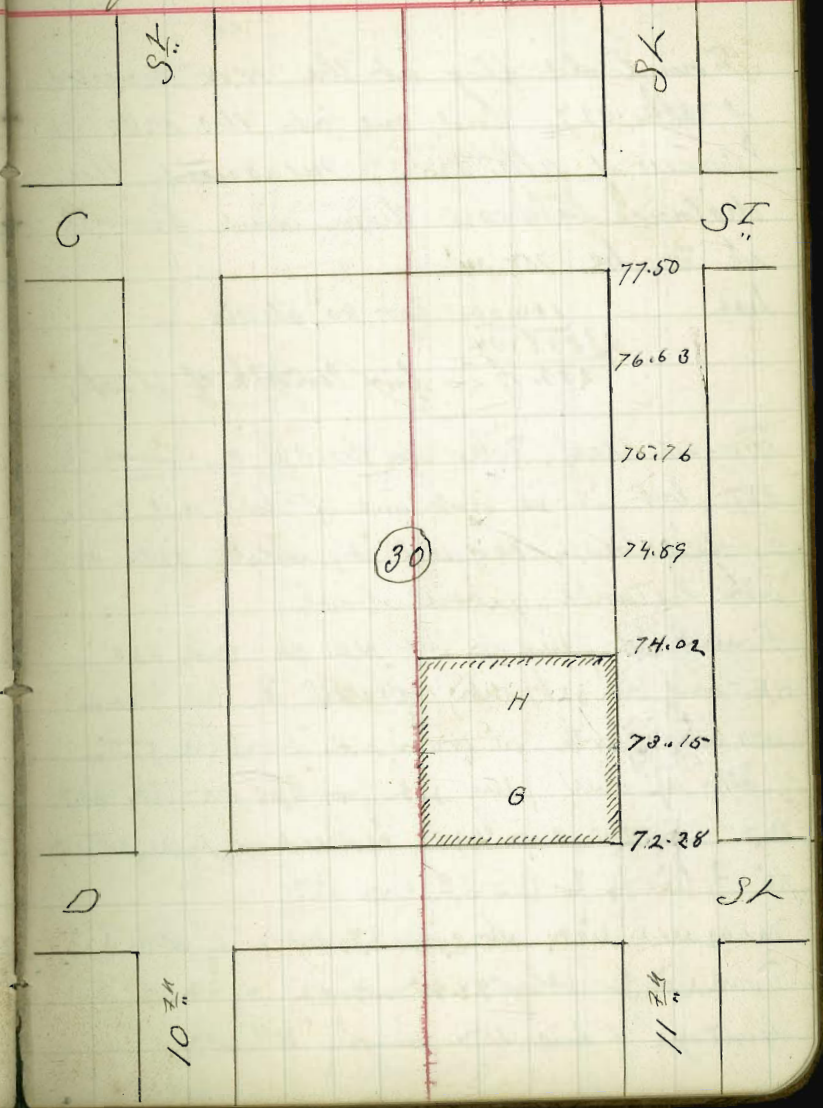
May. 20 1893

Hamlin inst
Shaw rod
Williams Stake

Sta	+	HI	Grade	Rod	Elev
B.M.	3.18	78.03			74.85
0			71.80	6.23	
			72.75		
B.M.	1.17	76.02			74.85
N.W. cor ~~L~~ & 11th				3.74	72.28
100' West of 11th St				5.91	70.11
N.E. cor ~~L~~ & 10th				7.50	68.52
~~11th & H.~~ B.M.	3.03	77.88			74.85
0			72.28	5.60	✓
+50			73.15	4.73	✓
1			74.02	3.86	✓
+50			74.89	2.99	✓
2			75.76	2.12	✓
+50			76.63	1.25	✓
3			77.50	0.38	

Checked on new curb at C St O.K.
Found curb at N.W. cor of L & 11th at an Elev of 72.28 or 0.48' above ordinance grade which is 71.80. Set grade stakes for a uniform grade bet. curbs as found on L St and C Streets as per orders of City Eng.

Hamlin



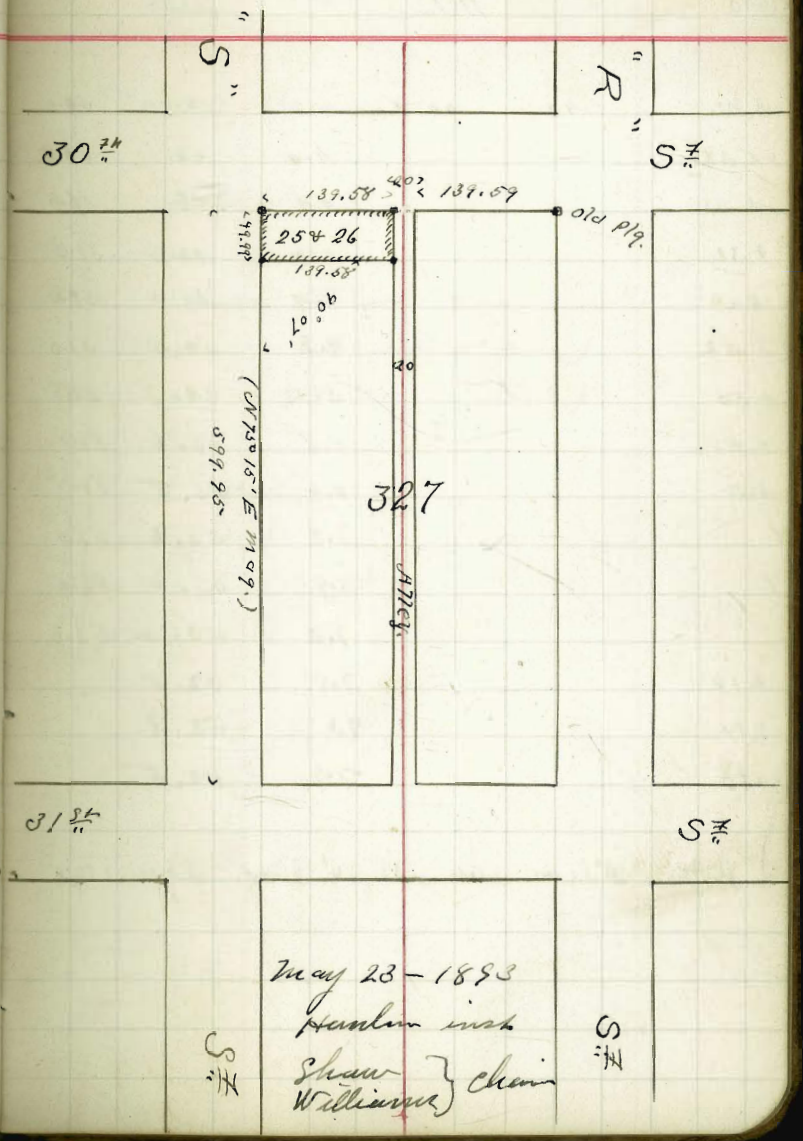
Survey for Rev. G. E. Morrison of Lots 25 & 26 Blk 327 Chouteau

K Found old plug at the N.W. corner
O of Blk 327. and one at the N.W.
Corner of Blk 325, measured the
B. distance between them and found
N it to be 758.34'
1 Less 160.00 two 80' streets
2)598.34
299.17 ← for length of blocks

O Found scarf stake at the S.W. cor of Blk
+ 327, but it is not one of the old cors,
so did not regard it, and set cor
at distance given above

2 Found old plug at the N.E. cor blk 326
S.E. cor of blk 327 ouht; replaced it by meas.
3 ureing North 80' from N.E. cor blk 326.

C Set up over plug set for S.W. cor blk 327
B.S. to N.W. cor 325; reversed and deflected
90° 07' Right to the S.E. cor 327.
Measured dist. bet S.W. & S.E. cors of blk 327
Found it to be 599.95 ÷ 12 = 49.99 the
frontage of Lots 25 & 26 on "S" St



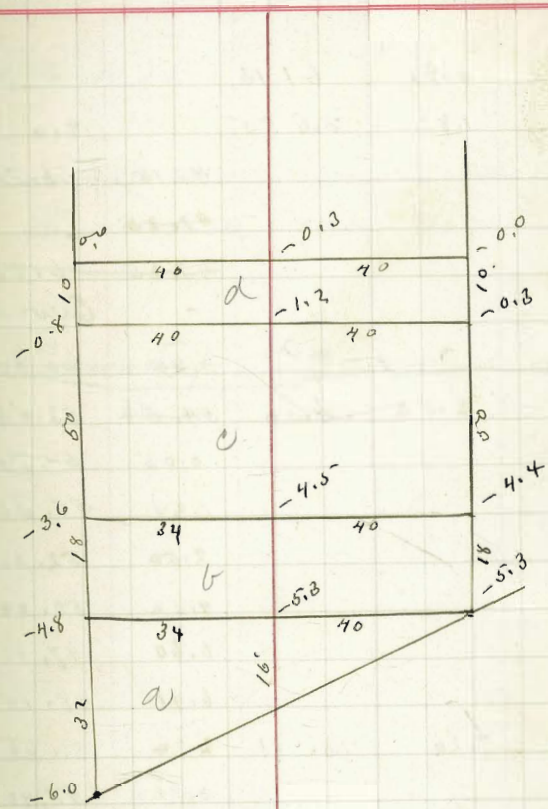
Measurements of Earth-work in approach to 6th St Bridge on North Side

	Sta	+	H.I.	−	Elev		
7	B.M.	4.40	60.4		56.00	~~50.0~~	Floor of Bridge
0	0+32			4.4	56.0	~~50.0~~ 6.0	on East side
	+13			4.4	56.	50.0 −6.0	in Centre of St
C	+32			4.4	56.0	51.5 −6.0	in Centre of St
N	0.0			4.4	56.0	50.0 −6.0	West side (6.0 East of line)
1	+32			4.9	56.5	51.0 −5.5	West side (6.0 East of line)
	+50			5.7	54.7	51.5 −3.2	West " (6.0 East of line)
B	+50			4.8	55.6	51.5 −4.1	Centre line
0	+50			4.9	55.5	51.5 −4.0	East side
	/			7.8	52.6	53.0	East side
	/			6.9	53.5	53.0	Centre line
	/			7.3	53.1	53.0	West side
2	+10			7.5	52.5		West "
	+10			7.6	52.8		Centre line
3	+10			7.5	52.5		East side
C							

Slope Fill on west side 84' long. slope 1 to 1

Sta	Elev	Grade	cut	
0.0	56.0	50.0	−6.0	West side
+32	55.5	50.7	−4.8	West "
+32	56.0	50.7	−5.3	Center "
+32	56.0	50.7	−5.3	East "
+50	54.7	51.1	−3.6	West "
+50	55.6	51.1	−4.5	center "
+50	55.5	51.1	−4.4	East "
/	53.1	52.3	−0.8	West "
/	53.5	52.3	−1.2	Center "
/	52.6	52.3	−0.3	East "
+10	52.5	52.5	0.0	West "
+10	52.8	52.5	−0.3	Center "
+10	52.5	52.5	0.0	East "

			cu yds	
$\frac{32 \times 74}{2} \times$	5.4 ÷ 27	=	237.0	a
18 × 74 ×	4.6 ÷ 27	=	207.5	b
50 × 80 ×	2.5 ÷ 27	=	370.3	c
10 × 80 ×	0.5 ÷ 27	=	15.0	d
			831.8	
Slope on West — 84 × 18 ÷ 81			19	
			850.8	



Of this amount 724 cu yds were taken from East Bridge

Grades for Mud Sills at C St Bridge May 31. 1893

Sta	+	HO	Grade	Rod	Elev	
B.M.	6.96	61.13			54.17	18th & C St.
#	1.87	53.90		9.10	52.03	
S.W.			47.15	6.75		Grade at S.W. cor. of bridge (set 1.0 high
			~~47.25~~			er than grade (rod 5.75
			~~47.25~~	~~6.65~~		
			–	Elev	Grade	cut.
Sta	+	HO	~~3.85~~	~~50.05~~		Break in grade at West side
#	2.53	54.56	~~54.56~~	52.03		
			0.05	54.51	51.33	+3.18
			1.23	53.33	50.33	+3.0
			2.50	52.06	48.35	+3.71
			4.52	50.04	48.25	+1.79
			6.60	47.96	47.43	+0.53
			6.41	48.15	47.15	+1.0
#	7.20	58.81	2.94	51.61		
B.M.			3.91	55.90		17th & C St. S.W. cor
			4.93	53.88		17th & C SE cor.

Cross Section of Approach on C & 18th North Side

Sta	+	H I	−	Elev.
B.M.	7.09	61.26		54.17
0				
+10			7.70	53.6
+10			5.6	55.7
+10			4.8	56.3
+10			8.7	52.6
+30			8.8	52.4
+30			5.6	55.7
+30			5.8	55.5
+30			7.2	54.1

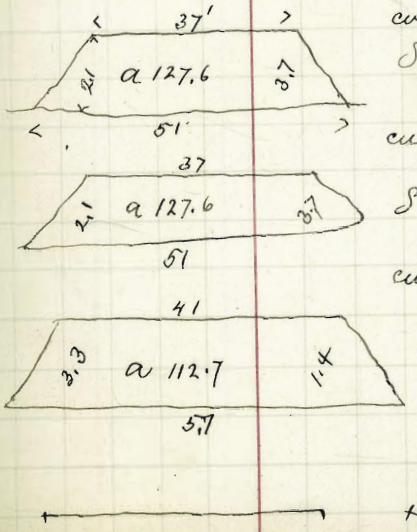
Take section at +30 Wedge 43' to apex — Less 19 cu yards in railroad bank

May 31 1893 Hamlin & Party

18th & C

Sta 0 is on Grade

14' East of West line	on Nat surface
18 " " " "	top of fill
55 " " " "	" " "
65 " " " "	on natural surface
70 " " " "	" " "
59 " " " "	top of fill
18 " "	" "
13 " " " "	on natural surface



cu yds 0.0
Sta 0

cu yds 47.3

Sta 0+10

cu yds 88.6

Sta +30

cu yds 70.0
205.9

+73 Grade

Estimate of Earth borrowed from a St bet 15th & 16th

30 x 65 x 6.5

This estimate is only approximate because the earth was hauled away and no cross sections before taken

Recton Section of approach on North side of 16th Bridge

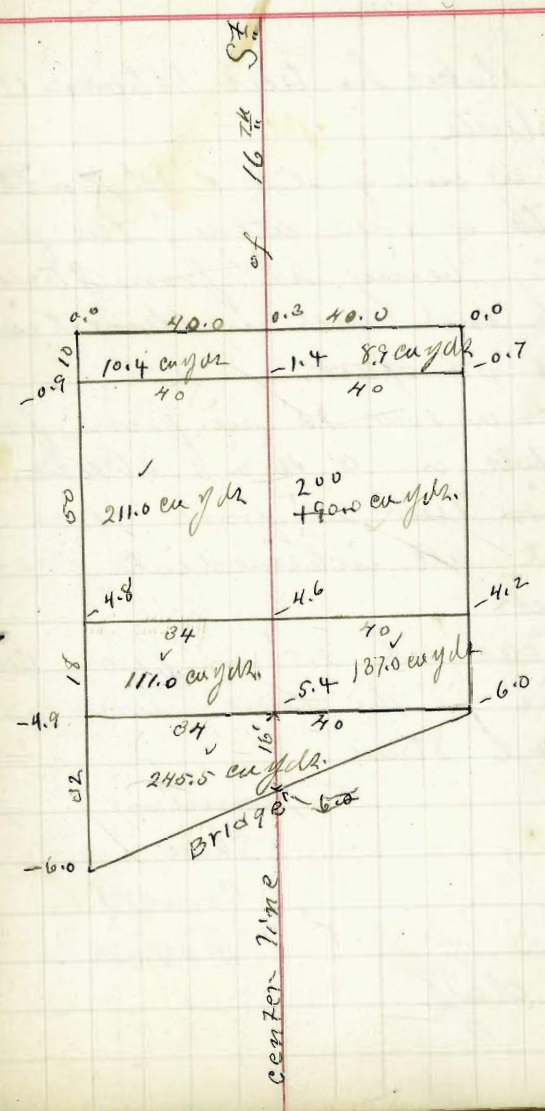
Sta	+	H.I.	−	Elev	
B.M.	4.17	60.17		56.00	Floor of 16th Bridge
0			4.2	56.0	52.0 West side of 16th
+32			4.6	55.6	" " " 8' East of West line
+32			4.1	56.1	" line of 16th
+32			4.2	56.0	East " " "
+50			4.9	55.3	
+50			4.5	55.7	
+50			5.3	54.9	5' East of West line
1			7.1	53.1	West line of 16th St
1			6.6	53.6	Center "
1			7.3	52.9	East "
+10			Grade		"
+10			"		"
+10			"		"

May 31 1893 Hamlin & Party

Sta	Elev	Grade	cut	
0	56.0	50.0	−6.0	West
+32	55.6	50.7	−4.9	West
+32	56.1	50.7	−5.4	Center
+32	56.0	50.0	−6.0	East
+50	54.9	51.1	−4.8	West
+50	55.7	51.1	−4.6	Center
+50	55.3	51.1	−4.2	East
1	53.1	52.2	−0.9	West
1	53.6	52.2	−1.4	Center
1	52.9	52.2	−0.7	East
+10	52.5	52.5	0.0	West
+10	52.8	52.5	−0.3	Center
+10	52.5	52.5	−0.0	East

10.4
8.9
211.0
190.0
111.0
137.0
245.5
913.8
19.2 Slopes on West side
933.0
10 — error
943

943
630 ← from C. St. Bridge
313 ← Borrowed from A



Liner for trees for Mr. H Schuyler — June 1 1892

Set stakes for trees between C and E Streets

Set a line of stakes 12' North and South of each alley, the first tree being 25' from Street on Each end and intermediate trees 50' apart.

Set a row 12' in from front of lots on C & E Streets, with first tree 25' from Cross Streets and all intermediate ones 50' apart

Trees set 25' in from curb liner in the same way on D & E Streets

Hamlin
Shaw
Crowell
Ferraw

1 day.

Survey of tract in S.E. cor of Park for County Fair Grounds

Begun at a point on the South line of the City Park 2150' East of the N.W. corner of Pueblo Lot 1149 aforesaid point being 100' East of East side of 27th St. Thence run as follows; all bearings are magnetic.

N 14 1/4° W 1400.0' Ravine to the right.
N 5 1/4° W 550.0' " " "
From this point the top of ridge bears S 20° E
S 62 1/4° W. 450.0' to point of hill from which the head of small ravine bears N 85° E and the head of main ravine at park line bears S 17° 30' E the east banks is about 200 to 300' East of the bottom of ravine
S 31 1/2° W 650.0 to point of hill opposite from which the head of small ravine N 47 3/4° E
S 14 3/4° W 250'
S 3/4° W 460 to Sta. on north line of Pueblo Lot 1149, on South line of City Park
N 75 1/4° E 1750 along south line of Park to point of beginning

Traverse of tract in Park See Page 71

Course	Dist.	Latitude N	Latitude S	Departure E	Departure W
N 14 1/4° W	1400.	1356.9			344.7
N 81 3/4° W	580	78.9			544.3
S 61 1/4° W	450		223.3		390.7
S 3 1/2° W	650.		554.2		339.6
S 14 3/4° W	250		241.8		63.8
S 3/4° W	860.		859.9		11.3
N 75 1/4° E *	1750.	445.5		1692.3	
		1881.3	1879.1	1692.3	1694.4
		1879.1			1692.3
		2.2			2.1

~~Corrected latitude and departure~~

	1352.5		
	78.7		
		224.0	
		556.0	
		242.6	
		862.8	
	444.0		
	1875.2		

Data for Plotting

Beginning at Sta 6 the Northing and Eastings are as follows

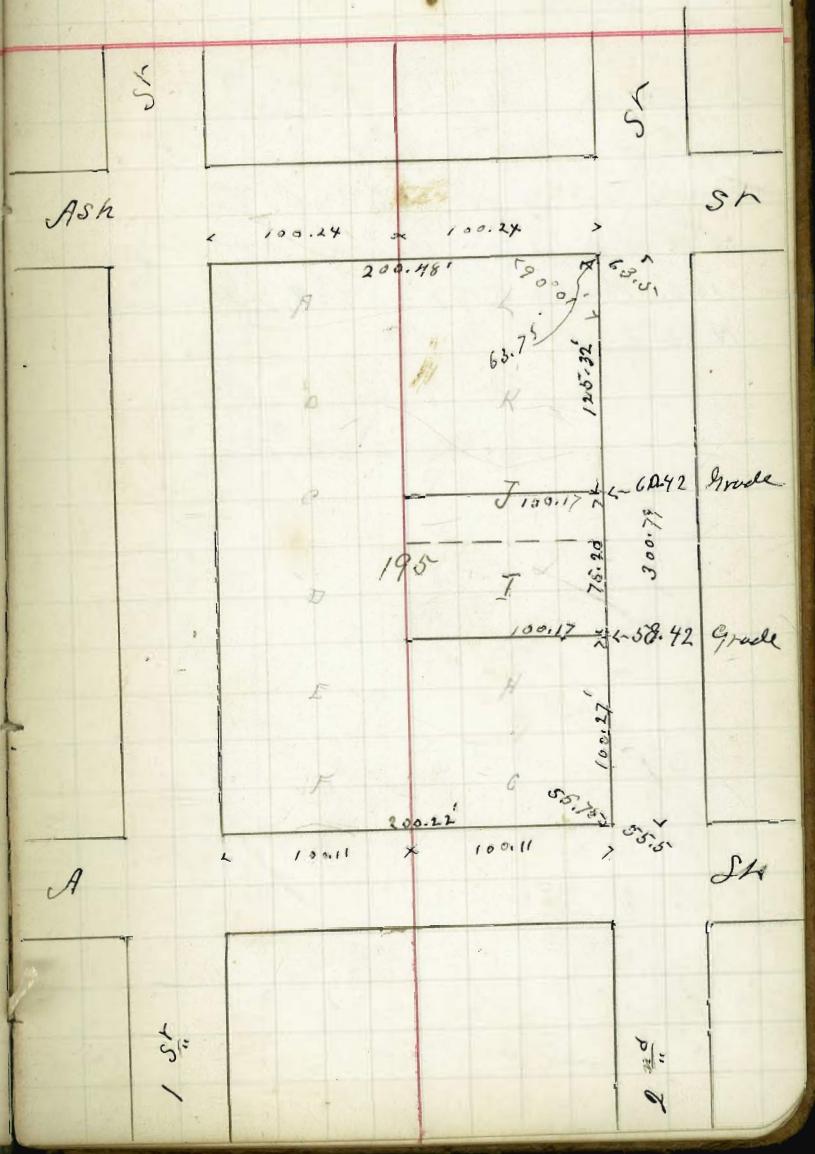
	North	East
7 - 1.	445.5	1692.3
1 - 2	1802.4	1347.6
2 - 3	1881.3	803.3
3 - 4	1658.0	412.6
4 - 5	1103.8	73.0
5 - 6	862.0	9.2
6 - 7	0.0	0.0

Survey of Lot I & S1/2 of J Blk 195 Hontons for Lutheran Church

Sta	+	2	Grade	~~Elev~~ Rod	Elev
Set N.W. & S.W. corners 1' East of back line of Lot other corners at true point					
B.M.	7.77	62.36			54.59
Sta 1			58.42	3.94	✓
" 1+75			60.42	1.94	✓
#	7.18	67.60		1.94	60.42
B.M.	2nd & Ash			1.66	65.94

Completed June 9 1893

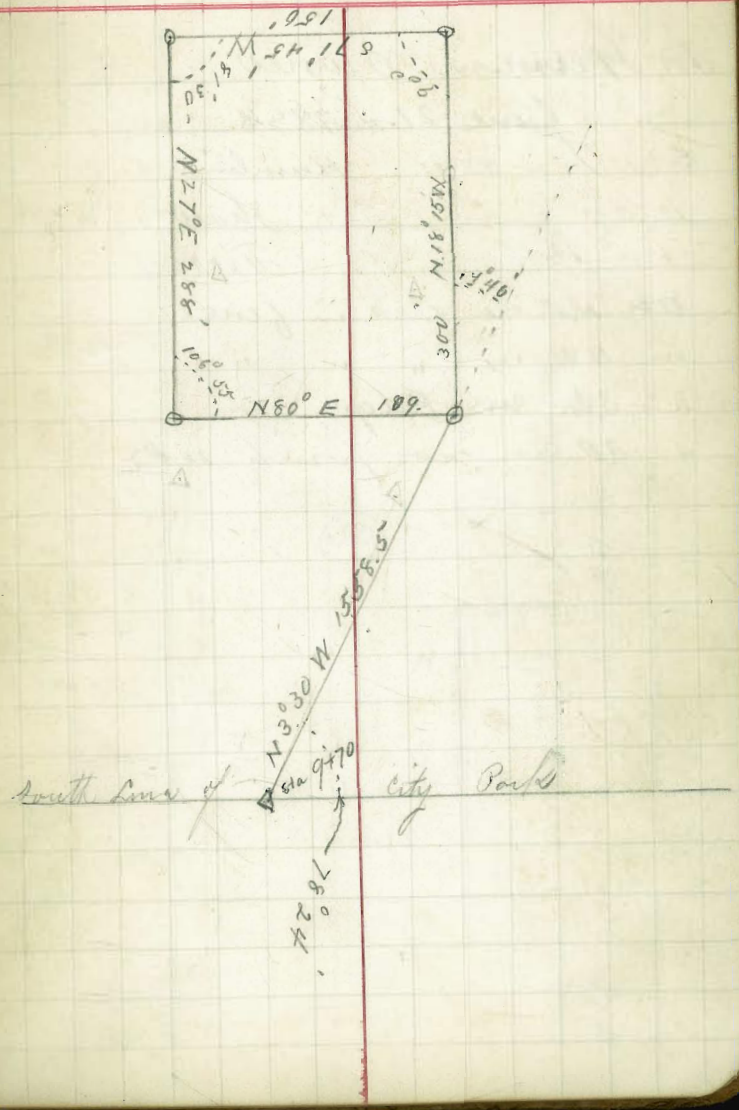
Hamlin
Shaw
Ferrar



Survey of Grounds for dump in City Park.

Sta 9+70 on south line of Park. Turned angle of 78°24' to Left. Magnetic course N 3° 30' W 15.58.5'. Thence N 18° 15' W 300'. Thence S 71° 45' W 156'. Thence S. 27° E 288'. Thence N. 80° E 109'.

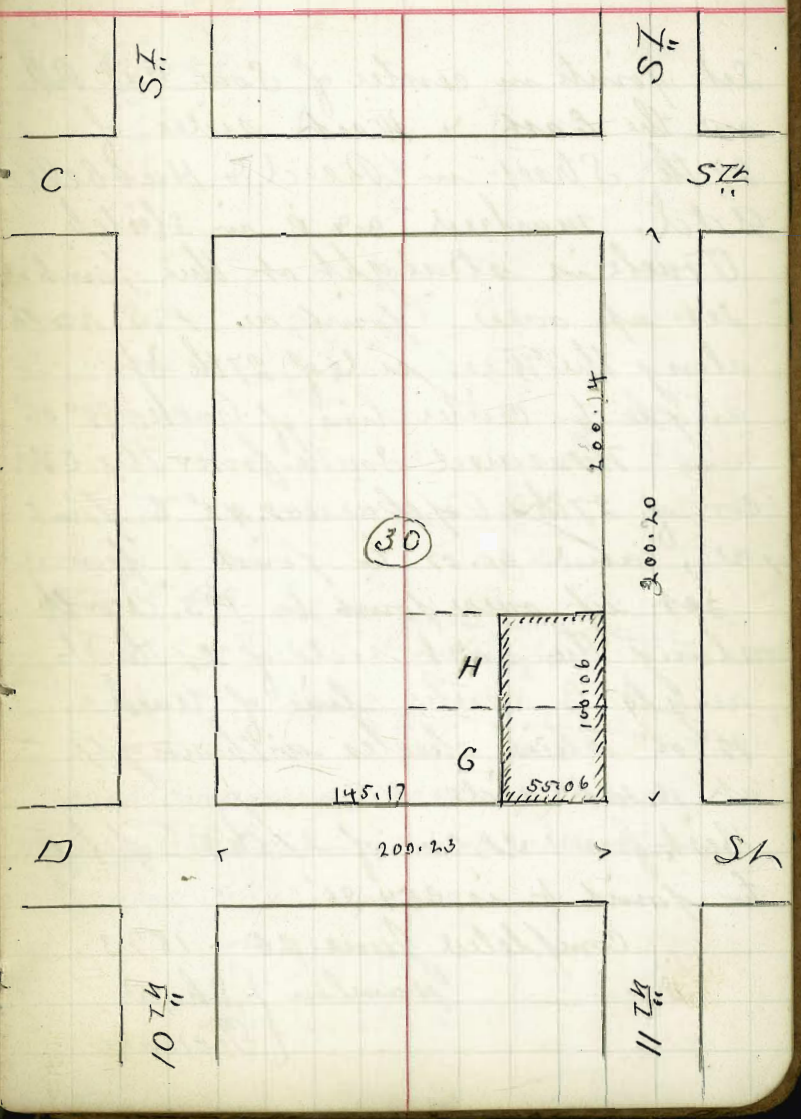
Shaw
Ferrer
Cowell



Survey of the East 55' of lots G & H Blk 30 Horton Add

M German owner
June 22 – 1893
Hamlin
Shaw
Ferrar

Ab N.E. cor tack in fence
" N.W. " " " "
" S.W. cor Plg
" S.E. cor nr joint sek.



Survey for opening of 27th St across the right of Way of S. Cal. R.R.

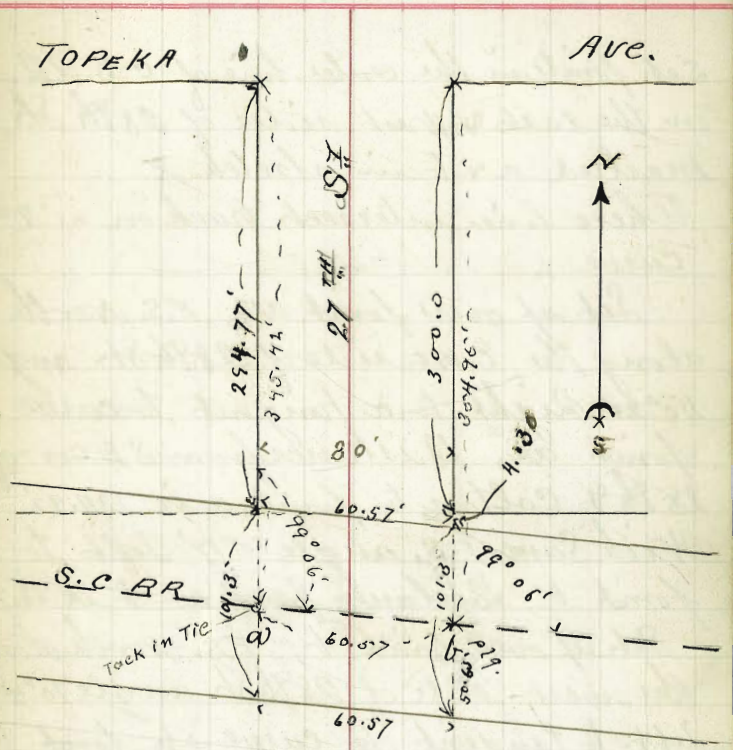
Set joints in center of S.Cal. R.R. on the East & West sides of 27th Street in Reed & Hubbells Add, marked a & b in sketch Track is straight at this point. Set up over joint a. F.S. North along the West side of 27th St. angle to center line of track = 99° 06' and measured South from the SW. cor of 27th & Topeka 345.72' to joint a, and 60.57' to joint b from a

Set up over joint b F.S. North along the East side of 27th St. angle to center line of track = 99° 06' which checks with angle at West side

West from S.E. cor of 27th & Topeka to joint b is 354.96'

Completed June 26 – 1893

Hamlin { Shaw
Tierar



AREA CONDEMNED 6057.0 Sq ft

for computation see calculating book No 1 page 42

Survey for the opening of 28th St across the right of way of the S.C. RR

Set points in the center line of C.S.R.R. on the East & West sides of 28th St. marked a & b in sketch

These lines intersect track on a 2° curve

Set up over point a, F.S. North along the East side of 28th St angle 110° 20' Right to a tangent to curve at point a, Distance from SE cor of 28th & Colton to point a is 134.42'

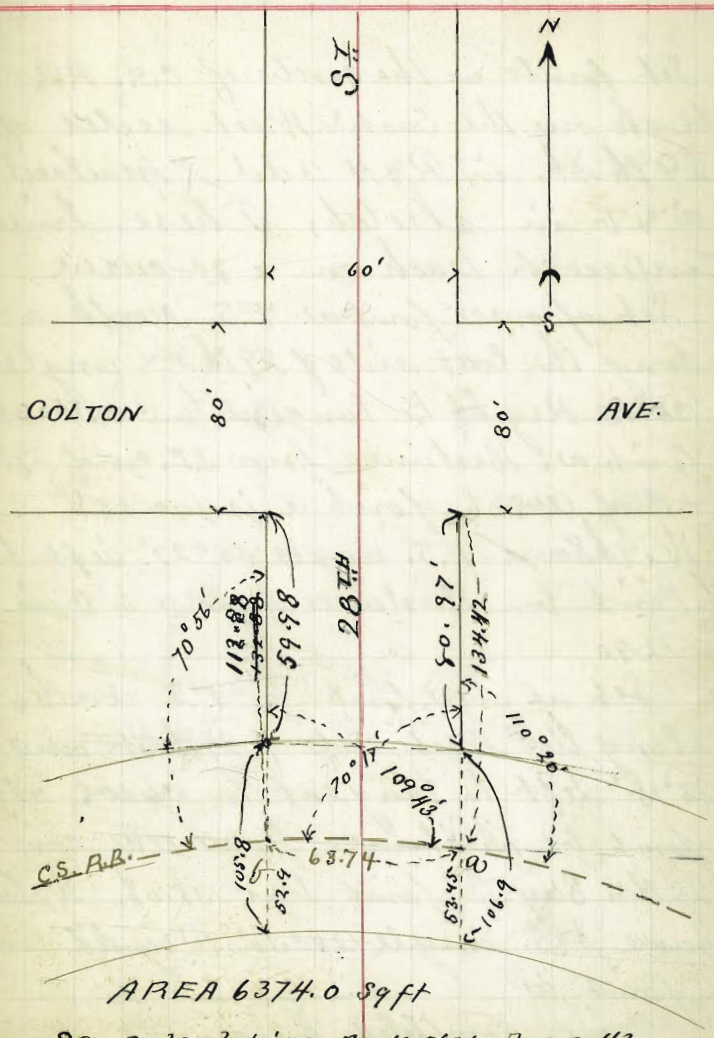
With Same F.S. angle 70° 17' Left to point b Distance from a - b is 63.74'

Set up over point b, F.S. North along the west side of 28th St. angle 70° 56' Left to tangent to curve at point b Distance from SW cor of 28th St & Colton Ave to point b is ~~112.88~~ 112.88'

With Same F.S. angle 109° 43' Right to point a

Completed June 26 1893

Hamlin & Party



AREA 6374.0 Sq ft

See calculating Book No 1 Page 42

Survey of for The Opening of 29th St across the Right of Way of S.C. RR

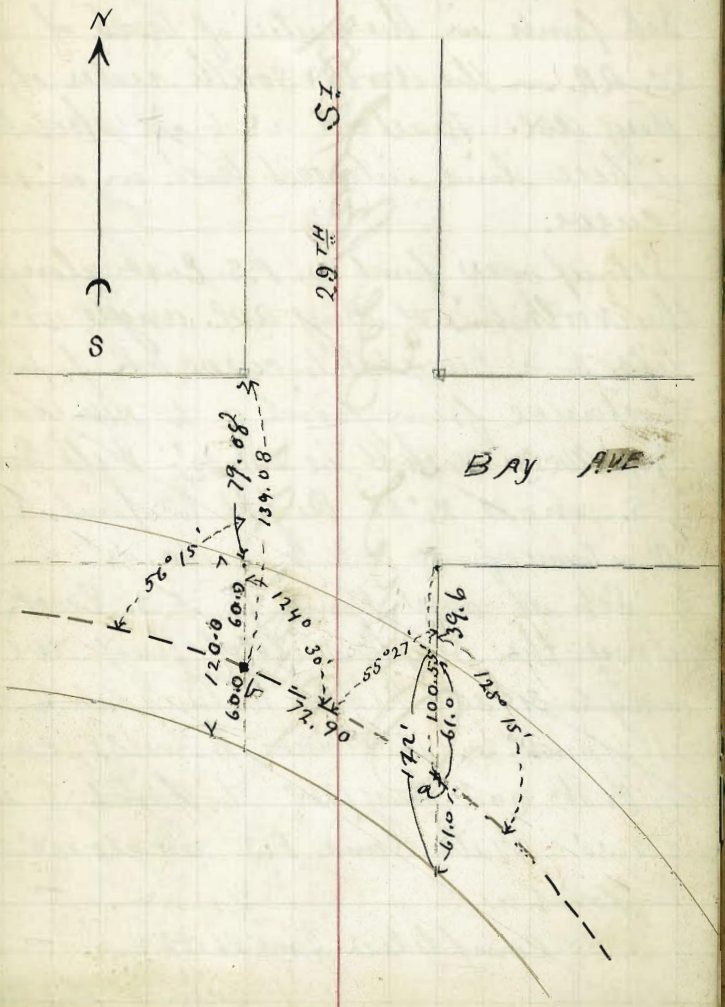
Set points in the center of C.S. RR track on the East & West sides of 29th St. in R&H add. Marked a & b in sketch, These lines intersect track on a 2° curve

Set up over point a F.S. North along the East side of 29th St angle 120°15 Right to tangent to curve at point a. Distance from S.E. cor of 29th & Bay ave to point a is 100.55'

With Same F.S. angle 55°27' Left to Point b, Distance from a to b is 72.90

Set up over point b. F.S. North along the West side of 29th St angle 55°15' Left to tangent to curve at point b. Distance from N.W. cor 29th & Bay to point b is 139.08, With Same F.S. angle 124°30' Right to point a

Completed June 26 1893
Hamlin & Party



Survey for the opening of Bay Ave across the right of Way of C.S. RR

279

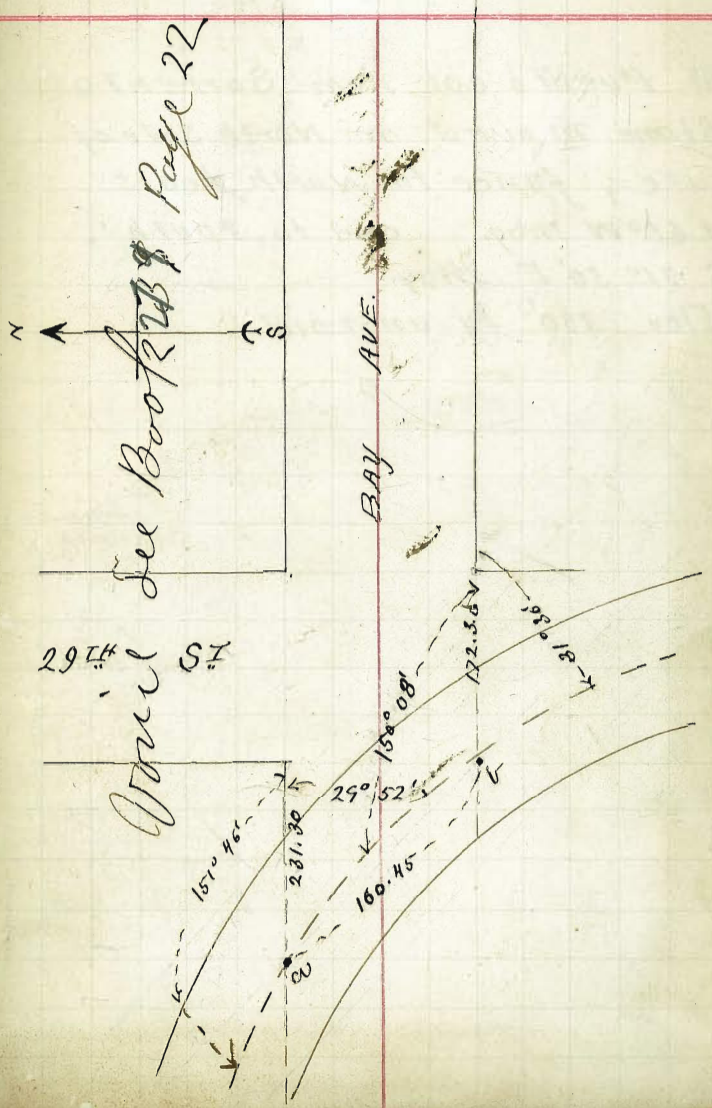
Set point in the center of track of S.C. RR. on the North & South sides of Bay ave. marked a & b in sketch These lines intersect track on a 10 curve.

Set up over point a, F.S. East along the North line of Bay ave. angle 151° 46' Left to a tangent to curve at point a. Distance from point a to N.W. cor of Bay Ave & 29th St is 231.30'. With Same F.S. angle 29° 52' Right to point b Distance from a to b is 160.45'

Set up over Point b F.S. East along the South side of Bay ave. angle 31° 30' Right to tangent to curve at point b. Distance from S.E. cor of 29th St and Bay Ave to point b is 172.30' With Same F.S. angle 150° 08' to point a

Completed June 26 1893

Hamlin & Party



APR. 25 1893

At Pueblo cor near Sorrento
Stone mound on North side of
Gate, fence to North bears
N 61° W mag. and to South
S 41° 30' E mag.
Elev 330' by aneroid

Wheat field S 71° 15' W mag. to cor
" " S 17 30 W " from
N Bank of San Buenaventura Canon

B.M. 18th 54.17 N.E. of fence
" " 17th 51.96 S/E fence

317 191
294 240
129 421
422

77.50
72.28
6 | 5.22 87
48
42
42

72.28
87

						35.02			
			93.20	36.24	93.04	36.65	92.88	37.00	
		37.46	92.55	37.86	92.39	38.27	92.22	38.67	
		39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
	65	40.67	91.18	41.07	91.00	41.47	90 81	41.87	65
	00.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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11

Return to City Engineer's Office
City Hall, San Diego, Cal.

South line of Sec 9 and Prob line in a mound of Stone

Set stone 1 foot west of Jewell House N.W. cor Barrow 2 ft of rock 1 foot

" filled S 41° 15' W 2 ft

" " S 77 30' W 1 ft

N Bank of San Buenaventura Creek

B.M. 18th 54.17 N.E. of fence

" " 17th 57.96 S/E fence

317 191
294 240
129 421
422

Return to City Engineer's Office
City Hall, San Diego, Cal.

N. 3° 30' E

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90 81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
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