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

TRANSIT

398

F.B. 385

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City Hall, San Diego, Cal.

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

MICROFILMED DEC 1 1964

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

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.

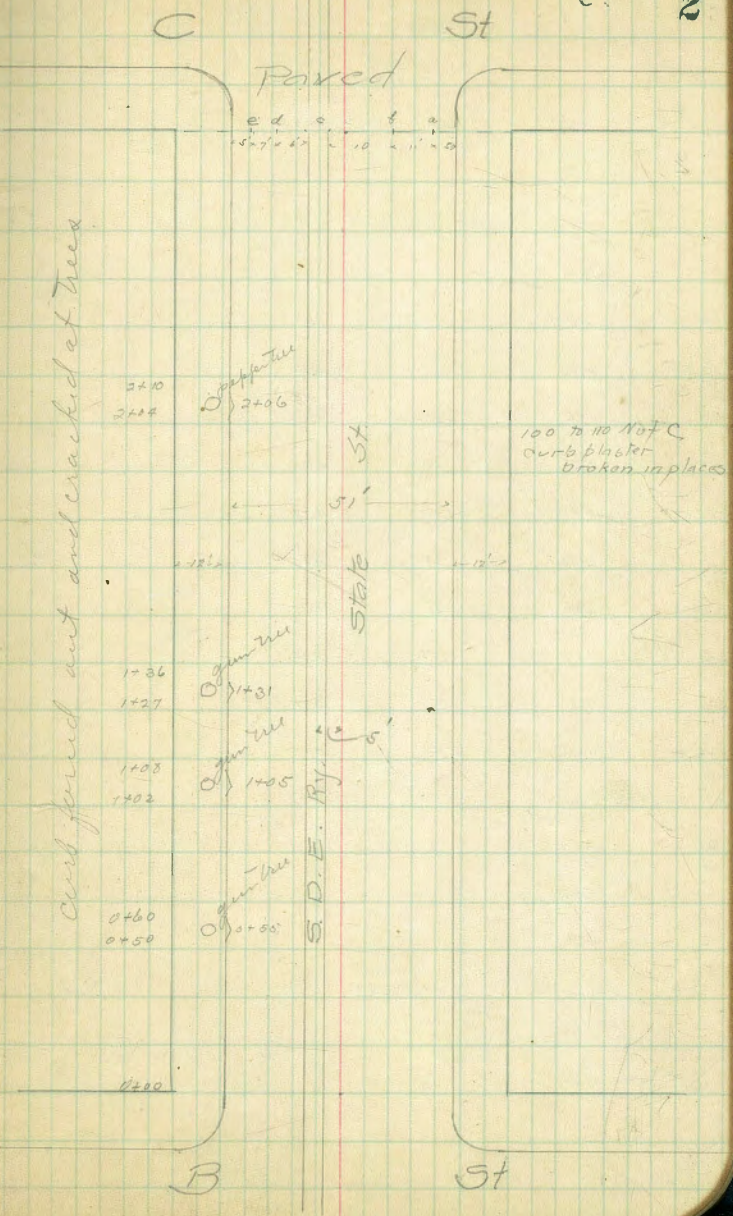
ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS
°		°		°		°	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24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

E 1st Athletic

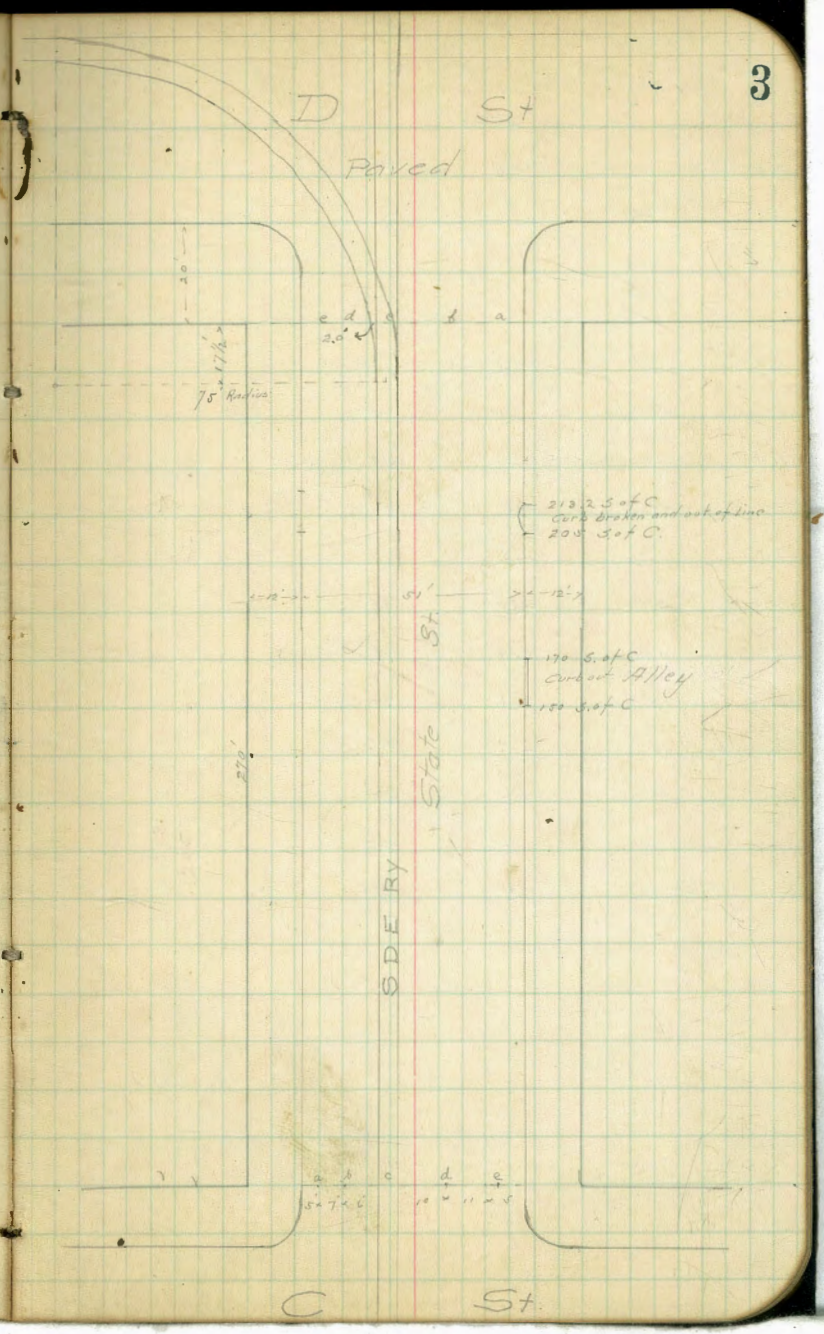
8 Hatch
9 Moore
10 Fitzpatrick

Curb elevations State Street for Paving B-H.

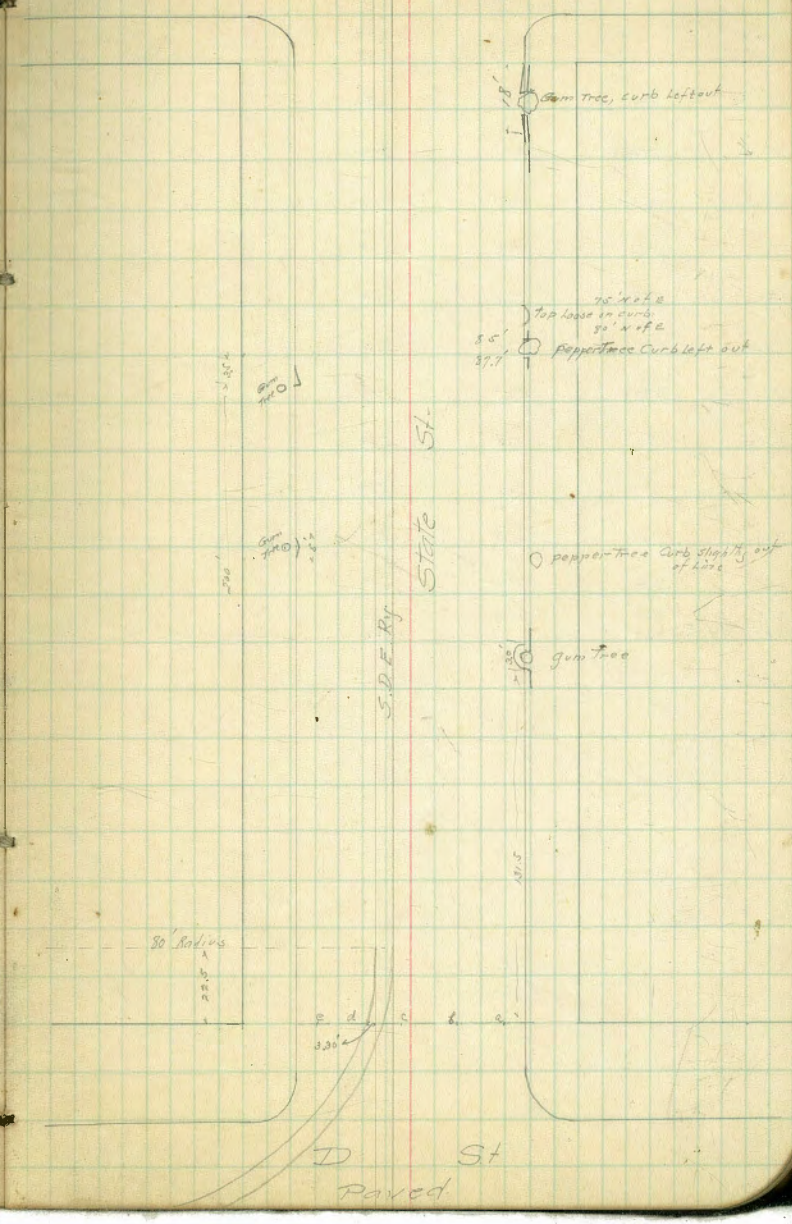
Sta.	W	W. Rail Track	E		
B.M.	4.80	31.26		26.457	SW B and State
Sh. B.	4.78	3.65	2.85		
25' S	5.04	3.98	3.18		
50' S	5.23	4.29	3.43		
75' S	5.48	4.57	3.86		
100' S	5.64	4.86	4.17		
125' S	5.86	5.17	4.48		
150' S	6.08	5.49	4.85		
175' S	6.30	5.76	5.17		
200' S	6.47	6.07	5.49		
225' S	6.68	6.34	5.88		
250' S	6.87	6.64	6.15		
T.P.	4.12	28.49	6.89	24.37	
275 S	4.13	4.12	3.74		
300' S = N.L.C.	4.49	4.38	3.99		
a	4.45				
b	4.38				
c	4.38				
d	4.15				
e	4.03				



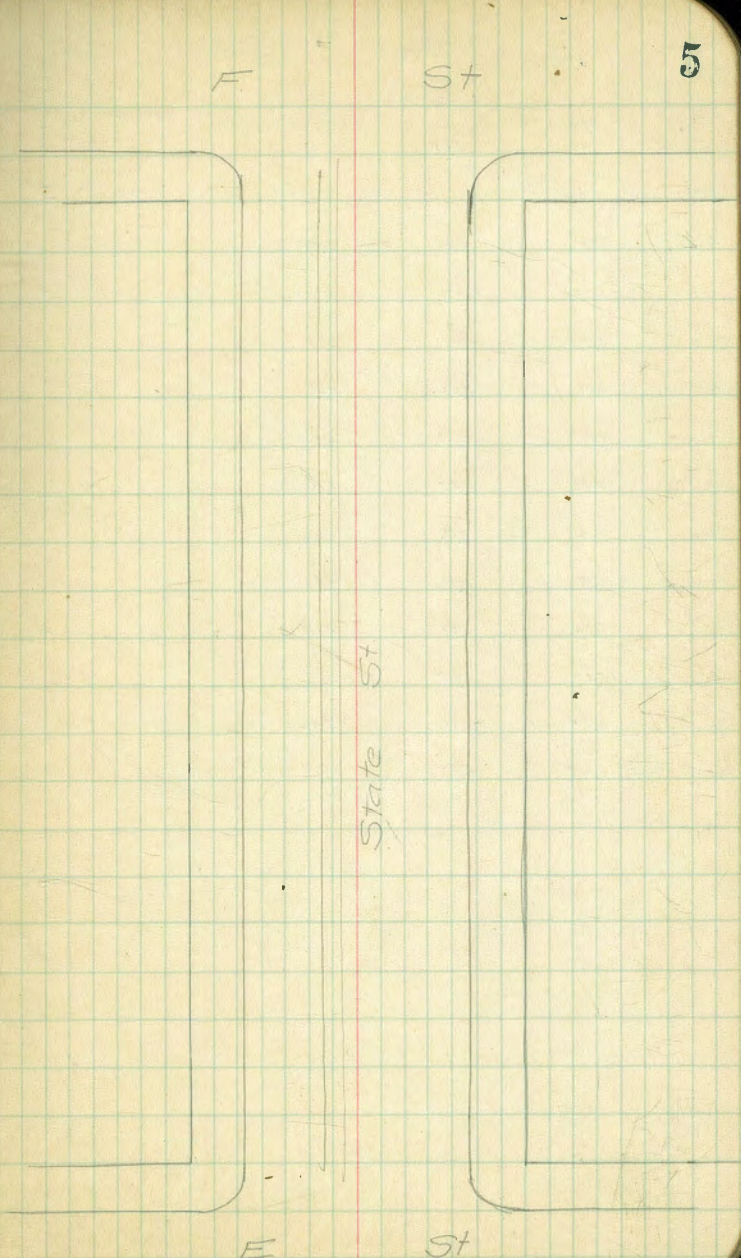
Sta.	W	W Rail Track	E	
		28.49		
Sl. C	4.51	4.41	4.23	
a	4.17			
b	4.18			
c	4.41			
d	4.53			
e	4.93			
25' S	4.75	4.55	4.18	
50' S	4.94	4.74	4.24	
75' S	5.16	4.97	4.33	
100' S	5.28	5.00	4.41	
125' S	5.55	5.15	4.57	
150' S	5.75	5.28	4.62	
175' S	5.95	5.46	4.70	
200' S	6.17	5.56	4.82	
225' S	6.36	5.57	4.87	
250' S	6.55	5.51	4.97	
270' S = W.L. D	6.68	5.52	4.97	
a	6.53			
b	5.32			
c	5.42			
d	5.25			
e	5.02			
TP	25.5	25.33	5.71	22.78



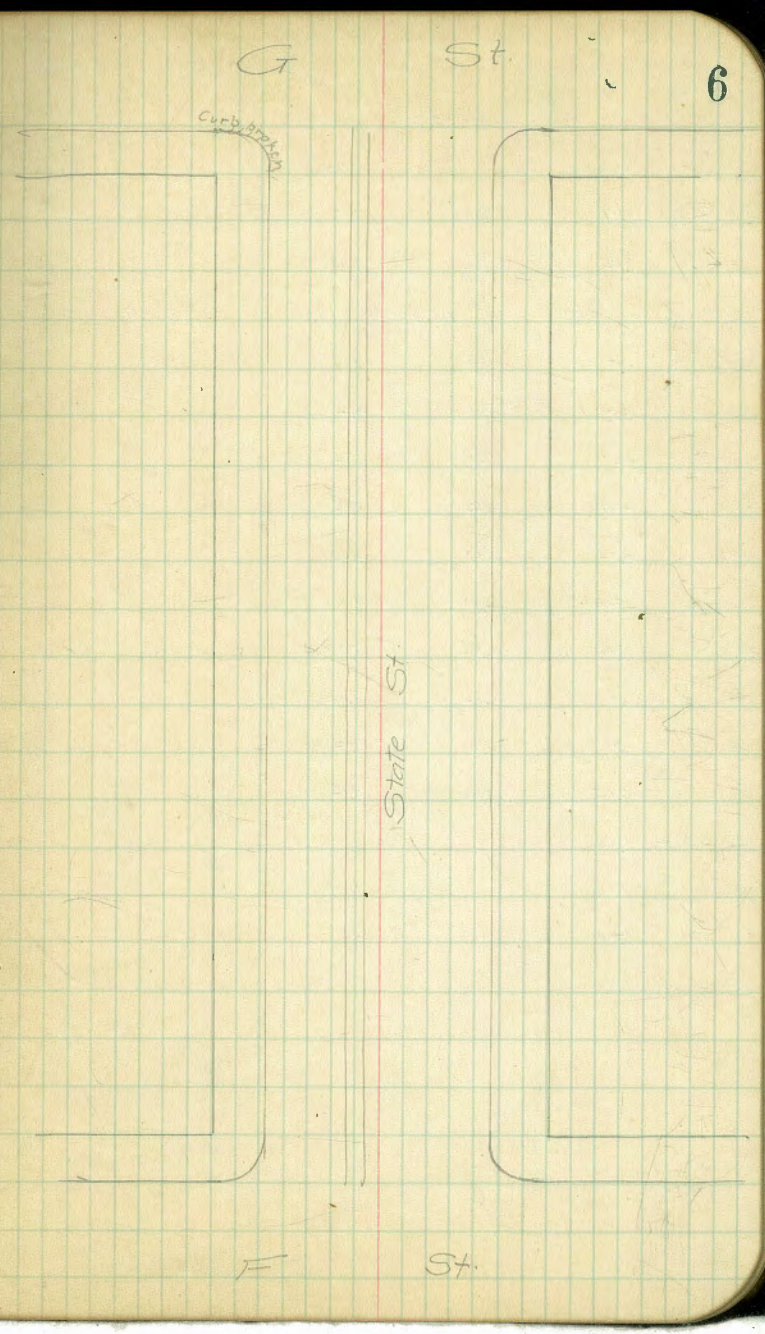
	W	W. Rail Track.	E	
		25.83		
			148	Return
St. D St.	361	356	185	Curb
e	240			
d	247			
c	256			
b	302			
a	360			
25'S	384	280	212	
50'S	404	302	240	
75'S	423	327	265	
100'S	445	349	289	
125'S	472	372	313	
150'S	496	395	338	
175'S	522	424	369	
200'S	570	446	385 / 262	
225'S	576	471	416	
250'S	586	495	435	
275'S	599	517	462	
300'S = Nl E	637	544	489	
Return	637		484	
TP	4.22	23.28	6.37	18.96



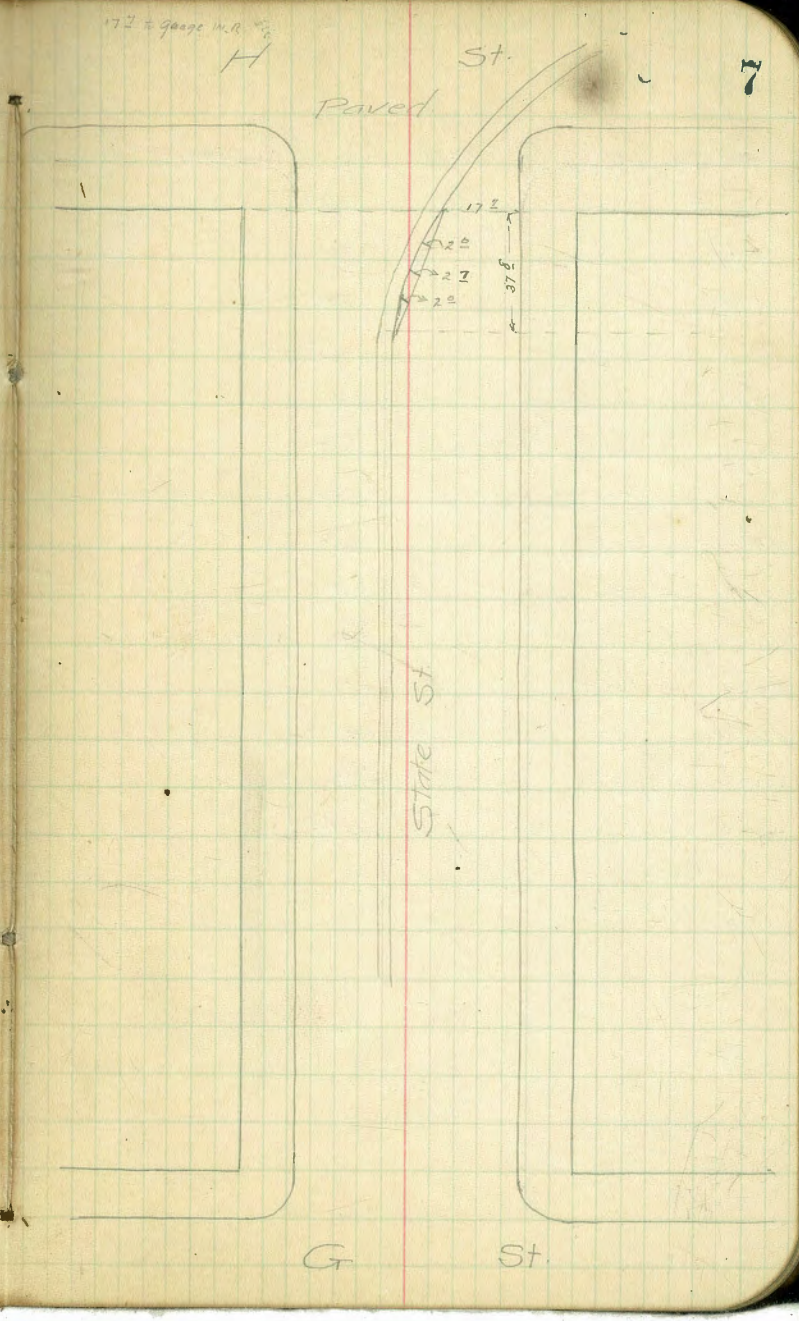
	W	W Rail Track 23.28	E	
Return	4.83		3.28	
SL E	4.84	3.90	3.87	
25's	5.06	4.12	3.58	
50's	5.24	4.36	3.77	
75's	5.54	4.58	4.06	
100's	5.68	4.86	4.32	
125's	5.89	5.08	4.60	
150's	6.01	5.30	4.81	
175's	6.32	5.57	5.07	
200's	6.53	5.78	5.31	
225's	6.78	6.00	5.69	
250's	7.00	6.23	5.80	
275's	7.15	6.55	6.12	
300's = NL F	7.34 7.32	6.70	6.34 6.26 → Return	



	W	W Rail Track 2228	E	
	7.39		6.36	Return
SLF	7.28	6.68	6.34	
TP	4.32	20.12	7.48	6.530
25'S	4.32	3.66	3.89	
50'S	4.39	3.83	3.80	
75'S	4.55	4.01	3.74	
100'S	4.64	4.14	3.76	
125'S	4.74	4.23	4.02	
150'S	4.86	4.45	4.16	
175'S	5.06	4.57	4.30	
200'S	5.18	4.73	4.49	
225'S	5.34	4.87	4.71	
250'S	5.40	5.05	4.87	
275'S	5.47	5.15	5.06	
300'S = NLG	5.67 5.71	5.37	5.21 5.02	Return



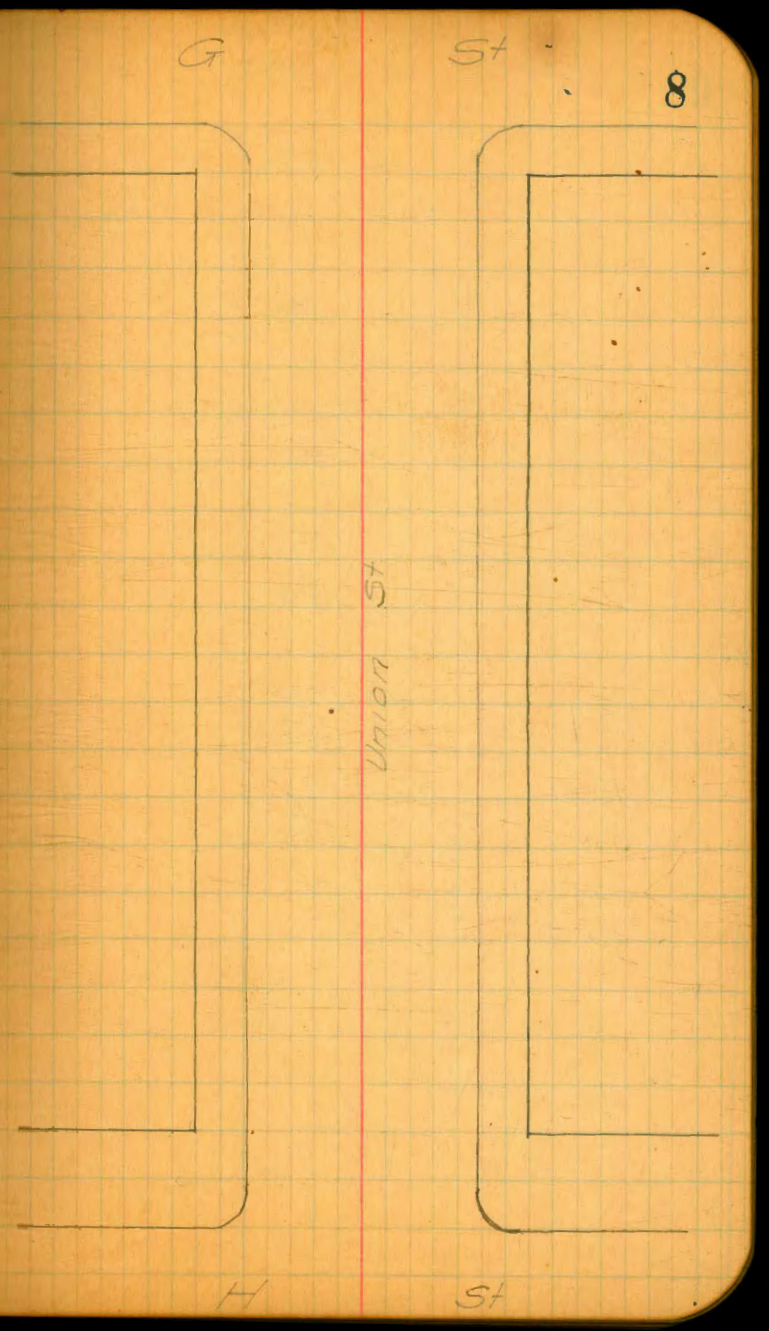
	W		E	
		20.12		
Return	6.62		4.20	
St. G	6.69	4.32	6.18	
25'S	7.12	6.76	6.61	
T.P.	2.82	15.81	7.13	12.99
50'S	3.98	3.87	2.69	
75'S	3.65	3.27	3.14	
100'S	4.05	3.67	3.54	
125'S	4.49	4.12	3.95	
150'S	4.84	4.49	4.35	
175'S	5.26	4.93	4.79	
200'S	5.66	5.32	5.20	
225'S	6.11	5.76	5.64	
250'S	6.48	6.19	6.02	
275'S	6.95	6.66	6.48	
300'S - N.H.	7.30		6.87	
W 1/4	7.15			
C	7.04			
E 1/4	6.98			



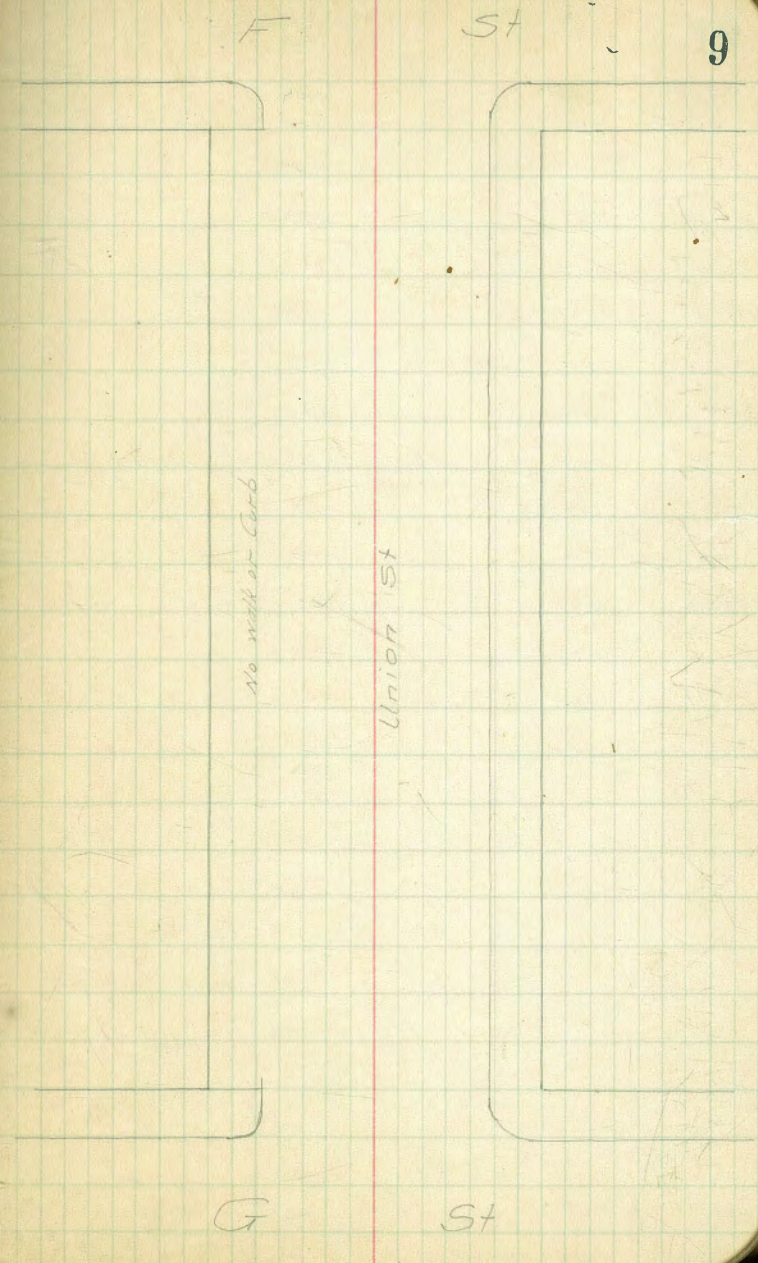
8 Hatch
10 M
10 F

Union St. H to B.

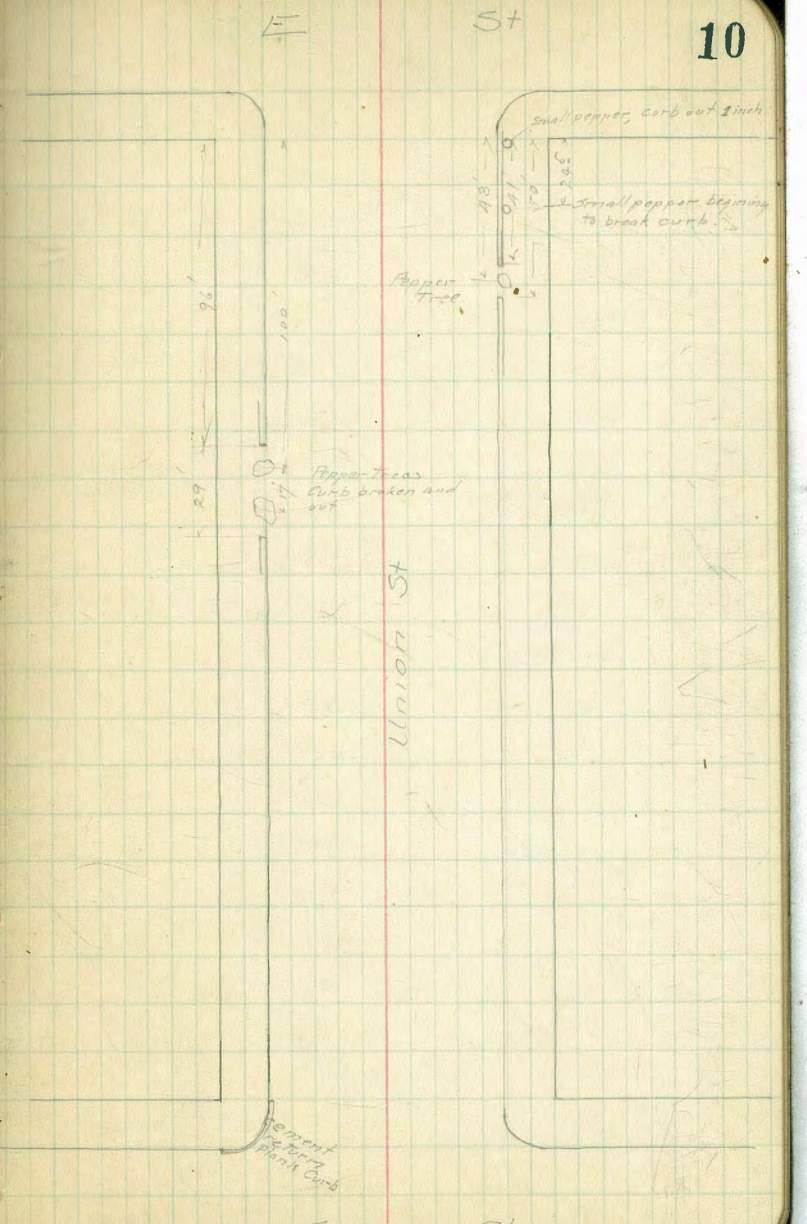
	W		E		
B.M.	7.35	18.28		10.932	SW "L" and Union
N.L.H.	7.33		6.33		
W 1/4			7.23		
C			7.09		
E 1/4			6.99		
25' N	6.92		6.45		
50' N	6.61		6.11		
75' N	6.21		5.74		
100' N	driveway curb dropped 8"		5.36		
125' N	5.51		4.94		
150' N	5.12		4.61		
175' N	4.76		4.32		
200' N	4.35		3.83		
225' N	3.95		3.48		
250' N	3.58		3.06		
275' N	3.24		2.78		
300' N - SL G.	2.84		2.37		
Return	2.79		2.38		



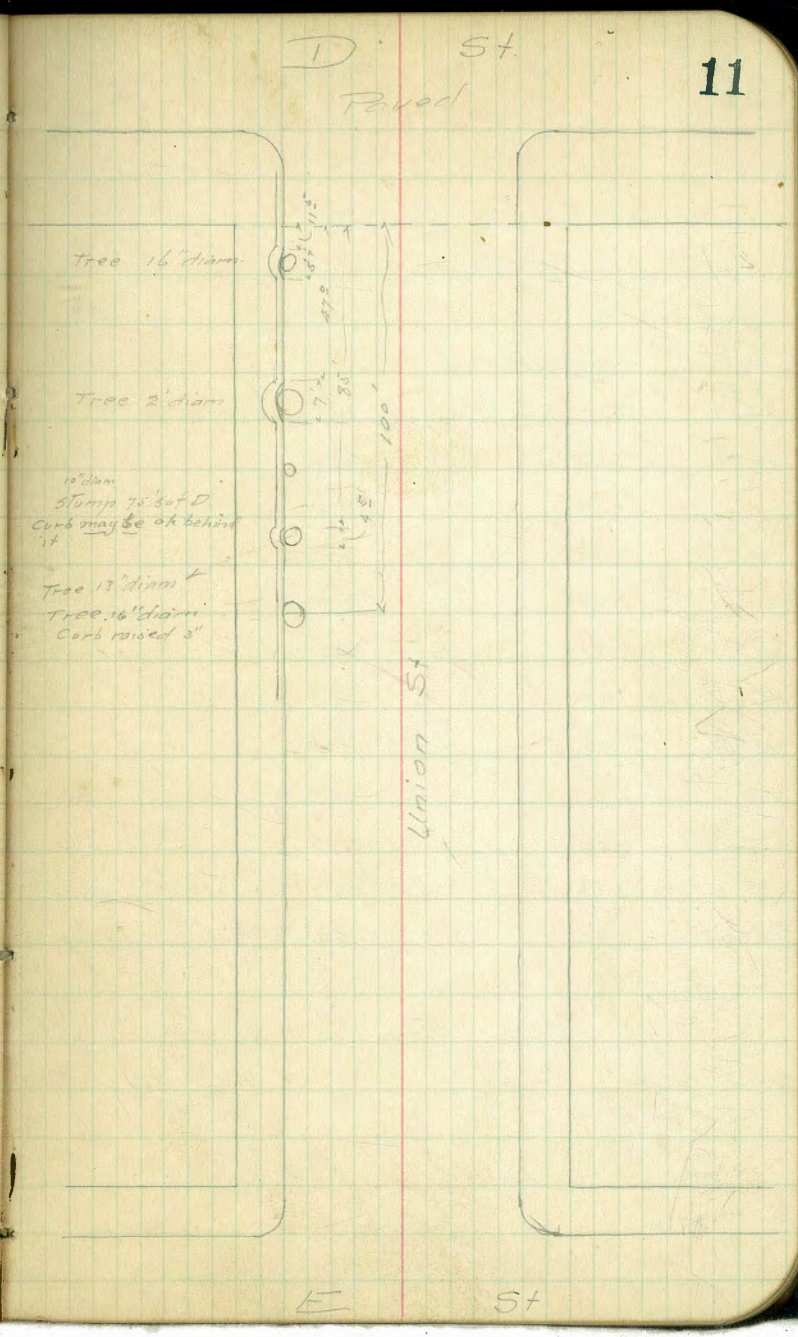
#8	W		E	
		18.28		
Return	1.84		1.32	
N L G	1.88		1.32	
TP	6.37	23.33	1.32	16.96
25' N			4.16	
50' N			5.97	
75' N			5.78	
100' N			5.58	
125' N			5.40	
150' N			5.14	
175' N			4.96	
200' N			4.74	
225' N			4.50	
250' N			4.32	
275' N			4.14	
300' N-St E	3.87		3.86	
Return	3.87		3.90	



	W		E	
		33.33		
Return	3.44		3.40	
N.L. F	3.41		3.34	
25' N	3.04		3.00	
50' N	2.68		2.52	
75' N	2.48		2.13	
100' N	2.08		1.74	
125' N	1.72		1.30	
150' N	1.36		0.88	
T.P.	5.57	28.02	0.88	32.45
175' N	5.73		5.14	
204 N on W 200' N on E	5.21		4.74	
225' N	5.00		4.38	
250' N	4.76		3.83	
275' N	4.44		3.43	
300' N = SL E	4.05		3.04	
Return	4.06		3.04	

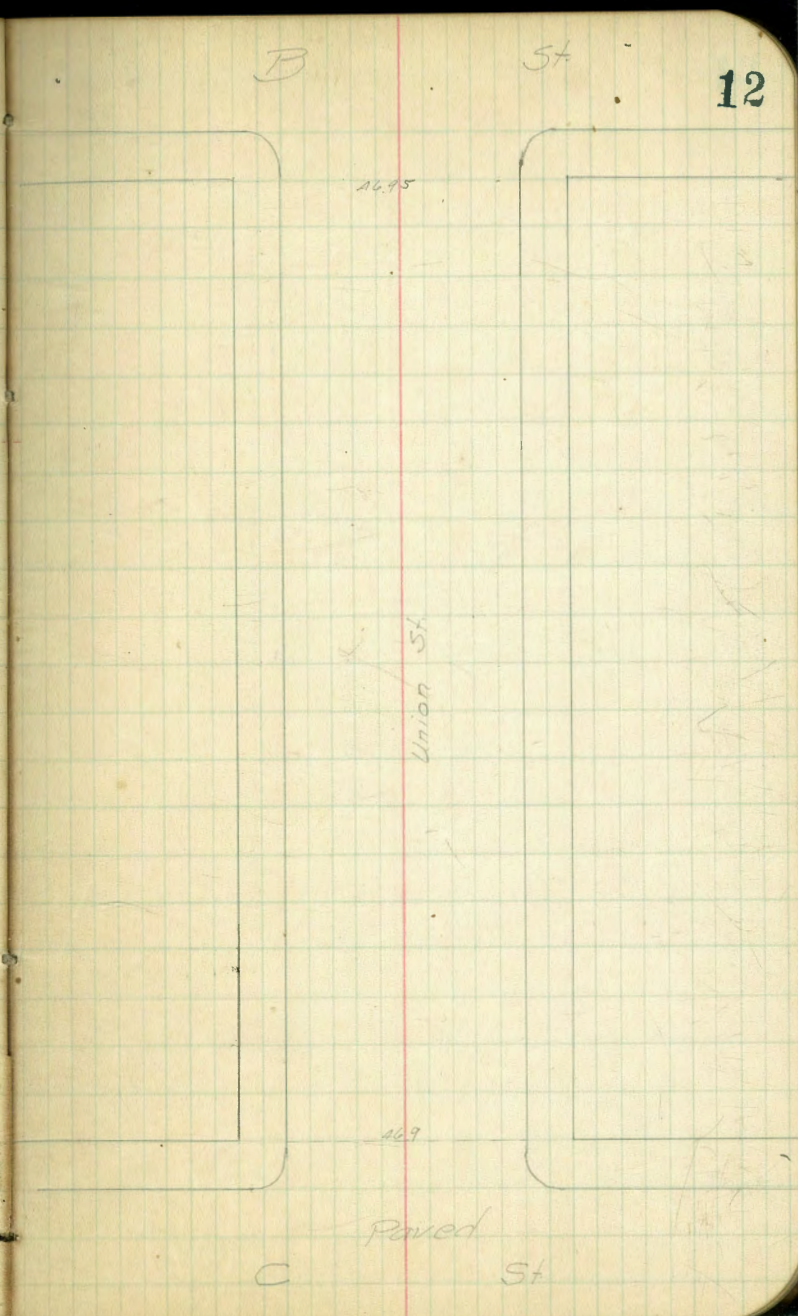


	W		E		
		2802			
Return	4.05		3.04		
N.L. E sl.	4.05		3.02		
35'N	3.86		2.87		
50'N	3.66		2.71		
75'N	3.48		2.53		
100'N	3.24		2.37		
125'N	3.02		2.23		
150'N	2.82		2.10		
175'N	2.60		1.90		
200'N	2.40 (196'N) 2.29 (204'N)		1.78		
T.P.	6.03	31.55	2.50	25.52	
225'N	5.75		5.12		
250'N	5.51 (246'N) 5.40 (253'N)		4.91		
275'N	5.35		4.69		
300'N : SL D	5.15		4.60		
E1/4			4.50		
C	manhole		4.90		
W1/4			5.07		
BM chuck.			5.27	26.28	26.30



8/17/10 Water M. E

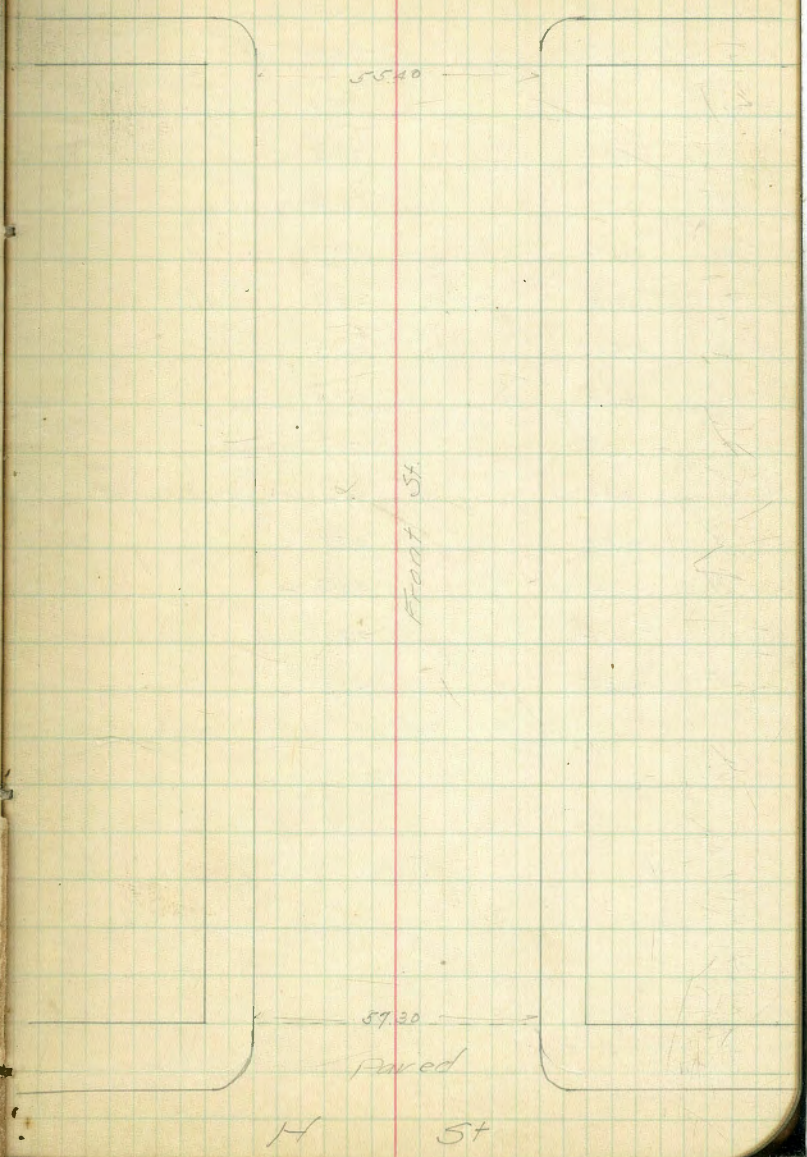
	W		E		
BM	9.50	37.50		28.002	C By Union
NL C	9.47		8.51		
W 1/4	9.27				
C	8.97				
E 1/4	8.77				
25' N	9.23		8.18		
50 N	8.90		7.84		
75	8.51		7.54		
100	8.20		7.23		
125	7.83		6.91		
150	7.51		6.52		
175	6.74		5.88		
200	5.90		5.20		
225	5.07		4.54		
250	4.27		3.90		
275	3.43		3.27		
300 N of St B	2.56		2.57		



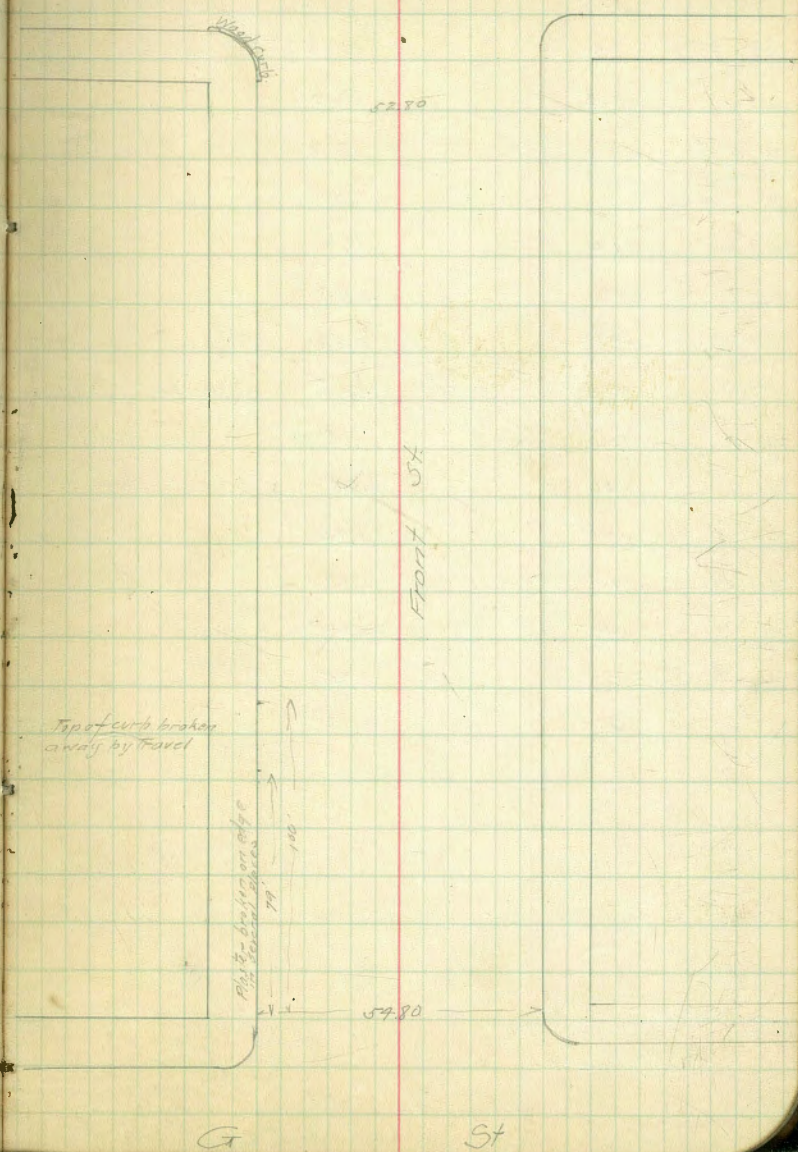
8/11/10 Hatch
Moore
Fitzpatrick

Front St.
H to B.

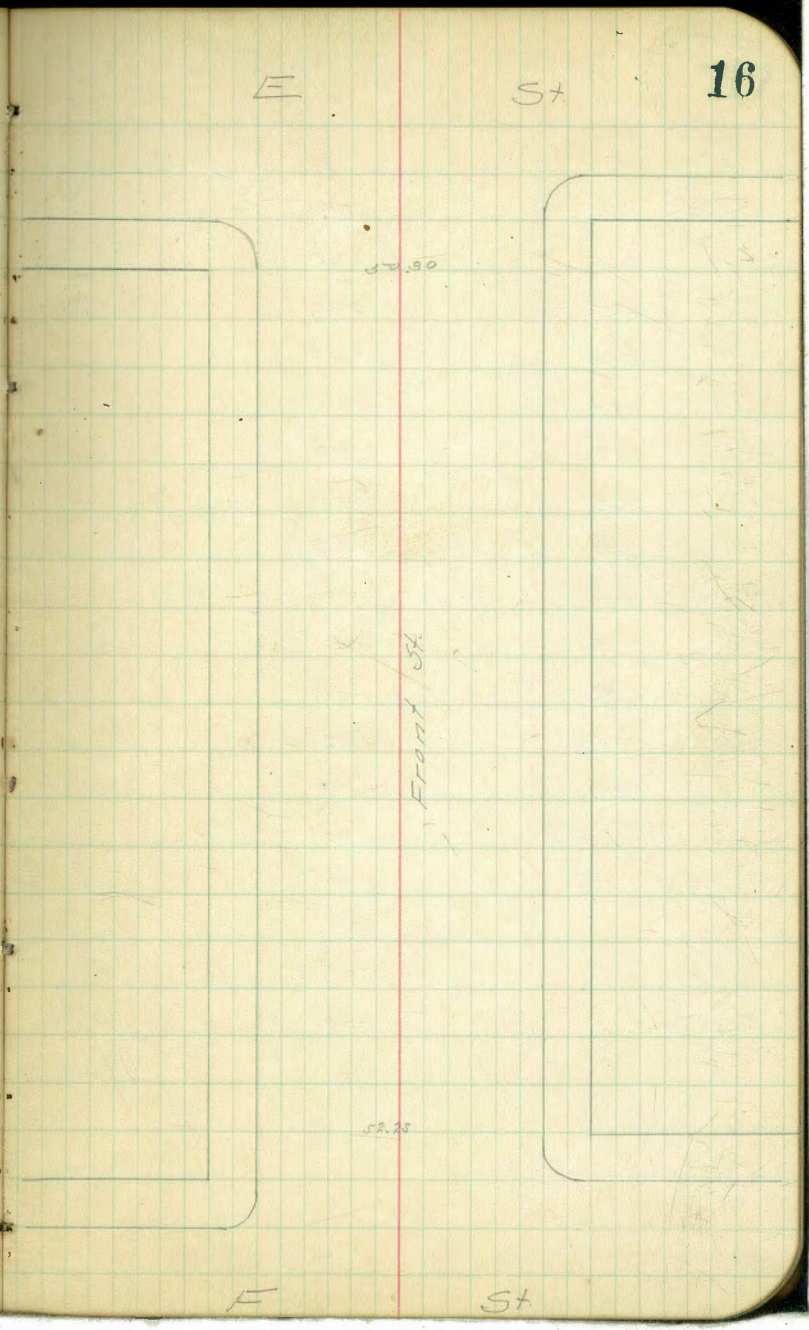
	W		E		
BM	7.68	20.14		12.46	SW Front and H
Kh H.	7.65		7.68		
IN 1/4			7.70		
C			7.66		
E 1/4			7.65		
25' N	7.35		7.35		
50' N	7.03		7.02		
75' N	6.74		6.72		
100' N	6.35		6.38		
125' N	6.06		6.09		
150' N	5.72		5.71		
175' N	5.44		5.30		
200' N	5.04		4.98		
225' N	4.73		4.74		
250' N	4.27		4.42		
275' N	4.04		4.10		
300' N = St. G	3.65		3.77		
Return	3.71		3.65		



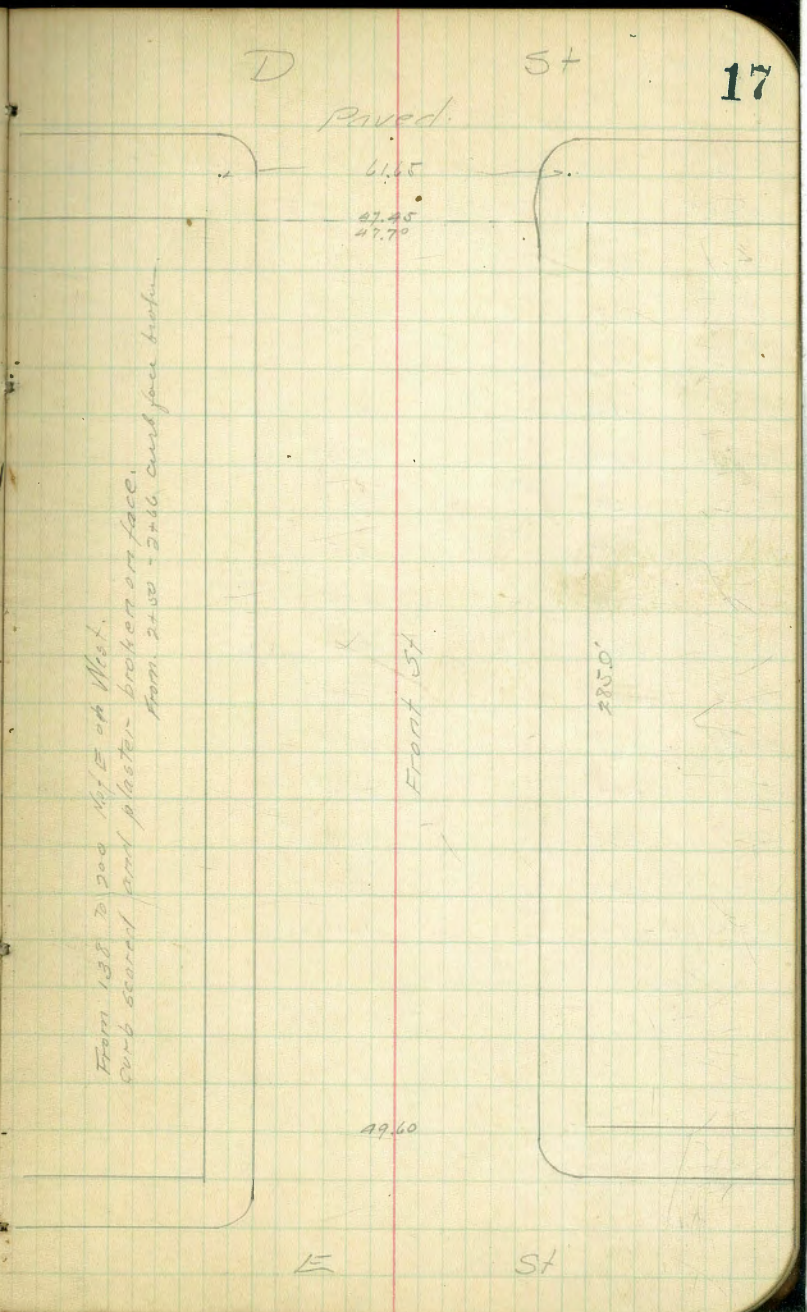
	W		E		
		20.14			
Return	2.70		2.69		
NL G	2.68		2.69		
25' N	261		2.60		
50' N	2.58		2.58		
75' N	2.48		2.46		
100' N	2.32		2.36		
125' N	2.27		2.30		
T.P.	5.12	22.96	2.30	17.84	
150' N	4.98		5.04		
175' N	4.94		4.94		
BM	4.73	23.22		18.36	SW E and Front
200' N	5.11		5.13		
225' N	5.08		5.12		
250' N	4.99		4.99		
275' N	4.84		4.85		
300' N = Sh F	4.74		4.70		
Return	4.65		4.77		



	W		E	
		23.22		
Return	4.17		4.26	
N. F St.	4.26		4.26	
25' N	3.64		3.60	
50' N	3.00		2.93	
78' on W	2.22			
75' N on E			2.32	
100' N	1.64		1.62	
125' N	0.96		0.98	
150' N	0.28		0.23	
T.P.	7.83	30.77	0.28	22.94
175' N	7.16		7.18	
200' N	6.46		6.48	
225' N	5.80		5.82	
250' N	5.15		5.12	
275' N	4.45		4.49	
300' N: 5h E	3.76		3.34	
	3.75		3.78	

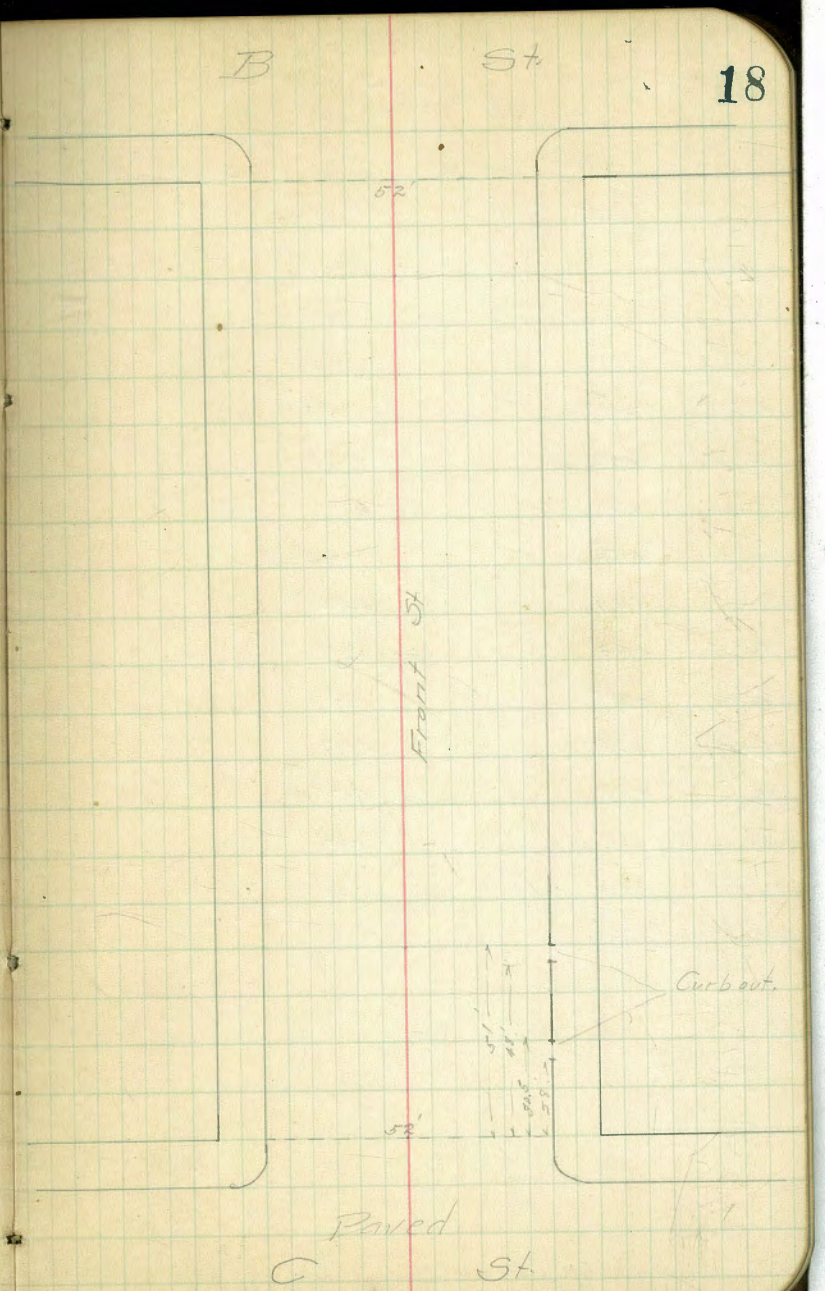


	W		E		
		30.77			
Return	2.78		2.82		
NL E	2.78		2.78		
25' N	2.65		2.60		
50' N	2.52		2.39		
75' N	2.43		2.25		
100' N	2.24		2.02		
125' N	2.18		1.93		
150' N	2.02		1.73		
175' N	1.90		1.53		
T.P.	5.79	34.66	1.90	28.87	
200' N	5.68		5.27		
225' N	5.52		5.09		
250' N	5.35		4.92		
275' N	5.23		4.70		
285' E 300' W = Bk D	5.13		4.70		
15'/4			5.01		
C			5.01		
W/4			5.28		
BM (check)			5.29	29.37	29.042



8 Hatch
12 M

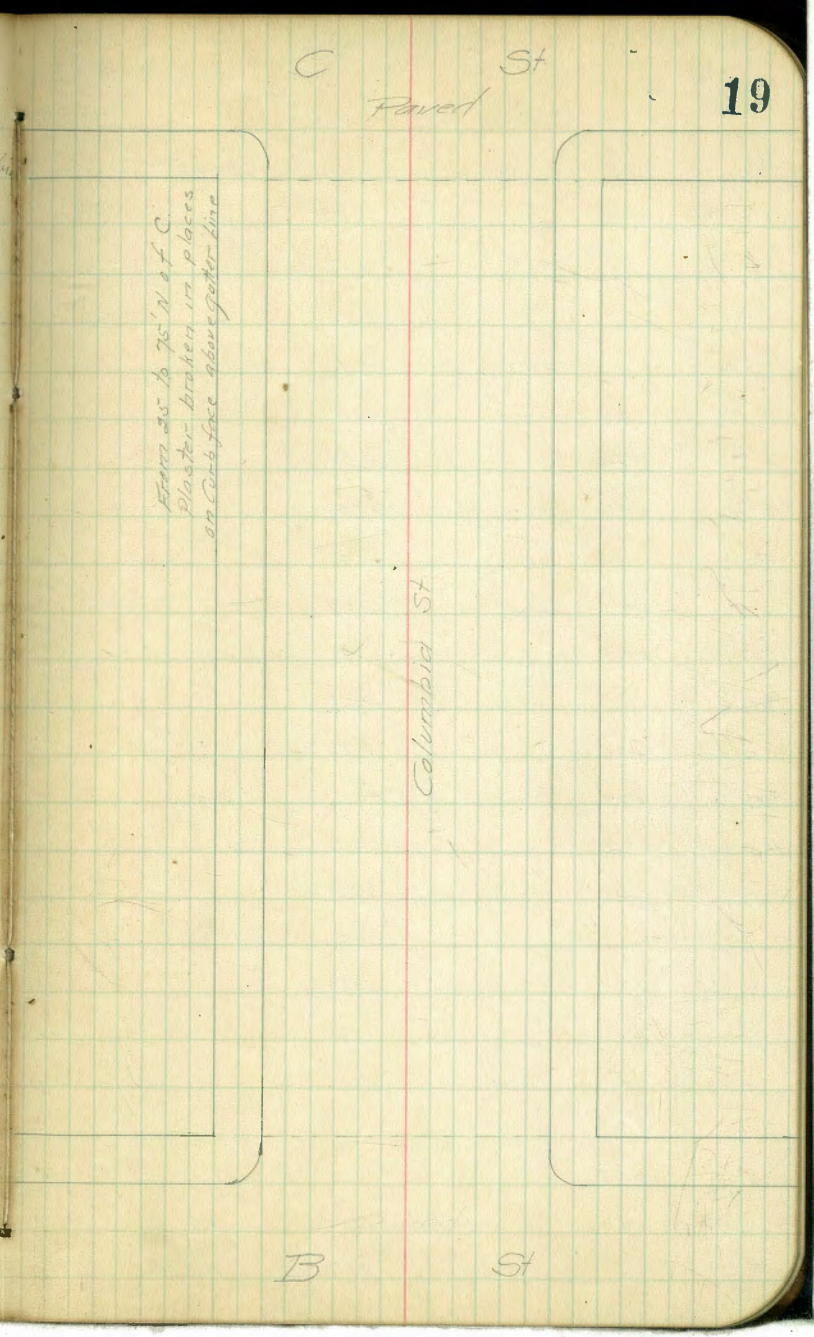
V. F.	W		E		
BM	7.23	38.69		31.46	NE C Ag Front
NLC	7.18		6.22		
W 1/4	6.90				
C	6.62				
E 1/4	6.44				
25' N	6.87		6.00		
50' N	6.48		5.73		
75' N	6.22		5.47		
100' N	5.88		5.18		
125	5.55		4.98		
150	5.25		4.73		
175	4.87		4.48		
200	4.58		4.28		
225	4.24		3.96		
250	3.93		3.72		
275	3.60		3.55		
300' N = SL B	3.22		3.17		



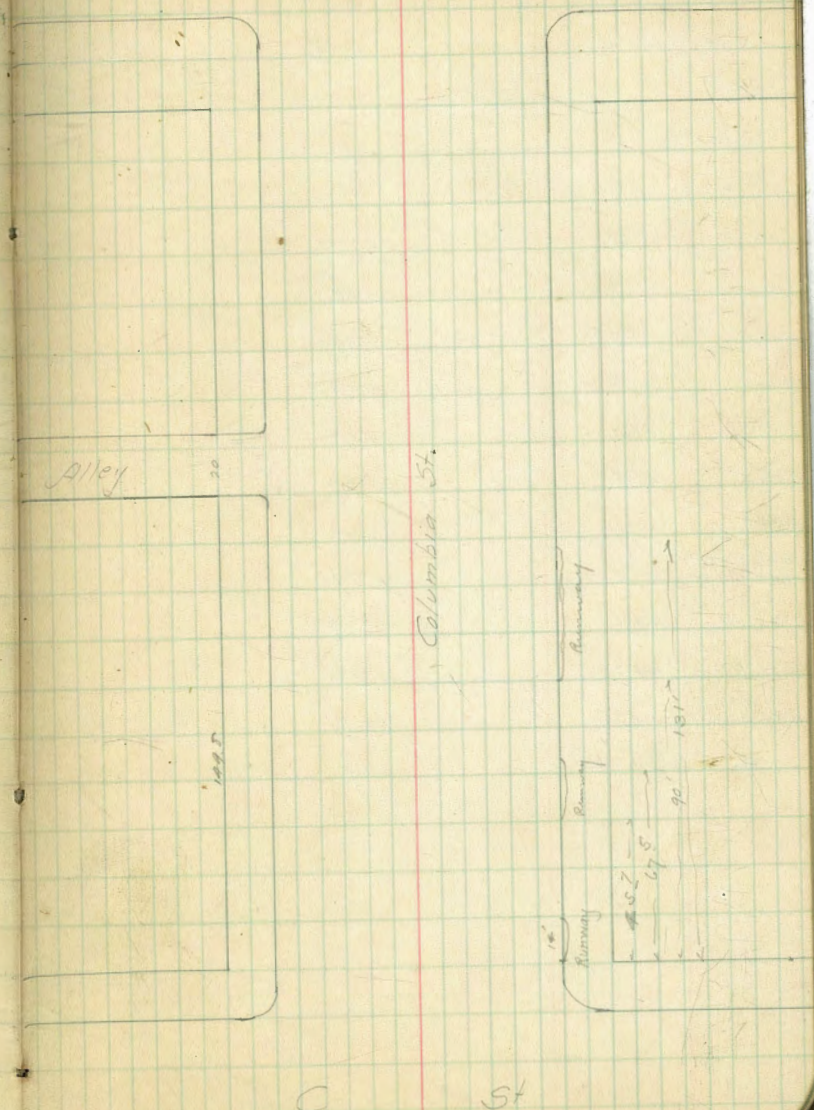
8 Hatch
12 Moore
10 Fitzpatrick

Curb Levels Columbia
B-H

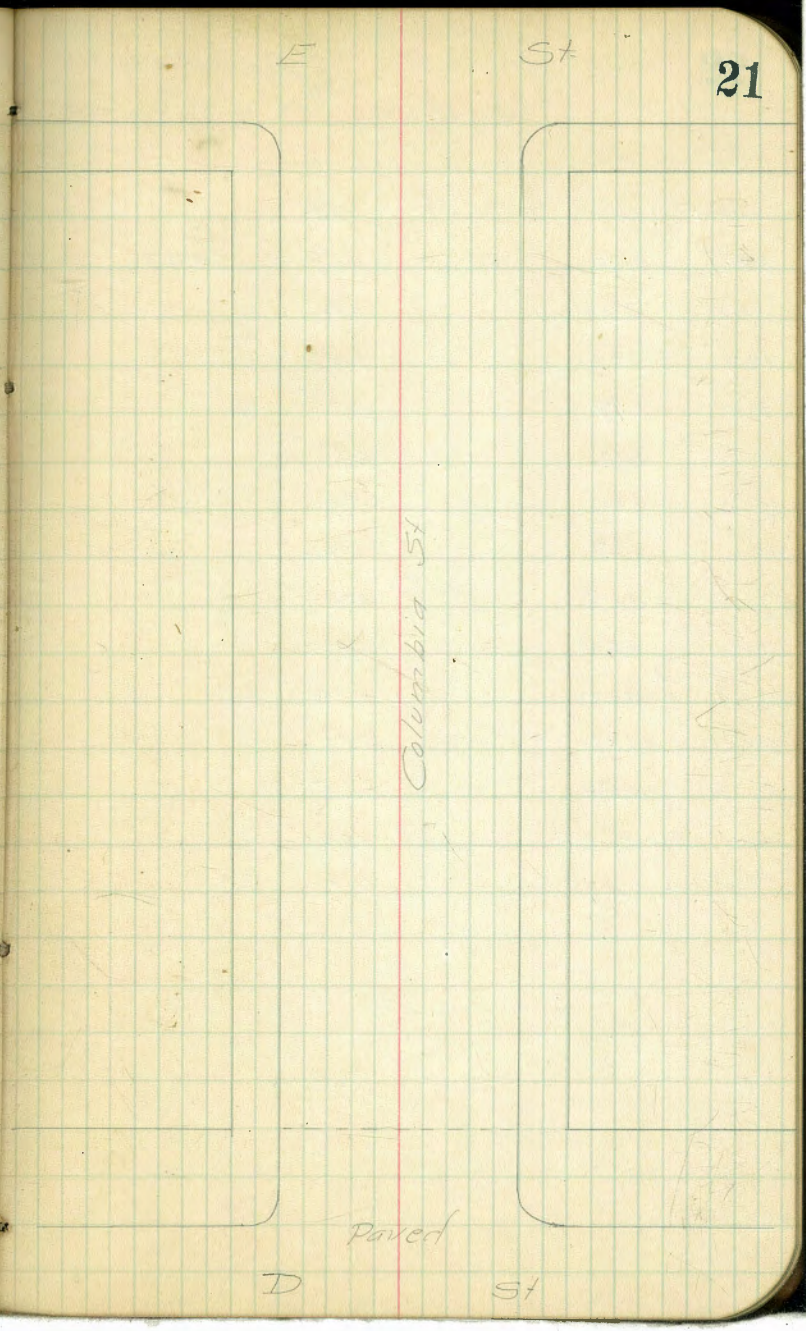
	E		W		
BM	5.91	26.32		20.405	Mo. C by Columbia
NL C	4.85		5.89		
W 1/4			5.61		
C			5.28		
E 1/4			5.10		
25' N	4.77		5.83		
50' N	4.69		5.79		
75' N	4.68		5.72		
100' N	4.56		5.72		
125' N	4.49		5.64		
150' N	4.40		5.58		
175' N	4.31		5.56		
200' N	4.21		5.57		
225' N	4.18		5.55		
250' N	4.00		5.51		
275' N	3.99		5.45		
300' N = SL B	3.91		5.40		



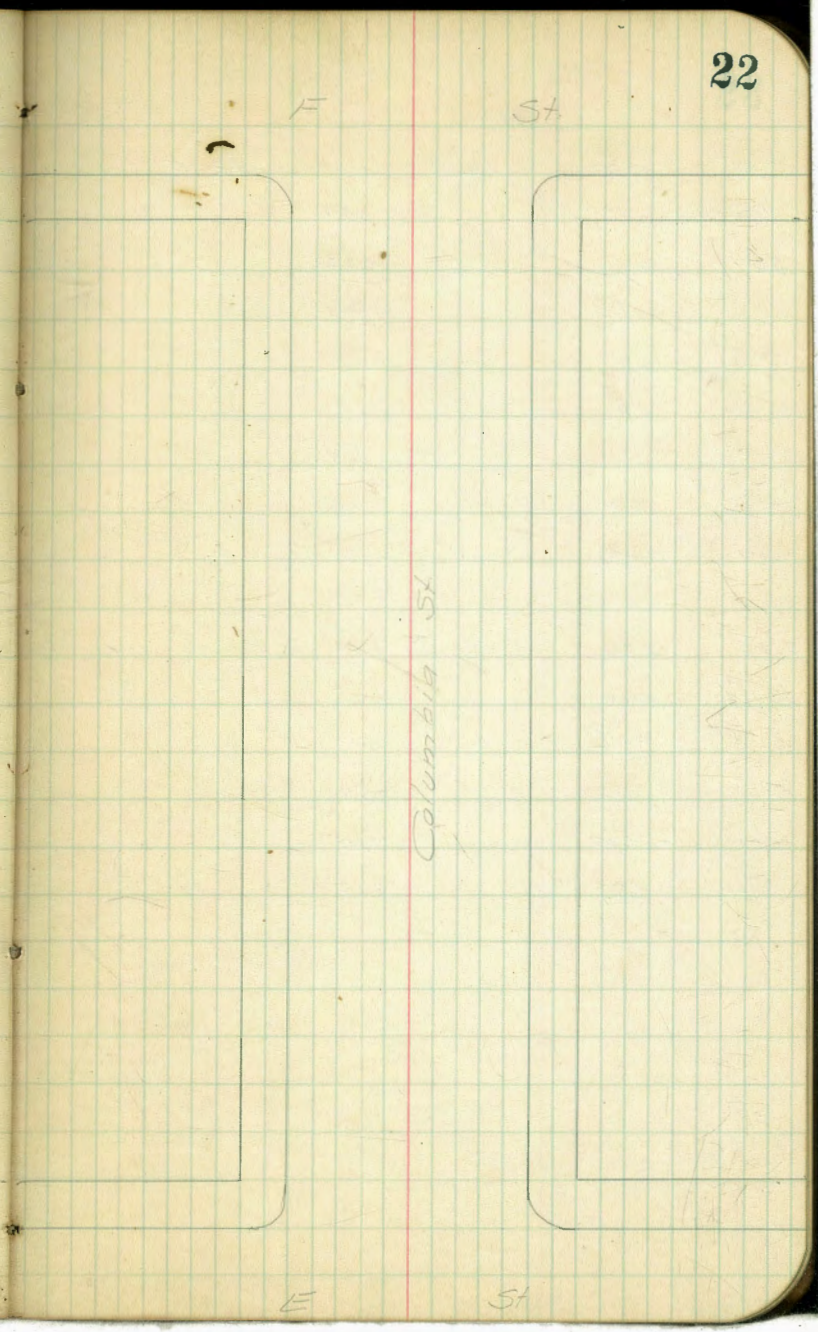
	E		W		
BM	3.95	24.36		20.405	NW. C. of Columbia
SL C	3.02		3.88		
W 1/4			3.78		
C			3.34		
E 1/4			3.19		
25' S	3.29		4.19		
45.7 on W 50 on E	3.58		4.44		
75' S	3.86		4.80		
90' S			4.97		
100' S	4.13		5.37		
125' S	4.49		6.10		
131' S			5.48		
150' S	4.74		5.75		
170' S	4.97				
175' S	5.03		6.03		
200' S	5.36		6.33		
225' S	5.71		6.62		
250' S	5.91		6.94		
270' S = NL D	6.10		7.13		
E 1/4	6.60				
C	6.58				
W 1/4	6.78				
7.22	4.93	21.03	8.26	16.10	
BM D.A.			4.87	16.16	16.19



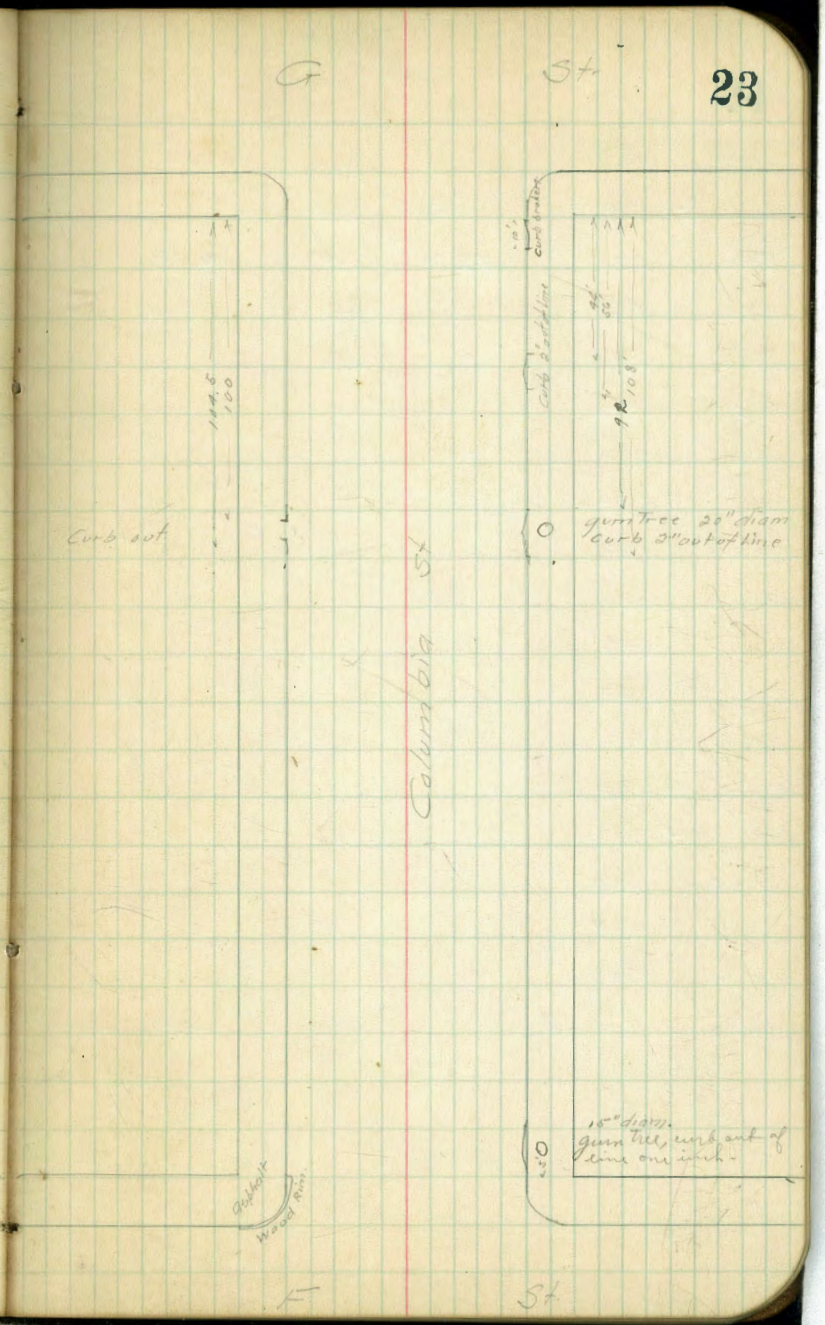
	E	2106	W
St. D	2.95		4.88
W ½			4.26
C			3.88
E ½			3.60
25'S	3.11		5.0
50'S	3.26		5.01
75'S	3.44		5.19
100'S	3.60		5.34
125'S	3.83		5.41
150'S	3.97		5.43
175'S	4.19		5.57
200'S	4.37		5.69
225'S on E 225 " " W	4.53		5.79
250'S	4.73		5.87
275'S	4.97		5.96
300'S = N L E	5.10		6.07
Return	5.04		6.09



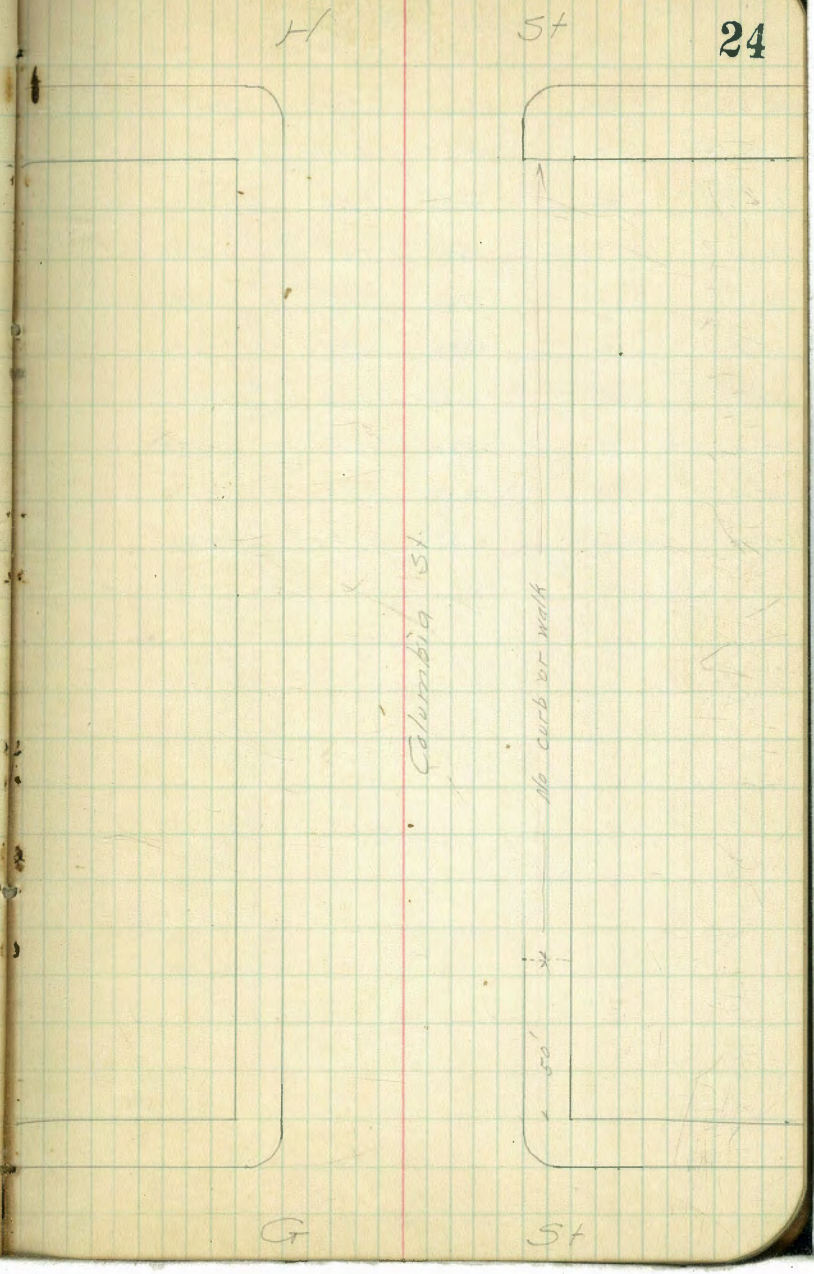
	E		W	
		21.06		
Return	5.59		6.58	
Sh. E	5.59		6.59	
BM	4.16	18.63	6.59	14.47
25's	3.31		4.40	
50's	3.43		4.53	
75's	3.59		4.76	
100's	3.72		4.88	
125's	3.85		5.08	
150's	3.98		5.22	
175's	4.09		5.45	
200's	4.20		5.52	
227's on E.				
225's	4.39		5.73	
250's	4.46		5.91	
275's	4.64		6.05	
300's - N.L.F.	4.73		6.20	
Return	4.71		6.17	



	E	18.63	W		
T.P.	4.22	16.69	6.16	12.47	
Return	3.75		4.22		
Sl. E	2.71		4.22		
25'S	2.98		4.46		
50'S	3.22		4.69		
75'S	3.48		4.88		
100'S	3.76		5.03		
125'S	4.00		5.29		
150'S	4.24		5.46		
175'S	4.56		5.75		
200'S	4.73		5.84		
225'S	5.00		6.05		
250'S	5.24		6.14		
275'S	5.52		6.50		
300'S = Nl G	5.72		6.70		
Return	5.73		6.72		



	E		W		
		1.69			
Return	6.19		7.34		
St. G.	6.19		7.81		
TP	3.25	1.260	7.34	9.35	
25's	3.57		3.66		
50's	3.94		3.90		
75's	3.46				
100's	3.82				
125's	4.24				
150's	4.64				
175's	5.04				
200's	5.46				
225's	5.93				
250's	6.30				
275's	6.73				
300's = NL H	7.11		7.66		
E 1/4	7.35				
C	7.28				
W 1/4	7.45				
BM			7.70	4.90	4.91

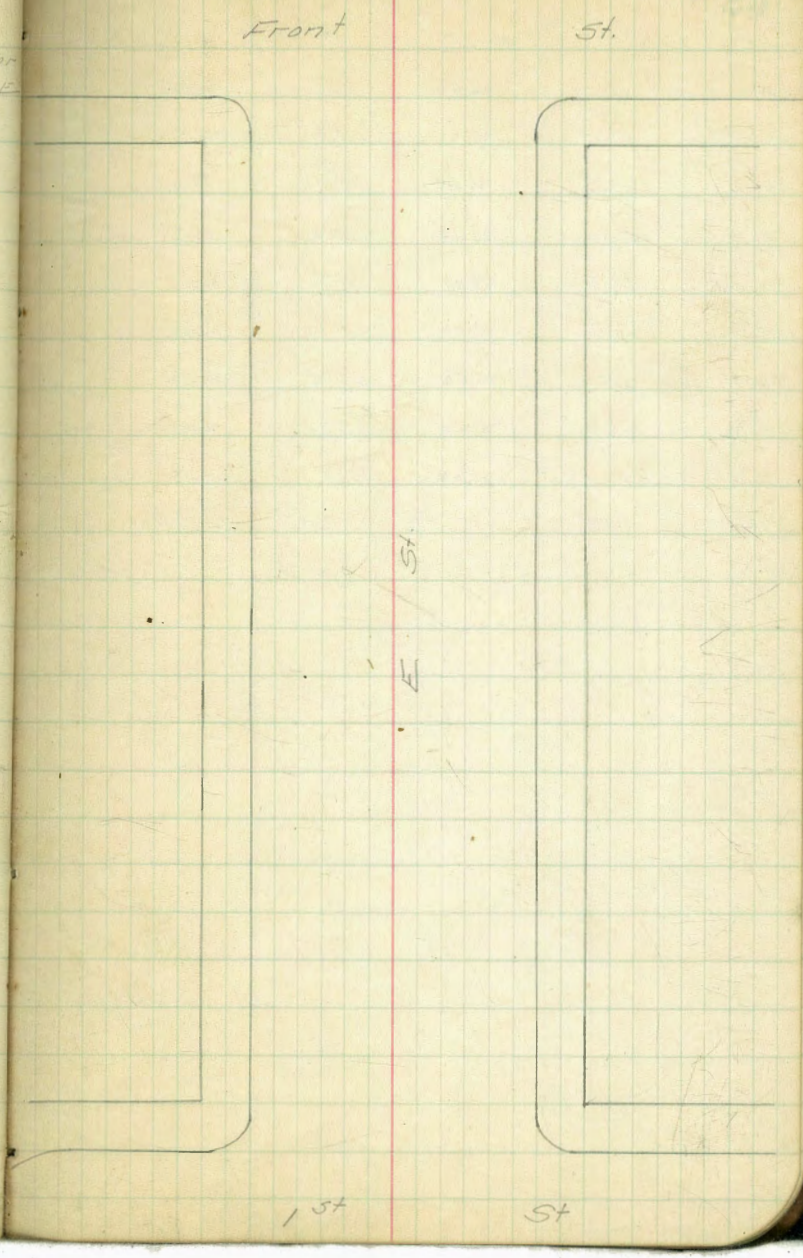


8 Hatch
18 Moore
10 Fitzpatrick

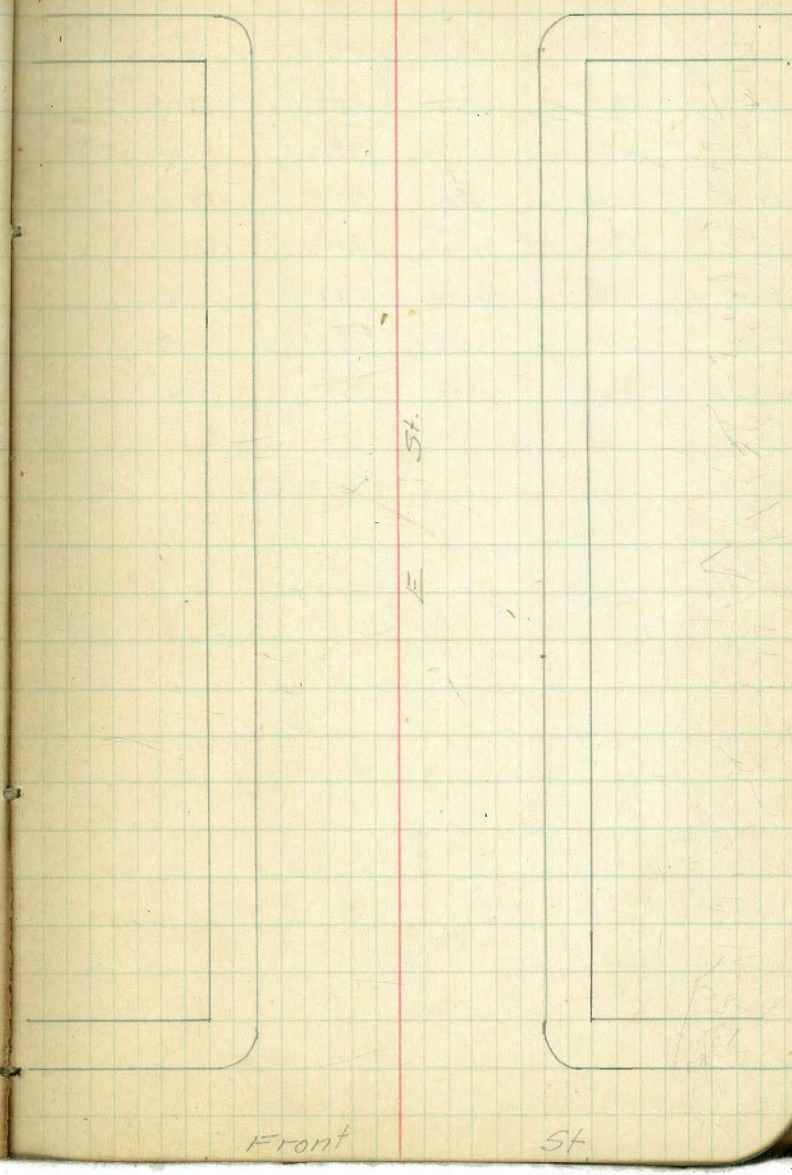
Curb elevations on E St. from 1st St. to Arctic St

	S		N		
B.M.	7.51	32.05		24.54	SW Cor 1st an/E
W.L. 1st	7.52	24.53	6.64	25.41	
25' W	7.29	24.76	6.34	25.71	
50' W	6.98	25.07	5.98	26.07	
75' W	6.67	25.38	5.67	26.38	
100' W	6.32	26.73	5.39	26.66	
125' W	6.05	26.00	5.07	26.98	
150' W	5.73	26.32	4.75	27.30	
175' W	5.39	26.66	4.42	27.63	
200' W: EL. Front 5.70		26.95	4.14	27.91	

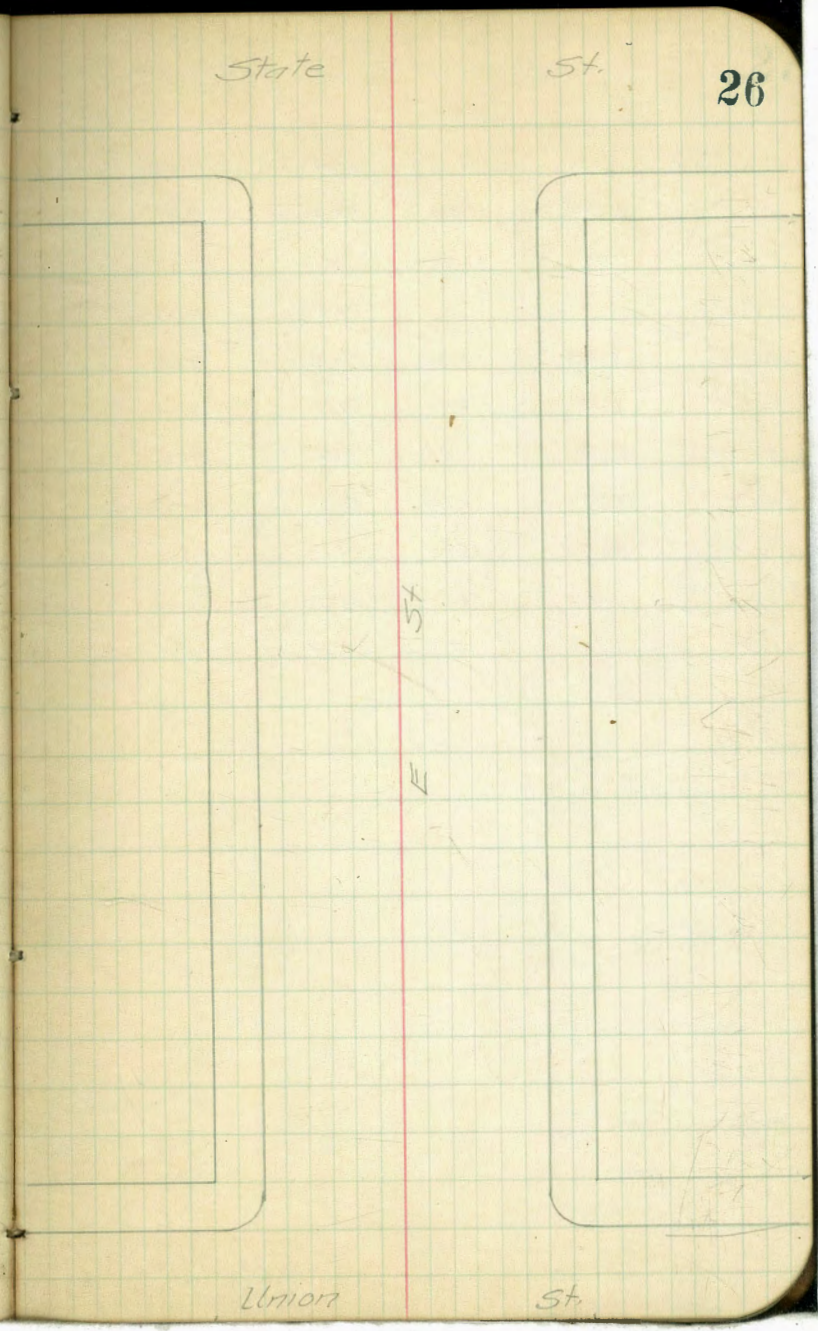
24 1/2



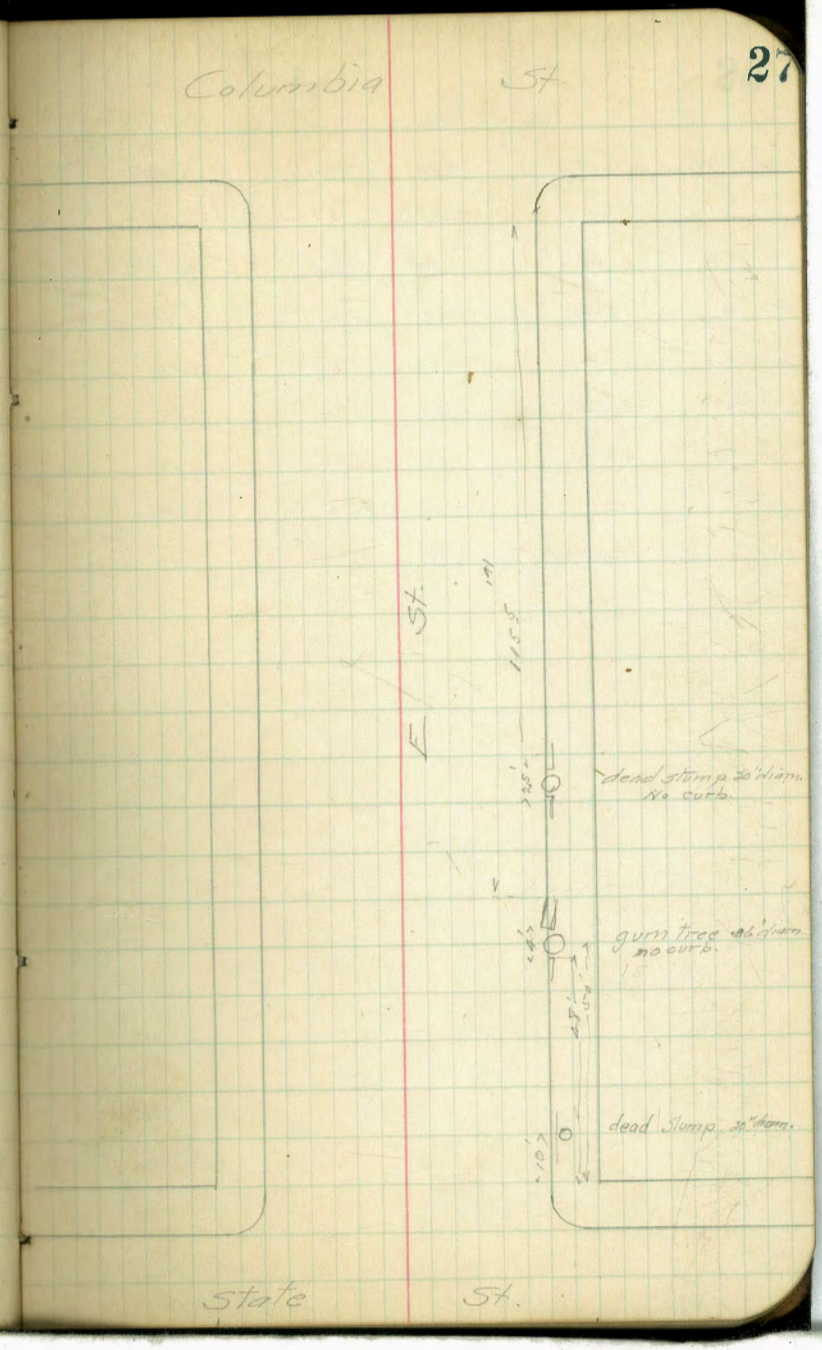
	S	32.05	N	
W.L. Front	5.07	26.98	4.10	27.95
25' W	5.34	26.71	4.53	27.52
50' W	5.60	26.45	4.87	27.18
75' W	5.86	26.19	5.24	26.81
100' W	6.06	25.99	5.58	26.47
125' W	6.35	25.70	5.96	26.09
150' W	6.55	25.50	6.32	25.72
175' W	6.83	25.22	6.67	25.38
200' W = El Union	7.05	25.00	7.08	24.97
T.R.	0.58	25.57	7.06	24.99



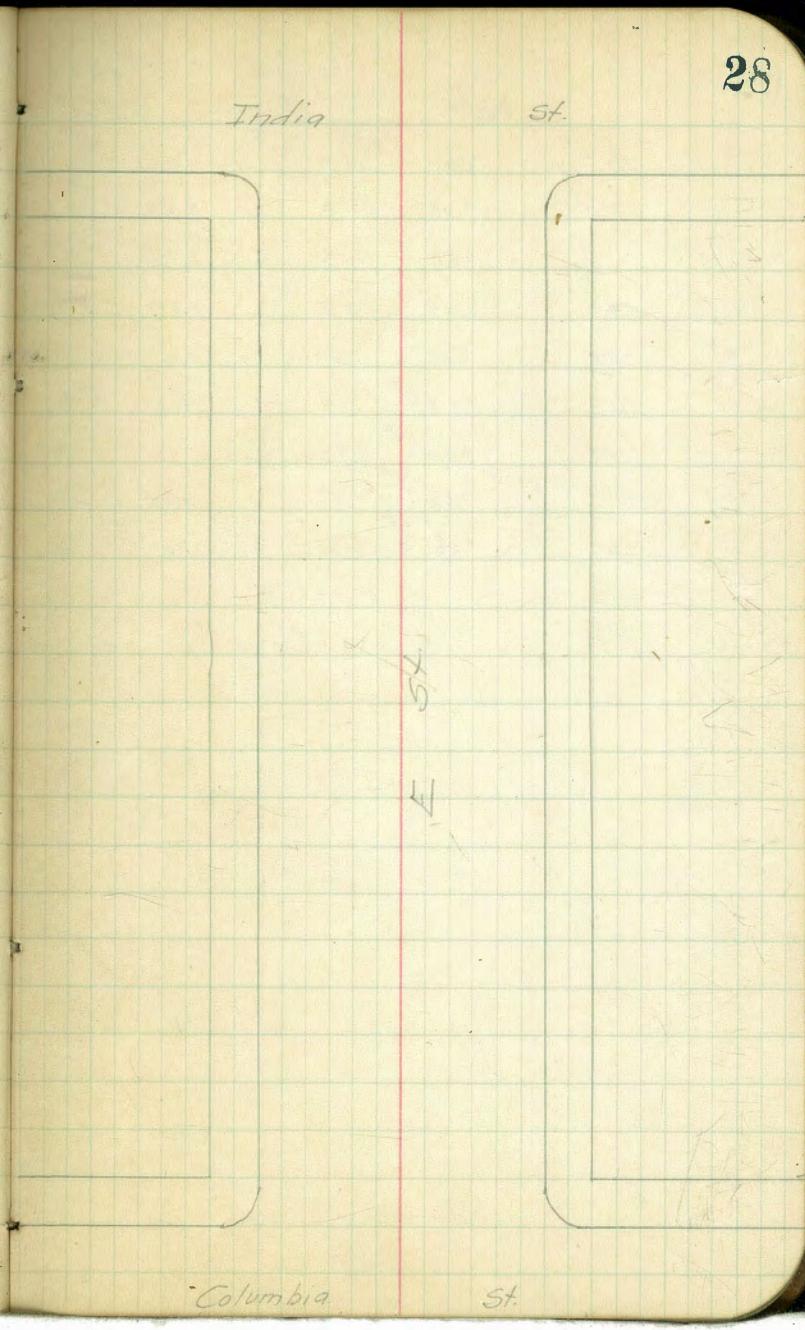
	S		N	
		25.57		
W.L. Union	1.61	23.96	1.61	23.96
25' W	2.13	23.44	2.06	23.51
50' W	2.62	22.95	2.50	23.07
75' W	3.10	22.47	2.95	22.62
100' W	3.61	21.96	3.38	22.19
125' W	4.10	21.47	3.85	21.72
150' W	4.63	20.94	4.27	21.30
175' W	5.11	20.46	4.71	20.86
200' W + El. State	5.60	19.97	5.11	20.46



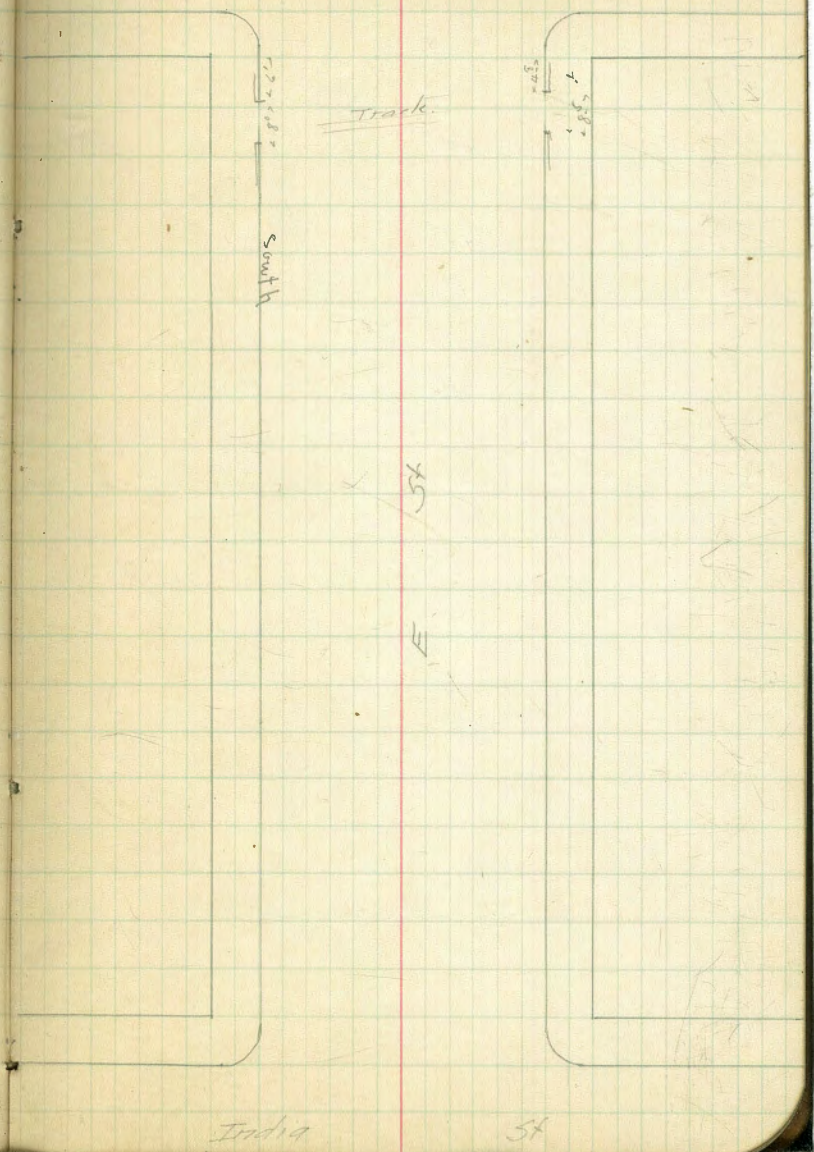
	S	25.57	N	
W.L. State	7.12	18.45	6.64	18.93
25' W	7.54	15.03	7.02	18.55
48' on N 50' W	7.89	17.68	7.30	18.27
59' W			7.44	18.13
75' W	8.20	17.27	7.72	17.85
100' W	8.63	16.94	8.13	17.44
125' W	9.03	16.54	8.52	17.03
150' W	9.38	16.19	8.87	16.70
175' W	9.77	15.80	9.23	16.34
200' W = PL Columbia	10.13	15.44	9.57	16.00
TP	0.29	15.72	10.14	15.43



	S	15.72	N		
W.L. Columbia	1.28	14.44	1.77	13.95	1' low
25' W	1.87	13.85	1.41	14.31	
50' W	2.40	13.32	2.03	13.69	
75' W	2.99	12.73	2.65	13.07	
100' W	3.50	12.22	3.27	12.45	
125' W	4.13	11.59	3.90	11.82	
150' W	4.68	11.04	4.50	11.22	
175' W	5.25	10.47	5.15	10.57	
200' W = E.L. India	5.95	9.97	5.76	9.96	



	S		N		
		1572			
W. India	6.78	8.94	6.28	9.44	
25' W	7.03	8.69	6.52	9.20	
50' W	7.17	8.55	6.76	8.96	
75' W	7.40	8.32	7.08	8.64	
100' W	7.57	8.15 5' low	7.32	8.40	5' low
125' W	7.78	7.94 4' low	7.59	8.13	3' low
150' W	7.90	7.82 3' low	7.80	7.92	1' low
175' W	8.10	7.62 6' low	8.05	7.67	1' low
200' W = El. Arctic	8.27 / 7.73	7.44 5' low	8.25 / 7.23	7.44	1' low
Track.	8.35		8.23		



B.M.'s STATE ST.

B.	SW.	26.46
A	SW	35.37
ASH	SW	36.35
BEECH	SW	44.00
CEDAR	SW	56.01
DATE	SW	59.00
ELM	SW	67.92
FIR	SW	75.93
GRAPE	SW	76.42
HAWTHORN	SW spk	80.07
IVY	"	74.90

7/27/18 Levels on Curb State St B to Kalima
GREGORY
SMOEMAKER
HERRICK.

BM. SW B		9.78	36.24		R6.46
	N. LINE B.				
W			8.25	29.99	
E			6.30	29.94	
	50' N				
E			5.10	31.14	31.2
W			7.00	29.24	29.35
	100' N				
W			5.80	30.44	30.5
E			4.01	32.23	32.4
	150' N				
E			2.70	33.54	33.6
W	.3 TOO FAR WEST		4.50	31.74	31.75
	200' N				
W	.1 TOO FAR WEST.		3.31	32.93	33.00
E			1.52	34.72	34.8
	250' N				
E			0.26	35.98	36.00
W			2.08	34.14	34.23
	S. L. A				
W			0.85	35.39	35.50
E			+ 1.00	37.27	37.20
	AROUND SO. RETURN				
E			+ 0.91	37.15	37.2
W			0.87	35.37	35.50

BM. SW A.		6.45	41.82	0.87	35.37

CURB BROKEN OUT BY TREE ON W. SIDE FROM 57.5 TO 71.5 No OF A.

	AROUND RET N. L. A.			
W		5.84	35.98	36.00
E		4.37	37.45	37.50
	N. L. A.			
E		4.33	37.49	37.5
W		5.87	35.95	
	50' N			
W		5.55	36.27	36.33
E		3.83	38.00	38.0
	100' N			
E		3.39	38.43	38.5
W		5.21	36.61	36.66
	150' N			
W		4.90	36.92	37.0
E		2.89	38.93	39.0
	200' N			
E		3.41	38.41	38.46
W		5.04	36.98	36.8
	250' N			
W		5.26	36.56	36.6
E		3.97	37.85	37.93
	300' N			
E		4.45	37.37	37.4
W		5.50	36.32	36.4
	AROUND RET		36.39	

41.8 ~

CURB OUT % TREE FROM 73.5 TO 77.6 No OF ASH ON W SIDE
197.4 ~ 203.7
223.5 ~ 226.7
246.0 ~ 249.5
269.3 ~ 274.8
293.2 ~ 1' N of SL. BEECH ON W SIDE

	RETURN	N. LINE ASH.			
W			3.34	38.48	38.46
E			2.49	39.33	39.4
		N. LINE ASH			
E			2.43	39.39	39.4
W			3.36	38.46	38.46
		50' N			
W			2.51	39.31	39.33
E			1.74	40.08	40.16
		100' N			
E			0.85	40.97	40.93
W			1.53	40.39	40.27
TP	7.02	150' N 48.02	0.82	41.00	
W			6.90	41.12	41.30
E			6.30	41.72	41.69
		200' N			
E			5.56	42.46	42.46
W			6.3' OUT		43.13
		250' N			
W			4.97	43.05	43.06
E			4.78	43.24	43.22
		So LINE BEECH			
E			4.01	44.01	44.00
W			4.06	43.96	44.00
		RET S. L. BEECH	4.02	43.99	
W E			4.01	44.01	

T.P.	13.48	57.08	4.02 ~	44.00	
	CURB OUT ON E SIDE 200 TO 250 No OF BEECH				
		RET. N. L OF BEECH			
E			11.07	46.01	46.00
W			12.09	44.99	45.00
		N. LINE BEECH			
W			12.09	44.99	
E			11.04	46.04	
		50' N			
E			9.19	47.89	47.83
W			10.31	46.77	46.83
		100' N			
W			8.44	~~50.48~~ 48.64	48.67
E			7.41	49.67	48.67
		150' N			
E			5.64	51.44	51.50
W			6.60	~~48.64~~ 52.48	50.50
		200' N			
W			4.76	52.32	52.33
E			3.78	53.30	53.33
		250' N			
E			1.96	55.12	55.16
W			2.97	54.11	54.16
		So. LINE CEDAR			
W			1.09	55.99	56.00
E			.13	56.95	56.00
		RETURN So. L CEDAR			
E			.09	56.99	
W					

T.P.	7.98	63.99	1.07	56.01	

CURB BROKEN OUT BY TREE ON WEST SIDE 135.7 TO 145.0 NO OF CEDAR
" OUT ON W SIDE 171.7 TO 177.2 NO OF CEDAR
" " " " 189.8 " 193.2 " "

W			7.05	56.94	
E			4.93	59.06	
		N.L. CEDAR			
E			5.00	58.99	59.0
W			7.01	56.98	57.00
		50' N			
W			6.69	57.30	57.33
E			4.67	59.32	59.33
		100' N			
E			4.34	59.65	59.67
W			6.30	57.69	57.67
		150' N			
W			5.95	58.04	58.00
E			4.01	59.98	60.00
		200' N			
E			3.72	60.27	60.33
W			5.68	58.31	58.33
		238' N			
FROM 235' TO 241 E SIDE .3 OUT OF LINE			3.26	60.73	60.60
		250 N			
W			5.33	58.66	58.69
E			3.34	60.65	60.67
		S.L. DATE			
E			3.00	60.99	61.00
W			4.99	59.00	59.00
		RET. SL. DATE			
W			5.02	58.97	59.00
E			3.03	60.96	61.00

T.P.	10.84	69.84	4.99	59.00	

CURB OUT BY TREE ON EAST SIDE FROM 91 TO 95 SO. OF ELM.
" " OF LINE & HIGH FROM 45.9 TO 60 SO OF ELM ON E SIDE

		RET. N.L. DATE			
E			8.78	61.06	
W			10.85	58.99	
		N.L. DATE			
W			10.83	59.01	59.00
E			8.78	61.06	61.00
		50' N on WEST = 15 on EAST			
E			8.73	61.11	61.14
W			10.05	59.79	59.87
		100' N = 65' ON EAST			
W			9.13	60.71	60.62
E			8.35	61.49	61.59
		111.8 N			
E			8.00	61.84	62.00
W			8.95	60.89	61.0
		150 = 115' ON EAST			
W		P.	7.15	62.69	62.79
E			8.00	61.84	62.00
		200' N = 165' ON EAST			
E			5.83	64.01	64.33
W			4.78	65.06	65.18
		250' N = 215 ON EAST			
W			2.47	67.37	67.45
E		25' SO. OF ELM	2.98	66.86	66.67
E			2.04	67.80	67.84
		SL ELM			
E			0.67	69.17	69.00
W			1.93	67.91	67.00
		RET. SL. ELM.			
W			1.93	67.91	68.00
E			0.87	68.97	69.00

T.P.	10.93	78.85	1.92	67.92	
	W SIDE			E SIDE	
N.L. ELM RET	9.95	68.90	N.L. ELM RET	7.87	70.98
N.L. ELM	9.96	68.89	N.L. ELM	7.85	71.00
50' N	8.75	70.10	50'	6.67	72.18
100' N	7.48	71.37	100'	5.54	73.31
150' N	6.28	72.57	150' .3 OUT OF LINE	4.34	74.51
200' N	5.05	73.80	200' .5 OUT OF LINE	3.23	75.62
250' N	3.84	75.01	250' N .350 OUT OF LINE	2.10	76.75
288' N = SL. FIR	2.92	75.93	300' N. = SL. FIR. OK	0.93	77.92
SL. FIR RET	2.90	75.95	SL. FIR RET	0.87	77.98

T.P.	6.92	82.85	2.92 75.93
	N.L. FIR RET		
W			6.95 75.90
E			4.82 78.03
	N.L. FIR		
E			4.87 77.98 78.00
W			6.92 75.93 76.00
	50' N		
W			6.90 75.95 76.05
E			4.80 78.05 78.05
	100' N		
E			4.82 78.03 78.14
W			6.80 76.05 76.14
	150' N		
W			6.85 76.00 76.85
E			4.74 78.08 78.25
	200' N		
E			4.66 78.19 78.33
W			6.75 76.10 76.33
	250' N		
W			6.58 76.27 76.42
E			4.59 78.26 78.44
	SL. GRAPE		
E			4.45 78.40 78.50
W			6.48 76.37 76.50
	RET		
W			6.50 76.35 76.50
E			4.39 78.56 78.50

T.P.	8. 8.83	85.25	6.43		76.42
		RET N.L. GRAPE			
W			8.80	76.45	76.5
E			6.85	78.40	78.5
		N.L. GRAPE			
E			6.85	78.40	78.5
W			8.82	76.43	76.5
		50' N			
W			8.27	76.98	77.08
E			6.32	78.93	79.08
		100' N			
E			5.65	79.60	79.66
W			7.67	77.58	77.66
		150' N			
W			7.11	78.14	78.25
E			5.10	80.15	80.25
		200' N			
E			4.54	80.71	80.83
W			6.53	78.72	78.83
		250' N			
W			5.98	79.27	79.41
E			4.01	81.24	81.41
		S.L. HAWTHORN			
E			3.44	81.81	82.00
W			5.37	79.88	80.00
		RET			
W			5.43	79.82	80.00
E			3.44	81.81	82.00

CURB OUT W SIDE	85.25	100' TO 150' N OF HAWTHORN			
		RET N.L. HAWTHORN			
E			3.36	81.87	82.00
W			5.42	79.83	80.00
		N.L. HAWTHORN			
W			5.36	79.89	80.00
E			3.40	81.85	82.00
		50' N			
E			4.23	81.02	81.17
W			6.16	79.09	79.17
		100' N			
W			7.00	78.25	78.33
E			5.06	80.19	80.33
		150' N			
E			5.86	79.39	79.50
W			7.83	77.42	77.50
		200' N			
W			8.76	76.49	76.67
E			6.67	78.58	78.67
		250' N			
E			7.54	77.71	77.83
W			9.60	75.65	75.83
		S.L. IVY			
W			10.42	74.83	75.00
E			8.36	76.89	77.00
		RET S.L. IVY			
E			8.32	76.93	77.00
W			10.42	74.83	75.00

	85.25			
	RET N.L. IVY			
W		10.30	74.95	75.00
N. E		7.33	76.92	77.00
	N.L. IVY			
E		8.35	76.90	77.00
W		10.30	74.95	75.00
	50' N			
W		10.00	75.35	75.33
E		7.97	77.28	77.33
	100' N			
E		7.70	77.55	77.67
W		9.67	75.58	75.67
	150' N			
W		9.33	75.92	76.00
E		7.36	77.89	78.00
	200' N			
E		6.98	78.27	78.33
W		9.00	76.25	76.33
	250' N			
W		8.70	76.55	76.67
E		6.67	78.58	78.67
	S.L. JUNIPER			
E		6.42	78.83	79.00
W		8.30	76.95	77.00

T.P.	9.88	86.76	83.7	72.88

RETURNS ON JUNIPER ALL OUT.
CORB OUT ON W SIDE FROM N.L. JUNIPER 100' N.
" " " E " " 250' N TO S.L. KALMIA
" " " E " " N.L. JUNIPER 100' No.
" " " " " " 150' N TO S.L. KALMIA.

N.L. JUNIPER

W		OUT		
E		OUT		
	50' N			
E		OUT		
W		OUT		
	100' N			
W		6.87	79.87	80.00
E		4.85	81.91	82.00
	150' N			
E		3.43	83.33	83.5
W		5.41	81.35	81.5
	200' N			
W		3.90	82.86	83.0
E		OUT		
	250' N			
E		OUT		
W		2.40	84.36	84.5

Elev. N.E. 282.1
S.E. 283.5
B.M. 283.90

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TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

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