

640

**MAIN  
LINE.**

9

TRANSIT

**F.B. 640**

640

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.....	2 $\frac{1}{2}$	21.....	49	41.....	95 $\frac{3}{4}$
2.....	4 $\frac{1}{2}$	22.....	51 $\frac{1}{2}$	42.....	98
3.....	7	23.....	53 $\frac{1}{2}$	43.....	100 $\frac{1}{2}$
4.....	9 $\frac{1}{2}$	24.....	56	44.....	102 $\frac{1}{2}$
5.....	11 $\frac{1}{2}$	25.....	58 $\frac{1}{2}$	45.....	105
6.....	14	26.....	60 $\frac{1}{2}$	46.....	107 $\frac{1}{2}$
7.....	16 $\frac{1}{2}$	27.....	63	47.....	109 $\frac{1}{2}$
8.....	18 $\frac{1}{2}$	28.....	65 $\frac{1}{2}$	48.....	112
9.....	21	29.....	67 $\frac{1}{2}$	49.....	114 $\frac{1}{2}$
10.....	23 $\frac{1}{2}$	30.....	70	50.....	116 $\frac{1}{2}$
11.....	25 $\frac{1}{2}$	31.....	72 $\frac{1}{2}$	51.....	119
12.....	28	32.....	74 $\frac{1}{2}$	52.....	121 $\frac{1}{2}$
13.....	30 $\frac{1}{2}$	33.....	77	53.....	123 $\frac{1}{2}$
14.....	32 $\frac{1}{2}$	34.....	79 $\frac{1}{2}$	54.....	126
15.....	35	35.....	81 $\frac{1}{2}$	55.....	128 $\frac{1}{2}$
16.....	37 $\frac{1}{2}$	36.....	84	56.....	130 $\frac{1}{2}$
17.....	39 $\frac{1}{2}$	37.....	86 $\frac{1}{2}$	57.....	133
18.....	42	38.....	88 $\frac{1}{2}$	58.....	135 $\frac{1}{2}$
19.....	44 $\frac{1}{2}$	39.....	91	59.....	137 $\frac{1}{2}$
20.....	46 $\frac{1}{2}$	40.....	93 $\frac{1}{2}$	60.....	140

MICROFILMED

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Table for Running on Slopes.

In the following table the first column shows the angle, the second, the correction 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.
°		°		°		°
4	0-24	11	1-88	18	5-14	25
5	0-38	12	2-24	19	5-76	26
6	0-55	13	2-63	20	6-42	27
7	0-76	14	3-06	21	7-11	28
8	0-98	15	3-53	22	7-85	29
9	1-24	16	4-02	23	8-64	30
10	1-55	17	4-56	24	9-47	35

1

*H & Atlantic 1*

*H & California 1*

*H & Arctic 2*

*H & India 2*

*H & Columbia 3*

*Latitude 3*

*I sh*

*1 sh*

*J sh*

*3rd sh*

*K sh*

*6th sh*

*7th sh*

*8th sh*

*9th sh*

*10th sh*

*11th sh*

*12th sh*

*13th sh*

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

17

ENGINEERING DEPARTMENT,  
CITY OF CALIFORNIA,  
SAN DIEGO.

## INDEX

H

14th St	14
15th St	14
16th St	14
St C of 6th	14--19

Summed 95 5

754  
140  
-574

1 Main Street St

Sta	Clv	Grade	Cut	
0	2.14	-8.00	10.14	10 1/4
+191	3.47	-7.98	10.45	10 5/8
+31.6	2.70	-7.95	10.65	10 7/8
+44.1	1.98	-7.94	9.92	9 1/2
+36.6	2.21	-7.92	10.13	10 1/4
+69.1	3.00	-7.90	9.90	9 10/16
+75	1.92	-7.89	9.81	9 9/16
1	1.35	-7.86	9.81	9 2 1/2
+25	1.06	-7.82	8.88	8 10 5/8
+50	0.84	-7.79	8.63	8 7 5/8
+75	0.65	-7.75	8.40	8 4 3/4
2	0.09	-7.71	7.62	7 7 1/2
+25	-0.25	-7.68	7.43	7 5 1/4
+50	-0.25	-7.64	7.39	7 4 3/4
+75	-0.68	-7.61	6.93	6 11 1/8
3	-0.56	-7.57	7.01	7 0 1/4
+25	-0.65	-7.54	6.89	6 10 3/4
+50	0.50	-7.50	7.00	7.00
+75	0.30	-7.46	7.16	7 1 1/4

W. S. Atl.  
Main Hole

C. S. Atlantic St.

W. S. California  
3+15 24+6 1/2 North for California  
3+37.5 Cal St

C. S. California

Main Street St-

Sto	Elev	Grade	cut	
4	-0.33	-7.43	7.10	7 1/4
+25	-0.34	-7.39	7.05	7 0 5/8
+30	-0.19	-7.36	7.17	7 2
+75	+0.05	-7.32	7.37	7 4 1/2
5	-0.10	-7.29	7.19	7 2 1/4
+25	0.06	-7.25	7.31	7 3 3/4
+60	-0.07	-7.21	7.14	7 1 3/4
+75	0.03	-7.18	7.21	7 2 1/2
6	-0.11	-7.14	7.03	7 0 5/8
+25	0.09	-7.11	7.20	7 2 3/4
+30	0.26	-7.07	7.33	7 4
+75	0.26	-7.04	7.30	7 3 5/8
7	0.49	-7.00	7.49	7 5 7/8
+25	0.64	-6.96	7.60	7 7 1/4
+60	0.71	-6.93	7.64	7 7 3/4
+75	0.58	-6.89	7.47	7 5 5/8
8	0.86	-6.86	7.72	7 8 5/8
+25	0.93	-6.82	7.75	7 9
+50	1.06	-6.79	7.85	7 10 1/4
+75	1.19	-6.75	7.94	7 11 1/4
9	1.71	-6.71	8.42	8 5

W. S. Arctic St  
 5+93 24+65 to Arctic St  
 6+12.5 Arctic St

D S Arctic St

W. S. India St Man. H. 1.5-0

8+57.5 India St

Main Line + 11

Sta	Elev	Grade	Cut		
9+25	1.46	-6.68	8.14	8	1 3/4
+50	2.07	-6.67	8.74	8	2 1/4
+75	2.14	-6.61	8.73	8	9
10	2.22	-6.57	8.79	8	9 1/2
+25	2.72	-6.54	9.80	9	3 1/4
+50	3.25	-6.50	9.75	9	9
+75	3.40	-6.46	9.86	9	10 1/4
11	3.67	-6.43	10.10	10	1 1/4
+25	3.89	-6.39	10.28	10	2 3/4
+50	3.99	-6.35	10.35	10	4 1/4
+75	4.39	-6.32	10.71	10	9 1/2
12	4.57	-6.29	10.85	10	10 1/4
+25	4.72	-6.25	10.97	10	11 3/4
+50	5.11	-6.21	11.32	11	3 7/8
+75	5.37	-6.18	11.55	11	6 5/8
13	5.79	-6.14	11.93	11	11 1/4
+25	6.19	-6.11	12.30	12	3 5/8
+50	6.64	-6.07	12.75	12	9
+62.5	6.85	-6.05	12.90	12	10 3/4

S S Indiana St

W S Columbia St

11+62.5 Columbia St

S S Columbia St

FC 13.37.5 W of W.S. State St

13+77.5 main hole 7.80 22.5

W of W.S. State St pc + 15 = Ann hole

Main Line H.S.

Sta Elev Grade Cut

13+72.96	6.94	-6.04	12.94	12	11 3/4
+83.42	7.38	-6.02	13.40	13	4 7/8
+93.88	7.11	-6.01	13.12	13	1 1/2
14+4.34	7.27	-5.99	13.26	13	3 1/4
+14.80	7.31	-5.98	13.29	13	3 1/2
+25.26	7.49	-5.96	13.45	13	5 3/4
+35.72	7.39	-5.95	13.34	13	4 1/4
+46.18	6.05	-5.93	11.98	11	11 3/4
+56.66	7.48	-5.92	13.40	13	4 7/8
+67.10	7.61	-5.90	13.51	13	6 1/4
+77.50		-5.89			
+80.31	7.39	-5.89	13.29	13	3 3/4
15+05	6.97	-5.85	12.82	12	9 7/8
+30	6.79	-5.81	12.60	12	7 1/4
+55	6.41	-5.78	12.19	12	2 1/4
+80	6.02	-5.74	11.76	11	9 1/8
16+05	5.75	-5.71	11.46	11	5 1/2
+30	4.89	-5.67	10.56	10	6 3/4
+55	5.18	-5.64	10.82	10	9 7/8
+80	4.70	-5.60	10.30	10	3 3/4

14+55 PZ

PTT 25' S. C. S. H. St.

Grade 2.11

Main Line

Sta	Clev	Grade	Lat			
17+05	4.09	-5.55	9.65	9	7 3/4	
+20	3.76	-5.54	9.30	9	3 3/4	
+85	3.35	-5.52	2.17	2	2	
+50	3.61	-5.49	1.98	1	10 3/4	
+65	3.08	-5.47	2.39	2	4 3/4	
+80	2.56	-5.44	2.88	2	10 3/4	
+95	3.00	-5.44	2.44	2	5 1/4	
18+10	3.44	-5.42	1.99	1	11 3/4	
+25	3.22	-5.39	2.17	2	2	
+40	3.28	-5.37	2.09	2	1 1/4	
+63	0.02	-5.34	5.36	5	4 3/4	
+88	3.27	-5.29	8.56	8	6 3/4	
19+13	3.43	-5.25	8.68	8	8	
+38	3.59	-5.22	4.81	4	9 3/4	
+68	3.73	-5.18	8.91	8	10 1/4	
+88	4.54	-5.14	9.68	9	8	
20+19	4.96	-5.11	10.07	10	7 1/4	
+38	4.89	-5.07	9.96	9	11 1/2	
+68	4.22	-5.04	9.26	9	3 1/4	
+88	4.61	-5.00	9.61	9	7 3/4	
21+13	5.06	-4.96	10.02	10	0 1/4	

11.682'

6  
 3 6 3/4 5  
 1 5 1/4

70 50' N. N. L. I. St. Union St  
 17+20.24+12 Y Lvs Flushing incl

burn State St

17+87.69 E L State St

P.T.

W L Union St

E L Union St



6

Main Line

Sta Elev Grade Cut

21+38	5.27	-4.93	10.20	10	2 <sup>3</sup> / <sub>4</sub>
+63	5.43	-4.89	10.32	10	3 <sup>1</sup> / <sub>4</sub>
+88	5.69	-4.85	10.54	10	6 <sup>1</sup> / <sub>2</sub>
22+13	5.77	-4.82	10.59	10	7 <sup>1</sup> / <sub>4</sub>
+38	5.78	-4.78	10.56	10	6 <sup>3</sup> / <sub>4</sub>
+63	5.94	-4.74	10.68	10	8 <sup>1</sup> / <sub>4</sub>
+85	6.16	-4.71	10.87	10	10 <sup>3</sup> / <sub>4</sub>
23+67	6.51	-4.68	11.19	11	2 <sup>1</sup> / <sub>4</sub>
+29	6.52	-4.65	11.17	11	2
+51	6.79	-4.62	11.41	11	4 <sup>7</sup> / <sub>8</sub>
+76	7.04	-4.58	11.62	11	7 <sup>1</sup> / <sub>2</sub>
24+01	7.28	-4.55	11.83	11	10 <sup>1</sup> / <sub>2</sub>
+26	7.51	-4.52	12.03	12	3 <sup>1</sup> / <sub>4</sub>
+51	7.88	-4.48	12.36	12	4 <sup>3</sup> / <sub>4</sub>
+76	8.23	-4.45	12.68	12	8 <sup>1</sup> / <sub>4</sub>
25+01	8.62	-4.41	13.03	13	3 <sup>1</sup> / <sub>4</sub>
+17	8.76	-4.38	13.14	13	1 <sup>1</sup> / <sub>4</sub>

3.20  
6.16  
- 3.54

W.L. Front St

Front St

S to Front

FC Main hole 9.10

Sta	Bliv	Grade	Cut		
25+20.5=25+17		-4.39			
+33.71	8.54	-4.37	12.91	12	10 7/8
+44.17	8.71	-4.36	13.07	13	7 1/4
+54.63	8.72	-4.34	13.06	13	5/4
+65.09	8.47	-4.33	12.80	12	9 5/8
+75.55	8.43	-4.31	12.74	12	8 7/8
+86.01	8.30	-4.30	12.80	12	9 3/4
+96.47	8.07	-4.28	12.35	12	4 1/4
26+06.93	8.09	-4.27	12.36	12	4 3/4
+17.39	8.09	-4.25	12.34	12	4 1/4
+27.85	7.98	-4.24	12.22	12	2 9/8
+38.31	7.71	-4.22	11.93	11	11 1/8
+53	7.40	-4.20	11.60	11	7 1/4
+78	6.99	-4.16	11.10	11	1 1/4
27+03	6.48	-4.13	10.61	10	7 3/8
+28	5.97	-4.09	10.06	10	0 3/4
+53	5.31	-4.07	9.38	9	4 3/4
+78	4.82	-4.03	8.85	8	10 1/4
28+03	4.36	-3.99	8.35	8	4 1/4
+28	3.64	-3.96	7.69	7	7 1/4

PC 35' W. W. S. 1st St

Curve 2 to 1st

PT 35' S, S, S. S. St

along 7 St

## Sta Blair Grade Book

+88+53	3.12	-3.92	7.04	7 0 1/2
+68	2.71	-3.90	6.61	6 7 3/8
+78.46	2.58	-3.89	6.47	6 5 7/8
+58.92	2.19	-3.87	6.06	6 0 3/4
+99.38	2.36	-3.86	6.22	6 2 3/8
+79.84	2.38	-3.84	6.22	6 2 5/8
+80.50	2.56	-3.83	6.39	6 4 3/4
+30.76	2.52	-3.81	6.33	6 4
+41.22	2.38	-3.80	6.18	6 2 1/8
+51.68	2.39	-3.78	6.17	6 2
+2.14	2.41	-3.77	6.18	6 2 1/8
+72.60	2.70	-3.75	6.45	6 5 3/8
+55.81	3.03	-3.73	6.76	6 9 1/8
+0+11	2.93	-3.69	6.62	6 7 1/2
+36	3.08	-3.66	6.74	6 8 7/8
+61	3.10	-3.62	6.72	6 8 5/8
+86	3.20	-3.59	6.79	6 9 1/2
+1+11	3.23	-3.55	6.78	6 9 3/4
+736	3.25	-3.52	6.77	6 9 1/4
+61	3.95	-3.48	7.43	7 5 1/4

FC 35 N. N. S. J. St. 3.47

Lower 1 to J

FTT 35 E. O. S. T. St. St.

Along J

181.50

	Sta	Elev	Grade	cut	
	31+86	4.07	-3.44	7.51	7.61/8
28+	32+11	3.57	-3.41	6.92	6 11
+6	+36	2.27	-3.37	5.64	5 7 3/4
+78	+61	1.64	-3.34	4.98	4 11 3/4
+88	+86	1.58	-3.30	4.88	4 10 5/8
+99	33+11	1.18	-3.26	4.44	4 5 1/4
29+8	+36	1.47	-3.23	4.70	4 8 3/4
80	+61	1.36	-3.19	4.55	4 6 5/8
130	+86	1.39	-3.16	4.55	4 6 5/8
+41	33+96	1.48	-3.14	4.62	4 7 1/2
+51	34+6.46	1.53	-3.13	4.66	4 7 7/8
2	46.92	1.09	-3.12	4.16	4 1 7/8
+72	+27.38	1.15	-3.10	4.25	4 5
248	+37.84	1.31	-3.08	4.39	4 4 3/4
30+	+48.30	1.03	-3.07	4.10	4 1 1/4
+	+58.76	1.03	-3.06	4.09	4 1 1/4
+	+69.22	1.27	-3.04	4.31	4 3 3/4
+	+79.68	1.31	-3.03	4.34	4 4 1/8
31+	90.14	1.49	-3.01	4.50	4 6
+	35+00.60	1.49	-3.00	4.49	4 5 7/8

31 251 Old 2nd St

32+31 Olive 3rd St

33+ 100' E of 1st

FC 35 W.W. 3rd St

FC minor hole 2.5'

down of the road

Sta	Clev	Grade	bar		
35+13.81	1.63	-2.98	4.61	4	7 <sup>3</sup> / <sub>4</sub>
+39	1.29	-2.94	4.23	4	2 <sup>3</sup> / <sub>4</sub>
+64	1.00	-2.90	3.90	3	10 <sup>3</sup> / <sub>4</sub>
+89	0.76	-2.87	3.63	3	7 <sup>5</sup> / <sub>8</sub>
36+14	0.51	-2.83	3.34	3	4 <sup>1</sup> / <sub>4</sub>
+39	0.32	-2.80	3.12	3	1 <sup>1</sup> / <sub>2</sub>
+64	0.03	-2.76	2.79	2	9 <sup>1</sup> / <sub>2</sub>
+89	0.09	-2.73	2.82	2	9 <sup>7</sup> / <sub>8</sub>
37+14	0.04	-2.69	2.73	2	8 <sup>3</sup> / <sub>4</sub>
+39	-0.02	-2.65	2.63	2	7 <sup>5</sup> / <sub>8</sub>
+44	-0.15	-2.64	2.49	2	5 <sup>7</sup> / <sub>8</sub>
+64.46	0.11	-2.62	2.73	2	8 <sup>3</sup> / <sub>4</sub>
+64.92	0.16	-2.61	2.77	2	9 <sup>1</sup> / <sub>4</sub>
+75.38	0.12	-2.60	2.72	2	8 <sup>5</sup> / <sub>8</sub>
+85.84	0.17	-2.58	2.75	2	9
+96.30	0.00	-2.57	2.57	2	6 <sup>7</sup> / <sub>8</sub>
38+06.76	0.28	-2.55	2.27	2	3 <sup>1</sup> / <sub>4</sub>
+17.22	-0.13	-2.54	2.41	2	4 <sup>7</sup> / <sub>8</sub>
+27.68	0.38	-2.52	2.90	2	10 <sup>3</sup> / <sub>4</sub>
+38+38.14	0.63	-2.51	3.14	3	1 <sup>3</sup> / <sub>4</sub>

PT 35 S. L. S. J. St

Always switch

PC 35 N. N. S. H. St  
PC man hole 1/20

Lower switch to R

Sta	Obs	Grade	cut	
+44.60	0.52	-2.49	3.01	3 0 <sup>1</sup> / <sub>8</sub>
+61.81	0.54	-2.47	3.01	3 0 <sup>1</sup> / <sub>8</sub>
+47	1.00	-2.43	3.43	3 5 <sup>1</sup> / <sub>4</sub>
39+12	0.79	-2.40	3.19	3 2 <sup>1</sup> / <sub>4</sub>
+37	0.99	-2.36	3.30	3 3 <sup>3</sup> / <sub>4</sub>
+62	0.96	-2.33	3.29	3 3 <sup>1</sup> / <sub>2</sub>
+87	1.17	-2.29	3.46	3 5 <sup>1</sup> / <sub>2</sub>
40+0.75	1.24	-2.25	3.49	3 5 <sup>7</sup> / <sub>8</sub>
+28	1.59	-2.22	3.81	3 9 <sup>3</sup> / <sub>4</sub>
+53	1.33	-2.19	3.52	3 6 <sup>1</sup> / <sub>4</sub>
+71	1.99	-2.15	4.14	4 1 <sup>3</sup> / <sub>4</sub>
+96	2.00	-2.12	4.12	4 1 <sup>1</sup> / <sub>2</sub>
41+16.5	1.70	-2.10	3.80	3 9 <sup>5</sup> / <sub>8</sub>
+37	1.97	-2.08	4.05	4 0 <sup>5</sup> / <sub>8</sub>
+62	2.58	-2.05	4.63	4 7 <sup>5</sup> / <sub>8</sub>
+87	3.17	-2.01	5.18	5 2 <sup>1</sup> / <sub>8</sub>
42+12	3.57	-1.98	5.49	5 5 <sup>7</sup> / <sub>8</sub>
+37	4.10	-1.94	6.04	6 0 <sup>1</sup> / <sub>2</sub>
+62	4.58	-1.91	6.49	6 5 <sup>7</sup> / <sub>8</sub>
+87	4.89	-1.88	6.77	6 9 <sup>1</sup> / <sub>4</sub>

FTT 35- G. C. L. 3rd St

40+27 W. 2 4<sup>1</sup>/<sub>2</sub> ST

41+07 East I 4<sup>1</sup>/<sub>2</sub> ST

Sta	Elev	Grade	Cut	
43+12	5.14	-1.84	6.98	6 11 <sup>3</sup> / <sub>4</sub>
+37	5.14	-1.81	6.95	6 11 <sup>3</sup> / <sub>4</sub>
+62	5.04	-1.77	6.85	6 10 <sup>1</sup> / <sub>4</sub>
+87	5.23	-1.74	6.97	6 11 <sup>3</sup> / <sub>4</sub>
44+12	4.85	-1.70	6.55	6 6 <sup>3</sup> / <sub>4</sub>
+37	5.07	-1.66	6.73	6 8 <sup>3</sup> / <sub>4</sub>
+52	5.28	-1.63	6.91	6 10 <sup>1</sup> / <sub>4</sub>
+87	5.53	-1.59	7.12	7 1 <sup>1</sup> / <sub>2</sub>
45+12	5.80	-1.56	7.36	7 4 <sup>3</sup> / <sub>4</sub>
+37	6.10	-1.52	7.62	7 7 <sup>5</sup> / <sub>8</sub>
+52	6.05	-1.50	7.55	7 6 <sup>5</sup> / <sub>8</sub>
+52.46	6.49	-1.48	7.97	7 11 <sup>5</sup> / <sub>8</sub>
+72.92	6.52	-1.47	7.99	7 11 <sup>7</sup> / <sub>8</sub>
+83.38	6.15	-1.45	7.60	7 7 <sup>1</sup> / <sub>4</sub>
+93.84	6.37	-1.44	7.81	7 9 <sup>3</sup> / <sub>4</sub>
#6+0430	6.00	-1.42	7.42	7 5
+14.76	5.89	-1.41	7.30	7 3 <sup>5</sup> / <sub>8</sub>
+25.22	5.93	-1.39	7.32	7 3 <sup>7</sup> / <sub>8</sub>
+35.68	6.01	-1.38	7.39	7 4 <sup>3</sup> / <sub>4</sub>
+46.14	5.97	-1.36	7.33	7 4
+56.60	6.06	-1.35	7.41	7 4 <sup>7</sup> / <sub>8</sub>

C.S. 5th St.

PC 35 W. W. S. 6th St.  
PC man hole 7.22

Lower  
to

sta 46+35 = S Lim K St.

Sta	Elev.	Grade	cut		
+67.02		-1.34			
46+69.8	5.99	-1.33	7.32	7	3 7/8
+85	5.67	-1.30	6.97	6	11 3/4
47+10	5.34	-1.28	6.62	6	7 1/2
+35	5.04	-1.24	6.28	6	3 3/4
+60	4.72	-1.20	5.92	5	11
+85	4.60	-1.16	5.76	5	9 1/8
48+10	4.28	-1.12	5.40	5	4 3/4
+35	3.93	-1.08	5.01	5	0 1/8
+60	3.76	-1.05	4.81	4	9 3/4
+85	3.44	-1.01	4.45	4	5 3/8
49+17	3.24	-0.94	4.16	4	2 1/8
+26.42	3.17	-0.92	4.09	4	1 1/8
+35.89	3.01	-0.91	3.92	3	11
+45.26	2.09	-0.90	2.99	2	11 7/8
+34.68	2.77	-0.89	3.66	3	7 7/8
+64.10	2.76	-0.87	3.63	3	7 5/8
+73.52	2.59	-0.86	3.45	3	5 3/8
+82.99	2.62	-0.85	3.47	3	5 5/8
+92	2.63	-0.83	3.46	3	5 1/2
50+02	2.68	-0.82	3.50	3	6

FT 35 S.S., S. K. St

Along 6th St

11.6 69  
35  
26 3 1/2

FC 10 N.K.S. S. St

N line 2 st = sta 49+36

Lower 6th St

6th St

PT 10 C.C. 2 6th St



## 14 Main Line S. L.

Sta	Elev	Grade	cut	
50+17	2.78	-0.80	3.58	3 7
+42	3.12	-0.76	3.88	3 10 <sup>3</sup> / <sub>8</sub>
+67	3.59	-0.72	4.31	4 3 <sup>3</sup> / <sub>4</sub>
+92	3.70	-0.68	4.38	4 4 <sup>5</sup> / <sub>8</sub>
51+17	4.13	-0.64	4.77	4 9 <sup>1</sup> / <sub>4</sub>
+42	4.57	-0.60	5.17	5 2
+67	4.70	-0.56	5.26	5 3 <sup>1</sup> / <sub>8</sub>
+92	4.99	-0.53	5.52	5 6 <sup>3</sup> / <sub>8</sub>
52+12	5.23	-0.50	5.73	5 8 <sup>3</sup> / <sub>4</sub>
+32	5.63	-0.47	6.10	6 1 <sup>1</sup> / <sub>4</sub>
+52	5.10	-0.44	5.54	5 6 <sup>1</sup> / <sub>2</sub>
+72	5.88	-0.40	6.28	6 3 <sup>3</sup> / <sub>8</sub>
+97	5.92	-0.37	6.29	6 3 <sup>1</sup> / <sub>2</sub>
53+22	6.24	-0.33	6.57	6 6 <sup>7</sup> / <sub>8</sub>
+47	6.57	-0.29	6.86	6 10 <sup>3</sup> / <sub>4</sub>
+72	6.87	-0.25	7.12	7 1 <sup>1</sup> / <sub>2</sub>
+97	7.04	-0.21	7.25	7 3
54+22	7.04	-0.17	7.21	7 2 <sup>1</sup> / <sub>8</sub>
+47	7.27	-0.13	7.40	7 4 <sup>7</sup> / <sub>8</sub>
+72	7.47	-0.09	7.56	7 6 <sup>3</sup> / <sub>4</sub>

Along S.

W. L. 7th St.

7th St.

O. L. 7th St.

to

to 16th St.

W. L. 8th St. Man-hole 9.0

6.30

15 Main Line L St

Sta	Elev	Grade	Lat		
34+92	7.64	-0.06	7.70	7	8 3/8
35+12	7.89	-0.03	7.92	7	11
+32	8.22	-0.00	8.22	8	2 3/8
+52	8.56	0.04	8.32	8	3 3/8
+77	8.52	0.07	8.45	8	5 3/8
36+02	9.05	0.11	8.94	8	11 1/8
+27	9.21	0.15	9.06	9	3/4
+52	9.68	0.19	9.49	9	5 3/8
+77	9.93	0.23	9.70	9	8 3/8
37+02	10.08	0.27	9.81	9	9 3/8
+27	10.57	0.31	10.20	10	3 1/8
+52	10.85	0.35	10.50	10	6
+72	10.98	0.38	10.60	10	7 1/8
+92	10.93	0.41	10.52	10	6 1/8
38+12	11.07	0.44	10.63	10	7 3/8
+32	11.31	0.48	10.83	10	10
+57	11.48	0.51	10.97	10	11 3/8
+82	11.62	0.55	11.07	11	7/8
39+07	11.99	0.59	11.40	11	4 7/8
+32	12.43	0.63	11.80	11	9 5/8

8th St

C L 8th St

W L 9th St

9th St

C L 9th St

16 Main Line S L

Sta	Elev	Grade	Cut		
+57	12.76	0.67	12.09	12	1 1/4
+82	13.07	0.71	12.36	12	4 3/8
60+07	13.41	0.75	12.66	12	8
+32	13.09	0.79	12.30	12	3 5/8
+52	13.09	0.82	12.27	12	3 1/4
+72	13.30	0.85	12.45	12	5 3/8
+92	13.27	0.88	12.39	12	4 3/4
61+12	13.65	0.92	12.73	12	8 5/8
+37	13.79	0.95	12.84	12	10 1/4
+62	13.98	0.99	12.99	12	11 7/8
+87	14.29	1.03	13.26	13	3 1/4
62+12	14.07	1.07	13.00	13	0
+37	14.65	1.11	13.54	13	6 1/2
+62	14.69	1.15	13.54	13	6 1/2
+87	14.72	1.19	13.53	13	6 3/8
63+12	14.68	1.23	13.45	13	5 3/4
+32	14.83	1.26	13.57	13	6 7/8
+52	14.85	1.29	13.56	13	6 7/8
+72	15.42	1.32	14.10	14	1 1/4
+92	15.30	1.35	13.95	13	11 3/8

W S 10th St

10th St

C S 10th St

W S 11th St

11th St

C S 11th St

17 Main Line L Sh

Sta	Elev	Grade	but	
64+17	14.49	1.39	13.10	13 1 1/4
+42	13.73	1.43	12.30	12 3 3/4
+67	13.20	1.47	11.73	11 4 3/4
+92	12.58	1.51	11.07	11 7/8
65+17	12.05	1.55	10.50	10 6
+42	11.31	1.59	9.72	9 8 3/4
+67	10.58	1.62	8.96	8 9/16
+92	9.82	1.67	8.15	8 1 3/4
66+13	9.40	1.70	7.70	7 8 3/4
+38	8.90	1.73	7.17	7 2
+63	6.83	1.77	5.06	5 0 3/4
+88	4.75	1.80	2.95	2 11 3/8
67+13	3.69	1.84	1.85	1 10 1/4
+38	3.17	1.88	1.29	1 3 1/2
+63	2.81	1.94	0.90	0 10 7/8
+88	2.49	1.95	0.54	0 6 1/2
68+13	2.61	1.98	0.63	0 7 3/8
+38	2.66	2.02	0.64	0 7 3/4
+63	3.01	2.06	0.95	0 11 3/4
+88	4.09	2.09	2.00	2 00

60+63  
60+24  
37

66+24  
65+83  
-41  
27  
78

W L 12th 1/65+92 = 65+83  
Total 24" pipe 66+88  
66+24 end of 24" pipe  
12th 11' span 9.3

W L 13th L L

## 14 Mainline S.S.

Sta	Ch	Grade	Cut		
69+13	6.30	2.13	4.17	4	2
+38	5.33	2.17	3.16	3	1 1/4
+63	5.89	2.20	3.69	3	8/4
+88	6.70	2.24	4.46	4	5 1/2
70+13	7.59	2.27	5.32	5	3 3/4
+38	8.19	2.31	5.88	5	10 3/4
+63	8.67	2.34	6.33	6	4
+88	8.68	2.38	6.30	6	3 3/4
71+13	8.38	2.42	5.96	5	11 1/4
+38	6.23	2.45	3.78	3	9 3/4
+63	5.01	2.49	2.52	2	6 1/4
88	6.02	2.52	3.50	3	6
72+13	7.11	2.56	4.55	4	8 3/4
+38	7.29	2.59	4.70	4	8 3/4
+63	7.41	2.63	4.78	4	9 3/4
+88	7.57	2.66	4.85	4	10 1/4
73+13	7.26	2.70	4.56	4	6 3/4
+38	7.88	2.74	5.14	5	1 3/4
+63	8.51	2.77	5.80	5	9 3/4
+88	8.71	2.81	5.90	5	10 3/4

69+03 13 St  
+43 C.S. 13 St

71+45  
13  
132

71+13 10' x 18" V

71+43 W. to 14th St

71+83 14th St

72+23 C.S. 14th St

## 19 Main Line S Lk

Sta	Elev	Grade	Cut	
74+13	8.46	2.84	5.62	5' 7 7/8
+38	8.59	2.88	5.71	5' 8 1/2
+63	8.54	2.91	5.63	5' 7 1/2
+88	8.52	2.95	5.57	5' 6 7/8
75+13	8.30	2.99	5.31	5' 3 3/4
+38	8.46	3.02	5.44	5' 5 1/4
+63	8.34	3.06	5.28	5' 3 7/8
+88	8.66	3.09	6.57	6' 6 7/8
76+13	11.13	3.13	8.00	8' 00
+38	13.06	3.16	9.90	9' 10 3/4
+63	14.59	3.20	11.39	11' 4 3/4
+88	15.73	3.30	12.43	12' 5 1/8
77+13	15.98	3.40	12.58	12' 7
+38	16.29	3.50	12.79	12' 9 1/2
+63	16.24	3.60	12.64	12' 9 3/4
+88	16.48	3.70	12.78	12' 9 3/8
78+13	17.05	3.80	13.25	13' 5
+38	18.28	3.90	14.38	14' 4 5/8
+58	19.28	4.00	15.28	15' 3 7/8
Total 12" pipe				3+15

76+18 W.S. 15th St 14.00

76+58 15th St 76+43

76+43 End of 18" pipe Man Hole

76+98 E.S. 15th St

Total 18" pipe 10+19

74' 5 5/8  
76' 4 5/8  
2' 1 3/8

End of pipe 16th St

Tulush Tank

12" pipe from 76+45 to 78+58

Location of Centres of Covers on  
From Atlantic St to State

sta

0+19.1 = Man Hole at Atlantic St

8+50 = man Hole at W. L. of India St  
= 0.55

13+77.5 = Man Hole 4.2 S. of Centre

11+25

See Next page.

Man Holes On H St  
St

= 2.75 N. of H. St Centre to C. of Cover

= 1.72 S. of Centre of H. St, <sup>mid</sup>  
= W. of W. L. of India St

And 58.1 W of Centre or 20.6 W. W. L. of State St

Location of Spikes on

sta

1+25 = 25' E.E. Lo of Atlantic St

+50

+75

6+50 E Lo of Cortic St

+75

7+00

+25

+50

+75

8+00

+25

A St. 4 ft Nap Sewer

22

Stk, line

St Center

to lower

2.5

2.55

2.4

2.3

2.25

2.25

2.25

2.26

2.28

2.30

2.35



Location of Spk line on A.

Spks 4 ft N. of Sewer

Sta

11+25 W. L. Columbia St

+62.5 C. Columbia

12+25

+50

+75

13+00

+25

+50

+62.5 = (Correct +60.4) = 37.5 W. of W. L. + State St = P.C. S.

bet Atlantic, and State St 23

Spk line

St. Centre

Baron line

o 2.1

o 2.0

o

o 2.1

o 2.0

o 2.0

o 2.0

o 2.0

o 2.0

o 2.0

Location of Man Holes (Centre of Cover) along Le St from 6<sup>th</sup> to 16<sup>th</sup> St

54+90 = Man Hole = 18' E. of W. line of 8<sup>th</sup> St = 8.2 N. of St Centre

66+21 = Man Hole = 28.5 E of W line of W line of 12<sup>th</sup> St and = 6.0 N. of St Centre

Location of Sewer line Along  
 Sewer is 4 ft N of plug line  
 Sta

50+02 P.T. 10' E of E. Line of 6<sup>th</sup> St

51+42 50' W of W. L. of 7<sup>th</sup> St

52+72 C. L. of 7<sup>th</sup> St

53+22

+47

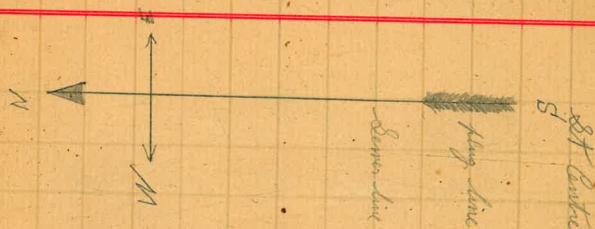
+72

+97

54+22

+47

25  
 La St from 6<sup>th</sup> to 16<sup>th</sup>  
 plug line 4 ft N of St Centre



4.0

4.0

4.0

3.95

3.95

3.95

3.95

3.95

3.95

Location of Sewer line, Along I<sub>1</sub> St.  
 Sewer = 4 ft N. of plug line

54+72 W. Lo. of 8<sup>th</sup> St  
 +90 = Man Hole Centre of Cover =  
 +92

55+77 25' E. E. Lo. of 8<sup>th</sup> St

56+02

+27

+52

+77

57+02

+27

+52 = 0.4 W. W. Lo. of 9<sup>th</sup> St

+72

+92

58+12

+32 = 0.4 W. of E. Lo. of 9<sup>th</sup> St

+57

+82

59+07

+32

+57

from 6<sup>th</sup> to 16<sup>th</sup> Sts  
 Plug line = 4 ft N. of St Centre



Distance	Plug line	St Centre
	3.98	
8.2		
	3.95	
	3.90	
	3.90	
	3.85	
	3.90	
	3.90	
	3.90	
	3.93	
	3.92	
	3.90	
	3.92	
	3.92	
	3.95	
	3.95	
	4.0	
	4.0	
	4.0	



Location of sewer line Along La St, from 6<sup>th</sup> to 16<sup>th</sup>

Sta

69+48 = 34.5 E from Centre of 13<sup>th</sup> St

+73 = 40.5 W from Centre of 13<sup>th</sup> St

68+23

+73

+48

67+23

+98

+73.0 = E L. of 12<sup>th</sup> St

66+21.0 = Centre of Man. Ark Cover 28.5 E of

+92.5 = 0.5 W of W. L. of 12<sup>th</sup> St

+67.

+42.

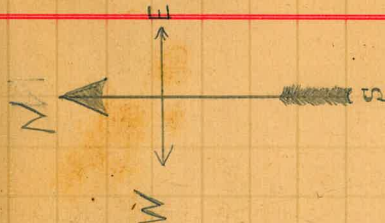
65+17.5

+92.

+67.

+42.

64+17.5



Sewer line

Avg. line

St Centre line

0	3.00
0.5	3.12
1.0	3.25
1.5	3.00
2.0	3.06
2.5	3.00
3.0	3.05
3.5	2.95
4.0	6.0
4.5	3.05
5.0	3.05
5.5	3.15
6.0	3.25
6.5	3.35
7.0	3.40
7.5	3.40
8.0	3.55

W.L. of 12<sup>th</sup> St and =

Location of sewer line Along L. St from

6<sup>th</sup> to 16<sup>th</sup> Sts

Sta

+55 = Centre of Man Hole Cover  
 76+23 = 45.0 W from 15<sup>th</sup> St Centre  
 +98  
 75+48  
 +98  
 74+48  
 +98  
 73+48  
 +98  
 +48  
 72+23 = 29.0 E. from 14<sup>th</sup> St Centre  
 +48 = 46.0 W. from 14<sup>th</sup> St Centre  
 71+23  
 +98  
 +73  
 70+48  
 +98  
 69+73

1.50 x 6.10 x 8  
 to 19.05  
 Note! St Centre line produced from Sta 50+02 with  
 7.0 ft offset plugs and Mon's on 6<sup>th</sup> to 8<sup>th</sup> Sts  
 11<sup>th</sup> and 12<sup>th</sup> Sts and St Centre at 13<sup>th</sup> + 14<sup>th</sup> Sts, which  
 = an offset at 15<sup>th</sup> St of 7.6 and at 16<sup>th</sup> St of 9.05

sewer line

plug line

stake line

6.3  
 2.95  
 2.95  
 2.95  
 2.95  
 2.95  
 3.00  
 2.95  
 2.95  
 2.95  
 2.95  
 2.95  
 3.00  
 3.00  
 3.00  
 3.00  
 3.00  
 3.00

7 79 + 03.7 = Centre of E. flush tank Cover = 4.9 W of

7 + 74.4 = Centre of Middle Cover

7 + 72.2 = Centre of W. flush tank Cover

+ 48

7 78 + 23

+ 73

7 77 + 23

6 76 + 98 = 30.0 E. from 15<sup>th</sup> St Centre

W. of 16<sup>th</sup> St. and

⊙ 5.70 >

⊙ 5.75 >

⊙ 5.60 >

⊙ 2.90

⊙ 2.90

⊙ 2.90

⊙ 2.95

⊙ 2.90

Lower line

High line

St Centre line



## Inlet to Reservoir

Sta	Sounding	Grade	S Pile	N Pile
0		- 6.43	-	-
1	- 10.4	- 6.424	-	-
2	- 12.8	- 6.414	-	-
3	- 12.9	- 6.413	-	-
4	- 12.9	- 6.407	-	-
5	- 12.9	- 6.402	-	-
6	- 12.9	- 6.396	-	-
7	- 12.8	- 6.391	-	-
8	- 12.8	- 6.385	-	-
9	- 12.9	- 6.380	-	-
10	- 13.0	- 6.374	- 12.5	- 12.4
11	- 13.0	- 6.369	- 12.4	- 12.4
12	- 12.9	- 6.363	- 12.1	- 12.0
13	- 12.7	- 6.358	- 12.5	- 12.4
14	- 12.8	- 6.352	- 12.4	- 12.5
15	- 12.9	- 6.347	- 12.4	- 12.4
16	- 13.1	- 6.341	- 12.5	- 12.5
17	- 13.1	- 6.336	- 12.6	- 12.6
18	- 13.1	- 6.330	- 12.5	- 12.4
19	- 13.2	- 6.325	- 12.6	- 12.7

## Reservoir, Iron Pipe

Inside of Reservoir

These grades are calculated for the top of the pipe and are 2.07 above pipe grade

## Inlet to Receiving Reservoir. Iron pipe

Sta. sand by gauge

20	-13.3	-6.319	-11.7	-11.7
21	-13.3	-6.314	-12.5	-12.5
22	-13.2	-6.308	-12.3	-12.4
23	-13.3	-6.303	-12.3	-12.4
24	-13.2	-6.297	-10.9	-11.1
25	-13.2	-6.292	-11.1	-11.1
26	-13.2	-6.286	-12.6	-12.5
27	-13.4	-6.281	-12.2	-12.2
28	-13.3	-6.275	-12.6	-12.6
29	-13.4	-6.270	-12.5	-12.5
30	-13.6	-6.264	-12.4	-12.4
31	-13.5	-6.259	-12.6	-12.6
32	-13.4	-6.253	-12.5	-12.5
33	-13.5	-6.248	-12.5	-12.5
34	-13.6	-6.242	-12.0	-12.1
35	-13.3	-6.237	-12.3	-12.3
36	-13.2	-6.232	-12.4	-12.3
37	-13.3	-6.226	-12.5	-12.5
38	-13.3	-6.221	-12.4	-12.4
39	-13.5	-6.215	-12.8	-12.9

12.0  
9.38  
3.62

6.24  
2.14  
4.38

11.50  
10.68  
3.0

file 6" out on N B side

" " " " " " " " " " " "

Only to Receiving Reservoir

Iron pipe

Sta. Sounding Grade & pile N. pile

Sta.	Sounding	Grade	S. pile	N. pile
40	-13.9	-6.210	-12.9	-12.9
41	-13.4	-6.204	-12.5	-12.5
42	-13.4	-6.199	-12.9	-13.0
43	-13.4	-6.193	-13.3	-13.3
44	-13.3	-6.188	-12.8	-12.8
45	-13.3	-6.182	-13.0	-12.9
46	-13.2	-6.177	-12.7	-12.9
47	-13.4	-6.171	-13.4	-13.4
48	-13.2	-6.166	-13.1	-13.3
49	-13.2	-6.160	-13.0	-13.1
50	-12.9	-6.155	-	-
51	-12.9	-6.149	-12.58	-12.62
52	-12.6	-6.144	-12.48	-12.42
53	-12.7	-6.138	-12.55	-12.55
54	-12.6	-6.133	-12.72	-12.68
55	-12.7	-6.127	-12.75	-12.66
56	-12.5	-6.122	-12.82	-12.76
57	-12.5	-6.116	-12.12	-12.19
58	-12.3	-6.111	-13.14	-13.33
59	-12.2	-6.105	-12.89	-13.14
60	-12.4	-6.100	-12.12	-12.15

Pile out 6" on N. side

"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"

25  
60  
4

4	4"	1/2"	S side
4	2 3/8"	3/4"	N side
4	3 1/4"		
4	5 3/8"	1/2"	N side
4	5 3/4"	1 1/8"	N side
4	6 3/4"	1/2"	N side
3'	11"	but 1/4"	S side
5'	1'		
4'	11 1/4"		
3'	11"	but 3/8"	S side

Inlet to Reservoir

Sta	Depth	Grade	S Pile	N Pile	
61	-12.2	-6.094	-11.75	-11.85	1' S.S.
62	-11.8	-6.089	-11.74	-11.73	0
63	-11.7	-6.083	-	-	0
64	-11.4	-6.078	-	-	
65	-11.3	-6.072	-	-	
66	-11.0	-6.067	-	-	
67	-10.7	-6.062	-	-	
68	-10.6	-6.056	-	-	
69	-10.4	-6.051	-	-	
70	-10.2	-6.045	-	-	
71	-9.7	-6.040	-	-	
72	-9.4	-6.034	-	-	
73	-9.3	-6.029	-	-	
74	-9.0	-6.023	-	-	
75	-8.7	-6.018	-	-	
76	-8.1	-6.012	-	-	
77	-8.1	-6.007	-	-	
78	-7.9	-6.001	-	-	
79	-7.8	-5.996	-	-	
80	-7.4	-5.990	-	-	

Reservoir Iron pipe

3' 7 1/2" out 1 1/4" S side  
 3' 6"  
 X 9 + 56 beginning of timber

10.93

6.08  
 2.14  
 8.22

10.93

8.22

2.71

10.93

8.22

2.71

10.93

6.08

4.85

2 8 1/2

1

Inlet to Reservoir

Sta	Depth ft	Grade		
-----	-------------	-------	--	--

81	- 7.3	- 5.985		
----	-------	---------	--	--

82	- 7.0	- 5.979	✓	
----	-------	---------	---	--

83	- 6.6	- 5.974	✓	
----	-------	---------	---	--

84	- 6.3	- 5.968	✓	
----	-------	---------	---	--

85	- 5.4	- 5.963	✓	
----	-------	---------	---	--

86	- 4.2	- 5.957	✓	
----	-------	---------	---	--

87	- 3.5	- 5.952	✓	
----	-------	---------	---	--

88	- 4.0	- 5.946	✓	
----	-------	---------	---	--

89	- 3.0	- 5.941	✓	
----	-------	---------	---	--

90	- 2.6	- 5.935		
----	-------	---------	--	--

91	- 2.5	- 5.93		
----	-------	--------	--	--

Reservoir Iron pipe

W. Line Atlantic 10792 = 0 main  
Line Page 1

Fifth St S of K to S St

Sta + H<sub>2</sub>O - Elev

BM	2.45	3.88	7.43
0		4.68	5.20
+10.8		4.70	5.18
+20.4		4.83	5.05
+30.8		4.80	5.08
+42.5		4.66	5.22
+67.5		4.75	5.13
+92.5		5.08	4.80
+175		5.55	4.33
+42.5		5.73	4.13
+67.5		5.96	3.92
+92.5		6.17	3.71
2+17.5		6.44	3.44
+42.5		6.60	3.28
+67.5		6.79	3.09
+92.5		7.15	2.83
3+10.5		7.24	2.64
2+22.5		7.32	2.36

P.O.

PT S of K St

Fifth St S of K St

Sta Elev Grade Cut

0	5.20	-1.10	6.30	6' 3 1/2"
+10.8	5.18	-1.07	6.25	6' 3"
+20.8	5.05	-1.03	6.08	6' 1"
+30.8	5.04	-0.99	6.07	6' 7/4"
+42.5	5.22	-0.46	6.18	6' 2 1/8"
+67.5	5.13	-0.88	6.01	6' 0 1/8"
+92.5	4.80	-0.79	5.59	5' 7 1/8"
+117.5	4.33	-0.71	5.04	5' 0 1/2"
+142.5	4.13	-0.63	4.76	4' 9 1/8"
+167.5	3.92	-0.54	4.46	4' 5 1/2"
+192.5	3.71	-0.46	4.17	4' 2"
+217.5	3.44	-0.38	3.82	3' 9 1/4"
+242.5	3.28	-0.29	3.57	3' 6 1/4"
+267.5	3.09	-0.21	3.30	3' 3 1/4"
+292.5	2.83	-0.13	2.96	2' 11 1/2"
+317.5	2.64	-0.04	2.68	2' 8 1/8"
+342.5	2.36	0.41	1.95	1' 11 3/8"

to S St

37

St grade

P.O.

PT S of K St

4.67
4.95
4.22
4.00
3.77
3.53
3.32
3.10
2.87
2.65
2.42
2.20
1.97

N of S St

Y's on 3<sup>rd</sup> S of R Sh

E	W	E	W
0+48.5	0+41	2+75	
0+48	0+65.5	2+77	
0+67.5	0+90.5	2+80	End of pipe
0+92.5	1+15.5		
1+17.5	1+40.5		
1+42.5	1+65.5		
1+67.5	1+90		
1+92	2+15.5		
2+17.5	2+40		
2+42	2+65		
2+67			

0+48.5 S of R Sh

0+41

2+75

0+48

2+77

0+65.5

2+80 End of pipe

0+67.5

0+90.5

0+92.5

1+15.5

1+17.5

1+40.5

1+42.5

1+65.5

1+67.5

1+90

1+92

2+15.5

2+17.5

2+40

2+42

2+65

2+67



Main Line Relief from

1st to End of J.

Sta	Elev	Grade	cut		
26+38	7.89	-4.22	12.11	12	1 <sup>3</sup> / <sub>4</sub>
+63	7.44	-4.18	11.62	11	7 <sup>1</sup> / <sub>2</sub>
+88	7.03	-4.15	11.15	11	1 <sup>3</sup> / <sub>4</sub>
27+13	6.47	-4.11	10.58	10	7
+38	5.98	-4.08	10.06	10	3 <sup>1</sup> / <sub>4</sub>
+63	5.50	-4.04	9.54	9	6 <sup>1</sup> / <sub>2</sub>
+88	4.90	-4.01	8.91	8	10 <sup>3</sup> / <sub>4</sub>
28+13	4.32	-3.97	8.29	8	3 <sup>1</sup> / <sub>2</sub>
+34	3.87	-3.93	7.80	7	9 <sup>5</sup> / <sub>8</sub>
+64	3.45	-3.90	7.35	7	4 <sup>1</sup> / <sub>4</sub>
+77	3.33	-3.89	7.22	7	2 <sup>5</sup> / <sub>8</sub>
+87	3.20	-3.87	7.07	7	7 <sup>1</sup> / <sub>4</sub>
+98	3.07	-3.86	6.93	6	11 <sup>1</sup> / <sub>4</sub>
29+04	2.83	-3.84	6.67	6	8
+18	2.34	-3.83	6.17	6	2
+28	1.93	-3.81	5.74	5	8 <sup>7</sup> / <sub>8</sub>
+38	2.45	-3.80	6.25	6	3
+48	2.72	-3.78	6.50	6	6
+58	3.01	-3.77	6.78	6	9 <sup>3</sup> / <sub>8</sub>
29+68	3.13	-3.75	6.88	6	10 <sup>3</sup> / <sub>4</sub>

P.C. 35 N N Line J.

Main Line Reland

Sta	Elev	Grade	cut	
29+73	3.25	-3.73	6.98	6 11 <sup>3</sup> / <sub>4</sub>
+88	3.28	-3.71	6.99	6 11 <sup>1</sup> / <sub>4</sub>
30+13	3.48	-3.66	7.14	7 1 <sup>3</sup> / <sub>4</sub>
+38	3.63	-3.62	7.25	7 3
+63	3.77	-3.58	7.35	7 4 <sup>1</sup> / <sub>4</sub>
+88	3.99	-3.54	7.48	7 5 <sup>3</sup> / <sub>4</sub>
31+13	4.04	-3.50	7.54	7 6 <sup>1</sup> / <sub>2</sub>
+38	4.03	-3.46	7.49	7 5 <sup>7</sup> / <sub>4</sub>
+58	3.87	-3.44	7.31	7 3 <sup>3</sup> / <sub>4</sub>
+78	4.31	-3.41	7.72	7 8 <sup>5</sup> / <sub>2</sub>
+98	3.62	-3.38	7.00	7 0
32+18	3.57	-3.36	6.93	6 11 <sup>1</sup> / <sub>2</sub>
+43	3.24	-3.33	6.57	6 6 <sup>7</sup> / <sub>8</sub>
+68	3.17	-3.39	6.47	6 5 <sup>7</sup> / <sub>8</sub>
+98	3.00	-3.27	6.27	6 3 <sup>1</sup> / <sub>4</sub>
33+18	3.02	-3.25	6.27	6 3 <sup>1</sup> / <sub>4</sub>
+43	2.74			

from 1st & J to End & J 40

FIT 35° E. line 1st St.

W. End St

End St

E. End St

33.18  
26.34  
6.80

Clev on Main Line

Sub Record

Sta	+	H <sub>2</sub>	-	Clev
Bm	0.31	11.78		11.47
26+38			3.89	7.89
+63			4.34	7.44
+88			4.78	7.00
27+13			5.31	6.47
+38			5.80	5.98
+63			6.28	5.50
+88			6.48	4.90
28+13			7.46	4.32
#	2.04	7.02	6.40	4.94
+38			3.15	3.87
+68			3.57	3.45
+78			3.69	3.33
+88			3.82	3.20
+98			3.95	3.07
29+08			4.19	2.83
+18			4.68	2.34
+28			5.09	1.93
+38			4.57	2.45
+48			4.30	2.72
+58			4.01	3.01

PO

29768

7.02

3.89

3.13

+73

3.77

3.25

Bm

3.99

3.08

PT

1 hr &amp; J Ste

Sta	T	HO	-	Elv	Grade	Dist
B.M.	5.71	9.46		3.75		
0 = 49+13			6.75	2.71	-0.95	3.66
+22.5			5.91	3.55	0.92	4.77
+45 = 49+37			6.73	2.73	-0.88	3.61
B.M.	"		1.14	8.32		

6th and L St  
 Man-hole N of side  
 of L St  
 Man-hole  
 6th and H St

B.M. on 32nd St North of E Street

4

+	H.O.	-	Elv.		
11.84	127.77		115.93	B.M. 32nd and	E Street
11.835	139.430	0.125	127.595		
11.835	151.145	0.120	129.310		
		4.340	146.805	B.M. 32nd and	B St 146.80
11.930	162.820	0.255	150.890		
11.630	174.410	0.040	162.780		
		6.055	168.355	B.M. 32nd	E Street 168.40
5.725	176.180	3.965	170.445		
8.685	184.722	0.143	176.037		
		7.900	176.822	B.M. 32nd	and B Street
		1.775	182.947	B.M. 32nd	and A Street N.W. top of plug.
11.200	195.462	0.460	184.262		
11.490	206.152	0.800	194.662		
11.475	217.397	0.230	205.922		
11.825	228.522	0.700	216.697		
6.200	234.117	0.605	227.917		
		5.670	228.447	B.M. 31st	8th N.E. back top of large seaf stake
8.435	234.382	8.160	225.947		
2.730	228.702	8.410	225.972	B.M. 30th	and A St
3.800	221.997	10.505	218.197		
		6.79	115.207	B.M. 30th	and B St

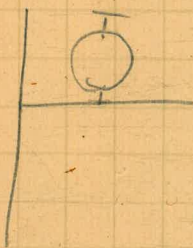
Oct 6 1892  
Hambur

45

Sta	+	H <sub>2</sub> O	Mud	Rock
0			12.10	
1			12.00	12.19 ✓
2			11.90	12.07 ✓
3			11.79	11.96 ✓
4			11.69	11.86 ✓
5			11.58	11.75 ✓
6			11.47	11.64 ✓
7			11.37	11.54 ✓
8			11.26	11.43 ✓
9			11.15	11.32 ✓
10			11.05	11.22 ✓
11			10.94	11.11 ✓
12			10.83	11.00 ✓
13			10.72	10.89 ✓
14			10.61	10.78 ✓
15			10.51 ✓	10.68 ✓
16			10.40 ✓	10.57 ✓

off at station when Res was built  
4.32 to top of pile of Res.  
rock

Set up on daybe 2  
14"  
Rod of 12.10 on outlet 12.70  
10.40 in inlet  
16 12' fence into 107 12.10  
br. bent 12.16



Transit Notes Re-running  
Main line from 1<sup>st</sup> + I to B + U

26 + 38 opp old sta 26 + 38 35' S. of S line I  
+ 8' E of Cen 1<sup>st</sup>

+ 63

+ 88

27 + 13

+ 38

+ 63

+ 88

28 + 13

+ 38

+ 68 35' N of X line J  
P.C. left  $\wedge$  67' Rad on ply line

+ 78

+ 88 Distances on curve are on

+ 98 ply line 6.3' must be added

29 + 08 figure correct 29<sup>th</sup> of pipe

+ 78

+ 78

+ 38

+ 48

+ 58

Oct 29, 1888

1<sup>st</sup> + J. S. side  
S. V

Party  
E. T. Wheeler  
F. V. W. & Z. K. & W. S. W.  
J. F. Row  
B. Woodruff

1<sup>st</sup> + J. S. 8.5 S

1 + J. 28 N

J + 1<sup>st</sup> 3.0 E

J + 2 4.3 W

1 + 2 3.6 E

1 + 3 2.8 W

8' E of cen 1<sup>st</sup> st



22.18  
30  
32.48

29+68

+73 E.C. 35' E of E line of 1<sup>st</sup> + 8' N of N

line of I

+88

30+13

+38

+73

P

+88

Plg

31+13 W line 2<sup>d</sup> St

Plg

+33

spk

+53

spk

+73

spk

+93 E line of 2<sup>d</sup> St

spk

32+18

spk

+43

spk

+68

spk

+93

spk

Levels on Albatross Laves

Sta	+	HI	-	Elev	Grade	cut
Bm	11.31	118.16		106.85		
0					107.75	7.28
+30			3.94	114.22	108.25	5.97
+60			3.49	114.68	108.75	5.93
+90			3.93	114.23	109.25	4.98
+120			5.19	112.94	109.75	3.23
+36			5.31	112.85	110.00	2.85

7.28  
107.75  
 115.03

7.28  
107.75  
 115.03

1st J. - Epk in con House  
(10.6) - Elev. 5.02

12 49 1/2	3.412	4.82	
4 1/2	4.571	3.412	
17 05	7.983	8.232	
4 1/2	4.03	4.25	
21 27 1/2	3.95	7.90	
25 39	7.943		
29 55 1/2		8.432	
4 1/2		4.25	
34 12 1/2	5.5	3.95	
38 28 1/2	2	3.5	
42 45	3.5		
2.08			
5.25	8.66		3.412
	5.66	3.00	
			2.02
		12.67	
1.97	14.58		
	6.58	8.00	

	6.27		
	3.24		
	- 3.73		
	- 3.49		
	6) .24	3.49	3.24
	.049	0.48	3.33
		3.53.8	6.57
		0.48	6.54
	3.49	3.73	3.30
	0.576		3.77
	3.5276	3.586	6.47
	0.576	0.48	6.47
	3.5652		6.47
	0.576	3.684	
	3.6028	0.48	
	0.576	3.688	
	3.6404	0.48	
	0.576	3.73	
	3.6780		
	0.211	1.000	1.428
	3.6592	3.000	0.001428
		2.000	0.0076
		1.000	
		2.000	0.001428
		1.000	15
		6.000	5.140
			6.428
			0.21428

$25) = 1,2392$   
 $20) = 0314$   
 $1' = 101571$

$700 \quad 1.000 \quad (01426)$   
 $700$   
 $8000$   
 $2800$   
 $2000$   
 $4001426 \quad 67.8426$   
 $1035 \quad 0285$

$32 \quad (54)$   
 $25$   
 $700$   
 $160$   
 $45$   
 $42 \quad 08$   
 $2$

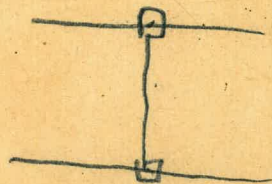
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 $(314167)$   
 $219912$   
 $18496$   
 $2(2104872)$   
 $(105.24)$

$3141671$   
 $3141671$   
 $219912$   
 $2230536$   
 $416$   
 $111.5$   
 $105.2$   
 $6.3$

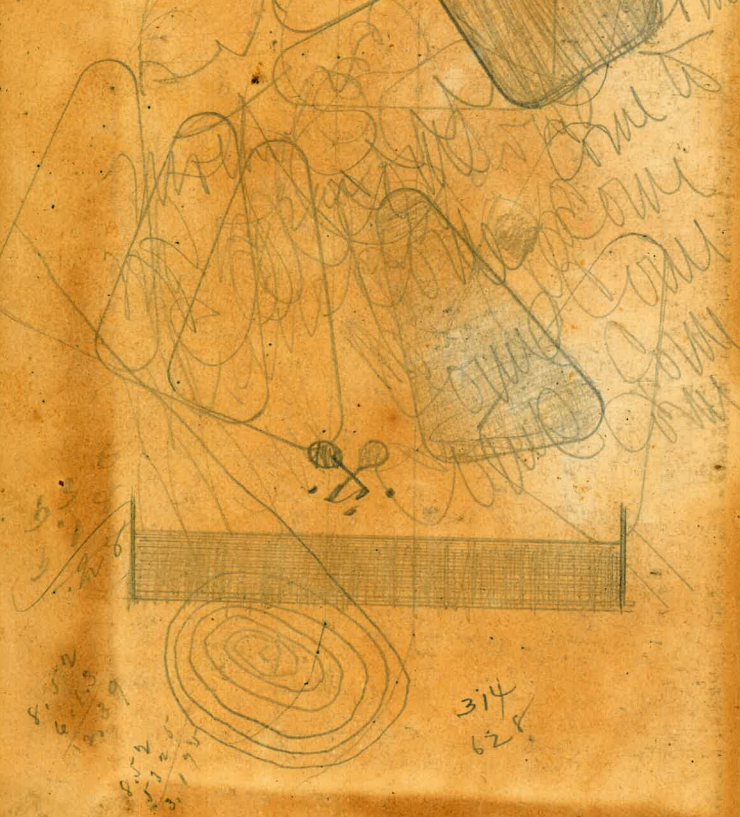
$105 \quad 9/15$   
 $105/4500$

$9$   
 $10.5 \quad 450$   
 $42$   
 $30 \times 60$   
 $105$   
 $6/21 \quad 4 \times 60$

$7/120$   
 $117$



197  
 354  
 2264  
 1374  
 7.3  
 11.6  
 157080  
 62832  
 785400  
 12) 4.75 ( 354319.16  
 36  
 157080  
 62832  
 785400



TRAVERSE TABLE FOR TRANSIT BOOK,  
 From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		¼ DEGREE.		¼ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0	99.98	1.75	100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.94	3.49	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	5.23	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	6.98	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	8.72	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	10.45	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	12.19	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	13.92	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	15.64	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	17.36	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	19.08	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	20.79	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	22.50	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	24.19	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	25.88	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	27.56	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	29.24	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	30.90	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	32.56	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	34.20	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	35.84	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	37.46	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	39.07	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	40.67	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	42.26	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	43.84	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	45.40	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	46.95	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	48.48	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	49.99	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	51.50	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	52.99	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	54.46	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	55.92	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	57.36	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	58.78	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	60.18	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	61.57	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	62.93	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	64.28	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	65.61	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	66.91	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	68.20	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	69.47	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	70.71	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71								
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¼ DEGREE.		¼ DEGREE.		¼ DEGREE.		

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