

AVERAGE GRADES

16th to H. H to 12 1/2th
I. I to 20 8" Pipe

H. H to 18 1/2th
I. I to 20

2

14th ST. W. A.

F.B. 654

6

654

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	2½	21	49	41	95½
2	4½	22	51½	42	98
3	7	23	53½	43	100½
4	9½	24	56	44	102½
5	11½	25	58½	45	105
6	14	26	60½	46	107½
7	16½	27	63	47	109½
8	18½	28	65½	48	112
9	21	29	67½	49	114½
10	23½	30	70	50	116½
11	25½	31	72½	51	119
12	28	32	74½	52	121½
13	30½	33	77	53	123½
14	32½	34	79½	54	126
15	35	35	81½	55	128½
16	37½	36	84	56	130½
17	39½	37	86½	57	133
18	42	38	88½	58	135½
19	44½	39	91	59	137½
20	46½	40	93½	60	140

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Table for Running on Slopes.

In the following table the first column shows the angle, the second, the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle.	Cor. in links	Angle.	Cor. in links.	Angle.	Cor. in links.	Angle.	Cor. in links.
0		0		0		0	
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

Book 15

Street	Location	Page
16th	N of L	1 = 4
18th	N of H	6 = 9
H St	E of 16th St	16 = 17
H St	E of 15th St	
19th	S of H St with curve	18 =
19th	S to P. with curve	16
P. St	E of 19th	19
P St	E of 19th	20
16th	N of H St	21 = 23
17th	S of H St	24 = 25
18th	S of H St	26 = 27
15th	N of L St	29 = 37 ✓
B St	W. of 15th St	38 =
O St	W. of 15th St	39
E St	W. of 15th St	41

16th St NW 2

Sta	Elev	Grade	Cut	
0	21.37	13.50	7.87	7' 10 1/2
+10	21.85	13.73	8.12	8' 1 1/2
+20	22.21	13.97	8.24	8' 2 1/4
+30	22.46	14.20	8.26	8' 3/8
+40	22.57	14.44	8.13	8' 1 1/2
+50	22.80	14.67	8.13	8' 1 1/2
+63	23.07	14.97	8.10	8' 1 1/4
+88	22.99	15.56	7.43	7' 5 1/8
+113	23.32	16.15	7.17	7' 2"
+38	23.75	16.73	7.02	7' 0 1/4
+63	23.89	17.32	6.57	6' 6 1/4
+88	24.36	17.90	6.46	6' 5 3/4
+113	24.41	18.49	5.92	5' 11"
+38	24.98	19.07	5.91	5' 10 1/8
+63	25.37	19.66	5.71	5' 8 1/2
+88	25.61	20.24	5.37	5' 4 1/2
+113	26.03	20.83	5.20	5' 2 3/4
+38	26.41	21.41	5.00	5' 0"
+63	26.74	22.00	4.74	4' 9 3/4

23.415

16th St NW 2

RT 16th St NW 16th + 2

S.L.K. St.

16th SI - N. 1/2

Sta	Elev	Grad	Cut
3+53	26.93	22.11	4.82 4'9 ¹ / ₂ "
4+03	27.38	22.21	5.17 5'2"
+23	27.33	22.31	5.02 5'0 ¹ / ₄ "
+43	27.26	22.42	4.84 4'10 ¹ / ₄ "
+64	27.46	22.55	4.91 4'10 ¹ / ₂ "
+93	27.53	22.68	4.85 4'10 ¹ / ₄ "
5+18	27.58	22.82	4.76 4'9 ¹ / ₂ "
+43	27.79	22.95	4.84 4'10 ¹ / ₄ "
+68	27.82	23.08	4.74 4'8 ¹ / ₂ "
+93	27.77	23.21	4.56 4'6 ³ / ₄ "
6+18	28.14	23.34	4.80 4'9 ³ / ₄ "
+43	28.05	23.47	4.54 4'7"
+68	28.14	23.60	4.54 4'6 ¹ / ₂ "
+93	28.04	23.74	4.30 4'3 ⁵ / ₈ "
7+18	28.23	23.87	4.36 4'4 ³ / ₄ "
+43	28.25	24.00	4.25 4'3"
+63	28.37	24.11	4.26
+83	28.34	24.21	4.13
8+03	28.22	24.32	3.90
+23	28.41	24.42	3.99

.5263 1100

x

K SI

NJK SI

LJ SI

J SI

NJK SI

16 #. SI - Not I

Sta	Elm	Sea	Cur		
8+48	29.45	24.55	3.90	3' 10 ³ / ₄	
+73	28.60	24.68	3.92	3' 11"	
+94	28.51	24.82	3.69	3' 9 ¹ / ₄	
9+23	28.63	24.95	3.68	3' 8 ¹ / ₄	
+48	28.84	25.08	3.76	3' 9 ¹ / ₄	
+73	28.71	25.21	3.50	3' 6"	
+94	29.20	25.34	3.86	3' 10 ³ / ₄	
10+23	29.14	25.47	3.67	3' 8"	
+48	29.39	25.60	3.79	3' 9 ¹ / ₂	
+73	29.46	25.74	3.72	3' 8 ³ / ₄	
+94	29.78	25.87	3.91	3' 10 ³ / ₄	
11+23	30.29	26.00	4.29	4' 3 ¹ / ₂ "	
+48	30.39	26.17	4.22	4' 2 ³ / ₈ "	
+63	30.46	26.33	4.13	4' 1 ⁵ / ₈ "	
+83	30.78	26.50	4.28	4' 3 ¹ / ₄ "	
12+03	31.10	26.67	4.43	4' 5 ¹ / ₈ "	
+28	31.25	26.85	4.37	4' 4 ¹ / ₂ "	
+53	31.64	27.08	4.56	4' 6 ³ / ₄ "	
+78	31.96	27.29	4.67	4' 8"	
13+03	32.45	27.50	4.95	4' 11 ³ / ₄ "	

5263:100

X

S I S I

I S I

N I S I

825/100

16th St. N. of 2

Sta Elev Area Cur

1328	32.57	27.71	4.86	4'10 ³ / ₈
+53	32.68	27.92	4.76	4'9 ¹ / ₈
+78	32.74	28.12	4.62	4'7 ¹ / ₂
14+03	33.15	28.33	4.82	4'9 ⁷ / ₈
+28	33.36	28.54	4.82	4'9 ⁷ / ₈
+58	33.38	28.75	4.63	4'7 ⁵ / ₈
+78	33.64	28.96	4.68	4'8 ¹ / ₈
+89		29.05		
14+7	34.57	29.14	5.43	5'5 ¹ / ₈
+11	34.88	29.23	5.65	5'7 ¹ / ₄
+22	35.22	29.32	5.90	5'10 ³ / ₄
+33	35.33	29.42	6.11	6'1 ³ / ₈
+44	35.49	29.57	5.98	5'11 ³ / ₄
+55	35.62	29.60	6.02	6'0 ¹ / ₄
+66	35.95	29.60	6.35	6'4 ¹ / ₄
+77	36.19	29.76	6.41	6'4 ⁷ / ₈
+88	36.32	29.87	6.45	6'5 ³ / ₈
+99	36.68	29.97	6.68	6'8 ¹ / ₈
16+02	°	30.00		

15+03

PC 16th to H 25th of 1910

15+03 SL H SI-

CL 16

Pike Laid to this Point - See 31 1887

P.I. H 31 - 35' E of CL 16 + H SI-

78
25
1570 3

53
27
10
10

18[#] St. Vol. H.

Sta	Elev	Grade	Cons	
0	47.86	43.60	4.26	4' 3/4"
+25	48.61	44.02	4.59	4' 7/8"
+50	49.50	44.44	5.06	5' 0 3/4"
+60	49.94	44.60	5.34	5' 4 1/2"
+70	50.44	44.77	5.67	5' 8"
+80	51.08	44.94	6.14	6' 1 3/4"
+90	51.32	45.11	6.21	6' 2 1/2"
1	50.99	45.27	5.72	5' 8 3/4"
+25	51.63	45.69	5.94	5' 11 1/4"
+50	52.46	46.11	6.35	6' 4 1/4"
+75	54.25	46.53	7.72	7' 8 3/4"
2	54.58	46.96	7.93	7' 11 1/4"
+25	55.06	47.37	7.69	7' 8 1/4"
+50	56.56	47.79	8.77	8' 9 1/4"
+75	56.99	48.20	8.19	8' 2 1/4"
3	56.92	48.62	8.30	8' 3 1/4"
+25	56.81	49.04	7.77	7' 9 1/4"
+50	57.50	49.46	8.04	8' 0 1/2"
+75	57.96	49.88	8.08	8' 1"
4	57.99	50.30	7.69	7' 9 1/4"

1.6744
1.00

P.C.

+93 N.L.H.H. - P.T. probably

St. Vol. Grade 58.0 (57.50)

18th St - 11th St

Sta	Elev	Grade	Cor-	
H+20	59.75	50.63	8.62	8' 7/2
+40	60.20	50.97	9.23	9' 2 3/4
+60	60.34	51.30	9.04	9' 1
+80	60.46	51.64	8.82	8' 9/8
5+05	60.98	51.92	9.06	9' 0 3/4
+30	60.97	52.20	8.77	8' 9/4
+55	61.54	52.48	9.06	9' 0 3/4
+80	61.26	52.76	8.50	8' 6
6+05	60.54	53.04	7.54	7' 6 1/2
+30	59.94	53.32	6.52	6' 6 1/4
+55	58.27	53.60	4.67	4' 8
+80	56.19	53.88	2.31	2' 3 3/4
7+05	56.06	54.16	1.90	1' 10 3/4
+30	55.80	54.44	1.36	1' 4 3/8
+55	55.14	54.72	0.78	0' 8 3/4
+80	61.32	55.00	6.32	6' 3 3/8
8	63.41	55.75	7.66	7' 8
+20	63.90	56.30	7.40	7' 4 3/4
+40	64.20	57.25	6.95	6' 11 1/4
+60	64.67	58.00	6.67	6' 8

1.12, 100

3.75, 100

BS-
N2 BS-

N2 F St Grade 62.5 62.00 ✓

F St

N2 F St

1240
150
1390

18th St N of 4th

No	Elev	Grade	Dist	
8+85	67.69	59.25	8.44	8' 5 1/4"
9+10	69.79	60.50	8.29	8' 3 3/8"
+35	71.21	61.75	9.46	9' 5 1/2"
+60	74.32	63.00	11.32	11' 3 3/8"
+85	77.17	64.25	12.92	12.11
10+10	79.04	65.50	13.54	13' 1 1/4"
+35	80.99	66.75	14.23	14' 2 3/4"
+60	82.73	68.00	14.73	14' 8 3/4"
+85	84.28	69.25	15.23	15' 2 3/4"
11+10	85.66	70.50	15.16	15' 7/8"
+35	87.08	71.75	15.33	15' 4"
+60	88.91	73.00	15.91	15' 10 1/4"
+80	89.58	74.00	15.58	15' 7"
12	90.29	75.00	15.38	15' 4 3/4"
+20	91.16	76.00	15.15	15' 1 3/4"
+40	91.12	77.00	14.12	14' 1 1/2"
+65	91.35	78.58	12.77	12' 9 1/4"
+90	91.83	80.17	11.66	11' 8"
13+15	92.24	81.75	10.51	10' 6 1/8"
+40	93.07	83.33	9.74	9' 4 1/2"

500000

x

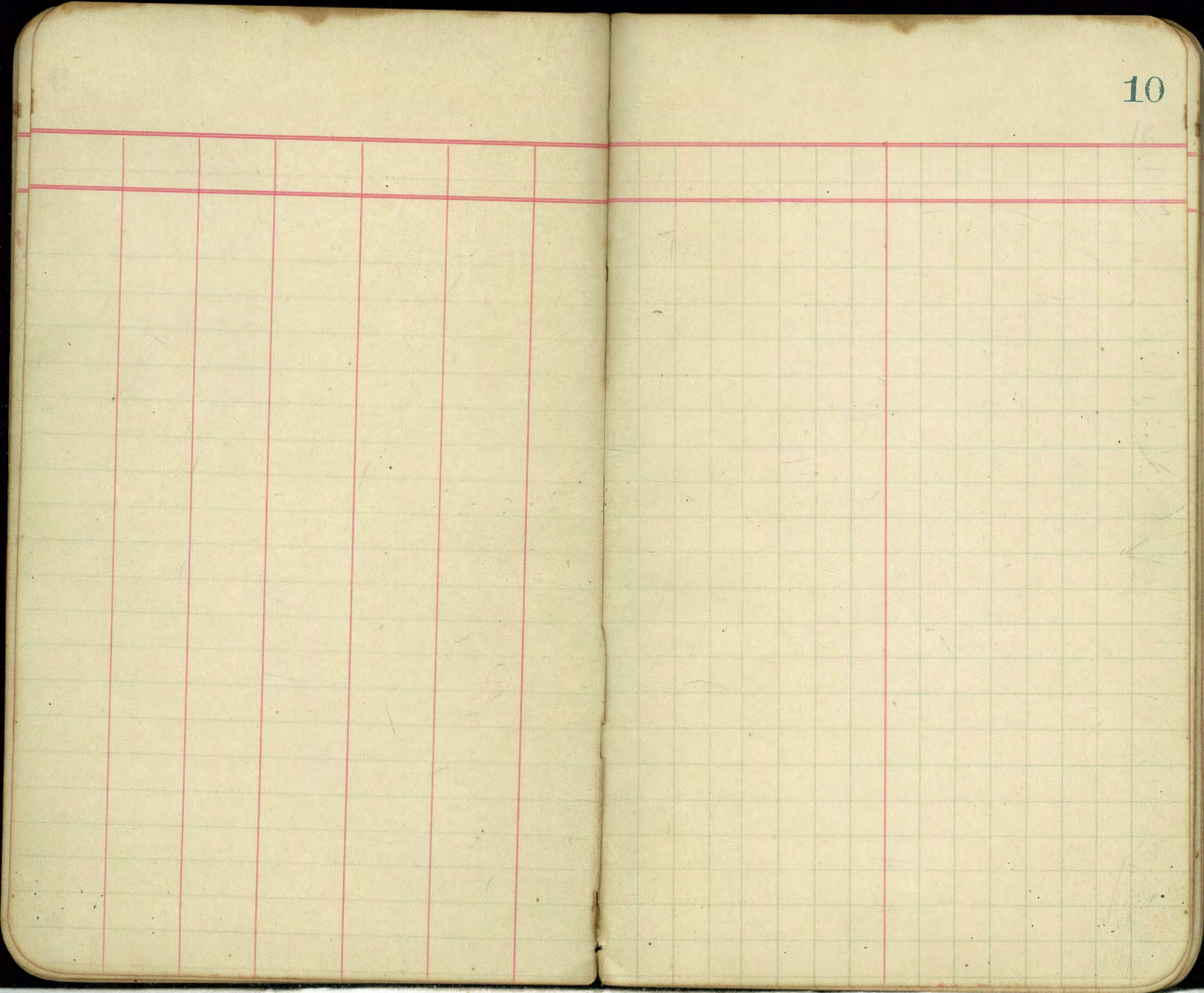
S J E St Grade 82.5 82.00
E St
N J E St

18[#] No. 9

Sta	Elev	Grad	cut		
13+65	94.32	84.92	9.40	9' 4 ³ / ₄	
+ 90	95.10	86.60	8.60	8' 7 ¹ / ₄	
14+15	96.52	88.08	8.44	8' 5 ¹ / ₄	
+ 40	99.64	89.66	8.98	8' 11 ³ / ₄	
+ 65	99.23	91.25	7.98	7' 11 ³ / ₄	
+ 90	100.33	92.83	7.50	7' 6	
15+15	101.72	94.42	7.30	7' 3 ⁵ / ₈	
+ 40	1	96.00			
Total length of pipe					15+20

633.10

L.I.H.



The image shows an open notebook with two pages. The pages are cream-colored and feature a light green grid pattern. The left page has a red margin line on the left side and a red header line near the top. The right page has a red margin line on the left side and a red header line near the top, and is numbered '11' in the top right corner. The notebook is placed on a white surface, and the background is dark.

The image shows an open notebook with two facing pages. The pages are cream-colored and feature a grid of red lines for ledger entries. The grid consists of 11 vertical columns and 18 horizontal rows. The top two rows are highlighted with a pink border. The pages are numbered '13' in the top right corner of the right page and '18' directly below it. The notebook is placed on a white surface, and the binding is visible in the center.

H St E of 16th St

Sta	Elev	Area	Dist	Inches	Fill
0	36.68	30.00	6.68	6' 8 1/2"	
+25	37.01	34.57	6.44	6' 5 1/4"	
+50	37.38	31.14	6.24	6' 2 1/2"	1x4 1/2 WX 8
+75	37.11	31.71	5.40	5' 4 3/4"	
1	37.73	32.29	5.44	5' 5 1/4"	2x4 X 1/2 WX 8
+25	37.97	32.86	5.11	5' 1 3/4"	
+50	38.49	33.43	5.06	5' 0 3/4"	
+75	38.93	34.00	4.93	4' 11 1/8"	
2	39.54	34.96	4.58	4' 7"	
+25	40.18	35.93	4.25	4' 3"	
+50	40.88	36.89	3.99	3' 11 1/8"	
+75	42.01	37.86	4.15	4' 1 3/4"	
3	43.20	38.82	4.38	4' 4 3/8"	
+25	44.69	39.79	4.89	4' 10"	
+50	45.65	40.75	4.90	4' 10 3/4"	
+75	46.65	41.71	4.94	4' 11 1/4"	
4	47.57	42.68	4.89	4' 10 3/8"	
+25	48.59	43.64	4.95	4' 11 3/8"	
+50	49.67	44.61	5.06	5' 0 3/4"	
+75	50.42	45.57	4.85	4' 10 3/4"	

35' E of E L H 416 PT.

1+30 YY 8x6

1+65 WZ 17 81 - End section

2+05 17 81 -

2+25 EZ 17

1+65

$$\begin{array}{r} 1+65 \\ 35 \\ \hline 1+30 \end{array}$$

4364

$$\begin{array}{r} 4364 \\ 73- \\ \hline 4437 \end{array}$$

4+15 YY 11x3 8x6

4+45 WZ 18 81 -

$$\begin{array}{r} 11535 \\ 1001 \\ \hline 9534 \end{array}$$

H.S. - E.M. 16.

Sta	Elv	Grav	Cor		
5	51.54	46.53	5.01	5' 0 1/2"	
+25	52.41	47.50	4.91	4' 10 3/8"	x
+50	53.76	49.08	4.68	4' 8 1/8"	
+75	55.41	50.66	4.75	4' 9"	
6	56.95	52.23	4.72	4' 8 5/8"	
+25	58.77	53.81	4.96	4' 11 1/2"	
+50	60.81	55.39	5.42	5' 5"	
+75	62.50	56.97	5.53	5' 6 3/8"	
+90	64.16	57.92	6.24	6' 2 7/8"	
+101	65.14	58.61	6.53	6' 6 3/8"	
+121	65.97	59.30	6.67	6' 6 7/8"	
+23	66.25	60.00	6.25	6' 3"	x x
+34	66.32	60.14	6.19	6' 2 1/4"	
+45	66.06	60.27	5.79	5' 9 1/2"	
+56	66.44	60.41	6.03	6' 0 3/8"	
+67	66.58	60.55	6.03	6' 0 3/8"	
+78	66.58	60.69	5.89	5' 10 3/4"	x
+89	66.72	60.82	5.90	5' 10 3/4"	
8	66.29	60.96	5.33	5' 4"	

6.3131
1000

E.S. 184

59 3
7
60.0

PC # to 19

7+158 + 62 N for 1915 st-

7+20-62 N x

- 7+79 5 L H.S.

H ST-E of 16th 19th ST

S of H ST - with curve

Sta	Clear	Grad	Cut	Fill
		61.10		
8+14	65.91	61.13	4.78	4' 9 ³ / ₄
+39	65.07	61.45	4.62	4' 7 ¹ / ₂
+64	64.53	61.76	2.77	2' 9 ¹ / ₄
+89	64.44	62.07	2.37	2' 4 ⁵ / ₈
9+14	64.75	62.38	2.37	2' 4 ⁵ / ₈
+39	44.23	62.69	1.54	1' 6 ¹ / ₂
+64	62.94	63.00	-0.06	-0.0 ³ / ₄
+89	61.48	63.32	-1.84	-1' 10 ¹ / ₄
10+14	62.99	63.63	-0.64	-0' 7 ³ / ₈
+39	64.00	63.94	+0.06	+0' 0 ³ / ₄
+54	64.58	64.13	0.45	0' 5 ³ / ₈
+64	64.98	64.25	0.73	0' 8 ³ / ₄
+74	65.70	64.38	1.32	1' 3 ¹ / ₈
+84	66.28	64.50	1.78	1' 9 ³ / ₈
+94	67.40	64.62	2.78	2' 9 ³ / ₈
11+04	67.83	64.75	3.08	3' 1"
+14	68.29	64.87	3.42	3' 5"
+24	68.80	65.01	3.80	3' 9 ³ / ₈

12465
P.O. 1

10+89

x

PT 19th

PC 19 to I 35 N of N 20 H

8+6 X 5 N 2 0

19th Sta I with Curve

I. ST. E. of 19th

Sta	Elev	Lead	Cur		
11+34	69.93	65.58	4.35	4' 4 ¹ / ₄	
+ 44	70.60	66.16	4.44	4' 5 ¹ / ₄	
+ 54	71.58	66.74	4.84	4' 10 ¹ / ₂	
+ 64	72.41	67.32	5.09	5' 1 ¹ / ₂	
+ 66	72.62	67.44	5.18	5' 2 ¹ / ₂	
+ 91	73.50	68.89	4.61	4' 7 ³ / ₄	
12+16	75.43	70.33	5.10	5' 1 ¹ / ₄	
+ 41	76.64	71.78	4.86	4' 10 ³ / ₄	
+ 66	77.79	73.23	4.56	4' 6 ³ / ₄	
+ 91	77.85	74.68	3.17	3' 2	
13+16	78.30	76.13	2.27	2' 8 ¹ / ₄	
+ 31	77.70	77.00	0.77	0' 9 ¹ / ₄	
+ 56		77.83			
+ 81	80.99	78.67	2.32	2' 3 ³ / ₄	
14+06	85.68	79.50	6.18	6' 2 ¹ / ₄	connected
+ 31	87.95	80.84	7.11	7' 1 ³ / ₄	
+ 56	89.54	82.18	7.36	7' 4 ³ / ₄	
+ 81	91.10	83.50	7.58	7' 7	
15+06	92.69	84.87	7.82	7' 9 ¹ / ₄	
+ 31	93.18	86.21	6.97	6' 11 ³ / ₄	

5:7974
140

5:3333 X
100

5:3658 1100

PT I ST 35 E. of C 2 19th I

W 2 20th 81

E. Line 20th

11+66
2 65
14-31

A St C of 19

Sta Elev. Grad. Cur.

15+56 93.56 87.55 6.01 6' 0"

+76 94.57 88.62 5.89 5' 10"

16+11 90.50

53658
100
x

Length of line 15-91

15+11
+20
+30
+40
+50
+60
+70
+80
+90
+100

2 8 x 6 x 8' N 48°

W. Line 21st St. Completed to the Point Dec 21 1887

88.62
62
89.24

16th St. No. 8

Sta	Elv	Lead	cur		
0	34.89	29.56	5.32	5' 3 ³ / ₄	
+15	35.21	29.73	5.52	5' 6 ¹ / ₄	
+20	35.20	29.91	5.29	5' 3 ¹ / ₂	
+48	35.00	30.06	4.97	4' 11 ³ / ₈	
+66	34.84	30.86	4.48	4' 5 ³ / ₄	
+91	34.85	30.65	4.20	4' 2 ³ / ₈	
+116	35.14	30.94	4.20	4' 2 ³ / ₈	
+41	35.38	31.24	4.34	4' 4 ¹ / ₈	x
+66	35.93	31.60	4.33	4' 4	
+91	36.49	31.96	4.53	4' 6 ³ / ₈	
+116	36.61	32.32	4.29	4' 3 ¹ / ₂	
+41	37.26	32.68	4.58	4' 7	
+66	37.87	33.04	4.83	4' 10	
+91	38.19	33.40	4.79	4' 9 ¹ / ₂	
+116	38.98	33.76	4.62	4' 7 ¹ / ₂	
+41	39.71	34.12	4.59	4' 7 ¹ / ₈	
+66	39.95	34.48	4.47	4' 5 ³ / ₄	
+91	39.18	34.94	4.34	4' 4 ¹ / ₈	
+101	39.41	34.94	4.47	4' 6 ⁵ / ₈	
+21	39.71	35.13	4.58	4' 7	

1.4437
7.00

reducer 8 to 6 = 16713 m Line 16 No 2

~~112~~ ~~118~~

Pipe Laid to this Point Dec 31 1887

BY G. S. R. 39.8 39.3

16th 21-10644

Sta	Elev	Lead	cut-	
4+41	39.91	35.42	4.49	4' 5 ¹ / ₂
+61	39.76	35.70	4.06	4' 0 ³ / ₄
+81	40.29	36.00	4.29	4' 3 ¹ / ₂
5+06	40.71	36.71	4.00	4' 00
+31	41.86	37.42	4.44	4' 5 ¹ / ₄
+56	42.77	38.12	4.65	4' 7 ³ / ₄
+81	43.83	38.83	5.00	5' 00
6+0.6	44.44	39.54	5.30	5' 3 ³ / ₄
+31	45.48	40.25	5.23	5' 2 ³ / ₄
+56	46.58	40.96	5.62	5' 7 ¹ / ₂
+81	47.59	41.67	5.92	5' 11
7+06	48.58	42.37	6.21	6' 2 ³ / ₄
+31	49.44	43.08	6.36	6' 4 ³ / ₄
+56	51.37	43.79	6.58	6' 7
+81	51.21	44.50	6.71	6' 8 ¹ / ₂
8+01	51.93	44.67	7.26	7' 3 ¹ / ₂
+21	52.52	44.84	7.68	7' 8 ¹ / ₄
+41	52.80	45.01	7.79	7' 9 ¹ / ₂
+61	52.57	45.18	7.39	7' 4 ³ / ₄
+86	52.02	45.39	6.63	6' 7 ¹ / ₄

2.8333100

S. St.

W. B. St.

140
370

S. L. F. St.

F. St.

N. L. F. St.

Grade
F. St. 51.3 51.0

16th St North of H.

Sta	Elev	Grade	Cent.	
9+11	51.74	45.60	6.14	6' 13/4"
+36	51.22	45.81	5.49	5' 4 1/2"
+61	50.92	46.02	4.90	4' 10 3/4"
+86	50.89	46.23	4.66	4' 8"
10+11	50.39	46.44	3.95	3' 11 3/4"
+36	50.05	46.65	3.43	3' 5 1/4"
+61	49.53	46.87	2.66	2' 8"
+86	49.24	47.08	2.16	2' 17/8"
11+11	48.97	47.29	1.58	1' 7"
+36	48.15	47.50	0.65	
+61	47.77			

8450.1100

*

Edwardsland E St 52.5.52.00

S.L. E. St.

17th St - S of H

Sta Elev Road cut

0	38.35	33.60	4.75	4' 9"
+25	38.09	33.73	4.36	4' 4 ³ / ₄ "
+48	38.20	33.84	4.42	4' 5"
+58	38.55	33.89	4.66	4' 8"
+68	38.88	33.94	4.94	4' 11 ¹ / ₂ "
+78	39.04	33.99	5.39	5' 4 ¹ / ₂ "
+88	38.57	34.04	4.53	4' 6 ³ / ₄ "
+98	37.63	34.09	3.54	3' 6 ¹ / ₂ "
+102	37.53	34.12	3.41	3' 4 ¹ / ₂ "
+27	37.76	34.24	3.52	3' 6 ¹ / ₄ "
+52	40.24	34.37	5.87	5' 11 ¹ / ₂ "
+77	42.46	34.47	7.97	7' 11 ³ / ₄ "
+102	44.73	34.62	7.11	7' 1 ³ / ₄ "
+27	40.09	34.75	5.34	5' 4 ¹ / ₄ "
+52	39.46	34.87	4.59	4' 7 ¹ / ₄ "
+77	40.04	35.00	5.04	5' 0 ¹ / ₂ "
+102	40.74	35.12	5.66	5' 8"
+27	40.70	35.25	5.45	5' 5 ³ / ₄ "
+52	39.56	35.38	4.18	4' 2 ¹ / ₄ "
+77	39.13	35.50	3.63	3' 7 ³ / ₄ "

5067
100

P.C.

0+92	St H 31	✓ Lateral ✓
P.I.	17 th St	
+178	X Lateral	
+142	X Lateral	
+67	X Lateral	
+92	X Lateral	
2+17	X Lateral	
+42	X Lateral	
+67	X Lateral	
+92	X Lateral	
3+17	X Lateral	
8+62	X Lateral	
+67	X Lateral	

17 ft. S.E. of #1

Sta	Elev	Broad	cut-		
3+92	37.34	35.58	1.40	1' 9 5/8	
4+12	38.14	35.68	2.46	2' 5 1/2	
+ 32	39.52	35.78	3.74	3' 9 1/8	
+ 52	40.63	35.88	4.75	4' 9	
+ 72	40.92	35.98	4.24	4' 2 1/4	
+ 97	40.56	36.11	4.45	4' 5 3/8	
5+22	40.62	36.24	4.38	4' 4 1/4	
+ 47	40.92	36.36	4.56	4' 6 3/4	
+ 72	41.19	36.47	4.70	4' 8 3/8	
+ 97	41.71	36.61	5.10	5' 1 1/4	
6+22	42.44	36.74	5.74	5' 8 1/8	
+ 47	43.52	36.87	6.65	6' 7 1/4	
+ 72	44.29	36.99	7.30	7' 3 3/8	
+ 97	44.05	37.12	6.93	6' 11 1/8	
7+22	43.65	37.24	6.41	6' 4 1/8	
+ 47	43.21	37.37	5.84	5' 10 1/8	
+ 72	42.83	37.50	5.33	5' 4	

Total length of pipe 7+77

500
1905

No I 81-

I 81-

I 81-

No I 81-

18th S. of H

Sta	Elev	Grade	cm	
0	47.92	43.60	4.32	4' 3 ³ / ₄
+25	48.60	43.81	4.79	4' 9 ¹ / ₂
+48	49.43	44.00	5.43	5' 5 ¹ / ₂
+58	49.58	44.09	5.49	5' 5 ⁷ / ₈
+68	49.53	44.17	5.36	5' 4 ³ / ₈
+78	50.13	44.25	5.88	5' 10 ⁵ / ₈
+88	49.82	44.34	5.48	5' 6 ³ / ₄
+98		44.42		
1+01	49.78	44.45	5.33	5' 4
+33	49.97	44.72	5.25	5' 3
+58	49.17	44.93	4.24	4' 2 ¹ / ₄
+83	48.72	45.13	3.59	3' 7 ¹ / ₄
2+08	48.66	45.34	3.32	3' 3 ³ / ₄
+33	48.58	45.55	3.03	3' 0 ³ / ₄
+58	49.93	45.76	4.17	4' 2
+83	50.28	45.97	4.31	4' 1 ³ / ₄
3+08	50.10	46.18	3.92	3' 11
+33	51.15	46.39	4.76	4' 9 ¹ / ₄
+58	51.55	46.60	4.95	4' 11 ¹ / ₄
+83	51.65	46.81	4.84	4' 10 ¹ / ₄

4
 2
 3
 5
 2
 1
 5

+87 254' + Y Lateral

P.T. 18' S. of H 21

+12 Y Lateral

+37 Y Lateral

+62 Y "

+87

2+12

+37

+62

+87

3+12

+87

+62

N of 21

Grade 53.5
Inspection Hole 53.00

57.60 B.M.

2.99

62.59

57.50

5.09

18th St South of H

Sta	Elev	Level	cut	
4+07	51.24	46.98	4.26	4' 3/4"
+29	51.41	47.15	4.26	4' 3/4"
+49	52.00	47.32	4.68	4' 8/8"
+69	52.52	47.48	5.04	5' 0 1/2"
+92	53.05	47.69	5.36	5' 4 3/4"
5+17	54.70	47.90	6.80	6' 9 3/4"
+42	55.94	48.11	7.83	7' 10"
+67	57.22	48.32	8.90	8' 10 3/4"
+92	57.67	48.53	9.14	9' 1 3/8"
6+17	58.58	48.74	9.84	9' 10 1/4"
+42	58.59	48.95	9.64	9' 7 3/4"
+67	58.69	49.16	9.53	9' 6 3/4"
+92	57.70	49.37	8.33	8' 4"
7+17	57.03	49.58	7.55	7' 5 3/4"
+42	56.05	49.79	6.26	6' 3/4"
+67	55.08	50.00	5.08	5' 1"

Total length of pipe 7+72

51888
 721

NI 2 21

28

10" Pipe

15th St - No 2

Sta	Elev	Grad	Dist	End
D	12.72	4.20	8.52	8' 6 ¹ / ₄
+10	13.05	4.36	8.69	8' 8 ¹ / ₄
+20	13.65	4.53	9.12	9' 1 ¹ / ₂
+30	13.29	4.69	8.60	8' 7 ¹ / ₄
+40	14.01	4.86	9.15	9' 1 ³ / ₄
+50	13.88	5.03	8.45	8' 10 ¹ / ₄
+60	14.00	5.19	8.91	8' 10 ³ / ₈
+67	13.95	5.37	8.64	8' 7 ³ / ₄
+92	14.09	5.72	8.37	8' 4 ³ / ₄
+117	14.88	6.13	8.67	4' 8"
+142	15.94	6.54	9.50	9' 6"
+167	16.61	6.96	9.65	9' 7 ³ / ₄
+192	16.31	7.37	8.94	8' 11 ¹ / ₄
+217	16.44	7.78	8.26	8' 8 ¹ / ₄
+242	15.75	8.19	7.56	7' 6 ³ / ₄
+267	16.59	8.61	7.98	7' 11 ³ / ₄
+292	17.28	9.02	8.26	8' 3 ¹ / ₄
+317	17.24	9.17	8.07	8' 0 ⁷ / ₈
+322	16.15	9.26	16.89	6' 10 ³ / ₄

1651100

= 18x6 P 22' West of Center of 16442

NIL at +32

PT

332	
280	
62	
332	
55	532
77	585

S L K St - Grade 17.80 ✓
 Drop 17.30

15th gr

Sta	Elev	Grad	Cur	Levt"
+52	17.62	9.38	8.24	8'2 ⁷ / ₈
+72	17.80	9.50	8.30	8'3 ⁷ / ₈
+92	17.55	9.62	7.93	7'1 ¹ / ₈
4+12	17.01	9.74	7.27	7'3 ¹ / ₄
+37	17.26	9.88	7.38	7'4 ⁵ / ₈
+62	17.28	10.03	7.25	7'3
+87	17.31	10.18	7.13	7'1 ⁵ / ₈
5+12	17.60	10.33	7.27	7'3 ¹ / ₄
+37	19.12	10.48	8.64	8'7 ³ / ₄
+62	20.20	10.63	9.57	9'6 ⁷ / ₈
+87	20.67	10.78	9.89	9'10 ³ / ₄
6+12	20.40	10.93	9.47	9'5 ⁵ / ₈
+37	20.15	11.08	9.07	9'0 ⁷ / ₈
2+62	19.29	11.23	8.06	8'0 ³ / ₄
+87	18.25	11.37	6.88	6'10 ⁷ / ₈
7+12	18.06	11.52	6.54	6'6 ¹ / ₂
+92	17.99	11.64	6.35	6'4 ¹ / ₄
+52	18.08	11.76	6.32	6'3 ⁷ / ₈
+72	18.05	11.88	6.17	6'2
+92	18.14	12.00	6.14	6'1 ³ / ₄

.596 1108

K S1-

NJ K S1-

S2 J S1- Grad 21.50

J S1

NJ J S1-

15th St - No 2.

Sta	El	Grad	Con
8+17	18.16	12.23	5.935' 11/8
+42	18.31	12.46	5.855' 10/4
+67	18.94	12.69	6.256' 1/3
+92	19.27	12.92	6.356' 4/4
9+17	19.39	13.15	6.246' 2 7/8
+42	20.09	13.38	6.716' 8 1/2
+67	20.46	13.61	6.856' 10 1/4
+92	20.45	13.84	6.616' 7 3/8
10+17	20.92	14.07	6.916' 10 7/8
+42	21.24	14.30	6.946' 11 1/4
+67	21.66	14.53	7.137' 1 7/8
+92	21.83	14.76	7.077' 0 7/8
11+12	22.13	14.95	7.187' 2 1/8
+32	22.29	15.13	7.167' 2
+52	22.74	15.32	7.427' 5
+72	22.79	15.50	7.297' 3 1/2
+97	22.87	15.78	7.097' 1 1/8
12+22	22.12	16.06	7.067' 0 3/4
+47	23.87	16.34	7.537' 6 3/8
+72	23.92	16.62	7.307' 3 7/8

9211/100

1298
156015th St - Grad 25.50

10+67 mm-

St -

No 2 St -

15th North of B.

Sta Elev Grad CW

12	+97	24.20	16.91	7.29	7' 3 1/2"
13	+22	24.37	17.19	7.18	7' 2 1/2"
	+47	24.84	17.47	7.37	7' 4 1/2"
	+72	25.08	17.75	7.33	7' 4"
	+97	25.17	18.03	7.14	7' 1 3/4"
14	+22	25.60	18.31	7.29	7' 3 1/2"
	+47	25.65	18.59	7.06	7' 0 3/4"
	+72	27.40	19.87	8.53	8' 6 3/8"
	+97	29.80	19.16	10.64	10' 7 3/4"
15	+22	30.45	19.44	11.01	11' 0 1/8"
	+47	30.46	19.72	10.74	10' 8 7/8"
	+72	28.30	20.00	8.30	8' 3 7/8"
	+97	27.42	20.22	7.20	7' 2 3/8"
16	+22	27.80	20.45	7.35	7' 4 1/4"
	+47	27.91	20.67	7.24	7' 2 7/8"
	+72	28.15	20.90	7.25	7' 3"
	+97	28.18	21.12	7.06	7' 0 3/4"
	+72	28.68	21.35	7.33	7' 4"
	+47	29.15	21.57	7.58	7' 7"
	+72	29.37	21.80	7.57	7' 6 7/8"

11257100

SJ H 21 - Grade 30.00

Dist

Under Dist.

1916
51
19.86

2 x J 6"

15th St North of L. St.

Sta Elev Grade Cont. Cont.

17	497	29.63	22.02	7.61	7'7 ³ / ₈
18	422	29.85	22.25	7.60	7'7 ¹ / ₄
+	47	30.40	22.47	7.93	7'11 ¹ / ₈
+	72	30.67	22.70	7.97	7'11 ⁵ / ₈
+	81	34.42	22.78	11.64	11'7 ¹ / ₄
19	401	34.47	22.96	11.51	11'6 ⁸ / ₈
+	21	34.65	23.14	11.51	11'6 ¹ / ₂
+	41	35.21	23.32	11.89	11'10 ³ / ₄
+	61	35.54	23.50	12.04	12'0 ¹ / ₂
+	86	29.18	23.80	5.39	5'4 ⁷ / ₈
20	411	28.87	24.09	4.78	4'9 ¹ / ₈
+	26	29.32	24.39	4.93	4'11 ¹ / ₈
+	61	30.33	24.68	5.65	5'7 ¹ / ₈
+	86	30.70	24.98	5.72	5'8 ⁷ / ₈
+	41	31.11	25.28	5.83	5'10
+	86	31.49	25.57	5.92	5'11
+	61	31.65	25.87	5.78	5'9 ³ / ₈
+	86	32.26	26.16	6.10	6'1 ⁷ / ₈
+	71	30.85	26.46	4.39	4'4 ³ / ₄
+	86	30.37	26.76	3.61	3'7 ³ / ₈
+	61	30.56	27.05	3.57	3'6 ¹ / ₈

8997.100

x

11842.100

S. Line S. St. Grade 33.50

S. St.

S. Line S. St.

8" / 6" / 18 7 1/2"

S. Line F. St. Grade 39.50

15th St North of E. St.

Sta	Elev	Invert	Grade	Dist
22+81	32.80	27.29	3.51	3' 6 1/8"
23+01	31.32	27.53	3.79	3' 9 1/2"
+21	31.47	27.76	3.71	3' 8 1/2"
+41	31.79	28.00	3.79	3' 9 1/2"
+66	32.64	28.26	4.38	4' 4 1/8"
+71	32.28	28.53	3.75	3' 9"
24+16	32.57	28.79	4.8	4' 1"
+41	33.07	29.05	4.02	4' 0 1/4"
+66	33.59	29.32	4.27	4' 3 1/4"
+91	35.67	29.58	6.09	6' 1 1/8"
25+16	35.96	29.84	6.12	6' 1 1/2"
+41	35.99	30.10	5.89	5' 10 3/4"
+66	35.80	30.37	5.43	5' 5 1/8"
+91	35.15	30.63	4.52	4' 6 1/4"
26+16	34.99	30.89	4.10	4' 1 1/4"
+41	36.18	31.16	5.02	5' 0 1/4"
+66	35.42	32.00	3.82	3' 9 7/8"
+81	36.03	32.63	3.40	3' 4 1/8"
27+01	37.34	33.25	4.09	4' 1 1/8"
+21	37.56	33.88	3.68	3' 8 1/8"

10+6 Y 11201-
 27.29
 24.86

F. St
 20' Run F. St

6'
 18'
 16'

Length of 10" Pipe 26.61

End of 10" Pipe
 26+61 Man Hole Branch CW 4" C
 E. St.

20' Run E. St.

15th St North of E. St.
Sta. Elev. Grade Cent.

27	41	37.77	34.66	3.11	3' 1 ³ / ₈ "	
+71	37.84	35.44	2.40	2' 4 ⁷ / ₈ "		
+96	38.84	36.22	2.62	2' 7 ¹ / ₂ "		
28	42	38.84	37.00	1.84	1' 10 ¹ / ₈ "	x
+46	39.61	38.25	1.36	1' 4 ³ / ₈ "		
+71	40.34	39.50	0.84	0' 10 ³ / ₈ "		
+96	41.35	40.75	0.60	0' 7 ¹ / ₂ "		
29	42	44.41	42.10	2.41	2' 4 ⁷ / ₈ "	x
+46	53.79	44.13	9.66	9' 8"		
+71	57.19	46.25	10.94	10' 11 ¹ / ₂ "		
+96	58.05	48.38	9.67	9' 8"		
30	42	57.31	50.50	6.81	6' 9 ³ / ₄ "	x
+41	57.47	57.00	6.47	6' 5 ⁹ / ₈ "		
+61	57.70	57.50	6.20	6' 2 ³ / ₈ "		
+81	58.14	52.00	6.14	6' 1 ³ / ₂ "		
31	40	60.61	52.50	8.11	8' 1 ³ / ₈ "	x
+26	62.14	54.13	8.71	8' 8 ¹ / ₂ "		
+51	63.75	53.75	8.00	8' 0"		
+71	64.40	57.38	7.02	7' 0 ¹ / ₄ "		
32	40	66.44	59.00	7.44	7' 5 ¹ / ₄ "	x

8.126

6.1100

8.5100

2.51100

x

51.10
50
57.40

S. Line E. St. Grade 58.00 ✓
6th I West. Snap. 57.50
E. St.

N. Line E. St.

15th St - No 2

Sta	Elev	Grad	cur-	
82+26	68.27	60.63	7.64	7' 7 ³ / ₄
+51	69.93	62.25	7.68	7' 8 ¹ / ₈
+76	71.96	63.88	8.08	8' 1
83+01	72.84	65.50	7.34	7' 4 ¹ / ₄
+26	73.97	67.13	6.84	6' 10 ¹ / ₄
+51	76.49	68.75	7.74	7' 8 ⁷ / ₈
+76	77.30	70.38	6.92	6' 11
84+01	78.64	72.00	6.64	6' 7 ³ / ₄
+21	79.97	72.25	7.72	7' 8 ¹ / ₂
+41	81.68	72.50	9.18	9' 2 ¹ / ₂
+61	83.51	72.75	10.76	10' 9 ¹ / ₂
+81	84.84	73.00	11.84	11' 10 ¹ / ₂
85+06	87.02	74.13	12.89	12' 10 ³ / ₄
+31	88.57	75.25	13.32	13' 3 ³ / ₈
+56	89.92	76.38	13.54	13' 6 ¹ / ₂
+81	92.31	77.50	14.81	14' 9 ¹ / ₄
86+06	94.08	78.63	15.45	15' 5 ³ / ₈
+31	96.36	79.75	16.61	16' 7 ³ / ₈
+56	96.89	80.88	16.01	16' 0 ¹ / ₈
+81	96.47	82.00	14.47	14' 5 ⁷ / ₈

65.1100

X 34.19

X 1.251100

X 4.571100

X

17 50/10
3 5/8

J. C. M. Grade 78.50 ✓
6x6 T West. Suck, 78.00 ✓
C M

72.25
60
72.75

N. J. C. M.

15[#] N- No 2

Sta	Ele	Grad	Cw-
37+06	95.37	82.16	13.21 13' 2 1/2"
+ 31	94.64	82.33	12.31 12' 3 1/4"
+ 56	94.72	82.49	12.23 12' 2 3/4"
+ 81	94.79	82.66	12.13 12' 1 1/2"
38+01	95.44	82.79	12.65 12' 7 1/8"
+ 21	94.04	82.92	11.12 11' 1 1/2"
+ 41	93.91	83.05	10.86 10' 10 3/8"
+ 61	94.13	83.19	10.94 10' 11 1/4"
+ 86	93.95	83.35	10.60 10' 7 1/4"
39+11	92.14	83.52	8.62 8' 7 1/2"
+ 36	90.76	83.68	7.08 7' 1"
+ 61	90.67	83.85	6.82 6' 9 1/8"
+ 86	90.75	84.01	6.74 6' 8 3/8"
40+11	89.44	84.18	5.26 5' 3 1/8"
+ 36	90.08	84.34	5.74 5' 8 3/8"
+ 61	88.82	84.50	4.32 4' 3 7/8"
+ 86	89.11	84.67	4.44 4' 5 1/4"
41+11	88.26	84.83	3.43 3' 5 1/8"
+ 36	88.47	85.00	3.47 3' 5 9/8"
+ 61	88.57		

Total length of pipe 41+43

37+99

6593.100

SZ B M -
6x6 T West.
B M -

Depth 94.00
Grade 94.50 ✓

8299
51
8346

NZ B M

Adjust Level Grade 90.00

SZ A

B. St. West of 15th St.

Sta	Elev	Grade	Cont.
0	95.54	83.40	12.14 12' 1 ³ / ₄ "
+10	96.12	84.63	11.49 11' 5 ¹ / ₂ "
+20	96.89	85.85	11.04 11' 0 ¹ / ₂ "
+30	98.14	87.08	11.06 11' 0 ³ / ₄ "
+40	99.62	88.30	11.32 11' 3 ³ / ₈ "
+50	100.57	89.53	11.04 11' 0 ¹ / ₂ "
+56	101.23	90.26	10.97 10' 11 ⁵ / ₈ "
+67	103.36	91.61	11.75 11' 9"
+92	107.43	94.68	12.75 12' 9"
+117	111.99	97.74	14.25 14' 3"
+142	115.63	100.81	14.82 14' 9 ¹ / ₂ "
+67	120.35	103.87	16.48 16' 5 ³ / ₄ "
+92	123.79	106.94	16.85 16' 10 ¹ / ₄ "
2+17	125.93	110.00	15.93 15' 11 ¹ / ₈ "
+42	126.10	114.00	12.10 12' 11 ¹ / ₄ "
Total length of pipe			2147

12258 1100

P. C.

0+425 West Limb Hth

P. J.

F. Tank. 119.00

Co. St West of 15th

Sta	Elev.	Grad	Cont.
0	79.98	72.75	7.23 7 2 ⁷ / ₈
+10	80.55	73.08	7.47 7 5 ⁷ / ₈
+20	81.53	73.40	8.13 8 1 ⁷ / ₈
+30	82.55	73.73	8.82 8 9 ⁷ / ₈
+40	83.40	74.05	9.35 9 4 ¹ / ₄
+50	83.73	74.38	9.35 9 4 ¹ / ₄
+56	84.15	74.57	9.58 9 7
+67	84.95	74.93	10.02 10 0 ¹ / ₄
+92	85.73	75.74	9.99 9 11 ⁷ / ₈
+117	87.15	76.56	10.59 10 7 ⁷ / ₈
+42	88.68	77.37	11.31 11 3 ³ / ₄
+67	88.59	78.19	10.40 10 4 ⁷ / ₈
+92	88.79	79.00	9.79 9 9 ¹ / ₂
+117	88.58	81.50	7.08 7 1
Total length of pipe			2+22

S. 2573 1/2

0+42 West Line 15th

PT

Final Paid. 86.00

E. St West of 15th

Sta Elev - grade last.

0	34.49	32.10	2.39	2' 4 1/4"
+10	36.45	32.37	4.08	4' 1"
+20	35.32	32.65	2.67	2' 8"
+30	35.83	32.92	2.91	2' 10 3/8"
+42	39.34	33.25	6.09	6' 1 1/8"
+67	40.04	33.93	6.11	6' 1 3/8"
+92	39.41	34.61	4.80	4' 9 5/8"
1+17	38.34	35.30	3.04	3' 0 1/2"
+42	37.49	35.98	1.51	1' 6 1/8"
+67	41.08	36.66	4.42	4' 5"
+92	44.18	37.35	6.83	6' 10"
2+17	45.29	38.03	7.26	7' 3 3/8"
+42	46.78	38.72	8.06	8' 0 3/4"
+67	46.83	39.40	7.43	7' 5 1/8"
+92	46.68	40.08	6.60	6' 7 1/4"
3+17	45.37	40.77	4.60	4' 7 1/4"
+42	44.18	41.45	2.73	2' 8 3/4"
+67	44.40	42.13	2.27	2' 3 1/4"
+92	43.94	42.82	1.12	1' 1 1/2"
4+17	44.39	43.50	0.89	0' 10 1/2"
+42	45.06	45.00	0.06	0' 0 3/4"

273351100

P.C.

0+42 West Line 15th St.

P.T.

Total length of pipe 4+47

Flush Tank.

First Line 14th St.

51.57

Cross Section. E. St.

Sta	+	H.I.	-	Elev
-----	---	------	---	------

B.M.	4.03	44.84		40.81
------	------	-------	--	-------

0			7.32	37.52
---	--	--	------	-------

1			8.70	36.14
---	--	--	------	-------

2			9.60	35.24
---	--	--	------	-------

3			9.47	35.37
---	--	--	------	-------

4			9.53	35.31
---	--	--	------	-------

5			8.90	35.94
---	--	--	------	-------

6			9.45	35.39
---	--	--	------	-------

7-11'			7.32	37.52
-------	--	--	------	-------

Between F. & G. Sta.

B.M.	4.35	38.76		34.41
------	------	-------	--	-------

0			5.45	33.31
---	--	--	------	-------

1			7.35	31.41
---	--	--	------	-------

2			7.95	30.81
---	--	--	------	-------

3			8.60	30.16
---	--	--	------	-------

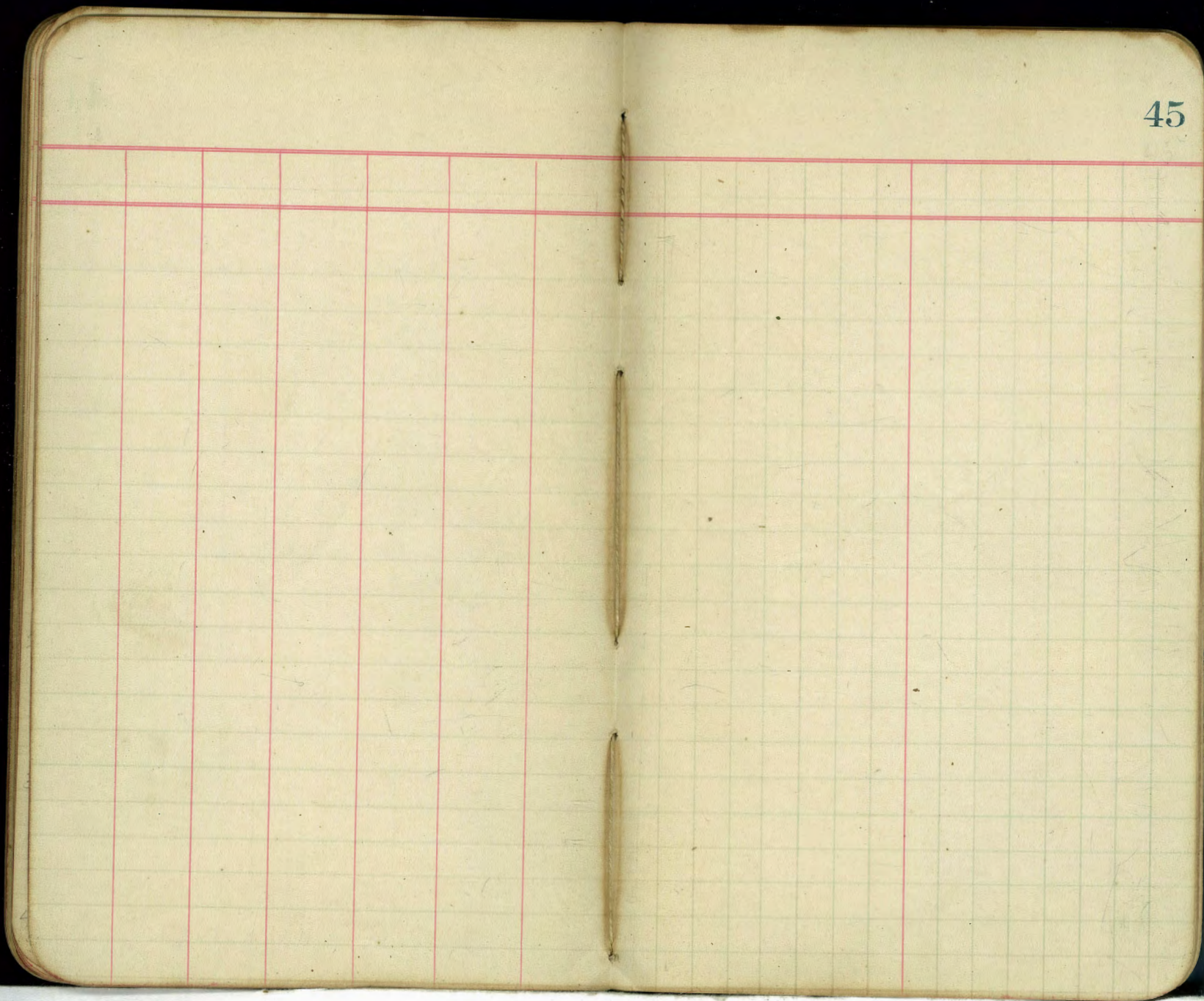
4			7.95	30.81
---	--	--	------	-------

5-11'			5.45	33.31
-------	--	--	------	-------

Cross Section at J St.

Sta	+ H.D.	- Elev.
-----	--------	---------

B.W.	3.00	22.56	19.56
0			3.96 18.60
1			6.75 15.81
2			6.87 15.69
3			6.27 16.29
4			5.70 16.86
5			5.88 16.68
6			4.77 17.79
7			3.96 18.60



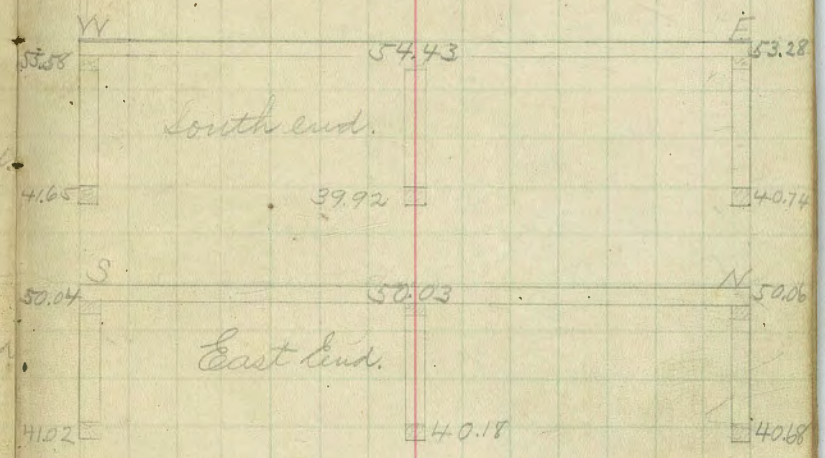
The image shows an open notebook with two blank pages. The pages are cream-colored and feature light blue horizontal ruling. The left page is divided into six vertical columns by red lines. The right page is divided into two vertical columns by red lines. The number '46' is printed in the top right corner of the right page. The notebook is placed on a white surface against a dark background.

D. St. Bridge.

Sta	+ A.S.	-	Elev.
B.W.	3.42	52.69	49.27
T. P.	5.45	10.61	42.08
	47.53	4.13	43.40 N. 21"
		7.61	39.92 C. 0
		6.79	40.74 E. 0
B.W.	2.20	51.47	49.27
		6.78	44.69 S. 44
		8.37	43.10 C. 35
		8.58	42.89 N. 26 1/2
B.W.	8.04	57.31	49.27
		7.27	50.04 S.
		7.28	50.03 E.
		7.25	50.06 N.
		1.73	53.58 W.
		2.88	54.43 E.
		4.03	53.28 E.

S. End
E. End
S. End
S. End

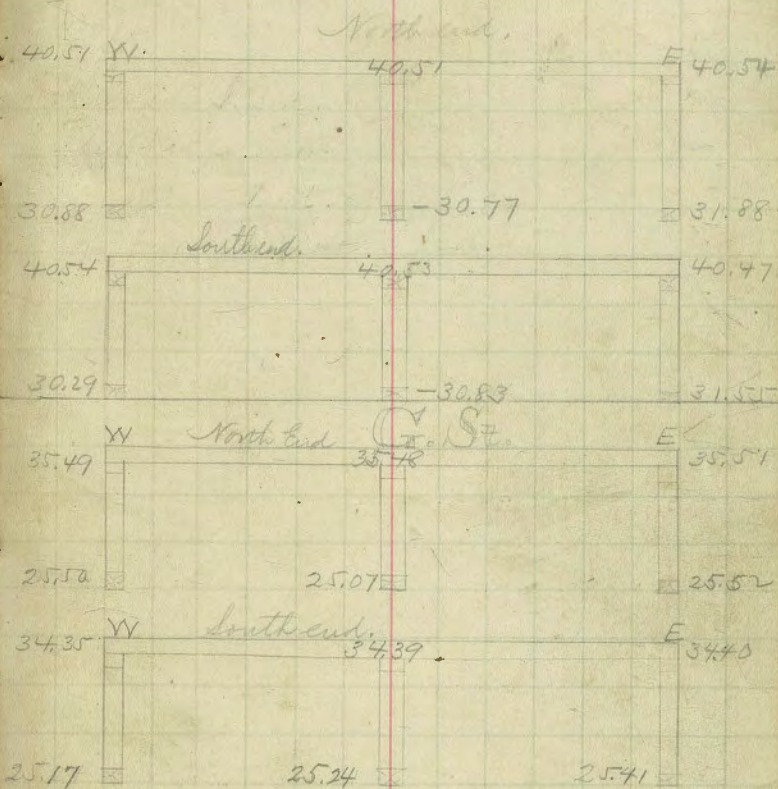
D. St.



Tr. G. St. Bridges.

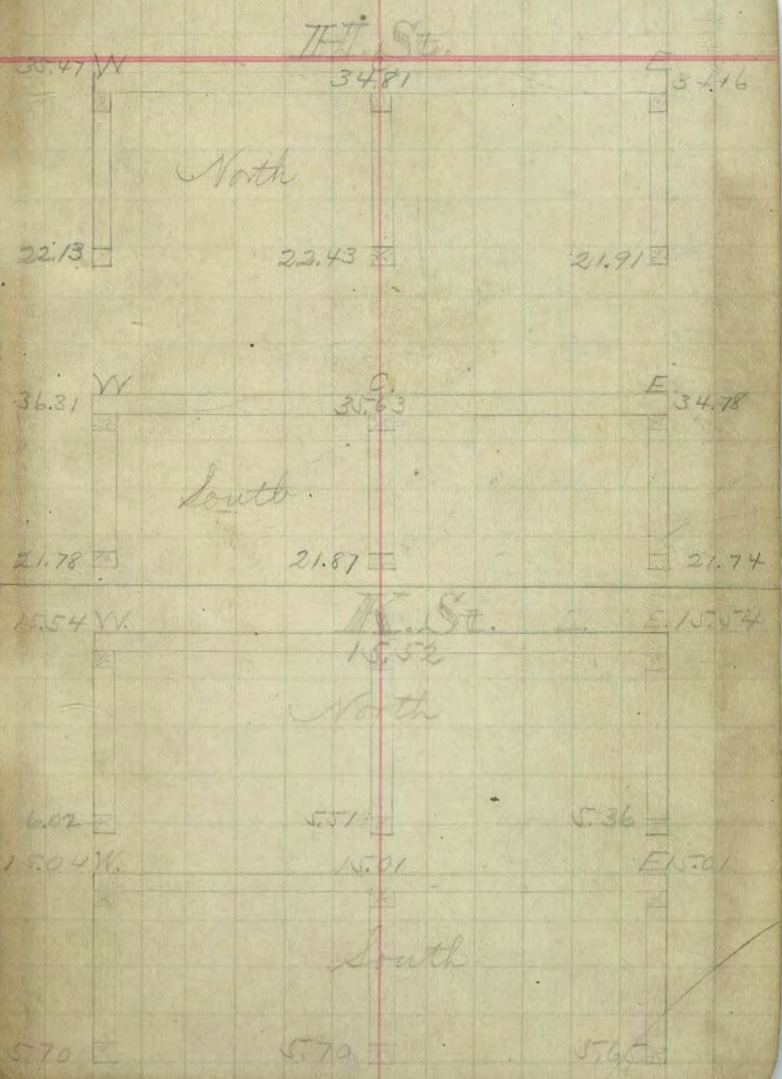
Sta	+	A. D.	-	Elev.	
B.W.	0.90	41.54		40.64	
T.P.	3.97	36.85	8.66	32.88	
			4.58	32.27	Y 23 3/4
			6.02	30.83	C 0
			1.84	35.01	E 4 1/2
			4.51	32.34	W 17 1/2
			6.08	30.77	C 0
			2.05	34.80	E 35
B.W.	3.21	45.83		40.64	
			5.31	40.54	W
			5.32	40.53	C 0
			5.38	40.47	E
			5.34	40.51	W
			5.34	40.51	C
			5.31	40.54	E
B.W.	2.36	36.77		34.41	
T.P.	2.98	31.34	8.41	28.36	
			4.09	27.25	25" W
			3.92	27.82	25" C
			2.18	29.16	45" E
			3.59	27.75	27" W
			3.77	27.57	31" C
			3.82	27.53	24" E
B.W.	5.10	39.51		34.41	
			5.11	34.40	E
			5.12	34.39	C
			5.16	34.35	W
			4.02	35.49	W
			4.03	35.48	C
			4.00	35.51	E

Tr. G. St.

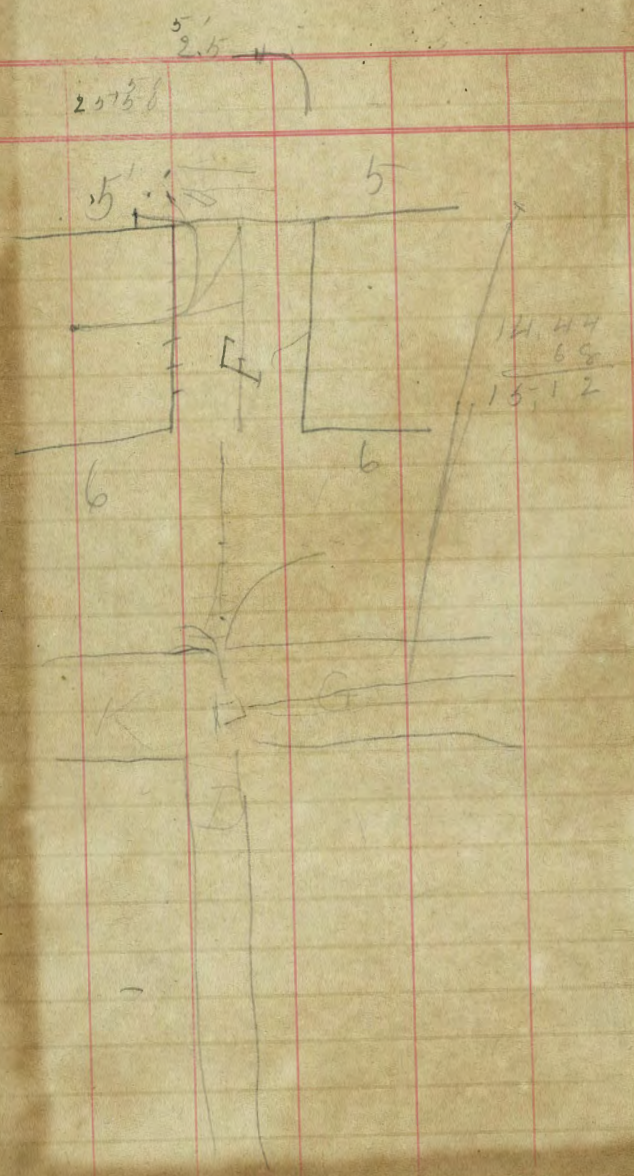


M + K St Bridges.

Sta	+ A.D.	-	Calor.		
B.W.	3.16	33.43		30.27	
T.P.	3.82	27.84	9.41	24.02	
			3.56	24.28	30" W. } S. End
			4.05	23.76	22" 40
			4.12	23.72	23" 48
B.W.	2.35	36.76		34.41	
T.P.	2.48	28.80	10.44	26.32	
			4.00	24.80	32" E } N. End
			4.45	24.35	23" C
			3.14	25.66	45" W
B.W.	8.47	38.74		30.27	
			3.27	35.47	W } N. End
			3.93	34.81	C
			4.58	34.16	E
			2.43	36.31	W } S. End
			3.11	35.63	C
			3.96	34.78	E
B.W.	1.59	16.88		15.29	
T.P.	3.55	13.75	6.68	10.20	
	3.18	13.38	2.69	10.69	E 64" } N. E.
			5.12	8.26	C. 33"
			2.53	10.85	W. 57"
			5.35	8.03	E 28" } S. End
			5.35	8.03	C 28"
			5.15	8.23	W 31"
B.W.	3.98	19.21		15.29	
			3.73	15.54	E } N. End
			3.75	15.52	C
			3.73	15.54	W
			4.26	15.01	E } S. End
			4.26	15.01	C
			4.23	15.04	W



Sta
B.W
T.F
B.W
T.F
B.W
T.F
B.W
T.F



14.44
68
15.12

10.47
35
10.12
6.00
1.80
7.60
70
6.90

86
25
1.11

2.00
35
1.65
6.05
7.70

Area

40
2
175
2.17

150
15
2
167
40
2.07

129
50
7985

70
387
443.00
80.57

5.25

129
50
443.00
80

5.25
343
2.80
5
5.45

3.25
80
6.05

5.25
1.85
8.90

Oboro
Matsun
Grand
Basin
Yopuka
Cofe
Bay

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	1.81	85
1	99.98	1.78	99.98	2.18	99.97	2.62	99.95	3.05	84
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	83
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	82
4	99.76	6.98	99.73	7.41	99.69	7.55	99.66	8.28	81
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	80
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	79
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	78
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	77
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	76
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	75
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	74
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	73
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	72
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	71
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	70
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	69
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	68
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	67
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	66
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	65
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	64
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	63
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	62
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	61
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	60
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	59
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	58
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	57
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	56
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	55
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	54
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	53
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	52
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	51
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	50
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	49
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	48
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	47
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	51
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		

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