

SEWERAGE  
OFFICE GRADE BOOK  
10<sup>TH</sup> 12<sup>TH</sup> 13<sup>TH</sup>

2

F.B. 649



649

showing the difference of latitude and  
parture 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

MICROFILMED

DEC 14 1964

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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	2-66	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



No 10

Street	Page	Location
10th	3-13	S. St. to Gate St.
12th	14-22	W. of S. St.
13th	23-27	W. of S. St.
16th	31	14th - 13th
19th	32-33	18th - Fr. St.
19th	34-36	16th - A. St.
16th	37-38	14th - 15th

MICROFILMED

DRAWN

links to

Angle.

0  
4  
5  
6  
7  
8  
9  
10



2 10<sup>th</sup> Street W of L

Sta El Grd Cut Cut

0		22.5			
+14		4.15			
+20		4.96			
+26		5.74			
+33		5.00			
+35=1		7.00			
1	14.32	7.00	7.32	7'3 <sup>3</sup> / <sub>4</sub> x	
+25	14.77	7.48	7.29	7'3 <sup>1</sup> / <sub>2</sub>	
+50	15.13	7.97	7.16	7'1 <sup>1</sup> / <sub>4</sub>	
+75	15.64	8.45	7.19	7'2 <sup>1</sup> / <sub>4</sub>	
2	16.14	8.93	7.21	7'2 <sup>1</sup> / <sub>2</sub>	
+25	16.40	9.42	6.94	6'11 <sup>3</sup> / <sub>4</sub>	
+50	16.95	9.90	7.05	7'0 <sup>5</sup> / <sub>8</sub>	
+75	17.22	10.38	6.84	6'10 <sup>1</sup> / <sub>8</sub>	
3	17.64	10.87	6.77	6'9 <sup>1</sup> / <sub>4</sub>	
+25	18.02	11.35	6.67	6'8	
+50	18.47	11.83	6.64	6'7 <sup>3</sup> / <sub>4</sub>	
+75	18.84	12.32	6.52	6'6 <sup>1</sup> / <sub>4</sub>	
4	19.24	12.80	6.44	6'5 <sup>1</sup> / <sub>4</sub>	
+20	19.41	13.19	6.22	6'2 <sup>3</sup> / <sub>4</sub>	
+40	19.70	13.58	6.13	6'1 <sup>5</sup> / <sub>8</sub>	

In St.

19339/100

085  
140  
2.20

1

LK 81 - grade 19.5 - 19.00

K 31 -



3 10<sup>th</sup> Street W of L

2

Sta El End Cut

4+60	19.93	13.96	5.97	5' 11 <sup>3</sup> / <sub>4</sub>
4+80	20.33	14.35	5.98	5' 11 <sup>3</sup> / <sub>4</sub>
5+05	20.65	14.83	5.82	5' 9 <sup>3</sup> / <sub>4</sub>
5+30	21.12	15.31	5.81	5' 9 <sup>3</sup> / <sub>4</sub>
+55	21.50	15.80	5.70	5' 8 <sup>3</sup> / <sub>4</sub>
+80	22.08	16.28	5.80	5' 9 <sup>5</sup> / <sub>4</sub>
6+05	22.69	16.76	5.93	5' 11 <sup>1</sup> / <sub>4</sub>
+30	23.13	17.25	5.88	5' 10 <sup>5</sup> / <sub>4</sub>
+55	23.74	17.73	6.01	6' 0 <sup>1</sup> / <sub>4</sub>
+80	24.12	18.21	5.91	5' 10 <sup>1</sup> / <sub>4</sub>
7+05	24.49	18.70	5.79	5' 9 <sup>1</sup> / <sub>2</sub>
+30	24.86	19.18	5.68	5' 8 <sup>1</sup> / <sub>4</sub>
+55	25.47	19.67	5.80	5' 9 <sup>5</sup> / <sub>4</sub>
+80	25.85	20.15	5.70	5' 8 <sup>3</sup> / <sub>4</sub>
8	26.36	20.54	5.82	5' 9 <sup>1</sup> / <sub>4</sub>
+20	26.93	20.92	6.01	6' 0 <sup>1</sup> / <sub>4</sub>
+40	27.18	21.31	5.87	5' 10 <sup>1</sup> / <sub>2</sub>
+60	27.61	21.70	5.91	5' 10 <sup>7</sup> / <sub>8</sub>
+85	28.03	22.18	5.85	5' 10 <sup>1</sup> / <sub>4</sub>
9+10	28.65	22.66	5.99	5' 11 <sup>1</sup> / <sub>4</sub>
+35	29.12	23.15	5.97	5' 11 <sup>5</sup> / <sub>4</sub>

19339'100

N I K S1

S I S1 - Grade 26.0 25.50

J S1 -

N I S1 -



4 10<sup>th</sup> Street N. of L.

3

Sta	El	Grid	Cut		
9+60	29.70	23.63	6.07	6' 0 <sup>7</sup> / <sub>8</sub>	
+85	30.35	24.11	6.24	6' 2 <sup>7</sup> / <sub>8</sub>	
10+10	30.93	24.60	6.33	6' 4	
+85	31.47	25.08	6.39	6' 4 <sup>3</sup> / <sub>4</sub>	
+60	31.87	25.56	6.31	6' 3 <sup>3</sup> / <sub>4</sub>	
+85	32.38	26.05	6.33	6' 4	
11+10	33.20	26.53	6.67	6' 8	
+35	33.33	27.01	6.32	6' 3 <sup>3</sup> / <sub>4</sub>	
+60	34.10	27.50	6.60	6' 7 <sup>1</sup> / <sub>4</sub>	*
+80	34.45	27.71	6.74	6' 4 <sup>1</sup> / <sub>4</sub>	
12	34.67	27.92	6.75	6' 9 <sup>1</sup> / <sub>2</sub>	
+20	34.68	28.13	6.55	6' 6 <sup>5</sup> / <sub>8</sub>	
+40	34.31	28.34	5.97	5' 11 <sup>5</sup> / <sub>8</sub>	
+65	34.67	28.61	6.06	6' 0 <sup>3</sup> / <sub>4</sub>	
+90	35.01	28.87	6.14	6' 1 <sup>3</sup> / <sub>4</sub>	
13+15	35.18	29.13	6.05	6' 0 <sup>5</sup> / <sub>8</sub>	
+40	35.59	29.39	6.20	6' 2 <sup>3</sup> / <sub>4</sub>	
+65	35.80	29.66	6.14	6' 1 <sup>3</sup> / <sub>4</sub>	
+90	36.09	29.92	6.17	6' 2	
14+15	36.30	30.18	6.12	6' 1 <sup>1</sup> / <sub>2</sub>	
+40	36.60	30.45	6.15	6' 1 <sup>3</sup> / <sub>4</sub>	

193391100

97

1.05261100

S. I. & G.

Grade 34.5 - 34.00

S. I.

N. I. & G.



5 10<sup>th</sup> Street W of L

4

Sta El. Grd Cut

14+65	37.15	30.71	6.44	6.5 <sup>1</sup> / <sub>4</sub>
+90	37.61	30.97	6.64	6.7 <sup>3</sup> / <sub>4</sub>
15+15	38.08	31.24	6.84	6.10 <sup>1</sup> / <sub>8</sub>
+40	38.38	31.50	6.88	6.10 <sup>5</sup> / <sub>8</sub> x
+65	38.45	31.94	6.51	6.6 <sup>1</sup> / <sub>8</sub>
+90	39.12	32.38	6.74	6.8 <sup>7</sup> / <sub>8</sub> H
16+15	38.63	32.83	5.80	5.9 <sup>5</sup> / <sub>8</sub>
+40	38.98	33.27	5.71	5.8 <sup>1</sup> / <sub>2</sub>
+65	39.52	33.71	5.81	5.9 <sup>3</sup> / <sub>4</sub>
+90	40.02	34.15	5.87	5.10 <sup>1</sup> / <sub>2</sub>
17+15	40.51	34.59	5.92	5.11
+40	41.08	35.04	6.04	6.0 <sup>1</sup> / <sub>2</sub>
+65	41.55	35.48	6.07	6.0 <sup>3</sup> / <sub>8</sub>
+90	41.89	35.92	5.97	5.11 <sup>5</sup> / <sub>8</sub>
18+15	42.26	36.36	5.90	5.10 <sup>3</sup> / <sub>8</sub>
+40	43.02	36.80	6.22	6.2 <sup>5</sup> / <sub>8</sub>
+65	43.38	37.25	6.13	6.1 <sup>5</sup> / <sub>8</sub>
+90	44.13	37.69	6.44	6.5 <sup>1</sup> / <sub>4</sub>
19+15	44.51	38.13	6.38	6.4 <sup>5</sup> / <sub>8</sub>
+40	44.78	38.57	6.21	6.2 <sup>1</sup> / <sub>2</sub>
+60	45.05	38.93	6.12	6.1 <sup>1</sup> / <sub>2</sub>

1.05261100

1.76821100

SE H Br Grade 38.67. 39.00

H Br

NE H M - 39.5

SE Br Grade 45.30. 44.80



10<sup>th</sup> Street N of L

5

Sta	El	Grd	Cut			
19+80	45.79	39.28	6.51	6 6 1/8	G	
20	46.14	39.63	6.51	6 6 1/8		
+20	46.60	39.99	6.61	6 7 3/8		
+45	46.86	40.43	6.43	6 5 1/4		
+70	47.34	40.87	6.47	6 5 3/4		
+95	47.84	41.31	6.53	6 6 3/4		
21+20	48.33	41.75	6.58	6 7		
+45	48.75	42.20	6.55	6 6 3/4		
+70	49.31	42.64	6.67	6 8		
+95	49.71	43.08	6.63	6 7 5/8		
22+20	50.16	43.52	6.64	6 7 3/4		
+45	50.76	43.96	6.80	6 9 1/4		
+70	51.13	44.41	6.72	6 8 5/8		
+95	51.66	44.85	6.81	6 9 3/4		
23+20	52.01	45.29	6.72	6 8 3/4		
+40	52.43	45.64	6.79	6 9 1/2		
+60	52.86	46.00	6.86	6 10 3/8	F	
+80	53.27	46.53	6.74	6 9 1/4		
24	53.46	47.05	6.41	6 4 3/4		
+25	53.95	47.71	6.24	6 2 3/4		
+50	54.60	48.37	6.23	6 2 3/4		

1.7682 / 1.600

LS  
NS LS

LS FS - Grade 52.5  
Drops 52.00 ✓

FS

NS FS



10<sup>th</sup> Street W of L

Sta	El	End	Cont		
24+75	55.41	49.03	0.38	6	4 3/8
25	56.06	49.68	0.34	6	4 3/4
+25	56.99	50.34	0.65	6	7 3/4
+30	57.58	51.00	0.58	6	7
+75	58.35	51.66	0.69	6	8 1/4
26	59.01	52.32	0.69	6	8 1/4
+25	59.63	52.97	0.66	6	7 3/4
+50	60.32	53.63	0.69	6	8 1/4
+75	61.13	54.29	0.84	6	10 1/4
27	61.54	54.95	0.59	6	7 1/8
+20	61.74	55.47	0.27	6	3 1/4
+40	62.12	56.00	0.12	6	1 1/2
+60	62.61	56.21	0.40	6	4 3/4
+80	63.12	56.42	0.70	6	8 3/4
28+05	63.48	56.68	0.80	6	9 5/8
+30	64.10	56.93	0.75	7	1 7/8
+55	64.67	57.21	0.46	7	5 1/2
+80	64.98	57.47	0.51	7	6 1/8
29+5	65.21	57.75	0.47	7	5 5/8
+30	65.66	58.10	0.66	7	8
+55	66.05	58.26	0.79	7	9 1/2

263 NT 100

E x

S 2 E 11 - Grade 61.8

E 11

N 2 E 11

1,000 6



10<sup>th</sup> Street W of L

Sta	El	Grd	Cut
29+80	66.58	58.53	8.05 8'0 <sup>3</sup> / <sub>8</sub>
30+5	66.83	58.79	8.04 8'0 <sup>1</sup> / <sub>2</sub>
+30	67.04	59.05	7.99 7'11 <sup>3</sup> / <sub>8</sub>
+55	67.35	59.32	8.03 8'0 <sup>3</sup> / <sub>8</sub>
+80	67.46	59.58	7.88 7'10 <sup>3</sup> / <sub>8</sub>
31	66.74	59.79	6.95 6'11 <sup>3</sup> / <sub>8</sub>
+20	67.31	60.50	7.31 7'3 <sup>3</sup> / <sub>4</sub> D.
+40	67.04	60.10	6.94 6'11 <sup>1</sup> / <sub>4</sub>
+60	67.91	60.20	7.71 7'8 <sup>1</sup> / <sub>2</sub>
+85	68.40	60.32	8.08 8'1
32+10	68.79	60.45	8.34 8'4 <sup>1</sup> / <sub>8</sub>
+35	69.07	60.57	8.50 8'6
+60	69.51	60.70	8.81 8'9 <sup>3</sup> / <sub>4</sub>
+85	69.96	60.82	9.14 9'1 <sup>3</sup> / <sub>4</sub>
33+10	70.14	60.95	9.19 9'2 <sup>1</sup> / <sub>4</sub>
+35	70.40	61.07	9.33 9'4
+60	70.80	61.20	9.60 9'7 <sup>1</sup> / <sub>4</sub>
+85	71.00	61.32	9.68 9'7 <sup>1</sup> / <sub>8</sub>
34+10	71.38	61.44	9.94 9'11 <sup>1</sup> / <sub>4</sub>
+35	71.87	61.57	10.30 10'3 <sup>3</sup> / <sub>8</sub>
+60	72.10	61.69	10.41 10'4 <sup>7</sup> / <sub>8</sub>

101192-901

49792  
100

SI DSI - Grade 67.8

DSI -

NI DSI -

SI CSI - Grade 72.3



10<sup>th</sup> Nov 2

8

Sta	El	Grad	Cut		
34+80	72.31	61.79	10.52	10' 6 <sup>1</sup> / <sub>4</sub>	
35	72.58	61.89	10.69	10' 8 <sup>1</sup> / <sub>4</sub>	
+20	72.70	61.99	10.71	10' 8 <sup>1</sup> / <sub>2</sub>	
+40	72.65	62.09	10.56	10' 6 <sup>3</sup> / <sub>4</sub>	
+65	72.95	62.22	10.78	10' 8 <sup>3</sup> / <sub>4</sub>	
+90	73.08	62.34	10.74	10' 8 <sup>1</sup> / <sub>2</sub>	
36+15	72.90	62.46	10.44	10' 5 <sup>1</sup> / <sub>4</sub>	
+40	73.04	62.59	10.45	10' 5 <sup>3</sup> / <sub>16</sub>	
+65	73.38	62.71	10.67	10' 8	
+90	73.45	62.84	10.61	10' 7 <sup>3</sup> / <sub>8</sub>	
37+15	73.42	62.96	10.46	10' 5 <sup>1</sup> / <sub>2</sub>	
+40	73.54	63.09	10.45	10' 5 <sup>3</sup> / <sub>4</sub>	
+65	73.54	63.21	10.33	10' 4	
+90	73.55	63.34	10.21	10' 2 <sup>1</sup> / <sub>2</sub>	
38+15	73.76	63.46	10.30	10' 8 <sup>3</sup> / <sub>4</sub>	
+40	73.99	63.59	10.40	10' 4 <sup>3</sup> / <sub>4</sub>	
+60	73.91	63.68	10.28	10' 2 <sup>3</sup> / <sub>4</sub>	
+80	73.51	63.78	9.73	9' 8 <sup>3</sup> / <sub>4</sub>	
39+	72.98	63.88	9.10	9' 1 <sup>1</sup> / <sub>4</sub>	
+20	72.15	63.98	8.17	8' 2	

119792  
100

C.S.

N.C.S.

S.I.B.M. Grad 74.0

R.S.

N.S.B.S.



10<sup>th</sup> St - Vol 2

4260

9

Sta	El	Grd	Cut		
39+45	71.97	64.11	7.86	7	10 <sup>3</sup> / <sub>4</sub>
+70	72.22	64.23	7.99	7	11 <sup>1</sup> / <sub>4</sub>
+95	72.29	64.36	7.93	7	11 <sup>1</sup> / <sub>4</sub>
40+20	72.51	64.44	8.03	8	3 <sup>1</sup> / <sub>4</sub>
+45	72.51	64.61	7.90	7	10 <sup>3</sup> / <sub>4</sub>
+70	72.56	64.73	7.83	7	10
+95	72.51	64.85	7.66	7	7 <sup>1</sup> / <sub>4</sub>
41+20	72.38	64.98	7.40	7	4 <sup>1</sup> / <sub>4</sub>
+45	72.50	65.10	7.40	7	4 <sup>3</sup> / <sub>4</sub>
+70	72.60	65.23	7.37	7	4 <sup>1</sup> / <sub>2</sub>
+95	72.60	65.35	7.25	7	3
42+20	72.59	65.48	7.11	7	1 <sup>3</sup> / <sub>4</sub>
+40	72.75	65.58	7.17	7	2
+60	72.42	65.68	6.74	6	4 <sup>1</sup> / <sub>4</sub>

49792  
100

42  
2680  
3

87 A st - Grade 73.3

A st



10<sup>th</sup> St N H I.

Sta El Grd Cut

42+80	72.70	65.78	6.92	6	11
43	73.13	65.88	7.25	7	3
+25	73.08	66.00	7.08	7	1
+50	73.22	66.40	6.82	6	9 $\frac{3}{4}$
+75	73.36	66.40	6.96	6	6 $\frac{3}{4}$
44	73.70	67.20	6.50	6	6
+25	73.67	67.60	6.07	6	7 $\frac{1}{4}$
+50	74.06	68.00	6.06	6	3 $\frac{1}{4}$
+75	74.79	68.76	6.03	6	3 $\frac{1}{4}$
45	75.45	69.52	5.93	5	11 $\frac{1}{4}$
+25	76.20	70.28	5.92	5	11
+50	77.11	71.04	6.07	6	7 $\frac{1}{4}$
+75	78.39	71.80	6.59	6	7 $\frac{1}{4}$
46	79.38	72.57	6.81	6	9 $\frac{3}{4}$
+20	79.95	73.17	6.78	6	9 $\frac{3}{4}$
+40	80.47	73.78	6.69	6	8 $\frac{1}{4}$ Ash
+60	80.95	74.39	6.56	6	6 $\frac{3}{4}$
+80	81.71	75.09	6.61	6	8 $\frac{1}{2}$
47+5	83.69	77.08	6.61	6	7 $\frac{3}{8}$
+30	86.10	79.17	6.93	6	11 $\frac{1}{8}$
+55	88.24	81.25	6.99	6	11 $\frac{1}{8}$

49792  
1.001.6  
1.003.0484  
1.00

N 2 A M

S 2 Ash grade 79.5

Ash

N 2 Ash



10<sup>th</sup> St - North

Sta	El	Grad	Cut	
47+80	90.21	83.33	6.88	6' 10 <sup>3</sup> / <sub>8</sub>
48+5	92.12	85.42	6.70	6' 8 <sup>3</sup> / <sub>8</sub>
+30	94.19	87.50	6.69	6' 8 <sup>1</sup> / <sub>4</sub>
+55	96.03	89.58	6.45	6' 5 <sup>3</sup> / <sub>8</sub>
+80	98.12	91.67	6.45	6' 5 <sup>3</sup> / <sub>8</sub>
49+5	100.09	93.75	6.34	6' 4 <sup>1</sup> / <sub>4</sub>
+30	102.34	95.83	6.51	6' 6 <sup>1</sup> / <sub>8</sub>
+55	104.39	97.92	6.47	6' 5 <sup>5</sup> / <sub>8</sub>
+80	106.49	100.00	6.49	6' 5 <sup>7</sup> / <sub>8</sub>
50+5	107.46	100.00	6.71	6' 8 <sup>1</sup> / <sub>2</sub>
+20	108.36	101.50	6.86	6' 10 <sup>3</sup> / <sub>8</sub>
+40	109.07	102.25	6.72	6' 8 <sup>5</sup> / <sub>8</sub>
+60	109.59	103.00	6.59	6' 7 <sup>1</sup> / <sub>8</sub>
+85	110.83	104.50	6.33	6' 4
51+10	112.88	106.00	6.88	6' 10 <sup>5</sup> / <sub>8</sub>
+35	115.01	107.50	7.51	7' 6 <sup>1</sup> / <sub>8</sub>
+60	117.14	109.00	8.14	8' 1 <sup>3</sup> / <sub>4</sub>
+85	118.77	110.50	8.27	8' 3 <sup>1</sup> / <sub>4</sub>
52+15	120.61	112.00	8.61	8' 7 <sup>1</sup> / <sub>2</sub>
+35	122.45	113.50	8.95	8' 11 <sup>3</sup> / <sub>8</sub>
+60	123.89	115.00	8.89	8' 10 <sup>3</sup> / <sub>4</sub>

+5883

1001

6:10

S. J. Beach at grade 106.5 ✓

Beach St

Imp 106

N. S. Beach St 109.5



10<sup>th</sup> Street Hof L

Sta El End Cut

52+85 124.13 115.31 8.82 8' 9<sup>7</sup>/<sub>8</sub>

53+10 124.14 115.63 8.51 8' 6<sup>1</sup>/<sub>8</sub>

+35 123.78 115.94 7.84 7' 10<sup>6</sup>/<sub>8</sub>

+60 123.58 116.25 7.33 7' 4

+80 123.80 116.50 7.30 7' 3<sup>7</sup>/<sub>8</sub>

54 123.89 116.75 7.14 7' 1<sup>3</sup>/<sub>4</sub>

+90 123.90 117.00 6.90 6' 10<sup>7</sup>/<sub>8</sub>

+40 123.74 117.25 6.49 6' 5<sup>7</sup>/<sub>8</sub>

+65 123.64 117.56 6.08 6' 1

+90 123.84 117.88 5.96 5' 11<sup>1</sup>/<sub>2</sub>

55+15 124.30 118.19 6.11 6' 1<sup>3</sup>/<sub>8</sub>

+40 124.51 118.50 6.01 6' 0<sup>8</sup>/<sub>8</sub>

+65 125.00 118.81 6.19 6' 2<sup>1</sup>/<sub>4</sub>

+90 125.63 119.13 6.50 6' 6

56+15 126.15 119.44 6.71 6' 8<sup>1</sup>/<sub>2</sub>

+40 126.52 119.75 6.77 6' 9<sup>1</sup>/<sub>4</sub>

+65 127.09 120.06 7.03 7' 0<sup>3</sup>/<sub>8</sub>

+90 127.29 120.38 6.91 6' 10<sup>7</sup>/<sub>8</sub>

57+15 127.50 120.69 6.81 6' 9<sup>3</sup>/<sub>4</sub>

+40 127.79 121.00 6.79 6' 9<sup>1</sup>/<sub>2</sub>

+65 Total length of pipe 56+80

+90

12 Cedar

Cedar

12 Cedar

20 1/2

57+15

Grade 1240 ✓  
Inse 123.50

12 Cedar 128.00 Grade ✓  
Flush Tank 127.50



12<sup>th</sup> Nov

Sta	El	Ind	Cut
0		3.25	
+20		3.67	
+30		3.88	
+40		4.09	
+45=11		4.20	
1		4.50	
+07	10.16	4.20	5.965' 11 1/2"
+25	10.46	4.72	5.745' 8 7/8"
+50	10.94	5.45	5.495' 5 5/8"
+75	11.91	6.17	5.745' 8 7/8"
2	12.94	6.89	6.056' 0 7/8"
+25	14.02	7.62	6.406' 4 7/8"
+50	14.60	8.34	6.266' 3 3/8"
+75	15.44	9.07	6.376' 4 1/2"
3	16.31	9.79	6.526' 6 1/4"
+25	17.17	10.57	6.666' 8"
+50	17.75	11.24	6.516' 6 1/8"
+75	18.41	11.96	6.456' 5 3/8"

2.1947

276Y 2412

0+38 NZL = Sta 1 = 1

0+35 = 0+97

0+37 = 0+99

NZL ft



12<sup>th</sup> Nov 2

14

Sta	El	End	Cut
4	19.17	12.68	6.49 6' 5 <sup>7</sup> / <sub>8</sub>
+20	19.54	13.26	6.28 6' 3 <sup>3</sup> / <sub>8</sub>
+40	20.12	13.84	6.28 6' 3 <sup>3</sup> / <sub>8</sub>
+60	20.13	14.42	5.71 5' 8 <sup>1</sup> / <sub>2</sub>
+80	20.69	15.00	5.69 5' 8 <sup>1</sup> / <sub>4</sub>
5+05	21.57	16.00	5.57 5' 6 <sup>7</sup> / <sub>8</sub>
+30	22.75	17.00	5.75 5' 9
+55	24.18	18.00	6.18 6' 2 <sup>1</sup> / <sub>8</sub>
+80	25.36	19.00	6.36 6' 4 <sup>3</sup> / <sub>8</sub>
6+05	26.62	20.00	6.62 6' 7 <sup>1</sup> / <sub>2</sub>
+30	27.66	21.00	6.66 6' 8
+55	28.53	22.00	6.53 6' 6 <sup>3</sup> / <sub>8</sub>
+80	29.50	23.00	6.50 6' 6
7+05	30.77	24.00	6.77 6' 9 <sup>1</sup> / <sub>4</sub>
+30	31.48	25.00	6.48 6' 5 <sup>3</sup> / <sub>4</sub>
+55	32.49	26.00	6.49 6' 5 <sup>7</sup> / <sub>8</sub>
+80	33.61	27.00	6.61 6' 7 <sup>3</sup> / <sub>8</sub>
8	34.24	27.45	6.79 6' 9 <sup>1</sup> / <sub>4</sub> ✓
+20	34.72	27.89	6.83 6' 10
+40	35.09	28.34	6.75 6' 9
+60	35.21	28.79	6.42 6' 5

x

4110

x

S L K SI - Grade 19.50 ✓  
 Insk 19.00  
 K SI -  
 N L K SI -

S L J SI - Grade 34.00 Insk - 33.50 ✓  
 Insk. 33.50  
 J SI -  
 N L J SI -



12<sup>th</sup> Nov 2

15

Sta	El	Ind	Cut
4+95	35.58	29.35	6.23 6' 2 <sup>3</sup> / <sub>4</sub>
9+10	36.24	29.91	6.33 6' 4
+35	37.04	30.47	6.57 6' 6 <sup>7</sup> / <sub>8</sub>
+60	37.62	31.03	6.59 6' 7 <sup>1</sup> / <sub>8</sub>
+85	38.24	31.59	6.65 6' 7 <sup>7</sup> / <sub>8</sub>
10+10	38.75	32.14	6.61 6' 7 <sup>3</sup> / <sub>8</sub>
+35	39.35	32.70	6.65 6' 7 <sup>7</sup> / <sub>8</sub>
+60	39.98	33.26	6.72 6' 8 <sup>5</sup> / <sub>8</sub>
+85	40.58	33.82	6.76 6' 9 <sup>1</sup> / <sub>8</sub>
11+10	41.10	34.38	6.72 6' 8 <sup>5</sup> / <sub>8</sub>
+35	41.62	34.94	6.68 6' 8 <sup>1</sup> / <sub>8</sub>
+60	42.45	35.50	6.95 6' 11 <sup>3</sup> / <sub>8</sub> x
+80	42.90	35.80	7.10 7' 1 <sup>1</sup> / <sub>4</sub>
12	43.02	36.09	6.93 6' 11 <sup>1</sup> / <sub>8</sub>
+20	43.47	36.39	7.08 7' 1
+40	43.82	36.69	7.13 7' 1 <sup>5</sup> / <sub>8</sub>
+65	44.02	37.06	6.96 6' 11 <sup>1</sup> / <sub>2</sub>
+90	44.51	37.43	7.08 7' 1
13+15	44.96	37.80	7.16 7' 2
+40	45.30	38.17	7.13 7' 1 <sup>5</sup> / <sub>8</sub>

2.2368 1.18

SI I S - Grad 43.00 ✓  
Insp. 42.50

NI I S - Super Laid Jul 29<sup>th</sup> 1888



12<sup>th</sup>

16

Sta Elev Grd Cont

13+60	45.60	38.54	7.06	7' 0 <sup>3</sup> / <sub>4</sub>
+90	46.28	38.91	7.37	7' 4 <sup>1</sup> / <sub>2</sub>
14+15	46.60	39.28	7.32	7' 3 <sup>3</sup> / <sub>8</sub>
+40	46.78	39.66	7.12	7' 1 <sup>1</sup> / <sub>2</sub>
+65	47.11	40.03	7.08	7' 1
+90	47.23	40.40	6.83	6' 10
15+15	47.29	40.77	6.52	6' 6 <sup>1</sup> / <sub>4</sub>
+40	47.28	41.14	6.14	6' 1 <sup>3</sup> / <sub>4</sub>
+65	47.76	41.51	6.25	6' 3
+90	48.80	41.88	6.92	6' 11
16+15	48.93	42.25	6.68	6' 8 <sup>1</sup> / <sub>8</sub>
+40	48.89	42.62	6.27	6' 3 <sup>1</sup> / <sub>4</sub>
+65	48.97	43.00	5.97	5' 11 <sup>1</sup> / <sub>8</sub>
+90	49.36	43.37	5.99	5' 11 <sup>1</sup> / <sub>8</sub>
17+15	49.66	43.74	5.92	5' 11
+40	50.06	44.11	5.95	5' 11 <sup>1</sup> / <sub>8</sub>
+65	50.54	44.48	6.06	6' 0 <sup>3</sup> / <sub>4</sub>
+90	50.96	44.85	6.11	6' 1 <sup>3</sup> / <sub>8</sub>
18+15	51.29	45.22	6.07	6' 0 <sup>3</sup> / <sub>8</sub>
+40	51.89	45.59	6.30	6' 3 <sup>1</sup> / <sub>8</sub>

14843.100

S L H S - Grade 48:00 ✓  
Insepe 47.50

N L H S



12<sup>th</sup>

17

Sta	EL	Grd	Cut
18+65	52.14	45.96	6.18 6' 2 <sup>1</sup> / <sub>8</sub>
+90	52.82	46.34	6.48 6' 5 <sup>3</sup> / <sub>4</sub>
19+15	53.32	46.71	6.61 6' 7 <sup>3</sup> / <sub>8</sub>
+40	53.85	47.08	6.77 6' 9 <sup>1</sup> / <sub>4</sub>
+60	54.03	47.37	6.66 6' 8
+80	54.09	47.67	6.42 6' 5
20	54.09	47.97	6.12 6' 1 <sup>1</sup> / <sub>2</sub>
+20	54.03	48.26	5.77 5' 9 <sup>1</sup> / <sub>4</sub>
+45	54.25	48.64	5.61 5' 7 <sup>3</sup> / <sub>8</sub>
+70	54.71	49.01	5.70 5' 8 <sup>3</sup> / <sub>8</sub>
+95	55.41	49.38	6.03 6' 0 <sup>3</sup> / <sub>8</sub>
21+20	55.96	49.75	6.21 6' 2 <sup>1</sup> / <sub>2</sub>
+45	56.50	50.12	6.38 6' 4 <sup>7</sup> / <sub>8</sub>
+70	57.02	50.49	6.53 6' 6 <sup>3</sup> / <sub>8</sub> 7 <sup>1</sup> / <sub>8</sub>
+95	57.47	50.86	6.61 6' 7 <sup>3</sup> / <sub>8</sub>
22+20	57.66	51.23	6.43 6' 5 <sup>1</sup> / <sub>8</sub>
+45	58.16	51.60	6.56 6' 6 <sup>3</sup> / <sub>4</sub>
+70	58.70	51.98	6.72 6' 8 <sup>7</sup> / <sub>8</sub>
+94	59.17	52.35	6.82 6' 9 <sup>1</sup> / <sub>8</sub>
23+20	59.60	52.72	6.88 6' 10 <sup>5</sup> / <sub>8</sub>

1.4843.150

S L G Ss - Grade 53.5 ✓  
 Insep 53.00

N L Ss -

S L F Ss - Grade 60.00 ✓  
 Insep 59.50



12<sup>th</sup> St.

18

Sta	Elev	Grade	cut-
23+40	59.81	53.01	6.80 6' 9 <sup>7</sup> / <sub>8</sub>
+60	59.86	53.31	6.55 6' 6 <sup>7</sup> / <sub>8</sub>
+80	59.95	53.61	6.34 6' 4 <sup>1</sup> / <sub>2</sub>
24	60.22	53.94	6.31 6' 3 <sup>3</sup> / <sub>4</sub>
+25	60.43	54.28	6.15 6' 1 <sup>7</sup> / <sub>8</sub>
+50	60.71	54.65	6.06 6' 0 <sup>3</sup> / <sub>4</sub>
+75	61.04	55.02	6.02 6' 0 <sup>1</sup> / <sub>4</sub>
25	61.43	55.39	6.04 6' 0 <sup>1</sup> / <sub>2</sub>
+25	61.93	55.76	6.17 6' 2
+50	62.44	56.13	6.31 6' 3 <sup>3</sup> / <sub>4</sub>
+75	63.13	56.50	6.63 6' 7 <sup>5</sup> / <sub>8</sub>
26	63.71	56.87	6.84 6' 10 <sup>1</sup> / <sub>8</sub>
+25	64.28	57.24	7.04 7' 0 <sup>1</sup> / <sub>2</sub>
+50	64.73	57.62	7.11 7' 1 <sup>3</sup> / <sub>8</sub>
+75	65.24	57.99	7.25 7' 3
27	65.74	58.36	7.38 7' 4 <sup>5</sup> / <sub>8</sub>
+20	66.25	58.65	7.60 7' 7 <sup>1</sup> / <sub>4</sub>
+40	66.68	58.95	7.73 7' 8 <sup>3</sup> / <sub>4</sub>
+60	67.22	59.25	7.97 7' 11 <sup>5</sup> / <sub>8</sub>
+80	67.46	59.55	7.91 7' 10 <sup>7</sup> / <sub>8</sub>

1.48431100

F S1-

NZ F S1-

SZE S1-

E S1-

NLE S1-

Depth 65.00 ✓  
Grade 65.5



12<sup>th</sup>

N. of L. P.

Sta	Elev	Grade	Cut
29+05	68.04	59.92	8.12 8' 1/2
+30	68.30	60.29	8.01 8' 0 3/8
+33	68.47	60.66	7.81 7' 9 3/4
+40	69.10	61.03	8.07 8' 0 7/8
29+06	69.31	61.40	7.91 7' 10 7/8
+30	69.81	61.77	8.04 8' 0 1/2
+55	70.49	62.14	8.35 8' 4 1/4
+80	70.86	62.51	8.35 8' 4 1/8
30+05	71.14	62.89	8.25 8' 3
+30	71.20	63.26	7.94 7' 11 1/4
+55	71.14	63.63	7.51 7' 6 1/8
+80	71.63	64.00	7.63 7' 7 7/8
31	71.50	64.65	6.85 6' 10 1/4
+20	71.68	65.30	6.38 6' 4 7/8
+40	71.50	65.96	5.54 5' 6 1/2
+60	72.31	66.61	5.70 5' 8 3/8
+85	73.36	67.42	5.94 5' 11 1/4
32+10	74.36	68.24	6.12 6' 1 1/2
+35	75.15	69.05	6.10 6' 1 1/4
+60	76.34	69.87	6.47 6' 5 7/8

(31+20)  
D 37

1.48431100

X

3.26081100

S. I. S. S. - *Graps* 71.30 ✓  
Grade 71.80

S. S.

N. I. S. S. -



Sta	Elev	Grad	out	
32+85	77.62	70.68	6.94	6' 11 <sup>1</sup> / <sub>4</sub>
33+10	78.53	71.50	7.06	7' 0 <sup>3</sup> / <sub>4</sub>
+35	79.59	72.31	7.28	7' 3 <sup>3</sup> / <sub>8</sub>
+60	80.55	73.13	7.42	7' 5
+85	81.52	73.95	7.57	7' 6 <sup>7</sup> / <sub>8</sub>
34+10	82.11	74.76	7.35	7' 4 <sup>1</sup> / <sub>4</sub>
+35	83.27	75.58	7.69	7' 8 <sup>1</sup> / <sub>4</sub>
+60	84.23	76.39	7.84	7' 10 <sup>1</sup> / <sub>8</sub>
+80	84.76	77.04	7.72	7' 8 <sup>7</sup> / <sub>8</sub>
35	85.05	77.70	7.35	7' 4 <sup>1</sup> / <sub>4</sub>
+20	85.46	78.35	7.11	7' 1 <sup>3</sup> / <sub>8</sub>
+40	85.80	79.00	6.80	6' 9 <sup>5</sup> / <sub>8</sub>
+65	86.34	80.00	6.34	6' 4 <sup>1</sup> / <sub>8</sub>
+90	87.15	81.00	6.15	6' 1 <sup>7</sup> / <sub>8</sub>
36+15	88.08	82.00	6.08	6' 1
+40	89.39	83.00	6.39	6' 4 <sup>3</sup> / <sub>4</sub>
+65	90.39	84.00	6.39	6' 4 <sup>3</sup> / <sub>4</sub>
+90	91.49	85.00	6.49	6' 5 <sup>7</sup> / <sub>8</sub>
37+15	92.53	86.00	6.53	6' 6 <sup>3</sup> / <sub>8</sub>
+40	93.50	87.00	6.50	6' 6

8.2608, 100

x

4.100

SZ level <sup>Supp.</sup> 83.80 ✓  
 Grade 84.30  
 C.S.  
 N.Z. level



19<sup>th</sup>

N of L

Sta	Elev	Grade	Dist	
87+65	94.76	88.00	6.76	6' 9 $\frac{1}{8}$
+90	95.89	89.00	6.89	6' 10 $\frac{3}{4}$
88+15	97.06	90.00	7.06	7' 0 $\frac{3}{4}$
+40	97.76	91.00	6.76	6' 9 $\frac{1}{8}$
+60	98.08	91.42	6.66	6' 8"
+80	98.58	91.84	6.74	6' 8 $\frac{1}{2}$
39	98.94	92.26	6.68	6' 8 $\frac{1}{2}$
+20	99.26	92.68	6.58	6' 7"
+45	99.50	93.21	6.29	6' 3 $\frac{1}{2}$
+70	100.10	93.74	6.36	6' 4 $\frac{3}{8}$
+95	100.75	94.26	6.49	6' 5 $\frac{1}{8}$
40+20	101.09	94.79	6.30	6' 3 $\frac{5}{8}$
+45	101.47	95.32	6.15	6' 1 $\frac{7}{8}$
+70	101.98	95.84	6.14	6' 1 $\frac{3}{4}$
+95	102.48	96.37	6.11	6' 1 $\frac{3}{8}$
41+20	103.26	96.89	6.37	6' 4 $\frac{1}{2}$
+45	103.82	97.42	6.40	6' 4 $\frac{1}{8}$
+70	104.29	97.95	6.34	6' 4 $\frac{1}{8}$
+95	104.82	98.47	6.35	6' 4 $\frac{1}{4}$
42+20	105.44	99.00	6.44	6' 5 $\frac{1}{4}$
Total length of pipe 41+70				

2110221100

21

S. L. B. M. - Grade 97.00 ✓  
 Insp 96.50  
 B M -

N I B M -

1105.00 ✓  
 S. L. A. M. - 105.50 Flush Lant 105.5



13<sup>th</sup> St. N. L.

22

Sta. Elev. Area Cont.

40	3.96	2.92	1.04	10 $\frac{1}{2}$
10	4.61	3.03	1.58	1' 7
20	5.03	3.14	1.89	1' 10 $\frac{3}{4}$
30	5.18	3.25	1.93	1' 11 $\frac{1}{8}$
40	5.17	3.35	1.82	1' 9 $\frac{1}{8}$
50	4.61	3.46	1.15	1' 1 $\frac{1}{8}$
56	4.59	3.53	1.06	1' 0 $\frac{3}{4}$
66	4.71	3.64	1.07	1' 0 $\frac{7}{8}$
91	5.41	3.91	1.50	1' 6
1+16	5.35	4.18	1.17	1' 2
+41	5.63	4.45	1.18	1' 2 $\frac{1}{8}$
+66	5.96	4.73	1.23	1' 2 $\frac{3}{4}$
+91	6.67	5.00	1.67	1' 8
2+16	7.02	5.27	1.75	1' 9
+41	7.18	5.54	1.64	1' 7 $\frac{3}{4}$
+66	7.64	5.81	1.83	1' 10
+91	7.75	6.08	1.67	1' 8
3+16	8.78	6.36	2.42	2' 5
+41	10.66	6.63	4.03	4' 0 $\frac{3}{8}$
+61	11.63	6.85	4.78	4' 9 $\frac{3}{8}$

10878.100

0+41 N.L. Y Lateral

PT

Y Lateral

19. 13

SI K SI - Grade 12.50  
Inepi 12.00 ✓



13<sup>th</sup> St - N. P. L

23

Sta	Elev	Grad	cm	
3+81	12.00	7.06	4.94	4' 11/4
4+01	12.27	7.28	4.99	4' 11/8
+21	11.69	7.50	4.19	4' 2 1/4
+46	11.96	9.17	2.79	2' 9/2
+71	13.15	10.83	2.32	2' 3/8
+96	14.43	12.50	1.93	1' 11/8
5+21	15.75	14.17	1.58	1' 7
+46	16.99	15.83	1.16	1' 2
+71	18.24	17.50	0.74	0' 8/8
+96	20.42	19.17	1.25	1' 3
6+21	23.24	21.83	2.41	2' 4 1/8
+46	26.18	22.50	3.68	3' 8 1/8
+71	28.14	24.17	3.97	3' 11/8
+96	30.45	25.83	4.62	4' 7 1/2
7+21	33.51	27.50	6.01	6' 0 1/8
+41	34.94	28.08	6.86	6' 10 3/8
+61	36.01	28.66	7.35	7' 4 1/8
+81	36.06	29.24	6.82	6' 9 1/8
8+01	37.44	29.82	7.62	7' 7 1/2
+26	38.88	30.54	8.34	8' 4 1/8

x

6.66667/100

x

✓

✓

✓

✓

✓

K St-

NZ K St-

St of St - Grade 34.50 ✓  
 Insp. 34.00

J St-

NZ J St-



13<sup>th</sup> St W of L

Sta	Elev	Grad	cur	
8+51	39.43	31.26	8.17	8' 2"
+ 76	40.03	31.99	8.04	8' 0 1/2"
9+01	40.57	32.71	7.86	7' 10 3/8"
+ 26	40.91	33.43	7.48	7' 5 3/4"
+ 51	41.41	34.16	7.25	7' 3"
+ 76	41.68	34.88	6.80	6' 9 7/8"
10+01	42.28	35.60	6.68	6' 8 7/8"
+ 26	42.88	36.33	6.55	6' 6 7/8"
+ 51	43.25	37.05	6.20	6' 2 3/8"
+ 76	43.89	37.78	6.11	6' 1 7/8"
11+01	44.37	38.50	5.87	5' 10 1/2"
+ 21	44.35	38.71	5.64	5' 7 3/4"
+ 41	44.81	38.92	5.89	5' 10 3/4"
+ 61	44.64	39.13	5.51	5' 6 7/8"
+ 81	45.19	39.34	5.85	5' 10 3/8"
12+06	44.68	39.61	5.07	5' 0 7/8"
+ 3.1	42.95	39.87	3.08	3' 1"
+ 56	41.87	40.13	1.74	1' 8 7/8"
+ 81	42.04	40.39	1.65	1' 7 7/8"
13+16	42.91	40.66	2.25	2' 3"

2.89471100

S I & S I - Grade 44.30 ✓  
 S I - Insp. 43.80 ✓  
 N I & S I



18<sup>th</sup> St - N 10 L

25

Sta Elev Grad Cont

13+31	43.90	40.92	2.98	2' 11 <sup>3</sup> / <sub>4</sub>
+56	44.66	41.18	3.48	3' 5 <sup>3</sup> / <sub>4</sub>
+81	45.69	41.45	4.24	4' 2 <sup>1</sup> / <sub>8</sub>
14+06	46.57	41.71	4.86	4' 10 <sup>3</sup> / <sub>8</sub>
+31	47.59	41.97	5.62	5' 7 <sup>1</sup> / <sub>2</sub>
+56	47.82	42.24	5.58	5' 7
+81	48.64	42.60	6.04	6' 1 <sup>3</sup> / <sub>4</sub>
15+06	49.14	42.68	6.46	6' 5 <sup>1</sup> / <sub>2</sub>
+31	49.77	42.86	6.91	6' 10 <sup>3</sup> / <sub>8</sub>
+56	49.90	43.05	6.85	6' 10 <sup>1</sup> / <sub>4</sub>
+81	50.47	43.23	7.24	7' 2 <sup>3</sup> / <sub>8</sub>
16+06	50.78	43.41	7.37	7' 4 <sup>1</sup> / <sub>2</sub>
+31	50.91	43.59	7.32	7' 3 <sup>7</sup> / <sub>8</sub>
+56	51.26	43.78	7.48	7' 5 <sup>3</sup> / <sub>4</sub>
+81	51.40	43.96	7.44	7' 5 <sup>1</sup> / <sub>4</sub>
17+06	51.55	44.14	7.41	7' 4 <sup>7</sup> / <sub>8</sub>
+31	51.66	44.32	7.34	7' 4 <sup>1</sup> / <sub>8</sub>
+56	52.55	44.50	8.05	8' 0 <sup>5</sup> / <sub>8</sub>
+81	52.12	44.69	7.43	7' 5 <sup>1</sup> / <sub>8</sub>
18+06	51.88	44.87	7.01	7' 0 <sup>1</sup> / <sub>8</sub>

x

S L H St - Grade 49.00 ✓  
 Simp. 48.50  
 H St

N L H St



13<sup>th</sup> MAY

26

Sta	Elev	Grad	out	
18+31	57.88	45.05	6.83	6' 10"
+56	52.16	45.23	6.93	6' 11 $\frac{1}{8}$ "
+80	52.71	45.42	7.29	7' 3 $\frac{1}{2}$ "
19+01	52.81	45.56	7.25	7' 3"
+21	52.93	45.71	7.22	7' 2 $\frac{5}{8}$ "
+41	52.33	45.85	6.48	6' 5 $\frac{3}{4}$ "
+61	53.33	46.00	7.33	7' 4"
+86	53.14	46.70	6.44	6' 5 $\frac{1}{4}$ "
20+11	53.38	47.40	5.98	5' 11 $\frac{3}{4}$ "
+36	53.68	48.10	5.48	5' 5 $\frac{3}{4}$ "
+61	55.04	48.80	6.24	6' 2 $\frac{7}{8}$ "
+86	55.34	49.50	5.84	5' 10 $\frac{1}{8}$ "
21+11	55.77	50.20	5.57	5' 6 $\frac{7}{8}$ "
+36	57.20	50.90	6.30	6' 3 $\frac{7}{8}$ "
+61	57.66	51.60	6.06	6' 0 $\frac{3}{4}$ "
+86	59.20	52.30	6.90	6' 10 $\frac{7}{8}$ "
22+11	59.96	53.00	6.96	6' 11 $\frac{1}{2}$ "
+36	60.17	54.50	5.67	5' 8"
+61				
Total length of pipe 22+41				

201100

281100

S I b u - Grade 52.80 ✓  
 Dup. 52.30  
 b u  
 N I b u -

Flush tank  
 S I F ST



13<sup>th</sup> Nov 2

27

Sta	Elev	Grad cut							
+10					(15+90)				
16									
+50									
24									

+10

(15+90)

16

+50

24

17+118



13<sup>th</sup> St N of L

28

Sta Elev base cont-

+50

21

+50

22

+50

23

(23/60)

+50

24

+50

25

+50



13<sup>th</sup> St N 72

29

Sta Elev Grade Cont

26

+10

27

+10

27 42

28

+10

29

+10

30

+10



1<sup>st</sup> the  
 S of West of 14

Sta	Elev	Elev	Out
0	56.47	49.65	6.82 6' 9 3/8"
+10	56.75	49.68	7.07 7' 0 3/8"
+20	57.22	49.71	7.41 7' 4 3/8"
+30	57.43	49.74	7.69 7' 8 1/4"
+40	57.27	49.78	7.49 7' 5 3/8"
+50	56.97	49.81	7.16 7' 2"
+56	56.94	49.83	7.11 7' 1 3/8"
+67	57.06	49.86	7.20 7' 2 3/8"
+92	57.27	49.99	7.28 7' 3 3/8"
+117	57.51	50.12	7.39 7' 4 3/4"
+142	57.46	50.25	7.21 7' 2 1/2"
+167	57.41	50.39	7.02 7' 0 1/2"
+192	57.65	50.52	7.13 7' 1 5/8"
2+17	57.79	50.65	7.14 7' 1 3/4"
+42	58.11	50.79	7.32 7' 3 3/8"
+62	58.74	50.89	7.85 7' 10 1/4"
+82	57.00		

5319.100 57.1150

Total length of pipe 2+71

0+42 W.L. 14 1/2"

P.T.

Track in tie

Elev. 13<sup>th</sup>      Susp. 58.00 ✓  
 Grade 58.50  
 Y S for 13      2+60  
 Y N for 18      2+62  
 13<sup>th</sup> ls  
 Pipe laid to 2+66



13<sup>4</sup> At S of D  
 No Elev cur

0	58.55	51.30	7.25	7'3"
+10	58.77	51.35	7.42	7'5"
+20	58.66	51.39	7.27	7'3 $\frac{1}{2}$ "
+30	58.48	51.44	7.04	7'0 $\frac{1}{2}$ "
+40	58.19	51.48	6.71	6'8 $\frac{1}{2}$ "
+50	56.63	51.53	5.10	5'1 $\frac{1}{2}$ "
+56	55.94	51.56	4.38	4'4 $\frac{1}{8}$ "
+67	56.17	51.61	4.56	4'6 $\frac{3}{4}$ "
+92	56.16	51.72	4.44	4'5 $\frac{1}{2}$ "
+117	55.97	51.84	4.13	4'1 $\frac{3}{8}$ "
+142	55.96	51.95	4.01	4'0 $\frac{1}{8}$ "
+67	56.31	52.07	4.24	4'2 $\frac{1}{8}$ "
+92	56.19	52.18	4.01	4'0 $\frac{1}{8}$ "
+117	56.24	52.30	3.94	3'11 $\frac{1}{4}$ "
+142	57.09	52.41	4.68	4'8 $\frac{1}{8}$ "
+167	57.82	52.53	5.29	5'3 $\frac{1}{2}$ "
+192	58.42	52.64	5.78	5'9 $\frac{3}{8}$ "
+217	58.20	52.75	5.45	5'5 $\frac{3}{8}$ "
+242	59.36	52.87	6.49	6'5 $\frac{7}{8}$ "
+267	58.78	52.96	5.82	5'9 $\frac{1}{8}$ "

4591 1100

PC V on S of At Sta 2+60

0+42 S 2 S

P.T.

25' S of S 2 S

N I E St Grade. 59.50 ✓  
 59.00



13<sup>th</sup> S of D

Sta	Elev	Grad	Levt.
3+82	58.91	53.05	5.86 5' 10 <sup>3</sup> / <sub>8</sub>
4+02	59.39	53.14	6.25 6' 3
+22	59.92	53.24	6.68 6' 8 <sup>1</sup> / <sub>8</sub>
+47	60.34	53.35	6.99 6' 11 <sup>1</sup> / <sub>8</sub>
+72	61.43	53.47	7.96 7' 11 <sup>1</sup> / <sub>2</sub>
+97	62.64	53.58	9.06 9' 0 <sup>1</sup> / <sub>2</sub>
5+22	61.99	53.69	8.30 8' 3 <sup>5</sup> / <sub>8</sub>
+47	62.42	53.81	8.61 8' 7 <sup>1</sup> / <sub>8</sub>
+72	62.13	53.92	8.21 8' 2 <sup>1</sup> / <sub>4</sub>
+97	61.89	54.04	7.85 7' 10 <sup>1</sup> / <sub>4</sub>
6+22	61.68	54.15	7.53 7' 6 <sup>3</sup> / <sub>8</sub>
+47	63.40	54.27	9.13 9' 1 <sup>1</sup> / <sub>8</sub>
+72	62.14	54.38	7.76 7' 9 <sup>1</sup> / <sub>8</sub>
+97	62.22	54.50	7.72 7' 8 <sup>5</sup> / <sub>8</sub>
7+22	61.40	55.50	5.90 5' 10 <sup>3</sup> / <sub>4</sub>
Total length of pipe 7+27			

45501100

x

E 81-

S 7 E

N 7 E Flush tank 60.80 <sup>59.80</sup> <sub>Levt</sub>

+50



13<sup>th</sup> St N of D.

33

Sta	Elev	Grad	cut
0	58.59	51.30	7.29 7' 3" ✓
+10	59.06	51.58	7.48 7' 5" 3/4
+20	59.04	51.85	7.19 7' 2" 1/4
+30	59.07	52.13	6.94 6' 11" 1/4
+40	58.86	52.41	6.45 6' 5" 3/4
+50	56.60	52.68	3.92 3' 11" L
+56	56.61	52.85	3.76 3' 9" 1/8
+68	56.59	53.18	3.41 3' 4" 1/8
+93	56.49	53.87	2.62 2' 7" 1/4
+118	56.71	54.56	2.15 2' 1" 1/8
+143	57.23	55.25	1.98 1' 11" 3/4
+168	56.72	55.94	0.78 0' 9" 3/8
+193	56.91	56.63	0.28 0' 3" 1/8
+218	61.78	57.33	4.45 4' 5" 1/8
+243	62.54	58.02	4.52 4' 6" 1/4
+268	61.77	58.71	3.06 3' 0" 3/4
+293	64.76	59.40	5.36 5' 4" 3/8
+318	65.68	60.09	5.59 5' 7" 1/8
+343	65.35	60.78	4.57 4' 6" 1/8
+368	65.09	61.33	3.76 3' 9" 1/8
+393	65.79	61.89	3.90 3' 10" 1/8 K

2.7645 - 11.10

+443 N.E.S. ✓

PT

S.I.C.M. Grad 67.50 ✓  
 Insp. 67.00 ✓

C.S.



13<sup>th</sup> N of S

34

Sta Elev. Lead out

4+03	66.52	62.44	4.08	4' 1"
+23	67.66	63.00	4.66	4' 8"
+48	69.11	64.45	4.66	4' 8"
+73	70.58	65.89	4.69	4' 8 1/4"
+98	71.50	67.34	4.16	4' 2"
5+23	72.67	68.79	3.88	3' 10 3/8"
+48	74.31	70.24	4.07	4' 0 7/8"
+73	75.62	71.68	3.94	3' 11 1/2"
+98	76.56	73.13	3.43	3' 5 1/8"
6+23	77.56	74.58	2.98	2' 11 3/4"
+48	78.88	76.03	2.85	2' 10 3/8"
+73	79.87	77.47	2.40	2' 4 7/8"
+98	81.42	78.92	2.50	2' 6"
7+23	83.55	80.57	3.18	3' 2 1/2"
+48	85.10	81.53	3.57	3' 6 7/8"
+63	86.96	82.68	4.28	4' 3 3/8"
+83	88.92	83.84	5.08	5' 1"
8+03	90.72	85.00	5.72	5' 8 3/8"
+28	92.72	87.09	5.63	5' 7 7/8"
+53	94.94	89.18	5.76	5' 9 1/8"

x

NLC

5.7694.100

Insp. 87.80 ✓  
 SIB to Grade 88.80

BM

NLB

x



13<sup>th</sup> N of S

35

Sta Elev Area cm

8+	78	96.63	91.27	5.36	5' 4 <sup>3</sup> / <sub>8</sub>
9+	03	99.00	93.36	5.64	5' 7 <sup>3</sup> / <sub>4</sub>
+	28	102.12	95.45	6.57	6' 6 <sup>7</sup> / <sub>8</sub>
+	53	103.73	97.55	6.18	6' 2 <sup>1</sup> / <sub>8</sub>
+	78	106.48	99.64	6.80	6' 9 <sup>5</sup> / <sub>8</sub>
10+	03	109.04	101.73	7.31	7' 3 <sup>3</sup> / <sub>4</sub>
+	28	111.20	103.83	7.37	7' 4 <sup>1</sup> / <sub>2</sub>
+	53	113.53	105.91	7.62	7' 7 <sup>1</sup> / <sub>2</sub>
+	78	115.50	108.00	7.50	7' 3 <sup>5</sup> / <sub>8</sub>
11+	03	116.27	113.00	3.27	3' 3 <sup>1</sup> / <sub>4</sub>

Total length of pipe 11+08

8.36636100

Grade 117.50 ✓  
 S L A Flush panel 118.00



Dist East of 14<sup>th</sup> St

Sta	Elev	Grade	Levt.
0	56.63	50.00	6.63 6 7/8
+10	57.07	50.05	7.02 7 0/4
+20	57.43	50.11	7.32 7 3/8
+30	57.67	50.16	7.51 7 6/8
+40	57.66	50.22	7.44 7 5/8
+51	57.35	50.38	7.07 7 0/8
+66	57.45	50.36	7.09 7 1/8
+91	57.36	50.50	6.86 6 10/8
1+16	57.77	50.63	7.14 7 1 3/4
+41	58.01	50.77	7.24 7 2/8
+66	57.97	50.90	7.07 7 0/8
+91	58.21	51.04	7.17 7 2/8
2+16	58.27	51.18	7.09 7 1/8
+41	58.26	51.31	6.95 6 11 3/8
+66	58.13	51.45	6.68 6 8/8
+91	58.30	51.58	6.72 6 8/8
3+16	58.05	51.72	6.33 6 4/8
+41	57.86	51.86	6.00 6 0
+66	57.98	51.99	5.99 5 11/8
+91	57.72	52.13	5.59 5 7/8
4+16	57.77	52.26	5.46 5 5/8

524/3.100

Y 20 ft W of S. E. Ex.

0+41 E Line 14<sup>th</sup> St  
P.T.  
Y



D. St. East of 14<sup>th</sup> St.

Sta Elev Grade Cent.

4+41.57.55 52.40 5.155' 1/2

Total length of pile 4145'

W. Lim 15<sup>th</sup> St. Flush Tank.  
Grade. 57.50 ✓  
57.00



13<sup>th</sup>

38

5

+50

4

+50

3

+50

2

+50

1

ESL D

ESL

Moore  
Road  
Svd/Moc  
11-12-41.

Indexed  
LM

X sec alley 16' wide

Blk 6 Blair's Highland

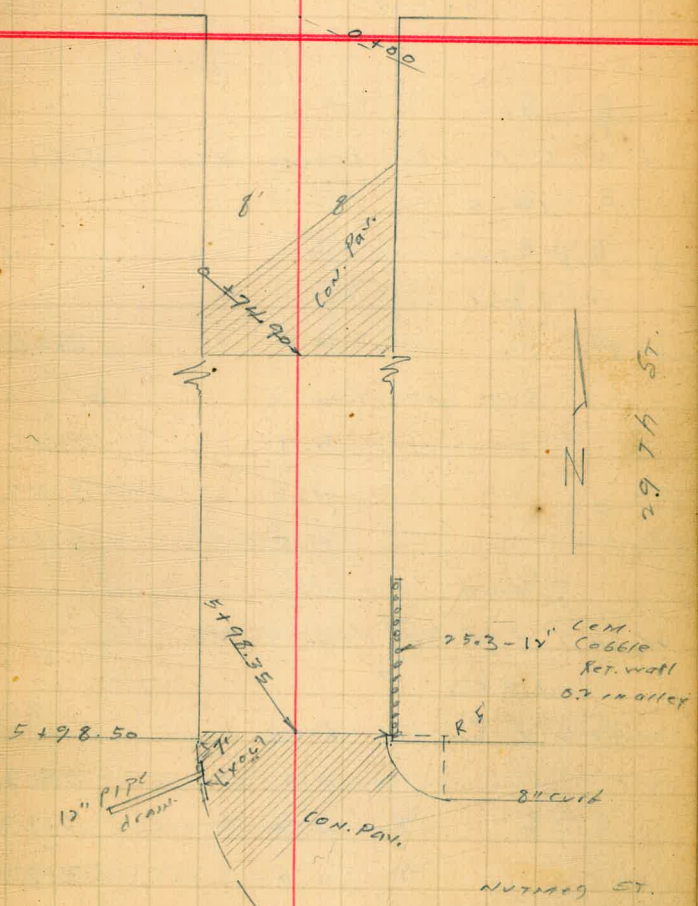
Sec 1376-70. for R.P.S

NEBP	631	317.24	310.91	Palm + Granite
	0+58			
W	pav.	4.07	313 15	✓
C	"	4.21	313 01	✓
E	"	3.85	313 37	✓
	0+74.9 =	End Con. Pav.		
E		3.89	313.33	✓
C		4.09	312 93	✓
W		4.17	313 05	✓
	+0.6	Req. lot. fence		✓
	0+85			
E	+0.4	Bd. fence		✓
	1+00			
W	-0.6	End Lattice & Req. Bd fence		✓
W	+0.8	14" P.P.	4.3	3129
C			4.4	3130
	+7.6	end	4.0	3132
E		= drainage front yard	4.4	3128
				Keep alley

11-13-41  
C.B.H.

Red T Plot  
Profile # 2017

Palm St.



grade below THIS PT.



317.24			
?	1400		✓
E + 1.5	N W Cor frame Bldg	1.5	Back ✓
	1418		
E - 1.5	SW " " " "	" "	" " ✓
	1421		
- 5		4.8	3126
- 0.1	beg. Lat. fence	0.1	" ✓
E		4.7	3125
C		4.5	3127
W		4.5	3127
	1428		
W - 0.7	End Bd. fence		✓
	1443		
W - 1.6	2 S.W. grt.	5.00	31222 ✓ wood floor
W		4.9	3123 ✓
C		4.9	3123
E		4.9	3123
	1450		
E - 0.1	end Lat. fence + beg. Bd fence		3117 ✓
E	Bot. drainage	5.5	Keep below for yard drainage
E		5.1	312.1
C		5.0	312.2

317.24			
C + 7.8	Beg. Lark fence Picket		
W		5.3	311.9
	1475		
- 5		5.9	311.3
W		5.6	311.6
C		5.6	311.6
E		5.3	311.9
	1497		
W + 1.4	E 6" di. pepper tree		✓
	2400		
E	Bot. drain ditch	6.3	310.9 Keep Below
E		6.1	311.1
E + 0.1	end Bd fence		✓
E + 0.5	Beg. " "		✓
C		6.0	311.2
+ 6.9	1 1/2" di. P.P.		
W	end picket fence	6.0	✓ 311.2
W + 0.3	Beg. Lat. " "		✓
W + 5		6.4	310.8 ✓
T.P.	2.44	313.65	6.01 311.21

313.65

2 + 2C		
E - 0.1 18' <sup>con.</sup> walk	4.8	310.97 ✓
E Bot. drainage ditch	3.1	310.6 ✓ Keep below
2 + 29		
W - 0.4 Lat. fence	2.9 ✓	310.7
C	2.9	310.7
+ 7.5 end Bd. fence	2.9 ✓	310.7
2 + 31		
E - 9.5 N.H. Co. gar.	2.73	310.92 ✓ cem. floor
2 + 47		
E - 9.5 Sh. da. "	2.65	311.00 ✓
2 + 67		
E	3.6	310.1
+ 0.5 Beg. Bd. fence	✓	
C	3.8	309.9
W	3.7	310.0
+ 0.3 lattice fence	✓	
2 + 92		
C M.H. Rim H.W.S		309.40 ✓

41

313.65

3 + 00		
- 5	4.7 ✓	309.0 ✓
- 0.3 end Lat. fence	4.5 ✓	309.2
Beg. picket "	4.5	309.2
W	4.5	309.2
+ 1.1 1 1/2" P.P. ✓		
C	4.5	309.2
+ 7.4 end Bd. fence ✓		
+ 7.6 Beg. wire "	✓	
E	4.4	309.5
+ 5	4.3	309.4 ✓
3 + 30		
- 7 drainage yard	5.5	308.2 Keep below
- 0.6 N.W. Cor Shingle Bldg		
E	5.3	308.4
+ 0.7 End wire fence ✓		
C	5.4	308.3
W	5.3	308.4
+ 0.7 fence ✓		
+ 5	5.5	308.2 ✓
3 + 44		
E - 0.5 Sw. Cor Shingle Bldg	✓	
Beg. wire fence	Lat. fence	



313.65

	3+50		
- 5	6.2	307.5	✓
- 0.7	END picket fence		✓
W	5.8	307.9	
C	5.9	307.8	
E	5.9	307.8	
+ 0.5	fence		✓
+ 7	drainage yard	5.8	307.9
			Keep Below
	3+55		
W-11	2' Shed		✓
	3+61		
W	beg. Bd. fence		✓
	3+66		
E-0.5	SL w/ Con. walk	6.7	307.58
"	" NW Cor. Gar. Bldg		307.4
E	drainage	6.3	307.4
			Keep Below
C		6.4	307.3
W	fence	6.6	307.1
+ 5		6.8	306.9
	3+83		
W + 0.1	end Bd. fence		0.1 in alley

313.65

	3+84		
E	2' SW opening door	6.14	307.51
			Com. H.
	3+90		
E-0.1	SW Cor. gar. Bldg (above gar)		
E + 0.4	NW Cor. Bd. Shed		✓
T.P.	5.70	311.53	7.32
			306.33
	3+92		
W-20	2' SW gar.	5.0	306.5
			Com. H. floor
	4+00		
- 5			
W		5.5	306.0
+ 0.1	Beg. picket fence	5.3	306.2
+ 0.7	14" P.P.	5.4	306.3
C		5.2	306.3
+ 7.6	against Shed	5.4	306.1
	4+14		
E + 0.1	SW Cor. shed		✓
E + 0.8	Beg. wire fence	0.8	1/4 in alley

311.53

	4+27		
- 3	drainage	6.0	305.5
E		6.2	305.3
	end wire fence		
+ 0.6	NW Cor Bd Shed		✓
W	fence	6.2	305.3
+ 5		6.5	305.0 ✓
	4+34		
E	+ 0.6 SW Cor Bd. Shed		✓
E	- 0.3 NW Cor " "		✓
	4+46		
E	+ 0.1 SW Cor " "		✓
E	+ 0.4 NW " " "		✓
	4+50		
- 5		7.8	303.7 ✓
W		7.7	303.8
	end picket fence		✓
+ 0.4	Req. Bd		
C		7.8	303.7
+ 5		7.9	303.6
+ 7.3	Req. lat. fence	7.2	304.3
+ 7.4	SW Cor Shed		✓

311.53

	4+73		
E	+ 0.6 end Lattice fence		✓
T.P.	1.40	304.03	8.90 302.63
	4+77		
E	- 0.1 Ridge <sup>cem</sup> walk	1.31	302.72
	4+80		
W	end Bd fence		✓
	NE Cor Bd shed		
	4+81		
E	- 0.1 Ridge <sup>cem</sup> apron	1.48	302.55
E	- 5.9 wk do. gar.	1.20	302.83
E	- 0.1 F.L. drain	1.74	302.31
E	ground	1.7	302.3
C		1.9	302.1
W	shed	1.7	302.3
	4+98		
E	- 5.9 SL do. gar	1.26	302.77
E	- 0.1 " <sup>cem</sup> apron	1.95	302.08
W	+ 0.2 SE Cor Bd Shed		✓





301.70

5+81

W online 14<sup>th</sup> P. P. ✓

5+98.35 for edge.

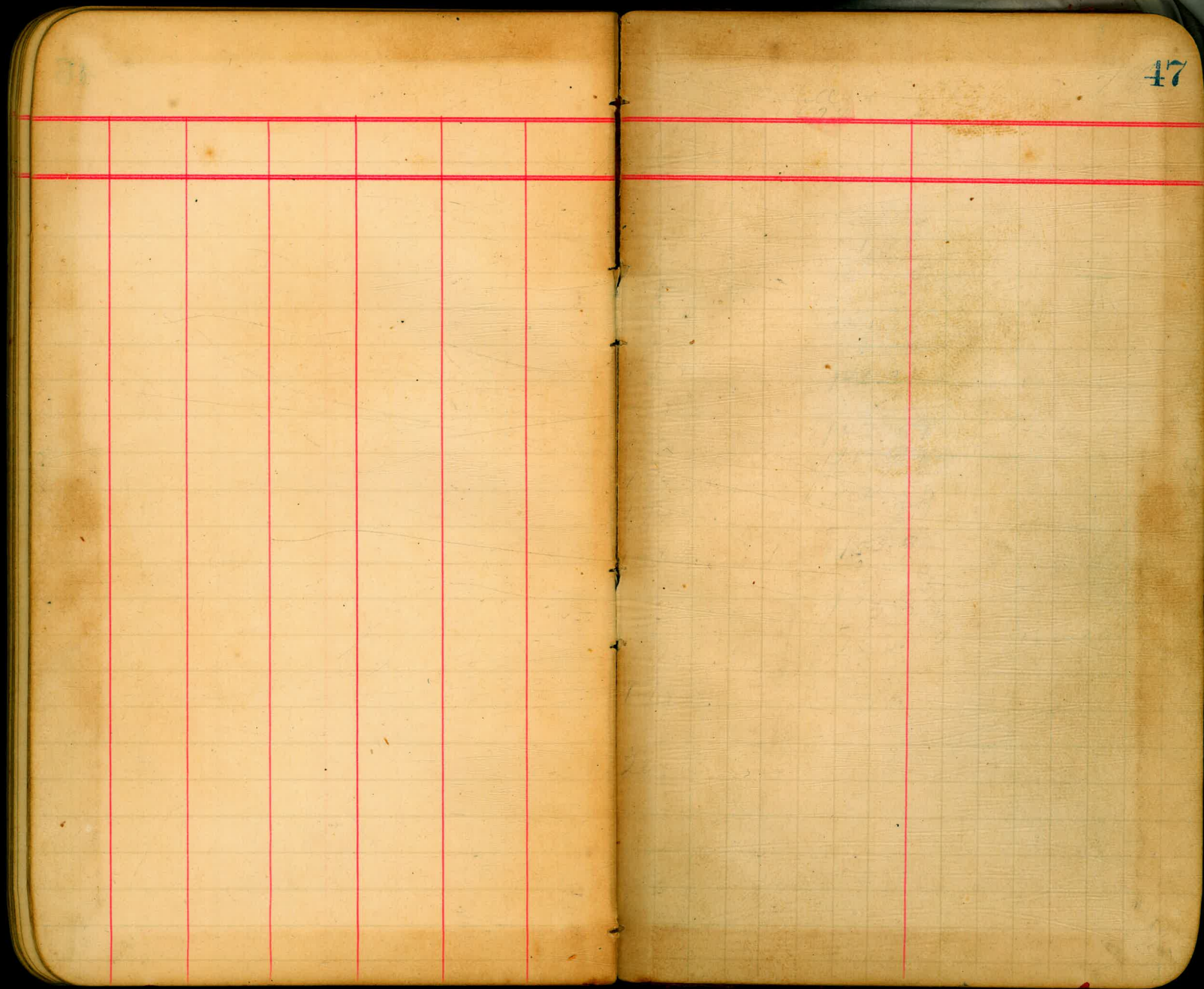
W	10.0	291.7
C	10.1	291.6
E	10.1	291.6

5+98.35 = N edge Con. Pav.

E	Top Cobble wall	6.04	295.66
E + 0.7	Top curb	9.67	292.03
"	gut. Pav	10.24	291.46
C	Pav	10.73	290.97
W	gut. "	11.33	290.37
W	Top cb.	10.70	291.00 - 291.0







47



23.40  
Λ

19.0.

Λ

15+90  
19+80  
23+60  
27+40  
31+20

35  
38+80  
42+60  
46+40  
50+20  
54  
57+80  
61+60

29.09  
3.31  
29.40  
19.00  
4.10

da  
rs

67  
66  
65  
64  
63  
62  
61  
60  
59



291.00  
292.03

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	80
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	79
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	78
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	77
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	76
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	75
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	74
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	73
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	72
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	71
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	70
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	69
12	97.81	20.79	97.72	21.23	97.63	21.64	97.53	22.07	68
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	67
14	97.03	24.19	96.92	24.63	96.81	25.04	96.70	25.46	66
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	65
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	64
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	63
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	62
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	61
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	60
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	59
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	58
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	57
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	56
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	55
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	54
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	53
28	88.29	46.95	88.09	47.43	87.88	47.72	87.67	48.10	52
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	51
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	50
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	49
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	48
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	47
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	46
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	45
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	44
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	43
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	42
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	41
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	40
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	39
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	38
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	37
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	36
45	70.71	70.71							35
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		

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