

1131

DIETZGEN
4 1/2 IN. CASE NO. 100

ENGINEERS'
FIELD BOOK

No. 404

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide, Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6 + (20 - 16) ÷ 2 or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.
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Moore
Preston
Walker

CROSS SECTION OF
UNIVERSITY AVE
EULLID AVE TO RADIO ROAD

80' wide
15' s/w
12 1/2' 1/4 S

351.84

1116
on B.P.N.W. EULLID + Univ. 351.84 340.68

123' E of R.L. EULLID = 0+00 - E. edge of paving

N	7.6	44.2
+13	7.2	44.6
Cem. dt	8.93	42.91
N gut on paving	9.47	42.37
1/2	9.10	42.74
0	8.90	42.94
1/4	9.03	42.81
S gut	9.46	42.38
cem. dt	7.06	44.78
+7.5 N edge slw	6.93	44.91
+12.8 Sec	6.93	44.91
S	6.9	44.94
5' E		
S	6.8	45.0
Cem dt	6.98	44.86
S gut	9.0	42.8
1/2	8.8	43.0
c	8.5	43.3
1/2	8.8	43.0
+8	8.7	43.1
cb	6.1	45.4
+1	5.8	46.0
N	6.0	45.8

15' E		
N	5.4	46.4
+8	5.4	46.6
+13	6.1	45.7
cb	7.2	44.6
1/4	8.1	43.7
c	7.8	44.0
1/4	7.9	43.9
S gut	7.5	44.3
cem. dt	6.80	45.0
S	6.6	45.2
25' E		
S	6.5	45.3
cem. dt	6.67	45.17
S gut	7.0	44.8
1/4	7.0	44.8
c	7.0	44.8
1/4	7.3	44.5
+10	7.3	44.5
cb	6.4	45.4
+2	5.9	45.9
N	5.3	46.5
40' E		
N	5.3	46.5
+10	5.6	46.2
cb	6.4	45.4

PROFILE PLATTED SEPT 23 1925
JAB

351.84

1/4	6.4	454
c	6.0	458
1/4	6.4	454
S qut	6.8	450
cem. cb	6.4	4543
S	6.4	456
50' E		
S	6.1	457
cem. ct	6.27	4557
S qut	6.9	449
1/4	6.1	457
c	5.7	461
1/4	6.4	456
cb	5.9	459
n/	5.4	466
89' E = EDGE S/W + ct on S Side		
n/	4.4	476
+13	4.7	471
cb	5.4	466
1/4	5.4	466
c	5.0	468
1/4	5.5	463
S qut	6.4	456
cem. ct	5.62	4622
+7.5 Neage s/w	5.57	4627
+12.85 ✓ ✓	5.55	4629
S	5.4	464

351.84

UNIV. FIVE

125' E

S	5.1	467
+3	5.5	463
+13	5.5	463
cb	5.8	460
1/4	5.4	466
c	4.5	473
1/4	4.6	472
cb	4.7	471
+2	4.4	474
n/	4.3	475

147' E = W L ALPINE FIVE

n/	4.4	476	60' wide in s/w 9' 1/25
cb	4.8	470	
1/4	4.6	472	
c	4.5	473	
1/4	4.9	469	
cb	5.4	464	
S	5.1	467	
w/ ct 1259			
S	4.9	469	
+13	5.0	460	
cb	5.3	465	
1/4	4.8	470	
c	4.5	473	
1/4	4.7	471	

✓

351.84

db		4.9	469
N		4.4	474
	W 1/4 1468		
N		4.5	473
db		4.7	471
1/4		4.7	471
e		4.5	473
1/4		4.8	470
db		5.2	464
+2		5.2	466
S		4.9	469
	E 1478		
S		4.6	472
+2		5.1	467
+13		5.1	467
db		5.4	464
1/4		5.0	468
e		4.5	473
1/4		4.7	471
db		4.8	470
N		4.4	474
	E 1/4 1487		
N		4.9	471
db		4.9	469
1/4		4.8	470
C		4.7	471

351.84

UNIV. AVE 3

1/4		5.1	467
db		5.4	464
+2		5.1	467
+13		5.1	467
S		4.5	473
	E db 1496		
S		4.5	473
+2		5.1	467
+13		5.2	466
db		5.4	464
1/4		5.2	466
e		4.7	471
1/4		4.8	470
db		5.0	468
+4		4.6	472
N		4.4	474
	207° E = EL of ALPINE AVE on North		
N		4.2	476
+11		4.6	472
db		5.1	467
1/4		4.8	470
C		4.6	472
1/4		5.1	467
db		5.4	464
+2		5.1	467
+13		5.1	467
S		4.6	472

351.84

225'E

S	4.1	47.7
+2	5.0	46.8
+14	5.0	46.8
db	5.0	46.4
1/4	5.1	46.7
c	4.6	47.2
1/4	4.9	46.9
db	5.4	46.4
+3	4.8	47.0
N	4.5	47.3

250'E

N	4.7	47.1
+3	5.5	46.3
+12	5.6	46.2
db	6.2	45.7
1/4	5.2	46.6
c	4.8	47.0
1/4	5.2	46.6
db	5.5	46.3
+3	5.0	46.8
+13	5.0	46.8
S	4.5	47.3

275'E

S	4.4	47.4
+2	5.2	46.6

351.84

UNIV. 1941E

+13	5.1	46.7
db	5.6	46.2
+2	6.1	45.7
1/4	5.6	46.2
c	5.5	46.3
1/4	5.8	46.0
db	6.8	45.0
+4	6.3	45.5
+14	5.8	46.0
N	5.2	46.6

300'E

N	6.3	45.5
+4	7.0	44.8
+12	7.0	44.8
db	7.4	44.4
1/4	6.7	45.1
c	6.2	45.6
1/4	6.2	45.6
db	6.3	45.5
+2	5.6	46.2
+13	5.5	46.3
S	4.8	47.0

325'E

S	5.5	46.3
+2	6.4	45.4
+13	6.7	45.1

351.84

cb	7.3	44.5
1/4	7.3	44.5
c	7.3	44.5
1/4	7.7	44.1
d	8.5	43.3
+v	7.8	44.0
+13	7.8	44.0
N	7.5	44.3
	350' E	
N	9.3	42.5
+v	9.8	42.0
+1v	9.6	42.2
cb	10.1	41.7
1/4	9.1	42.7
e	8.6	43.2
1/4	8.7	43.1
d	8.7	43.1
+3	8.1	43.7
S	7.7	44.1
	375' E	
S	8.5	43.3
+v	9.6	42.2
+13	9.8	42.0
cb	10.6	41.2
1/4	10.2	41.6
c	10.0	41.8

351.84

UNIV. FIVE 5

1/4	10.5	41.3
cb	11.8	40.0
+3	10.8	41.0
+13	11.0	40.8
N	10.5	41.3
	400' E	
N	12.0	39.8
+v	12.6	39.2
+13	12.5	39.3
cb	13.4	38.4
1/4	12.2	39.6
e	11.6	40.2
1/4	11.7	40.1
cb	12.4	39.4
+v	11.2	40.6
+13	11.1	40.7
S	10.4	41.4
T.P. 10v	340.17	12.69 . 339.15
	425' E	
S	0.3	39.9
+v	1.3	38.9
+13	1.3	38.9
cb	2.1	38.1
1/4	1.7	38.5
c	1.5	38.7
1/4	2.0	38.2

340.17

cb	2.8	37.4
+3	2.0	38.2
+13	2.2	38.0
N	1.4	38.8
450'E		
N	3.1	37.1
+2	3.7	36.5
+13	3.7	36.5
cb	4.9	35.3
1/4	3.9	36.3
c	3.3	36.9
1/4	3.3	36.9
cb	3.9	36.3
+2	2.9	37.3
+13	2.8	37.4
S	2.2	38.0

477 E - W.L. ESTRELLA AVE ON NORTH

S	3.9	36.3	60' wide
+2	4.6	35.6	12' ch/w
+13	4.8	35.4	9' 1/2's
cb	5.9	34.3	
1/4	5.3	34.9	
c	5.3	34.9	
1/4	6.2	34.0	
cb	7.3	32.9	
+2	6.1	34.1	

340.17

JUN FIVE 6

+13	6.3	33.9
N	5.8	34.4
489 W cb ESTRELLA		
N	8.0	32.2
+13	7.6	32.6
cb	8.5	31.7
1/4	7.2	33.0
c	6.5	33.7
1/4	6.3	33.9
cb	7.3	32.9
+2	5.9	34.3
+13	5.8	34.4
S	4.8	35.4
498 W 1/4 ESTRELLA		
S	6.0	34.2
+2	6.7	33.5
+13	6.7	33.5
cb	8.2	32.0
1/4	7.1	33.1
c	7.3	32.9
1/4	7.7	32.5
cb	8.8	31.4
N	9.8	30.4
507 E ESTRELLA		
N	9.2	31.0
cb	9.0	31.2

34017

1/4	8.5	317
c	8.2	320
1/4	8.1	321
cb	9.2	310
+3	7.7	325
+13	7.6	326
S	6.6	336

E 1/4 ESTRELLA 516

S	8.3	319
+13	8.6	316
cb	9.5	307
+3	10.5	297
1/4	9.0	312
c	8.9	313
1/4	9.2	310
cb	9.8	304
N	9.7	305

E of ESTRELLA 515

N	9.5	307
cb	10.1	298
1/4	9.8	304
c	9.5	307
1/4	9.9	303
cb	10.6	296
+2	9.7	305
S	9.5	307

✓

34017

WIN. AVE 7

531.53 E = WL FICACIA (on South) 50.5 wide on A

S	10.4	298	10' SW
+13	10.3	299	
cb	11.0	292	
1/4	10.5	297	
c	10.1	301	
1/4	10.3	299	
cb	11.1	291	
+3	10.1	302	
N	9.5	307	

537 E = EL ESTRELLA on North

N	9.4	308
+5	10.4	298
+12	10.4	298
cb	11.3	289
+2	11.9	283
+7	11.1	291
1/4	10.8	294
c	10.5	297
1/4	10.9	293
cb	11.5	287
+5	10.5	297
S	10.3	299

5+4⁵⁵ N of FICACIA DRIVE south

S	10.47	329.70	329.71
+1	11.5	287	

✓

340.17

cb		11.8	28.4
1/4		11.3	28.9
c		11.0	29.2
1/4		11.3	28.9
+5		11.6	28.6
+10		12.2	28.0
cb		11.6	28.6
+2		10.8	29.4
+10		10.8	29.4
N		9.9	30.3
	5+4912 W 1/4 ACACIA Dr.		South
N		10.7	29.5
+4		11.6	28.6
+12		11.4	28.8
cb		12.4	27.8
+2		12.8	27.4
+7		12.2	28.0
1/4		12.0	28.2
c		11.8	28.4
1/4		12.1	28.1
cb		12.1	28.1
S		11.8	28.4
T.P.	11.0 330.80	10.47	329.70
	5+5679 E ACACIA Dr.		
S		2.7	28.1
cb		3.4	27.4

330.80

JUN 17 1918

8

1/4		3.5	27.3
c		3.2	27.6
1/4		3.4	27.4
+5		3.5	27.3
cb		3.7	27.1
+3		2.6	28.2
+10		3.0	27.8
N		2.3	28.5
	5+6441 E 1/4 ACACIA Dr.		South
N		2.8	28.0
+3		3.6	27.2
+13		3.1	27.7
cb		3.6	27.2
+2		4.7	26.1
1/4		4.1	26.7
c		3.9	26.9
1/4		4.1	26.7
cb		4.2	26.6
S		3.4	27.4
	5+7203 E ACACIA Dr.		South
S		4.2	26.6
cb		4.9	25.9
1/4		4.9	25.9
c		4.7	26.1
1/4		4.7	26.1
+7		5.0	25.8

33080

+10	5.6	25.2
cb	4.4	26.4
+10	4.5	26.3
N	3.7	27.1

582.03' E = EL ALICIA Dr. to south

N	5.0	25.8
cb	5.9	24.9
1/4	5.6	25.2
e	5.8	25.0
1/4	5.8	25.0
cb	5.5	25.3
+10	4.8	26.0
S	4.0	26.8

587' E

S	4.3	26.5
+7	5.7	25.1
cb	5.8	25.0
1/4	6.2	24.6
e	6.2	24.6
1/4	6.1	24.7
cb	6.2	24.6
+10	5.9	24.9
N	5.2	25.6

600' E

N	8.3	22.5
+5	7.4	23.4

33080

JULY 17 VE 9

cb	7.2	23.5
1/4	7.5	23.3
e	7.3	23.5
1/4	7.1	23.7
cb	6.8	24.0
+5	6.7	24.1
S	5.4	25.4

610' E

S	6.9	23.9
cb	7.4	23.4
1/4	8.2	22.6
e	8.3	22.5
1/4	8.7	22.1
+7	8.9	21.9
cb	9.8	21.0
+5	10.9	19.9
N	11.2	19.6
+5	11.5	19.3
T.P.	390 322.77	11.93 318.87

620' E

-10	7.0	15.8
N	6.1	16.7
+10	5.1	18.7
cb	4.5	18.3
+8	2.1	20.7
1/4	1.7	21.1

322.77

c		1.8	21.0
1/4		1.6	21.2
+5		1.4	21.4
+8		3.2	19.6
+10		3.1	19.7
cb		1.2	21.6
S		1.0	21.8
	635° E		
-5		4.0	18.8
S		4.7	18.1
+8		5.6	17.2
+10		9.8	13.0
cb		11.1	11.7
+5		3.2	19.4
1/4		3.7	19.1
c		3.7	19.1
1/4		3.4	19.4
+2		3.9	18.9
cb		7.9	14.9
+8		10.1	12.7
N		10.6	12.2
+15		11.9	10.9
	640° E		
-15		12.9	9.9
N		11.8	11.0
+7		11.2	11.6

✓

322.77

UNIV 17VE 10.

cb		9.4	13.4
1/4		4.3	18.5
c		4.2	18.6
1/4		4.0	18.8
+8		3.8	19.0
+11		5.7	17.1
cb		7.7	15.1
+1		11.2	11.6
+7		10.0	12.8
+9		6.9	15.9
S		6.6	16.2
+5		5.7	17.1
	665° E		
-15		14.2	08.6
S		16.4	06.4
+10		17.9	04.9
cb		13.7	09.1
+10		6.9	15.9
1/4		7.3	15.5
c		7.3	15.5
+9		7.5	15.3
1/4		9.3	13.5
cb		17.1	05.7
+7		18.3	04.5
+8		19.1	03.7
+11		19.5	03.3

✓

322.77

+12			17.5	053
N			17.0	058
+15			17.2	056
	683' E			
-25			25.1	297.7
N			24.7	298.1
+9			23.3	299.5
cb			20.6	302.2
1/4			12.4	310.4
+6			9.2	13.6
c			9.3	13.5
1/4			9.4	13.4
+4			9.6	13.2
T.P.	018	313.24	9.7	313.06
cb			5.3	07.9
S			13.6	299.6
+25			9.9	03.3
	100' E			
-25			15.8	297.4
-5			17.9	295.3
S			17.8	295.4
cb			8.2	305.1
+10			1.4	311.8
1/4			1.4	311.8
C			1.2	312.0
+9			1.4	311.8

✓

313.24

UNION FIVE "

1/4			3.4	098
cb			12.0	301.2
+5			16.1	297.1
N			16.8	296.4
+25			16.7	296.5
	725' E			
-30			18.3	294.9
N			18.2	295.0
+10			16.8	296.4
cb			14.6	298.6
1/4			6.5	306.7
+6			3.2	310.0
C			3.2	10.0
1/4			3.4	098
+4			3.8	09.4
cb			9.8	03.4
S			20.5	292.7
+5			22.2	291.0
+15			22.8	290.4
+20			21.7	291.5
+30			21.0	292.2

✓

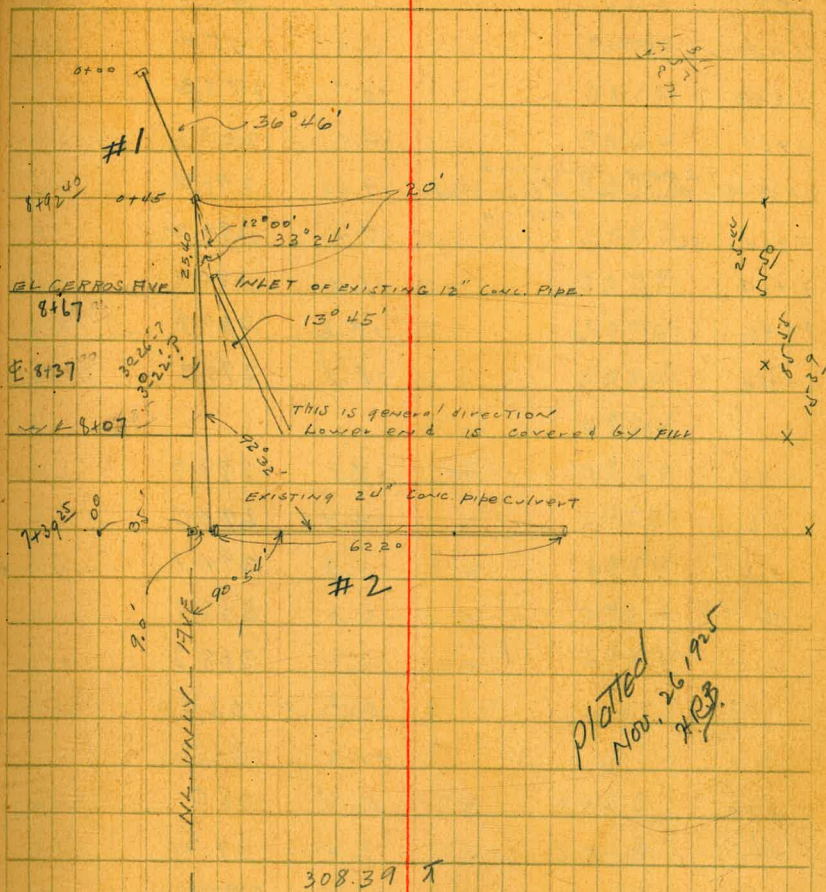
CUIVERT NOTES

313.2 ↓

0+00		8.6	046
+45 = A ON NL		9.4	038
+61		9.8	034
+71		8.8	044
+78		7.8	054
+88		3.3	09.9
1+15		5.0	082
1+20		5.7	075
1+26		9.2	040
1+50		11.8	301.4
1+60		12.6	300.6
1+69		13.5	299.7
T.P.	803	308.39	12.88 300.36
1+75		9.7	298.7
1+78		11.4	297.2
1+87		12.3	296.1
1+94		13.8	294.6
1+96		12.3	294.1
1+98.5 = Junction 24" conc. pipe		14.34	394.05
739.25 E on NL from Sta 0+00			
740.0 E on SL from Sta 0+00			
0+00 = 35' N of NL		13.5	294.9
+35 = NL		14.0	294.4
+44 = Junction		15.3	293.1
+45 = N end of existing 24" conc. pipe FLOWLINE		15.34	293.05

LOCATION of EXISTING
CUIVERTS

UNIV FIVE 14



Plotted
Nov. 26, 1925
H.C.B.

308.39 X		
+45 Top of 24" Conc. pipe	13.4	295.2
+50 = N of	10.9	297.5
+69.5 = N of	-3.0	305.4
+69	+0.8	309.2
+75 = E	+1.0	309.4
+87.5 = S of	+0.8	309.2

308.39

+91		0.0	08.4
1+00 = S cb		3.0	05.4
1+06		10.1	298.3
1+07		14.8	293.6
1+07.00 = S END FLOWLINE			
Flowline in 4" CONC PIPE			
EXISTING			
1+15 = SL		17.2	291.2
1+27		18.0	290.4
1+46		18.6	289.8
1+56		18.1	290.3
	757'E		
-35		18.5	289.9
SL		15.4	293.0
+3		14.3	294.1
cb		6.3	302.1
+10		0.1	308.3
1/4		0.1	08.3
C		+0.3	08.7
+10		0.4	08.0
1/4		7.2	07.2
cb		10.6	297.8
22		11.6	296.8
N		12.5	295.9
+30		13.2	295.2
+35		11.8	296.6
	770'E		
-25		7.9	300.5

308.39

V.L.V 17-13 13

N		7.6	300.8
cb		8.5	300.0
+6		7.4	301.0
1/4		2.0	306.4
+3		0.7	307.7
C		0.1	308.3
1/4		0.5	307.9
+4		0.8	307.6
cb		6.0	302.4
+6		11.0	297.4
+10		12.4	296.0
S		12.5	295.9
+8		13.0	295.4
+20		16.3	292.1
+30		18.2	290.2
TP 72' J	31.531	0.32	308.01
	790'E		
-20		17.0	298.3
-11		14.3	301.0
S		14.2	301.1
+13		14.6	300.7
cb		10.0	305.3
+8		7.5	307.8
1/4		7.4	307.9
C		7.1	308.2
1/4		9.5	307.8

31531

+10		13.3	3020	
cb		13.4	01.9	
+10		13.8	01.5	
∩		12.1	03.2	
+4		11.6	03.7	
+12		7.4	079	
8+07 W L CERROS AVE = 60' wide				
-12		7.2	08.1	12' s/w
-6		11.0	04.3	9' 1/2 s
∩		11.7	03.6	
+13		11.4	03.9	
cb		10.7	04.6	
+8		6.8	08.5	
1/4		7.0	08.3	
v		6.8	08.5	
1/4		7.1	08.2	
+6		7.3	08.0	
cb		11.6	03.7	
+3		13.2	02.1	
+12		11.8	03.5	
S		11.6	03.7	
+11		11.8	03.5	
+20		14.9	3004	
w/ cb 8+19				
-20		11.7	03.6	
-13		9.6	3057	

31531

UNIV. AVE 14

S		9.8	055	
cb		10.6	047	
+5		6.8	075	
1/4		6.7	086	
c		6.2	09.1	
1/4		6.6	087	
cb		6.9	084	
+5		7.0	083	
+6		7.7	076	
∩		8.7	06.6	
+15		7.7	076	
w 1/4 8+28				
∩		6.3	090	
cb		6.2	09.1	
1/4		6.1	09.2	
c		5.9	09.4	
1/4		6.1	09.2	
cb		6.5	088	
+3		9.3	060	
+7		9.5	058	
S		8.7	066	
+15		8.6	067	
4 8+37				
-10		7.2	081	
∩ S		7.4	079	
+9		7.1	082	

cb	6.7	08.6
1/2	5.6	09.7
c	5.4	09.9
1/4	5.4	09.9
cb	5.5	09.8
N	5.1	09.9

E 1/2 846

N	5.3	310.0
cb	5.0	310.3
1/2	4.8	10.5
c	4.8	10.5
1/4	5.1	10.2
cb	5.6	09.7
S	5.7	09.6

E 1/2 + E 8451

S	4.9	310.4
cb	5.1	10.2
1/2	4.7	10.6
c	4.4	10.9
1/4	4.4	10.9
cb	4.9	10.4
N	5.5	09.8

E cb 8455

-5	7.9	07.4
N	8.0	07.3
+7	5.9	09.4

✓

cb	5.0	10.3
1/4	4.4	11.1
c	4.1	11.2
1/2	4.4	10.9
cb	4.5	10.8
S	4.2	11.1

867 E = EL CERROS FIVE

S	2.9	12.4
cb	3.6	11.7
1/2	3.3	12.0
c	3.1	12.2
1/4	3.5	11.8
+3	3.5	11.8
+9	5.2	10.1
cb	9.1	06.2
+5	10.8	04.5
N	10.8	04.5
+10	8.9	06.4

874 E

-15	7.2	08.1
N	11.3	04.0
+5	12.0	03.3
+8	Flowline existing in Comp. pipe 13.67	301.64
+10		303.7
cb	8.5	06.7
+8	2.8	12.5

INLET

✓

315.31

1/2		2.9	12.4
0		3.2	12.1
1/4		2.3	13.0
dt		2.8	12.5
+5		2.0	13.3
S	✓	1.6	13.7
T.P.	10.86 324.71	14.6	313.85

897'E

S		8.0	16.7
+10		8.8	15.9
dt		9.4	15.3
1/2		9.1	15.6
0		9.3	15.4
1/4		9.9	14.8
+6		10.0	14.7
dt		14.1	10.6
+9		19.5	05.2
N		20.6	04.1
+8		20.6	04.1
+20		16.4	08.3

910'E

-25		16.5	08.2
-12		20.0	04.7
-3		19.9	04.8
N		18.3	06.4
dt		9.9	14.8

✓

324.71

JUN 17 1942 16

+8		8.8	15.9
1/4		8.4	16.3
0		7.6	17.1
1/4		7.3	17.4
dt		7.8	16.9
+6		7.2	17.5
S		6.9	17.8

925'E

S		6.1	18.6
dt		6.5	18.2
1/4		6.0	18.7
0		6.2	18.5
1/4		6.9	17.8
dt		6.8	17.9
+5		7.7	17.0
+10		10.1	14.6
N		13.9	10.8
+5		16.6	08.1
+15		19.5	05.2
+25		19.5	05.2

950'E

-25		15.7	09.0
-12		11.6	13.1
-3		9.1	15.6
N		7.6	17.1
+7		4.5	20.2

✓

cb	2.1	20.3	
1/4	4.3	20.4	
c	3.5	21.2	
1/2	3.7	21.0	
cb	4.8	19.9	
+3	4.9	19.8	
+6	4.1	20.6	
S	4.0	20.7	
961.99 E = WL VINE COUNT on S = 50' wind			
S	2.1	22.3	10' slip
+7	2.9	21.8	7.5' 1/4
+10	3.9	20.8	
cb	4.3	20.4	
+5	3.1	21.3	
1/2	2.9	21.8	
c	2.7	22.0	
1/2	3.5	21.2	
cb	3.9	20.8	
+13	3.6	21.1	
N	4.7	20.0	
+15	10.7	14.0	
w cb 947.99			
N	2.5	22.2	
cb	3.0	21.7	
1/4	2.6	22.1	
c	1.9	22.8	

✓

1/2	2.1	22.6	
cb	3.4	21.3	
S	1.5	23.2	
w 1/4 947.99			
S	0.7	24.0	
+8	1.2	23.5	
cb	2.2	22.5	
1/4	1.5	23.2	
c	1.4	23.3	
1/2	2.1	22.6	
cb	2.5	22.2	
N	1.9	22.8	
T.P.	9.30	333.86	on rock
£ 948.99			
N	10.9	23.0	
cb	11.0	22.9	
1/4	10.6	23.3	
c	9.9	24.0	
1/4	10.0	23.9	
cb	10.4	23.5	
+10	9.8	24.1	
S	9.0	24.9	
E 1/2 949.49			
S	8.6	25.3	
cb	9.3	24.6	
1/2	9.4	24.5	

✓

c	9.1	24.8
1/4	9.8	24.1
cb	10.4	23.7
N	9.8	24.1
N	9.3	24.6
+12	9.2	24.5
cb	9.9	24.0
+5	9.3	24.6
1/4	9.1	24.8
c	8.4	25.5
1/4	8.7	25.2
cb	9.0	24.9
S	8.0	25.9

1011.99 E = EL Vine Court

S	5.8	28.1
+10	7.4	26.5
cb	8.5	25.4
+5	8.0	25.9
1/4	7.8	26.1
c	7.5	26.4
1/4	8.3	25.6
+7	8.6	25.3
cb	9.2	24.7
+4	8.4	25.5
1/4	8.7	25.2

✓

1037' E

N	6.0	27.9
+10	5.7	28.2
+13	7.2	26.7
cb	7.1	26.8
+5	6.3	27.6
1/4	5.7	28.2
c	5.1	28.8
1/4	5.5	28.4
cb	6.5	27.4
+3	5.5	28.4
+12	5.0	28.9
S	3.9	30.0

1075' E

S	0.5	33.4
+2	2.0	31.9
+13	2.0	31.9
cb	3.1	30.8
1/4	2.9	31.0
c	2.5	31.4
1/4	3.1	30.8
cb	4.2	29.7
+4	2.9	31.0
+12	3.3	30.6
N	2.6	31.3

✓

33386

1105' E

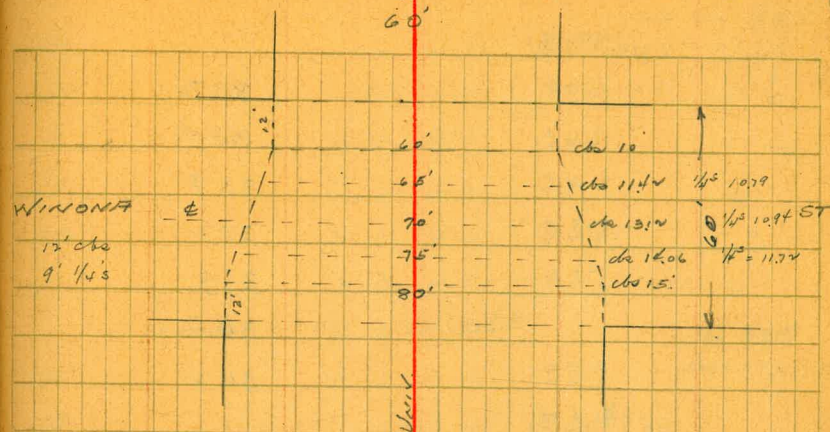
N	1.0	32.9
+2	1.4	32.5
+11	1.4	32.5
cb	2.5	31.4
+5	2.0	31.9
1/4	1.6	32.3
C	1.2	32.7
1/4	1.8	32.1
cb	2.2	31.7
+2	0.9	33.0
+13	0.7	33.2
S	+0.4	34.3
1137 E = W L WINONA		
S	+1.2	35.1
+2	0.2	33.6
+12	0.9	33.0
cb	1.3	32.6
1/4	1.0	32.9
C	1.4	32.5
1/4	0.8	33.1
cb	1.2	32.7
+4	0.6	33.3
+12	0.8	33.1
N on BM NW WINONA	0.2'	333.65 332.60

Check THIS
OK
cont

60' 170

UNIT FIVE

19



Unit FIVE

NW corner 680

340.40

333.60

11+49 W cb

N	7.0	33.4
cb	7.5	32.9
1/4	7.1	33.3
C	6.7	33.7
1/4	7.2	33.2
cb	7.5	32.9
S	6.6	33.8
11+58 W 1/4		
S	6.5	33.9
cb	6.8	33.6
1/4	6.9	33.5
C	6.4	34.0
1/4	6.7	33.7
cb	7.2	33.2
N	7.8	32.9

340.40

11+67 E

N	7.1	333
cb	7.0	334
1/4	6.5	337
c	6.2	342
1/4	6.5	339
cb	6.4	340
S	6.2	342

11+76 E 1/4

S	6.1	343
cb	6.2	342
1/4	6.3	341
c	6.0	344
1/4	6.3	341
cb	6.7	337
N	7.1	333

11+85 E cb

N	7.0	334
cb	6.7	337
1/4	6.2	342
c	5.9	345
1/4	6.2	342
cb	6.2	342
S	6.2	342

11+94

EL W' NODAL = 0+00 STA. ON N.L.

S	6.3	341
---	-----	-----

340.40

UNIV 17 N E 20

60' wide

cb	6.0	344	10' s/w
1/4	6.1	343	10' 1/4 s
c	5.9	345	
1/4	6.3	341	
cb	6.5	339	
N	6.7	337	
North line			
23.55 E - P.C. 12+20 ⁵³			
N	6.5	339	alt = 2817
cb	6.6	338	Det + 10.52' 38"
1/4	6.8	336	
c	12+20 ⁵³	6.4	340
1/4		6.6	338
cb		6.5	339
S	12+20 ⁵³	6.2	342
51.72' E 12+48 ⁷⁰			
S	12+44 ⁷²	6.6	338
cb		6.5	339
1/4		6.5	339
c	12+46 ⁷⁴	6.2	342
1/4		6.3	341
cb		6.0	344
N	12+48 ⁷⁰	5.9	345
79.89' E 12+76 ⁸⁷			
N	12+76 ⁸⁷	5.0	354
cb		5.4	350
1/4		5.6	348

34040

c	12+72 ²⁵	5.4	350
1/4		5.7	347
cb		5.9	345
S	12+69 ⁰²	6.1	343
	108.06 E 13+05 ⁰⁴ N		
S	12+93 ²⁶	5.6	348
cb		5.4	350
1/4		5.5	349
C	12+99 ¹⁶	5.2	352
1/4		5.1	353
cb		4.3	361
N	13+05 ⁰⁴	3.5	369
	136.23 E 13+33 ²¹ N		
N	13+33 ²¹	4.3	361
cb		4.4	360
1/4		4.5	359
C	13+25 ³⁷	4.6	358
1/4		5.0	354
cb		5.2	352
S	13+17 ⁵¹	5.4	350
	164.40' E 13+61 ³⁸ N		
S	13+41 ²⁵	5.5	349
cb		5.4	350
1/4		5.4	350
C	13+51 ⁵⁸	5.1	353
1/4		4.7	357

✓

34040

UNIV. FIVE

21

cb		4.6	358
N	13+61 ³⁸	4.0	364
	192.57' E 13+89 ⁵⁵ N		
N	13+89 ⁵⁵	4.2	361
cb		4.6	358
1/4		4.7	357
C	13+77 ²⁹	5.2	352
1/4		5.2	352
cb		5.8	346
S	13+66 ⁰⁰	6.3	341
	14+17 ²⁸ PCC		
	220.74' E = PCC - W = Manzanito North		
S	13+90 ²⁶	5.5	349
cb		5.6	350
1/2		5.4	350
C	14+04 ⁰² PCC	5.4	350
1/4		5.0	354
cb		5.0	354
N	14+17 ²⁸ PCC	5.2	352
	249.21' E		
N	14+46 ²⁵	5.8	346
cb		5.9	345
1/4		5.8	346
C	14+30 ⁵¹	5.9	345
45		6.1	343
47		5.7	347
1/4		5.1	347

✓

340.40

cb		5.7	34.7
S	14+14 ⁷⁶	5.7	34.7
	27768 E		
S	14+39 ⁷⁶	6.2	34.2
cb		5.9	34.5
1/4		6.3	34.1
+2		6.5	33.9
+4		7.3	33.1
c	14+57 ⁰⁰	7.2	33.2
1/4		7.1	33.3
cb		6.9	33.5
✓	14+74 ²²	6.8	33.6
	North line		
	306.15 E = EC = SW cor Univ. + Manzanito		
✓	15+03 ²² EC U30R	7.3	33.1
cb		7.6	32.8
1/4		8.0	32.4
c	14+83 ⁴⁹ EC.	8.1	32.3
1/4		8.6	31.8
+4		8.4	32.0
+5		7.3	33.1
cb		6.8	33.6
S	14+63 ²⁷ EC 370	6.79	333.61 333.63
	one iron pipe BM		
	318' E		
S	14+75 ⁶²	7.2	33.2
+3		9.0	31.4
cb		9.1	31.3

340.40

UNIVERSITY AVENUE

1/4		9.0	31.4
c	14+95 ³⁴	8.8	31.6
1/4		8.6	31.8
cb		8.3	32.1
✓	15+15 ⁰⁶	8.4	32.0
	325' E		
✓	15+22 ⁰⁶	7.2	33.1
+1		9.0	31.4
cb		8.7	31.7
1/4		8.8	31.6
c	15+02 ³⁴	9.2	31.2
1/4		9.2	31.2
cb		9.3	31.1
S	14+82 ⁶²	9.2	31.1
	350' E		
S	15+07 ⁶²	10.0	30.0
cb		10.2	30.2
1/4		10.5	29.9
✓	15+27 ³⁴	12.5	29.9
+7		10.2	30.2
1/4		9.7	30.7
cb		8.5	31.9
✓	15+27 ⁰⁶	7.0	33.4
	345.63 E = PC of 60' Curve EL Manzanito		
✓	15+62 ⁷⁴ E U60'R	6.8	33.6
cb		8.1	32.3

340.40

1/4			9.4	310
c	15+43 ⁰²		10.8	296
1/4			11.2	292
cb			11.0	294
S	15+23 ³⁰		10.6	298
T.P.	508	335.32	10.16	330.24
	377'E			
-15			8.8	265
S	15+34 ⁵⁷		11.1	242
+3			10.5	248
+8			6.2	291
cb			6.3	290
1/4			6.2	291
+4			6.2	291
+6			5.5	298
c	15+54 ³⁹		4.7	306
1/4			3.4	319
cb			2.2	33.1
✓	15+74 ⁴		1.2	34.1
	400'E			
✓	15+97 ¹¹		1.0	343
cb			1.7	336
1/4			2.4	329
c	15+77 ³⁹		3.2	321
+5			3.0	317
+6			4.8	305

335.32

Jan 17 YE 23

+7			6.5	288
1/4			7.2	281
cb			6.9	284
+2			7.0	283
S	15+57 ⁶⁷		9.3	260
+15			14.0	213
+18			14.1	212
+25			12.6	227
	425'E			
-25			14.9	204
-20			15.8	195
-15			15.7	196
S	15+82 ⁶⁷		9.1	262
+3			8.3	270
cb			8.3	270
1/4			8.6	267
+3			8.2	271
+5			4.9	304
C	16+02 ³⁹		4.0	313
1/4			3.1	322
cb			2.1	332
✓	16+22 ¹¹		1.3	340
	443.08'E = PC of 30' Curve EL Manzanito South			
✓	16+40 ⁷⁰		1.7	336
cb			2.4	329
1/4			3.6	317

335.32

c	16+20 ⁹⁸	5.8	29.5
+3		6.5	28.8
+5		9.2	26.1
1/4		9.7	25.6
cb		9.5	25.8
S	16+01 ²⁶ EC 30R	9.5	25.8
+21		18.4	16.9
+22		18.4	16.9
+30		16.2	19.1

55809

H 58.41 E = PC of 370' R Curve

-25		17.1	18.2
-19		19.2	16.1
-15		19.2	16.1

S	16+16 ⁰⁸ PC 430R	10.1	25.2
cb		10.4	24.9
1/4		10.2	25.1
+4		10.2	25.1
+8		7.1	28.2

e	16+35 ⁸⁰ PC 400R	6.8	28.5
+5		5.8	29.5
1/4		4.5	30.8
cb		3.3	32.0
N	16+55 ⁵² PC 370R	2.1	33.1

H 18.32 E = PC of 114.60' R Curve w L Oak-Crest

N	16+75 ⁴³ PCC 114.60R	2.9	32.4
cb		4.0	31.3

✓

335.32

UNIV. 17.11.24

1/4		5.3	30.0
c	16+57 ³²	7.4	27.9
+2		7.9	27.4
+5		11.5	23.8
1/4		11.3	24.0
cb		11.5	23.8
S	16+39 ²²	11.3	24.0
+1		11.4	23.9
+17		22.3	13.0
+21		22.3	13.0
+25		20.0	15.3
	503.41 E		def = 1° 44' 32"
-35		22.3	13.0
-28		27.3	08.0
-4		12.6	22.7
S	16+68 ³⁷	12.8	22.5
cb		12.6	22.7
1/4		12.5	22.8
c	16+84 ⁴⁴	12.6	22.7
+2		12.0	23.3
+4		9.9	25.4
+7		6.5	28.8
1/4		6.2	29.1
cb		4.8	30.5
N	17+00 ⁵²	3.8	31.5

✓

335.32

52591 E

N	17+2302	4.6	30.7
cb		5.8	29.5
+3		6.2	29.1
+5		11.7	23.6
1/4		12.3	23.0
C	17+0826	12.9	22.4
1/4		14.0	21.3
cb		13.8	21.5
S	16+9453	13.9	21.4
+7		13.8	21.5
+14		32.4	02.9
+55		23.9	09.4

548.41 E

-15		18.3	17.0
-6		13.0	22.3
S	17+2068	13.7	21.4
+2		14.8	20.5
cb		14.8	20.5
1/4		14.6	20.7
+2		14.2	21.1
+14		12.6	22.7
+8		9.2	26.1
3' W of LAST		13.2	22.1
C	17+3309	9.2	26.1
+1		12.5	22.8

335.32

UNIV. AVE

25

1/4		11.6	23.7
cb		11.4	23.9
+8		11.0	24.3
N	17+4552	5.9	29.4

553 E

N	17+5011 North	10.9	24.4
cb		11.0	24.3
T.P.	403 32795	12.00	323.32

570.91 E

N	17+6802	2.8	25.2
cb		3.0	25.0
+6		3.1	24.9
+8		1.3	26.7
1/4		1.3	26.7
C	17+5941	2.3	25.7
+5		2.5	25.2
1/4		7.3	20.7
+2		8.5	19.5
cb		8.5	19.6
S	17+4683	8.0	20.0
+2		7.5	20.5
+4		6.0	22.0

543.41 E

-5		6.7	21.3
-1		9.4	18.6
S	17+7278	9.6	18.4

327.95

db		9.7	18.3
+6		10.1	17.9
1/4		8.0	20.0
+5		3.3	24.7
c	17+81 ⁷⁴	2.8	25.2
1/4		2.0	26.0
db		1.4	26.6
+6		0.8	27.2
1/	17+90 ⁵²	1.6	26.4
	615.91'E		
1/	18+10 ²²	2.1	25.9
db		3.0	25.0
1/4		3.9	24.1
c	18+06 ²⁶	4.9	23.1
+6		5.3	22.7
1/4		7.7	20.3
+v		11.3	16.7
db		11.4	16.6
S	17+99 ¹³	11.4	16.6
+1		11.3	16.7
+5		8.7	19.3
	638.41'E		
-5		11.1	16.9
-v		14.0	14.0
S	18+25 ²⁸	14.0	14.0
db		13.8	14.2
			✓

327.95

Univ. 17v13

26

+5		11.4	13.6
1/4		12.0	16.0
+1		9.7	18.3
+3		7.6	20.4
c	18+30 ³⁹	6.5	21.5
1/4		6.0	22.0
db		4.8	23.2
1/	18+35 ⁵²	4.2	23.8
	660.91'E		
1/	18+58 ²²	6.0	22.0
db		6.8	21.2
1/4		8.4	19.6
c	18+54 ⁷¹	9.9	17.1
+7		10.9	17.1
T.P.	2.07 319.63 ^v	10.39	317.56 ^v
1/4		3.6	16.0
+3		7.2	12.4
db		7.3	12.3
S	18+51 ⁴³	7.4	12.2
+v		7.4	12.2
+3		6.6	13.0
	683.41'E		
-10		10.1	09.5
S	18+77 ⁵⁸	9.8	09.8
db		9.7	09.9
+6		10.1	09.5
			✓

319.63

1/4		7.7	11.9
+3		5.7	13.9
C	18+79 ⁰⁴	4.7	14.9
1/4		3.5	16.1
db		2.1	17.5
N	18+80 ⁵²	0.3	19.3
	70591'E		
N	19+03 ⁰²	3.1	16.5
db		4.4	15.2
1/4		5.5	14.1
C	19+03 ³⁷	7.0	12.6
+9		8.6	11.0
1/4		9.7	09.9
+4		12.3	07.3
+6		11.9	07.7
db		12.2	07.4
S	19+03 ²³	12.4	07.2
+4		12.6	07.0
+10		14.0	05.6
	728.41'E		
-10		16.0	03.0
S	19+29 ⁸⁸	14.9	04.7
db		15.0	04.6
+4		16.8	02.8
+6		15.7	03.9
1/4		12.0	07.6

✓

319.63

UNIV AVE

27

C	19+27 ²⁰	10.4	09.2
1/4		8.4	11.2
db		6.7	12.9
N	19+25 ⁵²	4.9	14.7
	75091'E		
N	19+48 ⁰²	8.1	11.5
db		10.4	09.2
1/4		12.0	07.6
TP	0.75 3.08.20	12.18	307.45
+5		1.4	06.8
C	19+52 ⁰³	2.8	05.4
1/4		4.3	03.9
+4		7.0	01.2
+6		6.7	01.5
db		6.7	01.5
S	19+56 ⁰³	6.8	01.4
+5		6.8	01.4
+10		8.5	299.7
	77341'E		
-10		11.5	296.7
-4		9.4	298.8
-3		10.3	297.9
S	19+82 ¹⁸	10.3	297.9
db		10.4	298.0
+5		9.7	298.5
+7		10.7	297.5

✓

30820

1/4		7.9	300.3
+3		5.8	024
v	19+76 ³⁶	4.7	035
1/4		3.3	049
#5		2.2	060
cb		1.6	066
N	19+70 ⁵²	0.6	076
79594 E = EC = EL OAK-CREST DRIVE			
-10		9.1	299.1
N	on Hub 19+93 ⁰⁴ EC	9.3	298.86
cb		9.1	299.1
1/4		8.7	299.5
C	20+00 ⁶⁹ EC	9.2	299.0
+5		9.7	298.5
1/4		11.2	297.0
+2		11.7	296.5
+5		13.4	294.3
+7		13.0	295.2
cb		13.3	294.9
S	20+08 ³³ EC	14.0	294.2
+4		13.3	294.9
+10		14.0	294.2
+15		16.9	291.3
T.P.	046 19570	12.96	295.24
	815' E		
-10		5.0	90.7

29570

UNIV. FIVE 28

S	20+27 ⁴²	3.8	91.9
cb		3.7	92.0
1/4		3.8	91.9
C	20+19 ²⁸	3.5	92.2
1/4		3.1	92.6
cb		2.8	92.9
N	20+12 ¹³	3.3	92.4
+10		2.9	92.8
835' E			
-15		7.3	88.4
N	20+34 ¹³	8.4	87.3
cb		8.7	87.0
1/4		9.4	86.3
C	20+39 ²⁵	9.3	86.4
1/4		8.1	87.6
+7		6.2	89.5
cb		6.4	89.3
S	20+47 ⁴²	6.3	89.4
+5		7.2	88.5
+15		11.1	84.6
+20		12.4	83.3
T.P.	289 289.24	9.35	86.35
	850' E		
-20		7.8	81.4
-15		7.1	82.1
-5		2.6	86.6

289.24

S	20+62 ⁴²	1.7	875
dt		1.9	873
+6		1.5	877
1/4		2.6	866
+6		5.0	842
c	20+54 ²⁸	5.1	841
1/4		5.5	837
dt		5.2	840
1	20+47 ¹³	4.7	845
+15		4.0	852
+20		2.6	866
	875'E		
-20		5.4	838
1	20+72 ¹³	6.4	828
dt		6.6	826
1/4		6.7	825
c	20+79 ²⁸	6.9	823
+3		6.8	824
1/4		4.6	846
+4		4.0	852
dt		4.2	850
S	20+87 ⁴²	4.4	848
+6		5.0	842
+15		8.2	810
+20		9.0	802
	900'E		

289.24

JUNE 1942 29

900'E			
-20		9.3	799
-15		9.1	801
-5		6.9	823
S	21+12 ⁴²	6.8	824
dt		6.1	831
+8		6.2	830
1/4		7.1	821
+3		7.7	815
c	21+04 ²⁸	7.6	816
1/4		7.7	815
dt		7.8	814
1	20+97 ¹³	7.9	813
+20		7.0	822
	925'E		
-20		8.6	806
1	21+22 ¹³	8.5	807
dt		8.5	807
1/4		8.7	805
c	21+29 ²⁸	8.4	808
1/4		8.1	811
+3		7.3	819
dt		6.9	823
+5		7.1	821
+15	21+37 ⁴²	8.2	810
+12		8.5	807
+25		9.4	796

289.24

950E

-25		7.6	79.6
-14		9.1	80.1
S	21+62 ⁴²	8.5	80.7
+5		7.2	82.0
db		7.1	82.1
+7		7.0	82.2
1/4		8.1	81.1
C	21+54 ²⁸	8.7	80.5
1/4		8.8	80.4
db		8.6	80.6
N	21+47 ¹³	8.2	80.8
+25		8.2	81.0

978E

-25		8.0	78.2
N	21+75 ¹³	8.3	80.9
db		8.2	81.0
1/4		9.1	80.1
C	21+82 ²⁸	8.9	80.3
1/4		8.2	80.8
+5		6.3	82.9
db		6.2	83.0
S	21+90 ⁴²	6.0	83.2
+8		7.6	81.6
+14.3 Sedge culvert		7.8	81.4
+14.4		10.8	78.4
+25		11.1	78.1

289.24

UNIV FIVE

30

981E

-25		11.2	78.0
-14.3 SEDGE culvert		10.5	78.7
-14.4		7.8	81.4
-8		7.6	81.6
S	21+94 ⁴²	6.3	82.9
db		5.9	83.3
+5		6.0	83.2
+7.5 SEDGE culvert		7.5	81.7
+7.6		9.8	79.4
1/4		9.8	79.4
C	21+86 ²⁸	10.7	78.5
1/4		10.7	78.5
db		10.3	78.9
N	21+79 ¹³	9.8	79.4
+4		9.2	80.0
+5		8.4	80.8
+25		8.2	81.0
W Molino check to pipe		6.69	282.55
	707	289.64	282.57
990.91 E = W L Molino Ave.			= db 10.20
-30		11.5	78.1
N	21+88 ⁰⁴ W L Molino	10.8	78.8
db		10.3	79.3
+5		9.0	80.6
1/4		8.9	80.7

289.64

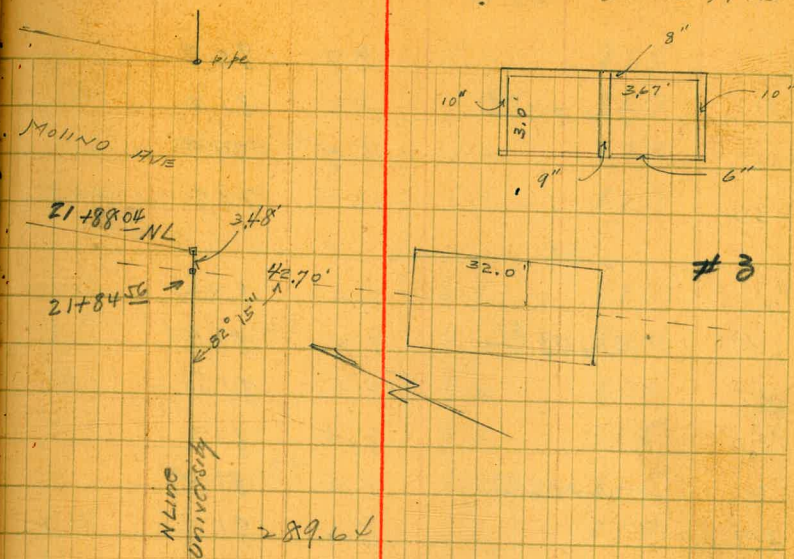
e	21+95 ⁶⁹	8.9	80.7
+8		8.9	80.7
1/4		8.6	81.2
+6		6.3	83.3
cb		6.2	83.4
S	22+03 ³³	6.2	83.4
+6		8.3	81.3
+2.5		10.0	79.6

Culvert levels #3 10' wide
10'S of existing Box Culvert = 0+00

EL		11.4	78.2
C		11.5	78.1
+3		11.3	78.3
WL		9.9	79.7
+10			
C = Flowline		11.89	77.75
+4.2			
C = Flowline		11.54	78.10
+60			
WL		210.5	79.1
C		11.1	78.5
+2		10.6	79.0
EL		9.2	80.4
+8.7' = NL UNIV AVE			
EL		10.5	79.1
C		11.0	78.6

CONC. Double Box Culvert UNIV 17VE

31



WL		10.3	79.3
+114.7			
WL		9.9	79.7
+3		11.4	78.2
C		11.5	78.2
EL		8.0	81.6
WL Molino +5			
-2.5		9.2	80.4
-10		8.4	81.2
S	22+08 ³³	6.3	83.3
cb		6.0	83.6
+5.		6.1	83.5
1/4		8.3	81.3
C	22+00 ⁶⁹	8.6	81.0
1/4		8.8	80.8

289.64

cb		8.7	80.9
N	21+93 ⁰⁴	8.2	81.4
+15		9.7	79.9
+30		10.7	78.9

w of Molino

-25		7.0	82.6
N	21+98 ³⁷	8.2	81.4
cb		8.1	81.5
1/4		8.4	81.2
C	22+06 ⁰²	8.4	81.2
+7		8.3	81.3
1/4		7.8	81.8
+5		5.5	84.1
cb		5.6	84.0
S	22+13 ⁶⁶	6.2	83.2
+15		8.6	81.0
+25		8.7	80.9

w 1/4

-25		8.4	81.2
-7		8.1	81.5
S	22+21 ⁴¹	5.8	83.8
cb		5.2	84.4
+5		5.0	84.6
1/4		7.3	82.3
+2		8.0	81.6
C	22+13 ⁷⁷	8.2	81.4

✓

289.64

Univ Five

32

1/4		8.1	81.5
cb		7.9	81.7
N	22+06 ¹²	7.6	82.0
+25		6.9	82.7

E Molino

-25		6.9	82.7
N	22+13 ⁸⁷	7.6	82.0
cb		7.6	82.0
1/4		8.1	81.5
C	22+21 ⁵²	8.1	81.5
+15		7.7	81.9
1/4		6.1	83.5
+5		4.2	85.4
cb		4.5	85.1
S	22+29 ⁶⁶	4.9	84.7
+8		7.5	82.1
+25		7.0	82.6

E 1/4

-25		6.3	83.3
-6		6.5	83.1
S	22+36 ⁹¹	4.0	85.6
cb		3.7	84.9
+5		3.6	86.0
1/4		5.5	84.1
+6		7.6	82.0
C	22+29 ²⁷	8.8	80.8

✓

28964

1/4		8.0	816
cb		7.5	821
N	22+21 ⁶²	7.3	823
+25		7.1	825
	Ecb		
-25		6.7	829
N	22+29 ⁵⁷	7.3	823
cb		7.4	822
1/4		7.7	819
C	22+37 ⁰²	7.7	819
+4		7.2	824
1/4		4.5	851
+4		2.8	868
cb		2.8	868
S	22+44 ⁶⁶	3.2	864
+5		5.1	845
+20		5.6	840
	EL Molino = 1042.57 E		
-20		4.6	850
-5		3.9	857
S	22+54 ⁹⁹	1.9	877
cb		1.6	880
+7		1.6	880
1/4		3.2	864
+8		7.2	824
C	22+47 ³⁵	7.2	824

✓

28964

Univ. Ave

30

1/4		7.4	822
cb		7.2	824
N	22+39 ²⁰ EL Molino	7.1	825
+25		6.4	832
	1075' E		
-25		6.0	836
N	22+72 ¹³	6.6	830
cb		5.8	838
1/4		5.5	841
+8		4.4	852
C	22+79 ⁷⁸	3.6	862
+5		0.5	891
TIP	11.55 300.99	0.20	289.44 ✓
1/4		8.9	291.1
+2		8.5	292.5
cb		8.8	292.2
+7		8.6	292.4
S	22+87 ⁴²	9.3	291.7
+7		8.7	292.3
+10		7.9	293.1
	1090' E		
S	23+02 ⁴²	6.2	294.8
+2		6.9	294.1
+4		6.9	294.1
+7		6.3	294.7
cb		6.5	294.5

✓

300.99

+7		6.6	2944
1/4		6.0	2950
+3		6.8	2942
c	22+94 ⁷⁸	11.4	289.6
1/4		14.2	2867
db		16.0	2850
1/4	22+89 ¹³	17.7	2833
+25		17.3	2837
	1100'E		
-25		17.2	2838
1/4	22+97 ¹³	14.6	2864
db		13.0	2880
1/4		11.6	2894
c	23+04 ⁷⁸	8.8	292.2
+7		4.6	2964
1/4		5.0	2960
db		5.1	295.9
+3		5.7	2953
+6		4.8	2962
S	23+12 ⁴²	3.6	297.4
T.P.	12.73 313.54	0.18	300.81
	1117'E		
c	23+29 ⁴²	11.6	301.9
db		13.8	299.7
+4		14.3	299.2
+5		15.7	297.8

✓

313.54

V. 17. 17. 17. 34

+7		14.8	2987
1/4		14.9	2986
c	23+21 ⁷⁸	14.3	299.2
+2		14.2	2993
1/4		17.4	2961
db		20.0	2935
1/4	23+14 ¹³	22.6	2909
+25		28.1	2854
	1130'E		
-25		27.1	2864
1/4	23+27 ¹³	18.7	2948
db		15.3	2982
+5		14.3	2992
1/4		12.2	3013
c	23+32 ⁷⁸	12.8	3007
1/4		12.5	3010
+1		13.7	299.8
+2		12.0	3015
db		10.5	3030
+7		8.2	3053
S	23+42 ⁴²	7.7	3058
	1145'E		
S	23+57 ⁴²	4.4	3091
db		5.9	307.6
+3		6.3	3072
+6		8.1	3054

✓

313.54

1/3		9.1	304.4
+3		9.6	303.9
+4		11.6	301.9
+6		11.6	301.9
+8		10.8	302.7
c	73+49 ⁷⁸	10.7	302.8
1/4		10.7	302.8
+8		10.6	302.9
cb		11.3	302.2
N	73+42 ¹³	14.3	299.2
+25		23.9	289.6
	1162 E		
-25		20.5	293.0
N	73+59 ¹³	11.2	302.3
+7		8.3	305.2
cb		8.3	305.2
1/4		8.6	304.9
+3		8.7	304.8
+6		9.2	303.9
+8		7.6	305.9
c	73+66 ⁷⁸	7.1	306.4
1/4		3.4	310.1
cb		2.2	311.3
T.P.	12.60 32589	0.55	313.29
S	73+74 ⁴²	13.5	312.4
	11794 ^w E = PC		
S	73+91 ⁸⁴ PC 430'	10.4	315.5

325.89

Univ Fkce 35

cb		11.7	314.2	
1/4		13.1	312.8	def 1° 51'
c	73+84 ²⁰ PC 400R	14.2	311.7	MLCH = 2.77 SL = 2.3.88
+5		16.3	309.6	
+9		17.3	308.3	
1/4		19.6	306.3	
+2		18.9	307.0	
cb		18.9	307.0	
N	23+76 ⁵⁵ PC 370R	18.6	307.3	
+20		27.7	298.2	
	1207.18 E			
-15		18.3	307.6	
-7		15.4	310.5	
N	24+04 ³¹	16.0	309.9	
cb		16.0	309.9	
+3		16.0	309.9	
+8		11.9	314.0	
1/4		11.2	314.7	
c	24+10 ⁰³	9.6	316.3	
1/4		7.9	318.0	
cb		6.5	319.4	
S	24+18 ⁷³	5.0	320.9	
	123494' E			
S	24+39 ⁶²	0.8	325.1	
cb		1.8	324.1	
1/4		3.1	322.8	

325.89

C	24+3586		4.8	21.1
1/4	P		6.0	19.9
+5			8.0	17.9
+8			9.3	16.6
1/4			11.7	14.2
+2			13.3	12.6
db			13.7	12.2
+9	24+3207		13.5	12.4
			13.3	12.6
+15			16.6	309.3
	1262.70 E			
-12			11.0	314.9
N	24+5983		11.0	14.9
+6			11.3	14.6
db			8.0	17.9
+6			4.4	21.5
1/4			3.5	22.4
C	24+6169		1.7	24.2
1/4			0.1	24.8
T.P	7.26	333.12	0.03	325.86 ✓
db			6.2	26.9
S	24+6351		5.6	27.5
	1290.46 E = EC			
S	24+8741	EC 370	3.4	329.7
db			4.3	28.8
1/4			5.6	27.5
C	24+8752	EC 400R	6.9	26.2

333.12

UNIFIVE 36

1/4			8.4	24.7
+5			9.5	23.6
db			11.9	21.2
+1			12.6	20.5
+2			14.4	18.7
+5			16.8	16.3
1/4	24+8762	EC 430	16.1	17.0
+15			15.6	17.5
	1305 E			
-16			14.6	18.5
1/4	25+0216		15.3	17.8
+4			15.8	17.3
db			10.1	23.0
+5			8.4	24.7
1/4			7.4	25.7
C	25+0206		5.8	27.3
1/4			4.5	28.6
db			3.4	29.7
S	25+0195		2.7	30.4
	1325 E			
S	25+2195		2.0	31.1
db			3.1	30.0
1/4			4.1	29.0
C	25+2206		5.4	27.7
1/4			6.5	26.6
+5			7.3	25.8

db		9.3	23.8	
+4		11.8	21.3	
+5		14.2	18.9	
N	25+72 ¹⁶	14.1	19.0	
+17		13.0	20.1	
	1350 E			
-20		12.1	21.0	
N	25+47 ¹⁶	12.9	20.2	
+6		12.8	20.3	
db		11.6	21.5	
+5		7.5	25.6	
1/4		7.0	26.1	
C	25+47 ⁰⁶	5.7	27.4	
1/4		4.3	28.8	
d		2.9	30.2	
S	25+46 ⁹⁵	2.1	31.0	
	1374.76 E = WL	LEMONA		BM 10.100
S	25+71 ²²	WL LEMONA	3.70	329.42 329.42
db		4.6	28.5	sw LEMONA
1/4		5.6	27.5	55.5' wide
C	25+71 ⁸³	6.6	26.5	10' sh
1/4		7.9	25.2	1/4 887'
+1		8.2	24.9	Plans-125W
+3		10.9	22.2	N.S. = 60 stut
+6		12.6	20.5	S.S. = 55.5"
db		12.9	20.2	
N	25+71 ²³	WL LEMONA	12.7	20.4
+20		11.7	21.4	✓

	WCA			
-20		11.9	21.2	
N	(25+81 ⁹³)	12.9	20.2	
db	25+83 ⁹³	13.0	20.1	
+6		12.7	20.4	
1/4		8.9	24.2	
C	(25+81 ⁸³)	7.5	25.6	
1/4	25+83 ⁸³	6.4	26.7	
db	25+83 ⁷²	5.4	27.7	
S	(25+81 ⁷²)	4.4	28.7	
	W 1/4			
S	(25+90 ⁵⁹)	5.2	27.9	
db	25+91 ⁶⁰	6.0	27.1	
1/4		7.2	25.9	
C	(25+90 ⁷⁰)	8.4	24.7	
+6	25+91 ⁷¹	9.7	23.4	
1/4		13.1	20.0	
db		13.3	19.8	
N	(25+90 ⁸⁰)	13.0	20.1	
+20	25+91 ⁸¹	12.3	20.8	
	1/4 + 3			
-20		12.3	20.8	
N	(25+93 ⁸⁰)	13.0	20.1	
db	25+94 ⁸¹	13.3	19.8	
1/4		13.1	20.0	
+5		13.0	20.1	✓

333.12

c	(25+93 ²⁰)	11.3	21.8
+5	25+94 ²¹	10.1	23.0
1/4		7.8	25.3
cb	25+94 ⁶⁰	7.0	26.1
S	(25+93 ⁵⁹)	5.8	27.3
	1/4 + 4		
S	(25+94 ⁵⁹)	8.4	24.7
cb	25+95 ⁶⁰	9.4	23.7
1/4		11.3	21.8
c	(25+94 ²⁰)	12.6	20.5
1/4	25+95 ²¹	13.3	19.8
cb		13.5	19.6
N	(25+94 ⁸⁰)	13.2	19.9
+20	25+95 ⁸¹	12.3	20.8
	& LEMONA AVE		
-20		12.5	20.6
N	25+99 ⁶⁷ ✓	13.3	19.8
cb		13.5	19.6
1/4		12.5	19.6
c	25+99 ⁵⁷ ✓	12.8	20.3
1/4		11.4	21.7
cb		9.9	23.2
S	25+99 ⁴⁶ ✓	8.7	24.4
T.P.	3.30 327.09	9.33	323.79
	E 1/4		
S	(26+08 ³³)	2.7	24.4
	26+07 ³⁵		✓

32709

JAN AVE 35

cb		4.0	23.1
1/4		5.8	21.3
c	(26+08 ⁴⁴)	7.3	19.8
1/4	26+07 ⁴⁶	7.7	19.4
cb		7.6	19.5
N	(26+08 ⁵⁴)	7.4	19.7
+15	26+07 ⁵⁶	7.3	19.8
	E 1/4 + H		
-15		7.2	19.8
N	(26+12 ⁵⁴)	7.5	19.6
cb	26+11 ⁵⁶	7.9	19.2
1/4		7.9	19.2
+7		8.1	19.0
c	(26+12 ⁴⁴)	7.6	19.5
1/4	26+11 ⁴⁶	5.7	21.4
cb	26+11 ³⁵	4.0	23.1
S	(26+12 ³³)	2.5	24.6
	E CURB		
S	ECB (26+17 ²⁰)	1.7	25.4
cb	26+15 ²²	3.0	24.1
1/4		4.4	22.7
+5		5.4	21.7
+6		7.3	19.8
c	(26+17 ³¹)	8.3	18.8
1/4	26+15 ³³	8.3	18.8
cb		8.2	18.9
N	(26+17 ⁴¹)	8.0	19.1
+10	26+15 ⁴³	8.0	19.1 ✓

327.09

EL LOMONA = 0+00

-10		✓ 9.9	17.2
N	26+27 ⁴³	ELS 8.6	18.5
cb		9.0	18.1
1/4		✓ 9.1	18.0
L	26+27 ³³	ELINS 9.2	17.9
+5		9.2	17.9
+8		6.0	21.1
C	R	5.6	21.5
1/4		4.0	23.1
cb		✓ 3.2	23.9
S	26+27 ²²	ELS 2.5	24.6
	15'E		
S	26+42 ²⁴	3.0	24.1
cb		5.7	21.4
+8		8.0	19.1
1/4		10.3	16.8
C	26+42 ³³	10.2	16.9
1/4		10.1	17.0
+5		12.4	14.7
cb		13.7	13.4
N	26+42 ⁴³	15.0	12.1
+20		17.5	09.6
TP	583 320.55	12.37	31.72
	30'E		
-20		14.8	05.8

✓

320.55

UNIV HVE 39

N	26+57 ⁴³	10.6	10.0
cb		9.0	11.6
1/4		6.5	14.1
+7		4.5	16.1
C	26+57 ³³	4.8	15.8
1/4		5.0	15.6
+5		5.2	15.4
+8		3.2	17.4
cb		3.0	17.6
S	26+57 ²²	0.9	19.7
	50'E		
S	26+77 ²²	3.7	16.9
cb		4.7	15.9
+7		6.8	13.8
1/4		6.7	13.9
C	26+77 ³³	6.6	14.0
+6		6.3	14.3
C	?	7.1	13.5
1/4		9.4	11.2
cb		11.5	09.1
N	26+77 ⁴³	13.3	07.3
+20		18.7	01.9
	75'E		
-20		20.7	29.9
N	27+02 ⁴³	17.1	303.5
cb		15.2	305.4

✓

320.55

1/4			12.0	07.6
+5 C	27+02 ³³		11.2	09.4
+5			10.2	10.4
1/4			8.3	12.3
cb			8.5	12.1
+7			8.6	12.0
S	27+02 ²²		6.4	14.2
	87' E			
-2			7.3	13.3
S	27+14 ²²		9.5	11.1
cb			9.4	11.2
+7			9.5	11.1
1/4			10.9	09.7
C	27+14 ³³	✓	12.6	08.0
T.P.	260	31190	11.5	309.30
1/4			6.0	05.9
cb			8.2	03.7
N	27+14 ⁴³		9.9	02.0
+20			14.1	297.8
	100' E			
-20			14.5	297.4
N	27+27 ⁴³		11.2	300.7
cb			9.7	02.2
1/4			7.7	04.2
C	27+27 ³³		5.8	06.1
1/4			3.8	08.1
+5			2.2	09.7

✓

311.90

UNIC FIVE

40

cb			2.4	09.5
S	27+27 ²²		2.2	09.7
	125' E			
S	27+52 ²²		5.2	06.7
cb			4.9	07.0
+2			5.4	06.5
1/4			6.5	05.4
C	27+52 ³⁰		8.3	03.6
1/4			10.2	01.7
cb			11.5	300.4
N	27+52 ⁴³		12.7	299.2
+20			14.5	297.4
	162' E			
-15			12.5	299.4
-4			14.6	297.3
N	27+89 ⁴³		15.2	296.7
cb			13.6	298.3
1/4			12.7	299.2
C	27+89 ³³		11.4	300.5
1/4			9.9	302.0
cb			8.8	303.1
+4			7.4	304.5
S	27+89 ⁴²		7.8	304.1
	166' E			
S	27+93 ²²		8.1	303.8
+6			7.7	304.2

✓

31190

cb		9.1	3028
1/4		10.6	301.3
c	27+93 ³³	11.7	300.2
1/4		13.0	298.9
cb		14.1	297.8
+5		14.5	297.5
N	27+93 ⁴³	15.1	296.8
+15		11.8	300.1
	180 E		
-10		10.1	3018
N	28+07 ⁴³	11.4	300.5
cb		13.2	298.7
1/4		14.5	297.4
+7		14.5	297.4
c	28+07 ³³	13.0	298.9
1/4		12.2	299.7
cb		11.2	300.7
+8		9.1	302.8
S	28+07 ²²	9.3	302.6
	190 E		
S	28+17 ²²	9.7	302.2
cb		11.6	300.3
1/4		12.6	299.3
+7		13.9	298.0
c	28+17 ³³	13.9	298.0
1/4		12.3	299.6

✓

31190

UNIV. 41

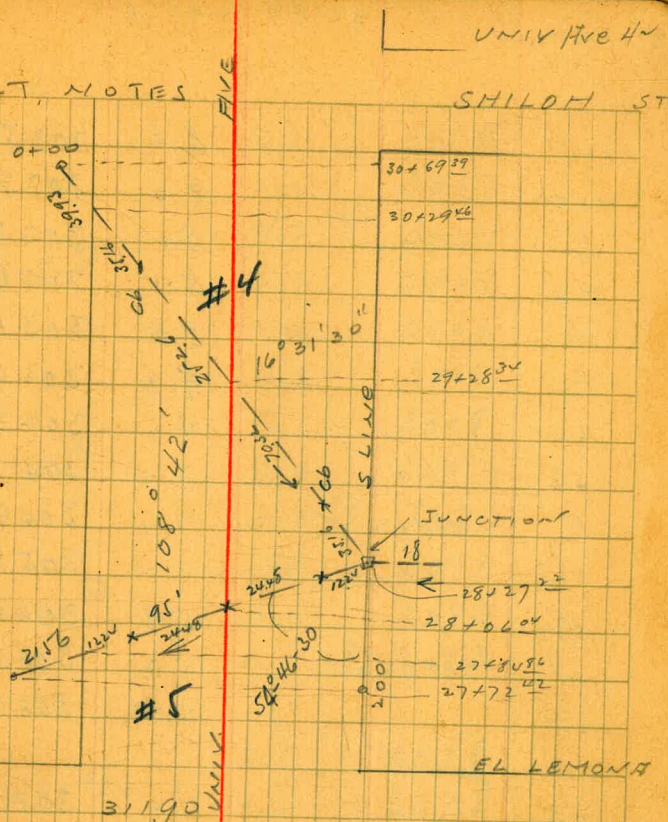
cb		11.5	300.4
N	28+17 ⁴³	10.2	301.7
+10		9.1	302.8
	200' E		
-10		8.2	303.3
N	28+27 ⁴³	9.3	302.6
cb		10.1	301.8
1/4		11.2	300.7
c	28+27 ³³	12.1	299.8
1/4		12.6	299.3
cb		12.7	299.2
+8		12.4	299.5
S	28+27 ²²	10.9	301.0
+1		10.2	301.7
+10		10.1	301.8
+15		11.0	300.9
	220 E		
-15		10.0	301.9
-2		10.3	301.6
S	28+47 ²²	10.7	301.2
cb		11.1	300.8
1/4		10.2	301.7
c	28+47 ³³	9.7	302.2
1/4		9.0	302.9
cb		8.5	303.4
N	28+47 ⁴³	8.1	303.8
+10		7.5	304.5

✓

Culvert Levels 311.90

0+00	2.9	309.0
+15	3.5	308.4
+30	3.6	308.3
+40	3.7	308.5
+50	3.9	308.0
+75	4.5	307.4
+90	5.7	306.2
100	6.2	305.7
+20	6.7	305.2
+50	7.3	304.6
+65	8.0	303.9
+70	9.1	302.8
+90	9.7	302.2
2 -	10.2	301.7
+15	11.2	300.7
+52.4 = JUNCTION	11.1	300.8
S TO INLET	10.2	301.7
	11.1	300.8
	11.0	300.9
3+00	13.8	298.1
+25	14.8	297.1
3+7.6 = OUTLET	15.9	296.0

CULVERT NOTES



-5	6.2	305.7
N	6.4	305.5
cb	6.8	305.1
1/6	7.4	304.5
C	7.6	304.3
1/4	9.3	302.6
cb	10.5	301.4
S	9.8	302.1
+15	9.7	302.7

31190

275' E

-15		8.4	303.5
-10		8.0	303.9
S	29+10 ²²	8.1	303.8
+5		8.3	303.6
cb		8.8	303.1
1/4		9.3	302.6
+4		9.1	302.8
+8		7.2	304.7
C	29+07 ³³	7.0	304.9
1/4		6.4	305.5
cb		5.9	306.0
N	29+02 ⁴³	5.5	306.6
+5		5.2	306.7

300' E

-5		4.2	307.7
N	29+27 ⁴³	4.4	307.5
cb		4.8	307.1
1/4		5.5	306.4
+7		7.0	304.9
C	29+27 ³³	7.3	304.6
+5		9.1	302.8
1/4		8.1	303.8
cb		7.2	304.7
S	29+27 ²²	6.6	305.3
+13		6.8	305.1
+15	✓	5.4	306.5

31190

Jan. 1904

325' E

-13		4.0	307.9
-12		5.2	306.7
-9		4.7	307.2
S	29+52 ²²	5.0	306.9
cb		5.3	306.6
1/4		6.3	305.9
+7		7.1	304.8
C	29+52 ³³	6.7	305.2
1/4		6.3	305.6
cb		4.8	307.1
N	29+52 ⁴³	3.6	308.3
+5		3.6	308.3

350' E

-5		3.1	308.8
N	29+77 ⁴³	4.1	307.8
+8		6.1	305.8
cb		4.1	305.8
1/4		5.9	306.0
C	29+77 ³³	5.7	306.2
1/4		4.6	307.3
cb		3.5	308.4
S	29+77 ²²	3.5	308.4
+9		3.5	308.4
+11		4.3	307.6

31190

375'E

-7		2.6	309.3
-4		2.0	309.9
S	30+02 ²²	2.2	309.7
cb		2.3	309.6
1/4		2.6	308.3
+7		3.7	308.2
C	30+02 ³³	3.6	308.3
+5		4.7	307.2
1/4		4.7	307.2
+6		5.4	306.5
cb		4.4	307.5
N	30+02 ⁴³	3.0	308.9
+5		2.6	309.3
	400'E		
-5		2.6	309.3
N	30+27 ⁴³	3.7	308.2
cb		3.8	308.1
+5		3.7	308.2
1/4		2.7	309.2
+5		3.0	308.9
C	30+27 ³³	1.5	310.4
1/4		0.9	311.0
cb		0.4	311.5
S	30+27 ²⁴	0.5	311.4
+6		0.4	311.5

UNIV. AVE 44

31190

T.P. 744 317.77 1.57 310.33 ✓
 ch to iron BM Pipe 475 313.02 312.03
 See book 1138 for continuation

80 wds Sassafras St X Sec
India to Columbia.

4-7-26
Mulle

97.79

45.

BM 12.87 77.79 84.92 Sassafras
S.E. India

oo = E. line India St

S		12.5	85.3	
cl		12.80	85.0	cont cl
1/4		12.6	85.2	
e		12.7	85.1	
1/4		12.7	85.1	
cl		12.70	85.1	cont cl
N		11.7	86.1	
	5'E			
N		8.5	88.3	
cl		11.0	86.8	
+1		12.8	85.0	
+4		12.8	85.0	
+7		11.4	86.4	
1/4		12.5	85.3	
e		12.3	85.5	
+8		11.3	86.5	
1/4		11.4	86.4	
cl		12.5	85.3	
S		11.6	86.2	
	25'E			
S		9.8	88.0	
cl		11.3	86.5	
+6		10.9	86.9	
1/4		9.7	88.1	

+11		9.4	88.6	
C		10.7	87.1	
1/4		11.0	86.8	
+7		10.3	87.5	
cl		10.6	87.2	
+8		10.3	87.5	
+12		7.9	89.9	
N		4.5	93.3	
	48'E			
N		0.6	97.2	
+3		5.2	92.6	
+7		8.4	89.4	
cl		8.5	89.3	
1/4		8.8	89.0	
C		8.5	89.3	
+3		7.6	90.2	
1/4		8.2	89.6	
cl		9.4	88.4	
S		9.1	88.7	
+4		6.7	89.1	
	68'E			
S-5		4.1	93.7	
S		4.4	93.4	
+9		8.9	89.6	
cl		8.3	89.5	
1/4		7.1	90.7	

97.77

68 E (Con)

c			6.5	91.3
+4			7.1	90.7
14			6.9	91.0
+5			6.7	91.1
cl			7.6	90.2
+7			6.6	91.2
+10			4.4	93.4
T.P.	12.97	110.34 v	0.42	97.37
N			11.0	99.3
		95.8		
N			8.2	102.1
+1			8.5	101.8
+5			15.2	95.1
+10			18.5	91.8
cl			18.6	91.7
+2			19.3	91.0
14			16.2	94.1
c			16.8	93.5
14			18.2	92.1
+8			17.1	93.2
cl			16.5	93.8
+6			13.0	97.3
S			13.3	97.0
		125.8		
S			8.8	101.5
cl			8.0	102.3

110.34

Sassafras

46

+5			8.6	101.7
14			11.6	98.7
+3			12.4	97.9
c			11.8	98.5
14			12.0	98.3
+8			14.7	95.6
cl			16.4	93.9
+6			14.8	95.5
+9			12.3	98.0
+13			7.4	102.9
N			7.0	103.3
		130.8		
N			6.4	103.9
+1			6.8	103.5
+5			11.4	98.9
+9			14.3	96.0
cl			15.7	94.6
+2			13.8	96.5
+7			13.5	96.8
14			10.7	99.6
c			10.6	99.7
+10			11.2	99.1
14			9.8	100.5
14			7.6	102.5
cl			7.5	102.8
112			8.2	104.1
S			2.7	107.6

110.34

150'E

S	+2.5	112.8 113.8
+7	+1.8	112.1
+10	4.8	105.5
cl	4.8	105.5
+8	3.9	106.4
14	5.4	104.9
+3	7.2	103.1
C	7.9	102.4
14	7.8	102.5
+10	11.1	99.2
+12	14.2	96.1
cl	11.7	98.6
+5	11.7	98.6
+13	6.0	104.3
N	5.6	104.7
165'E		
N	4.2	105.7
+3	5.7	105.6
+8	7.5	100.8
+10	7.5	100.8
+12	11.6	98.7
cl	9.8	100.5
+6	7.2	101.1
14	6.2	104.1
C	5.5	104.8
+7	4.9	105.4

110.34

Sassafras

27

14	1.5	108.8
cl	2.0	108.3
T.P.	12.68	122.00 ✓
+3	7.4	114.6
S	6.3	115.7
190'E		
S	1.9	120.1
cl	3.9	118.1
+4	4.5	117.5
+7	9.4	112.6
14	9.8	112.2
+3	9.4	112.6
C	12.6	109.4
14	12.7	109.3
+9	18.0	106.0
cl	18.2	103.8
+1	19.6	102.4
+4	19.6	102.4
+5	18.0	104.0
+9	17.2	104.8
N	14.8	107.2
+5	12.8	109.2
201'E 2W line Columbia		
N	14.9	107.1
+6	16.2	105.8
+11	18.2	103.8

17.200
W Line Columbia St

cl			16.4	105.6
+5			14.9	107.1
N 1/4			10.6	111.4
+7			10.6	111.4
cl			10.6	111.4
+1			7.8	114.2
S 1/4			7.4	114.2
+4			7.8	114.2
+6			3.2	119.8
cl			1.8	120.2
T.P.	12.81	122.13	12.64	109.32
T.P.	15.10	137.18	0.05	122.08
S			14.2	125.0
255 of Sassafras on W line Columbia			11.2	126.0

Columbia St N Sec from 75' wide
125' elev
S line Sassafras to S line North
1275 1/4 S.
137.18 from above
S line Sassafras ST

W			14.2	123.0
cl			11.5	125.7
1/4			9.9	127.3
E			7.5	129.7
+2			6.4	130.8
1/4			6.2	131.0
+1			6.5	130.7

137.18

Columbia 48

+2			8.6	129.6	drive to South
+9			8.5	129.7	" " "
+10			3.5	133.7	
cl			2.7	134.5	
E			10.6	137.8	
15' S of Sassafras on E line Columbia			13.8	141.0	
S. cl.					
E			3.3	133.9	
cl			6.7	130.5	
+2			7.3	129.9	
+3			10.9	126.3	
1/4			11.9	125.3	
+1			9.2	128.0	
+6			7.0	130.2	
E			10.0	127.2	
1/4			11.8	125.4	
cl			14.0	123.2	
W			17.0	120.2	
7 N of S. cl.					
W			18.4	118.8	
cl			15.1	122.1	
1/4			12.5	124.7	
E			10.8	126.4	
+3			8.8	128.7	
+10			10.3	126.9	
+11			13.3	123.9	

137.18

7' N of cl (con)

1/42	12.3	123.9
+11	11.7	125.5
cl	8.3	128.9
E	5.4	131.8
9' N of S. cl		
E	6.1	131.1
cl	8.8	128.6
+1	12.0	125.2
1/4	13.4	123.8
+1	13.4	123.8
+2	11.0	126.2
+6	9.3	127.9
C	12.2	125.0
1/4	13.2	124.0
cl	16.0	121.2
W	23.0	114.2
S. 1/4		
W	23.0	114.2
cl	20.0	117.2
1/4	16.2	121.0
C	12.6	124.6
+7	10.6	126.6
+10	14.7	122.5
1/4	14.4	122.8
cl	12.6	124.6
+4	7.9	129.3
E	7.0	130.2

137.18

Columbia

49

6' N of S. 1/4

E	7.8	129.4
+8	8.6	128.6
+9	12.3	124.9
cl	12.5	124.7
1/4	14.6	122.6
C	16.7	120.5
1/4	19.2	118.0
cl	21.3	115.9
W	23.0	114.2

Sassafras

W	25.8	111.4
cl	23.3	113.9
1/4	20.6	116.6
C	17.8	119.4
1/4	15.0	122.2
cl	13.2	124.0
E	9.6	127.6

6' N of cl

E	12.2	125.0
cl	13.6	123.6
1/4	15.4	121.8
C	17.6	119.6
1/4	20.3	116.9
cl	23.2	114.0
W	25.8	111.4

		137.18		
		N. 1/4		
W		25.8	111.4	
cl		23.0	114.2	
1/4		20.2	117.0	
E		17.1	120.1	
1/4		15.1	122.1	
cl		13.9	123.3	
E		12.1	125.1	

		8' N of N 1/4		
E		12.4	124.8	
cl		15.2	122.0	
1/4		16.5	120.7	
T.P.	0.05	122.13	15.10	122.08
E		6.1	116.0	
1/4		9.5	112.6	
cl		11.8	110.3	
W		15.1	107.1	

		N. cl		
W		16.5	105.6	
cl		13.2	108.9	
1/4		11.4	110.7	
E		8.5	113.6	
1/4		5.4	116.7	
cl		2.8	119.3	
E		0.2	121.9	

		122.13	Columbia	50
		6' N of N cl		
E-7		2.0	120.1	
E		3.4	118.7	
cl		5.6	116.5	
1/4		8.2	113.9	
E		10.4	111.7	
1/4		13.2	108.9	
cl		14.6	107.5	
W		16.3	105.8	

		N. line Sassafras St		
W		15.0	107.1	
+2		16.0	106.1	
cl		14.4	107.7	
1/4		13.6	108.5	
+5		12.9	109.2	
E		10.8	111.3	
1/4		9.1	113.0	
cl		6.9	115.7	
E		4.9	117.2	
+10		2.9	119.2	

		12' W		
-10		5.3	116.8	
E		6.8	115.3	
cl		8.5	113.6	
1/4		10.6	111.5	
E		12.1	110.0	
1/4		13.2	108.9	
+18		13.9	108.2	

122.13

12' N (Cont)

cl	13.0	109.1
W	12.2	109.9
+5	11.6	110.5

23' N

-5	9.5	114.6
W	9.9	112.2
cl	10.1	112.0
1/4	11.4	110.7
E	11.4	110.7
1/4	10.8	111.3
d	9.3	112.8
E	8.1	114.0
+15	6.7	115.4

35' N

-15	6.1	116.0
E	7.0	115.1
cl	7.2	114.9
1/4	7.8	114.3
E	8.7	113.4
1/4	7.5	114.6
cl	6.5	115.6
W	6.7	115.4
+10	6.2	115.9

50' N

-10	3.1	119.0
W	2.7	119.4

122.13

Columbia

51

cl		3.0	119.1	
1/4		4.1	118.0	
E		4.2	117.9	
1/4		3.9	118.2	
cl		2.7	119.4	
E		2.3	119.8	
+10		3.3	118.8	
T.P.	12.88	135.01	0.00	122.13

75' N

-5		8.0	127.0
E		7.9	127.1
cl		8.2	126.8
1/4		8.9	126.1
E		9.1	125.9
1/4		10.1	124.9
cl		10.1	124.9
W		10.4	124.4
+10		11.4	123.6

100' N

-10		8.1	126.9
W		6.9	128.1
cl		5.5	129.5
1/4		4.4	130.6
E		3.5	131.5
1/4		2.5	132.5
cl		1.5	133.5
E		0.9	134.1

T.P.	12.73	135.01	147.74	0.00	135.01
			125' N		
E				6.8	140.9
cl				7.6	140.1
1/4				8.6	139.1
C				10.8	136.9
1/4				12.8	134.9
cl				14.8	132.9
W				16.3	131.4
+10				17.5	130.2
			140' N		
-10				15.9	131.8
W				15.0	132.7
cl				13.3	134.4
1/4				10.7	137.0
C				7.4	140.3
1/4				6.0	141.7
cl				5.3	142.4
E				3.7	144.0
			155' N		
E				1.0	146.7
cl				2.4	144.9
1/4				4.3	143.4
C				7.1	140.6
1/4				9.5	138.2
cl				11.5	136.2

	147.74	Columbia	52	
W		12.9	134.8	
+10		15.6	132.1	
		185' N		
-10		12.9	134.8	
W		11.5	136.2	
cl		8.9	138.8	
1/4		5.8	141.9	
C		3.4	144.3	
1/4		1.8	145.9	
T.P.	12.84	159.91	0.67	147.07
cl			11.4	148.5
E			9.5	150.4
			200' N	
E			8.3	151.6
cl			10.0	149.9
1/4			12.8	147.1
C			14.2	145.1
1/4			17.0	142.9
cl			20.2	139.7
W			22.6	137.3
+10			24.7	135.2
			225' N	
-10			23.1	136.8
W			21.1	138.8
cl			18.2	141.7
1/4			16.3	143.6

159.91
225' N. (EOM)

E	13.9	146.0
1/4	11.3	148.6
1/2	8.4	151.5
E	6.3	153.6

250' N

E	5.2	154.7
1/2	7.5	152.4
1/4	10.1	149.8
E	12.7	147.2
1/4	15.1	144.8
1/2	17.2	142.7
W	19.9	140.0
+10	21.9	138.0

275' N

-10	20.6	139.3
W	18.4	141.5
1/2	16.7	143.2
1/4	14.6	145.3
E	12.0	147.9
1/4	9.6	150.3
1/2	7.2	152.7
E	5.0	154.9

300' N = old skin + Thorn

E	4.2	155.7
1/2	6.1	153.8
1/4	8.1	151.8

159.91

Columbia
Thorn 53

E	10.5	149.4
1/4	12.8	147.1
1/2	15.0	144.9
W	17.6	142.3
+15	21.1	138.8

316 W = New Skin + Thorn

W-15	20.4	139.5
W	16.4	143.5
1/2	14.0	145.9
1/4	11.8	148.1
E	9.7	150.2
1/4	7.5	152.4
1/2	5.1	154.8
E	2.9	157.0

50' wide Thorn St. 2500 Columbia to Union
10' elev
7.5' 1/4s
159.91

15' W of W line Columbia

S	20.4	139.5
1/2	20.0	139.9
1/4	20.1	139.8
E	19.9	140.0
1/4	19.0	140.9
1/2	18.2	141.7
W	18.0	141.9
+10	18.2	141.7

159.91
W. Line Columbia

N-10	14.6	145.3
N	14.4	145.5
cl	14.9	145.0
"4	15.6	144.3
C	15.8	144.1
"4	16.2	143.7
cl	16.0	143.9
S	16.4	143.5

W cl

S	14.0	145.9
cl	13.2	146.7
"4	13.0	146.9
C	12.5	147.4
"4	12.3	147.6
cl	12.2	147.7
N	11.6	148.3
+5	11.3	148.6

W "4

-5	8.6	151.3
N	9.0	150.9
cl	9.5	150.4
"4	9.7	150.2
C	10.3	149.6
"4	10.9	149.0
cl	11.2	148.9
S	11.8	148.1

159.91
E Columbia

Thorn 56

S	9.7	150.2
cl	9.2	150.9
"4	8.5	151.4
C	8.0	151.9
"4	7.1	152.8
cl	6.8	153.1
N	6.5	153.4
+5	6.3	153.6

E "4

-5	3.1	156.8
N	3.5	156.4
cl	4.5	155.4
"4	4.9	155.0
C	5.8	154.1
"4	6.5	153.4
cl	6.8	153.1
S	7.5	152.1

E cl

S	5.1	154.8
cl	4.0	155.9
"4	3.9	156.0
C	3.1	156.8
"4	2.3	157.6
cl	1.6	158.3
N	0.8	159.4
T.P.	12.82	171.80
	0.90	159.01

171.83
E. line Columbia

N	9.6	162.2
cl	10.3	161.5
1/4	11.1	160.7
C	12.2	159.6
1/4	12.9	158.9
cl	14.2	157.6
S	14.8	157.0

25'E

S	8.9	162.9
cl	8.0	163.8
1/4	7.1	164.7
C	6.4	165.4
1/4	5.7	166.1
cl	5.0	166.8
N	4.1	167.7

50'E

N	1.0	170.8
cl	1.9	169.9
1/4	2.4	169.4
C	3.3	168.5
1/4	4.1	167.7
cl	4.8	167.0
S	5.7	166.1

80'E

S	1.7	170.1
cl	0.8	171.0

171.83

Thorn

55

T.P.	12.86	184.64	2.05	171.78
1/4			12.7	171.9
C			12.0	172.6
1/4			11.1	173.5
cl			10.4	174.4
N			9.7	174.9

100'E

N			6.6	178.0
cl			7.3	177.3
1/4			7.7	176.9
C			8.4	176.2
1/4			9.4	175.2
cl			10.1	174.5
S			11.0	173.6
75			11.6	173.0

wedge
on mt drive

115'E

-5			8.9	175.7
S			8.4	176.2
cl			7.7	176.9
1/4			7.3	177.3
C			7.0	177.6
1/4			6.8	177.8
cl			6.6	178.0
N			6.4	178.2

E. edge
mt drive

184.64

145'E

N			3.0	181.6	CHT walk
24			3.4	181.2	
144			4.1	180.5	
C			4.6	180.0	
144			4.8	179.8	
cl			5.1	179.5	
S			5.6	179.0	
+5			5.7	178.9	
		160'E			
-5			4.2	180.4	
S			4.1	180.5	
cl			3.7	180.9	
144			3.3	181.3	
C			2.8	181.8	
144			2.4	181.2	
cl			2.1	182.5	
N			1.5	183.1	
T.P.	5.69	189.95	0.38	184.26	
		185'N			
N			2.6	187.3	
+4			4.5	185.4	
cl			4.9	185.0	
144			5.3	184.6	
C			5.6	184.3	
144			6.1	183.8	
cl			6.6	183.3	

189.95

Thorn 56

S			7.2	182.7	
+5			7.5	182.4	
T.P.	11.05	198.251	2.75	187.20	STR Mo H Thorn State
200' E on S	7'	W line state st	ans. 75' wide	12' ds	12.75 145
216' E on N	5'	Sketch P. 28	on N 43' wide	5.67 ds	7.92 145
16' along both sides		of state N. of Thorn	Taken on Diagonal	Line between	
S-5			15.1	183.2	
S			14.6	183.7	
Scl			13.7	184.6	
144			13.1	185.7	
C			12.6	185.7	
144			11.9	186.4	
cl			11.1	187.2	
+6			10.7	187.6	
N			9.3	189.0	
		W. cl on Diagonal	cl to cl		
N			9.2	189.1	
cl			10.7	187.6	
144			11.0	187.3	
C			11.5	186.8	
144			12.5	185.8	
cl			13.2	185.1	
S			14.2	184.1	
+5			14.7	183.6	
		W. 14 on Diagonal	14 to 14		
S-5			14.0	184.3	
S			13.2	185.1	
cl			12.4	185.9	

198.25
W. 14 (EON)

14	11.8	186.5
C	11.2	187.1
14	10.3	188.0
cl	9.6	188.7
N	8.9	189.4
	φ	
N	8.4	189.9
cl	9.1	189.2
14	9.9	188.4
C	10.5	187.8
14	11.3	187.0
cl	12.0	186.3
S	12.4	185.5
+5	13.6	184.7
	E 14 on Diagonal	
-5	13.2	185.1
S	12.6	185.7
cl	11.7	186.6
14	10.5	187.8
C	9.8	188.5
14	8.6	189.7
cl	8.3	190.0
N	8.0	190.3
	E. cl. on Diagonal	
N	6.2	192.1
+5	6.2	192.1

198.25

THORN

57

+6	7.7	190.6
cl	7.8	190.5
14	7.7	190.6
C	8.8	189.5
14	9.8	188.5
cl	10.5	187.8
S	12.2	186.1
+5	12.0	186.3

E Line State on Diagonal

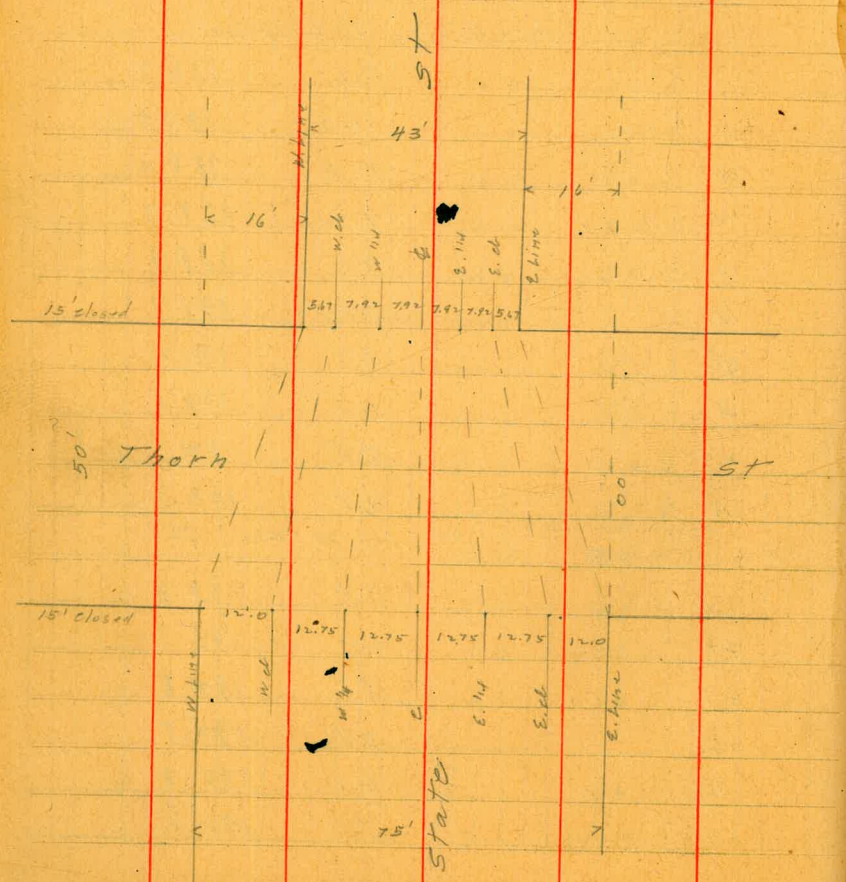
S-5	11.6	186.7
S	11.0	187.3
cl	10.3	188.0
14	9.2	189.1
C	8.4	189.9
14	7.2	191.1
cl	7.3	191.0
+2	7.5	190.8
+4	5.8	192.5
N	4.8	193.5
00 =	{ same point on S } 16 E. on W	} = old E. Line of State 90°
N	4.4	193.9
+6	5.0	193.3
+7	5.7	192.6
cl	5.8	192.5
14	6.1	192.2
C	7.7	190.6

14
d
s
+5

198.25 Thorn 58

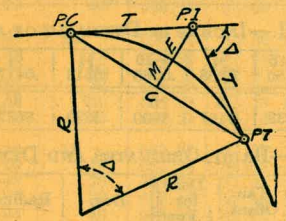
9.1 189.2
10.1 188.2
11.0 187.3
11.6 186.7

Continued Book 1147 Page 45



DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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CURVE FORMULAS

- Radius = $R = \frac{50}{\sin \frac{D}{2}}$ (1) Degree of Curve = D and $\sin \frac{D}{2} = \frac{50}{R}$ (2)
- Tangent = $T = R \tan \frac{\Delta}{2}$ (3) Length of Curve = $L = 100 \frac{\Delta}{D}$ (4)
- Middle ordinate = $M = R(1 - \cos \frac{\Delta}{2})$ (5) = $R \text{vers } \frac{\Delta}{2}$ (6)
- External = $E = T \tan \frac{\Delta}{4}$ (7) = $R \div \cos \frac{\Delta}{2} - R$ (8) = $R \text{exsec } \frac{\Delta}{2}$ (9)
- Long Chord = $C = 2 R \sin \frac{\Delta}{2}$ (10) Δ = Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I. = Sta. 161 + 60.35 to find Sta. of P. C. and P. T. $\Delta = 62^\circ 10'$ $D = 8^\circ 20'$. From Table IV for 1° curve $T = 3454.1$ and $\div 8\frac{1}{3} = 414.49$ ft. From Table V correction = .36 or $T = 414.85$ ft. P. C. = Sta. P. I. - $T = 157 + 45.50$. Also from (4) $L = 746.00$ and P. T. = Sta. P. C. + $L = 164 + 91.50$.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft. = 7.27 ft. Distance = 158 - Sta. P. C. = 54.50, hence offset = $7.27 \frac{54.50}{100} = 2.16$ ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 638.26) = 2.16$ ft.

Deflections.—Deflection angle = $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft. = (in minutes) $.3 \times C \times D^\circ$ or = defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve = $.3 \times 54.5 \times 8\frac{1}{3} = 136.2'$ or $2^\circ 16.2'$, or = $2.50 \times 54.5 = 136.2'$ from Table III. For Sta. 159 deflection angle = $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve $E = 960.6$ for $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 91.27$ and from Table V correction = .10 or $E = 91.37$ ft. Or suppose $\Delta = 32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E = 230.9$ and $\div 42 = 5.5$ or $D = 5^\circ 30'$.

19826 N.V. JAN 1

19826

19826

10720
45
6250

257.6
95
347.6

34017
1647
32970

582.03
379.96
961.99

537
+ 70
807.0 = W L Cerros Flvo

+ 70
1077
60
1137

3.8
3.8
- .29
6.89
7.5
13.5

3.88
3.88
- .8
9.0

3.8
3.8
- .8
9

Evold Ave	NW 1/4 P	340.68
ACACIA DRIVE	SW 1/4 P	329.71
WINDONA	NW 1/4 pipe	333.60
Manzanito	SW ✓ ✓	333.63
Molino	NE ✓ ✓	282.57
LEMONA	SW ✓ ✓	329.44
St. John Rd. <small>BIK 2 V</small> Lemonville	NE ✓ ✓	313.03
RADIO Rd.	NW ✓ ✓	313.82

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) * 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

3.8
3.8
10
10
9.45
9.9