

Grade,

150

PASTS

1890

BC

Index, May 21 '31

Our Leather Bound Engineers Note Books are carried in the following rulings:

- No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.
- No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.
- No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.
- No. 385 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 8 vertical and 4 horizontal lines to the inch, Center Line Red.

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**THE FREDERICK POST CO.**  
*ENGINEERING and DRAFTING SUPPLIES*  
IRVING PARK STATION  
CHICAGO, ILL.

MICROFILMED

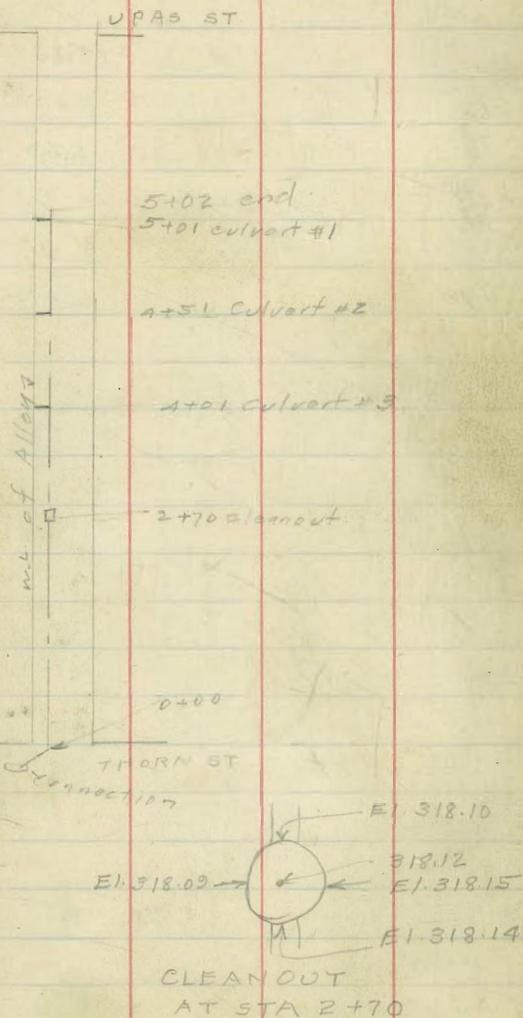
APR 8 1965

stakes for storm drain  
Alley BIK2 Fraray Hts.

Sta	+	H.I.	-	EI.
NE 30th Ups B.M.	6.13	332.05		325.92
T.P.	6.76	331.64	7.17	324.88
T.P.	4.02	325.81	9.85	321.79
5+02			3.59	322.22
cul. No. 1 5+01			3.66	322.15
4+75			4.10	321.71
cul. No. 2 4+51			4.34	321.47
4+25			5.04	320.77
cul. No. 3 4+01			7.10	318.71
3+75			6.18	319.63
3+50			6.28	319.53
3+25			6.52	319.29
3+00 clean out			6.80	319.01
2+70			7.24	318.57
2+50			7.55	318.26
2+25			8.20	317.61
2+00			8.53	317.28
1+75			8.94	316.87
1+50			10.25	315.56
1+25			10.44	315.37
T.P.	4.37	319.62	10.56	315.25
1+00			7.08	312.54
0+75			9.23	310.31
0+50			4.59	315.03
0+25			4.30	315.32

Grade c-f.

318.00	c 4.22
317.99	c 4.16
317.72	c 3.99
317.46	c 4.01
317.19	c 3.58
316.93	c 1.78
316.66	c 2.97
316.40	c 3.13
316.15	c 3.14
315.89	c 3.12
315.58	c 2.99
314.97	c 3.29
314.21	c 3.70
313.46	c 3.82
312.69	c 4.18
311.92	c 3.64
311.15	c 4.22
310.38	c 2.16
309.61	c 0.78
308.84	c 6.19
308.07	c 7.25



	+	∞	-	
		319.62		
0+00			4.29	315.33
Bot. to Pipe on curb			4.79	314.83
Bottom of Pipe			13.21	306.41
Bottom of Box			8.10	311.52
T.P.	10.08	324.91	4.79	314.83
T.P.	6.29	328.45	2.75	322.16
	7.27	332.23	3.49	324.96
BM	Box		6.28	325.95

Grade  
 307.30 C 8.03  
 307.00 C 7.83

15°

10	9.66	2.59
20	19.32	5.18
23.71	23.00	6.16
30	28.98	7.77
40	38.64	10.36
50	48.30	12.95
51.76	50.00	13.40
60	57.96	15.54
70	67.62	18.13
80	77.28	20.72
90	86.94	23.31
100	96.60	25.90

16°

10	9.61	2.76
20	19.22	5.52
23.93	23.00	6.59
30	28.83	8.28
40	38.44	11.04
50	48.05	13.80
52.01	50.00	14.43
60	57.66	16.56
70	67.27	19.32
80	76.88	22.08
90	86.49	24.84
100	96.10	27.60

17°

10	9.56	2.92
20	19.12	5.84
24.05	23.00	7.03
30	28.68	8.76
40	38.24	11.68
50	47.80	14.60
52.28	50.00	15.39
60	57.36	17.52
70	66.92	20.44
80	76.48	23.36
90	86.04	26.28
100	95.60	29.20

18°

10	9.51	3.09
20	19.02	6.18
24.18	23.00	7.47
30	28.53	9.27
40	38.04	12.36
50	47.55	15.45
52.57	50.00	16.24
60	57.06	18.54
70	66.57	21.63
80	76.08	24.72
90	85.59	27.81
100	95.10	30.90

19°

10	9.45	3.25
20	18.90	6.50
24.32	23.00	7.91
30	28.35	9.75
40	37.80	13.00
50	47.25	16.25
52.88	50.00	17.21
60	56.70	19.50
70	66.15	22.75
80	75.60	26.00
90	85.05	29.25
100	94.50	32.50

20°

10	9.40	3.42
20	18.80	6.84
24.44	23.00	8.37
30	28.20	10.26
40	37.60	13.68
50	47.00	17.10
53.19	50.00	18.18
60	56.40	20.52
70	65.80	23.94
80	75.20	27.36
90	84.60	30.78
100	94.00	34.20

21°

10	9.33	3.58
20	18.66	7.16
24.58	23.00	8.83
30	27.99	10.74
40	37.32	14.32
50	46.65	17.90
53.50	50.00	19.14
60	55.98	21.48
70	65.31	25.06
80	74.64	28.64
90	83.97	32.22
100	93.30	35.80

22°

10	9.27	3.75
20	18.54	7.50
24.72	23.00	9.29
30	27.81	11.25
40	37.08	15.00
50	46.35	18.75
53.81	50.00	20.11
60	55.62	22.50
70	64.89	26.25
80	74.16	30.00
90	83.43	33.75
100	92.70	37.50

3

230

10	9.20	3.91
20	18.40	7.82
24.86	23.00	9.75
30	27.60	11.73
40	36.80	15.64
50	46.00	19.55
54.12	50.00	21.08
60	55.20	23.46
70	64.40	27.37
80	73.60	31.28
90	82.80	35.19
100	92.00	39.10

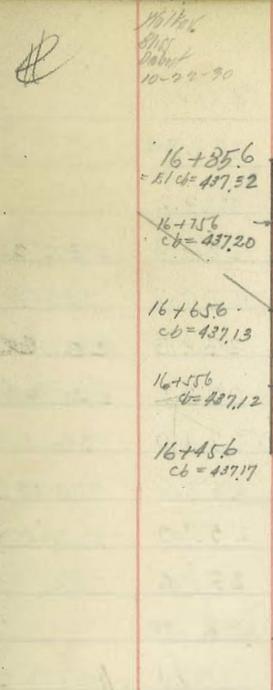
240

10	9.43	4.07
20	18.86	8.14
25.17	23.00	10.21
30	28.29	12.21
40	37.72	16.28
50	47.15	20.35
54.73	50.00	22.26
60	56.58	24.42
70	66.01	28.49
80	75.44	32.56
90	84.87	36.63
100	94.30	40.70

30°			31°		
10	8.66	5.00	10	8.57	5.15
20	17.32	10.00	20	17.14	10.30
26.56	23.00	14.28	26.83	23.00	13.82
30	25.98	15.00	30	25.71	15.45
40	34.64	20.00	40	34.28	20.60
50	43.30	25.00	50	42.85	25.75
57.73	50.00	28.87	58.33	50.00	30.04
60	51.96	30.00	60	51.42	30.90
70	60.62	35.00	70	59.99	36.05
80	69.28	40.00	80	68.56	41.20
90	77.94	45.00	90	77.13	46.35
100	86.60	50.00	100	85.72	51.50
110	95.26	55.00	110	94.29	56.65
120	103.92	60.00	120	102.86	61.80

Profile exist. Water Main

		Elev. stake
4.28	442.11	437.13 16+50.4
16+14		7.06 435.05
+40		7.85 434.26
+85		7.63 434.48



16+14  
815  
Water  
10-29-90

COLLEGE WAY

5  
290.7  
433.22  
456.12

LEVELS For Grades on cb. Inlets

153.22-8M, 279 COLLEGE WAY.

2.90+	14	437.17	437.12	437.18	437.20	437.32
456.12-7		7.15	7.20	7.19	7.12	7.00
12.70		✓	✓	✓	✓	✓
437.42-TP						
0.90+						
444.32						
E 437.34		437.21	437.13	437.12	437.15	
6.98		7.11	7.19	7.20	7.17	
✓		✓	✓	✓	✓	

Sta.	+	∓	-	Elev.		
B. M.	10.94	238.28		227.34		
Left.						
3+45.22			9.09	229.2		
Left.						
3+76.62			8.43	229.9	232.9	F 3.0
Right						
3+76.62			7.60	230.7	230.7	C 0.0
Right.						
4+08.02			6.00	232.3	231.9	0.4
Left.						
4+08.02			6.2	232.1	234.1	F 2.0
Left.						
4+39.42			4.3	234.0	235.3	F 1.3
Right.						
4+39.42			4.7	233.6	233.1	C 0.5
Right.						
4+70.82			3.3	235.0	234.3	C 0.7
Left.						
4+70.82			2.7	235.6	236.5	F 0.9
T. P.	9.82	247.94	0.16	238.12		
Left.						
5+02.22			10.8	237.1	237.1	F 0.6
Right.						
5+02.22			10.6	237.3	235.5	C 1.8
Right.						
5+33.58 E.C.			9.3	238.6	236.7	C 1.9
Left						
5+33.58 E.C.			9.3	238.6	238.9	F 0.3
Left.						
5+60			8.1	239.8	239.5	C 0.3
Right.						
5+60			8.4	239.5	237.8	C 1.7
Right.						
6+00			6.9	241.0	239.3	C 1.7
Left.						
6+00			6.8	241.1	240.1	C 1.0
Left.						
6+33.58 B.C.			6.0	241.9	240.6	C 1.3
Right.						
6+33.58 B.C.			5.8	242.1	240.6	C 1.5
Right.						
6+83.58			4.5	243.4	242.5	C 0.9
Left.						
6+83.58			5.8	242.1	242.5	F 0.4
Left.						
7+33.58			5.7	242.2	244.5	F 2.3
Right.						
7+33.58			3.7	244.2	244.5	F 0.3

Sta.	+	x	-	Elev.	grade	C-or-Ft
		247.94				
Right. 7+83.58			0.7	247.2	246.2	C-1.0
Left. 7+83.58			1.6	246.3	246.2	C-0.1
B.M.T.P. T.P.	7.88	255.78	0.04	247.90		
Left. 8+33.58			7.2	248.6	247.4	C-1.2
Right. 8+33.58			6.3	249.5	247.4	C-2.1
Right. 8+83.58			4.9	250.9	248.1	C-2.8
Left. 8+83.58			4.9	250.9	248.1	C-2.8
Left. 9+33.58			4.5	251.3	248.2	C-3.1
Right. 9+33.58			5.3	250.5	248.2	C-2.3
B.M.T.P.	6.61	254.51		247.90		
9+83 <sup>58</sup> R			5.6	248.9	248.6	C-0.3
9+83 <sup>58</sup> L			5.3	249.2	247.4	C-1.8
10+33 <sup>58</sup> L			6.5	248.0	246.6	C-1.4
10+33 <sup>58</sup> R			6.6	247.9	247.8	C-0.1
10+83 <sup>58</sup> R			8.0	246.5	246.5	Grade
10+83 <sup>58</sup> L			8.5	246.0	245.3	C-0.7
11+33 <sup>58</sup> L			11.1	243.4	244.0	F+0.6
11+33 <sup>58</sup> R			8.2	246.3	245.2	C-1.1
11+83 <sup>58</sup> R			7.9	246.6	243.8	C-2.8
11+83 <sup>58</sup> L			10.7	243.8	242.6	C-1.2
12+33 <sup>58</sup> L			11.0	243.5	241.2	C-2.3
12+33 <sup>58</sup> R			9.4	245.1	242.4	C-2.7
12+83 <sup>58</sup> R			12.2	242.3	241.1	C-1.2
12+83 <sup>58</sup> L			12.6	241.9	239.9	C-2.0

254.57

Elev grade

12+96<sup>SS</sup> L

13.01 241.50 239.4

12+96<sup>SS</sup> R

12.9 241.6 240.6

C or f

C - 2.1

C - 1.0

8

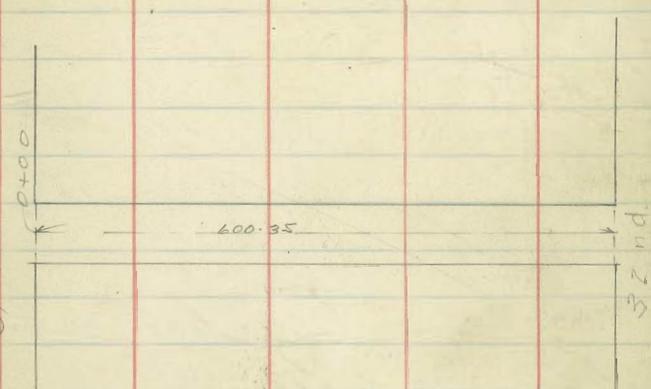
BPNE  
31212 K

	Station	Grade	Elev.	Grade	Elev.
B.M.	3.13		81.61	78.48	Grade
T.P.	1.30		82.30	3.61	78.00
	0+00				
N		4.82		77.49	77.0
S		4.46		77.94	77.0
	0+30	5.12	83.12	78.00	
N		5.12		78.00	77.10
S		4.15		78.15	77.10
	0+60				
N		5.38		77.74	77.20
S		5.06		78.06	77.20
	1+00				
N		5.04		78.08	77.08
S		5.30	83.12	77.82	77.06
T.P.	4.75		81.53	6.34	76.78
	1+50				
N		5.99		77.13	76.93
S		4.59		76.94	76.89
	2+00				
N		4.93		76.60	76.77
S		4.76		76.77	76.71
	2+50				
N		4.92		76.61	76.62
S		5.14		76.39	76.54
	3+00				
N		4.92		76.61	76.47
S		4.90		76.63	76.36

A1729 Grade stakes Alley B1K 108 Central Park  
Louden

9

82.30	82.30
<del>6.31</del>	<del>5.45</del>
75.99	76.85
43	75.99
77.34	76.42
	1.86
	4.3



			El.	grade	C-F
	81.53		76.55		
T.P. 536 3+50		4.98	76.55		
N	81.91	4.60	76.93	76.32	C 0.61
S		5.47	76.44	76.19	C 0.25
4+00					
N		5.29	76.62	76.17	C 0.45
S		4.30	77.61	76.02	C 1.59
4+50					
N		5.03	76.88	76.01	C 0.87
S		5.00	76.91	75.84	C 1.07
T.P. 470 5+00	81.29	5.32	76.59		
N		3.93	77.36	75.86	C 1.50
S		4.51	76.78	75.67	C 1.11
5+20					
N		2.49	78.80	75.80	C 3.00
S		4.27	77.02	75.60	C 1.42
5+40					
N		5.18	76.11	75.70	C 0.41
S		4.77	76.50	75.50	C 1.00
5+60					
N		5.44	75.85	75.40	C 0.45
S		5.09	76.20	75.20	C 1.00
5+80					
N		5.38	75.91	74.90	1.01
S		5.59	75.70	74.70	C 1.00

Alley BIK108 Central Park

			EI	Grade	C-F
5+90	81.29				
S		5.89	75.40	74.40	0.10
6+00					
N		7.06	74.23	74.30	Par
S		7.61	<del>73.68</del>	73.70	Par
			73.7		

11

1/3/29  
London.

Cuts for Sewer Villa Terrace  
between Myrtle & Upas

Q

NEEP  
Myrtle Road.

12

B.M.	4.46	283.46		279.00		
T.P.	11.76	294.90	0.32	283.14		
	8.53	303.21	0.22	294.68	grade	
1+91.25			5.86	297.35	293.00	C4.35
1+50			6.81	296.40	291.90	C4.50
1+00			8.15	295.06	290.60	C4.46
0+50			9.11	294.10	289.30	C4.80
0+00 - MH.#1.			9.95	293.26	288.00	C5.26
T.P.	0.43	293.24	10.40	292.81		
T.P.	2.65	284.18	11.71	281.53		
B.M.			5.19	278.99		



$$\begin{array}{r} 297.49 \text{ - BM.} \\ 1.89 \\ \hline 299.38 \\ 290.03 \\ \hline 9.35 \end{array}$$

$$\begin{array}{r} 299.38 \\ 290.80 \\ \hline 8.58 \end{array}$$

$$\begin{array}{r} 299.38 \\ 291.65 \\ \hline 7.73 \end{array}$$

$$\begin{array}{r} 299.38 \\ 4.88 \\ \hline 294.50 \end{array}$$

$$\begin{array}{r} 299.38 \\ 293.6 \\ \hline 5.78 \end{array}$$

$$\begin{array}{r} 299.38 \\ 293.1 \\ \hline 6.28 \end{array}$$

$$\begin{array}{r} 299.38 \\ 293.0 \\ \hline 6.38 \end{array}$$

$$\begin{array}{r} 299.38 \\ 293.2 \\ \hline 6.18 \end{array}$$

$$\begin{array}{r} 295.57 \\ 2.86 \\ \hline 298.45 \end{array}$$

$$\begin{array}{r} 294.50 \\ 4.35 \\ \hline 298.85 \\ 288.75 \\ \hline 10.15 \end{array}$$

$$\begin{array}{r} 297.49 \\ 0.15 \\ \hline 297.64 \end{array}$$

$$\begin{array}{r} 298.45 \\ 288.25 \\ \hline 10.20 \end{array}$$

$$\begin{array}{r} 297.47 \\ 0.37 \\ \hline 297.84 \\ 295.10 \\ \hline 2.76 \end{array}$$

$$\begin{array}{r} 297.86 \\ 293.50 \\ \hline 4.36 \\ 5.12 \\ \hline 4.42 \end{array}$$

$$\begin{array}{r} 297.86 \\ 292.10 \\ \hline 5.76 \\ 6.2 \\ \hline 5.09 \end{array}$$

$$\begin{array}{r} 297.86 \\ 291.10 \\ \hline 6.76 \end{array}$$

$$\begin{array}{r} 297.86 \\ 290.30 \\ \hline 7.56 \\ 4.35 \\ \hline 9.91 \end{array}$$

$$\begin{array}{r} 297.86 \\ 287.96 \\ \hline 7.90 \end{array}$$

$$\begin{array}{r} 297.86 \\ 291.60 \\ \hline 8.26 \\ 7.54 \\ \hline 6.00 \end{array}$$

$$\begin{array}{r} 297.86 \\ 291.25 \\ \hline 8.61 \end{array}$$

$$\begin{array}{r} 297.86 \\ 288.75 \\ \hline 9.11 \end{array}$$

298.45

2.86	295.59	295.10	C 0.49
4.85	293.64	293.50	C 0.14
5.68	292.77	292.10	C 0.67
7.37	291.08	291.10	F 0.02
10.50	287.95	290.30	F 2.35
10.49	287.96	289.96	F 2.00
11.39	287.06	289.60	F 2.54
11.96	286.49	287.25	F 2.76
12.11	286.34	288.75	F 2.41
10.65	287.80	288.25	F 0.45
10.47	287.98	288.60	F 0.62
10.25	288.20	288.96	F 0.66
10.87	287.58	287.75	F 0.17
0.95		297.50	

71517  
London  
SE Oregon Polk

Grade Stakes on Polk  
Oregon to Hamilton

BM	1.30	367.31	366.01	
0+00	= w.l. Oregon.			
N	2.31	365.00	365.00	
S	3.30	364.01	364.00	
0+50				
N	2.9	364.4	363.00	C1.4
S	4.6	362.7	362.00	C0.7
1+00				
N	5.4	361.9	361.00	C0.9
S	6.8	360.5	360.00	C0.5
1+40				
N	6.6	360.7	359.40	C1.3
S	8.7	358.6	358.40	C0.2
1+60				
N	7.4	359.9	358.60	C1.3
S	9.4	357.9	357.60	C0.3
1+80				
N	8.5	358.8	357.60	C1.2
S	9.7	357.6	356.60	C1.0
2+00				
N	9.5	357.8	356.30	C1.5
S	11.0	356.3	355.30	C1.0
2+20				
N	10.4	356.9	354.60	C2.3
S	12.4	354.9	353.60	C1.3

3.29 358.26

H  
 344.65  
 348.02  
 3.37  
 351.39

352.40  
 345.48  
 6.92  
 3.46

345.48  
 3.46  
 348.94  
 3.46  
 352.40

BM- 366.01  
 0.33  
 366.34  
 356.60  
 9.74

366.34  
 355.30  
 11.04

366.34  
 353.60  
 12.74

353.60-T.P.  
 2.51  
 356.11

356.11 - H.1  
 351.40  
 4.71

356.11  
 348.02  
 8.09

356.11  
 344.65  
 11.46

356.60  
 356.94  
 363.54 - H.1  
 357.45  
 6.09

363.54  
 357.74  
 5.80

348.02  
 9.26  
 357.28 - H.1  
 348.94  
 8.34

357.28  
 352.40  
 4.88

357.28  
 354.60  
 2.68  
 3.13

357.28 356.30  
 356.30 6.99  
 0.98 363.29 - H.1  
 357.60  
 5.69

363.29  
 358.45  
 4.84

363.29  
 358.74  
 4.55

240	258.3 <sup>26</sup>				
N		2.5	355.8	352.40	C 3.4
S		5.0	353.3	351.40	C 1.9

270					
N		4.8	353.5	348.94	C 4.6
S		6.5	351.8	348.02	C 3.8

3700 = E.L. Hamilton

N		14.76	345.50	345.48	
S		13.60	344.66	344.65	

366.01	354.01
+ 1.00	- 12.21
	355.82

367.01
- 12.40
354.61

367.01	367.01	367.01	367.01	355.82
357.93	356.93	355.63	353.93	351.73
9.08	10.08	11.38	13.08	4.09

367.01	367.01	367.01	355.82	355.82
356.93	355.93	354.63	352.93	350.93
10.08	11.08	12.38	2.89	5.09

355.82	355.82
343.95	344.79
11.87	11.03

College Way

Cont. on Page 68

Station	defln. $\Delta$	12' Lt of chds.	12' Rt of E. chds.
22 + 50.58 = Brk. on Rt.	6° 40.10'	40.48'	39.52'
22 + 10.58 = Brk. on Lt.	5° 31.35'	54.58'	53.28'
+ 56.65 = Brk. on Rt.	3° 58.65'		
+ 20.69 = Brk. on Lt.	2° 56.76'		
21 + 07.73 = Brk. on Lt.	2° 34.57'		
+ 99.34 = Brk. on Lt.	2° 20.43'		
+ 94.14 = Brk. on Rt.	2° 11.24'		
+ 85.88 = Brk. on Lt.	1° 57.02'		
+ 78.05 = Brk. on Lt.	1° 43.54'		
+ 70.39 = Brk. on Rt.	1° 30.42'		
+ 63.82 = Brk. on Lt.	1° 19.11'		
+ 52.7 = Brk. on Lt.	1° 00.00'		
30 + 49.55 = Brk. on Rt.	0° 54.55'		

Cont. From Page 79

Lt.	Rt.	17
+ 1.2 ✓ 51 6.3 450.62 = cb.	+ 5.1 ✓ 3.8 6.9 450.02	+ 4.8 - 2.0 7.4 top cb → 449.50
+ 1.4 ✓ 59 7.3 449.58 = Gut	+ 4.1 ✓ 1.0 7.1 449.77	+ 4.1 ✓ 3.7 7.8 cb = 449.15
+ 2.2 ✓ 61 8.3 448.60 = Gut.	+ 3.0 ✓ 4.8 7.8 449.10	+ 5.6 ✓ 3.2 8.8 Gut = 448.10
+ 2.8 ✓ 5.9 8.7 448.20 = Gut.		
	+ 3.7 ✓ 4.8 8.5 448.40	
+ 2.4 ✓ 6.4 8.8 448.13 = Gut.		
		+ 4.5 ✓ 4.5 9.0 447.90
	+ 3.2 ✓ 5.4 8.6 448.30	
+ 2.3 ✓ 6.5 8.8 448.10 = Gut.		
		+ 4.9 ✓ 4.2 9.1 Gut = 447.80
	8.7 448.20	
	+ 3.3 ✓ 4.8 8.8 448.15	
		+ 4.2 ✓ 5.1 9.3 Gut = 447.66
	450.91	

11/9/29  
Location

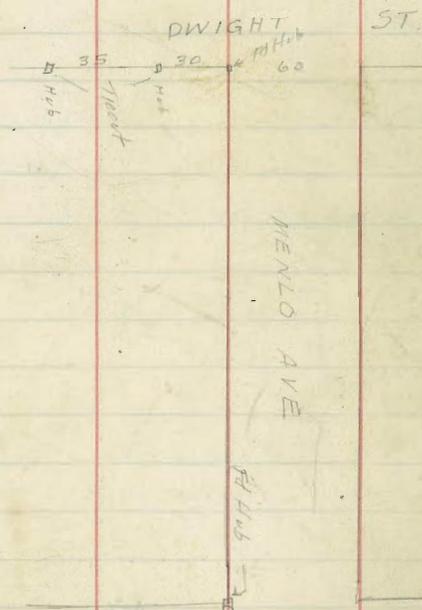
Grade stakes on Merlo between

Dought & Myrtle.  
A

EM	2.84	340.21		337.37	web	
0+00						
E					337.88	
W					337.37	
0+50						
E		2.6	337.6	336.62	C1.0	
W		3.70	336.5	336.11	C0.1	
1+00						
E		3.7	336.5	335.96	C1.1 ✓	
W		5.0	335.2	334.85	C0.4	
1+50						
E		4.9	335.3	334.10	C1.2 ✓	
W		6.6	333.6	333.59	C0.0	
1+90						
E		6.0	334.2	333.10	C1.4 ✓	
W		7.4	332.8	332.60	C0.2	
2+30						
E		7.5	332.7	331.90	C0.8	
W		8.7	331.5	331.40	C0.4	
2+70						
E		8.8	331.4	330.50	C0.9	
W		10.7	329.5	330.00	F0.5	
3+10						
E		10.0	330.2	328.80	C1.4	
W		12.0	328.2	328.30	F0.1	

3+50	340.21				
E		11.4	328.8	326.80	C 2.0
T.P. 0.75	328.27	12.69	327.52		
W		1.4	326.9	326.30	C 0.6
3+90					
E		0.4	329.9	324.50	C 3.4
W		3.8	324.5	324.00	C 0.5
4+30					
E		1.6	326.9	322.10	C 4.6
W		5.9	322.4	321.60	C 0.8
4+70					
E		4.9	323.4	319.46	C 3.8
W		9.4	318.9	319.05	F 0.1
5+10 <sup>60</sup> E		7.4	320.9	316.76	C 4.1
T.P. 33 1.00	316.32	12.95	315.32		
5+12 <sup>33</sup> W		4.6	311.9	316.34	F 4.6
5+16 <sup>36</sup> E		8.1	320.2	316.40	C 3.8
5+18 W		5.4	310.9	315.99	F 5.1
	316.32				
W end inlet		3.48	312.84	316.34	F 3.50
FL Box		3.60	312.94	310.00	C 2.92
E end inlet		1.12	315.20	316.49	F 1.27
T.P. 0.55	304.08	12.79	303.53		
Center Culvert		3.94	300.14	297.00	C 3.14
T.P. 0.51	291.72	12.87	291.21		
end culvert		7.27	284.45	284.00	C 0.45

grade E end inlet =	316.47
" W " "	316.34
" FL Culvert (box)	310.00
" center culvert	297.00
" End Culvert	284.00



COLLEGE WAY GRADING  
Cont on Page 68

Station

22+45.3

+24.65

22+04 = Bk 5.96 459.18

459.22

BM Page 79

22+50.58

22+10.58

21+56.65 = Beginning cb. on E

21+07.73

20+85.88

+63.82

+59.70

+29.92

} station only

L1.

cont. on P-68

St. 20

+13  
7.7  
450.56

+10  
7.8  
8.8  
450.90

+10  
7.9  
8.33  
450.25

450.57-cb

449.65-cut + 450.70-cb.

449.58-cut

448.60-cut

448.20-cut

448.10-cut

447.81-cut

+20  
2.13  
3.15  
450.03

+31  
2.1  
3.2  
449.96

+43  
2.9  
3.2  
449.90

450.02

449.77

449.10

448.40

448.30

448.20

448.15

447.80

6.2  
3.9  
449.26

7.0  
10.0  
449.20

6.9  
10.0  
449.15

449.50

449.15-cb.

448.10-cut 448.81-cb

60.28'

447.90

447.80

447.55-cut

SP NW  
3152 Dbas

Grade stakes Alley B162 Frary Hts  
7/10/29 Loudon.

①

B.M	1.77	320.76		328.99	
T.P	1.40	320.49	11.67	319.09	

0+00 - NL. TBM.

E		4.88	315.61	315.20	C 0.41
W		5.00	315.49	315.00	F 0.49

320.49  
5.15  
315.34  
320.49  
5.46  
315.03

0+40

E		4.12	316.37	315.37	C 1.0
W		5.88	314.61	315.17	F 0.56

320.49  
5.85  
314.64

4.70  
4.56  
1.4

0+80

E		3.95	316.54	315.54	C 1.0
W		9.70	310.79	315.34	F 4.55

2.85  
1.2  
2.71

T.P 3.51  
1+18<sup>2</sup>

	320.61	3.39	317.10		
E		3.43	317.18	315.70	C 1.48
W		4.99	315.62	315.50	C 0.12

5.59

1+58<sup>2</sup>

E		2.71	317.90	316.37	C 1.53
W		5.45	315.16	316.15	F 0.99

T.P 4.90  
1+98<sup>2</sup>

	322.66	2.85	317.76		
E		3.87	318.79	317.03	C 1.76
W		5.61	317.05	316.80	C 0.25

2+38<sup>2</sup>

E		3.57	319.09	317.70	C 1.39
W		4.86	317.80	317.45	C 0.35

	2+78 <sup>Z</sup>	322.66				
	E		3.31	319.35	318.37	C 0.98
	W		2.56	320.10	318.10	C 2.00
	T.P. 3+18 <sup>Z</sup>	325.57	2.82	319.84		
	E		5.66	319.91	319.04	C 0.87
	W		6.28	319.29	318.75	C 0.54
	3+58 <sup>Z</sup>					
	E		3.87	321.70	319.70	C 2.00
	W		6.12	319.45	319.40	C 0.05
	3+98 <sup>Z</sup>					
	E		4.07	321.50	320.50	C 1.00
	W		5.73	319.84	320.20	F 0.36
	A+38 <sup>Z</sup>					
	E		3.28	322.29	321.30	C 0.99
	W		4.68	320.89	321.00	F 0.11
	A+78 <sup>Z</sup>					
	E		2.47	323.10	322.10	C 1.00
	W		3.94	321.63	321.80	F 0.17
	T.P. A+98 <sup>Z</sup> 443	328.62	1.38	324.19		
	E		2.18	324.44	322.70	C 1.74
	W		6.61	322.01	322.40	F 0.39
	5+18 <sup>Z</sup>					
	E		3.83	324.79	323.40	C 1.39
	W		6.02	322.60	323.10	F 0.50
	5+58 <sup>Z</sup>					
	E		3.18	325.44	325.15	C 0.29
	W		1.67	326.95	324.85	C 2.10

326.9	
323.4	
3.5	5+98 <sup>Z</sup>
1.75	E 326.80
323.4	
325.15	W 326.50
	576
	560
	526
	4.87
	39
	344
	26
	318
328.62	
1.50	
327.06	326.73
6.21	
333.27	
4.25	
329.02	

BP. SE  
 Moore & Park Blvd.

Grade stakes Alley 45 45 45 45 45

E1 Grade

R

BM 8.62 353.60 344.98  
 T.P. 4.96 356.34 2.22 351.38

D+00 = S.W. Madison

E 4.90 351.35  
 W 4.98 351.13

D+45

E 4.32 352.02 351.02  
 T.P. 4.14 355.38 4.90 351.44  
 W 4.40 351.18 350.98

D+90

E 3.98 351.60 350.60  
 W 4.57 351.01 350.60

1+30

E 5.54 350.04 350.10  
 W 5.15 350.43 350.12

1+70

E 5.75 349.83 349.60  
 W 6.07 349.51 349.65

2+10

E 6.31 349.27 349.10  
 W 5.41 350.17 349.17

2+50

E 6.50 349.02  
 W 4.26 348.70 348.60  
 W 4.68 348.48 348.70

2+90

E 4.76 348.40 348.10  
 W 4.88 348.28 348.22

350.36  
 5.19  
 351.15

351.44  
 .36  
 08

5.71  
 .36  
 6.07  
 351.40  
 3  
 35.10

351.44  
 350.6  
 .84  
 42  
 351.02  
 42  
 350.60

351.36  
 350.6  
 .76  
 38  
 350.98  
 38  
 35.60

3+30	353.16						
E		5.34	347.82	347.60	CO.22		346.09
W		5.07	348.09	347.75	CO.34	350.69	4.55
						<u>316.</u>	350.64
3+70,						347.53	
E		2.06	351.10	347.10	CO.00	3.91	345.91
W		5.20	347.96	347.27	CO.69	351.24	346.21
						4.50	350.64
T.P. 4+10	4.30 351.57	5.89	347.27			346.94	4.43
E		4.62	346.95	346.60	CO.35	351.44	
W		6.10	347.06	346.80	CO.26	346.60	346.04
						<u>1.84</u>	350.64
4+60							4.77
E		5.04	346.53	346.48	CO.05		345.87
W		4.71	346.86	346.60	CO.26		344.98
							5.71
5+10						350.69	11.1
E		5.40	346.17	346.36	CO.19	4.63	346.06
W		4.17	347.40	346.40	CO.00		
5+55						350.69	
E		4.99	346.58	346.25	CO.33	4.48	346.21
W		5.20	346.37	346.22	CO.19		
6+00						350.69	
E		5.48	346.09	346.13		4.52	345.87
W		5.55	346.02	346.04			
		5.14	345.91			350.69	4.52
						<u>346.17</u>	
			346.06				
			<u>2.3</u>				
			345.76				

## Grade stakes Alley BK 76 UH For Carrol

7/17/29 Loudon.

25

T.P. x	5 20	342.12	EI. 336.72	Grade	
0+00	- nl. Meads				
E		10.56	<sup>top Ex. CB.</sup> 331.56	332.00	F 0.44
W		8.12	334.00	334.00	
0+10					
E		8.40	333.72	334.00	F 0.28
W		2.05	340.07	334.70	C 5.37
0+20					
E		8.80	333.32	335.00	F 1.68
0+30					
E		8.84	333.28	335.80	F 2.52
W		4.04	338.08	336.00	C 2.08
0+50					
E		7.86	334.26	336.90	F 2.64
W		4.85	337.27	337.10	C 0.17
0+70					
E		5.18	336.94	337.70	F 0.76
W		2.89	339.23	337.90	C 1.33
0+90					
E		1.89	340.23	338.30	C 1.93
W		2.88	339.24	338.50	C 0.74
1+10					
E		6.54	335.58	339.70	F 3.12
W		5.55	340.36	338.90	C 1.46
T.P. 1+60	<sup>474</sup>	345.91	0.95	341.17	
E		9.45	336.46	339.60	F 3.14
W		4.17	341.74	339.80	C 1.94

EM. NW	Arkeley	342.01
	Meads	6.87
		348.88
		11.96
		336.94
		5.94
		342.884
		8.22
		334.62
		342.84
		5.76
		337.08
		38.70
		F 1.62
		342.84
		5.20
		337.64
		339.1
		F 1.46
		342.12
		7.50
		334.62

-TPX

342.12

10.56

341.56

2+10	345.91	E1	grade.		
E		7.04	338.87	340.50	F 1.63
W		2.21	343.70	340.70	C 3.00
2+60					
E		5.22	340.69	341.40	F 0.71
W		2.50	343.41	341.60	C 1.81
T.P. 2+70	345.28	3.31	342.60		
E		4.80	341.11	341.40	F 0.29
W		1.79	343.49	341.60	C 1.89
2+80					
E		3.27	342.01	341.20	C 0.81
W		1.93	343.35	341.30	C 2.05
2+90					
E		3.18	342.10	340.60	C 1.50
W		1.80	343.48	340.60	C 2.88
3+00					
E		3.06	342.22	339.50	C 2.72
W		1.54	343.74	339.50	C 4.24
3+10					
E		2.95	342.33	338.20	C 4.13
W		1.36	343.92	338.20	C 5.72
3+24 <sup>29</sup>					
W		9.53	335.75	335.75	
3+30					
E		3.84	341.44	335.20	C 6.24
3+33 <sup>22</sup> E		4.93	340.35	334.60	C 5.75
3+36 <sup>18</sup> E		11.08	334.20	334.20	

345.28  
 0.40  
 344.88  
 4.84  
 349.72  
 6.70  
 343.02  
 6.17  
 349.19  
 4.24  
 344.95

Grade Stakes Alley BIK 19 Lincoln Park  7/18/29 Loudon.

902.5

27

B.M.	5.82	82.75	76.93	77.40	
0+00 = sl. K st.					
E		5.37	77.38	77.40	
W		5.42	77.33	77.34	
T.P.	0+40	4.03	80.75	76.72	
E		2.62	80.13	77.20	c 2.93
W		4.68	78.07	77.07	c 1.00
0+80					
E		0.56	80.17	77.00	c 3.19
W		3.69	77.06	76.80	c 0.26
1+00					
E		0.55	80.20	76.70	c 3.50
W		3.86	76.89	76.50	c 0.39
1+20					
E		0.84	79.91	75.90	c 4.01
W		3.71	77.04	75.80	c 1.24
1+30					
E		1.14	79.61	75.40	c 4.21
1+40					
E		3.22	77.53	75.00	c 2.53
W		5.41	75.34	75.00	c 0.34
1+50					
E		5.75	75.00	74.55	c 0.45
W		5.66	75.09	74.70	c 0.39
1+60					
E		6.13	74.62	74.70	F 0.08
W		6.34	74.41	74.40	c 0.01

82.75  
 5.71  
 77.64  
 80.75  
 4.81  
 75.94  
 75.4  
 c-0.54

6.27  
6.28  
6.75

1+70	8075				
E		6.50	74.25	74.20	00.05
W		3.96	74.54	74.10	00.44
T.P. 2+70	392				
	78.20	6.47	74.28		
E		4.96	73.24	72.60	00.64
W		5.41	72.79	72.60	00.19
2+40					
E		5.50	72.70	71.90	00.80
W		5.66	72.54	71.90	00.64
2+60					
E		6.28	71.92	70.90	1.02
W		6.45	71.75	70.90	00.85
2+80					
E		7.58	70.62	69.70	00.92
W		6.97	71.23	69.70	01.53
3+00					
E		9.87	68.33	68.36	
W		9.97	68.23	68.23	
		10.08	68.12		

SE El Cajon  
Illinois

Grade stakes Illinois st El Cajon  
to Meade. (Geo. Daley Cont'r.)

Ⓢ

7/26/29 Loudon.

BM.	12.51	375.00		362.49	
0+00 = N.L. El Cajon.					
E		<sup>sup</sup> 11.50	363.50	363.5	
W		12.01	362.11	363.0	
0+50					
E		3.5	371.5	365.6	c 5.9
W		6.9	368.1	365.1	c 3.0
1+00					
E		3.3	371.7	367.8	c 3.9
W		5.6	369.4	367.3	c 2.1
1+40 Alley					
E		2.6	372.4	369.5	c 2.9
W		5.8	369.2	369.0	c 0.2
1+50 Alley					
E		2.0	373.0	369.8	c 3.2
W		5.6	369.4	369.3	c 0.1
2+00					
E		1.0	374.0	371.0	c 3.0
W		3.5	371.5	370.5	c 1.0
2+50					
E		0.7	374.3	372.3	c 2.0
W		3.0	372.0	371.7	c 0.3
T.P. 10.79					
3+00	384.46	1.33	373.67		
E		9.4	375.1	373.5	c 1.6
W		10.0	374.5	372.9	c 1.6

3+50

389.46

E 6.9 377.6 374.8 e2.8

W 10.3 374.2 374.1 c0.1

4+00

E 6.8 377.7 376.0 e1.7

W 8.5 376.0 375.2 c0.8

4+50

E 4.9 379.6 377.3 e2.3

W 7.80 376.7 376.4 c0.3

5+00

E 4.0 380.5 378.5 e2.0

W 7.0 377.5 377.6 F0.1

5+50

E 4.2 380.3 379.7 c0.6

W 6.2 378.3 378.8 F0.5

6+00

E 3.40 <sup>380.5</sup> 381.06 381.0W 4.43 <sup>380.5</sup> 380.03 380.0

penst. villa  
Terrace

B.M 008 297.57 297.49

0+00 = w.l. Villa Terrace

N.L.	6.8
+17	8.1
cb	6.4
1/4	6.6
±	10.2
1/4	13.4
cb	16.7
+8	20.6
S.L.	23.0
10'S	25.0

0+40

10 S	29.1
S.L.	25.1
+15	15.6
cb	13.2
1/4	13.3
±	12.6
1/4	12.3
cb	12.0
+14	11.1
N.L.	10.6
10 N	13.3

TP 0.45 285.70 12.32 285.25

0+55 285.70

25N	11.6
10N	11.4
N.L.	5.2
+7	0.8
cb	1.6
1/4	1.8
±	1.9
1/4	2.3
cb	2.3
+5	2.3
S.L.	13.5
10S	18.8

0+72

10S	19.5
S.L.	16.0
cb	2.3
1/4	2.7
±	1.8
1/4	2.3
cb	2.9
+5	2.6
N.L.	10.6

TP. 0-90	273.61	12.99	272.71
8N		2.7	
10N		2.5	
20N		2.2	

0+88	3.1
20N	3.9
10N	4.7
N.L.	0.0
eb	0.3
1/4	0.1
1/2	0.8
eb	1.5
SL	7.6
10S	8.9
1+00	9.6
10S	9.2
SL	8.3
eb	8.2
1/4	7.9
1/2	7.9
eb	7.4
N.L.	5.4
15N	4.3

32

1+31 <sup>83</sup> - E.L. Alley	
15N	6.1
N.L.	6.5
eb	7.8
1/4	8.1
1/2	8.6
1/4	8.8
eb	9.1
SL	10.0
10S	11.2
1+46 <sup>83</sup> - W.L. Alley	
10S	11.1
4S	10.4
SL	8.6
+7	8.0
+14	9.6
eb	9.1
1/4	9.0
1/2	8.4
1/4	8.1
eb	7.8
+13	7.3
N.L.	7.1
10N	7.1

1457

10N	7.4
NL	7.7
+7	7.5
cb	8.4
+3	8.5
1/4	7.8
<del>1/4</del>	6.4
1/4	5.7
cb	6.3
+18	8.0
SL	9.4
BS	11.0
1PS	11.3

1+75

10S	11.8
BS	11.3
SL	9.3
+10	7.1
cb	8.1
1/4	7.6
<del>1/4</del>	8.0
1/4	9.0
cb	9.1
+13	8.6
NL	8.5
10N	8.3

2+00

273.61

10N	10.1
NL	10.4
+8	9.8
cb	9.5
1/4	9.2
<del>1/4</del>	9.4
1/4	8.5
cb	8.5
+15	7.5
SL	9.3
10S	10.5
20S	13.3

2+25

10S	14.4
SL	12.7
+10	8.8
cb	9.0
1/4	9.1
<del>1/4</del>	9.6
1/4	9.8
cb	10.3
+9	10.3
NL	10.5
10N	10.5
T.P.	4.68 267.79 10.50263.11

2+50	267.79
10N	5.1
NL	5.2
f11	5.0
eb	5.3
1/4	4.9
⊕	4.7
1A	4.3
eb	4.2
+5	3.1
S.L.	9.6
10S	10.0

2+60	
10S	10.0
S.L.	9.9
+6	8.8
+14	4.8
eb	4.3
1/4	3.7
⊕	4.3
1/4	4.8
eb	5.0
N.L.	5.3
10N	5.1

1	
NL	5.3
+15	6.9
eb	7.8
1/4	7.5
⊕	7.4
1/4	6.9
eb	6.6
+5	6.6
+10	9.0
S.L.	9.9
10S	10.5

Eeb	Arnold	(65' wide 10' ebs	45' Raway.)
10S		10.1	
S.L.		10.0	
+10		8.9	
eb		5.9	
1/4		5.0	
⊕		5.6	
1/4		6.2	
eb		6.0	
N.L.	got	6.23	
N.L.	top eb	5.80	

## E/A Arnold

N.L.	Par	5.42
+7		5.2
cb		5.4
1/4		5.7
+		6.0
1/4		6.1
cb		7.1
+10		9.0
S.L.		9.6
105		9.9
+	Arnold.	
105		9.4
S.L.		9.0
+15		7.8
cb		6.1
1/4		5.8
+		5.5
1/4		5.6
cb		5.5
x/L	Par	5.02

## w/A Arnold.

x/L	Par	5.01
cb		5.5
1/4		5.5
+		5.7
1/4		5.8
cb		6.6
S.L.		8.4
105		8.6
+	w cb Arnold	
105		8.5
S.L.		7.7
+5		6.2
+9		6.1
+13		7.1
cb		6.3
1/4		5.7
+		5.6
1/4		5.6
cb		5.6
+9		5.5
+10	topcb	4.82
N.L.	Par	5.38
N.L.	topcb	4.74

267.79  
 W.L. Arnold.  
 Neb top 4.84  
 9d 5.4  
 1/4 5.4  
 E 5.6  
 1/4 5.3  
 eb 5.2  
 +5 4.2  
 +10 4.2  
 +17 7.5  
 S.L. 7.9  
 105 8.5  
 TP 1274 280.48 0.05 267.74  
 BPNE Myrtle = Arnold.  
 B.M. 1.50 278.98 279.00

12/12/29  
 Loudon  
 Grade stakes Alley BIK 170 U.H.  
 E 1 = grade  
 326.46  
 0+00 = N.L. Lincoln  
 E 4.89 321.63 321.70  
 W 5.20 321.26 321.30  
 0+10  
 E 4.36 322.10 321.70 C040  
 0+50  
 E 4.15 322.31 322.33 F002  
 W 3.85 322.61 322.15 C046  
 1+00 328.60  
 E 5.02 323.58 323.12 C046  
 W 3.19 323.27 323.00 C027  
 1+50 329.63  
 E 5.36 324.27 323.91 C036  
 W 4.34 324.26 323.85 C041  
 2+00 329.63  
 E 322.22 6.49 325.73 324.70 C1.03  
 W 4.54 325.09 324.70 C0.39  
 2+50 332.22  
 E 5.90 326.32 325.62 C0.70  
 W 5.65 326.57 325.60 C0.97  
 3+00  
 E 4.99 327.23 326.55 C0.68  
 W 5.09 327.13 326.50 C0.63  
 3+50  
 E 3.75 328.47 327.47 C1.0  
 W 324.29 6.49 327.80 327.40 C0.40  
 cont P39

BM. NE 36  
 Oregon & Lincoln  
 320.08  
 6.38

326.46  
 3.19  
 323.27  
 5.33  
 328.60  
 4.34  
 324.26  
 5.37  
 329.63  
 4.54  
 325.09  
 7.13  
 332.22  
 1.43  
 327.79  
 6.50  
 334.29

	10.90	149.98		139.08	
0+00.					
E		12.6	137.4	135.80	C 1.6
W		7.2	142.8	136.85	C 6.0
0+25					
E		12.4	137.6	136.8	C 0.8
W		6.0	144.0	137.3	C 6.7
0+50					
E		12.2	137.8	137.4	C 0.4
W		4.4	145.6	137.9	C 7.7
0+70					
E		11.8	138.2	137.9	C 0.3
W		3.4	146.6	138.3	C 8.3
0+90				138.1	
E		12.1	137.9	138.1	F 0.2
W		3.3	146.7	138.6	C 8.1
1+10					
E		11.7	138.3	138.2	C 0.1
W		3.2	146.8	138.8	C 6.0
1+30					
E		11.7	138.3	138.2	C 0.1
W		4.5	145.5	139.0	C 6.5
1+50					
E		11.6	138.4	138.1	C 0.3
W		5.5	144.5	138.8	C 5.7

1775	150.0				
	149.98				
E		12.2	137.8	138.0	F0.2
W		6.5	143.5	138.7	4.8
2100					
E				137.45	
W				139.08	

Grade stakes Alley BK 170 D.H.  
cont from P 36

2/6/30

Cut stakes 11th St Thru Park

Loudon

H.I.  
102.70

EI.

Grade

C-F.

39

98.56 B.M.

4.14

102.70 H.I.

7.12

95.58 TR

11.34

106.92 H.I.

334.29					
A+00					
E	5.63	328.66	328.40	E 0.26	334.29
W	5.65	328.64	328.30	C 0.34	4.13
A+30					330.16
E	5.19	329.10	328.95	E 0.15	6.33
W	5.38	328.91	328.85	E 0.06	336.49
A+60					
E	9.77	330.50	329.50	E 1.0	
W	5.21	329.08	329.40	F 0.32	
5+10	336.49				
E	5.53	330.96	330.25	C 0.71	
W	5.37	331.10	330.10	E 1.00	
5+60					
E	4.53	331.96	331.00	E 0.96	
W	4.85	331.64	330.80	E 0.84	
5+80					
E	4.20	332.29	331.50	C 0.79	
W	4.77	331.52	331.30	C 0.22	
6+00					
E	4.29	332.49	332.50		
W		332.20	332.20		
Lat O		328.66	323.60	E 5.06	
Lat O	5.20	329.09	323.90	C 5.19	

12+57<sup>18</sup> BC

W 8.04

94.66

96.32

1.34

12+71<sup>02</sup>

W 7.94

94.76

96.49

1.27

E 3.96

98.74

95.25

3.49

13+24<sup>96</sup>

W

7.66

95.04

96.67

1.63

E

1.42

101.28

95.43

5.85

13+58<sup>25</sup>

W

7.12 TR

95.58

96.84

1.26

106.92 H.I.

E

4.01

102.91

95.60

7.31

13+92<sup>23</sup> EC

E

3.52

103.40

95.78

7.62

W

11.28

95.64

97.02

1.38

14+32<sup>00</sup>

W

11.18

95.74

95.98

F 0.24

E

6.08

100.84

97.22

3.62

14+74<sup>43</sup>

E

9.74

97.18

97.44

0.26

W

10.52

96.40

96.20

0.20

15+16<sup>86</sup>

W

11.00

95.92

96.58

0.66

E

9.10

97.82

97.82

Grade

15+57<sup>33</sup>

E

8.85

98.07

98.47

0.40

95.64

8.72

H.I. 104.39

8.59

W. 95.80

96.55

F 0.75

104.39 H.I.

0.59

103.80

96.55

C 7.25

106.92 HI.

15+57<sup>29</sup>

	Elev	Grade	C.F.
W	10.38	96.54	97.23

16+03<sup>87</sup> EC.

W	8.37	98.55	97.88
E	6.88	100.04	99.12

E	2.90	104.02	99.20
---	------	--------	-------

W	8.27	98.65	99.20
---	------	-------	-------

17+01<sup>22</sup> EC.

W	6.48 TP	100.44	100.62
---	---------	--------	--------

113.42 HI.

E	5.85	107.57	99.38
---	------	--------	-------

17+

E	4.41	109.01	99.88
---	------	--------	-------

W	11.89	101.53	101.12
---	-------	--------	--------

W	11.50	101.92	101.62
---	-------	--------	--------

E	3.98	109.44	100.38
---	------	--------	--------

E	3.68	109.74	100.98
---	------	--------	--------

W	11.11	102.31	102.22
---	-------	--------	--------

W	10.41	103.01	102.73
---	-------	--------	--------

E	2.84	110.54	101.48
---	------	--------	--------

E	2.75	110.67	101.98
---	------	--------	--------

W	10.06	103.36	103.22
---	-------	--------	--------

106.92 HI

6.48

180.44 TP

12.98

113.42 HI

10.00

103.42 TP

12.98

115.40 HI

6.13

110.27 BM

110.29

0.02 ✓

113.42 HI

19+12<sup>98</sup> EC.

	Elev	Grade	C.F.
W	10.00 TP	103.42	103.82

115.40 HI.

E	7.24	109.16	101.58
---	------	--------	--------

E	7.90	108.50	103.70
---	------	--------	--------

W	12.62	103.78	103.70
---	-------	--------	--------

19+93<sup>26</sup> EC.

W	12.44	103.96	103.65
---	-------	--------	--------

E	7.38	109.02	105.15
---	------	--------	--------

E	6.74	109.66	105.55
---	------	--------	--------

W	12.71	103.69	104.05
---	-------	--------	--------

W	13.01	103.39	104.50
---	-------	--------	--------

E	6.80	109.60	106.00
---	------	--------	--------

E	6.76	109.64	106.45
---	------	--------	--------

W	10.94	105.46	104.95
---	-------	--------	--------

21+07<sup>13</sup> EC.

W	10.26	106.14	105.45
---	-------	--------	--------

E	6.48	109.92	106.95
---	------	--------	--------

6.13	110.27
	110.29 BM.
	0.02 ✓

40

117.12 HI.

21+53<sup>37</sup> BC.

W 10.40 106.72 107.42 0.30 ✓

E 6.47 110.65 106.18 4.47 ✓

E 5.25 111.87 106.78 5.09 ✓

W 10.00 107.12 108.02 0.90 ✓

W 10.11 107.01 108.47 1.46 ✓

E 4.24 112.88 107.23 5.65 ✓

E 2.93 114.19 107.48 6.71 ✓

W 10.01 107.11 108.72 1.61 ✓

22+95<sup>90</sup> EC.

W 9.55 107.57 108.92 1.35 ✓

E 4.22 112.90 107.68 5.22

W 9.73<sup>TP</sup> 107.39 108.70 1.31 ✓

118.59 HI.

E 3.40 115.19 108.70 6.49 ✓

24+16<sup>98</sup> BC.

E 5.94 112.65 108.48 4.17 ✓

W 10.30 108.29 109.72 1.43 ✓

W 9.83 108.76 109.94 1.18 ✓

E 6.66 111.93 108.70 3.23 ✓

E 7.50 111.07 108.93 2.16 ✓

W 9.75 108.84 110.17 1.33 ✓

cut SH

106.14 EC

10.78

117.12 HI.

9.73

107.37 TP

11.20

118.59 HI

9.11

109.48 TP

12.56

122.04 HI

10.54

111.50 TP

12.37

123.87 HI

118.59 HI

Grade C F

W 9.15 109.44 110.39 0.95 ✓

E 7.37 111.22 109.15 2.07 ✓

25+84<sup>80</sup> EC.

E 5.99 112.60 109.38 3.22 ✓

W 8.82 109.77 110.62 0.85 ✓

25+65<sup>63</sup> BC.

W 9.11 109.48 110.67 1.19 ✓

122.04 HI.

E 9.94 112.10 109.43 2.67 ✓

E 8.53 113.51 109.63 3.88 ✓

W 11.82 110.22 110.87 0.65 ✓

W 11.45 110.59 111.22 0.63 ✓

E 2.52 119.52 109.98 9.54 ✓

E 6.07 115.97 110.23 5.74 ✓

W 10.97 111.07 111.47 0.40 ✓

27+33<sup>71</sup> EC

W 10.54 111.50 112.07 0.57 ✓

123.87 HI.

E 8.76 115.12 110.83 9.29 ✓

E 6.12 117.75 112.20 5.50 ✓

W 11.76 112.11 112.20 0.09 ✓

28+03<sup>80</sup> BC

W 11.83 112.04 112.28 0.24 ✓

E 7.21 116.66 113.52 3.14 ✓

867

261

41

H1.  
123.87

C F

E 2.50 121.37 114.42  
W 12.70 111.17 113.18

6.95 ✓  
2.01 ✓  
1.79 ✓

123.87  
1.92  
121.95 TP  
7.62  
129.57 H1  
10.86

W 11.67 112.20 113.99  
E 3.15 120.72 115.23

5.49 ✓  
1.79 ✓

118.71 TP  
12.47  
131.18 H1  
4.74

TP 1.92  
E 129.57 H1.

126.44 TP  
4.94  
131.38 H1  
7.68

E 5.64 123.93 116.17  
W 15.70 123.87 114.93

7.66 ✓  
1.06 ✓

128.70 TP  
5.47  
129.17 H1  
6.40

W 15.35 114.22 115.78  
E 7.53 122.04 117.02

1.56 ✓  
5.02 ✓

122.77  
122.82 H1  
0.05 ✓

E 5.05 124.52 118.02  
W 15.30 114.27 116.78

6.50 ✓  
2.51 ✓

EC.

W 11.14 118.43 118.30  
E 1.82 127.75 118.45

0.13 ✓  
9.30 ✓

30+80<sup>29</sup> BC.

W 10.86 TP 118.71 118.63  
131.18 H1.

0.08 ✓

E 2.35 128.83 118.48

10.35 ✓

E 2.45 128.73 118.48  
W 12.12 119.06 119.72

10.25 ✓  
0.66 ✓

131.18

473  
5.89  
470  
2.02  
42

C F

W 11.91 119.27 119.92  
E 3.37 127.81 118.68

0.65 ✓  
9.13 ✓

TP. 4.74 126.44  
131.38 H1.

E 2.60 128.78 118.88  
W 12.73 118.65 120.12

9.90 ✓  
1.47 ✓

W 12.25 119.13 120.27  
E 4.45 126.93 119.03

1.14 ✓  
7.90 ✓

32+16<sup>29</sup> EC

E 6.33 125.05 119.23  
W 12.63 118.75 120.47

5.82 ✓  
1.72 ✓

W 12.19 119.19 120.05  
E 6.88 124.50 120.05

0.86 ✓  
4.45 ✓

33+69<sup>23</sup> BC

E 9.26 122.12 120.25  
W 11.53 119.80 121.49

1.87 ✓  
1.69 ✓

W 11.94 119.44 121.69  
E 7.68 TP 123.70 120.45

2.25 ✓  
3.25 ✓

129.17 H1.

E 4.14 125.03 120.60  
W 10.32 118.85 121.84

4.43 ✓  
3.00 ✓

34+70<sup>36</sup> EC

W 9.64 119.53 121.99  
E 3.17 126.00 120.75

2.46 ✓  
5.25 ✓  
6.40

	El.	grade	
27+25 <sup>74</sup> EC			
E	115.12	110.48	C 4.64
W	111.50	111.72	F 0.22
27+60 <sup>53</sup>			
E	119.95	111.35	C 6.40
W	112.11	111.35	C 0.76
29+95 <sup>33</sup> EC			
E	116.66	112.22	C 4.44
W	112.04	110.98	C 1.06
28+39 <sup>24</sup> EC			
E	121.37	112.97	C 8.40
W	111.17	111.73	F 0.56
28+89 <sup>09</sup>			
E	120.72	113.87	C 6.85
W	112.20	112.63	F 0.43
29+28 <sup>42</sup>			
E	122.73	114.77	C 9.16
W	113.87	113.53	C 0.34
29+72 <sup>85</sup>			
E	122.04	115.62	C 6.42
W	114.22	114.38	F 0.16
30+17 <sup>23</sup>			
E	124.52	116.47	C 8.05
W	114.27	115.23	F 0.96

	El.	grade	
30+61 <sup>51</sup> EC			
E	129.75	116.90	C 10.85
W	118.43	116.65	C 1.78
30+81 <sup>87</sup> EC			
E	129.83	117.08	C 11.75
W	118.71	117.32	C 1.32
31+19 <sup>51</sup>			
E	129.73	117.38	C 11.35
W	119.06	118.62	C 0.44
31+57 <sup>15</sup>			
E	127.81	117.58	C 10.23
W	119.27	118.82	C 0.45
31+94 <sup>79</sup>			
E	129.78	117.73	C 11.05
W	118.65	118.97	F 0.32
32+37 <sup>43</sup>			
E	128.93	117.93	C 9.00
W	119.18	119.17	F 0.04
32+70 <sup>05</sup> EC			
E	125.05	118.18	C 6.87
W	118.75	119.42	F 0.67
33+16 <sup>41</sup>			
E	124.50	119.0	C 5.50
W	119.19	119.0	C 0.19

	EI.	grade		
33+62 <sup>89</sup> B.C.				RM. 122.82 11.93 134.75
E	122.12	119.20	C 2.92	12.17
W	119.80	120.44	F 0.64	122.56
33+95 <sup>74</sup>				6.26
E	123.70	119.40	C 4.30	128.82
W	119.44	120.64	F 1.20	6.88
34+28 <sup>59</sup>				121.94 11.00 132.94
E	125.03	119.55	C 5.48	
W	118.85	120.79	F 1.94	
34+61 <sup>45</sup> E.C.				
E	126.00	119.75	C 6.25	
W	119.53	120.99	F 1.46	
35+13 <sup>03</sup>	134.75			
E	12.40	122.35	119.95	C 2.40
W	14.51	120.24	119.95	C 0.29
35+64 <sup>6L</sup> B.C.				
E	13.80	120.95	120.20	C 0.75
W	14.26	120.49	120.20	C 0.29
36+05 <sup>26</sup>				
E	7.92	126.83	120.65	C 6.18
W	12.69	122.06	120.65	C 1.41
36+45 <sup>9L</sup>				
E	5.07	129.68	121.25	C 8.43
W	15.60	119.15	121.25	F 2.10

	EI.	grade		
36+86 <sup>46</sup>	134.75			
E	3.55	131.20	121.80	C 9.40
W	13.39	121.36	121.80	F 0.44
37+27 <sup>2L</sup>	128.82			
E	+2.56	131.38	122.40	C 8.98
W	5.76	123.06	122.40	C 0.66
37+67 <sup>86</sup>				
E	+1.02	129.84	123.00	C 6.84
W	6.35	122.47	123.00	F 0.53
38+08 <sup>52</sup> E.C.				
E	2.95	125.97	124.17	C 1.80
W	8.14	120.68	123.03	F 2.35
38+12 <sup>42</sup> B.C.				
E	3.58	125.24	124.27	C 0.97
W	8.15	120.67	123.03	F 2.36
38+57 <sup>12</sup>				
E	4.84	123.98	125.22 124.97	F 1.24 F 1.01
W	6.88	121.94	123.98 123.73	F 2.04 F 1.79
39+01 <sup>7L</sup>	132.94			
E	7.39	125.55	126.32 125.62	F 0.77 F 0.07
W	9.62	123.32	125.08 124.38	F 1.76 F 1.06
39+46 <sup>42</sup>				
E	6.07	126.87	127.52 126.82	F 0.65 C 0.05
W	5.46	127.48	126.28 125.58	C 1.20 C 1.70

		EI.	grade	
39+91 <sup>08</sup>	EC	132.94		
E	4.71	128.23	128.62 127.92	F 0.39 C 0.31
W	4.62	128.32	127.38 126.68	C 0.94 C +.64
40+294 <sup>5</sup>				
E	3.72	129.22	129.00 128.25	C 0.22 C 0.97
W	3.41	129.53	129.00 128.25	C 0.53 C 1.28
40+67 <sup>82</sup>	BC			
E	2.93	130.01	130.25 129.45	F 0.24 C 0.56
W	1.23	131.71	129.75 128.95	C 1.96 C 2.76
41+10 <sup>18</sup>				
E	1.72	131.22	131.05 130.40	C 0.17 C 0.82
W	0.29	132.65	130.55 129.90	C 2.10 C 2.75
41+52 <sup>59</sup>		137.58		
E	2.16	133.42	131.40	C 2.02
W	3.65	133.93	130.90	C 3.03
41+94 <sup>90</sup>				
E	4.28	133.30	131.65	C 1.65
W	3.55	134.03	131.15	C 2.98
42+37 <sup>26</sup>				
E	3.74	133.84	131.95	C 1.89
W	3.85	133.73	131.45	C 2.28
42+79 <sup>62</sup>				
E	3.20	134.38	132.25	C 2.13
W	4.00	133.58	131.75	C 1.83

				137.58
43+21 <sup>98</sup>	EC			
E	2.88	134.70	132.60	C 2.10
W	4.20	133.38	132.10	C 1.28
43+82 <sup>61</sup>				
E	4.04	133.54	132.80	C 0.74
W	4.17	133.41	132.80	C 0.61
44+43 <sup>25</sup>	BC			
E	3.13	134.45	134.00	C 0.45
W	3.83	133.75	132.50	C 1.25
44+84 <sup>68</sup>		142.32		
E	4.10	138.22	134.25	C 3.97
W	8.35	133.97	132.75	C 1.22
45+26 <sup>11</sup>				
E	1.71	140.61	134.60	C 6.01
W	8.56	133.76	133.10	C 0.66
45+67 <sup>59</sup>				
E	0.96	141.36	135.25	C 6.11
W	7.55	134.77	133.75	C 1.02
46+08 <sup>97</sup>				
E	1.90	140.42	136.05	C 4.37
W	6.98	135.34	134.55	C 0.79
46+50 <sup>90</sup>				
E	4.75	137.57	137.10	C 0.47
W	6.25	136.07	135.60	C 0.47

46+91 <sup>84</sup>	14232				
E	6.55	135.77	137.65	F 1.88	
W	5.87	136.45	136.15	C 0.30	

47+23 <sup>27</sup> EC					
E	6.82	135.50	137.60	F 2.10	
W	4.76	136.18	137.60	F 1.42	

47+67 <sup>93</sup>	14094				
E	4.63	136.31	137.95	F 1.54	
W	4.78	136.16	137.85	F 1.69	

48+12 <sup>60</sup> BC					
E	5.02	135.92	136.98	F 0.94	
W	4.36	136.58	138.22	F 1.54	

48+49 <sup>89</sup>					
E	4.94	136.00	136.83	F 0.83	
W	4.03	136.91	138.07	F 1.16	

48+87 <sup>18</sup>					
E	4.80	136.14	136.63	F 0.49	
W	3.13	137.81	137.87	F 0.06	

49+24 <sup>42</sup>					
E	4.41	136.53	136.53	Grade	
W	0.41	140.53	137.77	C 2.76	

49+61 <sup>76</sup> EC					
E	4.29	136.65	136.38	C 0.27	
W	0.70	140.24	137.62	C 2.62	

N.I.  
143.32

Sta.	
50+00	
E	5.85
W	4.24

+50	
E	5.62
W	5.31

51+00	
E	5.37
W	3.91

+50	
E	4.87
W	3.97

52+00	
E	4.44
W	3.95

+50	
E	4.06
W	3.44

53+00	
E	3.70
W	2.45 TP

53+50	148.55 HI.
E	8.55
W	6.93

136.65
6.67
<hr/> 143.32 HI
2.45
<hr/> 140.87 TP
7.68
<hr/> 148.55 HI

	148.55	
54+00		
E.	7.01	
W	5.90	
+30		
E	5.85	
W	4.35	
54+86 <sup>60</sup> 00		
E	5.65	
W	2.47	
55+32 <sup>61</sup>		
E	4.46	
W	2.98	
+78 <sup>62</sup>		
E	3.34	
W	2.73	
56+24 <sup>63</sup>		
E	1.63	
W	0.27	
56+70 <sup>64</sup>		
E	1.11	7P 147.44
W	153.48 3.28	150.20
57+16 <sup>65</sup>	153.48	
E	5.05	148.43
W	4.14	149.34

$$\begin{array}{r} 148.55 \\ 1.11 \\ \hline 147.44 \\ 6.04 \\ \hline 153.48 \end{array}$$

	153.48	
57+62 <sup>65</sup> EC.		
E	4.82	148.66
W	4.41	149.07
58+12 <sup>65</sup>		
E	4.82	148.66
W	4.19	149.39
58+62 <sup>65</sup>		
E	4.44	149.04
W	4.05	149.43
59+20 <sup>32</sup> BC.		
E	3.97	149.51
W	3.60	149.88
59+68 <sup>64</sup>		
E	3.05	150.43
W	2.47	151.01
60+15 <sup>85</sup>		
E	2.33	151.15
W	1.12	152.36
60+43 <sup>59</sup>		
E	1.84	151.64
W	158.11 4.73	153.38
61+11 <sup>33</sup>	158.11	
E	5.83	152.28
W	3.77	154.14

	158.11	
61+5905 E.C.		
E	5.19	152.91
W	4.09	154.02
62+00		
E	4.64	153.47
W	3.61	154.50
62+50		
E	3.66	154.45
W	3.00	155.11
63+00		
E	3.68	154.43
W	2.42	155.69
63+50		
E	2.96	155.15
W	1.58	156.53
64+00		
E	2.00	156.11
W	1.07	157.04
64+50		
E	1.11	157.00
W	165.27 6.80	158.47
65+00		
E	7.40	158.87
W	6.44	158.83

158.11  
 1.11  
 157.00  
 8.27  
 165.27  
 2.10  
 B.M. 163.17

65+50	165.27	
E	4.53	160.74
W	4.51	
66+00		
E	5.20	
W	4.96	
66+50		
E	3.98	
W	4.26	
67+00		
E	3.94	
W	3.94	
67+50		
E	2.92	
W	3.29	

Bridge Pickets

Sewer stakes on College way.

5/13/30

Loudon Over Mt. 15611

Sta	468.81	El.	Grade	cut.	B.M. NW Elevation College way
0+00 = MH #2	4.42	464.39	458.02	6.37	465.27
0+44 <sup>12</sup>	4.96	463.85	457.71	6.14	468.81
0+88 <sup>38</sup>	5.62	463.19	457.40	5.79	462.37
1+32 <sup>52</sup>	4.92	463.89	457.09	6.80	466.24
1+76 <sup>76</sup>	5.78	463.03	456.78	6.25	
2+20 <sup>95</sup>	5.50	463.31	456.47	6.84	
2+65 <sup>12</sup>	5.44	463.37	456.16	7.21	
0+00 = MH #3					
0+44 <sup>29</sup>	5.79	463.02	455.85	7.17	
0+88 <sup>58</sup>	5.83	462.98	455.54	7.44	
1+32 <sup>87</sup>	6.00	462.81	455.23	7.58	
1+77 <sup>16</sup>	6.26	462.55	454.92	7.63	
2+21 <sup>95</sup>	6.44	462.37	454.61	7.76	
2+65 <sup>74</sup>	3.94	462.30	454.30	8.00	
3+10 = MH #4	4.00	462.24	453.99	8.25	
0+00 = MH #4					
0+45 <sup>71</sup>	4.16	462.08	453.67	8.41	
0+91 <sup>42</sup>	4.26	461.98	453.35	8.63	
1+37 <sup>13</sup>	4.50	461.74	453.03	8.71	
1+82 <sup>84</sup>	4.59	461.65	452.71	8.94	
2+28 <sup>55</sup>	4.70	461.54	452.39	9.15	
2+74 <sup>26</sup>	4.78	461.46	452.07	9.39	
3+20 = MH #5	4.93	461.31	451.75	9.56	

Sta	466.24	El.	Grade	cut.	B.M. NW Elevation College way
0+00 = MH #5		451.75			
+45 <sup>21</sup>	5.26	460.98	451.43	9.55	466.24
+91 <sup>42</sup>	5.49	460.75	451.11	9.64	457.68
1+37 <sup>13</sup>	6.09	460.15	450.79	9.36	461.24
+82 <sup>89</sup>	6.76	459.48	450.47	9.01	
2+28 <sup>55</sup>	7.29	458.95	450.15	8.80	
+74 <sup>26</sup>	7.60	458.64	449.83	8.81	
3+20 = D.D. MH #6		449.51		8.17	
"	8.56	457.68	448.26	9.42	
"	Prosa West	444.24	13.44		
"	College way North	444.24			
	461.24				
0+00 = D.D. MH #6		448.26			
0+52 <sup>E</sup>	4.32	456.92	448.63	8.29	
1+05 = D.E. 5.85	5.85	455.39	449.00	6.39	
0+00 = D.D. MH #6		444.24			
+47 <sup>5</sup>	3.60	457.64	444.57	13.07	
+95	3.80	457.44	444.90	12.54	
1+42.5	4.05	457.19	445.23	11.96	
1+90.0	4.34	456.90	445.56	11.34	
2+37 <sup>5</sup>	4.67	456.57	445.89	10.68	
2+85 <sup>E</sup>	5.02	456.22	446.24	9.98	
0+00 = D.M.H. #2		446.24			
+40	6.75	454.49	446.52	7.97	
+80	10.89	450.35	446.80	3.55	

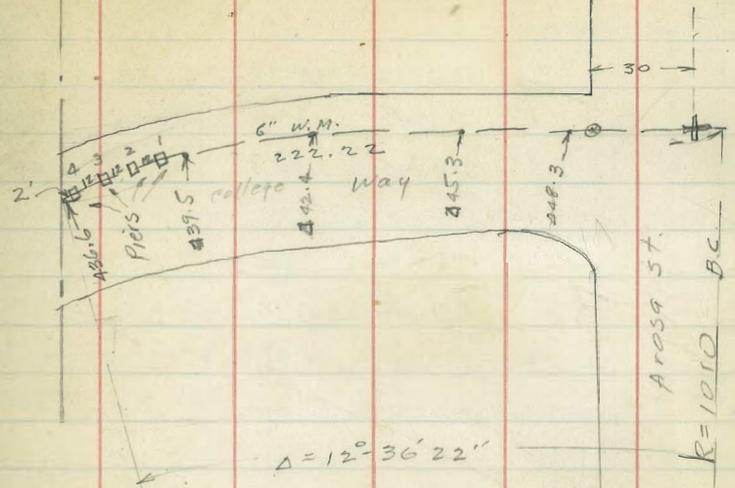


Sewer Stalcos El. Retiro.

M.H. #2	471.18	El	Grade	out.	B.M
0+50	7.28	463.90	458.37	5.53	465.27
1+00	7.06	464.12	458.72	5.40	5.91
+50	7.75	463.43	459.07	4.36	471.18
DE East.					
2+00	7.13	464.05	459.42	4.63	
=0+00					
M.H #2			458.02		
+50	6.89	464.27	458.37	5.92	
1+00	5.00	466.18	458.72	7.46	
+50	5.02	466.16	459.07	7.09	
=0+00					
2+00 M.H #1	4.83	466.35	459.42	6.93	
+50	5.20	465.98	459.77	6.21	
1+00	5.08	466.10	460.12	5.98	
+50	5.21	465.97	460.47	5.50	
DE West.					
2+00	5.23	465.95	460.82	5.13	
<hr/>					
0+00		M.H #8 to	DE South		
M.H #8	470.16		459.49		465.61
					4.55
	4.72	465.44	457.79	7.65	470.16
4	5.01	465.15	458.09	7.06	
	4.92	465.24	458.39	6.83	
	5.31	464.85	458.69	6.16	
D.E.	4.35	465.81	458.99	6.82	

5/22/30  
London.

Water Main in College Way  
from Arosa to N.L. El Retiro.



		El.	Grade	Out.	
	459.6				00 M.H. #6
					457.68
					1.90
					457.58
					12.02
1	3.5	456.1	448.3	7.8	447.56
	407.95				0.39
2	2.8	445.1	445.3	F 0.2	447.95
					12.69
3	10.8	437.1	442.4	F 5.3	435.26
					4.32
4	12.7	435.2	439.5	F 4.3	439.58
	439.6				5.83
5	9.2	430.4	436.6	F 6.2	433.75
					433.74
					4.72
					438.46
Pier #4	6.67	431.79	436.73	F 4.94	
" #3	5.59	432.87	437.51	F 4.64	
" #2	4.43	434.03	438.29	F 4.26	
" #1	2.70	435.70	439.07	F 3.37	

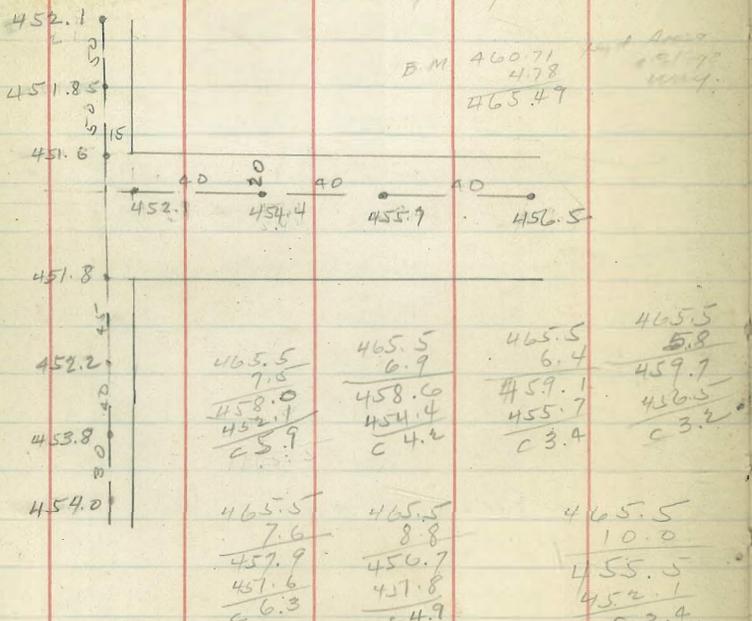
Piers N'ly 50' of Waterline

6/20/30 Water Stakes on Upas from  
London Alabama to Louisiana.

	462.21	El.	grade	cut.	B.M.
(22)	4.89	457.3	441.70	15.6	M.H. 95 Across C. Way 460.71 1.50
(23)	0.3	442.5	434.0	8.5	462.21
(24)	8.8	434.0	437.8	F 3.8	M.H. 47
	463.45				433.74 9.00
(20)	4.33	459.12	453.0	6.1	442.77
(21)	4.66	458.79	453.0	5.8	460.71 2.74

Grade for lowering

water mains on College Way & across



	262.5			cut	B.M. No. 10
	1.4	261.1	257.2	3.9	251.50
	0.4	262.1	257.6	4.5	270.96
	274.7				262.46
	10.0	264.7	260.8	3.9	12.67
	8.7	266.0	262.1	3.9	274.70
	7.9	266.8	263.0	3.8	0.57
	7.1	267.6	263.7	3.9	274.13
	5.3	369.4	265.4	4.0	6.65
	2+00	3.7	271.0	3.9	280.78
	2+20	3.0	271.7	3.9	2.67
	2+80	0.9	273.8	4.5	278.11
	3+20	0.6	274.1	4.3	
	E.L. Miss	280.8	275.2	270.1	
	D+00	5.6	275.2	270.1	
	+50	4.9	275.9	270.9	
	1+00	4.8	276.0	271.7	
	+50	4.9	275.9	272.5	
	2+00	3.7	277.1	273.3	
	+50	4.1	276.7	274.0	
	E.L. Louisiana	41	276.7	274.3	
	T	41	276.7	274.3	
	3+13	3.3	277.5	274.6	

465.5	465.5	465.5	465.5
7.1	7.3	7.6	7.8
458.4	458.2	457.9	457.7
451.8	452.2	453.8	454.0
C 6.2	C 6.0	C 4.1	C 3.7

Grade Stakes College Way  
From Arosa South grade

463.53

0+00 = SL Arosa

0+10

E 3.7 459.8 456.20 3.6

W 2.7 460.8 456.20 C 4.6

0+20

E 3.7 459.8 456.90 C 2.9

W 2.9 460.6 456.90 C 3.7

0+40

E 3.5 460.0 457.75 C 2.3

W 2.9 460.6 457.75 C 2.9

0+60

E 3.2 460.3 458.50 C 1.8

W 2.9 460.6 458.50 C 2.1

0+80

E 2.3 461.2 459.10 C 2.1

W 2.0 461.5 459.10 C 2.4

1+00

E 2.6 460.9 459.55 C 1.3

W 1.7 461.8 459.55 C 2.2

1+20

E 1.2 462.3 459.80 C 2.5

W 2.1 461.4 460.00 C 1.4

B.M. 50.  
Tie SW  
College Way  
& Arosa.  
460.66  
2.87  
463.53

Grade Stakes Arosa  
College Way East  
El. Grade

53

0+00 = EL College Way

0+10 463.53

N 8.7 454.8 453.85 C 1.0

S 3.7 459.8 455.20 C 4.6

0+20

N 10.0 453.5 454.30 F 0.8

S 3.8 459.7 455.10 C 4.6

0+30

N 10.9 452.7 454.50 F 1.8

0+65

N 11.4 452.1 454.75 F 2.6

S 6.2 457.3 455.32 2.0

1+00

N 11.4 452.1 455.00 F 2.9

S 7.7 455.8 455.50 C 0.3

College Way West.

0+00 = WL College Way to south

0+10

S 2.8 460.7 455.05 C 5.6

0+20

S 2.7 460.8 455.10 C 5.7

0+32.73

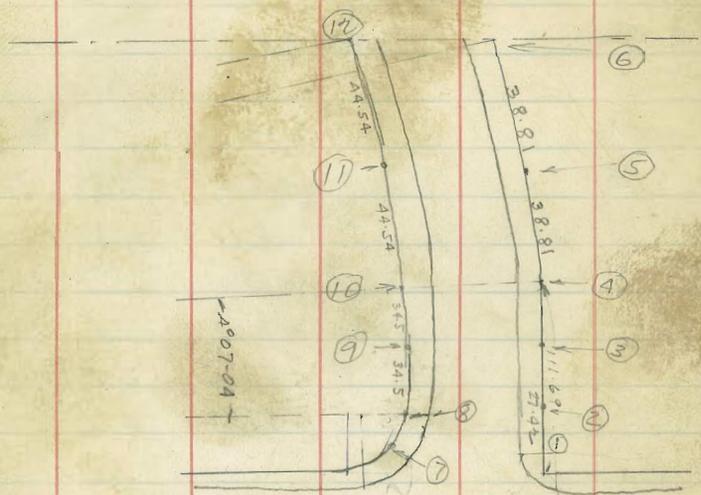
N 4.6 458.9 454.70 C 4.2

S 3.4 459.1 455.40 C 3.7

0+45

N 4.4 459.1 455.45 C 3.7

S 3.7 459.8 455.95 C 3.8



AROSA ST.

COLLEGE WAY

Arosa - College Way West.

463.53

54

0+55

N	3.9	459.6	456.00	C 3.6
S	3.5	460.0	456.50	C 3.5

0+75

N	4.4	459.1	456.73	C 2.4
S	3.3	460.2	457.20	C 3.0

0+95

N	4.6	458.9	457.20	C 1.7
S	3.2	460.3	457.70	C 2.6

1+15

N	5.0	458.5	457.25	C 1.2
S	3.9	459.6	457.75	C 1.8

Sec 32 to P. 5A.

College Way - Arrosa North

	El.	Grade.	Toe of Slope
	463.00		
①	452.18	453.9	451.90 C 2.0
②	5.6 441.0	446.6	450.90 F 3.4
③	7.9	433.1	447.87 447.40 F 14.3
④	16.3	424.7	445.55 444.80 F 20.9
⑤	22.0	419.0	443.13 442.40 F 24.1
⑥	24.6 463.53	416.4	440.70 440.00 F 24.3
⑦	4.5	459.0	452.35 C 6.6
⑧	4.7	458.8	450.00 C 8.8
⑨	6.8	456.7	447.59 C 9.1
⑩	452.88 2.6	450.3	445.12 445.18 C 5.1
⑪	9.2	444.3	441.96 442.06 C 2.2
⑫	13.5	439.4	438.94 C 0.5

BM 393.67  
11.75  
405.42  
0.55  
404.87  
12.62  
417.49  
1.02  
416.47  
12.17  
428.64

463.53  
12.06  
451.47  
1.41  
452.88  
12.87  
440.01  
0.96  
440.97  
0.81  
440.16  
12.02  
452.18  
1.24  
450.94  
12.03  
462.97  
2.31  
460.66-B.M.

Cut Stakes Culvert College Way in Canyon N of Arrosa St.

Station	Grade	Toe of Slope	Grade
0+00 = East end			
0+00	402.5 4.2	398.3	394.5 3.8
+45	4.2	398.3	393.35 C 5.0
B.M. +90	5.7	396.8	392.2 C 4.6
+145	5.8	396.7	389.75 C 7.0
+200	11.2	391.3	387.30 C 4.0

393.67  
8.80  
402.47

Slope stakes - Collopy way from  
N.L. El Retiro to E.C. North.

	405.42				Out
1	Point on V.C. 3's of E.C.				
E	+9.0	413.4	431.0	F 17.6	28.0
W	5.6	399.8	431.0	F 31.2	46.0
2					
E	+4.3	409.7	430.5	20.8	33.0
W	12.1	393.3	430.5	F 37.2	56.0
3					
E	+1.2	406.6	430.2	23.6	38.0
W	14.0	391.4	430.2	F 38.8	58.6
4					
E	2.4	403.0	430.1	F 27.1	
W	14.4	391.0	430.1	F 39.6	59.0
5					
E	5.5	399.9	430.2	F 30.3	45.0
W	7.7	397.7	430.2	F 32.5	50.0
6					
E	6.5	398.9	430.4	F 31.5	50.00
W	2.3	403.1	430.4	F 27.3	41.0
7					
E	7.4	398.0	430.8	F 32.8	50.00
W			430.8		
8					
E	7.0	398.4	431.4	F 33.0	
W	<sup>428.6</sup> 12.5	416.1	431.4	F 15.3	25.0

	405.4				56
9					Out
E	3.0	402.4	432.2	F 29.8	44.0
W	<sup>428.6</sup> 6.4	422.2	432.2	F 10.0	16.2
10					
E	417.5 12.3	405.2	433.2	F 28.0	41.0
W	<sup>428.6</sup> 1.3	427.3	433.2	F 5.9	8.4
11					
E	8.5	409.0	434.3	F 25.3	35.5
W	<sup>428.6</sup> +1.4	430.0	434.3	F 4.3	
12 = B.V. C	69.21	296.21	North of N.L. El Retiro		
E	<sup>428.6</sup> 16.6	412.0	435.6	F 23.6	33.0
N	+4.2	432.8	435.6	F 2.8	7.0

428.64  
11.40  
417.24

## Curb stakes College Way S of Arosa.

50 R.P. SW  
College Way  
& Arosa8/4/30  
LoudonCurb stakes Returns  
College Way & Arosa.

57

B.M. 1.85 462.57  
O+10 = P.C. rct. 460.66E 6.31 456.20  
W 6.31 456.20

O+20

E 5.61 456.90  
W 5.51 456.90

O+40

E 4.76 457.75  
W 4.76 457.75

O+60

E 4.01 458.50  
W 4.01 458.50

O+80

E 3.41 459.10  
W 3.41 459.10

O+100

E 2.76 459.55  
W 2.76 459.55

O+120

E 2.71 459.80  
W 2.51 460.00

461.87

S.E.

P.C. College way 5.67 456.20

5.72 455.95

6.17 455.70

6.39 455.49

6.52 455.35

6.62 455.25

P.C. Arosa 6.67 455.20

S.W.

P.C. College way 5.67 456.20

5.75 455.92

6.22 455.65

6.45 455.42

6.62 455.25

6.75 455.12

P.C. Arosa 6.82 455.05

N.E.

P.C. College way 9.97 451.90

9.57 452.30

9.22 452.65

8.87 453.00

8.57 453.30

8.27 453.60

P.C. Arosa 8.02 453.85

461.87  
N.W.

PC. College way 11.87 450.00

11.28 450.57

10.89 451.18

10.10 451.77

9.51 452.36

8.92 452.93

8.33 453.54

7.74 454.13

PC. Arosa 7.17 454.70

B.M. curb stakes Arosa - College Way West  
0+20 1.21 461.87 460.66

S 6.77 455.10

0+32<sup>23</sup> PC. N.W.

N 7.17 454.70

S 6.47 455.40

0+45.

N 6.42 455.45

S 5.92 455.95

0+55

N 5.87 456.00

S 5.37 456.50

0+75

N 5.14 456.73

S 4.64 457.23

Cont on P. 66

4 Cut stakes Ubas - Alabama to Arnold.

269.27

EI

Grade

58  
Myrtle Ala.  
B.M.

0+00 EL Alabama

0-60

S 10.3 259.0 259.60 FO.6

0+00

N 8.86 260.41 260.80

S 6.9 262.4 261.15 1.3

0+40

N 3.9 265.4 264.00 C1.40

S 4.1 265.2 264.10 C1.1

0+60

N 2.8 266.5 265.30 C1.2

S 3.1 266.2 265.30 C0.9

0+80

N 1.5 267.8 266.20 C1.6

S 2.2 267.1 266.15 C1.0

1+26<sup>65</sup>

N 280.9 11.7 269.2 267.80 C1.4

S 0.6 268.7 267.77 C0.9

1+73<sup>33</sup>

N 10.3 270.6 269.40 C1.2

S 10.8 270.1 269.37 C0.7

2+20

N 9.0 271.9 271.00 C0.9

S 9.5 271.4 271.00 C0.4

2+80

N 8.0 272.9 272.50 C0.4

S 7.7 273.2 272.50 C0.7

280.9		EI	Grade		
0+00 = EL		MISS.			
N	7.83		273.30		
S	6.0	274.9	273.30	C1.6	
1					
N	4.1	276.8	274.00	C2.8	
S	5.1	275.8	273.92	C1.9	
2					
N	5.4	275.5	274.70	C0.8	
S	4.5	276.4	274.53	C1.9	
3					
N	4.8	276.1	275.40	C0.7	
S	4.6	276.3	275.14	C0.9	
4					
N	4.6	276.3	276.10	C0.2	
S	3.8	277.1	275.76	C1.3	
5					
N	3.5	277.4	276.8	C0.6	
S	3.6	277.3	276.38	C0.9	
6					
N	3.3	277.6	277.50	C0.1	
S	4.0	276.9	277.00	F0.1	

280.9						59
0+00 = E.L. Louisiana						
N			279.00			280.91
S	3.2	277.7	277.50	C0.2		3.10
1	285.1					277.81
N			278.33			7.30
S	6.9	278.2	277.87	C0.4		285.11
2						
N	6.6		278.67			
S	6.6	278.5	278.24	C0.3		
3						
N			279.00			
S	6.6	278.5	278.61	F0.1		
4						
N			279.33			
S	6.0	279.1	278.98	C0.1		
5						
N			279.67			
S	5.4	279.7	279.35	C0.3		
6 = WL. Texas						
N			280.00			
S	4.8	280.3	279.70	C0.6		

285.1

0+00 = EL	TEXAS			
N		281.00		
S	4.6	280.5	280.50	C.00
0+20				
S	4.8	280.3	280.59	F.0.3
0+40				
S	4.7	280.4	280.43	C.00
0+60				
S	4.6	280.5	280.08	C.0.4
0+80				
S	5.3	279.8	279.44	C.0.4
1+00				
S	6.0	279.1	278.59	C.0.5
1+37.32				
S	8.0	277.1	276.76	0.3
1+73.16				
S	10.1	275.0	274.52	C.0.5
2+28.95				
S	12.0	273.1	272.24	C.0.9
2+74.24				
S	3.0	270.5	270.00	C.0.5

= WL Arizona

273.5

0+00 = EL	Arizona			
S	4.2	269.3	269.20	C.0.1
0+60				
S	7.1	266.4	266.07	C.0.3
0+80				
S	7.4	266.1	265.19	C.0.9
1+00				
S	8.1	265.4	264.92	C.0.7
1+36.5				
S	9.1	264.4	264.10	C.0.3
1+51.5				
S	9.4	264.1	263.80	C.0.3
1+93.16				
S	9.9	263.6	263.27	C.0.3
2+32.83				
S	10.1	263.4	262.74	C.0.7
2+76.5	Arnold			
S	10.3	263.2	262.21	C.1.0
3+16.5				
S	14.2	259.3	261.10	F.1.8
3+41.5				
S	14.2	253.	261.00	F.1.7

60

B.M. 11.04 262.54 251.50  
 I.P. 9.24 270.74 1.04 261.50

N.E. ret Ala & Ubas

PC. N. Ubas 10.35 260.39  
 10.15 260.59  
 P 9.94 260.80  
 EC. Ubas 9.14 261.60  
 40'E 6.74 264.00  
 60'E 5.44 265.30  
 80'E 4.54 266.20  
 T.P. 5.22 275.76 0.20 270.54  
 220E 4.76 271.00

N.W. ret Ubas & MISS

PC on Ubas 3.26 272.5  
 3.06 272.7  
 2.01 272.75  
 3.06 272.70

Murtles  
 Ala.  
 Ala & Ubas.  
 N.E. Cor

B.M. 0.73 274.11 273.38

B.M. 9.32 264.79

T.P. 9.52 283.41 0.22 273.87

100'E of Texas Neb 4.41 279.00

B.M. 2.50 280.91

B.M. 2.67 267.46 264.77

Return NE Ubas & Arnold

N.L. Ubas 5.42 262.04

51 5.61 261.85

10' PC. 5.71 261.75

Cent. 5.66 261.80

EC Ubas 5.46 262.00

B.M. 2.19 283.07 280.91

Return NW Ubas & Louisiana

5.66 277.43

5.59 277.50

5.54 277.55

5.59 277.50

Return NE Ubas & MISS

N.L. Ubas 10.02 273.07

PC 9.75 273.14

Cent. 9.87 273.22

E.C. 9.79 273.30

N.E. Murtles  
 2 Arizona  
 Nail Pole  
 NW Ubas & Arnold

7' to C NE  
 Texas & Ubas

NW return Ariz & Upas

284.34

342  
4.07  
6  
11

0.05	273.94	273.89
PC Upas	4.64	269.30
1	4.66	
2	4.68	
3	4.67	
EC. Ariz.	4.73	

20'E  
40'E  
60'E  
80'E  
100'E

3.73	280.41
4.09	280.25
4.43	279.91
5.13	279.21
	278.30

NE. Return TEXAS & Upas

B.M 0.47 281.38

280.91

3.43	284.34	280.91
EC. Upas	4.04	280.30
	4.06	
	4.08	
	4.10	
	4.15	
PC. Ariz.	4.09	

NL Upas  
EC. Upas

4.08	
4.08	277.30
4.10	
4.12	
4.14	
4.12	

PC. Louisiana

NW Return Upas & Ariz.

NL. Upas	4.93
PC. Upas	5.25
	5.18
	5.12
	5.06
EC. Ariz.	5.00

Paw Stakes Texas East

B.M	4.11	285.02	280.91	
E.L. Tex		4.52	280.50	
20 E.		4.43	280.57	
40		4.59	280.43	
60		4.94	280.08	
80		5.58	279.44	
100		6.43	278.57	6.73
T.P.	0.73	274.62	273.87	
W.L. Ariz		4.62	270.00	5.32
B.M.	4.48	285.37	280.91	
W.L. Texas		5.69	279.70	6.29
B.M.	1.84	282.75	280.91	
E.L. Louisiana		277.50	5.25	5.47

Mississippi West

B.M.	12.70	274.20	261.50	
± W.L. Miss.		1.70	272.50	
±	60' W of Miss.	3.20	271.00	
± 200 W		8.05	266.15	
		8.90	265.30	
		10.10	264.10	
P.C. NE ret ± opp.		12.30	261.70	
E.L. Ariz.		13.05	261.15	

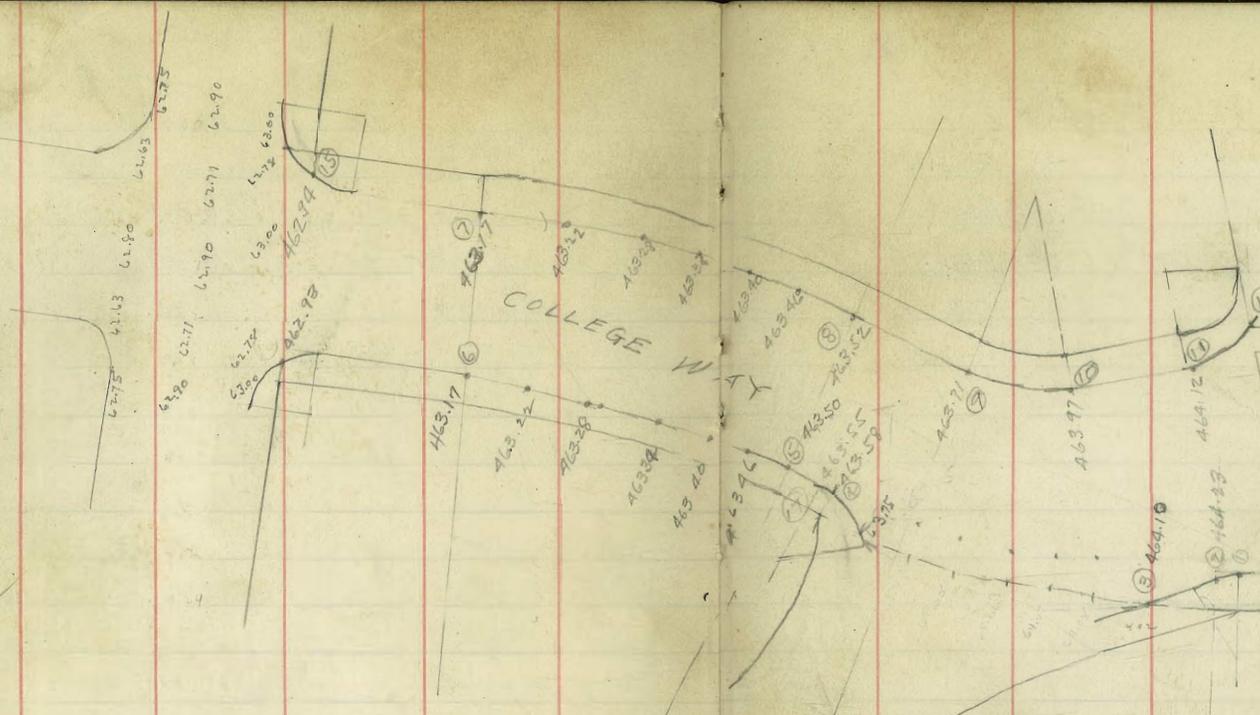
B.M.	4.17	265.69	261.50
		4.54	261.15
Send X card at A/q.		6.02	259.67
Paw grd. send X eb		6.22	259.47
B.M.	7.16	271.95	264.79
pc upas	N.W. Return upas = Arnold.	9.65	262.30
		9.67	
		9.69	
		9.70	
E.S. Arnold.		9.71	
± W.L. Arnold		9.75	262.2
± opp Alley		8.18	263.77
		8.78	263.17
± opp W.L. Alley		7.80	264.15
eb W.L. Alley		8.50	263.45
± opp 36.5w of Alley		7.23	264.72
cb		7.95	264.00
± 80 E of Ariz		6.76	265.19
cb "		7.55	264.40
± 60 E " "		5.88	266.07
cb " " "		6.75	265.20
± E.L. Ariz		3.00	268.95
cb "		4.00	267.95

Cont on P. 69

3.56  
 3.65  
 3.55 3.25 ✓  
 3.71  
 3.71 3.31 ✓  
 3.77  
 3.47 3.37 ✓  
 3.88  
 3.57 3.42 ✓  
 3.94  
 3.64 3.54 ✓  
 4.00  
 3.70 3.60 ✓  
 4.09  
 3.79 3.69 ✓  
 4.17  
 3.87 3.77 ✓  
 4.24  
 3.74 3.84 ✓

Edge Pav Across Soria

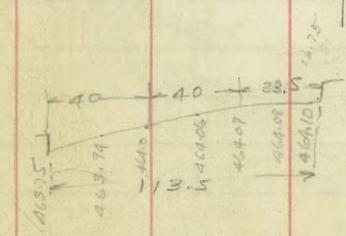
(10)	5.81	469.56	469.75
			5.62 463.94
			5.56 464.00
			5.50 464.06
			5.49 464.07
			5.48 464.08



62.50  
 4.58  
 68.08

64

4.00	3.96	3.92	3.88	3.85
	3.66	3.52	3.58	
4.15	4.12	4.09	4.06	4.03
	3.92	3.69	3.76	
4.24	4.21	4.14	4.15	4.12
	3.91	3.78	3.95	
4.34	4.30	4.27	4.23	4.20
	4.00	3.92	3.93	
4.41	4.34	4.35	4.32	4.29
	4.08	3.95	4.02	
4.54	4.50	4.47	4.45	4.42
	4.17	4.05	4.12	
4.58	4.54	4.50	4.56	4.54
	4.25	4.16	4.27	
3.53	4.10	4.02	4.07	
	3.78	4.00	4.01	
3.72	3.66	4.00	4.04	4.14
	4.02	4.08	4.14	
4.00	4.03	4.08		
4.14	4.24			



Grade of Edge of Pav across Soria Dr.



Both Sides  
— 6 feet —

- (11)
- (10)
- (9)
- (8)
- (5)
- (6)
- (7)
- (17)
- (4)
- (14)
- (3)
- (12)

468.07

463.97 4.10  
 3.95 464.12  
 4.10 463.97  
 4.36 463.71  
 4.58 463.52  
 4.61 463.46  
 4.67 463.46  
 4.73 463.34  
 4.79 463.28  
 4.85 463.22  
 4.90 463.17  
 4.52 463.55  
 4.49 463.58  
 4.22 463.75  
 3.97 464.16  
 3.84 464.23  
 3.63 464.44

eb stakes Arossa  
 College way West  
 BM 1.21  
 0+95 461.87  
 can't from p58 460.66

66

N 4.67 457.20  
 S 4.17 457.70  
 1+15  
 N 4.62 457.25  
 S 4.12 457.75

College way East

0+20  
 N 7.57 454.30  
 S 6.77 455.10  
 0+30  
 N 7.37 454.50

B.M 0.90 461.56 460.66  
 T.P 0.47 449.37 12.66 448.96  
 NL El retiro E 8.67 440.70  
 " " W 10.57 438.80 10.07 c.o.s

Curb cuts College Way from 120'  
 South of Arosa to N L El Retiro  
 B.M. 1.17 461.83 460.66 R.P.S.W. Arosa & College Way  
 0+20 4.73  
 E 2.75 458.88  
 W 458.88  
 0+40  
 E 458.43  
 W 3.40 458.43  
 0+60  
 E 457.83  
 W 4.00 457.83  
 0+80  
 E 457.08  
 W 4.75 457.08  
 1+00  
 E 456.23  
 W 5.60 456.23  
 1+10 = P.C. SE → S.W. Returns  
 E 455.53  
 W 6.30 455.53  
 P.C. NE ref. 10.60 451.23  
 P.C. NW ref. 12.50 449.33  
 T.P. 1.61 450.60 12.84 448.99  
 12.47 448.13  
 10.57 440.03

COLLEGE WAY

(Grading)

Cont. from Page 2017

Station	Defl'n	13' ht % chds.	% chgs.	12' ht % chds.
25+10.5 = K.C.				
	20.24	20.0	19.76	
24+90.5	"	"	"	
+70.5	"	"	"	
+50.5	"	"	"	
+30.5	"	"	"	
24+105 = P.V.C.	20.24	20.0	19.76	
	20.90	20.65	20.43	
23+89.85	"	"	"	
+69.2	"	"	"	
+48.55	"	"	"	
+27.90	"	"	"	
23+07.25	"	"	"	
+86.60				
+65.95	20.90	20.65	20.43	
	15.50		15.13'	

Station	Defl'n	Σ	RT
25+10.5	12.7 ✓	+26	12.7 ✓
	2.9	2.9	2.9
	5.6	5.6	5.6
	451.90	450.91	451.90
24+90.5	12.6 ✓	+2.0	12.6 ✓
	3.1	3.1	3.1
	5.7	5.7	5.7
	451.23	450.89	451.23
+70.5	12.1 ✓	+2.5	12.1 ✓
	3.7	3.7	3.7
	5.8	5.8	5.8
	451.12	450.85	451.12
+50.5	12.3 ✓	+2.5	12.3 ✓
	3.6	3.6	3.6
	5.9	5.9	5.9
	450.98	450.78	450.98
+30.5	12.6 ✓	+1.1	12.6 ✓
	3.5	3.5	3.5
	6.1	6.1	6.1
	450.84	450.68	450.84
24+105 = P.V.C.	12.0 ✓	+0.4	12.0 ✓
	3.2	3.2	3.2
	6.2	6.2	6.2
	450.70	450.55	450.70
23+89.85	12.9 ✓	+1.3	12.9 ✓
	3.4	3.4	3.4
	6.3	6.3	6.3
	450.55	450.49	450.55
+69.2	12.7 ✓	+2.3	12.7 ✓
	3.8	3.8	3.8
	6.5	6.5	6.5
	450.39	450.42	450.39
+48.55	12.0 ✓	+2.0	12.0 ✓
	3.8	3.8	3.8
	6.7	6.7	6.7
	450.24	450.35	450.24
+27.90	12.4 ✓	+2.4	12.4 ✓
	3.4	3.4	3.4
	6.8	6.8	6.8
	450.08	450.29	450.08
23+07.25	12.5 ✓	+2.5	12.5 ✓
	3.5	3.5	3.5
	7.0	7.0	7.0
	449.93	450.22	449.93
+86.60	12.2 ✓	+2.5	12.2 ✓
	3.3	3.3	3.3
	7.1	7.1	7.1
	449.72	450.16	449.72
+65.95	12.4 ✓	+2.4	12.4 ✓
	3.7	3.7	3.7
	7.3	7.3	7.3
	449.62	450.09	449.62
	15.50	15.91	15.91

Upas St. Cont from P 63

Ⓟ

B.M.	2.09	266.88	264.79
Special curb at Arnold			
W. end		3.28	263.60
Center		3.93	262.95
E. end		4.58	262.30

Water Chute at Arnold.

N.W.			261.10
N.E.		5.88	261.00
S.E.		7.28	257.60
S.W.		8.88	258.00

Curb cuts & Pav. Staples Louisiana - Miss.

N.W. Return Louisiana & Upas.

B.M.	0.79	281.70	280.91
P.C. Upas		4.90	276.80
Ⓟ opp		4.70	277.00
		4.82	
		4.81	
P.C. Louis.		4.80	

N.E. Return Upas & Miss.

P.C. Upas		9.10	272.60
Ⓟ opp		8.40	273.30

28170  
N.W. Return Upase Miss

69

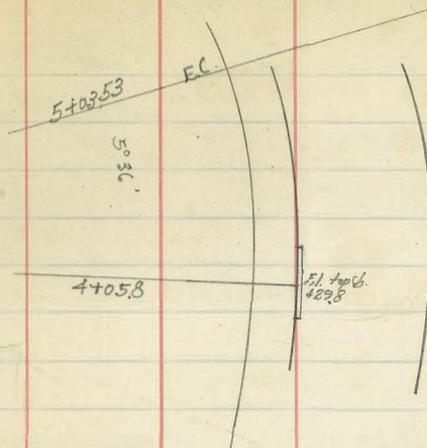
P.C. Upas	9.90
	9.83
	9.77
	9.71
P.C. Miss	9.64

Walker  
Bliss  
District  
9-30

ALIGNMENT From Drawing # 2149-L

COLLEGE WAY  
From NLY line El. Retiro  
to NLY " lot 21

Stations	Align	Deflin.	True Bearing	Curve Data
4+40'		6°14.71'		
+20'		5°40.34'		
4+00'		5°05.97'		
+80'		4°31.60'		
+60'		3°57.23'		
+40'		3°22.46'		
+20'		2°48.09'		
3+00'		2°13.72'		
+80'		1°39.35'		
+60'		1°04.98'		
+40'		0°30.61'		
2+22.10 = NLY El Retiro		0°00'		



Alignment  
College Way

Stations	Align.	Defin.	True Bearing	Curve Data
----------	--------	--------	--------------	------------

20+1781 = RC. RT

13+35.90 = & ERIE ST.

7+1086 = P.O.T.

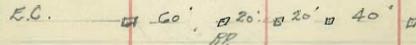
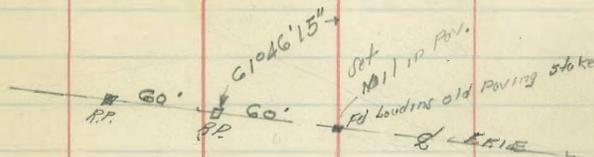
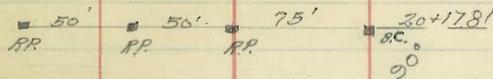
5+103.53 = E.C.      8°03.58'

+80      7°23.45'

4+60      6°49.08'

⊥

71



Stations Align Defln.

25+105.0 = E.C.	14°06.87'
24+90.5	13°32.50'
+70.5	12°58.13'
+50.5	12°23.76'
+30.5	11°49.39'
24+105 = P.V.C	11°15.02'
23+89.85	10°39.51'
+69.20	10°04.00'
+48.55	9°28.47'
+27.90	8°52.96'
23+07.25	8°17.45'
+86.60	7°41.94'
+65.95	7°06.43'
+50.58	6°40.10'
+36.58	6°05.73'
22+105.58 = E.V.C	5°31.36'
21+83.62	4°45.01'
21+56.65	3°58.66'
21+07.73	2°34.57'
+85.88	1°57.02'
+63.82	1°19.11'
+51.7	1°00.00'
+29.47	0°19.95'

RR                      RR                      300  
 □ 50'                      □ 50'                      E.C.                      100  
 0.5' deep                      0.5' deep                                           0.5' deep



L  
Stations

+60

+40

7+20 = P.V.C

T.P. 12.59 464.49 0.56 451.90

+80

+100

T.P. 12.89 452.46 0.58 439.57

6+00 = E.V.C

+80

+60

T.P. 12.91 440.15 0.11 427.24

+40

T.P. 12.10 427.35 0.32 415.25

+20

T.P. 12.22 415.57 2.09 403.35 5+03.59

5+00

+80

4+60

405.44

L

2.3 ✓ 39  
30.7 176.1  
446.85

445.56

86 ✓ 117  
34.9 20.29  
444.20

+60 ✓ 51  
39.0 11.1  
441.39

+1.4 ✓ 12.5  
30.7 13.83  
438.58

-0.4 ✓ 4.8  
30.6 4.4  
435.77

-2.5 ✓ 8.2  
33.8 57.3  
434.92

-4.4 ✓ 11.2  
36.6 6.80  
433.35 33.25

-12.5 ✓ 7.6  
48.7 4.49  
433.24

-23.7 ✓ 7.83  
65.5 15.83  
431.40

-31.6 ✓ 7.6  
77.4 15.17  
430.74

-36.7 ✓ 11.9  
85.0 24.8  
430.24

-39.4 ✓ 14.9  
89.1 24.5  
429.33

L

+12.7 ✓  
7.2  
17.9  
446.58

445.29

+11.0 ✓  
5.56  
20.56  
443.93 464.49

+2.2 ✓  
5.1  
11.3  
441.12

+2.3 ✓  
7.8  
14.15  
438.31

+0.5 ✓ 45.246  
2.7  
4.65  
435.50

-3.1 ✓  
9.1  
6.0  
434.16

-9.9 ✓  
15.0  
2.15  
433.00 440.15

-15.7 ✓  
7.3  
4.68  
432.03 437.35

-22.7 ✓  
7.1  
15.61  
431.18

-27.8 ✓  
1.3  
14.35  
430.52 415.57

-30.8 ✓  
6.3  
24.65  
430.09

-33.2 ✓  
8.3  
24.34  
429.78  
405.44

L

-8.4 ✓ 19.2  
17.64 34.6  
446.85

445.56

2.8 ✓ 14.5  
20.29 35.9  
444.20

3.2 ✓ 7.9  
11.1 34.0  
441.39

2.3 ✓ 4.6  
13.88 32.3  
438.58

4.9 ✓ -0.5  
1.4 30.7  
435.77

8.2 ✓ -2.6  
5.56 33.9  
434.59

11.2 ✓ -4.6  
6.58 36.9  
433.57

2.5 ✓ -7.9  
3.4 41.8  
432.74

3.7 ✓ -12.8  
16.50 49.2  
432.07

2.5 ✓ -18.5  
16.0 57.8  
431.57

3.7 ✓ -22.0  
25.75 63.0  
431.19

4.7 ✓ 24.9  
25.6 67.3  
431.02

74

Station 5

+20

10+00

+80

+60

+40

+20

9+00

+80

+60

+40

+20

8+00

7+80

464.49

L4

456.61

+1.8 ✓ 34  
32.4 82  
456.30

455.94

+3.6 ✓ 54  
31.8 90  
455.50

454.98

+4.2 ✓ 53  
32.1 10.1  
454.38

453.71

+5.4 ✓ 61  
32.7 11.53  
452.96

452.13

+6.3 ✓ 69  
33.2 13.2  
451.30

450.25

+7.3 ✓ 80  
33.7 15.3  
449.19

448.06

L

456.34

+3.7 ✓  
4.7  
8.46  
456.03

455.67

+4.2 ✓  
5.05  
9.26  
455.23

454.69

+4.3 ✓  
5.11  
10.46  
454.03

453.44

+6.0 ✓  
5.8  
11.80  
452.69

451.86

+7.4 ✓  
6.06  
13.46  
451.03

449.98

+7.9 ✓  
7.7  
15.57  
448.92

447.79

75

456.61

+1.8 ✓ 34  
32.4 82  
456.30

455.94

+3.6 ✓ 54  
31.8 90  
455.50

454.98

+4.2 ✓ 53  
32.1 10.1  
454.38

453.71

+5.4 ✓ 61  
32.7 11.53  
452.96

452.13

+6.3 ✓ 69  
33.2 13.2  
451.30

450.25

+7.3 ✓ 80  
33.7 15.3  
449.19

448.06

464.49

Stations.

+20

13+00 = P.V.C.

+50

T.P. 459 463.75 5.33 459.16

12+00 = E.V.C.

+80

+60

+40

+20

11+00

+80

+60

10+40

464.49

L4

L

L4

76

452.93 out.

2.7 ✓ 7.3  
31.4 10.0  
453.72

1.3 ✓ 5.8  
31.6 8.96  
454.79

11.9 ✓ 6.7  
31.0 8.63  
455.86

456.24

12.0 ✓ 5.9  
31.0 7.9  
456.57

456.80

3.2 ✓ 1.3  
31.6 7.54  
456.93

457.04

2.1 ✓ 5.3  
31.1 7.47  
457.02

456.98

12.8 ✓ 4.8  
31.4 7.65  
456.84

452.96

1.2 ✓  
6.1 ✓  
10.3  
453.45

1.2 ✓  
5.6  
9.23  
454.52

12.5 ✓  
5.1  
8.9  
455.59

455.81

13.8 ✓  
4.4  
8.2  
456.30

456.53

1.54 ✓  
3.4  
7.8  
456.68

456.77

12.7 ✓  
10.4  
7.74  
456.75

456.71

12.0 ✓  
7.9  
7.9  
456.57

464.49

452.23

4.4 + 5.6 ✓  
10.0 32.8  
453.72

5.8 + 3.4 ✓  
8.96 31.7  
454.79

4.5 + 4.1  
8.63 32.1  
455.86

456.24

4.9 + 3.0 ✓  
7.9 31.5  
456.57

456.80

4.9 + 2.6 ✓  
7.51 31.3  
456.25

457.04

4.6 + 2.9 ✓  
7.47 31.5  
457.02

456.98

4.65 + 3.0 ✓  
7.65 31.5  
456.84

6  
stations

16+00

+80

T.P.

+60

+40 = P.V.C

T.P. 10.5 452.00 12.80 450.95

15+00

+60 = F.V.C

+40

+20

14+00

+80

+60

13+40

463.75

64

438.09

-0.3 13.4  
30.5 13.13  
438.87

439.89

+5.1 ✓ 5.7  
32.6 10.86  
441.14

+6.6 ✓ 13.3  
33.3 19.9  
443.85

+5.3 - 11.9  
32.7 17.2  
446.57

447.86

+2.0 - 11.7  
31.5 14.7  
449.02

450.12

2.1 ✓ 10.6  
31.1 12.70  
451.07

451.91

+2.1 ✓ 9.0  
31.1 11.15  
452.60

65

437.62

+4.5 ✓  
12.0  
13.5  
438.51

439.62

+6.5 ✓  
4.63  
11.13  
440.87  
+7.1 452.00  
7.1  
30.2  
443.58

+5.1  
17.37  
17.45  
446.30

447.49

+4.5 ✓  
10.5  
13.0  
448.75

449.85

+4.8 ✓  
8.17  
12.95  
450.80

451.64

+4.5 ✓  
8.9  
11.4  
452.33

463.75

67

77

438.10

15.1 -2.0 ✓  
15.12 33.0  
438.88

439.39

6.66 +4.2 ✓  
10.86 32.1  
441.14

11.1 +7.8 ✓  
19.9 32.9  
443.85

12.4 +4.8 ✓  
17.2 32.4  
446.57

447.86

10.3 +3.8 ✓  
14.7 31.9  
449.02

450.12

7.7 +5.0 ✓  
12.7 32.5  
451.07

451.91

7.85 +5.3 ✓  
11.13 31.7  
452.60

Stations.

+30

18+10

+90 = F.V.C

+80 = E.V.C

T.P. 13.08 452.26 0.05 439.28

+60

+40

+20

17+00

+80

+60

+40

16+20

T.P. 0.20 439.33 12.87 439.13

452.00

L

444.40

10.4 - 8.6  
30.2 8.96  
443.30

442.04

4.7 ✓ 2.2  
36.3 - 12.0  
441.34  
439.33

440.06

-17.1 ✓ 17.4  
55.7 0.3  
439.01

438.20

-27.8 ✓ 29.5  
71.7 1.7  
437.61

437.25

-24.8 ✓ 27.0  
67.2 2.2  
437.12

437.21

-13.9 ✓ 15.7  
30.9 1.8  
437.54

R

444.13

+4.3 ✓  
4.9  
3.2  
443.03

441.77

+1.6 ✓  
3.6  
11.2  
441.07  
452.36

439.79

-0.9 ✓  
7.6  
0.7  
438.65

437.93

-5.5 ✓  
7.83  
2.33  
437.00

436.50

-18.7 ✓  
37.8  
3.1  
436.28

436.50

-13.0 ✓  
15.3  
2.33  
437.00

439.53

R

78

444.40

1.2 +7.7  
8.96 33.9  
443.30

442.04

4.2 +6.7 ✓  
10.9 33.4  
441.34

440.06

+3.2 +3.5 ✓  
0.3 31.8  
439.02

438.20

5.1 -3.4 ✓  
1.7 35.1  
437.61

437.25

14.0 -11.8 ✓  
2.2 47.7  
437.12

437.21

11.9 -10.1 ✓  
1.8 45.1  
437.34

Temp. 8 M.  
on 2100 pipe  
N.E. on Track 1c

6  
Stations

12' Lt  
chds

4  
chds.

12' Rt  
of chds.

Cont. on Page 17

+52.7

+2942 = 815.0' 0°12'25" 11.75 11.61 11.54'

20 + 17.81 = 26.

+81.34

TP 3.69 456.91 4.53 453.22

+50 = E.V.C.

+30

19 + 10

+90

TP 7.82 457.75 2.33 449.93

18 + 70

18 + 50

452.26

Lt

E

Rt

79

+37.5  
34  
31  
447.80 = Gut.

+47.41  
32.5 88  
448.07 = cb.

+43.1  
32.2 58  
447.94

+42.1 58  
32.1 10.8  
447.77

447.34

+46.67  
32.3 10.8  
446.95

446.29

+34.34  
31.7 6.8  
445.41

448.20

447.80

+53.43  
39 92  
447.67

+53.43  
43 10.2  
447.56

+56.47  
47 10.3  
447.45

447.08

+55.56  
56 11.1  
446.67

446.02

+49.33  
49 7.2  
445.08

452.26

+48.46  
46 9.4  
Gut = 447.55

+53.43  
43 9.6  
447.30

+50.99  
50 9.9  
447.87

+55.45  
45 10.0  
447.72

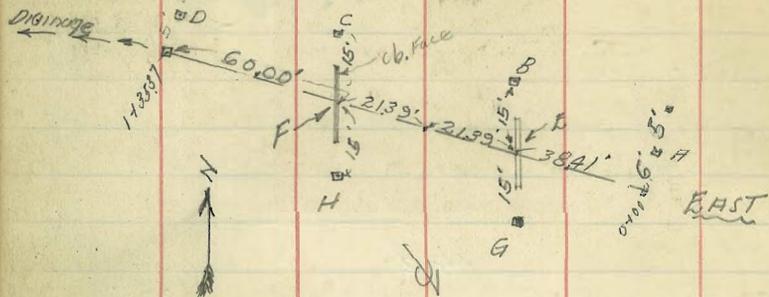
447.40

+58.58  
58 10.8  
446.93

446.29

+74.50  
74 12.4  
445.35

College Way Cukiert  
 Station 16+58 142° R.C. Pipe 24"  
 $\theta_2 = 69^\circ 13'$   
 Grade = 9.21%



	+	x	-	Elev. Stakes	Elev. Grade Flow Line
D		417.85	8.97	408.26	407.00
C		428.09			
B		428.09	9.11	418.98	416.47
A		428.09	6.83	421.26	420.00

*Reset See notes below p. 53*

	+	x	-	Elev. Stake	Elev. Grade Flow Line
D		417.85	9.59	408.26	407.00
C		428.17	8.66	419.51	412.53
B		428.17	6.96	421.21	416.47
A		428.17	6.92	421.25	420.00

T.P	3.20	417.85	12.52	415.65	
	6.20	428.17		427.97	
T.P	1.58	417.23	12.44	415.65	
	0.72	428.09		427.97	

Temp 8.19  
on p. 78

421.25 = Elev. Stake A

	B	E	F	C	H
423.10 - x	416.47	416.47	412.53	412.53	412.53
	6.63	6.63	10.57	10.57	10.57
	188	593	938	151	929
	+4.75	+9.70	+1.19	+9.06	+1.28

416.47  
 6.63  
 286  
 +3.77  
 — Reset

Distance of slope stake from top of shoulder  
 stake for any width roadway, slope 1% to 10%  
 If ground is nearly level, the cut or fill at side  
 stake is located by the double entry method in  
 left column and top row. The number in body

## IMPROVED TABLES

AND

## Profile Ground Line INFORMATION

Station	Elev. Stake	Elev. Ground
0+6	7.5	420.7
0+00	7.09	420.11
+06	8.9	419.3
+15	9.1	419.1
+35	11.0	417.2
+60	11.6	416.6
+75	11.7	416.5
+92	13.6	414.6
+111	16.6	411.6
+29	18.1	410.1
+30	21.1	407.1
+46	21.1	407.1

## DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope  $1\frac{1}{2}$  to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

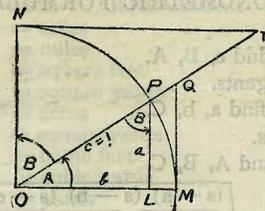


TABLE II  
TRIGONOMETRIC FORMULÆ.

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \quad \cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \quad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Sines} \quad \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$$

Polk

Oregon S.E. 366.01

Ohio S.E. 365.96

320.90

26  
6.65  
14.19

5.90  
5.51  
41.07

314.78  
5.91  
320.74  
14.19  
306.60

320.74  
14.19  
306.55

6.0035  
00.06

225  
6  
1350

10.21  
3.29

6.92  
5.19  
12.11

6.92  
5.09  
12.01

500  
8  
3000

175  
6  
1050

65  
21.6

315.03  
4.66  
319.69  
9.45  
310.24

160  
0960  
44915  
44872  
67 ) 436 (007  
14  
.098

319.69  
4.53  
315.16

225.13 (1)  
175.10  
400.23 (2)  
160.09  
560.32 (3)  
5+00.30 (4)