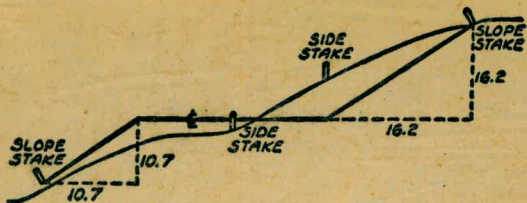


FINE GRADE  
W838-B



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING  
SLOPE 1 TO 1. ROADWAY OF ANY WIDTH

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0
1	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	1
2	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	2
3	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	3
4	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	4
5	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	5
6	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90	6
7	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	7
8	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	8
9	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	9
10	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	10
11	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90	11
12	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	12
13	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90	13
14	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90	14
15	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90	15
16	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90	16
17	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90	17
18	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90	18
19	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90	19
20	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90	20
21	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90	21
22	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90	22
23	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90	23
24	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90	24
25	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90	25
26	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90	26
27	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90	27
28	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90	28
29	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90	29
30	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90	30
31	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90	31
32	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90	32
33	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90	33
34	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90	34
35	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90	35
36	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90	36
37	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90	37
38	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90	38
39	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90	39
40	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90	40
41	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90	41
42	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90	42
43	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90	43
44	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90	44
45	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90	45
46	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90	46
47	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90	47
48	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90	48
49	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90	49
50	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90	50

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 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.

mark  
838-B.

Sutherland - Son & Co  
Conduit Steel  
Construction Grades  
and notes

JAN 10 1965

TABLE XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table VIII) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

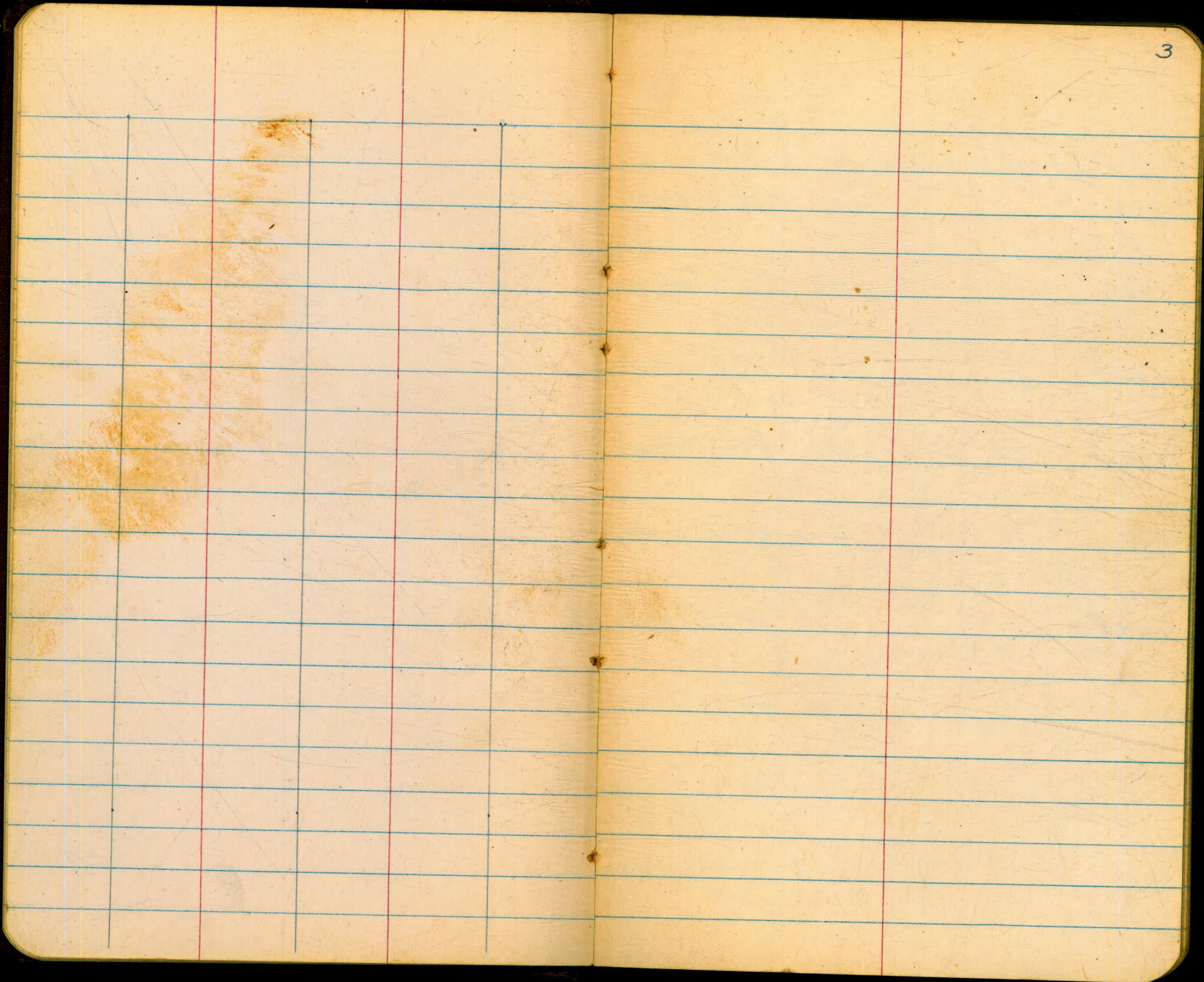
FOR TANGENTS ADD

Central Angle	DEGREE OF CURVE													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.03	.06	.09	.13	.16	.19	.22	.25	.28	.31	.34	.38	.42	.46
15°	.04	.10	.14	.19	.24	.29	.34	.39	.45	.51	.53	.58	.63	.68
20°	.06	.13	.19	.26	.32	.39	.45	.51	.58	.65	.72	.79	.84	.90
25°	.08	.16	.24	.33	.40	.49	.58	.67	.75	.83	.90	.99	1.06	1.14
30°	.10	.19	.29	.39	.49	.59	.69	.79	.89	.99	1.09	1.20	1.29	1.39
35°	.11	.22	.34	.47	.58	.69	.79	.81	.92	1.04	1.29	1.42	1.54	1.66
40°	.13	.26	.40	.53	.67	.80	.93	1.06	1.20	1.34	1.49	1.64	1.79	1.94
45°	.15	.30	.44	.60	.76	.91	1.06	1.21	1.37	1.52	1.70	1.87	2.04	2.21
50°	.17	.34	.51	.68	.85	1.02	1.19	1.36	1.54	1.72	1.91	2.10	2.29	2.48
55°	.19	.38	.57	.76	.95	1.14	1.32	1.52	1.72	1.92	2.14	2.35	2.56	2.77
60°	.21	.42	.63	.84	1.05	1.27	1.49	1.71	1.94	2.17	2.38	2.60	2.83	3.07
65°	.23	.46	.69	.93	1.16	1.40	1.64	1.88	2.13	2.38	2.63	2.88	3.13	3.39
70°	.25	.51	.76	1.02	1.28	1.54	1.80	2.06	2.33	2.60	2.88	3.16	3.44	3.72
75°	.27	.56	.83	1.12	1.40	1.69	1.98	2.27	2.57	2.87	3.16	3.47	3.78	4.09
80°	.30	.61	.91	1.22	1.53	1.84	2.15	2.46	2.78	3.10	3.44	3.78	4.12	4.46
85°	.33	.66	1.00	1.33	1.68	2.02	2.36	2.70	3.05	3.40	3.77	4.14	4.55	4.89
90°	.36	.72	1.09	1.45	1.83	2.20	2.57	2.94	3.32	3.70	4.10	4.50	4.91	5.32
95°	.39	.79	1.19	1.55	2.00	2.40	2.80	3.20	3.61	4.02	4.40	4.98	5.38	5.83
100°	.43	.86	1.30	1.74	2.18	2.62	3.06	3.50	3.95	4.40	4.88	5.37	5.85	6.34
110°	.51	1.03	1.56	2.08	2.61	3.14	3.67	4.21	4.76	5.31	5.86	6.43	7.01	7.60
120°	.62	1.25	1.93	2.52	3.16	3.81	4.45	5.11	5.77	6.44	7.12	7.80	8.50	9.22

FOR EXTERNALS ADD

Central Angle	DEGREE OF CURVE													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020
15°	.003	.007	.010	.014	.018	.023	.027	.029	.032	.035	.039	.043	.047	.051
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083
25°	.009	.018	.027	.036	.046	.056	.065	.074	.083	.093	.106	.120	.127	.135
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341
45°	.030	.060	.093	.119	.156	.184	.216	.254	.289	.325	.351	.378	.411	.445
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.771	.845	.922	1.01
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17
75°	.095	.182	.266	.353	.440	.528	.618	.707	.797	.877	.971	1.07	1.18	1.29
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.76	1.91
90°	.149	.299	.450	.603	.758	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20
95°	.174	.350	.522	.706	.885	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32





	+	∧	-	Elev.
BM.	3.53	1940.95		1937.42
2+54.49			6.12	1934.83 1928.03
3+00			5.94	1935.01 1928.26
3+48.80			5.15	1935.80 1928.52
3+80.28			5.00	1935.95 1928.69
4+00			4.70	1936.25 1928.80
4+50			5.36	1935.59 1929.08
5+00			5.63	1935.32 1929.35
5+37.99			5.74	35.21 1929.56
5+43.73			5.55	35.40 1929.59

BM. SEE Pg 78 X-SEC. BOOK.

C 6 80

C 6 75

C 7 28

C 7 62

C 7 45

C 6 51

C 5 97

C 5 60

C 5 81

Elev.

T.P. 6700	1940.95	3.63	1937.32	1929.90	C 7 <u>42</u>
6725	11.05 1948.37	7.11	41.26	1936.0	C 5 <u>26</u>
6750		5.72	42.65	1935.95	C 6 <u>70</u>
7700		4.62	43.75	1935.84	C 7 <u>91</u>
7750		4.59	43.78	1935.73	C 8 <u>05</u>
8700		3.90	44.47	1935.63	C 8 <u>84</u>
8742.35 D.C.		4.20	44.17	1935.53	C 8 <u>64</u>
875017		4.20	44.17	1935.52	C 8 <u>65</u>
T.P.		5.60	1942.77		
9700	0.84 1943.61	6.24	37.37	1935.41	C 1 <u>96</u>

	1943.61				
9+50		3.96	39.65	1935.30	C 4 <sup>35</sup>
10+00		7.08	36.53	1935.20	C 1 <sup>33</sup>
10+50		1.58	42.03	1935.09	C 6 <sup>94</sup>
10+70 <sup>67</sup>		0.84	42.77	1935.04	C 7 <sup>73</sup>
11+07 <sup>45</sup>		2.65	40.96	1934.33	C 6 <sup>63</sup>
11+50		6.07	37.54	1931.70	C 5 <sup>84</sup>
11+70 <sup>11</sup>		8.44	35.17	1930.45	C 4 <sup>72</sup>
T.P. 12+01 <sup>56</sup>	A.H.O.	11.20	1932.41	1928.57	C 3 <sup>84</sup>
T.P.		0.74	1942.87		
	11.45	1954.32			
		0.65	1953.67		



11.34 1965.01 0.82 1953.67 1964.19 1964.19

CK.B.M. ✓ SEE PG 80 DITCH PROFIL.

TP  
12+01<sup>56</sup>

4.68 1937.09

1932.41

12+50

6.41 30.68 1927.55

C 3 <sup>13</sup>

12+97<sup>31</sup>

6.10 30.99 1926.55

C 4 <sup>44</sup>

13+02<sup>69</sup>

6.96 1937.93

6.12 30.97 1926.48  
1926.48

C 4 <sup>49</sup>

Re-set Stations 13+50 to 15+07<sup>13</sup>

13+22<sup>93</sup>

5.18 31.91 1925

13+50

4.60 1933.33  
2.92 34.17 1926.23

C 7.10  
C 7 <sup>94</sup>

14+00

5.21 1932.72  
0.80 36.29 1925.96

C 6.76  
C 10 <sup>33</sup>

14+25

5.41 1932.52  
0.50 36.59

14+50	1937.09 <u>1937.93</u>	5.69 <del>0.38</del>	1932.24 <del>1936.71</del>	1925.68	C 6.56 <del>C 11.03</del>
T.P. 15+07 <sup>13</sup>		4.39	1932.70	1925.37	C 7 <u>33</u>
	3.07 1935.77				
15+11 <sup>43</sup>		3.66	32.11	1925.35	C 6 <u>76</u>
15+50		4.71	31.06	1925.15	C 5 <u>91</u>
16+00		3.88	31.89	1924.88	C 7 <u>01</u>
16+50		4.80	30.97	1924.61	C 6 <u>36</u>
16+87		4.65	31.12	1924.40	C 6 <u>72</u>
17+00		4.73	1931.04	1924.37	C 6 <u>67</u>
17+50		5.06	30.71	1924.24	C 6 <u>47</u>

	1935.77				
17772 <sup>47</sup>		4.91	1930.86	1924.18	C 6 <sup>68</sup>
17775 <sup>33</sup>		4.93	30.84	1924.17	C 6 <sup>67</sup>
P.		4.28	1931.49		
	2.45	1933.94			
18119 <sup>89</sup>		2.62	31.32	1924.06	C 7 <sup>26</sup>
18125 <sup>33</sup>		2.50	31.44	1924.05	C 7 <sup>39</sup>
18150		3.27	30.67	1923.98	C 6 <sup>69</sup>
19100		3.64	30.30	1923.85	C 6 <sup>95</sup>
19150		4.56	29.38	1923.73	C 5 <sup>65</sup>
20100		4.58	29.36	1923.60	C 5 <sup>76</sup>
20150		-4.36	29.58	1923.55	C 6 <sup>03</sup>

	1933.94			
21+00		3.45	1930.49	1923.50

C 6 99

21+50		3.21	1930.73	1923.45
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C 7 28

T.P. 21+92 <sup>44</sup> pc.		3.45	1930.49	1923.40
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C 7 09

	1.49	1931.98		
21+99 <sup>50</sup>		1.49	30.49	1923.40

C 7 09

22+49 <sup>33</sup>		0.89	31.09	1923.36
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C 7 73

22+99 <sup>84</sup>		3.91	28.07	1923.30
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C 4 77

23+03 <sup>44</sup>		3.91	28.07	1923.23
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C 4 84

23+50		—	—	—
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23+67		5.61	26.37	1920.91
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C 5 46

		1931.98			
2	23+98.13		7.93	1924.05 1920.87	C 3 <sup>18</sup>
2	24+50		10.01	21.97 - 20.82	
7	<del>TP</del>				
2	25+00		7.52	1924.46 1920.77	C 3 <sup>69</sup>
	4.75	1929.21			
2	25+50		4.28	24.93 1920.72	C 4 <sup>21</sup>
2	25+74 <sup>54</sup>		3.80	25.41 1920.70	C 4 <sup>71</sup>
2	26+00		3.04	26.17 1920.66	C 5 <sup>51</sup>
2	26+50		5.17	24.04 1920.60	C 3 <sup>44</sup>
2	27+00		5.27	23.94 1920.54	C 3 <sup>40</sup>
	TP		4.16	1925.05	
2	1.12	1926.17	4.37	1921.80	1921.77 dk BM# 63' LT. 28+41.14

B.M.			1921.77		
	5.50	1927.27			
27+36 <sup>15</sup> AHD.		1.64	1925.63	1920.50	C 5 <sup>13</sup>
27+36 <sup>15</sup> BK.		1.40	1925.87	1920.50	
27+70		2.04	1925.23	1920.50	C 4 <sup>73</sup>
28+00		2.72	1924.55	1916.44	C 8 <sup>11</sup>
28+41 <sup>14</sup> BK		10.42	1916.85	1912.00	C 4 <sup>85</sup>
TP 28+41 <sup>14</sup> AHD		11.64	1915.63	1912.00	C 3 <sup>63</sup>
	0.09	1915.72			
28+68 <sup>73</sup>		8.75	1906.97	1903.23	C 3 <sup>74</sup>
T.P.		13.26	1902.46		
	0.41	1902.87			
28+98 <sup>75</sup>		5.66 5.29	1897.21 1897.58	1893.69	<del>C 3<sup>89</sup></del> C 3.52 Re-set

TP	1902.87	13.28	1889.59		C 5.44	
29+28 <sup>77</sup>		<del>13.15</del>	<del>1889.72</del>	1884.15	<del>C 5.57</del>	Re-set

	0.14	1889.86				
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29+59 <sup>01</sup>		8.45	1881.41	1875.32	C 6.09	
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TP		13.27	1876.59			
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	0.31	1876.90				
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29+89 <sup>70</sup>		3.45	1873.45	1868.23	C 5.22	
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30+20 <sup>68</sup>		9.54	1867.36	1862.54	C 4.82	
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TP		12.34	1864.56	1859.86	C 4.70	
30+43 <sup>98</sup>						Pier

	0.63	1865.15				
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30+59 <sup>98</sup>		5.97	1859.18	1858.02	C 1.16	
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30+86 <sup>25</sup> BK.		5.11	1860.04	1855.00	C 5.04	
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30+86 <sup>25</sup> AHD		4.58	1860.57	1855.00	C 5.57	
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	1865.15					
30+94 <sup>25</sup>		6.80	1858.35	1854.98	C 3 <sup>37</sup>	
31+33 <sup>75</sup>		12.05	1853.10	1854.89	F 1.79	Pier
31+49 <sup>25</sup>		12.77	1852.38	1854.86	F 2.48	Pier
32+00		3.52	1861.63	1855.00	C 6 <sup>63</sup>	
TP		0.26	1864.89			
	10.45	1875.34				
32+45		6.24	1869.10	1862.90	C 6 <sup>20</sup>	
33+00		1.30	1874.04	1862.95	C 11 <sup>09</sup>	
33+45 <sup>57</sup>		4.31	1871.03	1863.00	C 8 <sup>03</sup>	
33+76 <sup>95</sup>		2.95	1872.39	1866.70	C 5 <sup>69</sup>	



T.P. 34+08 <sup>29</sup>	1875.34	0.45	1874.89	1870.07	C 4.82 ✓
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11.30	1886.19				
34+28 <sup>39</sup> BK.		7.96	1878.23	1872.50	C 5.73

34+28 <sup>39</sup> BHD		7.50	1878.69	1872.50	C 6.19
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34+62 <sup>50</sup>		2.01	1884.18	1877.88	C 6.30
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TP		0.13	1886.06		
9.97	1896.03				

34+93 <sup>71</sup>		3.55	1892.48	1882.15	C 10.33
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35+24 <sup>87</sup>		2.11	1893.92	1883.83	C 10.09
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35+55 <sup>18</sup>		2.68	1893.35	1883.87	C 9.48
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35+91 <sup>76</sup> BK.		3.86	1892.17	1883.92	C 8.25
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CONT'D PAGE # 30

	5.19	1843.96		1838.77	HUB. AT STA 71+50 PG 68 BK 42	
71+59.28			.91	1843.05	1836.50	C 6 <sup>55</sup>
TP			11.10	1832.86		
	.99	1833.85				
71+31.89			5.37	1828.48	1820.94	C 7 <sup>54</sup>
TP.			12.42	1821.43		
	.69	1822.12				
TP.			12.10	1810.02		
	1.14	1811.16				
70+87			8.18	1802.98	1794.50	C 8 <sup>48</sup>
TP.			11.03	1800.13		
	.13	1800.26				
TP.			13.18	1787.08		HUB. 8' LT.
70+00						

	12.85	1851.62		1838.77	HUB STA. 71+50	Pg 68 Book #2
TP			.70	1850.92		
	12.58	1863.50				
71+87 <sup>04</sup>			5.22	1858.28	1851.16	C 7 <sup>12</sup>
TP			.22	1863.28		
	11.74	1875.02				
72+15 <sup>12</sup>			1.98	1873.04	1865.13	C. 7 <sup>91</sup>
TP			.80	1874.22		
	12.83	1887.05				
TP 72+43 <sup>68</sup>			.99	1886.06	1878.53	C 7 <sup>53</sup>
	12.41	1898.47				
TP 72+72 <sup>89</sup>			.45	1898.02	1889.51	C 8 <sup>51</sup>
	11.41	1909.43				
73+00			4.23	1905.20	1899.00	C 6 <sup>20</sup>
73+34			1.23	1908.20	1899.31	C 8 <sup>83</sup>
TP 73+65 <sup>34</sup>			.03	1909.40	1899.71	C 9 <sup>69</sup>

TP.				1909.40		
	4.98	1914.38				
73+93			4.15	1910.23	1900 <sup>00</sup>	C 10 <sup>23</sup>
73+97 <sup>d</sup> BK.			4.11	1910.27	1900.49	C 9 <sup>28</sup> 10' LT.
TP 73+96.77 HHD			4.16	1910.22	1900.49	8' LT.
			3.99	1910.39	1910.35	CK HUB 8' LT. STA 74. PG 69 BK <sup>e2</sup>
TP 73+96.77				1910.22		
	11.90	1922.12				
74+28 <sup>o1</sup>			10.95	1911.17	1904.30	C 6 <sup>87</sup>
74+59 <sup>32</sup>			8.80	1913.32	1907.75	C 5 <sup>57</sup>
74+90 <sup>61</sup>			6.40	1915.72	1910.25	65 <sup>47</sup>
75+21 <sup>91</sup>			3.19	1918.93	1911.14	C 7 <sup>79</sup>

		1922.12				
75753 <sup>41</sup>			2.31	1919.81	1911.35	C 8 <sup>46</sup>
75784 <sup>91</sup>			1.96	1920.16	1911.56	C 8 <sup>60</sup>
76710 <sup>30</sup>	PI AND		3.79	1918.33	1911.71	C 6 <sup>62</sup>
76709 <sup>23</sup>	PI OR		4.27	1917.85	1911.71	C 6 <sup>14</sup>
76730			6.09	1916.03	1908.90	C 7 <sup>13</sup>
TP			7.98	1914.14		
	0.55	1914.69				
76780			8.74	1905.95	1901.79	C 4 <sup>16</sup>
TP			12.10	1902.59		
	0.58	1903.17				
TP 77720 <sup>78</sup>			11.92	1891.25	1886.38	C 4 <sup>87</sup>

1891.25

0.82 1892.07

TP  
77+50

12.24 1879.83 1874.61

C 5<sup>22</sup>

0.07 1879.90

TP  
77+82

11.33 1868.57 1861.0

C 7<sup>57</sup>

0.36 1868.93

78+10<sup>38</sup>

7.13 1861.80 1856.83

C 4.97

TP  
78+41<sup>26</sup>

11.90 1857.03 1852.29

C 4<sup>74</sup>

0.36 1857.39

78+71<sup>27</sup>

7.26 1850.13 1845.31

C 4<sup>82</sup>

TP

12.21 1845.18

0.48 1845.66

79+02<sup>10</sup>

3.54 1842.12 1837.30

C 4<sup>82</sup>

TP

11.78 1833.88  
1830.340.30 1834.18  
1830.64

79+48

6.92 1827.26  
1823.72 1821.91C 5<sup>35</sup>

		1834.18				
TP						
79+68			13.22	1820.96	1815.20	C 576

	0.54	1821.50				
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79+92			8.94	1812.56	1801.50	C 1106
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TP						
80+30			11.21	1810.29	1800.0	C 1029

	5.82	1816.11				
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			1.98	1814.13		
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BM. Elev. 1814.21 SPIKE IN TREE Lt. of 80+30

B.M.				1814.21		
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	0.98	1815.19				
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TP			12.29	1802.90		
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	1.25	1804.15				
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TP			11.91	1792.24		
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	5.17	1797.41				
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80+6067			0.90	1796.51	1787.85	C 866
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TP			9.48	1787.93		
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	0.04	1787.97				
--	------	---------	--	--	--	--

80+92			5.68	1782.29	1776.0	C 629
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1787.97

TP

11.40 1776.57

0.33 1776.90

TP

11.85 1765.05

0.92 1765.97

81+38

9.59 1756.38  
~~8.27~~ ~~1757.70~~ 1742.60C 13.78  
~~C 15.10~~

TP

12.08 1753.89

0.52 1754.41

81+70.58

5.69 1749.72  
~~5.39~~ ~~1749.02~~ 1741.23C 7.49  
~~C 7.79~~

82+02.05

7.24 1747.17  
~~7.37~~ ~~1747.02~~ 1740.0C 7.17  
~~C 7.02~~

TP

10.10 1744.31

7.95 1752.26

B.M.

0.66 1751.60

1.15 1752.75

TP  
83+10

12.90 1739.85 1735.30

C 4.55

0.56 1740.41

TP  
83+57.60

11.95 1728.46 1721.81

C 6.65

0.15 1728.61



1728.61

83+88<sup>34</sup>

10.08 1718.53 1713.10

C 5.43

T.P.

11.75 1716.86

0.05 1716.91

84+18<sup>93</sup>

6.41 1710.50 1705.33

C 5.17

T.P.

12.12 1704.79

0.14 1704.93

84+49<sup>56</sup>

1.92 1703.01 1698.10

C 4.91

84+80<sup>10</sup>

8.99 1695.94 1690.37

C 5.57

T.P.

11.90 1693.03

0.54 1693.57

85+36

9.19 1684.38 1676.20

C 8.18

T.P.

12.67 1680.90

0.15 1681.05

85+72<sup>92</sup>

0.92 1680.13 1672.49

C 7.64

86+35<sup>60</sup>

8.30 1672.75 1666.19

C 6.56

		1681.05			
TP			13.16	1667.89	
	0.07	1667.96			
86+66 <sup>94</sup>			0.91	1667.05 / 1663.04	C 4.01
87+00			5.62	1662.34 / 1659.70	C 2.64
87+42			10.81	1657.15 / 1642.0	C 15.15
B.M.			5.65	1662.31	
	0.17	1662.48			
88+1820			11.58	1650.90 / 1641.41	C 9.49
TP					
88+49 <sup>64</sup>			10.26	1652.22 / 1641.16	C 11.06
	8.66	1660.88			
89+33			9.83	1651.05 / 1640.50	C 10 <sup>55</sup>
89+50			6.88	1654.00 / 1645.57	C 8 <sup>43</sup>
TP			.09	1660.80	
	12.60	1673.40			

$$\begin{array}{r} 90+25.89 \\ 89+95.29 \\ \hline 30.60 \end{array}$$

	1673.40				
89+95.29		9.92	1663.48	1659.09	C 4 <sup>39</sup>
90+25.89		1.39	1672.01	1665.08	C 6 <sup>93</sup>
T.P.		0.10	1673.30		
	12.33	1685.63			
90+50		9.05	1676.58	1669.34	C 7 <sup>24</sup>
91+00		1.64	1683.99	1678.18	C 5 <sup>81</sup>
T.P.		0.10	1685.53		
	13.19	1698.72			
91+50		5.38	1693.34	1687.03	C 6 <sup>31</sup>
T.P.		0.22	1698.50		
	12.98	1710.98			
92+00		8.48	1702.50	1695.88	C 6 <sup>62</sup>
T.P.		.03	1710.95		
	11.92	1722.87			
92+50		11.45	1711.42	1704.72	C 6 <sup>70</sup>

10/20/53

Johnson  
BARTLETT  
HARREL

26

	1722.87		<del>1714.46</del>		
93405.05		1.92	1720.95	1714.46	C 649
T.P.		0.28	1722.59		
12.76	1735.35				
93436.02		8.40	1726.95	1720.66	C 629
93466.85		2.79	1732.56	1727.50	C 509
T.P.		.04	1735.31		
12.56	1747.87				
93497.71		10.03	1737.84	1733.03	C 481
94428.78		5.99	1741.84	1735.70	C 618
94452		2.09	1745.78	1737.70	C 808
T.P.		0.21	1747.66		
12.21	1759.87				
T.P.		0.06	1759.81		
13.09	1772.90				
95400		11.42	1761.48	1758.00	C 348

T.P.		1772.90				
95+33			0.24	1772.66	1762.50	C 10 <sup>16</sup>
T.P.	12.44	1785.10				
95+68			0.28	1784.82	1781.50	C 3 <sup>32</sup>
	12.68	1797.50				
95+91.99			5.07	1792.43	1787.49	C 4 <sup>94</sup>
T.P.			0.14	1797.36		
	12.45	1809.81				
96+21.96			7.56	1802.25	1797.12	C 5 <sup>13</sup>
T.P.			0.31	1809.50		
	12.32	1821.82				
96+72			3.64	1818.18	1814.50	C 3 <sup>68</sup>
T.P.			0.00	1821.82		
	13.00	1834.82				
97+00			8.24	1826.58	1817.50	C 9 <sup>08</sup>
T.P.			.12	1834.70		
	12.93	1847.63				
97+30.54			10.32	1837.31	1831.24	C 6 <sup>07</sup>

	1847.63				
T.P.		0.15	1847.48		
12.80	1860.28				
97+59.56		12.07	1848.21	1843.20	C 5 <sup>01</sup>
97+89.19		1.86	1858.42	1853.13	C 5 <sup>29</sup>
T.P.		0.38	1859.90		
13.02	1872.92				
T.P.		0.06	1872.86		
12.55	1885.41				
98+48.93		8.06	1877.35	1873.14	C 4 <sup>21</sup>
T.P.		.04	1885.37		
13.23	1898.60				
98+79.12		12.23	1886.37	1881.36	C 5 <sup>01</sup>
99+09.68		4.99	1893.71	1888.98	C 4 <sup>73</sup>
T.P.		0.20	1898.40		
12.11	1910.51				
99+40.38		9.29	1901.22	1895.26	C 5 <sup>96</sup>

		1910.51			
TP			0.37	1910.14	
	11.21	1921.35			
99+85 <sup>87</sup>			10.47	1910.88	1904.60
					C 6 <sup>28</sup>
100+02 <sup>06</sup>			7.72	1913.63	1904.56
					C 9 <sup>07</sup>
T.P. 100+4			0.99	1920.36	
	6.68	1927.04			
BM #10			3.14	1923.90	
					B.M. Elev = 1923.90
	1.47	1925.37			
100+02 <sup>06</sup>			11.80	1913.57	1904.56
					C 9 <sup>01</sup>
100+33 <sup>56</sup>			10.48	1914.89	1904.49
					C 10 <sup>40</sup>
TP			12.60	1912.77	
	0.53	1913.30			
100+72			4.17	1909.13	1904.40
					C 4 <sup>73</sup>
TP 101+00			11.43	1901.87	1896.00
					C 5 <sup>87</sup>

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1896.03

35791<sup>76</sup> AHD

4.0

1892.03 1883.92

C 8<sup>11</sup>

36+11<sup>36</sup> BK.

4.66

1891.37 1883.94

C 7<sup>43</sup>

36+11<sup>36</sup> AHD

4.67

1891.36 1883.94

C 7<sup>42</sup>

36+35<sup>80</sup> AHD

36+33<sup>16</sup> BK.

3.08

1892.95 1883.96

C 8<sup>99</sup>

36+35<sup>80</sup> AHD

36+33<sup>16</sup> BK

3.14

1892.89 1883.96

C 8<sup>93</sup>

36+58

3.88

1892.15 1884.0

C 8<sup>15</sup>

TP

36+75

1.27

1894.76 1889.90

C 4<sup>86</sup>

9.70

1904.46

37+07<sup>37</sup>

2.50

1901.96 1893.46

C 8<sup>50</sup>

37+38<sup>70</sup>

1.36

1903.10 1896.68

C 9<sup>42</sup>



		1904.46			
3	TP 37+69 <sup>92</sup>		0.51	1903.95	1897.55
	7.69	1911.64			
36	37+86 <sup>26</sup> AHD		7.50	1904.14	1898.00
3	37+86 <sup>26</sup> BK.		7.35	1904.29	1898.00
36	38+19 <sup>77</sup>		6.14	1905.50	1899.05
36	38+52 <sup>26</sup>		5.45	1906.19	1900.00
3	38+82 <sup>65</sup>		4.27	1907.37	1900.02
3	39+13 <sup>99</sup>		3.50	1908.14	1900.04
3	39+45 <sup>49</sup>		2.01	1909.63	1900.06
3	39+76 <sup>99</sup>		1.65	1909.99	1900.09

C 640

C 614

C 629

C 645

C 619

C 735

C 810

C 957

C 990

	1911.64				
39+92 <sup>21</sup> AHD		1.65	1909.99	1900.11	C 9 <u>88</u>
39+92 <sup>54</sup> BK.		1.66	1909.98	1900.11	C 9 <u>87</u>
40+08 <sup>66</sup>		1.58	1910.06	1900.13	C 9 <u>93</u>
40+50		2.25	1909.39	1900.17	C 9 <u>22</u>
TP 41+00		3.93	1907.71	1900.23	C 7 <u>48</u>
	4.65	1912.36			
41+50		6.18	1906.18	1900.29	C 5 <u>89</u>
42+00		7.48	1904.88	1900.35	C 4 <u>53</u>
42+29 <sup>16</sup>		7.60	1904.76	1900.40	C 4 <u>36</u>
42+51		7.31	1905.05	1900.43	C 4 <u>62</u>

	1912.36				
42+60 <sup>83</sup>		6.29	1906.07	1901.94	C 4 <u>13</u>
42+71 <sup>35</sup>		5.19	1907.17	1903.56	C 3 <u>61</u>
42+81 <sup>86</sup>		3.95	1908.51	1905.18	C 3 <u>33</u>
42+92 <sup>37</sup>		2.46	1909.90	1906.80	C 3 <u>10</u>
TP		0.25	1912.11		
	12.51	1924.62			
43+02 <sup>88</sup>		11.62	1913.00	1908.41	C 4 <u>59</u>
43+13 <sup>39</sup>		9.58	1915.04	1910.03	C 5 <u>01</u>
43+23 <sup>90</sup>		7.47	1917.15	1911.65	C 5 <u>50</u>
43+34 <sup>41</sup>		5.21	1919.41	1913.27	C 6 <u>14</u>

	1924.62			
43+38		4.76	1919.86 1913.82	C 6 <sup>04</sup>
43+44 <sup>92</sup>		3.93	1920.69 1914.62	C 6 <sup>07</sup>
43+55 <sup>50</sup>		3.15	1921.47 1915.85	C 5 <sup>62</sup>
43+74 <sup>76</sup>		2.65	1921.97 1917.09	C 4 <sup>88</sup>
43+85 <sup>50</sup>		2.11	1922.51 1918.31	C 4 <sup>20</sup>
44+16 <sup>72</sup>		1.62	1923.00 1919.83	C 3 <sup>17</sup>
44+40		2.15	1922.47 1919.16	C 3 <sup>31</sup>
TP 44+85		8.72	1915.90 1909.52	C 6 <sup>38</sup>
	0.30	1916.20		
TP 45+40		11.56	1904.64 1897.20	C 7 <sup>44</sup>
	0.25	1904.89		

	1904.89			
45+85		3.56	1901.33 1896.30	C 5 <sup>03</sup>
46+30 <sup>91</sup>		4.71	1900.18 1895.38	C 4 <sup>80</sup>
46+62 <sup>26</sup>		6.59	1898.30 1893.77	C 4 <sup>53</sup>
46+93 <sup>42</sup>		9.43	1895.46 1890.65	C 4 <sup>81</sup>
TP 47+24 <sup>81</sup>		11.79	1893.10 1887.79	C 5 <sup>31</sup>
	0.45	1893.55		
47+56 <sup>20</sup>		2.75	1890.80 1884.98	C 5 <sup>82</sup>
47+86 <sup>88</sup>		5.68	1887.87 1882.17	C 5 <sup>70</sup>
48+00		6.81	1886.74 1881.00	C 5 <sup>74</sup>
TP 48+29 <sup>20</sup> BK 48+29 <sup>09</sup> AHD		9.19	1884.36 1879.54	C 4 <sup>82</sup>

Grade

T.P.			1884.36		
	0.48	1884.84			
48+60 <sup>35</sup>			2.20	1882.64	1877.97
					C 4 <sup>67</sup>
48+91 <sup>81</sup>			2.62	1882.22	1876.40
					C 5 <sup>82</sup>
49+22 <sup>86</sup>			6.10	1878.74	1872.80
					C 5 <sup>94</sup>
49+50			9.24	1875.60	1869.02
					C 6 <sup>58</sup>
T.P.			11.26	1873.58	
	0.14	1873.72			
50+00			3.59	1870.13	1862.06
					C 8 <sup>07</sup>
50+47 <sup>92</sup>			10.38	1863.34	1855.43
					C 7 <sup>91</sup>
T.P.			12.05	1861.67	
	0.21	1861.88			
50+78 <sup>01</sup>			6.41	1855.47	1848.04
					C 7 <sup>43</sup>
T.P.			11.73	1850.15	
	0.54	1850.69			

Grade

	1850.69				
51739.14		9.14	1841.55	1832.70	C 8 <sup>85</sup>
T.P. 51750		11.17	1839.52	1830.00	C 9 <sup>52</sup>
	0.62	1840.14			
51770 <sup>58</sup>		3.92	1836.22	1828.56	C 7 <sup>56</sup>
52433 <sup>43</sup>		9.37	1830.77	1824.16	C 6 <sup>61</sup>
T.P. 52464 <sup>70</sup>		11.73	1828.41	1821.24	C 7 <sup>12</sup>
	0.64	1829.05			
53400		7.27	1821.78	1817.00	C 4 <sup>28</sup>
T.P.		11.64	1817.41		
	0.24	1817.65			
53425 <sup>81</sup>		3.16	1814.49	1809.06	C 5 <sup>43</sup>
T.P. 53465		12.63	1805.02	1799.00	C 8 <sup>02</sup>
	0.64	1805.66			
C.K. B.M.		5.98	1799.68	1799.73	

			Elev	Grade		
B.M.	7.62	1807.35	1799.73	1799.73		
54+61 <sup>50</sup>			5.36	1801.97	1796.60	C 5 <sup>39</sup>
55+00			3.42	1803.93	1796.44	C 7 <sup>49</sup>
55+50			2.65	1804.70	1796.23	C 8 <sup>47</sup>
56+00			6.08	1801.27	1796.00	C 5 <sup>27</sup>
T.P.			11.21	1796.14		
	0.11	1796.25				
56+50			3.48	1792.77	1787.00	C 5 <sup>77</sup>
T.P.						
57+00			12.10	1784.15	1778.00	C 6 <sup>15</sup>
	0.38	1784.53				
57+41.71			9.65	1776.88	1770.47	C 6 <sup>39</sup>
T.P.			12.94	1771.59		
	0.19	1771.78				
58+00			5.80	1765.98	1757.00	C 8 <sup>98</sup>



	1771.78				
T.P. 58+50		11.86	1759.92	1753.50	C 6 <sup>42</sup>
	0.50				
	1760.42				
58+66 <sup>16</sup>		2.13	1758.29	1752.37	C 5 <sup>92</sup>
58+97 <sup>33</sup> Ph.					
58+97 <sup>43</sup> BK		4.84	1755.58	1750.19	C 5 <sup>39</sup>
59+00		4.99	1755.43	1750.00	C 5 <sup>93</sup>
T.P. 59+38		9.99	1750.43	1742.50	C 7 <sup>97</sup>
	1.00				
	1751.43				
59+91 <sup>06</sup>				1742.25	NOT SET.
60+22 <sup>56</sup>		4.68	1746.75	1742.11	C 4 <sup>64</sup>
60+54 <sup>06</sup>		4.95	1746.48	1741.80	C 4 <sup>68</sup> <sup>5</sup>
61+00		5.47	1745.96	1739.50	C 6 <sup>46</sup>

	1751.43				
T.P. 61+48.29		8.82	1742.61	1737.09	C 5 <sup>52</sup>
	0.71	1743.44			
61+79.12		4.91	1738.53	1732.40	C 6 <sup>13</sup>
62+00		7.96	1735.48	1729.10	C 6 <sup>38</sup>
T.P.		11.58	1731.86		
	0.42	1732.28			
62+45		3.45	1728.93	1722.00	C 6 <sup>83</sup>
62+62		5.69	1726.59	1715.10	C 11 <sup>47</sup>
63+00		9.20	1723.08	1715.05	C 8 <sup>03</sup>
63+27		8.97	1723.31	1715.01	C 8 <sup>30</sup>
63+58 <sup>48</sup>		6.76	1725.52	1716.10	C 9 <sup>42</sup>
TP 63+77		2.80	1729.48	1717.00	C 12 <sup>48</sup>

				1729.48		
64	12.07	1741.55				
64+00			5.38	1736.17	1731.00	C 5 <sup>17</sup>
TP			0.20	1741.35		
T.P.	11.99	1753.34				
64+50			1.31	1752.03	1744.63	C 7 <sup>40</sup> ✓
T.P.	12.30	1764.33				
64+62.71			9.19	1755.14	1748.10	C 7 <sup>04</sup> ✓
64+93.20			2.51	1761.92	1755.63	C 6 <sup>19</sup> ✓
T.P.			0.17	1764.16		
	10.73	1774.89				
65+35			6.03	1768.86	1765.00	C 3 <sup>86</sup>
65+50			3.75	1771.14	1765.75	C 5 <sup>39</sup>
TP						
65+75			1.13	1773.76	1767.00	C 6 <sup>76</sup>
	5.94	1779.97				
			5.87	1774.10	1774.07	CK BM AT PIER. HUB

TP			1774.03		Hub at 65+75 (S)
	3.96	1777.99			
66+02 <sup>06</sup>		2.96	1775.03	1767.45	C 7 <sup>58</sup>
66+50		4.80	1773.19	1768.25	C 4 <sup>94</sup>
TP					
67+59 <sup>43</sup>		0.08	1777.91	1770.07	C 7 <sup>84</sup>
	10.56	1788.47			
67+90 <sup>95</sup>		8.62	1779.85	1770.85	C 9 <sup>0</sup>
68+00		8.11	1780.36	1771.38	C 8 <sup>98</sup>
68+50		5.27	1783.20	1774.31	C 8 <sup>89</sup>
69+00		4.40	1784.07	1777.24	C 6 <sup>83</sup>
69+50		3.50	1784.97	1780.17	C 4 <sup>80</sup>
70+00		1.33	1787.14	1783.09	C 4 <sup>05</sup>
TP					
70+11 <sup>09</sup>		0.64	1787.83	1783.74	C 4 <sup>09</sup>

TP

1787.83

10.94 1798.77

70+42<sup>38</sup>

7.59 1791.18 1785.57 C 5.61

70+75

0.36 1798.41 1787.50 C 10.91

13.05 1811.46

T.P.

1.25 1810.21

12.31 1822.52

T.P.

0.93 1821.59

6.70 1828.29

71+31<sup>89</sup>

0.40 1827.89 1820.94 C 6.95

GRADE STAKES BOTTOM DITCH

B.M.	3.37	1817.58	1814.21	B.M. Lt. Sta. 80+30
TP			12.14	1805.44
	0.29	1805.73		
TP			12.13	1793.60
	0.35	1793.95		
TP			11.11	1782.84
	0.23	1783.07		
80+92			7.86	1775.21 1776.0
TP			12.35	1770.72
	0.45	1771.17		F 0.79
TP			12.37	1758.80
	0.12	1758.92		
TP			13.06	1745.86
	0.81	1746.67		
81+38			0.38	1746.29 1742.60
				C 3.69
81+70 <sup>58</sup>			3.40	1743.27 1741.23
				C 2.04
82+02 <sup>05</sup>			6.92	1739.75 1740.00
				F 0.25

		1746.67				
82+41 <sup>52</sup>			12.53	1734.14	1738.22	F 4.08 Elev. is Bot. PIPE GRADE
82+56 <sup>79</sup>			12.76	1733.91	1737.66	F 3.75 " " " " "
TP						
83+10 <sup>00</sup>			12.20	1734.47	1735.30	F 0.83
	1.34	1735.81				
TP			12.21	1723.60		
	0.18	1723.78				
83+57 <sup>60</sup>			2.0	1721.78	1721.81	F 0.03
TP						
83+88 <sup>34</sup>			12.22	1711.56	1713.10	F 1.54 ✓
	0.66	1712.22				
84+19 <sup>83</sup>			7.93	1704.29	1705.33	F 1.04
TP			12.79	1699.43		
	0.25	1699.68				
84+49 <sup>56</sup>			2.02	1697.66	1698.10	F 0.44
84+80 <sup>10</sup>			9.75	1689.93	1690.37	F 0.44
TP			12.01	1687.67		
	0.14	1687.81				
TP						
85+36			11.92	1675.89	1676.20	F 0.31
	1.81	1677.70				

35.60  
 12.26  
 23.34

1677.70

85+72<sup>92</sup> 5.63 1672.07 1672.49 F 0.42

85+96<sup>26</sup> 10.93 1666.77 1670.14

PIER

86+12<sup>26</sup> 12.57 1665.13 1668.54

PIER

TP  
 86+35<sup>60</sup> 11.91 1665.79 1666.19 F 0.40

0.91 1666.70

86+66<sup>94</sup> 3.65 1663.05 1663.04 C 0.01

87+00 8.62 1658.08 1659.70 F 1.62

TP 12.48 1654.22

0.79 1655.01

87+42 13.10 1641.91 1642.0 F 0.09

TP 12.84 1642.15

9.79 1651.94

88+18<sup>20</sup> 10.40 1641.54 1641.41 C 0.13

88+49<sup>64</sup> 11.26 1640.68 1641.16 F 0.48

89+33 11.64 1640.30 1640.50 F 0.2

89+50 7.22 1644.72 1645.57 F 0.85

TP 0.06 1651.88

12.90 1664.78



		1664.78				
89+95 <sup>29</sup>			6.43	1658.35	1659.09	F 0.74
TP						
90+25 <sup>89</sup>			0.19	1664.59	1665.08	F 0.49
	12.59	1677.18				
90+50			7.97	1669.21	1669.34	F 0.13
TP			0.22	1676.96		
	12.65	1689.61				
91+00			12.40	1677.21	1678.18	F 0.97
91+50			2.91	1686.70	1687.03	F 0.33
TP			0.12	1689.49		
	12.55	1702.04				
92+00			6.47	1695.57	1695.88	F 0.31
TP			0.0	1702.04		
	12.72	1714.76				
92+50			10.82	1703.94	1704.72	F 0.78
TP						
93+05 <sup>05</sup>			0.53	1714.23	1714.46	F 0.23
	13.35	1727.58				
93+36 <sup>02</sup>			7.05	1720.53	1720.66	F 0.13
TP						
93+66 <sup>35</sup>			0.0	1727.58	1727.50	C 0.08

TP				1727.58		
	12.65	1740.23				
93497 <sup>21</sup>			7.55	1732.68	1733.03	F 0.35
94+28 <sup>28</sup>			5.45	1734.78	1735.70	F 0.92
94+52			2.28	1737.95	1737.70	C 0.25
TP			0.09	1740.14		
	12.72	1752.86				
TP			0.02	1752.84		
	13.08	1765.92				
95400			9.27	1756.65	1758.00	F 1.35
95433			3.60	1762.32	1762.50	F 0.18
TP			0.54	1765.38		
	13.36	1778.74				
TP			0.04	1778.70		
	12.75	1791.45				
95468			11.42	1780.03	1781.50	F 1.47
95491 <sup>97</sup>			4.20	1787.25	1787.49	F 0.24
TP			0.64	1790.81		
	13.16	1803.97				

		1803.97				
96+21 <sup>96</sup>			7.22	1796.75	1797.12	F 0.37
TP			0.17	1803.80		
	13.35	1817.15				
96+72			3.60	1813.55	1814.50	F 0.95
TP			0.05	1817.10		
	13.32	1830.42				
97+00			12.09	1818.33	1817.50	C 0.83
TP						
97+30 <sup>54</sup>			0.19	1830.23	1831.24	F 1.01
	12.53	1842.76				
TP						
97+59 <sup>56</sup>			0.32	1842.44	1843.20	F 0.76
	12.45	1854.89				
97+89 <sup>19</sup>			1.77	1853.12	1853.13	Grade
TP			0.07	1854.82		
	12.97	1867.79				
TP			0.25	1867.54		
	12.75	1880.29				
98+48 <sup>93</sup>			7.80	1872.49	1873.14	F 0.65
TP			0.48	1879.81		

1879.81

12.43 1892.24

98+79<sup>12</sup> 11.64 1880.60 1881.36 F 0.7699+09<sup>68</sup> 4.10 1888.14 1888.98 F 0.84

TP 0.38 1891.86

11.87 1903.73

99+40<sup>38</sup> 8.75 1894.98 1895.26 F 0.28TP  
99+86<sup>06</sup> 0.10 1903.63 1904.60 F 0.97

## CONT'D FROM PAGE # 29

TP			1901.87		
	0.43	1902.30			
96 TP			13.00	1889.30	
9	0.12	1889.42			
101+50			2.77	1886.65	1881.00 C 5 <u>65</u>
TP					
9 101+75			11.76	1877.66	1870.0 C 7 <u>66</u> .
9	0.54	1878.20			
102+18 <u>59</u>			6.07	1872.13	1866.07 C 6 <u>06</u>
102+49 <u>96</u>			6.66	1871.54	1863.24 C 8 <u>30</u>
TP					
102+88			12.55	1865.65	1859.80 C 5 <u>85</u>
	0.42	1866.07			
103+11 <u>05</u>			7.07	1859.00	1851.90 C 7 <u>10</u>
TP					
			12.76	1853.31	
	0.23	1853.54			
TP					
			12.50	1841.04	

TP				1841.04	
	0.30	1841.34			
103+70 <sup>65</sup>			3.0	1838.34	1831.49
					C 6 <u>85</u>
TP.			12.35	1828.99	
	0.29	1829.28			
104+00 <sup>32</sup>			1.99	1827.29	1820.90
					C 6 <u>39</u>
TP			12.56	1816.72	
	0.79	1817.51			
104+50			9.64	1807.87	1805.80
104+60 <sup>58</sup>					1802.58
					C 2 <u>07</u>
TP			12.30	1805.21	
	0.65	1805.86			
104+62 <sup>50</sup>			3.14	1802.72	1802.00
1041					C 0 <u>72</u>
TP			12.33	1793.53	
	0.73	1794.26			
105+06			8.85	1785.41	1773.10
					C 12 <u>31</u>

		1794.26				
B.M.			4.0	1790.26		
	0.36	1790.62				
TP			12.74	1777.88		
	11.00	1788.88				
105+72 <sup>52</sup>			11.78	1777.10	1773.07	C 4 <sup>03</sup>
106+03 <sup>98</sup>			7.93	1780.95	1774.66	C 6 <sup>29</sup>
106+50			1.70	1787.18	1779.78	C 7 <sup>40</sup>
TP			0.11	1788.77		
	13.24	1802.01				
107+00			10.90	1791.11	1785.34	C 5 <sup>77</sup>
107+29 <sup>24</sup>			8.29	1793.72	1788.59	C 5 <sup>13</sup>
107+60 <sup>59</sup>			5.40	1796.61	1791.37	C 5 <sup>24</sup>

1802.01

108+00 4.18 1797.83 1793.10 C 4 73108+50 1.73 1800.28 1795.30 C 4 98

TP 0.13 1801.88

12.47 1814.35

109+00 5.20 1809.15 1797.50 C 11 65

TP 0.13 1814.22

12.18 1826.40

TP  
109+50 0.46 1825.94 1819.51 C 6 43

12.07 1838.01

109+59 95 8.62 1829.39 1823.90 C 5 49

TP 0.14 1837.87

12.93 1850.80

109+89 51 11.16 1839.64 1833.82 C 5 82



1850.80

TP  
110+19<sup>55</sup> 0.85 1849.95 1842.97 C 6<sup>98</sup>

13.02 1862.97

110+48<sup>98</sup> 2.07 1860.90 1854.19 C 6<sup>71</sup>

TP 0.05 1862.92

12.34 1875.26

TP  
110+77<sup>42</sup> 1.65 1873.61 1867.74 C 5<sup>87</sup>

13.16 1886.77

TP 0.46 1886.31

11.56 1897.87

111+05<sup>76</sup> 10.97 1886.90 1881.59 C 5<sup>31</sup>

TP 0.30 1897.57

12.20 1909.77

111+41 7.14 1902.63 1900.50 C 2<sup>13</sup>

111+75 2.31 1907.46 1900.44 C 7<sup>02</sup>

P.I. AHD 112+01	1909.77	1.70	1908.07	1900.39	C 7 <sup>68</sup>
P.I. BK. 112+01		1.57	1908.20	1900.39	C 7 <sup>81</sup>
TP 112+50		1.63	1908.14	1900.30	C 7 <sup>84</sup>
	1.93	1910.07			
113+06		3.64	1906.43	1900.20	C 6 <sup>23</sup>
113+50		5.21	1904.86	1900.12	C 4 <sup>74</sup>
113+92 <sup>50</sup>		4.84	1905.23	1900.04	C 5 <sup>19</sup>
P.I. AHD. 114+15		6.14	1903.93	1900.0	C 3 <sup>93</sup>
EQUA. P.I. BK. 114+14 <sup>35</sup>	TP	6.32	1903.75	1900.0	C 3 <sup>75</sup>
	0.55	1904.30			
114+54 <sup>69</sup>		6.56	1897.74	1890.83	C 6 <sup>91</sup>

1904.30

TP

13.16

1891.14

0.58

1891.72

114+8476

2.65

1889.07 1882.14

C 693

TP

115+17

12.65

1879.07 1871.50

C 757

4.48

1883.55

115+50

5.21

1878.34 1871.46

C 688

116+00

4.45

1879.10 1871.40

C 720

116+45

3.46

1880.09 1871.33

C 826

116+76<sup>49</sup>

2.58

1880.97 1870.69

C 1028

TP

12.34

1871.21

1.30

1872.51

117+42<sup>69</sup> BK.

2.41

1870.10 1864.50

C 560

1872.51

117+42<sup>69</sup> - AHD 2.12 1870.39 1864.50 C 5<sup>89</sup>

118+08<sup>11</sup> 3.18 1869.33 1864.15 C 5<sup>18</sup>

118+38<sup>02</sup> BK. 3.75 1868.76 1864.00 C 4<sup>76</sup>

118+38<sup>02</sup> AHD 3.78 1868.73 1864.00 C 4<sup>73</sup>

118+71<sup>84</sup> 1861.27

119+00 5.09 1867.42 1859.00 C 8<sup>42</sup>

119+34<sup>94</sup> 4.25 1868.26 1861.00 C 7<sup>26</sup>

119+66<sup>40</sup> 3.42 1869.09 1862.51 C 6<sup>58</sup>

120+00 3.89 1868.62 1862.57 C 6<sup>05</sup>

	1872.51				
120+50		4.41	1868.10	1862.65	C 5 <u>45</u>
121+00		2.84	1869.67	1862.74	C 6 <u>93</u>
TP		0.60	1871.91		
	12.15	1884.06			
121+35		11.30	1872.76	1862.80	C 9 <u>96</u>
121+85 <sup>63</sup>		2.98	1881.08	1875.42	C 5 <u>66</u>
TP					
122+00		0.47	1883.59	1879.00	C 4 <u>59</u>
	13.01	1896.60			
122+16 <sup>36</sup>		10.31	1886.29	1880.23	C 6 <u>06</u>
122+32 <sup>24</sup>		8.60	1888.00	1881.42	C 6 <u>58</u>
122+48 <sup>07</sup>		7.07	1889.53	1882.61	C 6 <u>92</u>
122+63 <sup>90</sup>		6.00	1890.60	1883.80	C 6 <u>80</u>

1896.60

122+79<sup>73</sup> 5.22 1891.38 1884.99 C 6<sup>39</sup>122+95<sup>56</sup> 4.63 1891.97 1886.17 C 5<sup>80</sup>123+12<sup>37</sup> 4.02 1892.58 1886.52 C 6<sup>06</sup>123+43<sup>78</sup> 4.40 1892.20 1886.57 C 5<sup>63</sup>123+75<sup>17</sup> 3.86 1892.74 1886.62 C 6<sup>12</sup>124+07<sup>02</sup> 3.46 1893.14 1886.67 C 6<sup>47</sup>124+38<sup>54</sup> 3.61 1892.99 1886.72 C 6<sup>27</sup>124+70<sup>04</sup> 4.43 1892.17 1886.77 C 5<sup>40</sup>125+01<sup>49</sup> 2.68 1893.92 1888.66 C 5<sup>26</sup>

TP 0.13 1896.47

	TP			1896.47		
1/2	5.41	1901.88				
	125+32 <sup>75</sup>		4.07	1897.81	1892.42	C 5 <sup>39</sup>
1/2						
	125+63 <sup>99</sup>		1.07	1900.81	1894.53	C 6 <sup>28</sup>
1/2						
	<del>125+95<sup>25</sup></del>		1.12	1900.76	1894.60	C 6 <sup>16</sup>
1/2						
	<del>126+26<sup>78</sup></del>		2.09	1899.79	1894.52	C 5 <sup>27</sup>
1/2						
	<del>126+35</del>		3.10	1898.78	1894.50	C 4 <sup>28</sup>
1/2						
	<del>126+57<sup>29</sup></del>		7.77	1894.11	1889.36	C 4 <sup>25</sup>
1/2						
	TP		13.14	1888.74		
1/2	0.53	1889.27				
	126+88		1.38	1887.89	1882.28	C 5 <sup>61</sup>
1/2						
	127+00		3.35	1885.92	1879.50	C 6 <sup>42</sup>

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TP	1889.27			
127+18		11.29	1877.98	1870.90
0.94	1878.92			
TP		12.90	1866.02	
5.86	1871.88			
127+67 <sup>14</sup> BK.		6.66	1865.22	1859.50
127+66 <sup>81</sup> AHD		6.75	1865.13	1859.50
128+10 <sup>31</sup>		9.45	1862.43	1859.40
128+68		4.52	1867.36	1859.50
TP		0.38	1871.50	
12.12	1883.62			
129+00		10.53	1873.09	1872.50
TP				
129+33 <sup>43</sup>		4.76	1878.86	1874.77

C 798

C 572

C 563

C 303

C 786

SEE PAGE No 63



RESET

63

125+95 <sup>5</sup>			1900.76	TP.	
	1.96	1902.72			
126+35			5.44	1897.28	1894.50 C 278
126+57 <sup>20</sup>			8.68	1894.04	1889.36 C 4.68
TP			11.65	1891.07	
	3.46	1894.53			
126+88			7.98	1886.55	1882.28 C 4 <sup>27</sup>
TP					
127+00			11.56	1882.97	1879.50 C 347
	0.32	1883.29			
127+18			6.29	1877.00	1870 <sup>00</sup> C 7 <sup>00</sup>
	1.28	1878.28			
127+67 <sup>1/2</sup>				TP	
127+66 <sup>1/2</sup> BK			12.42	1865.86	1859.50 C 636
	2.71	1868.57			
128+68			2.94	1865.63	1859.50 C 6 <sup>13</sup>
TP			0.13	1868.44	
	13.01	1881.45			
	12.01	1880.45			
129+00			9.04	1872.41	
			1871.41	1871.44	1872.50 F.009

		1881.45 <del>1880.45</del>			
129+33 <sup>43</sup>			2.84	1878.61 1877.61	1874.77 C 3 <sup>84</sup>
TP			1.33	1880.12	
	12.42	1892.54			
129+64 <sup>75</sup>			7.92	1884.62	1878.11 C 6 <sup>51</sup>
130+08 <sup>50</sup>			0.69	1891.85	1884.65 C 7 <sup>20</sup>
	12.69	1914.54			
143+13 <sup>98</sup>			9.66	1894.88	1889.32 C 5 <sup>56</sup>
143+45 <sup>18</sup>			9.64	1894.90	1892.56 C 2 <sup>34</sup>
143+69 <sup>19</sup>			4.14	1900.40	1894.19 C 6 <sup>21</sup>
TP			10.91	1893.83	
	5.25		1899.08	1896.41	1896.24

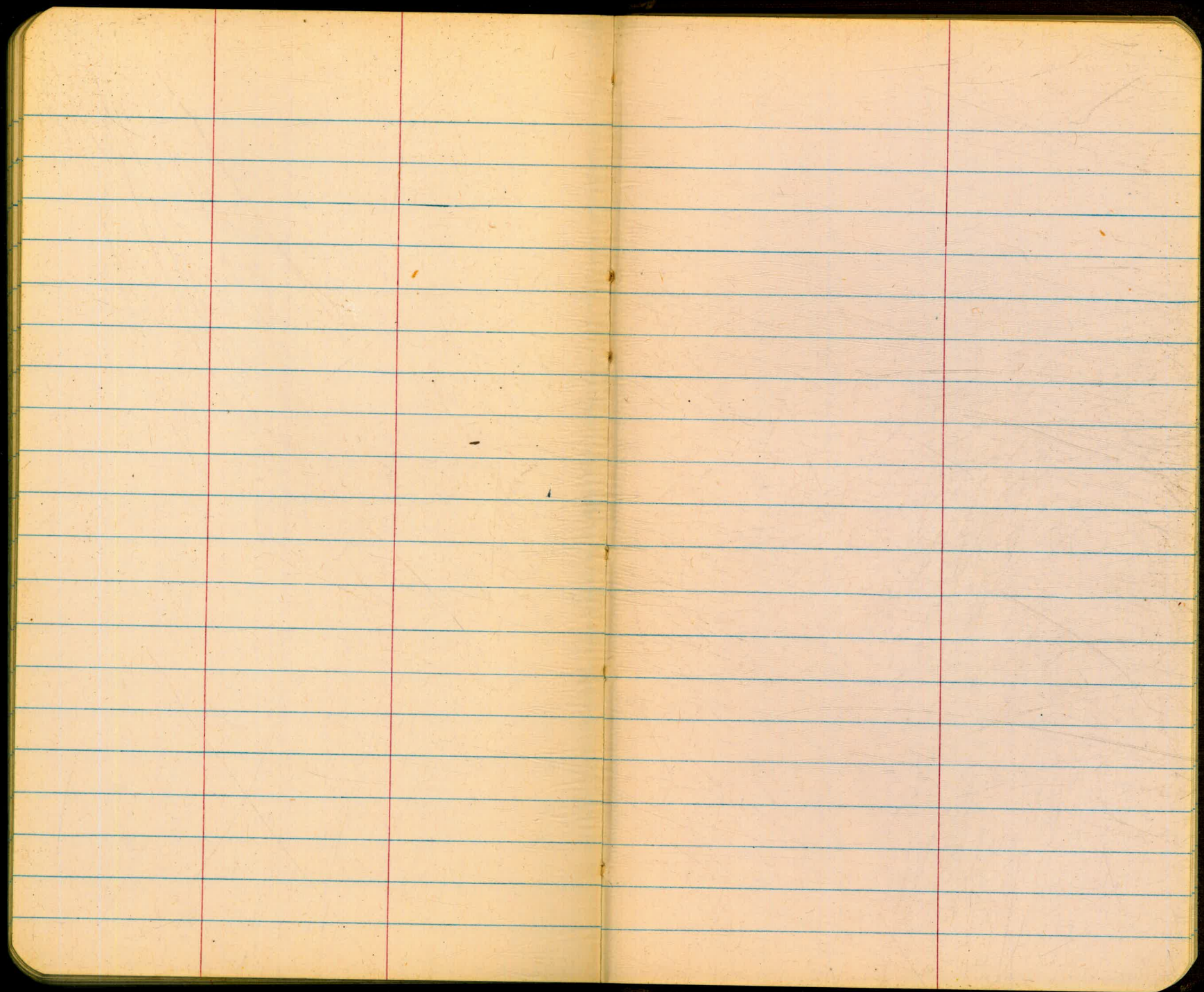
AIR VENT. NO PORTAL

12.17	1908.41		1896.24
		0.41	1908.00
13.05	1921.05		
		0.42	1920.63
12.59	1933.22		
		.04	1933.18
12.06	1945.24		
		1.16	1944.08
11.63	1955.71		
		0.16	1955.55
12.76	1968.31	0.00	
		0.00	1968.31
9.65	1977.96		
		0.28	1977.68
12.02	1989.70		
		1.22	1988.48
8.95	1997.43		
		0.16	1997.27
11.81	2009.08		

	2009.08		
		0.13	2008.95
13.31	2022.26		
		2.27	2019.99
12.48	2032.47		
		7.29	2024.18

SET. B.M. 6" OAK  
TOP of NAIL





150462


B.M.

2132.46

2134.37

PIN

TOP OF CASING



B.M.

~~1937.42~~ 1937.42

3.06 1940.48

2+00 5.3 1935.2 1927.74

C 7.5

1+50 5.1 1935.4 1927.47

C 7.9

1+05 4.1 1936.4

1+00 4.1 1936.4 1927.2

C 9.2

TP 1.61 1938.87

11.82 1950.69  
1927.05

TP 0.20 1950.49  
1926.85

6.12 1956.61  
1932.97

0+50 2.15 1954.46  
1930.82 1939.31

C 15.15

0+30

C 15'

0+00

C 0



B.M.

2+00

1+50

1+05

1+00

TP

TP

0+50

0+30

0+00

B.M. Buttress #6  
Elev. 1951.41

~~1747.76  
5.15  
1742.61  
37.07  
5.52~~

~~1747.76  
9.23  
1738.53  
32.40  
6.13~~

~~1747.76  
12.28  
1735.48  
29.10  
6.38~~

~~1735.48 TP  
1.03  
1736.51 HI  
7.68  
1728.83  
22  
6.85~~

~~1736.51  
9.92  
1726.59  
15.10  
11.49~~

~~1792.77  
0.67  
1793.44  
9.34  
1784.06  
1778.00  
6.06~~

~~1741.80  
4.65  
1746.45  
1.51  
1747.76  
1.82  
1746.94~~

1867.36

0.23

1867.59 HI

10.56 -

1857.03 TP

60 L

1857.63 HI

9.94 -

1847.69 conc.

1782.29  
 10.26  
 1792.55

1787.85  
 1776.00  
 11.85

4.35

7.53

11.88

10.42

1.46

1792.55

1787.85

2.70

1799.85

1787.85

2.00

92 + 50.99  
 82 + 0.52  
 15.47

83 + 57.60  
 84 + 80.10  
 85 + 73.6  
 86 + 72.92

12.70  
 11.88  
 82

1915.90

0.63

1916.53

11.58

1904.95

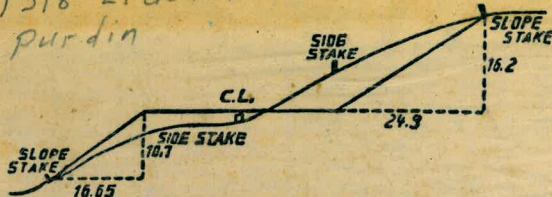
1897.20

7.75

1878.53  
 11.88  
 1890.41

8.51  
 0.74  
 9.25  
 8.63  
 .62

1318 E. acacia  
 purdin



**DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.**

SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.20	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

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