

KEUFFEL & ESSER CO.

DRAWING MATERIALS

AND

SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

Tables for Excavations and Embankments.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.

FOR SINGLE TRACK EXCAVATION.

" Copyright, 1895, by Keuffel & Esser Co."

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

Calculated by Julien A. Hall, M. Am. Soc. C. E.

ENGINEERING DEPARTMENT
CITY OF SAN DIEGO,
CALIFORNIA.

NOTE

RETURN TO CITY

The right page of the notebook is a ledger page. It features a grid of horizontal and vertical lines. The grid consists of 20 horizontal lines and 5 vertical lines, creating 10 rows and 4 columns. The lines are printed in a light color, likely red or blue. The page is mostly blank, with some faint, illegible markings in the lower half.

Continued from Book 1466.
Univ. Ave. West Extension

Indexed & Plotted
C.S.K. & S.P.H.

1

Readings from Tr. Pt. #21
Clockwise from North.

210.22

Tr. Pt. #21	Station	Azimuth	stadia	Vert L	Hor. Dist	Diff Elev	Elev.
							210.22
							Hub.
46		329°-25'	47'	-21°-42'	41.68	-16.14	194.08 ✓✓
47		308°-23'	55'	-20°-01'	48.56	-17.68	197.54 ✓✓
48		312°-55'	77'	-18°-19'	69.53	-22.97	187.75 ✓✓
49		302°-39'	71'	-17°-34'	64.61	-20.42	189.80 ✓✓
50		284°-43'	43'	-15°-30'	39.95	-11.07	199.15 ✓✓
51		312°-14'	34'	-19°-41'	30.16	-10.78	199.44 ✓✓
52		315°-49'	23'	-23°-50'	19.25	-8.5	201.72 ✓✓
53		19°-34'	51'	-16°-35'	46.87	-13.95	196.77 ✓✓
54	side wash.	24°-53'	59'	-16°-53'	54.04	-21.95	188.77 ✓✓
55		40°-10'	71'	-7°-13'	69.89	-8.85	201.37 ✓✓
56		53°-18'	55'	-9°-37'	53.5	-9.06	201.16 ✓✓
57		43°-47'	45'	-11°-40'	43.16	-8.91	201.31 ✓✓
58		70°-16'	57'	-4°-04'	56.72	-2.03	206.19 ✓✓
59	side wash	78°-15'	71'	-0°-20'	71.0	-0.41	209.81 ✓✓
60		83°-26'	59'	+1°-47'	58.95	+1.84	212.06 ✓✓
61		95°-16'	67'	+4°-54'	66.52	+5.7	215.91 ✓✓
62		81°-56'	37'	-2°-10'	36.95	-1.39	208.83 ✓✓

Readings from Tr. Pt. # 21
clockwise from North

210.22
Hub

2

Station	Azimuth	Stadia	Vert. L	Hor. Dist.	Diff. Elev	Elev.
Tr. Pt. # 21				210.22		
63	54°-49'	27'	-6°-44'	26.64	-3.14	207.08 ✓ ✓
64	77°-48'	13'	-4°-30'	12.9	-1.01	209.41 ✓ ✓
65	230°-39'	27'	+2°-48'	26.44	+1.31	211.53 ✓ ✓
66	197°-30'	39'	+13°-42'	36.82	+8.97	219.19 ✓ ✓
67	164°-13'	31'	+19°-56'	27.43	+9.93	220.15 ✓ ✓
68	115°-50'	47'	+14°-12'	44.18	+11.17	221.39 ✓ ✓
69	114°-55'	75'	+13°-24'	71.02	+16.9	227.12 ✓ ✓
70	130°-46'	96'	+16°-00'	88.70	+25.44	235.66 ✓ ✓
71	154°-17'	75'	+20°-44'	65.62	+24.83	235.05 ✓ ✓
72	162°-45'	97'	+21°-44'	83.81	+33.36	243.58 ✓ ✓
73	143°-14'	115'	+18°-59'	103.04	+35.37	245.59 ✓ ✓
74	131°-55'	141'	+14°-45'	131.97	+34.71	244.93 ✓ ✓
75	118°-09'	167'	+11°-36'	160.38	+32.89	243.11 ✓ ✓
76	101°-23'	167'	+10°-49'	161.25	+30.78	241.00 ✓ ✓
77	87°-56'	166'	+10°-24'	160.69	+29.47	239.69 ✓ ✓
78	71°-26'	177'	+10°-34'	171.16	+31.90	241.12 ✓ ✓
79	61°-53'	191'	+9°-26'	186.0	+30.88	241.10 ✓ ✓
80	58°-00'	223'	+8°-11'	217.4	+35.19	245.41 ✓ ✓

Readings from Tr. Pt. # 21
clockwise " North

210.22

3

Tr. Pt. 21

El. 210.22

Hub

Station	Azimuth	stadia	Vert. \angle	Hor. Dist.	Diff. Elev.	elev.
81	64°-06'	141'	+7°-52'	138.4	+19.11	229.33 ✓✓
82	71°-19'	147'	+9°-19'	143.3	+23.48	233.70 ✓✓
83	79°-37'	139'	+8°-48'	135.9	+21.02	231.74 ✓✓
84	79°-49'	125'	+8°-07'	122.6	+17.47	227.69 ✓✓
85	92°-21'	145'	+8°-40'	141.7	+21.60	231.82 ✓✓
86	100°-01'	136'	+9°-20'	132.4	+21.76	231.98 ✓✓
87	112°-10'	129'	+11°-12'	124.12	+24.57	234.79 ✓✓
88	101°-04'	113'	+8°-03'	110.80	+15.67	225.89 ✓✓
89	90°-50'	123'	+6°-46'	121.30	+14.39	224.61 ✓✓
90	88°-16'	103'	+3°-20'	102.7	+5.98	216.20 ✓✓
91	87°-54'	87'	+1°-56'	86.91	+2.93	213.15 ✓✓
92	80°-10'	77'	+0°-33'	77.0	+0.73	210.95 ✓✓
93	67°-18'	83'	+0°-29'	83.0	+0.69	210.91 ✓✓
94	58°-19'	88'	+1°-27'	87.91	+2.22	212.42 ✓✓
95	62°-49'	105'	+3°-18'	104.7	+6.03	216.25 ✓✓
96	64°-49'	123'	+4°-17'	122.4	+9.16	219.38 ✓✓
97	69°-24'	130'	+5°-14'	128.9	+11.81	222.03 ✓✓
98	77°-40'	111'	+4°-37'	110.3	+8.91	219.13 ✓✓

Readings from Tr. Pt. #17
clockwise " North.

220.55

5

Tr. Pt. #17

El. 220.55 Hub.

Station	Azimuth	Stadia	Vert. L	Hor. Dist.	Diff. Elev	Elev.
1	160°-10'	75'	+18°-14'	85.78	+ 28.23	248.78 ✓✓
2	142°-25'	74'	+22°-09'	63.64	+ 25.84	246.39 ✓✓
3 SW. Cor. Garage	121°-25'	77'	+23°-35'	64.75	+ 28.23	248.78 ✓✓
4 N.W. " "	105°-30'	66'	+19°-56'	58.41	+ 21.15	241.70 ✓✓
5 N.E. " "	103°-07'	78'	+19°-25'	69.42	+ 24.45	245.00 ✓✓
6	99°-52'	61'	+16°-58'	55.87	+ 17.02	237.57 ✓✓
7	126°-55'	57'	+22°-45'	48.51	+ 20.32	240.87 ✓✓
8	155°-06'	57'	+20°-58'	49.82	+ 19.04	239.59 ✓✓
8	220°-28'	19'	- 3°-32'	18.93	- 1.16	219.39 ✓✓
10	78°-51'	17'	+5°-24'	16.85	+ 1.59	221.4 ✓✓
11	67°-04'	33'	+3°-45'	32.87	+ 2.15	222.70 ✓✓
12	48°-08'	34'	-0°-19'	34.0	-0.18	220.37 ✓✓
13	58°-40'	59'	+1°-50'	58.94	+ 1.89	222.44 ✓✓
14	68°-44'	57'	+4°-33'	56.65	+ 4.51	225.06 ✓✓
15	45°-07'	93'	-5°-18'	92.25	- 8.55	217.00 ✓✓
16	39°-09'	99'	-6°-17'	97.86	- 10.77	209.78 ✓✓
17	32°-50'	73'	-8°-48'	71.34	- 11.04	209.51 ✓✓
18	23°-20'	79'	-10°-29'	76.47	- 14.13	206.42 ✓✓

Bottom Wall.

Readings from Tr. Pt. # 17
clockwise " North

6

Tr. Pt. #	Azimuth	stadia	Vert L	Hor. Dist.	Diff. Elev	Elev.
				El. 220.55	220.55	H4b
19	7°-07'	55'	-15°-28'	51.15	-14.13	206.42 ✓✓
20	14°-18'	46'	-14°-56'	42.96	-11.45	209.10 ✓✓
21	298°-40'	50'	-20°-20'	43.95	-16.29	204.86 ✓✓
22	319°-00'	65'	-21°-26'	56.42	-22.10	198.45 ✓✓
23	345°-15'	63'	-20°-57'	55.06	-21.03	199.52 ✓✓
24	10°-14'	78'	-15°-19'	71.69	-19.87	200.68 ✓✓
25	26°-25'	105'	-9°-47'	102.0	-77.58	202.97 ✓✓
26 Junction side wash	33°-47'	127'	-7°-39'	124.9	-16.75	203.80 ✓✓
27 S. Bank	32°-13'	269'	-2°-05'	268.7	-9.77	210.78 ✓✓
28 Wash.	30°-51'	269'	-2°-05'	268.7	-9.77	210.78 ✓✓
29 N. Bank	28°-47'	265'	-2°-03'	264.7	-9.47	211.08 ✓✓
30 N. "	29°-43'	340'	-0°-51'	339.9	-5.04	215.51 ✓✓
31 Wash.	31°-30'	338'	-1°-03'	337.9	-6.19	214.36 ✓✓
32 S. Bank	33°-06'	329'	-1°-00'	328.9	-5.74	214.81 ✓✓
33	32°-28'	293'	-1°-39'	292.8	-8.43	212.12 ✓✓
34	37°-50'	311'	+1°-07'	310.9	+6.06	226.61 ✓✓
35	40°-25'	317'	+1°-56'	316.7	+10.69	231.22 ✓✓
36	41°-55'	287.0	+2°-28'	286.5	+12.34	232.89 ✓

Readings from Tr. Pt. #17
clockwise North

7

Tr. Pt. #17

El 220.55
Hub. 220.55

Station	Azimuth	Stadia	Vert. \angle	Hor. Dist.	Diff Elev	Elev		
37	40°-50'	243'	+1°-19'	242.9	+5.58	226.15	✓	✓
38	41°-45'	219'	+0°-36'	219.0	+2.29	228.4	✓	✓
39	44°-00'	202'	-0°-01'	202.0	-0.12	228.3	✓	✓
40	45°-12'	171'	-0°-14'	171.0	-0.69	227.6	✓	✓
41	51°-18'	193'	+2°-40'	192.6	+8.97	236.57	✓	✓
42	49°-11'	213'	+2°-27'	212.7	+9.09	245.66	✓	✓
43	46°-06'	251'	+3°-15'	249.9	+16.81	262.47	✓	✓
44	46°-15'	331'	+4°-55'	328.7	+28.27	290.74	✓	✓
45	48°-12'	305'	+5°-21'	302.4	+28.31	319.05	✓	✓
46	50°-52'	279'	+6°-01'	276.0	+29.08	348.13	✓	✓
47	Bottom Wall 53°-30'	267'	+6°-49'	263.4	+31.46	379.59	✓	✓
48	Top Wall 53°-30'	269'	+7°-22'	264.7	+34.20	413.79	✓	✓
49	Bottom Wall 60°-06'	239'	+8°-07'	234.4	+33.41	447.20	✓	✓
50	Top Wall 60°-09'	240'	+8°-46'	234.6	+36.15	483.35	✓	✓
51	66°-22'	225'	+9°-55'	218.4	+38.17	521.52	✓	✓
52	68°-37'	220'	+10°-19'	213.18	+38.76	560.28	✓	✓
53	73°-46'	215'	+10°-23'	208.10	+38.11	598.39	✓	✓
54	74°-27'	203'	+9°-35'	197.60	+33.32	631.71	✓	✓

Readings from Tr. Pt. # 17.
clockwise " North

Tr. Pt. #	Station	Azimuth	Stadia	Vert. L	Hor. Dist	Diff. Elev	Elev
					El 220.55	220.55	
						Hub	
	55	69-16'	207'	+9-22'	201.6	+33.24	253.79 ✓ ✓
	56	73-55'	191'	+8-23'	187.0	+27.55	248.10 ✓ ✓
	57	67-42'	197'	+8-02'	193.2	+27.26	247.81 ✓ ✓
	58	66-12'	185'	+6-26'	182.7	+20.6	241.15 ✓ ✓
	59	73-40'	175'	+6-45'	172.6	+20.43	240.98 ✓ ✓
	60	63-42'	165'	+3-39'	164.4	+10.48	231.03 ✓ ✓
	61	63-44'	181'	+5-49'	179.2	+18.25	238.80 ✓ ✓
	62	62-50'	175'	+4-30'	173.9	+13.69	234.24 ✓ ✓
	63	55-51'	198'	+4-55'	196.6	+16.91	237.46 ✓ ✓
	64	54-56'	191'	+3-53'	189.7	+16.20	236.75 ✓ ✓
	65	54-25'	181'	+3-53'	180.2	+12.23	231.78 ✓ ✓
	66	61-38'	167'	+4-13'	166.1	+12.25	234.80 ✓ ✓
	67	51-20'	179'	+2-19'	178.7	+7.23	227.78 ✓ ✓
	68	61-15'	157'	+2-42'	156.7	+7.38	227.93 ✓ ✓
	69	70-24'	145'	+3-03'	144.6	+7.70	228.75 ✓ ✓
	70	70-21'	117'	+3-05'	116.7	+6.28	226.83 ✓ ✓
	71	62-54'	113'	+0-04'	113.0	+0.13	220.68 ✓ ✓
	72	61-30'	135'	-0-12'	135.0	-0.47	220.08 ✓ ✓

Readings from Tr. Pt. #17.
Clockwise " North

220.55

Hub

9

Tr. Pt. #	Station	Azimuth	Stadia	Vert. L.	Hor. Dist	Diff. Elev	Elev.
					220.55		
73		49-08	151'	-0-18'	151.0	-0.79	21976 ✓✓
74		45-25	163'	-0-35'	163.0	-1.66	21889 ✓✓
75		40-35	148'	-3-28'	147.5	-8.93	21162 ✓✓
76		44-25	131'	-3-59'	130.4	-9.08	21147 ✓✓
77		50-34	123'	-3-34'	122.5	-7.64	21291 ✓✓
78		36-01	125'	-7-21'	123.0	-15.86	20469 ✓✓
79		33-54	135'	-6-50'	133.1	-15.95	20460 ✓✓
80	Wash.	33-00	220'	-3-25'	219.3	-13.09	20746 ✓✓
81		30-10	219'	-3-26'	218.3	-13.09	20746 ✓✓
82	Wash.	33-09	171'	-5-08'	169.7	-15.24	20531 ✓✓
83		26-51	173'	-4-36'	172.0	-13.83	20672 ✓✓
84		23-01	141'	-6-15'	139.4	-15.26	20549 ✓✓
85	Wash.	27-57	128'	-7-15'	126.0	-16.02	20453 ✓✓
86		22-30	105'	-10-37'	101.53	-19.01	20154 ✓✓
87	Wash.	18-19	107'	-11-25'	102.83	-20.75	19980 ✓✓
88		12-32	113'	-9-51'	112.10	-19.04	20151 ✓✓
89		2-12	93'	-14-21'	87.32	-22.33	19822 ✓✓
90	Wash.	5-00	89'	-15-43'	82.50	-23.21	19732 ✓✓

Readings from Tr. Pt. # 17
Clockwise " North

220.55

11

Tr. Pt # 17

El. 220.55 Hub

Station	Azimuth	Stadia	Vert L	Hor Dist	Diff. Elev	Elev
109.	291°-26'	143'	-4°-36'	142.10	- 11.43	209.12 ✓ ✓
110	306°-15'	143'	-5°-15'	141.9	- 13.03	207.52 ✓ ✓
111	310°-58'	151'	-4°-40'	150.0	- 12.24	208.31 ✓ ✓
112	304°-28'	167'	-0°-46'	167.0	- 2.23	218.32 ✓ ✓
113	293°-00'	164'	-0°-53'	164.0	- 2.52	218.03 ✓ ✓
114	283°-20'	169'	-1°-10'	168.9	- 3.44	217.11 ✓ ✓
115	276°-11'	185'	-1°-23'	184.9	- 4.26	216.09 ✓ ✓
116	285°-36'	207.6	+1°-26'	206.9	+ 5.18	225.73 ✓ ✓
117	290°-10'	190'	+1°-00'	189.9	+ 3.32	223.87 ✓ ✓
118	297°-00'	195'	+1°-55'	194.8	+ 6.52	227.07 ✓ ✓
119	304°-54'	209'	+2°-41'	208.6	+ 9.77	230.32 ✓ ✓
120	310°-10'	231'	+2°-57'	230.4	+ 11.87	232.52 ✓ ✓
121	315°-29'	249'	+3°-17'	248.3	+ 14.23	234.78 ✓ ✓
122	320°-49'	265'	+3°-06'	264.3	+ 14.31	234.86 ✓ ✓
123	324°-41'	287'	+2°-57'	286.3	+ 14.75	235.30 ✓ ✓
124	328°-17'	267'	+0°-39'	267.0	+ 3.03	223.58 ✓ ✓
125	323°-28'	229'	-0°-02'	229.0	- 0.13	220.42 ✓ ✓
126	319°-04'	207'	-0°-36'	207.0	- 2.17	218.38 ✓ ✓

Readings from Tr. Pt. #17
clockwise " North

220.55

12

Tr. Pt. #17

El. 220.55 Hub.

Station	Azimuth	Stadia	Vert \angle	Hor. Dist	Diff. Elev.	Elev.
127	308-52	167'	-1-51	166.8	-5.39	21516 ✓ ✓
128 side Wash	322-02	156'	-6-55	153.8	-18.65	20190 ✓ ✓
129	328-58	148	-7-45	143.4	-19.50	20105 ✓ ✓
130	333-57	183	-5-10	181.5	-16.41	20412 ✓ ✓
131 site Wash	329-21	188'	-4-58	186.7	-16.22	20433 ✓ ✓
132	323-36	195'	-2-57	194.5	-10.02	21053 ✓ ✓
133	328-36	213'	-2-52	212.5	-10.64	20991 ✓ ✓
134 site Wash	331-36	211'	-4-13	209.9	-15.47	20508 ✓ ✓
135 site Wash	335-25	205'	-4-07	204.0	-14.68	20587 ✓ ✓
136 side Wash	336-25	237'	-3-23	236.2	-13.96	20659 ✓ ✓
137	334-04	245	-2-55	244.4	-12.45	20810 ✓ ✓
138	339-09	237'	-2-13	236.7	-9.16	21139 ✓ ✓
139	339-48	218'	-2-20	217.6	-8.87	21168 ✓ ✓
140	345-52	211'	+0-07	211.0	+8.23	22098 ✓
141	346-09	235'	+0-18	235.0	+1.23	22178 ✓ ✓
142	349-18	185'	+0-47	185.0	+2.53	22308 ✓ ✓
143 S.W. Cor Lath House	356-00	177'	+1-24	176.9	+4.32	22487 ✓ ✓
144 S.E. Cor Lath House	1-42	175'	+1-14	174.9	+3.77	22432 ✓ ✓

Readings from Tr. Pt. # 17
clockwise " North.

13

Tr. Pt. # 17

El. 220.55 Hub.

Station	Azimuth	stadia	vert. Z.	Hor Dist.	220.55 Diff. Elev.	Elev	
N.E. cor 145 House	1-50'	183'	+1-40'	184.8	+5.32	225.87	✓ ✓
146	2-39'	153'	-0-41'	153.0	-1.82	218.75	✓ ✓
147	6-22'	135'	-3-25'	134.5	-8.03	214.52	✓ ✓
148	358-02'	127'	-3-47'	126.5	-8.36	212.19	✓ ✓
149	349-58'	123'	-4-21'	122.3	-9.3	211.25	✓ ✓
150	343-23'	135'	-3-55'	134.4	-9.20	211.35	✓ ✓
151	341-30'	164'	-2-40'	163.7	-7.62	212.93	✓ ✓
152	349-48'	146'	-2-08'	145.8	-5.43	215.12	✓ ✓
153	334-37'	125'	-7-03'	123.1	-15.23	205.32	✓ ✓
154	346-23'	107'	-8-04'	105.0	-14.89	205.66	✓ ✓
155	1-39'	117'	-6-12'	115.7	-12.56	207.99	✓ ✓
156	11-05'	135'	-4-56'	134.0	-11.57	208.98	✓ ✓
157	7-24'	187'	+1-11'	186.9	+3.86	224.41	✓ ✓
158	12-48'	203'	+0-56'	203.0	+3.31	223.86	✓ ✓
159	18-24'	190'	-1-17'	189.9	-4.25	216.30	✓ ✓
160	13-06'	162'	-1-58'	161.8	-5.56	214.99	✓ ✓
161	17-26'	147'	-4-24'	146.2	-11.24	209.51	✓ ✓
162	18-09'	131'	-6-38'	129.3	-15.03	205.52	✓ ✓

Readings from Tri. Pt. #. 17
clockwise " North.

220.55

14

Tri. Pt. # 17

El. 220.55

H4D.

Station	Azimuth	Stadia	Vert. L	Hor. Dist	Diff. Elev	Elev.
163	23-35	181'	-3-14	180.5	-10.19	210.36 ✓✓
164	23-55	209'	-2-04	208.8	-7.53	213.02 ✓✓
165	24-32	235'	-1-31	234.8	-6.22	214.33 ✓✓
166	26-43	255'	-2-00	254.7	-8.89	211.66 ✓✓
167	22-16	259'	+0-02	259.0	+0.15	220.70 ✓✓
168	18-54	267'	+1-39	266.8	+2.70	223.25 ✓✓
169	16-31	233'	+1-22	232.9	+5.55	226.10 ✓✓
170	20-10	293'	+1-37	292.8	+8.26	228.81 ✓✓
171	22-43	329'	+1-33	328.8	+8.89	229.44 ✓✓
172	26-16	331'	-0-08	331.0	-0.77	219.78 ✓✓
173	26-13	300'	-0-29	300.0	-2.53	218.02 ✓✓
174	26-35	274'	-1-04	273.9	-5.10	215.48 ✓✓
175	29-41	295'	-1-31	294.8	-7.81	212.74 ✓✓
176						
177						
178						
179						
180.						

Readings from Tr. Pt #18,
clockwise " North.

Tr. Pt #18.

El. 252.55

252.55
Hab.

Station	Arzimuth	Stadia	Vert L	Hor. Dist	Diff Elev	Elev.
1	210°-21'	39'	-5°-10'	38.7	-3.49	249.06 ✓ ✓
2	239°-48'	17'	-13°-10'	16.11	-3.77	248.78 ✓ ✓
3	220°-18'	107'	-12°-03'	102.39	-21.84	230.71 ✓ ✓
4	228°-59'	131'	-10°-34'	126.67	-23.61	228.92 ✓ ✓
5	224°-24'	139'	-7°-37'	136.7	-18.25	234.30 ✓ ✓
6	221°-52'	147'	-5°-28'	145.7	-13.94	238.61 ✓ ✓
7	218°-00'	155'	-3°-01'	154.6	-8.15	244.40 ✓ ✓
8	213°-24'	137'	-3°-55'	136.4	-9.27	243.28 ✓ ✓
9	218°-22'	124'	-7°-50'	121.7	-16.74	235.81 ✓ ✓
10	208°-15'	115'	-6°-03'	113.7	-12.05	240.50 ✓ ✓
11	207°-39'	127'	-2°-20'	126.8	-3.0 -5.17 -8.17	242.38 ✓ ✓
12						
13						
14						
15						
16						
17						
18						

Readings from Tr. Pt. # 22
 clockwise " North.

259.63

Tr. Pt. # Station	Azimuth	Stadia	Vert. L.	El. 259.63 Hor. Dist	H4B Diff. Elev	Elev.
1	310°-51'	15'	-3°-55'	14.93	- 1.02	258.61 ✓✓
2	324°-08'	15'	-5°-31'	14.86	- 1.43	258.20 ✓✓
3	34°-00'	13'	+2°-24'	12.98	+ 0.54	260.17 ✓✓
4	49°-30'	12'	+4°-08'	11.94	+ 0.86	260.49 ✓✓
5	151°-40'	21'	+3°-55'	20.95	+ 1.06	260.69 ✓✓
6	196°-21'	17'	+0°-30'	17.0	+ 0.14	259.77 ✓✓
7	190°-16'	27'	+0°-40'	27.0	+ 0.31	259.94 ✓✓
8	160°-25'	29'	+2°-43'	28.9	+ 1.37	261.00 ✓✓

 Readings from Tr. Pt. # 23
 clockwise from North

Tr. Pt. # Station	Azimuth	Stadia	Vert. L.	El. 258.49 Hor. Dist.	H4B Diff. Elev	corrected Elev. calc.
1	222°-45'	19'	-3°-29'	18.94	- 1.15	256.48 ✓ 257.34 ✓
2	354°-09'	16'	-4°-24'	15.91	- 1.22	256.41 ✓ 257.27 ✓
3	353°-13'	27'	-5°-52'	26.72	- 2.74	256.89 ✓ 255.75 ✓
4	27°-48'	15'	-1°-00'	15.0	- 0.26	259.37 ✓ 258.23 ✓
5	151°-17'	15'	+5°-37'	14.86	+ 1.46	261.09 ✓ 259.95 ✓
6	164°-25'	15'	+5°-40'	14.85	+ 1.47	261.10 ✓ 259.96 ✓
7	162°-36'	25'	+3°-40'	24.90	+ 1.59	261.24 ✓ 260.08 ✓

Readings from Tr. Pt. #24
 Clockwise " North

17

Tr. Pt. 24

61. 261.37

261.37
 C.F.

Station	Azimuth	Stadia	Vert. L.	Hor. dist.	diff. Elev.	elev.
1	288°37'	39'	+0°50'	38.99	+0.56	261.93 ✓ ✓
2	270°43'	37'	+1°00'	36.99	+0.64	262.01 ✓ ✓
3	273°00'	15'	+3°22'	14.95	+0.87	262.24 ✓ ✓
4	314°03'	17'	+3°09'	16.95	+0.93	262.30 ✓ ✓
5	338°53'	43'	+0°20'	43.0	+0.25	261.62 ✓ ✓
6	352°53'	43'	-1°55'	42.96	-1.43	259.94 ✓ ✓
7	338°12'	11.0	-0°00'	11	-00	261.37 ✓ ✓
8	244°40'	5'	+0°20'	5	+0.02	261.39 ✓ ✓
9	259°30'	9'	+9°02'	8.78	+1.39	262.76 ✓ ✓
10	213°10'	45'	+3°09'	44.88	+2.46	263.83 ✓ ✓
11	217°44'	39'	+3°56'	38.83	+2.66	264.03 ✓ ✓
12	295°09'	31'	+4°10'	30.84	+2.24	263.61 ✓ ✓
13	185°10'	29'	+0°47'	29.0	+0.39	261.76 ✓ ✓
14	185°34'	40'	+1°18'	39.98	+0.90	262.27 ✓ ✓

Additional Readings 6/5/33.

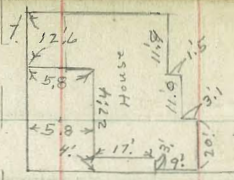
1	190°52'	41'	+3°19'			
2	181°59'	79'	+1°43'			
3	184°49'	79'	+2°09'			
4	194°37'	83'	+2°04'			

Profile Levels
W. Curpline 1st St.

B.M.	B.P.					
	4.79	266.72		261.93	s. 2. 1st + Douglass.	
100's. of &	Douglass	emt. d.	266.72 21.27	264.85	✓	✓
100 "	"	gutter	2.84	263.88	✓	✓
40 "	"	"	5.28	261.44	✓	✓
40 "	"	emt. d.	4.73	261.99	✓	✓
25 "	"	"	5.34	261.38	✓	✓
25 "	"	gutter	5.83	260.89	✓	✓
&	"	"	6.10	260.62	✓	✓
&	✓	emt. d.	5.58	261.12	✓	✓
100' N. of &	"	"	11.66	255.06	✓	✓
100 "	"	gutter	12.29	254.43	✓	✓
40 "	"	"	7.59	259.13	✓	✓
40 "	"	emt. d.	6.98	259.72	✓	✓
25 "	"	"	6.01	260.71	✓	✓
25 "	"	gutter	6.53	260.19	✓	✓

Plotted 5-20-33.
C.S.K.

ST.



Tr. Pt. #25
0+00 Baseline
5.89°-40'E

Douglas
Tr. Pt. #26
0+53 Baseline

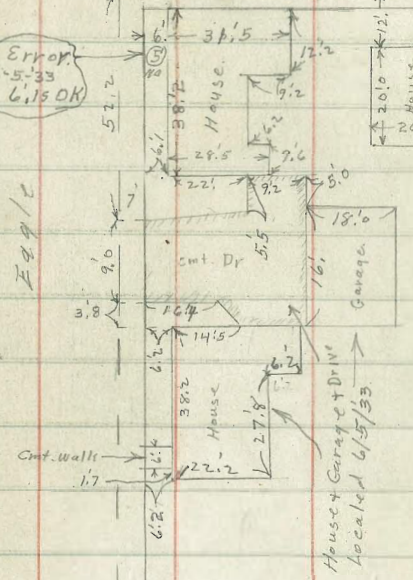
Tr. Pt. #27
Sta 229.24

ST.

5.89°-40'E
123.58

Error
6-5-33
6.15 OK

E 29/2



50'-18"-50" W
145.44 N

DORC

Tr. Pt. #29

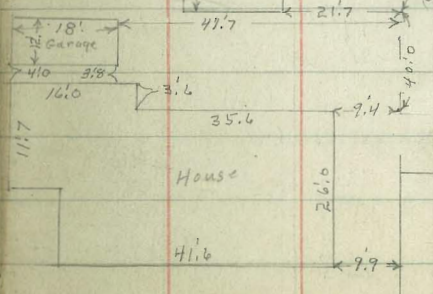
22. 36. 22.

72°-11'

129.52

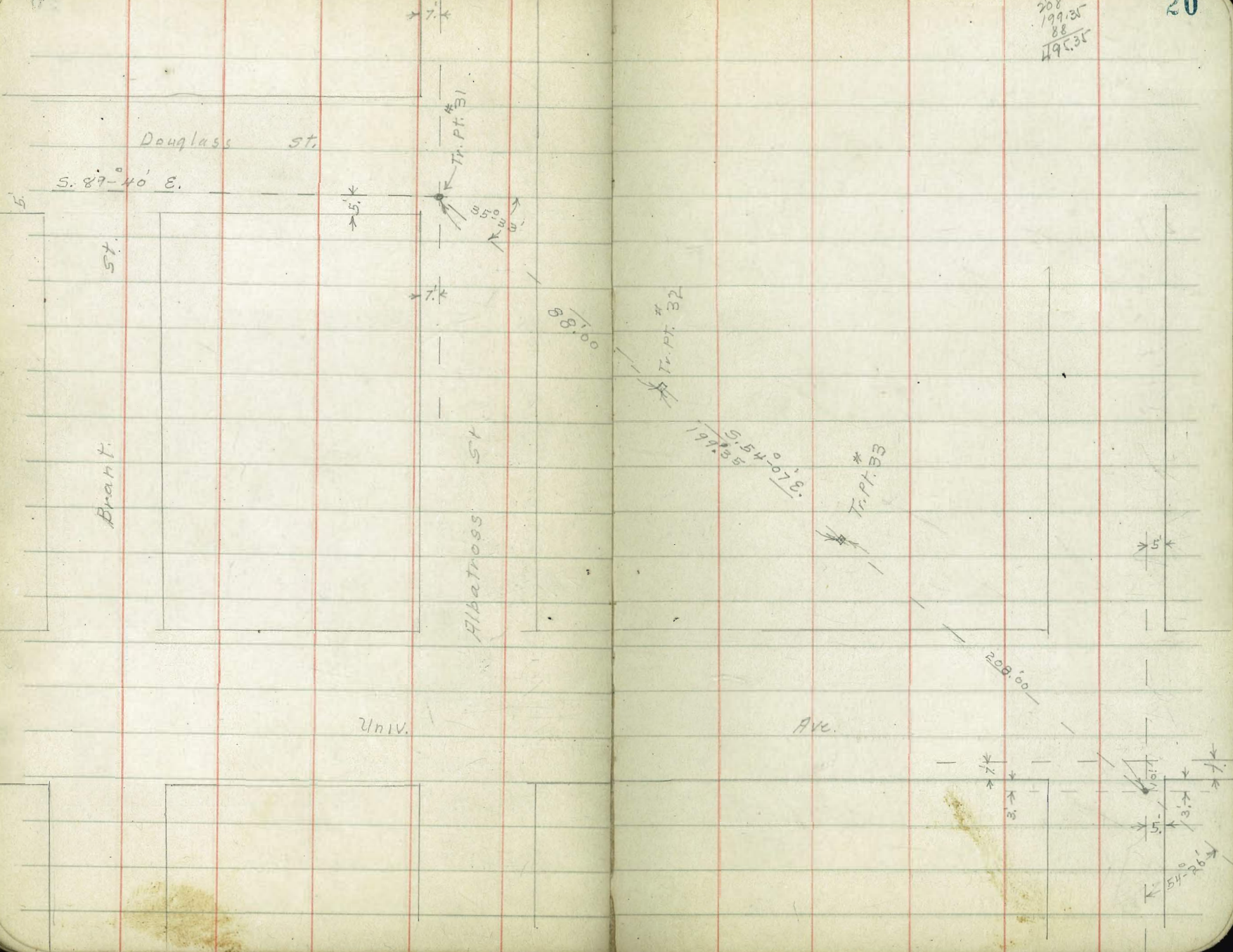
5371°-52'-30" E

Tr. Pt. #30



Univ. Ave.

208
199.35
88
495.35



B.M. Levels

B.M. B.P.	1.15	269.15 ✓		268.00 ✓	N.W. Brant + Douglass
T.P.	4.09	265.22 ✓	8.02	261.13 ✓	E.T. S.E. Eagle
Tr. Pt. # 25			7.13	258.09 ✓	+ Douglass
Tr. Pt. # 26			8.36	256.86 ✓	Hub 0 + 53 B.L. S. W. E.T. Dow
Tr. Pt. # 27			4.75	260.47 ✓	+ Douglass
Tr. Pt. # 28			5.12	260.10 ✓	Hub
→ stub			2.53	262.69 ✓	
T.P.	1.30	253.89 ✓	12.63	252.59 ✓	
T.P.	2.52	244.80 ✓	11.61	242.28 ✓	
Tr. Pt. # 29			7.09	237.71 ✓	
→ stub	3.96	266.65 ✓		262.69 ✓	
Tr. Pt. # 30	8.92	270.00 ✓	5.57	261.08 ✓	E.T. N.E. Line Univ. Ave + Puckto Line N.W. Brant.
B.M. B.P.	6.47	274.47	2.00	268.00 ✓	+ Douglass S.W. Douglass
B.M. B.P.	3.94	274.47	3.94	270.53 ✓	+ Albatross S.W. 5x7 CT. Albatross + Douglass
Tr. Pt. # 31			3.94	270.53 ✓	
Tr. Pt. # 32			4.15	270.32 ✓	Hub.
Tr. Pt. # 33			5.82	268.65 ✓	Hub.

Readings from Tr. Pt # 26
clockwise " North.

256.86

24

Tr. Pt. 26

El 256.86 Hub

Station	Azimuth	Stadia	Vert. L	Hor. Dist	Diff. Elev	Elev	
1	233-37	11.	+0-14	11.0	+0.04	256.90	✓
2	167-21	8.	-7-09	7.88	-0.98	255.88	✓
3	199-14	21.	-2-38	20.96	-0.96	255.90	✓
4	197-49	37.	-1-25	36.98	-0.91	255.95	✓
5	190-31	47.	-4-06	46.77	-3.35	253.59	✓
6	353-24	121.	-5-22	120.0	^{-7.0} for elev. -11.25 -18.27	238.59	✓
7	1-00	131.	-5-38	129.8	^{-7.0} for elev. -12.8 -19.8	237.06	✓
8	13-24	124.	-9-00	121.0	^{-2.0} for elev. -16.16 -21.16	235.70	✓
9	24-27	102.	-12-59	97.02	-22.32	234.54	✓
10	41-55	83.	-19-04	76.20	-25.62	231.24	✓
11	28-43	113.	-8-25	110.6	-16.36	240.50	✓
12	21-03	123.	-2-17	122.8	^{-13.1} for elev. -4.9 -17.9	238.96	✓
13	13-54	133.	-7-25	130.8	-17.02	239.84	✓
14	28-31	124.	-5-07	123.1	^{-1.0} for elev. -21.01 -22.01	244.85	✓
15	33-10	105.	-8-13	102.9	-14.85	244.01	✓
16	61-53	79.	-22-18	67.78	-27.73	229.13	✓
17	77-17	95.	-16-39	87.30	-26.08	230.78	✓
18	82-31	85.	-21-29	73.78	-28.97	227.89	✓

Readings from Tr. Pt. 26
clockwise " North.

256.86

25

Tr. Pt 26

Σ 256.86 Hub

Station	Azimuth	stadia	Vert. L	Hor Dist.	Diff. Elev	Elev.		
19	97°00'	95'	-20°45'	83.17 83.17	31.48 - 19.43	225.38 237.43	✓	✓
20	118°07'	102'	-20°53'	89.14	- 33.96	221.90	✓	✓
21	129°44'	120'	-19°34'	90.67	- 37.87	218.99	✓	✓
22	122°44'	123'	-16°26'	113.78	- 33.37	223.49	✓	✓
23	116°40'	113'	-17°33'	102.81	- 32.48	221.38	✓	✓
24	118°22'	122'	-13°59'	115.04	- 26.60	228.26	✓	✓
25	105°46'	113'	-14°51'	105.55	- 27.99	228.87	✓	✓
26	114°02'	137'	-9°32'	133.30	- 22.38	231.28	✓	✓
27	99°21'	123'	-10°30'	118.94	- 22.04	231.52	✓	✓
28	84°44'	109'	-11°44'	104.53	- 21.70	235.16	✓	✓
29	87°49'	99'	-15°24'	92.07	- 25.34	231.52	✓	✓
30	85°30'	125'	-7°43'	122.8	- 16.63	240.23	✓	✓
31	95°33'	133'	-7°05'	131.0	- 16.27	240.59	✓	✓
32	102°25'	137'	-7°10'	134.9	- 16.96	239.90	✓	✓
33	69°10'	99'	-11°26'	95.13	- 19.23	237.63	✓	✓
34	56°00'	93'	-9°45'	90.38	- 15.52	241.34	✓	✓
35	43°02'	99'	-7°00'	97.53	- 11.98	244.88	✓	✓
36	39°55'	119'	-0°34'	119.0	- 1.18	255.68	✓	✓

Readings from Tr. Pt. # 26.
clockwise North

256.86

26

Tr. Pt. # 26

Elev 256.86
Hib

Station	Azimuth	stadia	Vert. L	Hor. Dist	Diff. Elev	Elev	
37	45° 03'	119'	+1° 26'	118.9	+2.97	259.83	✓ ✓
38	53° 31'	117'	+1° 21'	116.9	+2.77	259.63	✓ ✓
39	62° 50'	122'	+1° 40'	121.9	+3.54	260.40	✓ ✓
40	70° 51'	139'	+1° 26'	138.9	+3.47	260.33	✓ ✓
41	76° 53'	149'	+1° 22'	148.9 148.9	+3.55	260.41	✓ ✓
42	76° 55'	137'	-1° 28'	136.9	-3.5	253.36	✓ ✓
43	86° 32'	145'	-1° 42'	144.9	-4.3	252.56	✓ ✓
44	189° 26'	151'	-1° 56'	150.8	-5.13	251.73	✓ ✓
45	93° 04'	157'	-1° 39'	156.9	-4.52	254.34	✓ ✓
46	94° 05'	152'	-2° 50'	151.6	-7.5	249.36	✓ ✓
47	94° 02'	159'	-0° 29'	159.0	-1.34	255.52	✓ ✓
48	92° 37'	167'	+0° 04'	167.0	+0.19	257.05	✓ ✓
49	103° 35'	147'	-6° 03'	155.4	-15.41	241.45	✓ ✓
50	111° 25'	155'	-5° 51'	153.4	-15.32	241.14	✓ ✓
51	109° 22'	165'	-4° 01'	164.2	-11.53	245.33	✓ ✓
52	104° 00'	155'	-4° 04'	154.2	-10.96	245.90	✓ ✓
53	108° 57'	189'	-2° 02'	188.8	-6.7	250.16	✓ ✓
54	114° 08'	191'	-4° 14'	190.0	-14.06	242.80	✓ ✓

See Shot # 27 Tr Pt # 27 (Angle may be + 1° 04') ?

Readings from Tr. Pt. #26.
clockwise to North

256.86

27

Tr. Pt. #	Station	Azimuth	Stadia	Vert. L	Hor. Dist.	Diff Elev	Elev.		
					El 256.86	H46.			
55		119°-31'	197'	-6°-20'	194.60	-21.60	235.26	✓	✓
56		120°-57'	173'	-7°-30'	170.10	-22.39	234.67	✓	✓
57		124°-19'	171'	-8°-40'	167.10	-25.47	231.39	✓	✓
58		129°-00'	197'	-9°-33'	191.7	-32.21	224.65	✓	✓
59		133°-26'	207'	-10°-43'	197.80 143.35	37.82 -14.52	219.0 237.77	?	✓
60		133°-44'	167'	-12°-39'	159.15	-35.68	221.18	✓	✓
61		128°-30'	163'	-11°-29'	156.7	-31.80	225.06	✓	✓
62		126°-35'	144'	-13°-42'	135.93	-33.13	223.73	✓	✓
63		132°-06'	139'	-16°-59'	127.32	-38.83	218.03	✓	✓
64		136°-28'	139'	-17°-04'	127.14	-38.99	217.87	✓	✓
65		133°-35'	113'	-20°-51'	98.74	-37.58	219.28	✓	✓
66		112°-35'	89'	-22°-55'	75.56	-31.92	224.94	✓	✓
67		117°-41'	77'	-25°-54'	62.37	-30.25	226.61	✓	✓
68		95°-25'	75'	-26°-52'	59.70	-30.23	226.63	✓	✓
69		75°-06'	73'	-26°-00'	58.98	-28.96	228.10	✓	✓
70		58°-25'	63'	-27°-04'	50.02	-25.52	231.34	✓	✓
71		123°-35'	67'	-26°-20'	53.80	-26.63	230.43	✓	✓
72		143°-15'	91'	-21°-13'	79.17	-30.70	226.16	✓	✓

Readings from Tr. Pt. # 26
clockwise to North

256.86

28

Tr. Pt. # 26

el. 256.86 Hub

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev.	Elev.		
73.	140-54	127'	-16-52	116.33	-35.26	221.60	✓	✓
74	153-24	125'	-13-29	118.37	-28.34	228.52	✓	✓
75	159-37	133'	-9-39	129.4	-21.98	234.88	✓	✓
76	159-26	170'	-7-39	167.1	-22.43	234.43	✓	✓
77	160-39	191'	-7-13	188.0	-23.80	233.06	✓	✓
78	151-42	203'	-9-51	197.2	-34.21	226.5	✓	✓
79	151-21	179'	-10-38	173.09	-32.46	224.50	✓	✓
80	151-15	152'	-11-45	145.76	-30.30	226.56	✓	✓
81	145-30	155'	-13-58	146.16	-36.30	220.56	✓	✓
82	146-13	182'	-12-37	173.44	-38.79	218.07	✓	✓
83	147-28	207'	-11-29	199.02	-40.4 -52.67	216.5 204.19	✓	✓
84	149-04	222'	-11-01	213.91	-41.63	215.23	✓	✓
85 Wash	147-03	227'	-11-47	217.69	-45.37	211.49	✓	✓
86 Wash.	144-01	229'	-11-27	220.16	-44.55	212.31	✓	✓
87 Junction Washes	140-14	215'	-11-44	206.18	-42.80	214.06	✓	✓
88	140-51	195'	-12-51	186.3	-42.28	214.58	✓	✓
89	143-30	191'	-12-58	182.46	-41.76	215.10	✓	✓
90	141-20	167'	-14-33	156.54	-46.60	216.26	✓	✓

Readings from Tr. Pt. #27
clockwise " North.

260.47

29

Tr. Pt. #27

El 260.47 C.T.

Station	Azimuth	Sladia	Vert. L	Hor. Dist	Diff Elev	Elev		
1	282°27'	196'	-2°24'	195.7	-8.20 8.20	252.27 252.33	✓	✓
2	283°40'	187'	-2°25'	186.7	-7.87	252.10	✓	✓
3	284°53'	202'	-4°13'	200.9	-14.81	245.66	✓	✓
4	287°03'	187'	-4°36'	185.9	-14.95	245.52	✓	✓
5	294°21'	215'	-4°23'	213.8	-16.38	244.69	✓	✓
6	296°09'	215'	-4°56'	213.5	-18.42	244.05	✓	✓
7	296°45'	203'	-6°10'	200.7	-21.67	238.80	✓	✓
8	299°46'	187'	-7°40'	183.7	-2.0 For Elev. -21.67 -23.67	236.80	✓	✓
9	289°19'	180'	-6°59'	177.5	-21.72	238.75	✓	✓
10	287°21'	169'	-7°33'	166.2	-22.01	238.46	✓	✓
11	293°28'	175'	-8°56'	170.9	-26.55	233.92	✓	✓
12	296°36'	171'	-9°35'	166.4	-28.07	232.40	✓	✓
13	291°00'	159'	-10°58'	153.37	-29.69	230.78	✓	✓
14	287°04'	148'	-11°02'	143.56	-2.0 For Elev. -25.39 -27.39	233.08	✓	✓
15	278°49'	153'	-8°13'	150.00	-21.64	238.83	✓	✓
16	268°10'	147'	-8°41'	143.70	-21.94	238.53	✓	✓
17	263°55'	151'	-8°10'	148.0	-21.23	239.24	✓	✓
18	262°00'	143'	-11°32'	137.32	-28.01	232.46	✓	✓

Readings from Tr. Pt #27
clockwise North-

260.47

Tr. Pt. 27	Station	Azimuth	stadia	Vert. L.	Hor. Dist.	Diff Elev	Elev		
					CI 260.47	e.t.			
	19	257-44	151'	-10-23	146.16	- 26.77	233.90	✓	✓
	20	256-24	165'	-8-23	161.5	- 23.8	236.67	✓	✓
	21	257-51	178'	-4-37	176.9	- 14.28	246.19	✓	✓
	22	257-48	175'	-6-15	173.0	- 18.94	241.53	✓	✓
	23	261-54	173'	-4-35	172.0	- 13.78	246.69	✓	✓
	24	263-45	163'	-5-00	161.8	- 14.15	246.34	✓	✓
	25	309-51	33'	-0-27	33.0	- 0.25	260.22	✓	✓
	26	284-30	11'	+2-16	10.98	+ 0.43	260.90	✓	✓
	27	237-25	12'	+1-36	14.0	+ 0.12	260.59	✓	* See Shot #48 Tr Pt #26
	28	226-17	10'	+1-53	9.99	+ 0.32	260.79	✓	✓
	29	339-04	20'	-0-03	20.0	- 0.01	260.46	✓	✓
	30	350-31	43'	+0-55	42.99	+ 0.68	261.15	✓	✓
	31	317-11	55'	+0-12	55.0	+ 0.19	260.66	✓	✓
	32	321-12	71'	+0-38	70.99	+ 0.78	261.25	✓	✓
	33	347-25	57'	+0-55	56.99	+ 0.91	261.38	✓	✓
	34	353-28	55'	+0-40	54.9	+ 0.64	261.11	✓	✓
	35	99-23?	43'	+2-11	42.94	+ 1.63	262.10	✓	✓
	36	93-06	139'	+1-10	138.9	+ 2.83	263.30	✓	✓

Readings from Tr. Pt. #27
clockwise " North.

260.47

31

Tr. Pt. #27

El. 260.47 c.t.

station	Azimuth	stadia	Vert. L.	Hor. Dist	Diff. elev	Elev
37	119°-02'	157'	+0°-47'	157.0	+2.15	262.62 ✓ ✓
38	114°-05'	130'	+1°-16'	129.9	+2.87	263.34 ✓ ✓
39	112°-45'	102'	+1°-21'	101.9	+2.40	262.87 ✓ ✓
40	114°-02'	88'	+1°-06'	87.97	+1.69	262.16 ✓ ✓
41	122°-56'	77'	+0°-53'	76.98	+1.19	261.66 ✓ ✓
42	136°-18'	65'	+0°-20'	65.0	+0.38	260.85 ✓ ✓
43	152°-00'	51'	-1°-08'	50.98	-1.00	259.47 ✓ ✓
44	177°-44'	39'	-2°-38'	38.93	-1.79	258.68 ✓ ✓
45	178°-24'	27'	-3°-15'	26.92	-1.52	258.95 ✓ ✓
46	186°-54'	43'	-7°-18'	42.33	-5.41	255.06 ✓ ✓
47	187°-00'	45'	-7°-16'	44.50	-5.64	254.93 ✓ ✓
48	195°-47'	37'	-9°-03'	36.09	-5.74	254.73 ✓ ✓
49	211°-00'	35'	-11°-59'	33.53	-7.10	253.37 ✓ ✓
50	198°-05'	26'	-9°-01'	25.86	4.01	256.46 ✓ ✓

51

52

53

54

Readings from Tr. Pt. #28
clockwise " North:

260.10

32

Tr. Pt. #28

260.10 Hub.

Station	Azimuth	Stadia	Vert. L.	Hor. Dist	Diff. Elev	Elev		
1	127°-15'	119'	+0°-59'	119.0	+2.04	262.14	✓	✓
2	134°-36'	111'	+0°-17'	111.0	+0.51	260.61	✓	✓
3	140°-50'	109'	+0°-25'	109.0	+0.82	260.92	✓	✓
4	141°-12'	121'	+0°-46'	121.0	+1.62	261.72	✓	✓
5	148°-35'	145'	+0°-16'	145.0	+0.67	260.77	✓	✓
6	152°-30'	140'	-0°-22'	140.0	-0.90	259.20	✓	✓
7	156°-10'	127'	-0°-58'	127.0	-2.14	257.96	✓	✓
8	148°-43'	113'	-0°-51'	113.0	-1.64	258.46	✓	✓
9	143°-40'	97'	-3°-27'	92.67	-5.83	254.27	✓	✓
10	129°-50'	109'	-1°-51'	109.0	-3.52	256.58	✓	✓
11	129°-57'	100'	-3°-21'	99.7	-5.83	254.27	✓	✓
12	120°-55'	95'	-4°-58'	94.33	-8.19	251.91	✓	✓
13	121°-43'	87'	-10°-00'	84.38	-12.87	245.23	✓	✓
14	115°-00'	79'	-10°-30'	75.31	-13.95	246.15	✓	✓
15	116°-35'	69'	-13°-48'	63.16	-15.49	244.61	✓	✓
16	107°-57'	57'	-11°-42'	53.42	-11.06	249.04	✓	✓
17	131°-15'	63'	-19°-27'	59.03	-20.82	239.28	✓	✓
18	164°-35'	54'	-25°-33'	45.46	-21.71	238.39	✓	✓

Readings from Tr. Pt. # 28
clockwise " North.

260.10

33

Tr. Pt. # 28

EI 260.10

Hub

Station	Azimuth	stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev		
19.	160-00	73'	-20-26	64.18	-23.88	236.22	✓	✓
20	157-50	83'	-15-47	76.95	-21.72	239.38	✓	✓
21	145-30	79'	-15-25	73.48	-20.24	239.96	✓	✓
22	134-25	81'	-12-33	77.20	-17.18	242.92	✓	✓
23	129-12	39'	-16-38	35.85	-10.69	249.41	✓	✓
24	169-06	29'	-25-24	23.69	-11.23	248.87	✓	✓
25	213-27	36'	-22-22	30.80	-12.67	247.43	✓	
26	209-45	53'	-23-20	44.68	-19.27	240.83	✓	
27	204-05	66'	-23-34	55.50	-24.18	235.92	✓	
28	174-30	59'	-27-37	46.42	-24.23	235.87	✓	
29	174-00	69'	-23-54	57.73	-25.55	234.55	✓	
30	184-32	73'	-23-23	41.53	-26.59	233.51	✓	
31	169-40	85'	-20-49	74.37	-28.23	231.87	✓	
32	184-45	94'	-22-10	80.65	-32.82	227.26	✓	
33	188-17	83'	-23-45	69.63	-30.59	229.51	✓	
34	199-31	95'	-22-17	81.51	-33.33	226.77	✓	
35	195-10	101'	-21-31	87.46	-34.46	225.64	✓	
36	191-24	107'	-18-44	96.07	-32.53	227.57	✓	

Readings from Tr. Pt. #28
clockwise " North.

260.10

Tr. Pt. #28

El. 260.10 Hub

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev.	Elev.		
37	196°-11'	114'	-18°-05'	103.15	-53.64	206.46	✓	✓
38	200°-44'	120'	-19°-27'	106.82	-37.68	208.78	✓	✓
39	208°-42'	113'	-20°-57'	98.74	-37.73	201.05	✓	✓
40	213°-12'	129'	-19°-53'	114.16	-41.25	219.85	✓	✓
41	219°-26'	91'	-19°-49'	80.71	-49.01	211.04	✓	✓
42	211°-30'	81'	-21°-11'	70.47	-27.28	237.82	✓	✓
43	214°-23'	146'	-18°-26'	131.54	-43.8	216.30	✓	✓
44	208°-55'	147'	-17°-37'	133.72	-42.4	217.70	✓	✓
45	207°-21'	163'	-16°-27'	150.1 58.02	-44.27 -17.11	215.83 242.99	✓	✓
46	201°-15'	153'	-14°-52'	142.95	-37.94	224.16	✓	✓
47	196°-30'	145'	-13°-18'	137.46	-32.46	237.64	✓	✓
48	197°-55'	130'	-14°-18'	122.20	-31.10	229.00	✓	✓
49	191°-16'	117'	-13°-38'	110.66	-26.8	233.30	✓	✓
50	190°-40'	131'	-11°-33'	125.79	-25.69	234.41	✓	✓
51	184°-20'	125'	-9°-21'	121.7	-20.04	240.06	✓	✓
52	179°-22'	113'	-9°-34'	109.9	-18.5	241.58	✓	✓
53	168°-04'	97.0	-10°-08'	94.09	-16.80	243.30	✓	✓
54	157°-05'	93'	-9°-14'	90.67	-14.73	245.37	✓	✓

Readings from Tr. Pt. # 28
 clockwise " North

260.10

Tr. Pt. # 28

El.

 $\frac{2 \times 160.10}{2}$

Hub

Station	Azimuth	stadia	Vert. L.	Hor. Dist	Diff Elev	Elev		
55.	148°-48'	91'	-6°-54'	89.72	-10.85	249.25	✓	✓
56	151°-09'	101'	-3°-35'	100.6	-6.30	253.80	✓	✓
57 Eucalyptus	160°-00'	109'	-4°-14'	108.4	-8.02	252.08	✓	✓
58 "	165°-40'	117'	-4°-26'	116.3	-9.02	251.08	✓	✓
59 "	161°-07'	119'	-3°-12'	118.6	-6.76	253.34	✓	✓
60 "	157°-43'	122'	-1°-55'	121.9	-4.07	256.03	✓	✓
61 "	154°-52'	119'	-1°-43'	118.9	-3.56	256.52	✓	✓
62 "	156°-27'	113'	-2°-25'	112.8	-4.76	255.32	✓	✓
63	170°-51'	113'	-6°-43'	111.5	-13.13	246.97	✓	✓
64	173°-30'	126'	-6°-32'	124.4	-14.24	245.86	✓	✓
65	178°-45'	125'	-8°-13'	122.5	-17.68	242.42	✓	✓
66	193°-10'	153'	-11°-55'	146.57	-30.91	229.19	✓	✓
67	191°-41'	176'	-11°-53'	168.61	-35.46	224.64	✓	✓
68	197°-20'	163'	-13°-43'	153.87	-37.55	222.55	✓	✓
69	201°-16'	180'	-14°-44'	166.48	-44.27	215.83	✓	✓
70	198°-56'	187'	-14°-13'	175.78	-44.51	215.59	✓	✓
71 elec. Co. Guy Palo	237°-27'	41'	-16°-00'	37.88	-10.86	249.24	✓	✓
72 Pepper tree	176°-50'	71'	-23°-40'	59.56	-26.10	234.00	✓	✓
73	268°-42'	207'	-8°-48'	206.2	-18.69	241.41	✓	✓

Readings from Tr. Pt. #28
clockwise " North

260.10

36

Tr. Pt. #28

El. 260.10. Hub

Station	Azimuth	Stadia	Vert L.	Hor. Dist	Diff elev	elev		
74	264 ⁰ 15	209'	-5 ⁰ 11	207.3	-18.80	241.30	✓	✓
75	255 ⁰ 35	210'	-5 ⁰ 00	208.4	-18.23	241.87	✓	✓
76	258 ⁰ 51	197'	-7 ⁰ 28	193.8	-25.38	234.72	✓	✓
77	268 ⁰ 05	193'	-7 ⁰ 45	189.6	-25.79	234.31	✓	✓

Readings from Tr. Pt. #29
clockwise North

237.71

37

Tr. Pt #29

El 237.71 Hub.

Station	Azimuth	Stadia	Vert. L	Hor. Dist	Diff. Elev	Elev		
1	272°20'	147'	-2°25'	146.8	-6.19	231.52	✓	✓
2	263°05'	145'	-2°25'	144.8	-6.11	231.60	✓	✓
3	250°23'	159'	-2°58'	158.6	-8.22	229.49	✓	✓
4	248°24'	145'	-5°22'	143.7	-13.5	224.11	✓	✓
5	254°53'	143'	-5°05'	141.9	-12.62	225.09	✓	✓
6	262°35'	131'	-5°30'	129.8	-12.5	225.11	✓	✓
7	266°00'	115'	-11°00'	110.86 100.84	21.54 -16.82	216.17 198.84	✓	✓
8	251°06'	115'	-11°51'	110.17	-23.11	214.60	✓	✓
9	240°30'	127'	-10°22'	122.93	-22.47	215.24	✓	✓
10	234°45'	115'	-13°08'	109.15	-25.24	217.27	✓	✓
11	230°10'	105'	-15°48'	97.33	-27.51	210.20	✓	✓
12 Wash.	229°42'	99'	-19°24'	88.11	-31.01	206.70	✓	✓
13 "	239°50'	97'	-18°33'	87.20	-29.25	208.46	✓	✓
14	245°02'	107'	-13°18'	101.43	23.96 -38.06	213.75 199.65	✓	✓
15 Wash.	251°06'	100'	-17°07'	91.5	-28.13	209.58	✓	✓
16	265°43'	103'	-14°47'	96.4	25.41 -37.07	212.30 205.64	✓	✓
17 Wash	265°31'	95'	-17°15'	86.73	-26.90	210.81	✓	✓
18	257°16'	85'	-18°31'	76.41	-25.67	212.02	✓	✓

Reddings from Tr. Pt #29
clockwise from North.

237.71

38

Tr. Pt. #29	el. 237.71	Hub.				
Station	Azimuth	stadia	Vert. L.	Hor. Dis.	Diff. elev.	elev.
19	248°09'	83'	-19°38'	73.78	-26.26	✓111.45 ✓ ✓
20	235°20'	87'	-19°21'	77.43	-27.19	✓105.2 ✓ ✓
21 Eucalyptus	223°00'	90'	-18°33'	80.91	-27.14	✓105.7 ✓ ✓
22	216°10'	86'	-19°09'	76.88	-26.65	✓110.6 ✓ ✓
23	227°55'	73'	-20°04'	64.45	-23.52	✓112.19 ✓ ✓
24	216°41'	67'	-20°04'	59.16	-21.59	✓116.12 ✓ ✓
25	206°55'	71'	-19°22'	63.19	-22.20	✓115.51 ✓ ✓
26 Eucalyptus	212°08'	83'	-18°30'	74.61	-24.97	✓112.74 ✓ ✓
27	206°58'	107'	-15°15'	99.71	-27.15	✓105.6 ✓ ✓
28	213°37'	111'	-15°40'	107.89	-28.86	✓088.5 ✓ ✓
29 Wash.	216°55'	111'	-17°48'	100.78	-32.31	✓054.0 ✓ ✓
30 Eucalyptus	219°25'	111'	-16°45'	101.88	-30.63	✓07.08 ✓ ✓
31 Wash.	218°34'	101'	-19°40'	89.58	-32.00	✓05.71 ✓ ✓
32 Eucalyptus	202°11'	100'	-13°18'	94.80	-22.39	✓15.32 ✓ ✓
33 "	195°08'	87'	-11°42'	83.43	-17.27	✓10.44 ✓ ✓
34 "	195°17'	79'	-12°40'	75.20	-16.89	✓208.2 ✓ ✓
35 "	203°55'	79'	-16°39'	72.60	-21.68	✓16.03 ✓ ✓
36 "	195°30'	93'	-8°02'	91.20	-12.87	✓224.84 ✓ ✓

?

Readings from Tr Pt #29.
clockwise " North

237.71

39

Tr. Pt. 29

8/ 237.71

Hub.

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff Elev	Elev.		
37 Eucalyptus	185°00'	68'	-10°19'	65.89	- 11.98	22573	✓	✓
outlet 12"								
38 Cor. Iron. Eucalyptus	182°20'	61'	-11°57'	58.43	- 17.35	22536	✓	✓
39	165°30'	47'	-13°30'	44.46	- 10.66	24705	✓	✓
40	183°23'	36'	-18°27'	37.43	- 10.80	22691	✓	✓
41	220°31'	38'	-19°10'	53.89	- 11.78	22593	✓	✓
42	241°25'	14'	-18°10'	17.64	- 2.14	23357	✓	✓
43	54°02'	15'	+21°28'	13.02	+ 5.10	24781	✓	✓
44 Eucalyptus	102°07'	25'	+9°31'	24.32	+ 4.07	24178	✓	✓
45 "	86°08'	32'	+15°10'	29.82	+ 8.08	24579	✓	✓
46 "	63°25'	28'	+19°26'	24.92	+ 8.78	24649	✓	✓
47 "	70°50'	35'	+18°13'	31.60	+ 10.39	24810	✓	✓
48	66°30'	47'	+19°35'	21.78	+ 14.84	25255	✓	✓
49 Eucalyptus	76°30'	55'	+17°30'	50.05	+ 15.77	25348	✓	✓
50 "	76°11'	63'	+18°09'	59.01	+ 18.64	25635	✓	✓
51 "	94°20'	64'	+13°55'	60.35	+ 14.94	25265	✓	✓
52 "	93°43'	55'	+14°04'	57.75	+ 13.81	25152	✓	✓
53 "	86°57'	40'	+14°51'	37.36	+ 9.90	24761	✓	✓
54 "	98°00'	43'	+11°42'	41.23	+ 8.53	24674	✓	✓

Readings from Tr PT #29
clockwise " North

237.71

40

Tr. Pt. # 29.

El 237.71 Hub

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev
55 Eucalyptus	103°-41'	53'	+9°-29'	51.61	+8.61	246.34 ✓ ✓
56 "	101°-35'	61'	+11°-51'	58.43	+12.26	249.97 ✓ ✓
57 "	108°-20'	60'	+8°-33'	58.69	+8.82	246.53 ✓ ✓
58 "	112°-20'	57'	+7°-39'	✓ 56.03	+7.52	245.23 ✓ ✓
59 "	113°-14'	47'	+5°-47'	✓ 46.52	+4.71	242.52 ✓ ✓
60 "	117°-17'	63'	+7°-24'	✓ 61.97	+8.05	245.76 ✓ ✓
61 "	121°-43'	68'	+7°-08'	66.99	+8.38	246.09 ✓ ✓
62 "	123°-00'	61'	+4°-55'	60.57	+5.21	242.92 ✓ ✓
63 "	128°-50'	65'	+4°-25'	64.63	+4.99	242.70 ✓ ✓
64 "	132°-00'	69'	+4°-58'	68.51	+5.95	243.66 ✓ ✓
65 "	132°-06'	79'	+8°-16'	77.41	+11.24	248.95 ✓ ✓
66 "	131°-50'	83'	+9°-36'	80.74	+13.65	251.36 ✓ ✓
67 "	140°-20'	67'	+4°-32'	66.59	+5.28	242.99 ✓ ✓
68 "	143°-37'	64'	+3°-20'	63.78	+3.71	241.42 ✓ ✓
69 "	147°-40'	67'	+2°-46'	66.85	+3.23	240.94 ✓ ✓
70 "	147°-30'	57'	-0°-22'	57.0	-0.36	237.35 ✓ ✓
71 "	145°-00'	51'	-3°-31'	50.81	-3.12	234.59 ✓ ✓
72 "	132°-55'	45'	-1°-54'	44.95	-1.49	236.22 ✓ ✓

Readings from Tr. Pt. #29
 Clockwise " North.

237.71

41

Tr. Pt. 29

El 237.71 Hub

Station.	Azimuth	Stadia	Vert L	Hor. Dist.	Diff Elev.	Elev
73 Eucalyptus	159° 38'	57'	-4° 46'	56.62	-4.72	232.99 ✓ ✓
74 "	172° 20'	67'	-5° 31'	66.58	-6.41	231.30 ✓ ✓
75 "	178° 08'	68'	-7° 45'	66.79	-9.09	228.62 ✓ ✓
76 "	180° 02'	75'	-7° 17'	73.83	-9.43	228.48 ✓ ✓
77 "	180° 40'	83'	-6° 43'	81.88	-9.64	228.07 ✓ ✓
78 "	179° 44'	91'	-6° 00'	90.01	-9.46	228.25 ✓ ✓
79	176° 33'	107'	-4° 33'	106.4	-8.46	229.25 ✓ ✓
80 Eucalyptus	166° 35'	119'	-1° 43'	118.9	-3.56	234.15 ✓ ✓
81 "	164° 00'	95'	-1° 40'	94.92	-2.76	234.95 ✓ ✓
82 "	168° 30'	87'	-1° 56'	86.91	-2.93	234.78 ✓ ✓
83 "	160° 30'	71'	+0° 40'	70.99	+0.83	238.54 ✓ ✓
84 "	162° 17'	101'	+0° 16'	101.0	+0.47	238.18 ✓ ✓
85	160° 15'	119'	+0° 18'	119.0	+0.63	238.34 ✓ ✓
86 Eucalyptus	157° 30'	107'	+2° 03'	106.9	+4.36	242.07 ✓ ✓
87 "	154° 30'	101'	+3° 02'	100.7	+5.34	243.05 ✓ ✓
88 "	157° 49'	97'	+2° 12'	96.86	+3.72	241.43 ✓ ✓
89	152° 45'	78'	+4° 04'	77.62	+5.52	243.23 ✓ ✓
90 Eucalyptus	153° 30'	117'	+3° 02'	116.7	+6.18	243.89 ✓ ✓

Readings from Tr. Pt. #29
clockwise " North.

237.71

42

Tr. Pt. #29.	Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev.
					El. 237.71	Hub.	
91	Eucalyptus	152°-40'	125'	+2°-49'	124.7	+6.14	43.85 ✓ ✓
92	"	148°-00'	127'	+4°-18'	126.3	+9.49	47.00 ✓ ✓
93		146°-47'	131'	+4°-30'	130.2	+ ^{-1.00} +9.25	46.96 ✓ ✓
94	Eucalyptus	148°-44'	119'	+5°-29'	118.0	+11.32	49.03 ✓ ✓
95	"	149°-20'	113'	+5°-25'	112.0	+10.62	48.33 ✓ ✓
96	"	145°-29'	107'	+7°-16'	105.4	+13.42	51.15 ✓ ✓
97		142°-00'	103'	+7°-04'	100.5	+16.03	53.71 ✓ ✓
98		140°-10'	100'	+9°-51'	97.1	+16.85	54.56 ✓ ✓
99		135°-10'	90'	+10°-16'	87.21	+15.78	53.49 ✓ ✓
100	Eucalyptus	144°-09'	85'	+7°-31'	83.55	+11.02	48.73 ✓ ✓
101	"	147°-04'	93'	+6°-27'	91.87	+10.38	48.09 ✓ ✓
102		138°-38'	85'	+8°-21'	83.21	+12.21	49.92 ✓ ✓
103		127°-14'	91'	+11°-14'	87.54	+17.39	55.10 ✓ ✓
104		114°-31'	85'	+12°-11'	81.26	+17.53	55.24 ✓ ✓
105		115°-10'	75'	+11°-08'	72.30	+14.21	51.92 ✓ ✓
106		105°-22'	69'	+10°-47'	66.65	+12.68	50.39 ✓ ✓
107		90°-47'	69'	+13°-49'	65.13	+16.00	53.71 ✓ ✓
108		100°-01'	83'	+12°-39'	79.09	+17.73	55.44 ✓ ✓

Readings from Tr. Pt. # 29
clockwise " North.

237.71

43

Tr. Pt. # 29.

El. 237.71 Hub.

station	Azimuth	stadia	Vert. L.	Hor. Dist.	Diff. Elev.	Elev.		
109	91°-25'	87'	+14°-45'	81.43	+21.41	259.12	✓	✓
110	100°-33'	89'	+13°-46'	84.01	+20.56	258.27	✓	✓
111	111°-37'	95'	+12°-51'	90.34	+20.59	258.30	✓	✓
112	117°-55'	97'	+12°-12'	92.73	+20.04	257.75	✓	✓
113	128°-00'	107'	+10°-58'	103.24	+19.98	257.69	✓	✓

Readings from Tr. Pt. #31
Clockwise North.

270.53

C.T.W. Line
Albatross
S. 5' Line
Douglass

45

Tr. Pt. # 31

El. 270.53

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev.		
1 E. el. Albatross	50°-45'	61'	+0°-10'	61.0	+0.18	270.71	✓	✓
2	56°-09'	65'	+1°-08'	64.98	+1.29	271.82	✓	✓
3	72°-47'	85'	+1°-08'	84.97	+1.68	272.71	✓	✓
4	87°-48'	115'	+0°-10'	115.0	+0.33	270.86	✓	✓
5	92°-44'	125'	-3°-23'	124.6	-7.36	263.17	✓	✓
6	92°-16'	144'	-2°-50'	143.7	-7.11	263.42	✓	✓
7	96°-30'	83'	+0°-16'	83.0	+0.39	270.92	✓	✓
8	99°-46'	63'	+0°-08'	63.0	+0.15	270.68	✓	✓
9	125°-04'	75'	+0°-11'	75.0	+0.22	270.77	✓	✓
10	140°-26'	99'	-0°-06'	99.0	-0.17	270.36	✓	✓
11	153°-40'	117'	-1°-02'	117.0	-2.15	268.38	✓	✓
12 E. curb. Albatross	148°-58'	102'	-0°-55'	102.0	-1.63	268.90	✓	✓

13

14

15

16

17

18

Readings from Tr. Pt. #32
clockwise " North.

270.32

46

Tr. Pt. #32

El. 270.32 H4k.

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev.	
1	141-16	267'	-2-25	266.6	-11.24	259.08	✓ ✓
2	139-23	245'	-2-45	244.5	-11.74	258.58	✓ ✓
3	136-56	217'	-3-07	216.4	-11.78	258.54	✓ ✓
4	135-18	185'	-4-15	184.0	-13.67	256.65	✓ ✓
5	131-43	175'	-4-45	173.8	-14.44	255.88	✓ ✓
6	124-55	175'	-4-31	173.9	-13.74	256.58	✓ ✓
7	122-53	159'	-9-54	154.3	-26.93	243.39	✓ ✓
8	132-07	151'	-11-20	145.2	-29.09	241.23	✓
9	141-41	161'	-11-43	154.4	-32.01	238.31	✓
10	145-04	183'	-9-13	175.7	-28.93	241.39	✓
11	142-46	205'	-6-08	202.8	-21.78	248.54	✓
12	145-44	209'	-7-27	205.6	-26.87	243.45	✓
13	x 144-38	233'	-5-54	230.6	-23.83	246.49	✓
14	x 145-30	263'	-4-22	261.5	-19.97	250.35	✓
15	148-35	251'	-6-14	248.1	-27.09	243.73	✓
16	150-15	231'	-7-59	226.7	-31.77	238.55	✓
17	151-31	195'	-10-50	188.1	-36.00	234.32	✓
18	154-15	209'	-10-24	202.3	-37.11	233.21	✓

Readings from Tr. Pt. # 32
clockwise " North.

270.32

47

Tr. Pt. 32

El. 270.32 H46.

Station	Azimuth	stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev.	
19	154-43 ⁰¹	201'	-11-16 ⁰¹	193.5	-38.51	231.81	✓
20	154-40 ⁰¹	191'	-12-08 ⁰¹	182.8	-39.25	231.07	✓
21	159-12 ⁰¹	182'	-13-25 ⁰¹	177.0	-42.26	228.06	✓
22	152-55 ⁰¹	170'	-13-18 ⁰¹	161.2	-38.06	232.26	✓
23	150-12 ⁰¹	183'	-11-31 ⁰¹	175.7	-35.80	234.52	✓
24	148-19 ⁰¹	161'	-14-13 ⁰¹	151.3	-38.33	232.0	✓
25	134-50 ⁰¹	147'	-16-14 ⁰¹	130.0	-37.85	232.5	✓
26	124-17 ⁰¹	139'	-16-01 ⁰¹	128.4	-36.87	233.5	✓
27	120-46 ⁰¹	149'	-13-29 ⁰¹	141.1	33.78	236.5	✓
28	116-07 ⁰¹	159'	-10-39 ⁰¹	153.7	-28.87	241.5	✓
29	114-26 ⁰¹	146'	-14-48 ⁰¹	136.7	-36.06	234.3	✓
30 s. side Wash	111-36 ⁰¹	137'	-16-50 ⁰¹	125.5	-37.98	232.3	✓
31 N " "	109-28 ⁰¹	135'	-18-35 ⁰¹	121.4	-40.78	229.5	✓
32 N. Wash	107-14 ⁰¹	129'	-19-24 ⁰¹	114.8	-40.42	229.9	✓
33 S. "	118-41 ⁰¹	118'	-22-23 ⁰¹	101.0	-41.55	228.8	✓
34	119-21 ⁰¹	127'	-20-53 ⁰¹	111.0	-42.29	228.0	✓
35	124-16 ⁰¹	127'	-19-36 ⁰¹	112.9	-40.13	230.2	✓
36	132-09 ⁰¹	131'	-18-43 ⁰¹	117.6	-39.81	230.5	✓

Readings from Tr. Pt #32
clockwise to North.

270.32

48

Tr. Pt. #32

El. 270.32 Hk

Station	Azimuth	stadia	Vert. L.	Hor. Dist	Diff. Elev	Elev.	
37. E. side wash	139-54	135'	-19-22	120.2	- 42.23	228.1	✓
38 W side Wash	143-01	123'	-21-47	106.3	- 42.38	227.9	✓
39 S Wash	154-10	163'	-16-44	149.6	- 44.94	225.4	✓
40 N "	159-42	149'	-17-52	135.0	- 43.51	226.8	✓
41 " "	171-13	164'	-16-37	150.7	- 44.95	225.4	✓
42 d Wash	167-54	177'	-15-11	164.9	- 44.74	225.6	✓
43	167-03	187'	-13-51	176.3	- 43.46	226.9	✓
44	159-28	176'	-14-50	164.4	- 43.55	226.8	✓
45	177-35	170'	-16-02	157.1	- 45.13	225.2	✓
46	176-03	191'	-14-17	179.6	- 45.67	224.7	✓
47	106-50	155'	-13-53	146.2	- 36.10	234.2	✓
48 S side wash	102-57	150'	-15-34	140.6	- 36.51	233.81	✓
49 N " "	99-18	145'	-16-06	134.0	- 38.63	231.7	✓
50 " " "	93-09	165'	-13-51	155.6	- 38.35	232.0	✓
51 S " "	97-13	169'	-13-20	160.0	- 37.92	232.4	✓
52	100-45	175'	-11-44	167.8	- 34.85	235.5	✓
53	104-18	179'	-11-05	172.5	- 33.78	236.5	✓
54 S. side wash	98-14	185'	-11-46	177.4	- 36.93	233.4	✓

Readings from Tr. Pt. # 32
clockwise " North.

270.32

49

Tr. Pt. # 32

El. 270.32 Hub

station	Azimuth	stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev.	
55 N. side West	94-08	187'	-11-33	179.5	- 36.68	233.6	✓
56 " " "	97-35	217'	-9-39	211.0	- 35.86	234.5	✓
57 S " "	100-37	215'	-9-43	✓ 208.9	- 35.77	234.6	✓
58 " " "	100-10	237'	-8-27	232.1	- 34.45	235.9	✓
59 N. " "	97-25	237'	-8-12	232.3	- 33.46	236.9	✓
60 N. " "	95-53	249'	-7-11	245.1	- 32.90 <small>-2.0 for elev.</small>	237.4	✓
61 S. " "	98-19	256'	-6-39	252.7	- 32.45 <small>-3.0 for elev.</small>	237.9	✓
62 S. " "	98-37	265'	-6-52	✓ 261.20	- 31.46	238.9	✓
63 N. " "	91-10	250'	-7-25	✓ 245.9	- 32.00	238.3	✓
64	89-43	241'	-7-08	237.4	- 29.69	240.6	✓
65	93-51	235'	-7-45	✓ 230.8	- 31.40	239.8	✓
66	95-08	221'	-8-38	216.2	- 32.80	237.5	✓
67	92-55	205'	-9-05	✓ 200.0	- 31.96	238.4	✓
68	90-33	190'	-9-40	✓ 184.6	- 31.45	238.9	✓
69	89-57	163'	-11-44	156.3	- 32.46	237.9	✓
70	93-04	150'	-13-27	142.0	- 33.93	236.4	✓
71	96-54	131'	-15-28	121.8	- 33.67	236.7	✓
72	87-49	124'	-13-07	117.7	- 27.40	242.9	✓

Readings from Tr. Pt. #32
clockwise " North

270.32

50

Tr. Pt. 32

El. 270.32 Hub

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev	
73	85°30'	144'	-11°03'	139.7	-24.74	245.6	✓
74	84°56'	170'	-8°48'	✓ 166.1	-25.70	244.6	✓
75	85°43'	193'	-7°45'	189.6	-25.79	244.5	✓
76	87°18'	211'	-7°18'	207.7	-26.60	243.7	✓
77	90°01'	219'	-7°27'	215.4	-28.15	242.2	✓
78	84°37'	235'	-6°13'	✓ 232.30	-25.30	245.0	✓
79	78°10'	217'	-3°51'	216.0	-14.53	255.8	✓
80	77°12'	199'	-4°10'	197.9	-14.42	255.9	✓
81	75°33'	163'	-5°14'	161.7	-14.80	255.5	✓
82	73°24'	127'	-6°59'	125.2	-15.33	255.0	✓
83	73°14'	103'	-8°14'	100.9	-14.60	255.7	✓
84	67°46'	87'	-7°21'	85.6	-11.04	259.3	✓
85	70°20'	161'	-3°12'	160.5	-8.98	261.3	✓
86	102°15'	255'	-6°41'	✓ 251.6	-29.48	240.8	✓
87	105°05'	255'	-5°57'	✓ 252.4	-26.29	244.0	✓
88	104°50'	235'	-7°31'	231.0	-30.48	239.8	✓
89	104°42'	211'	-8°21'	206.6	-30.31	240.0	✓
90	105°30'	196'	-9°03'	191.2	-30.45	239.9	✓

Readings from Tr. Pt. # 32
clockwise to North.

270.32

51

Tr. Pt. # 32

El 270.32 Hub.

station	Azimuth.	stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev.	
91	107-57	199'	-7-34	195.6	- 25.98	244.3	✓
92	110-53	179'	-8-47	174.9	- 27.01	243.3	✓
93	115-54	187'	-5-48	185.2	- 18.80	251.5	✓
94	112-15	205'	-4-56	✓ 203.5	- 17.56	252.8	✓
95	110-36	227'	-4-02	225.9	- 15.93	254.4	✓
96	110-06	251'	-2-59	250.4	- 13.04	257.3	✓
97	108-25	247'	-4-49	245.4	- 20.67	249.7	✓
98	107-47	267'	-3-10	264.4	- 14.73	255.6	✓
99	105-28	279'	-3-12	278.1	- 15.55	254.8	✓
100	108-53	289'	-1-05	288.9	- 5.46	264.9	✓
101	110-54	269'	-1-23	268.9	- 6.50	263.8	✓
102	112-43	253'	-1-24	252.9	- 6.18	264.1	✓
103	114-45	233'	-1-48	232.8	- 7.31	263.0	✓
104	117-43	211'	-1-50	210.8	- 6.74	263.6	✓
105	120-33	193'	-2-57	192.5	- 9.92	260.4	✓
106							
107							
108							

Readings from Tr. Pt. # 33.
clockwise to North

268.65

52

Tr. Pt. # 33

El. 268.65 Hub.

Station	Azimuth	stads	Vert. A.	Hor. Dist.	Diff. Elev.	Elev.	
1	333-00	120'	-16-33	110.3	- 32.77	235.9	✓
2	319-43	120'	-17-24	109.3	- 34.25	234.4	✓
3	310-13	127'	-17-02	116.2	- 35.57	233.1	✓
4	298-40	125'	-17-26	113.9	- 35.73	232.9	✓
5	288-05	126'	-18-12	113.8	- 37.38	231.3	✓
6	277-28	125'	-18-48	112.2	- 38.14	230.5	✓
7	271-13	135'	-17-31	122.8	- 38.75	229.9	✓
8	262-50	156'	-15-10	145.4	- 39.40	229.2	✓
9	257-36	186'	-13-00	176.6	- 40.78	227.9	✓
10	254-53	207'	-11-31	198.8	- 40.50	228.2	✓
11 N side Wash	251-51	208'	-12-33	198.2	- 44.12	224.5	✓
12 S " "	244-40	210'	-12-58	200.6	- 45.92	222.7	✓
13 " " "	240-15	252'	-14-10	242.6	- 47.88	220.8	✓
14 N " "	244-49	247'	-11-07	238.0	- 46.73	221.9	✓
15	249-01	259'	-9-36	251.9	- 42.59	226.1	✓
16	250-40	236'	-10-37	228.2	- 42.74	225.9	✓
17	254-38	236'	-9-48	229.4	- 39.59	229.1	✓
18	256-56	216'	-10-30	208.9	- 38.71	229.9	✓

Readings from Tr. Pt. #33
clockwise " North

268.65

53

Tr. Pt. #33

El 268.65 Hub

Station	Azimuth	Stadia	Vert. L.					
19	253°-04'	264'	-8°-20'	258.4	- 37.86	230.8	✓	
20	256°-04'	264'	-7°-14'	259.9	- 32.98	235.7	✓	
21	257°-49'	246'	-7°-46'	241.6	- 32.94	235.7	✓	
22	260°-30'	244'	-7°-22'	240.0	- 31.02	237.6	✓	
23	261°-17'	226'	-8°-22'	221.3	- 32.53	236.1	✓	
24	262°-40'	208'	-9°-00'	202.9	- 32.13	236.5	✓	
25	266°-10'	188'	-9°-40'	182.7	- 31.12	237.5	✓	
26	271°-47'	194'	-5°-35'	192.2	- 18.78	249.9	✓	
27	268°-47'	219'	-5°-06'	217.3	- 19.39	249.3	✓	
28	outlet 12" Cor. Iron Culvert	269°-31'	226'	-4°-18'	224.8	- 16.89	251.8	✓
29	268°-49'	230'	-4°-28'	228.7	- 17.86	250.8	✓	
30	264°-28'	246'	-5°-08'	244.1	- 21.92	246.7	✓	
31	260°-30'	254'	-5°-03'	252.1	- 22.27	246.4	✓	
32	262°-58'	256'	-4°-25'	254.5	- 19.66	249.0	✓	
33	268°-35'	257'	-2°-37'	256.5	- 11.72	256.9	✓	
34	271°-34'	236'	-2°-45'	235.5	- 11.31	257.3	✓	
35	272°-39'	224'	-2°-41'	223.5	- 10.47	258.2	✓	
36	274°-14'	207'	-2°-53'	206.5	- 10.40	258.3	✓	

Readings from Tr. Pt. #33
clockwise " North

268.65

54

Tr. Pt. #33

21 268.65 Hub

Station	Azimuth	stadia	Vert. L	Hor. Dist	Diff. Elev	Elev	
37	277°29'	192'	-2°49'	191.6	- 9.43	259.2	✓
38	284°43'	180'	-2°56' ✓	179.6 ✓	- 9.20 ✓	259.5	✓
39	294°08'	176'	-2°51'	175.6	- 8.74	259.9	✓
40	303°20'	181'	-2°43'	180.6	- 8.57	260.1	✓
41	312°00'	188'	-2°13'	187.7	- 7.27	261.4	✓
42	316°22'	200'	-2°13' ✓	199.7 ✓	- 7.73 ✓	260.9	✓
43	319°58'	195'	-2°36' ✓	194.6 ✓	- 8.82 ✓	259.8	✓
44	324°00'	186'	-2°44'	185.6	- 8.86	259.8	✓
45	322°23'	163'	-7°26'	160.4	- 20.91	247.7	✓
46	318°08'	182'	-5°56'	180.1	- 18.72	249.9	✓
47	317°15'	170'	-7°58' ✓	166.8 ✓	- 23.33 ✓	245.3	✓
48	313°03'	168'	-7°53'	164.8	- 22.83	245.8	✓
49	305°24'	160'	-8°31' ✓	156.5 ✓	- 23.43 ✓	245.2	✓
50	293°02'	152'	-9°13'	148.2	- 24.04	244.6	✓
51	282°17'	156'	-9°38'	151.8	- 25.74	242.9	✓
52	272°45'	166'	-10°10'	160.8	- 28.83	239.8	✓
53	268°09'	168'	-11°52'	160.9	- 33.80	234.9	✓
54	274°00'	153'	-12°54'	145.5	- 33.29	235.4	✓

Readings from Tr. Pt 33
clockwise " North.

26865

55

Tr. Pt 33

El 268.65 Hub

Station	Azimuth	Stadia	Vert. L	Hor. Dist.	Diff Elev	Elev	
55	283°-53'	146'	-12°-37'	139.2	- 31.13	237.5	✓
56	296°-02'	142'	-12°-02'	135.9	- 28.96	239.7	✓
57	303°-47'	146'	-11°-40'	140.0	- 28.91	239.7	✓
58	310°-08'	152'	-10°-39'	147.0	- 27.60	241.1	✓
59	315°-28'	159'	-10°-24'	153.9	- 28.24	240.4	✓
60	322°-04'	140'	-11°-24'	134.6	- 27.13	241.5	✓
61	317°-55'	132'	-13°-50'	124.5	- 30.65	238.00	✓
62	313°-30'	134'	-14°-32'	125.6	- 32.55	236.1	✓
63	212°-55'	17'	-3°-09'	17.0	- 0.93	267.7	✓
64	283°-32'	6'	+9°-58'	5.8	- 1.02	267.6	✓
65	74°-39'	20'	+4°-22'	19.89	+ 1.52	270.2	✓
66	87°-06'	47'	+2°-32'	46.9	+ 2.08	270.7	✓
67	83°-45'	69'	+2°-24'	68.9	+ 2.89	271.5	✓
68	85°-20'	91'	+1°-52'	90.9	+ 2.96	271.6	✓
69	84°-03'	113'	+1°-47'	112.9	+ 3.52	272.2	✓
70	100°-03'	105'	+2°-37'	104.8	+ 4.79	273.4	✓
71	117°-15'	117'	+2°-03'	116.9	+ 4.18	272.8	✓
72	129°-02'	135'	+1°-30'	134.9	+ 3.53	272.2	✓

Readings from Tr. Pt. # 33
Clockwise " North.

268.65

56

Tr. Pt. # 33

81 268.65 Hub

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev.	Elev.
73	94° 30'	140'	+2° 10'	✓ 139.8	+ 5.29	273.9 ✓
74	101° 38'	160'	+2° 07'	✓ 159.8	+ 5.91	274.6 ✓
75	107° 44'	180'	+1° 58'	✓ 179.8	+ 6.17	274.8 ✓
76	109° 29'	149'	+1° 43'	148.9	+ 4.46	273.1 ✓
77	139° 03'	155'	+0° 51'	✓ 155.0	+ 2.30	271.0 ✓
78	145° 50'	117'	+0° 38'	117.0	+ 1.29	269.9 ✓
79	139° 35'	89'	+1° 13'	89.0	+ 1.89	270.5 ✓
80	128° 30'	56'	+3° 26'	55.8	+ 3.35	272.0 ✓
81	179° 10'	27'	+0° 04'	27.0	+ 0.03	268.7 ✓
82	164° 35'	45'	✓ +2° 09'	44.95	+ 1.69	270.3 ✓
83	167° 49'	70'	+0° 55'	69.99	+ 1.12	269.8 ✓
84	165° 49'	82'	+0° 33'	82.0	+ 0.79	269.4 ✓
85	167° 10'	95'	-2° 16'	94.86	- 3.75	264.9 ✓
86	163° 51'	103'	-0° 18'	103.0	- 0.54	268.1 ✓
87	155° 46'	99'	+0° 17'	99.0	+ 0.49	269.1 ✓
88	169° 04'	119'	-0° 37'	119.0	- 1.28	267.4 ✓
89	174° 27'	123'	-0° 43'	123.0	- 1.53	267.1 ✓
90	181° 39'	132'	-1° 00'	131.0	- 2.30	266.4 ✓

Readings from Tr. Pt. #33
Clockwise " North

568.65
Hub

57

Tr. Pt. #33

8/268.65

Station	Azimuth	Stadia	Vert. L.	Hor. Dist	Diff. Elev	Elev.	
91.	176°-41'	111'	-5°-12'	110.1	-10.02	258.6	✓
92	184°-44'	115'	-7°-07'	113.3	-14.24	254.5	✓
93 x	185°-43'	111'	-10°-07'	107.7	-19.19	249.5	✓
94 x	178°-14'	104'	-8°-08'	102.0	-14.57	254.1	✓
95 x	172°-43'	99'	-4°-51'	98.3	-11.34	257.3	✓
96	194°-10'	120'	-11°-03'	115.7	-22.57	246.1	✓
97	193°-54'	130'	-7°-29'	127.9	-16.79 -21.79 -5.0 for elev.	246.9	✓
98	203°-02'	139'	-9°-37'	135.2	-22.9	245.8	✓
99	198°-53'	155'	-7°-45'	152.2	-20.71	247.9	✓
100	193°-43'	146'	-8°-00'	143.2	-20.12	248.5	✓
101	211°-53'	120'	-14°-53'	112.1	-29.79	238.9	✓
102	212°-27'	129'	-11°-39'	123.9	-25.52	243.1	✓
103 x	221°-20'	132'	-12°-03'	126.3	-26.96	241.7	✓
104 y	224°-08'	118'	-14°-57'	110.2	-27.61	239.2 241.0	✓
105 y	225°-12'	114'	-16°-45'	104.7	-36.46	237.2	✓
106	234°-06'	130'	-17°-38'	118.3	-37.53	231.1	✓
107	242°-34'	136'	-17°-48'	123.5	-39.59	229.1	✓
108	239°-48'	150'	-15°-32'	139.3	-38.70	230.0	✓

Readings from Tr. Pt. #33.
clockwise " North.

268.65

58

Tr. Pt. #33.

El 268.65 Hyb

Station	Azimuth	Stadia	Vert. L.	Hor. Dist.	Diff. Elev	Elev.	
109	232-34	134'	-15-18	124.9	-34.11	234.5	✓
110	227-54	132'	-13-01	125.3	-28.96	239.7	✓
111	232-49	150'	-12-15	143.4	-31.10	237.6	✓
112	234-45	164'	-11-11	157.8	-31.21	237.4	✓
113	235-02	181'	-10-19	180.2	-32.78	235.9	✓
114	235-02	210'	-9-23	204.5	-33.78	234.9	✓
115	234-30	226'	-8-45	220.9	-33.98	234.7	✓
116	232-37	246'	-8-12	241.1	-34.73	233.9	✓
117	235-32	256'	-9-21	249.3	-41.04	227.6	✓
118	237-56	230'	-10-06	223.1	-39.71	228.9	✓
119	239-28	209'	-10-49	201.8	-38.53	230.1	✓
120	240-10	186'	-12-30	177.3	-39.31	229.3	✓
121	241-35	238'	-11-42	228.2	-47.26	221.4	✓
122	240-07	255'	-11-08	245.7	-48.31	220.3	✓
123	237-31	270'	-10-30	261.1	-48.38	220.3	✓
124	235-24	286'	-9-51	277.7	-48.21	220.4	✓
125	238-10	292'	-9-56	283.4	-49.62	219.0	✓
126	241-17	299'	-9-26	291.1	-48.35	220.3	✓

Readings from Tr. Pt. #33
 Clockwise " North.

368.65

Station	Azimuth	Stadia	Vert. L	Hor. Dist.	Diff Elev	Elev	
Tr. Pt. #33				El 268.65	Hub		
127	232-40	278'	-8-00	272.6	-38.31	230.34	✓
128	231-24	294'	-7-38	289.0	-38.71	229.9	✓
129	228-46	282'	-6-13	278.8	-32.36 ^{-2.0 For Elev}	238.3	✓
130	230-24	255'	-7-21	✓ 250.8	-32.35	236.3	✓
131	226-45	242'	-5-15	240.1	-22.05	246.6	✓
132	227-18	216'	-4-46	214.6	-17.88	250.8	✓
133	226-32	196'	-5-11	194.4	-17.63	251.0	✓
134	221-55	102'	-5-11	160.7	-14.58	254.1	✓
135	218-20	154'	-5-34	152.6	-14.86	253.8	✓
136	210-16	154'	-5-30	152.6	-14.69	254.0	✓
137	204-03	164'	-4-16	163.1	-14.17 ^{-2.0 For Elev}	254.5	✓
138	208-30	166'	-3-41	165.3	-10.64	258.0	✓
139	206-51	175'	-2-18	✓ 174.7	-7.02	261.6	✓
140	215-41	166'	-2-26	165.7	-7.04	261.6	✓
141	218-19	170'	-2-15	✓ 169.8	-6.67	262.0	✓
142	219-12	190'	-1-09	189.9	-3.81	264.8	✓
143	219-17	208'	-0-58	208.0	-3.51	265.1	✓
144	217-55	231'	-0-44	231.0	-2.95	265.7	✓
145	207-30	182'	-0-56	182.0	-2.96	265.7	✓

63.3 wide
12.7 proposed
80.0 opening
170.0 wide
170.0 curbs
15.0 by 5

Univ. Ave X Sec. Front to Brant.

5-31-33
Miller
Walker
Bliss

Indexed
c.s.K.

CHUB,
T.P. #93
B.M. Page. 22.

7-39 276.04 268.65

E-line Front

N. line 80.0 st 0.9 275.1

10.0 S 1.0 275.0

16.7 S = N. line 63.3 st 3.7 272.1

26.7 S. Exp. ch. 4.14 271.96

gutter 4.68 271.36

10.0 W = W. d. Front

N. 80.0 st 1.3 274.7

10.0 S 1.3 274.7

16.7 S. = N. line 63.3 st 3.5 272.5

16.7 S. chit. ch. post 4.18 271.86

26.7 S. gutter 4.87 271.17

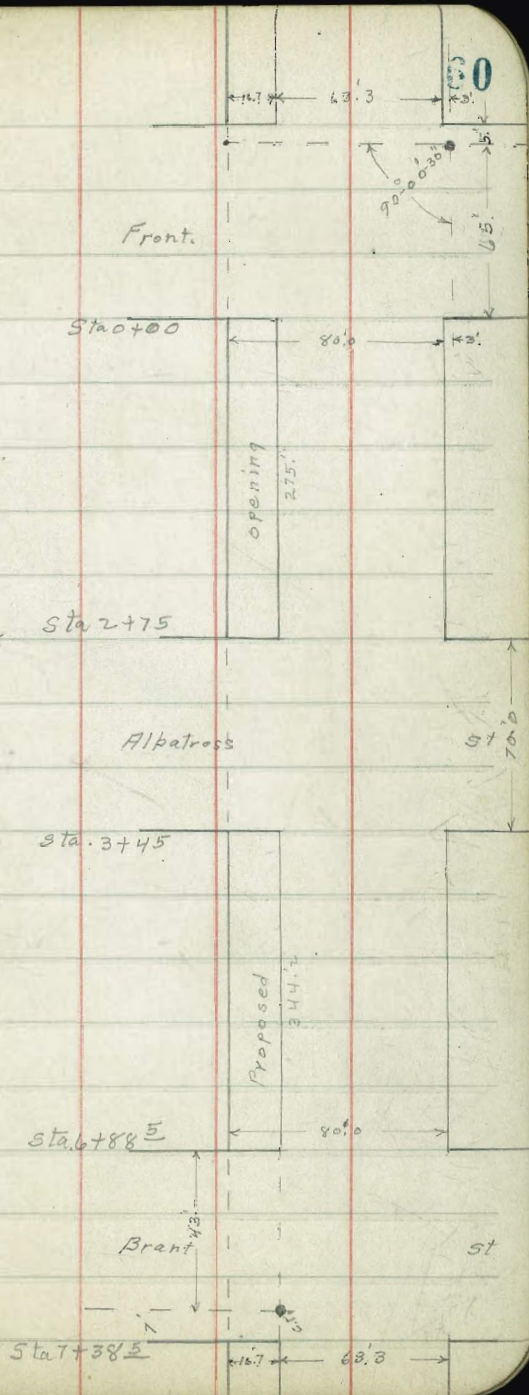
22.5 W = E. 24

N. 80.0 st 1.9 274.1

13.0 S 2.5 273.5

16.7 S 4.0 272.0

26.7 S 4.93 271.11



276.04

26.7 S = 8x db.	4.63	271.41		N
26.7 S = paved gutter	5.22	270.82		db
37.5 S = N. 1/4 63.3 St.	4.91	271.13	permt. + ground	1/4
40. S = ϕ 80' St	4.90	271.14	" "	ϕ
48.3 S = ϕ 63.3 St.	4.93	271.11	" "	1/4
55. S = S. 1/4 80' St.	5.06	270.98	" "	db
59.1 S = S. 1/4 63.3 St.	5.20	270.84	" "	S
70. S = gutter paved.	5.78	270.86	" "	
70. S = 8x db + ground to W.	5.11	270.93	" "	S.
80' S = S. Ave.	5.2	270.8		db
	0+10			1/4
S	5.4	270.6		ϕ
+10 = db	5.1	270.9		1/4
db + 13	4.8	271.2		db
+25 = 1/4	3.5	272.5		N
+40 = ϕ	3.4	272.6		
+55 = 1/4	2.9	273.1		N
+70 = db	2.8	273.2		db
+80 = N.	2.8	273.2		1/4
				ϕ

276.04

Univ. Ave

0+40

62

					3.9	272.1
					4.1	271.9
					5.2	270.8
					5.6	270.4
					6.5	269.5
					4.1	269.9
					6.2	269.8
					0+76	
					7.9	268.1
					8.2	267.8
					9.4	266.6
					6.9	269.1
					6.1	269.9
					5.6	270.4
					5.0	271.0
					0+83	
					5.4	270.6
					5.5	270.5
					5.2	270.8
					6.6	269.4

276.04

0+83 (con)

1/4 11.1 264.9

d 11.0 265.0

S 9.0 267.0

0+90

-10 8.1 267.9

S 10.8 265.2

d 14.6 261.4

+7 20.0 256.0

+10 20.0 256.0

1/4 12.6 263.4

d 9.0 267.0

1/4 5.9 270.1

d 5.4 270.6

N 5.3 270.7

1+05

-15 7.8 268.2

N 10.3 265.7

d 13.0 263.0

T.P. 0.93 264.59 12.38 263.66

1/4 3.5 261.1

264.59

Univ Ave

63

d 6.5 258.1

1/4 8.2 256.4

+4 8.2 256.4

+5 12.4 252.2

d 12.5 252.1

S 3.8 260.0

+10 +0.3 264.9

1+25

-22 6.6 258.0

S 11.8 252.8

d 17.8 246.8

1/4 16.4 248.2

d 15.1 249.5

1/4 12.4 252.2

d 10.2 254.4

N 8.0 256.6

+20 5.0 259.6

T.P. 1.00 252.81 12.78 251.81

252.81.

1+55

39	7.2	245.6
- 15	7.0	245.8
N.	9.1	243.7
cl	10.4	242.4
1/4	12.6	240.2
+5	12.6	240.2
4	14.8	238.0
1/4	14.0	238.8
dr	11.2	241.6
S	8.5	244.3
+30	3.4	249.4

1+80

- 30	+4.5	257.3
- 20	+2.4	255.2
S.	3.4	249.4
dr	6.8	246.0
1/4	11.8	241.0
4.	16.6	236.2
+5	21.0	231.8
1/4	19.6	233.2
dr	19.4	233.4

252.81

Univ. Ave

N.	18.4	234.4
+ 30	18.7	234.1
+ 50	21.4	231.4
+ 60	22.5	230.3
2+00		
- 70.	24.7	228.1
- 40	26.5	226.3
- 20.	27.1	225.7
N.	22.5	230.3
cl	23.0	229.8
1/4	23.5	229.3
4	16.9	235.9
1/4	11.7	241.1
dr.	4.6	248.2
S.	+0.5	253.3
+20	+9.3	262.1
2+15		
- 20	+8.7	261.5
S.	0.6	252.2
cl	6.3	246.5

252.81

2+15 (con)

S. 1/4	13.6	239.2
¢	18.4	234.4
1/4	23.0	229.8
eb.	25.2	227.6
N.	25.6	227.2
+ 25.	26.3	226.5
+ 50.	23.8	229.0
+ 63.	21.9	230.9

2+40

- 55.	17.5	235.3
- 10.	27.0	225.8
N.	27.7	225.1
eb.	27.0	225.8
1/4	25.8	227.0
¢	23.5	229.3
1/4	17.8	235.0
eb.	12.3	240.5
S.	8.3	244.5
+ 23	+ 0.5	253.3

252.81

Univ. Ave.

2+75 = 2. Line Albatross

65

- 35.	7.9	244.9
S	19.0	233.8
eb.	20.6	232.2
1/4	26.8	226.0
¢	29.0	223.8
1/4	29.0	223.8
eb.	27.6	225.2
N	24.6	228.2

+ 15

+ 33	15.3	237.5
+ 50	8.0	244.8

2+85 = 2. eb. Line

- 40	9.0	243.8
- 15	18.8	234.0
N.	23.4	229.4
eb.	26.0	226.8
1/4	29.5	223.3
¢	30.2	222.6
1/4	29.3	223.5
eb.	24.5	228.3

252.81

2+85 = E. cl con

S	23.0	229.8
+30	14.8	238.0
+45	12.7	240.1
2+97.5 = E. 1/4		
-45.	16.7	236.1
-15.	22.8	230.0
S	26.5	226.3
cl	29.1	223.7
1/4	30.7	222.1
♀	29.4	223.4
1/4	27.8	225.0
cl	23.6	229.2
N.	21.6	231.2
+15	16.0	236.8
+32	7.5	245.3
3+10 = ♀ Albatross		
-30	6.2	246.6
-10	15.7	237.1
N	19.6	233.2
cl	21.8	231.0

252.81

Univ Ave

66

1/4	24.9	227.9
♀	30.6	222.2
1/4	31.4	221.4
cl.	31.5	221.3
S.	31.0	221.8
+20	27.3	225.5
+50	19.1	233.7
T.P.	12.44	261.04
	4.61	248.20
3+22.5 = N. 1/4		
-55	30.6	230.4
-45	32.7	228.3
-30	40.4	220.6
S.	40.2	220.8
cl.	40.1	220.9
1/4	37.6	223.4
♀	35.5	225.5
1/4	32.4	228.6
cl.	28.6	232.4
N.	25.8	235.2
-30	12.5	248.5

	261.04		
	3+35 = W. ch.		
- 30	11.0	250.0	
N.	23.0	238.0	
ch.	26.1	234.9	
1/4	30.1	230.9	
♀	32.8	228.2	
1/4	35.5	225.5	
ch.	37.5	223.5	
S.	39.1	221.9	
+ 45	40.8	220.2	
+ 60	34.5	226.5	

3+45 = W. Line Albatross

- 60	35.3	225.7	
- 55	42.0	219.0	
- 15	40.9	220.1	
S	38.1	222.9	
ch.	36.9	224.1	
1/4	34.6	226.2	
♀	31.6	229.4	
1/4	28.0	233.0	
ch.	22.7	238.3	

	261.04	Univ Ave	67
N	20.2	240.8	
+ 25	11.0	250.0	
	3+55		
- 20	8.4	252.6	
N	13.5	247.5	
ch.	16.1	244.9	
1/4	25.0	236.0	
♀	29.5	231.5	
1/4	33.3	227.7	
ch.	35.7	225.3	
S.	42.8	218.2	
+ 55	42.2	218.8	
+ 63	37.2	223.8	
	3+75		
- 70	40.6	220.4	
- 55	44.9	216.1	
S	35.0	226.0	
ch.	32.3	228.7	
1/4	28.2	232.8	
♀	24.0	237.0	

261.04

3+75 (con)

14	19.4	241.6
ch	12.9	248.1
N	9.7	251.3
+15	4.5	256.5

3+95

-10	+2.5	263.5
N	2.9	258.1
ch	5.0	256.0
14	9.0	252.0
⊕	13.8	247.2
14	22.6	238.4
ch	27.6	233.4
S	30.7	230.3
+30	39.3	221.7
+60	45.9	215.1
+75	43.1	217.9

4+15

-75	45.4	215.6
-60	45.8	215.2
-40	40.7	220.3

261.04

Univ Ave.

28

-11	31.4	229.6
S	27.4	233.6
ch	23.5	237.5
14	16.3	244.7

⊕

7.3	253.7	
14	+0.7	261.7
+10	+4.9	265.9
ch	+5.1	266.1
N	+5.8	266.8

4+25

N	+6.0	267.0
ch	+5.4	266.4
+12	+4.5	265.5
14	+3.7	264.7
⊕	5.5	255.5
14	14.2	246.8
ch	21.0	240.0
S	26.4	234.6
+18	34.0	227.0
+45	41.8	219.2

	261.04	4+25 (coh)	
S+65	46.0	215.0	
S+80	45.3	215.7	
	4+50		
S-85	46.6	214.4	
-60	46.5	214.5	
-40	41.7	219.3	
S.	24.7	236.3	
d	19.5	241.5	
1/4	12.7	248.3	
⊕	3.7	257.3	
1/4	+4.0	265.0	
+12.7 = S. side House	+5.0	266.0	
	4+75		
N.	+5.1	266.1	
d	+4.6	265.6	
+10	+4.0	265.0	
1/4	-0.8	260.2	
⊕	7.5	253.5	
1/4	15.6	245.4	
d	21.8	239.2	

	261.04	Univ. Ave.	69
S	26.8	234.2	
+30	38.5	222.5	
+55	45.4	215.6	
+80	48.0	213.0	
+90	46.9	214.1	
	5+00		
S-75	48.3	212.7	
-65	46.3	214.7	
-40	39.1	221.9	
-15	33.7	227.3	
S	28.2	232.8	
d	25.1	235.9	
1/4	20.2	240.8	
⊕	14.6	246.4	
1/4	6.3	254.7	
d	+4.1	265.1	
N	+4.5	265.5	
+7. = S. side House	+4.4	265.6	
T.P.	12.92	267.89	6.07
			254.97

267.89

5+25

N.	2.8	265.1
cb.	3.6	264.3
1/4	12.4	255.5
±	19.2	248.7
1/4	25.0	242.9
cb.	26.5	241.4
S	30.1	237.8
+20	32.1	235.8
+40	40.9	227.0
+80	52.9	215.0
	5+50	
S-90	53.6	214.3
-50	42.8	225.1
-20	29.6	238.3
-1	27.6	240.3
S.	23.8	244.1
cb.	19.0	248.9
1/4	14.0	253.9
±	10.0	257.9
1/4	4.2	263.7

267.89

1/4 W. Ave.

70

cb.		2.7	265.2
N.		2.5	265.4
+7.2 = S. side House		2.4	265.5
	5+75		
N-3.3		2.1	265.8
N.		2.1	265.8
cb.		2.5	265.4
1/4		3.5	264.4
±		5.1	262.8
1/4		10.8	157.1
cb.		17.7	250.2
T.P.	14.02	268.99	12.92 254.97
+9		22.2	246.8
S.		29.0	240.0
+19		31.0	238.0
+45		41.7	227.3
+80		51.5	217.5
	6+00		
S-80		51.7	217.3
S-45		42.3	226.7

268.99

6+00 (cont)

268.99

Univ AvC.

71

-19	31.8	237.2	+15	36.4	232.6
S	28.6	240.4	+40	43.0	226.0
+1	22.6	246.4	+50	43.3	225.7
cl	19.2	249.8	+60	49.0	220.0
1/4	12.0	257.0	+80	52.7	216.3
±	6.1	262.9		6+30	
+5	4.9	264.1	-80	52.6	216.4
3/4	4.2	264.8	-56	51.7	217.3
cl	3.4	265.6	-50	43.4	225.6
N	3.1	265.9	-20	40.2	228.8
	6+20		S.	36.1	232.9
N.	3.3	265.7	cl	30.7	238.3
cl	4.0	265.0	1/4	22.4	246.6
+10	5.1	263.9	±	16.5	252.5
1/4	6.4	262.6	1/4	10.9	258.1
±	11.5	257.5	+10	5.2	263.8
1/4	17.8	251.2	cl	4.3	264.7
cl.	24.0	245.0	N.	3.2	265.8
+8	29.2	239.8			
S.	33.5	235.5			

268.99

6+40

N	2.6	266.4
ch	5.4	263.6
1/4	15.5	253.5
⊥	24.8	244.2
1/4	28.9	240.1
ch	35.8	233.2
S.	36.7	232.3
+20	40.0	229.0
+52	43.4	225.6
+57	49.5	219.5
+80	51.5	217.5

6+49 = E. Line Porch. + Steps on House

-80	51.3	217.7
-55	43.1	225.9
-40 = S.E. Cor. Porch.	40.8	228.2
+8.6 = N.E. "	38.5	230.5
S.	36.5	232.5
ch	36.0	233.0
1/4	33.0	236.0
⊥	28.5	240.5

268.99

Univ Ave.

72

1/4	17.7	251.3
ch	7.3	261.7
+5	3.7	265.3
N	2.8	266.2

6+60

N	2.6	266.4
+3	2.9	266.1
ch	9.6	259.4
1/4	20.2	248.8
+7	24.0	245.0
⊥	25.5	243.5

1/4	28.4	240.6
-----	------	-------

ch	32.4	236.6
S.	34.2	234.8

+8.6 = W. side House

+40 = S " "

+65	43.5	225.5
-----	------	-------

6+85 = W. Line Porch

-55	38.0	231.0
-----	------	-------

-40 S.W. Cor Porch	35.0	234.0
--------------------	------	-------

268.99

6+85 (con)

S-33		33.7	235.3
S-29	Ground to W. + porch	26.8	242.2
-	8.6 N.W. Cor. porch	27.0	242.0
-	2.	25.3	243.7
S		20.7	248.3
ch		17.1	251.9
¹ / ₄		10.8	258.2
⊕		8.9	260.1
¹ / ₄		5.8	263.2
ch		3.6	265.4
N		2.8	266.2
	6+88 ⁵ / ₅ = E. Line Brant		
N.		2.8	266.2
ch		3.2	265.8
¹ / ₄		3.3	265.7
⊕		3.5	265.5
¹ / ₄		8.2	260.8
ch		15.0	254.0
S.		20.2	248.8
+5		25.3	243.7

268.99

Univ Ave

73

S + 29		26.8	242.2
+ 33		32.5	236.5
+ 53		37.2	231.8
	6+98 ⁵ / ₅ = E. ch		
- 45		31.3	237.7
- 32		25.5	243.5
- 25		25.5	243.5
S		15.0	254.0
ch		8.5	260.5
¹ / ₄		4.8	264.2
⊕		3.5	265.5
¹ / ₄		3.3	265.7
+ 8.7 = eint. ch. at PC		3.07	265.92
W. = gutter " PC.		3.55	265.44
N. eint. ch		3.07	265.92
gutter at N. ch.		3.52	265.47
N. eint. ch		3.03	265.96
N. gutter		3.47	265.52

268.99
7+06 = E. 1/4 Brant

4' s. of ϕ = cmt. cl	3.55	265.44
" " " gutter	4.17	264.82
S. 1/4	5.1	263.9
cl	8.2	260.8
S.	11.3	257.7
- 24	23.2	245.8
- 35	24.0	245.0

7+13⁵ = ϕ

- 32	23.0	246.0
- 25	23.0	246.0
- 10	15.0	254.0
S.	12.2	256.8
cl.	9.4	259.6
+ 5	7.6	261.4
+ 10	4.0	265.0
1/4	3.7	264.3
1/4 + 1. = cmt. cl	3.69	265.30
" " = gutter	4.21	264.78

268.99
7+21 = W. 1/4

Univ. Ave. 74

5' s. of S. 1/4 gutter	4.33	264.66
" " " " cmt. cl	3.76	265.23
8' " " " "	4.1	264.9
cl	6.8	262.2
S.	11.6	257.4
+ 10	15.5	253.5
+ 25	19.5	249.5

7+28⁵ = W. cl.

- 25	19.5	249.5
S	7.7	261.3
+ 8	4.2	264.8
cl	4.1	264.9
+ 5.6 = cmt. cl.	3.90	265.09
+ 5.6 = gutter	4.48	264.51

7+38⁵ = W. line Brant.

1/8 N. of S. cl line = gutter	4.62	264.37
" " " " " = cmt. cl	4.06	264.93
cl. line	4.0	264.99
S. line	4.06	264.93

7.P. B.M. Tr. Pt. 30. Page 12 7.92 261.07 = 261.08

6/5/33. Readings from Tr. Pt #26
 Additional Notes Clockwise from North.

Station	Azimuth	Stadia	Vert. L	Hor. Dist.	Diff Elev	Elev.
1	191°-46'	47'	+0°-57'	47.0	+0.8	257.7
2	190°-02'	67'	+0°-42'	67.0	+0.8	257.7
3	190°-00'	69'	+0°-42'	69.0	-3.0 for Elev. -2.2	254.7
4	187°-10'			107.0		256.3

See Page 17 for New Notes from Tr. Pt. #24 ✓

" 23 " " " " " " #25 ✓

Readings from Tr. Pt. #18 El. Hub. 252.55

Station	Azimuth	Stadia	Vert. L	Hor Dist	Diff Elev	Elev.
1.	179°-00'	57'	+7°-38'	56.0	-1.3 for Elev. +7.5 +2.2	258.8 ✓
2.	187°-31'	101'	+3°-50'	100.6	-5.0 for Elev. +6.7 +1.7	254.3 ✓
3.	199°-38'	105'	+7°-08'	103.4	-6.0 for Elev. +10.9 +6.9	258.5 ✓
4	212°-05'	156'	+0°-24'	156.0	+1.1	253.7 ✓
5 N.E. Cor House	215°-11'	177'	+0°-14'	177.0	+0.7	253.3 ✓
6	222°-01'	171'	-1°-02'	170.9	-3.1	249.5 ✓
7 N.E. Cor Garage	225°-08'	187'	-0°-58'	187.0	-3.2	249.4 ✓
8 N.W. Cor above House	222°-10'	191'	-0°-17'	191.0	-0.9	251.7 ✓
9						
10						

ground to 5.
 Top Wall See Page 5 station 5.

Readings from Tr. Pt. 22 El. Hub. 259.63

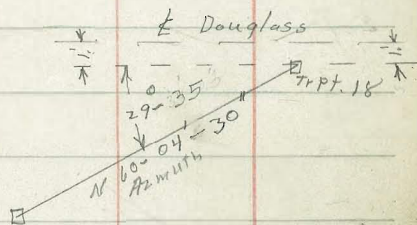
Station	Azimuth	Stadia	Vert L.	Hor. Dist.	Diff. Elev.	Elev
1	172°-15' ⁰¹	65'	+0°-15'	65	+1.0 +0.3 +1.3	260.9 ✓
2	184°-56' ⁰¹	43'	+0°-23'	43	+0.3	259.9 ✓

Readings from Tr. Pt. 17 El. Hub. 270.55

1	165°-45' ⁰¹	113'	+16°-03' ⁰¹	104.5	+30.0	250.6 ✓
2	155°-20' ⁰¹	122'	+16°-42'	113.0	+33.5	254.1 ✓
3	151°-25' ⁰¹	101'	+20°-36' ⁰¹	88.5	+33.2	253.8 ✓
4 S.W. cor House	136°-34' ⁰¹	109'	+21°-03' ⁰¹	95.0	-2.0 +0.6 +37.6	255.2 ✓
5	128°-33' ⁰¹	95'	+21°-27'	82.2	+32.2	252.8 ✓
6	121°-25' ⁰¹	81'	+26°-46' ⁰¹	64.5	+32.6	253.2
7						

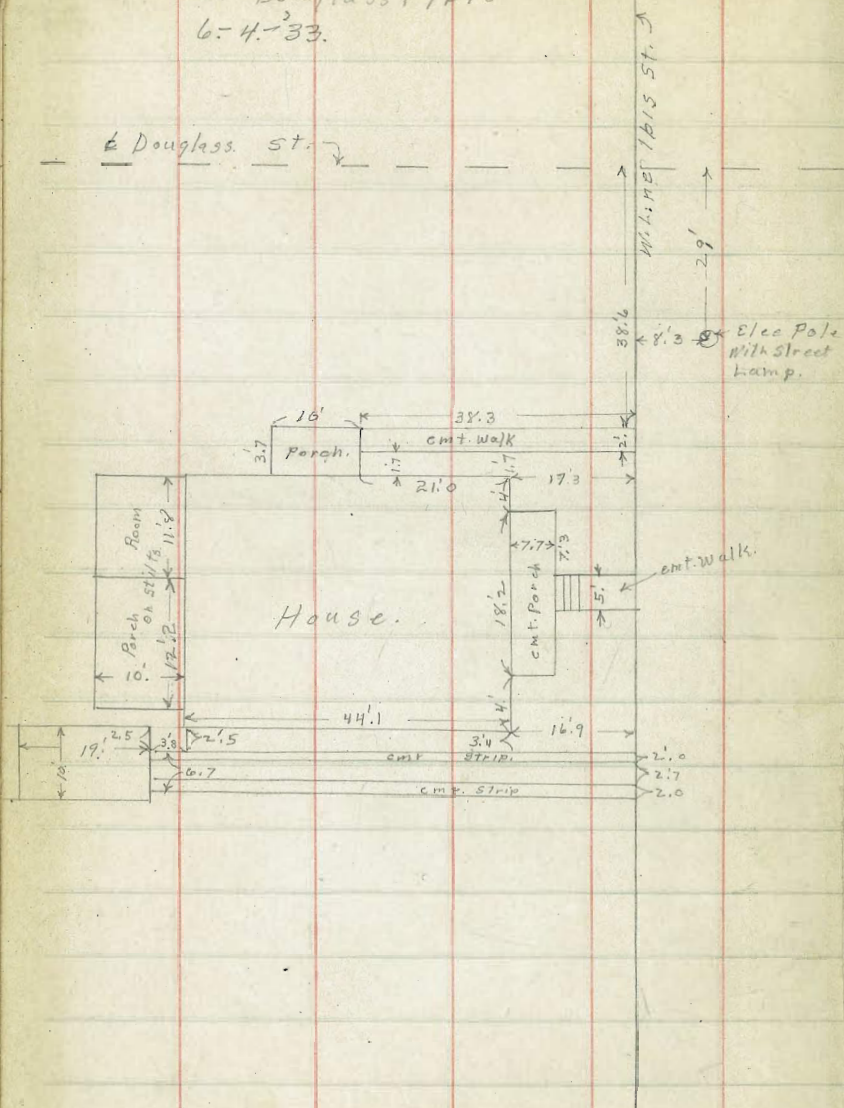
see Page 80 for House Location

Ibis + Douglass.



Location House
at Douglass + 1615
6-4-33.

80



84.40

451 55

Azimuth $113-25$ $\frac{429}{22}$ 28.4 42.6 16.2

$\frac{4.73}{55}$ 27.6 69. 12.

$\frac{5.28}{38}$ 12.6 38. 20.

40.2 42.1 197 76

2.9 43.1

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.
 ROADWAY 14 FEET WIDE. SIDE SLOPES $1\frac{1}{2}$ TO 1.
 FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

(6.07)