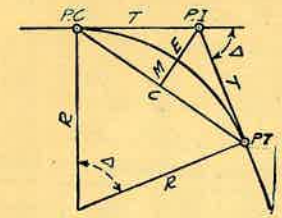
CENTRAL PARK ADDITION
SURVEY -
GLOBE, ARIZ
Sept. 1-1951

STATION	HORZ ∠	M.B.	E.C.	DIST	TO
12	55°-30 R		S 89°-55'W	178.94	1
11	11°-43' R		S 34°-25'E	513.77	
10	84-55-40 R		S 22-42 W	131.80	11
9	102-58-10 R		S 62°-13'-40E	47.72	10
8	102-58-10 L		N 14-48-10'E	208.00	9
7	102-55-50R		S 62-13'-40E	120.60	8
6	16°42 L		N 14-50'-30'E	57.20	7
5	8°-05' L		N 31-32-30E	197.2	6
4	45°30'-30 L		N 39-37-30E	130.46	5
3	69°-19' R		S 85°-04'E	65.50	4
2	115°-38 R		N 25°-33'E	112.20	3

Corner to Nail.	75.35				
3 Stadia	455	9696	10°02'	on Ridge	
$\frac{1W}{15E}$					
Cor.	75.3			Nail	
Nail	453(5)	S75°30'W	10°02'		Ridge
	670		2°55'		

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius=$R=\frac{50}{\sin. D/2}$ (1) Degree of Curve=D and $\sin. \frac{D}{2}=\frac{50}{R}$ (2)

Tangent=$T=R\tan\frac{\Delta}{2}$ (3) Length of Curve=$L=100\frac{\Delta}{D}$ (4)

Middle ordinate=$M=R(1-\cos. \frac{\Delta}{2})$ (5) $=R\text{vers}\frac{\Delta}{2}$ (6)

External=$E=T\tan\frac{\Delta}{4}$ (7) $=R\div\cos.\frac{\Delta}{2}-R$ (8)$=R\text{exsec}\frac{\Delta}{2}$(9)

Long Chord=$C=2R\sin.\frac{\Delta}{2}$ (10) Δ=Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and ÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157+45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 $(54.50\div100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2\div(2\times688.26)$=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=91.27 and from Table V correction=.10 or E=91.37 ft. Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.