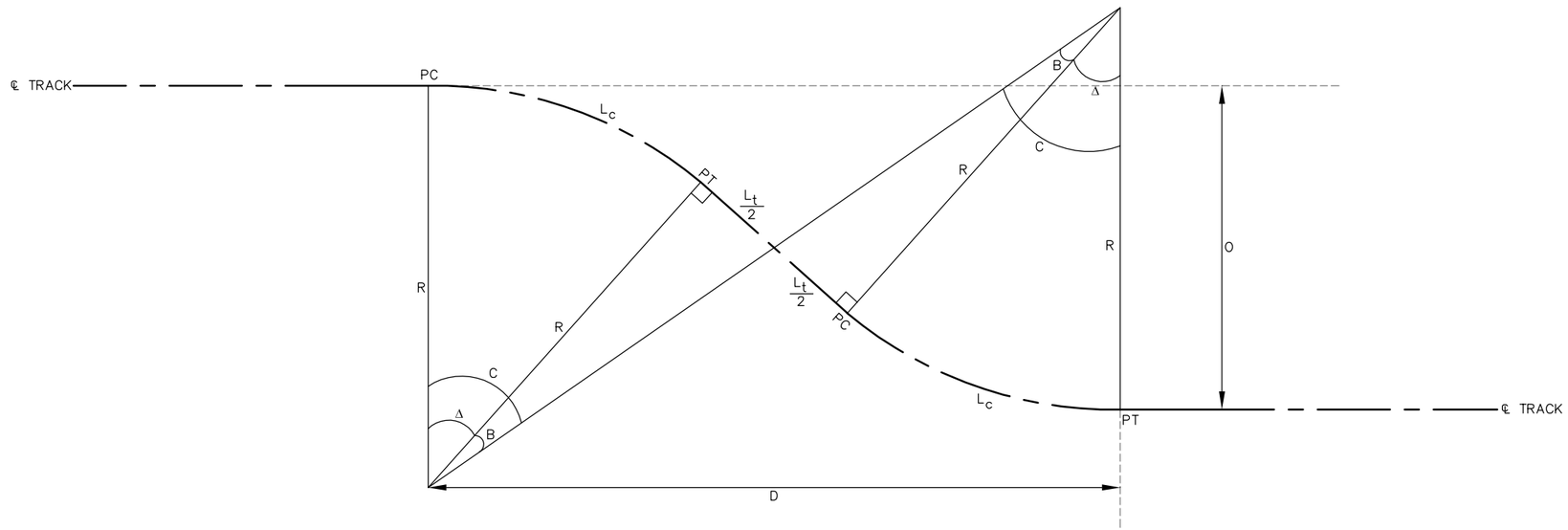

EQUATIONS:

$D = \sqrt{L_t^2 + 4RO - O^2}$

$A = C - B$

$B = TAN^{-1}\frac{L_t}{2R}$

$C = TAN^{-1}\frac{D}{2R-O}$

$L_c = 100\Delta/D_c$

$L_t = 3V$

V = DESIGN SPEED IN MPH

L_c = LENGTH OF CURVE IN FEET

L_t = LENGTH OF TANGENT IN FEET

O = OFFSET DISTANCE IN FEET

PC = POINT OF CURVE

PT = POINT OF TANGENT

Δ = INTERIOR ANGLE OF CURVES IN DEGREES

B = ANGLE IN DEGREES

C = ANGLE IN DEGREES

D_c = DEGREE OF CURVATURE (IN DEGREE)

D = LIMITS OF TRACK REALIGNMENT IN FEET

R = RADIUS OF CURVE IN FEET

EXAMPLES OF CALCULATIONS:

O	D_c	R	D	L_t	Δ	L_c	V
0.5	0°20'	17188.76	303.28	240.00	0°04'20"	31.67	79
2.0	0°30'	11459.19	386.35	240.00	0°21'57"	73.17	79
3.0	0°40'	8594.42	400.90	240.00	0°32'11"	80.46	79
4.0	1°00'	5729.65	331.49	135.00	0°58'57"	98.26	45
5.0	1°15'	4583.73	331.47	135.00	1°13'42"	98.26	45
6.0	1°30'	3819.83	331.46	135.00	1°28'26"	98.26	45
8.0	1°45'	3274.17	350.62	135.00	1°53'15"	107.86	45
10.0	2°00'	2864.93	364.31	135.00	2°17'41"	114.74	45

NOTE:

THIS DRAWING IS USED AS A QUICK REFERENCE FOR DETERMINING THE DESIGN LIMITS OF A TEMPORARY ALIGNMENT WITH NO SUPERELEVATION.

REV	DATE	BY	CHK	APP	DESCRIPTION

REV	DATE	BY	CHK	APP	DESCRIPTION

PENINSULA CORRIDOR JOINT POWERS BOARD

APPROVED BY:

ENGINEERING MANAGER

DEPUTY DIRECTOR OF ENGINEERING

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STANDARD DRAWINGS

TRACK
GEOMETRY
REVERSING CURVES
LAYOUT AND CALCULATIONS

CADD FILE NO.: SD-2102

REV: 0 | DATE: 093011

TRACK

STANDARD NO.: SD-2102