

Engineering Surveying

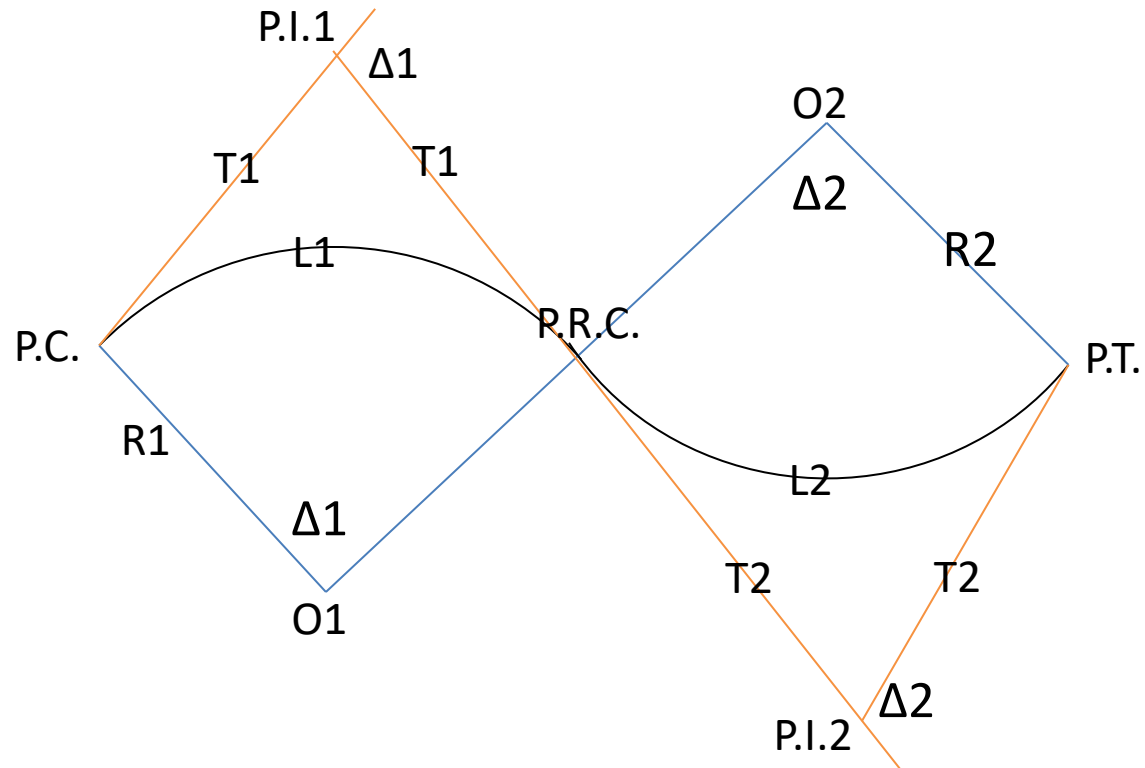
3rd Stage

Reverse Circular Curves

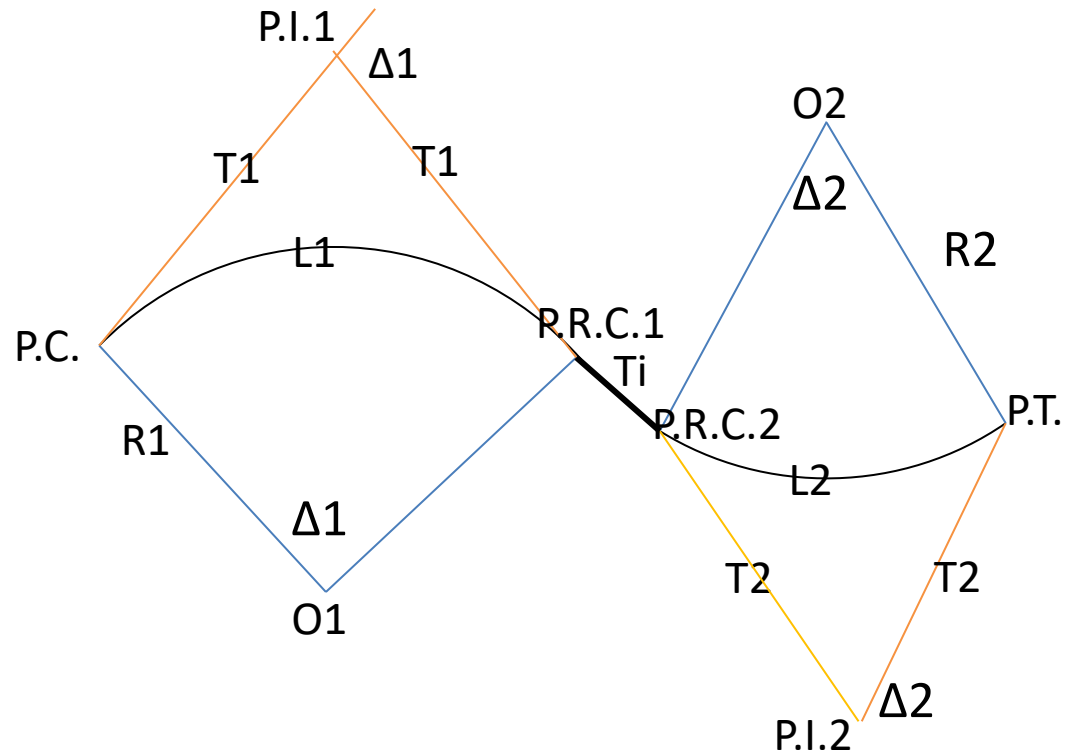
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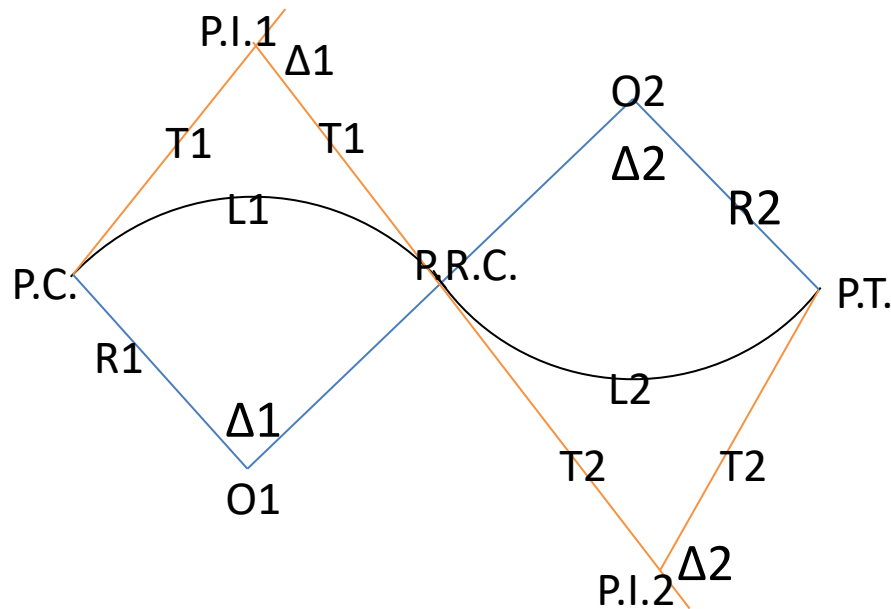


Symbols & Terms of Reverse Circular Curves

- Stat. P.C. = stat. P. I_1 - T_1
- Stat. P.R.C. = stat. P.C + L_1
- Stat. P.T. = stat. P.R.C. + L_2
- Stat. P. I_2 = stat. P.R.C. + T_2
- Stat. P.R. C_2 = stat. P.R. C_1 + T_i

Example

- Compute the Stations of the Reverse Circular Curves if you know:-
- P.R.C.= 58+60
- $R_1 = 200$ m.
- $\Delta_1 = 25^\circ 32'$
- $R_2 = 350$ m.
- $\Delta_2 = 35^\circ 40'$



Solution

- $T_1 = 200 * \tan \frac{\Delta_1}{2} = 45.32 \text{ m},$
- $L_1 = \frac{\pi * 200 * \Delta_1^0}{180} = 89.12 \text{ m}$
- $T_2 = 350 * \tan \frac{\Delta_2}{2} = 112.60 \text{ m},$
- $L_2 = \frac{\pi * 350 * \Delta_2^0}{180} = 217.90 \text{ m}$

Solution

- Stat. P.C. = P.R.C - L₁
- = (58+60) - (0+89.12) = 57 + 70.88
- Stat. P.l.1 = P.C. + T₁
- = (57+70.88)+(0+45.32)= 58+16.20
- Stat. P.l.2 = P.R.C + T₂
- = (58+60)+(1+12.60)=59+72.60
- Stat. P.T= P.R.C + L₂
- = (58+60)+(2 + 17.90)=60 + 77.90

Notes

- You must compute all the elements of the Reverse circular curve and then setting out it by the same methods that use to setting out the simple circular curve