Clothoid Transition Curve Report

University of Tehran - Civil Engineering Department

Input Parameters:

Clothoid Length (L_s):   120 meters

Main Circle Radius (R_c):   500 meters

Deflection Angle (delta):   45 degrees

Max Segment Length: 50 meters

Kilometrage of Intersection (Km_T): 1000 km

Direction: Right Turn

Calculated Parameters:

Clothoid Parameter (A)   244.948974

Theta_s (radians)   0.120000

Theta_s (degrees)   6.875494

Delta_c (degrees)   31.249013

k   60.143896

p   1.204318

External Distance (E_s)   20.435742

Tangent Distance (T_s)   267.749522

X_s   120.000000

Y_s   4.800000

Length of Circular Arc (L_c)   272.699082

Total Curve Length   512.699082

Construction Points Table:

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Point	Arc Length	Deflection Angle	Chord	Kilometrage
0	0.000	0.000	0.000	732.250
1	17.750	0.922	17.750	750.000
2	50.000	4.149	50.007	800.000
3	50.000	6.666	50.135	850.000
4	2.250	9.561	2.266	852.250
5	47.750	15.162	47.731	900.000
6	50.000	20.891	49.979	950.000
7	50.000	26.621	49.979	1000.000
8	50.000	32.351	49.979	1050.000
9	50.000	36.645	49.979	1100.000
10	24.950	38.233	24.947	1124.950
11	17.750	40.751	2.266	1142.699
12	50.000	43.978	50.135	1192.699
13	50.000	44.900	50.007	1242.699
14	2.250	44.900	17.750	1244.950

Clothoid Curve Plot:

Clothoid Curve