Bridge Design Details 2.3 June 2025

Rate of Change of Vertical Curves

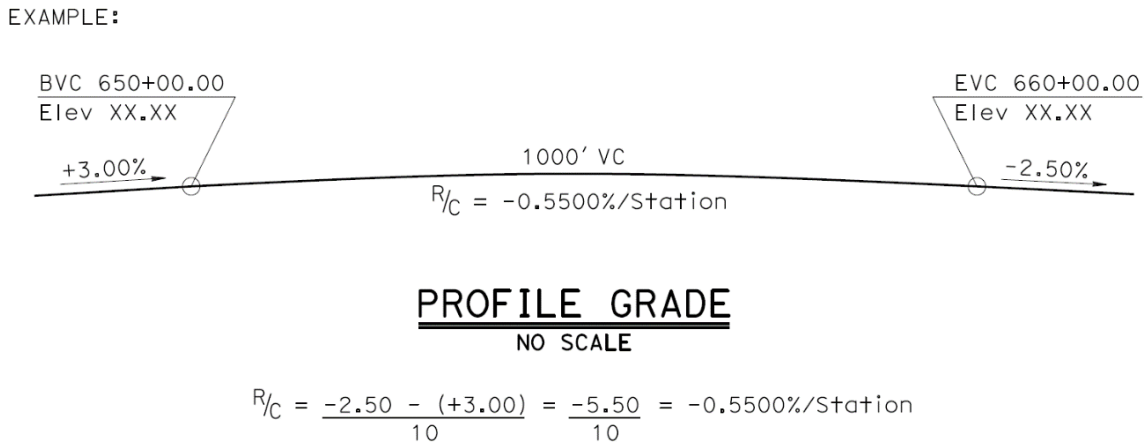

Figure 2.3.1 Vertical Curve Profile Grade

Normally, the Rate of Change is given on the PROFILE GRADE and shown on the GENERAL PLAN sheet above the ELEVATION view, where:

R/C = Rate of Change of Grade per Station (% Station)

(Carry this value to four significant figures to maintain accuracy)

The Rate of Change Formula is:

$$R/C = \frac{\text{Grade at EVC} - \text{Grade at BVC}}{\text{Length of vertical curve}} = \frac{G_2 - G_1}{L}$$

G_1 = Grade at first point on curve (%)

G_2 = Grade at last point on curve (%)

+G = ascending grade

-G = descending grade

L = Length of vertical curve in stations