

Bridge Design Details 2A June 2025

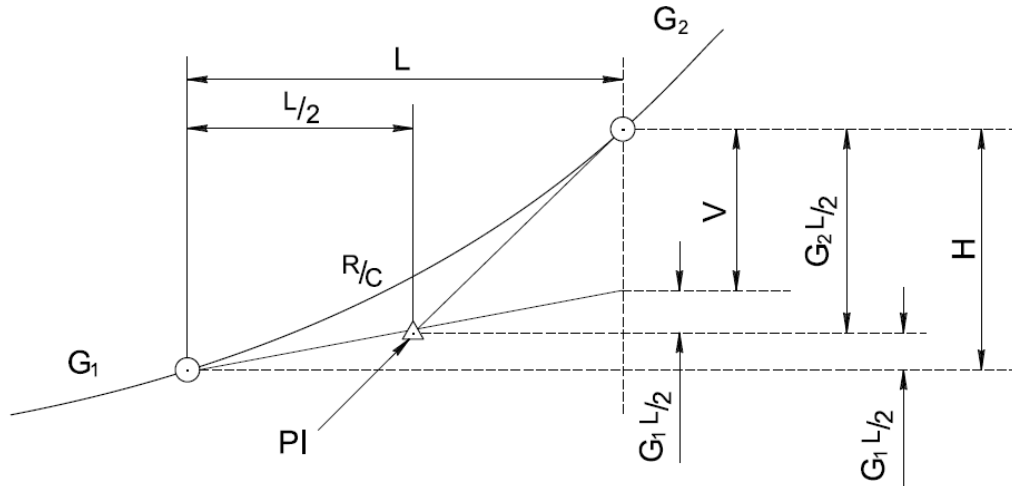


Figure 2A.A.1 Vertical Curve Formula

Rate of Change per Station Method Equations:

$$(1) \quad R/C = \frac{G_2 - G_1}{L}$$

$$(2) \quad V = \frac{L(G_2 - G_1)}{2}$$

$$(3) \quad H = \frac{L(G_2 + G_1)}{2}$$

From these equations, or a combination of these, any point on a vertical curve can be determined.

V = Tangent offset from the first point to the second (feet)

H = Difference in elevation from BVC to EVC (feet)

PI = Projected intersection of the approaching and departing grades

+(V or H) measured upward

-(V or H) measured downward