Deflection Method

The deflection method is the premier curve location method for use when running gradelines. It allows you to check special situations, such as sharp, v-shaped draws to see if a particular curve will fit to the location without undue cuts or fills. It can also be used to check gradeline (the variation or deflection from one tangent to the next, or from one ribbon location to the next) to see if the defl.-angle exceeds a critical value, meaning that the minimum radius rule (e.g. 60 ft) may not be met.

If you hang ribbons every 50 ft, then anytime the defl.-angle > 48° the coresponding radius of 60 ft could not be met. It implies that you take a careful look at the general lay of the topography and grade line.

Deflection Angle = f(R, arc length)

D^0	=	5229.6 / R
(D ⁰ / 2) =		5729.6 / (R / 2)
D^0	=	2869.8 / R

Deflection angle D /2 for 100 ft arc

Deflection angle for 1 ft arc = 1718.873 / R (minutes



See table and layout procedure