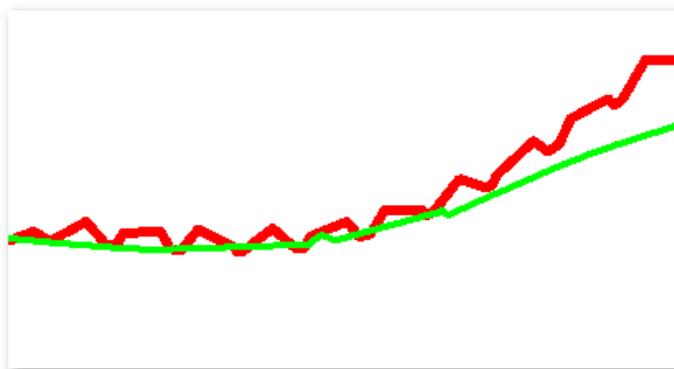
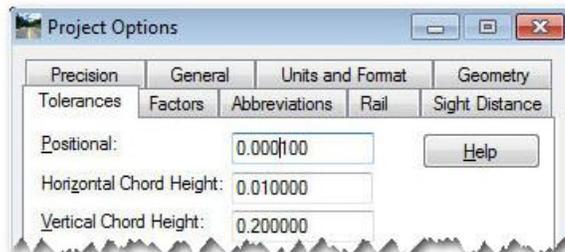


Horizontal Chord Height Tolerance Effect on Curve Return Profiles

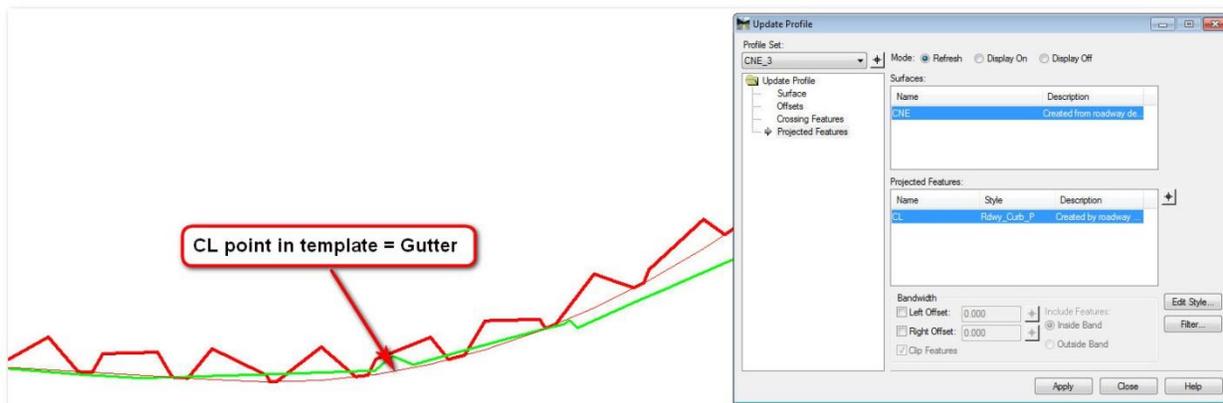
Horizontal chord height tolerance can affect the template drop interval in the Roadway Modeler and a setting of 0.01 will produce template drops at a good frequency on highway alignments. The same horizontal chord height tolerance (*InRoads>File>Project Options...*, **Tolerances** tab) also has an effect on the frequency that surface elevations are read and plotted into a profile window when the horizontal alignment has a circular or spiral element.

You should pay special attention to the horizontal chord height tolerance value when creating profiles if you have curve return alignments that are modeled with the centerline at the gutter point. The battered front face of the curb that is right next to the gutter will cause bumps to appear in the profile as chords are "cut" around the horizontal arc or spiral. The length of the chording is controlled by the Horizontal Chord Height **tolerance** value.



Bumpy surface profile line along curb at CL with tolerance = 0.01

A smaller horizontal chord height tolerance, like 0.0001, causes shorter and more frequent chording and will produce a smoother profile line; prior to creating a profile, apply a horizontal chord height tolerance value of 0.0001. Another method to ensure a smooth gutter profile line around a curve return is to project the gutter feature into the profile window.



Smooth feature at gutter projected into the profile.