# Drawing Vertical Alignment

- Open new view for profile, use "Open Profile Model" tool. Must be done in the same file as the baseline and where the corridor will be.

- Existing ground should automatically appear, if not, check your Active Terrain Model, check references.

- The "Vertical Curve Parameter" may default to the R-value instead of the K-value. To fix it, go to Settings->Design File->Civil Formatting and change Vertical Curve Parameter to K value.

- For connections, use "Profile Intersection Point" tool to select EPs and CLs of mainline to start profile, or use "Quick Profile from Surface" and select the mainline corridor.

- For mainline, use "Profile Complex by VPI" tool to draw rough profile. The profile can be adjusted and optimized by moving the handles afterwards.

- To tie to existing at a vertical curve, you may want to determine the curve tie location beforehand, and then use "Parabola From Element" once you know K and L. This will preserve handles without drawing extraneous lines at the tie point.

- Otherwise, draw other lines as necessary using Complex by VPI, or else drawing individual lines and connecting with "Parabola Between Elements". If necessary, connect all with Complex by Elements.

- For an overlay/widening job, a trick to minimize the overlay depth is to draw a complex (horizontal baseline) for the existing roadway high point (crown or superelevated high side), set the active profile for this baseline as the existing ground, then use "Profile By Slope From Element" to project this point to your proposed baseline at your proposed cross slope. This line will show you how low your proposed profile can be (minimum overlay) without cutting the existing pavement.