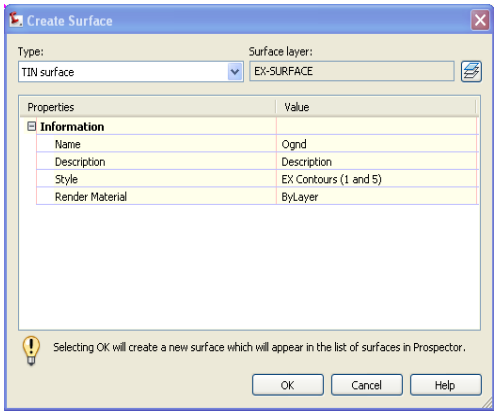
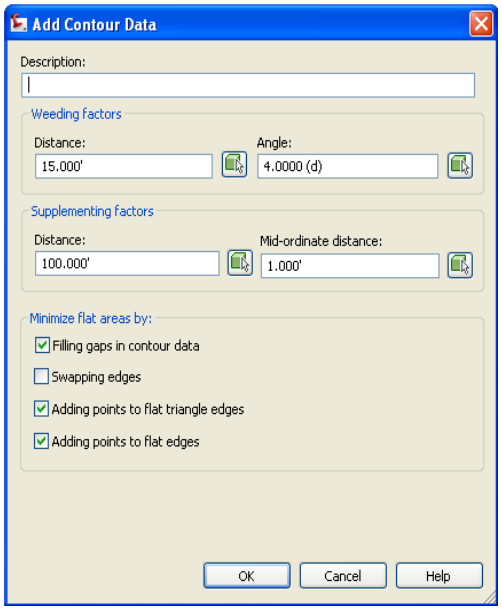
A terrain surface can be created using 2D polyline objects in a drawing. These polylines do not need to be closed polylines, but they do need to have elevations assigned to the polyline objects. The procedure below can be used to create a surface from 2D polylines.

A. Add a new surface to the drawing



1. Surfaces are controlled through theToolspace window. To open the Toolspace window, click on the Toolspace icon on the Home ribbon.
2. Make sure you are on the *Prospector* tab in the *Toolspace* window.
3. Click on the plus sign next to *Surfaces* in the Prospector tab of the Toolbox to expand a listing of all of the surfaces in the drawing.
4. Right click on *Surfaces* and select *Create Surface*… from the shortcut menu.
5. In the *Create Surface* window, provide a name for the surface and select the display style that you want to use.

B. Define the surface



1. Click on the plus sign next to the name of the surface that you created in order to expand the listing of commands for that surface
2. Click on the plus sign next to *Definition* to access the list of data that you can use to define the surface.
3. Right click on the *Contours* definition option and select *Add*…
4. The *Add Contour Data* window will appear. This window is used to provide a description for the contours, as well as other options for cleaning up the surface.

   You can specify weeding factors for the breakline(s). Weeding factors are used to simplify a complex breakline by removing vertices along the breakline. Weeding factors are not typically needed.

   You can also specify Supplementing factors for the breakline(s). Supplementing factors are used to add extra vertices on long sections of the breakline, but again are not usually needed.

   One common characteristic of a terrain surface that has been created using contours is that the surface will be flattened at high and low points in the surface, such as the bottom of channels and tops of hills. The Add Contour Data window contains several options that you can choose from to try to minimize flat areas in the surface.
5. Click on the *OK* button to exit from the *Add Contour Data* window.
6. You will return to the drawing where you will be prompted to select the contour objects to be used to define the surface.

C. Dynamic updates

If a yellow shield with an exclamation point appears next to a surface or a component of a surface, this indicates that the surface needs to be rebuilt. To do this, right click on the surface name and select *Rebuild*.

You can also choose to automatically update a surface when it is modified by right clicking on the surface name and selecting *Rebuild – Automatic*.

D. Surface display

The surface will be displayed in the drawing according to the surface style that is set for that surface. To change the surface style, right click on the surface title in the list of surfaces and select *Surface Properties…* The surface style is set on the *Information* tab of the *Surface Properties* window. The default surface style is *EX Contours (1 and 5)*, but this style can be changed by clicking on the down arrow next to the surface style and selecting a different style from the list of styles that are available.

Refer Quick Reference Guide *400.0 Styles - Surface Styles* for more information on the surface styles available in the Minnesota drawing template.