Terrain Models (7-1-2014)

Overview

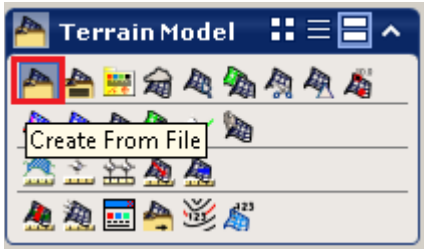
With Microstation/GeoPak SS3, Terrain Models were introduced as a new Microstation element type. One of the things this will do is eventually replace GeoPak's TIN file. In other words, when a Survey is processed with GeoPak SS3, a Terrain Model in a DGN file will be created in lieu of a TIN file.

This document is intended to introduce the user to Terrains and basically shows detailed steps of the tools needed to make the .TIN or Terrain available for Vertical Geometry and Corridor Modeling work with a brief overview of other Terrain Model tools in the "Other Tools" section.

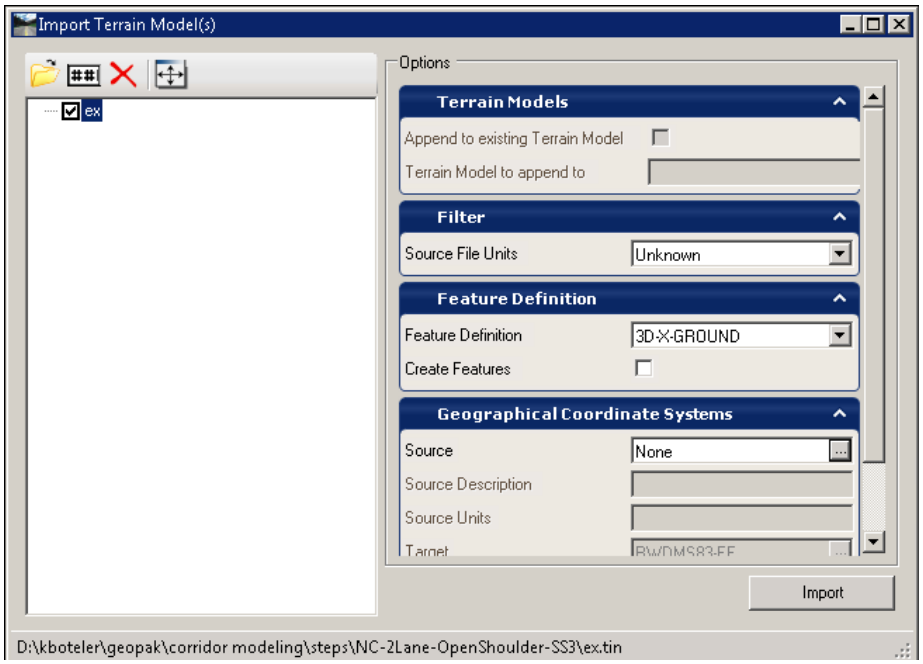
Importing a TIN file

(If a TIN is submitted with the survey).

1. In any DGN file you need access to the existing ground TIN (i.e. Corridor*.dgn)
2. Choose the "Create From File" button on the Terrain Model menu.



3. Choose the TIN file submitted.
4. Choose 3d-x-ground as the feature definition & tag Import. (You can rename the model prior to Import.)

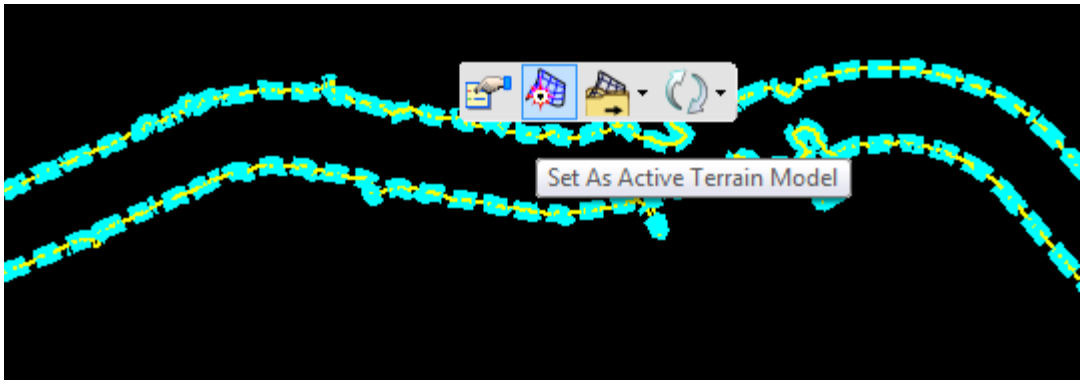


5. Kill the dialog above & fit view to see the TIN. Note that only the boundary is displayed initially.

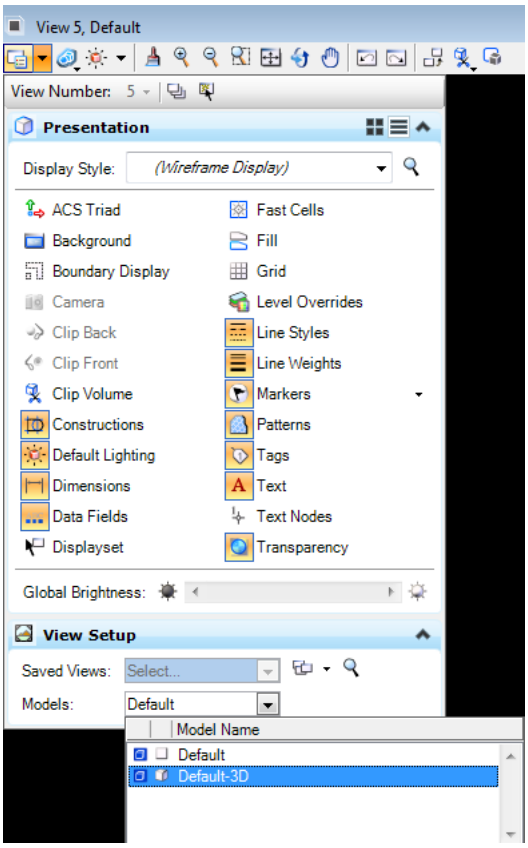
Set as active Terrain Model

To set a Terrain Model as Active (so GeoPak will know what to cut a profile from, what to target with Corridor End Conditions,etc.), from the context menu, choose “Set as Active Terrain Model”.

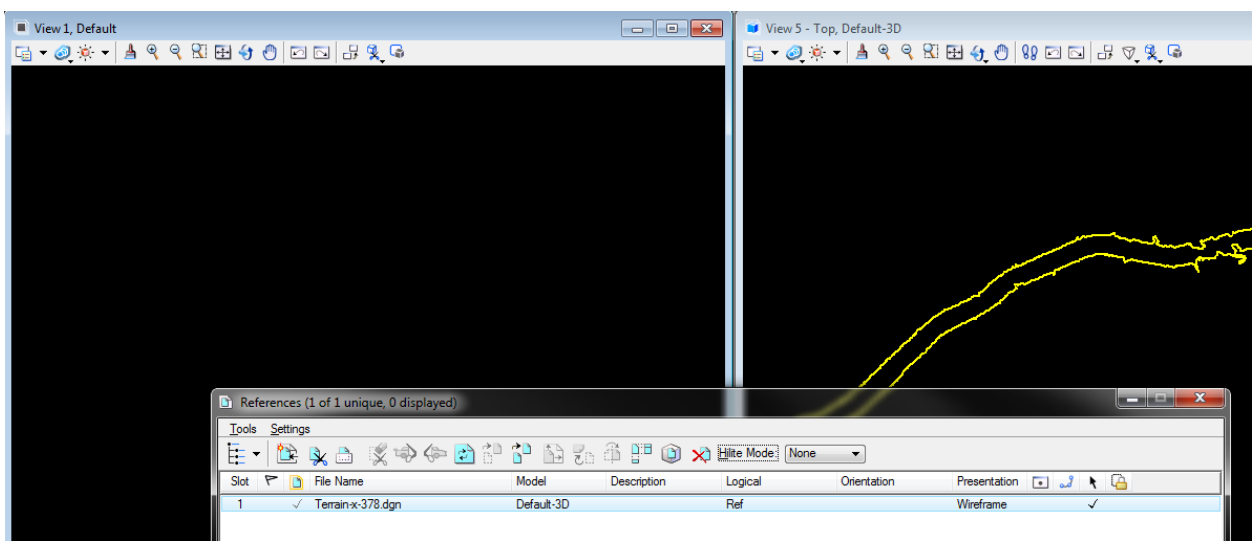
6. Data point the TIN & a context menu should appear. Choose “Set Active”.



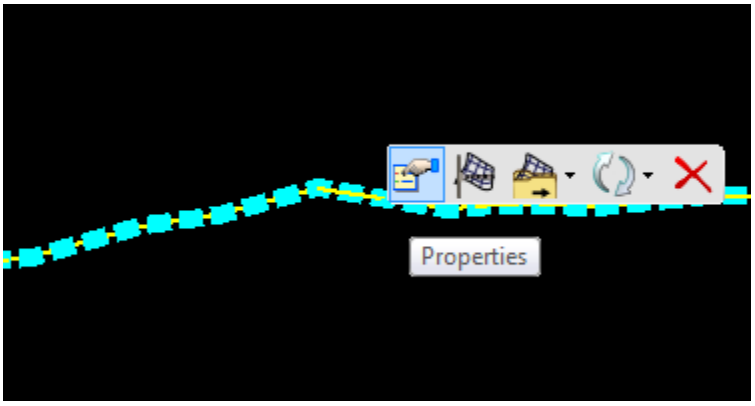
7. When you tagged “Set Active” in a 2d DGN file, a Default-3d model is created. Open View 5 and open the Default-3d model.



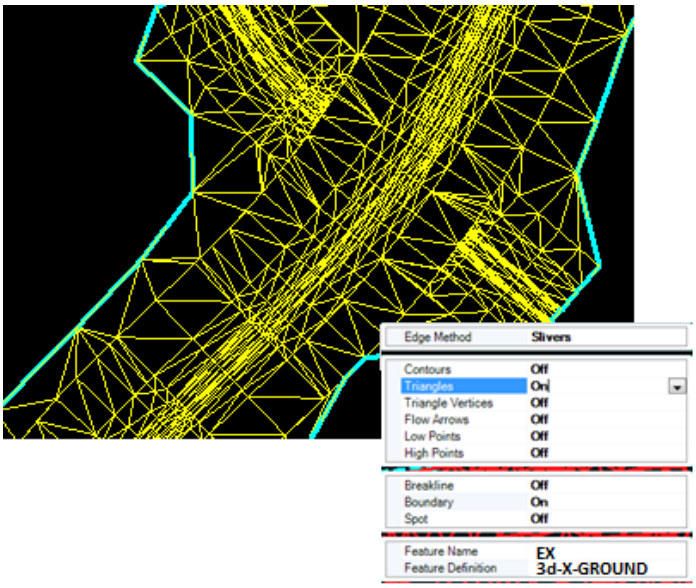
8. When the Default-3d model was created, it was referenced to the Default model. It's good practice to turn this reference file off. Tag View 1, open the ref. dialog and turn off display for the Default-3d model.



9. Data point the TIN & choose properties from the menu.



10. Turn ON Triangles.



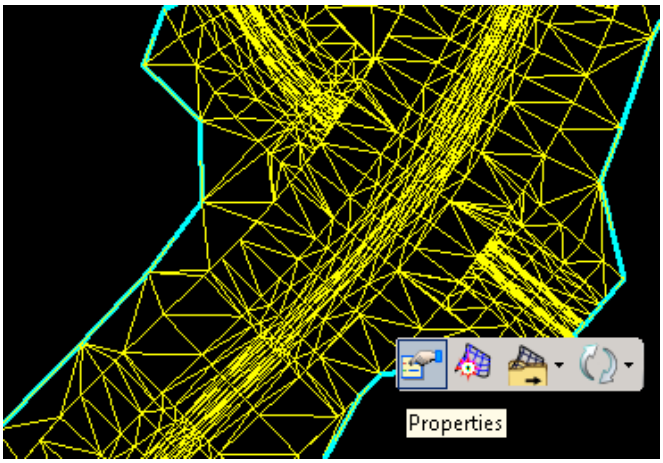
Working with a Terrain Model

(In lieu of a TIN being submitted with the Survey)

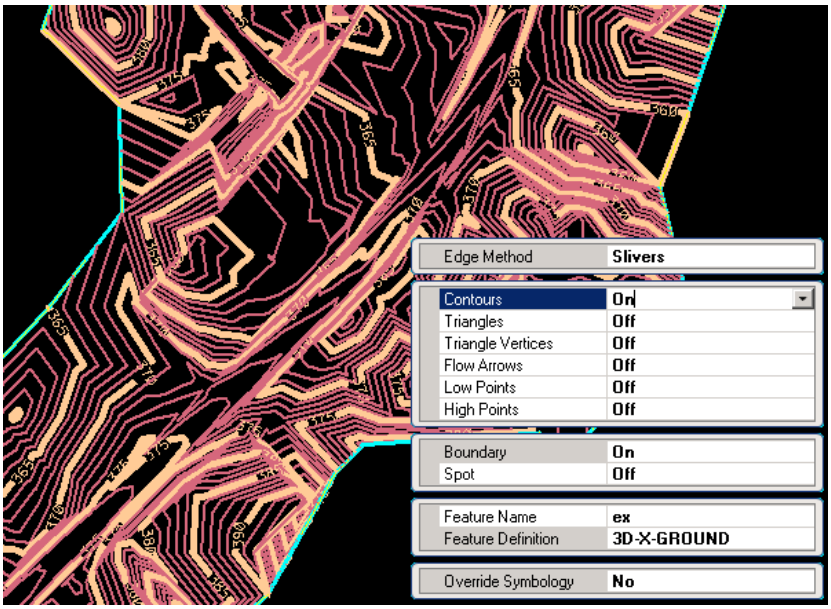
1. Just reference in the DGN file containing the Terrain Model and “Set Active”.

Viewing Contours/Flow Arrows, etc.

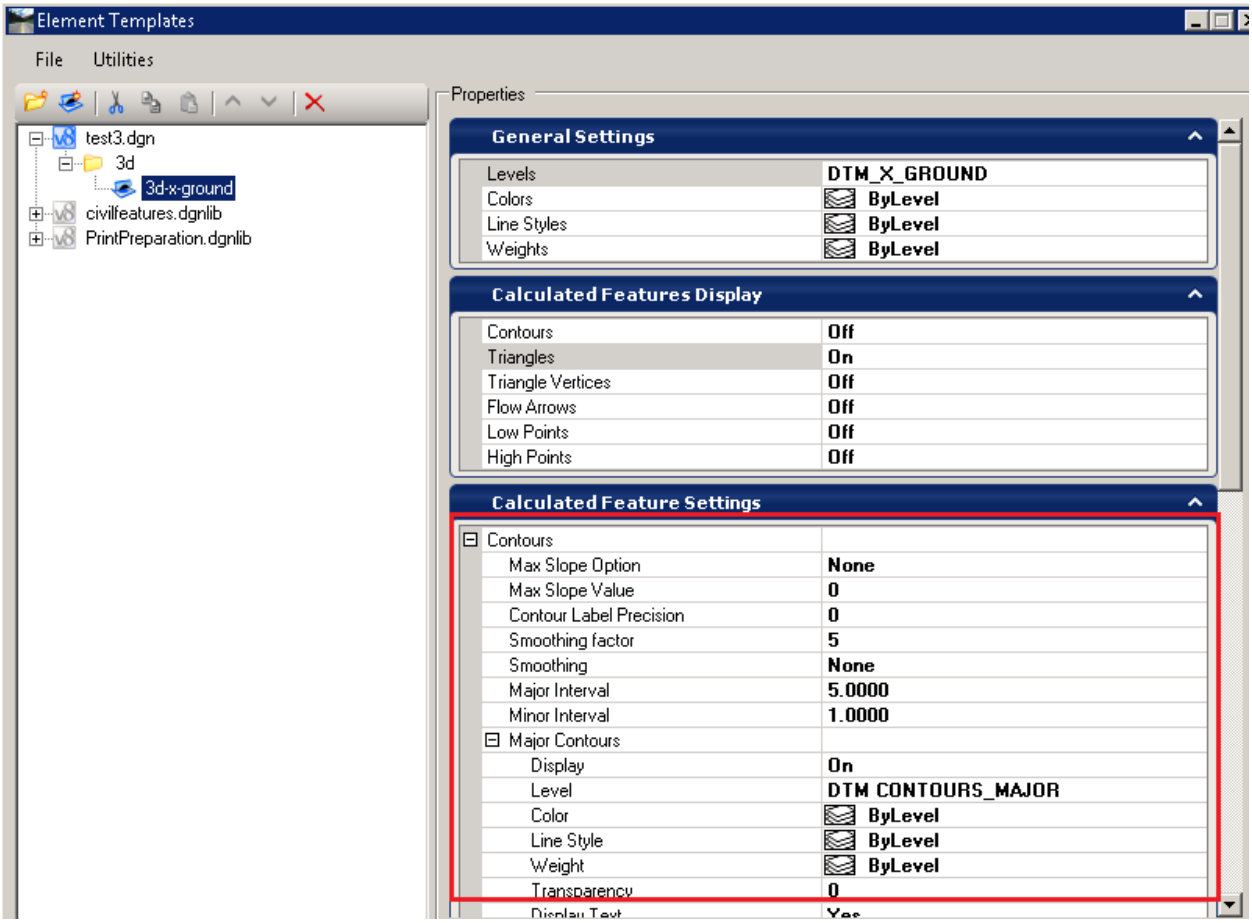
1. Right click & choose properties.



2. Turn on Contours.



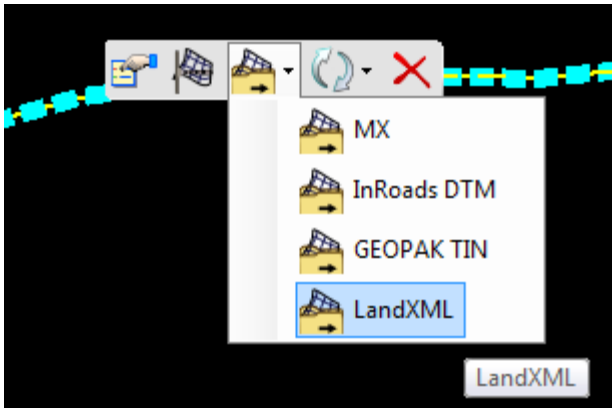
Contour Interval, Text Spacing, etc. can be controlled by going to Microstation Element -> Element Templates ->



Other Tools

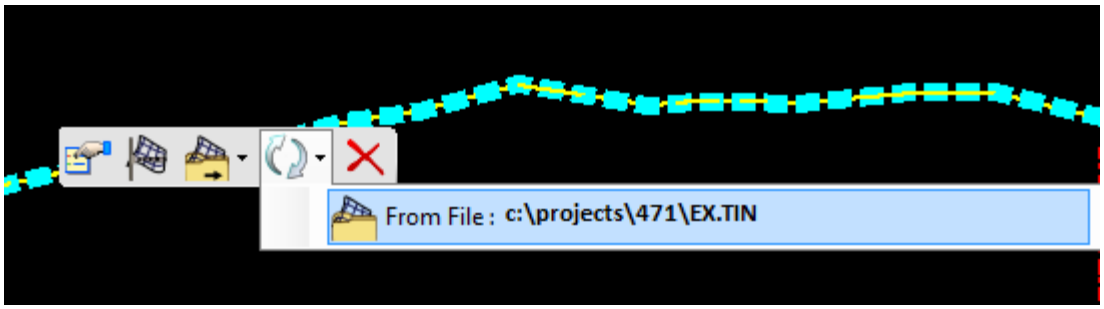
Context - Export

Export to another format (From the context menu).



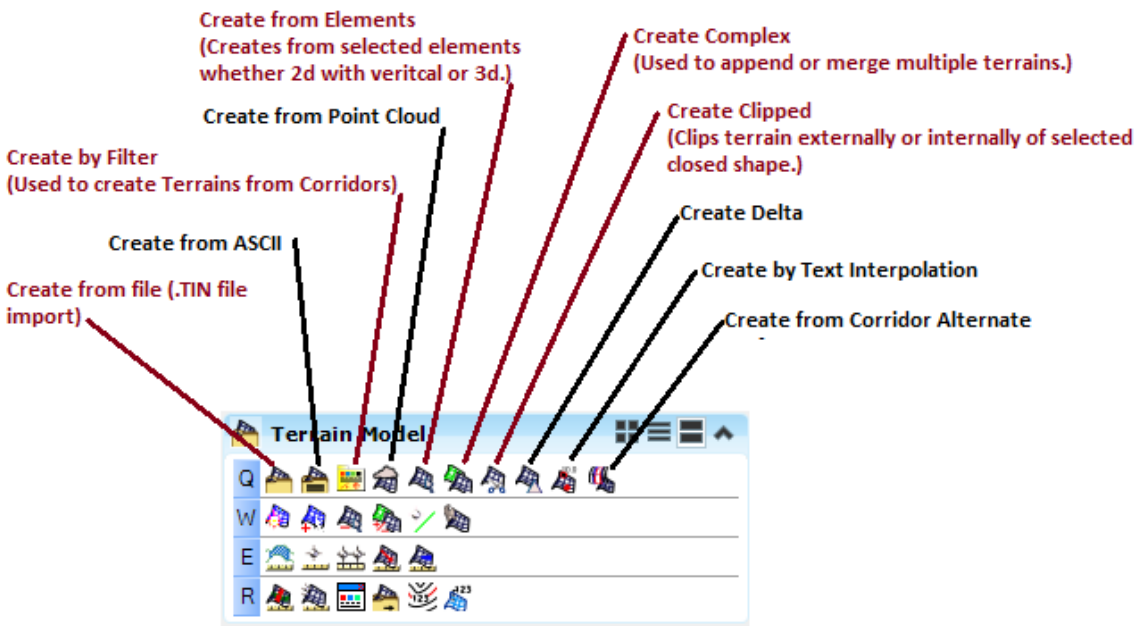
Context - Update from Source

If the TIN is edited/changed, you will need to update the Terrain in the DGN file from the changed TIN.

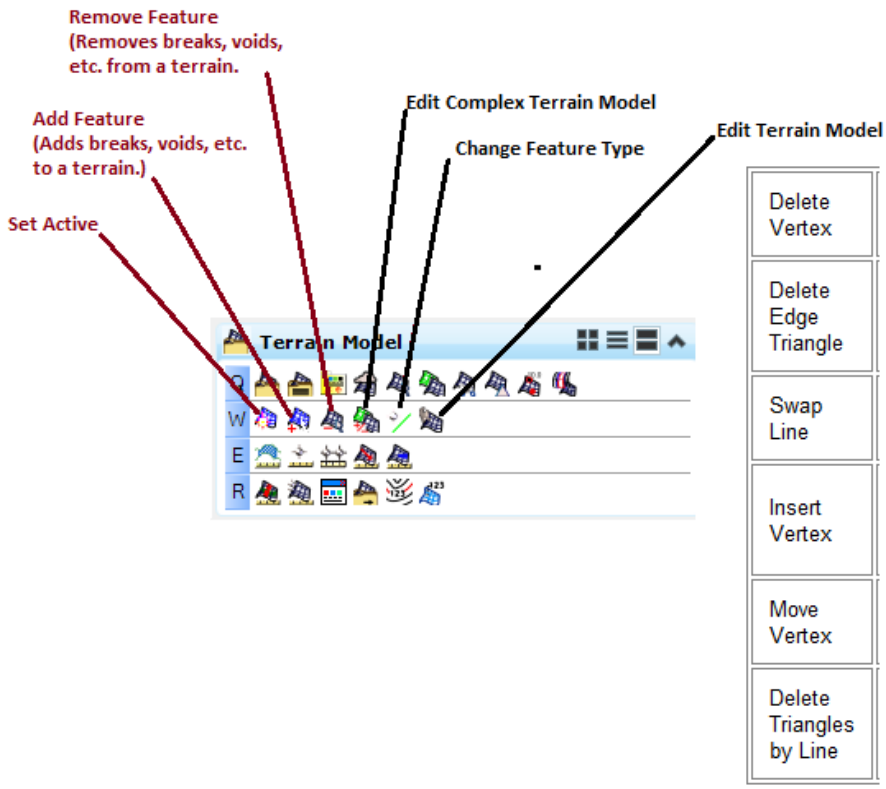


Create Tools

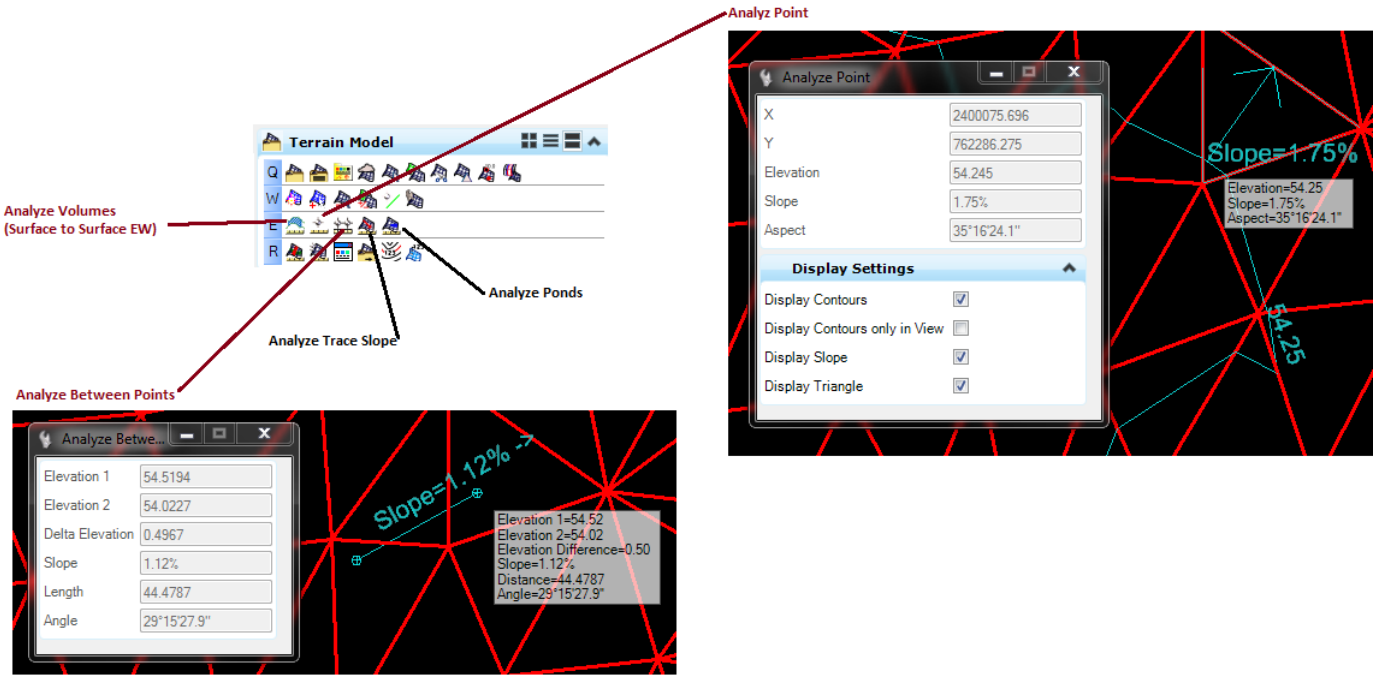
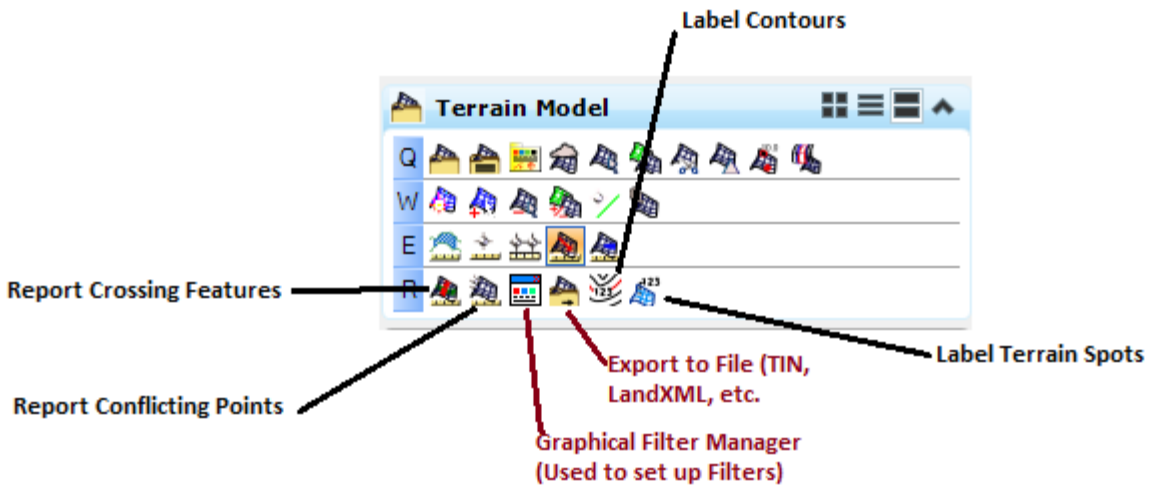
Maroon in the images below are more frequently used tools.



Edit Tools



Analyze



Reports/Miscellaneous