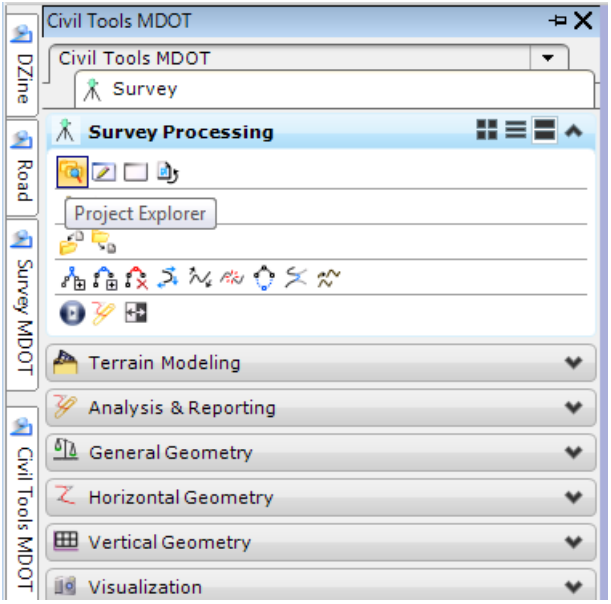
CIVIL SURVEY – FINAL EW SS3 (5-01-2013)



OVERVIEW

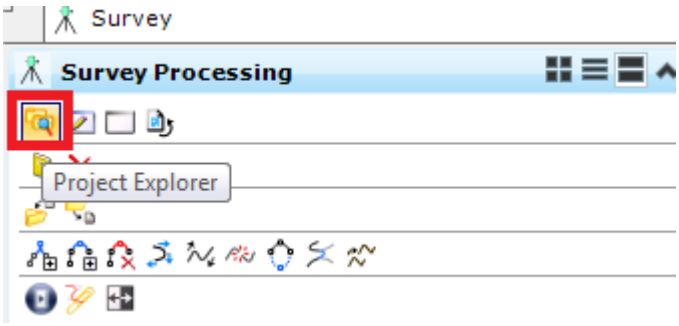
These steps will show how to use Bentley's Civil Survey & Terrain Model tools to calculate Final EW. Detailed steps of processing/manipulating survey covered in the Civil_Survey chapter and not covered in this document.

PROCESSING THE SURVEY DATA.

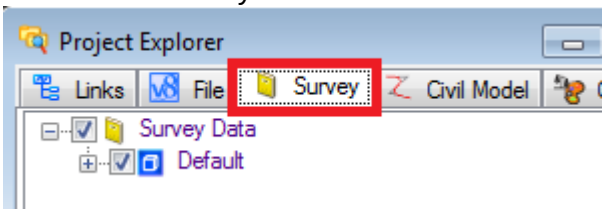
The example that will be used has 3 survey files:
Original.cor – Survey points for Original Survey after clearing & grubbing.
Muck.cor – Survey points for Muck or unsuitable soil.
Final.cor – Survey points for final embankment.

Processing the Original Survey

1) Create a 3d Design file, enter it, & Open Project Explorer.

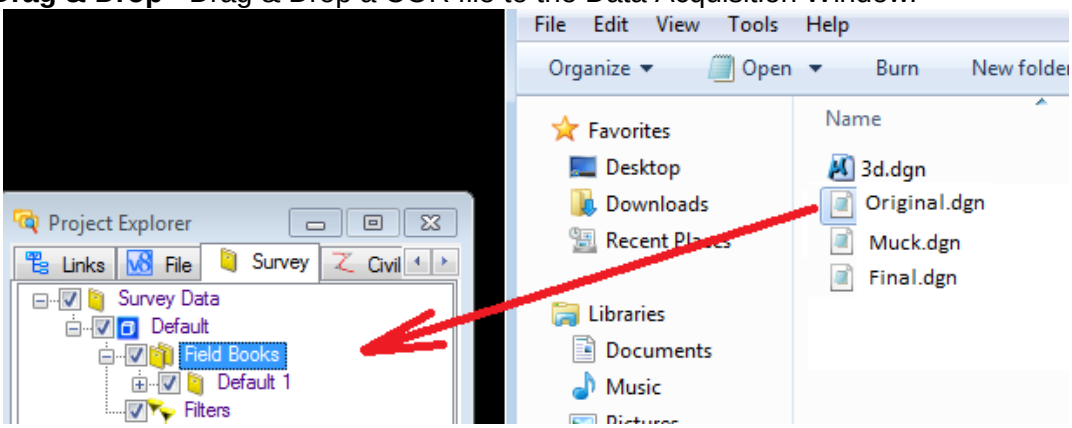


2) Choose the Survey Tab.

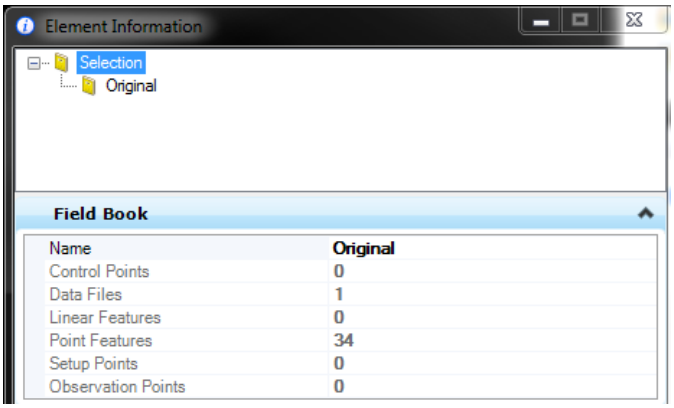


3) Drag & Drop the Original file to create a Field Book.

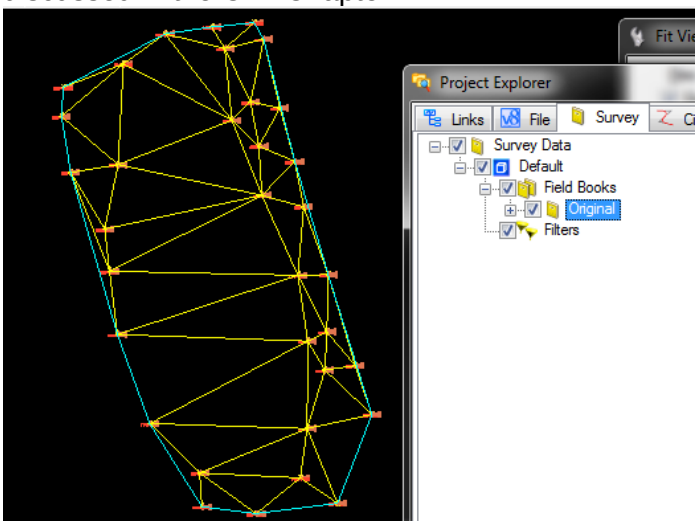
Drag & Drop - Drag & Drop a COR file to the Data Acquisition Window.



A Field Book called Default 1 is created.
Rename this to Original by right clicking & choosing Properties & changing the NAME.

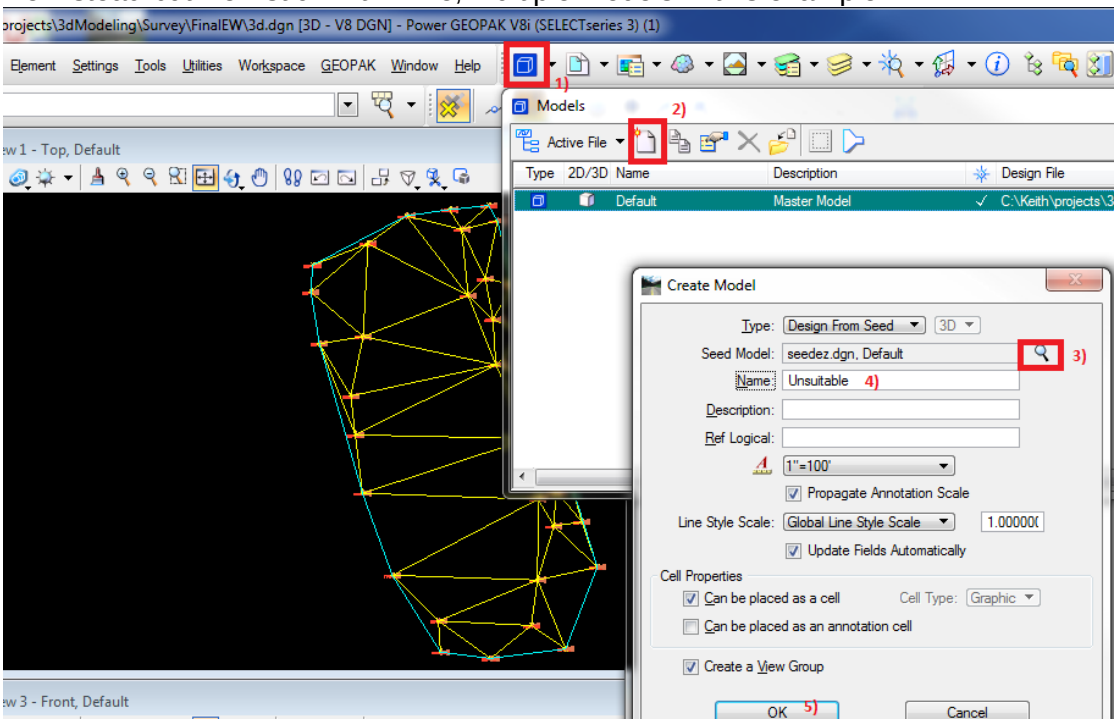


4) Fit your view to see the points. XTerrain should have been created. You would need to clean up any crossing/incorrect breaklines/shots at this time. This process is discussed in the Civil Chapter.



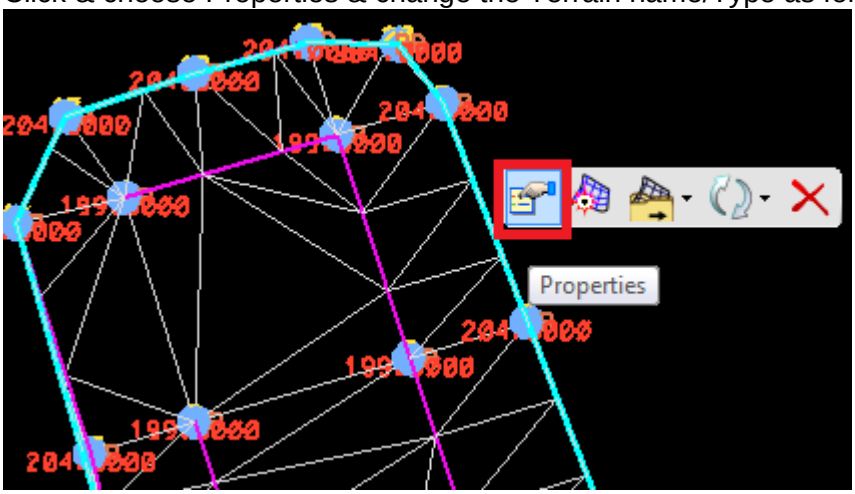
Processing the Unsuitable "Muck" Survey

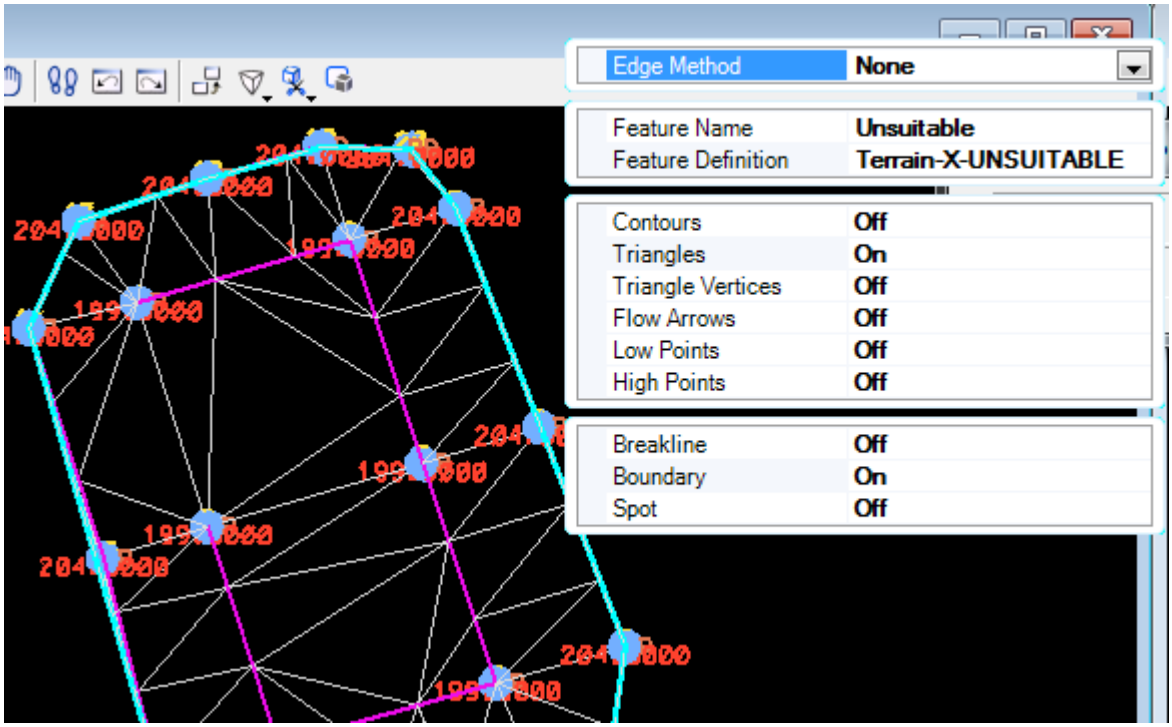
1) Create a new model in your design file. You have the option of creating another DGN file instead but we'll stick with 1 file, multiple models in this example.



On 3) above, make sure you choose MDOT's 3d seed file.

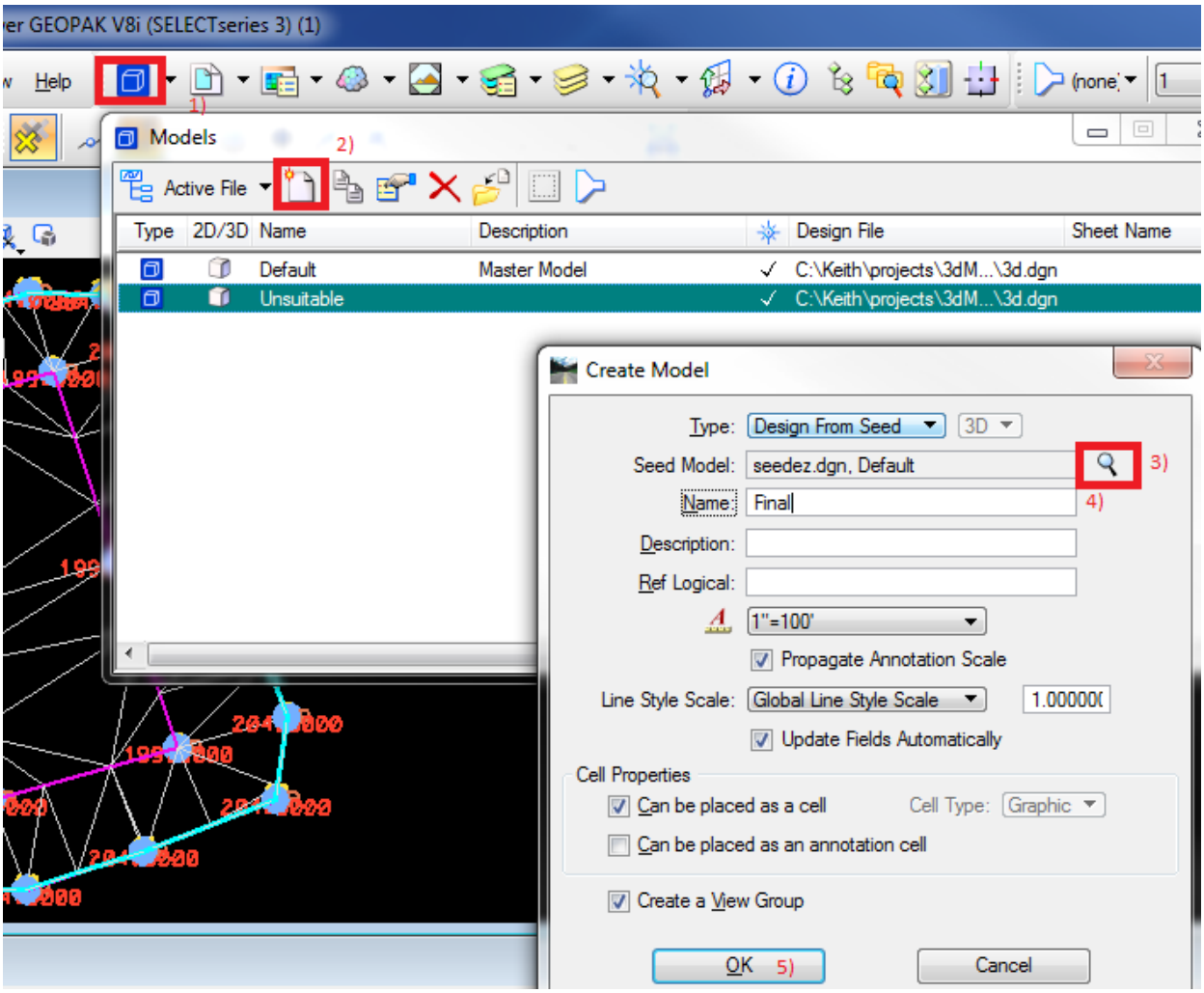
2) Perform steps 2-4 of the 1st section for the file Muck.COR. Rename the Default 1 field book Muck instead of Original.
3) Click & choose Properties & change the Terrain name/Type as follows:





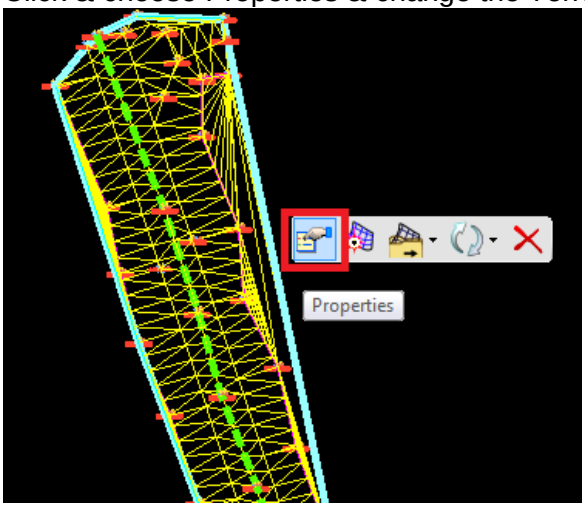
Processing the Final Survey

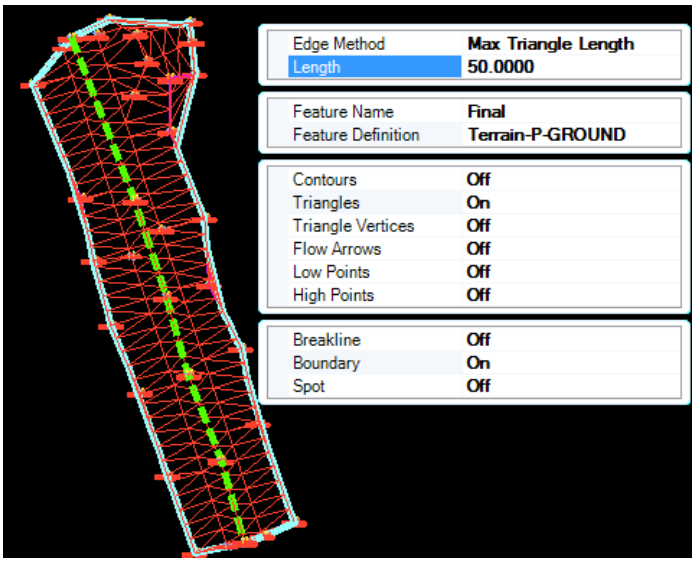
1) Enter your Unsuitable Model and reference the Original (or Default) Model.



On 3) above, make sure you choose MDOT's 3d seed file.

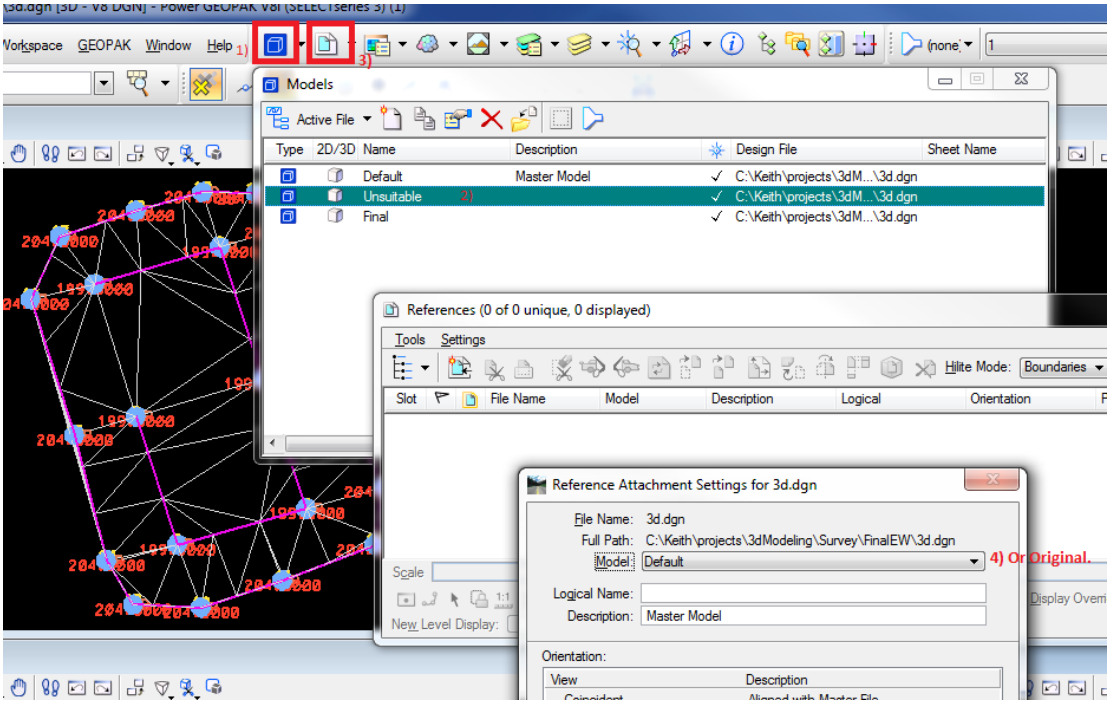
2) Perform steps 2-4 of the 1st section for the file Final.COR. Rename the Default 1 Field Book to Final.
3) Click & choose Properties & change the Terrain name/Type as follows:



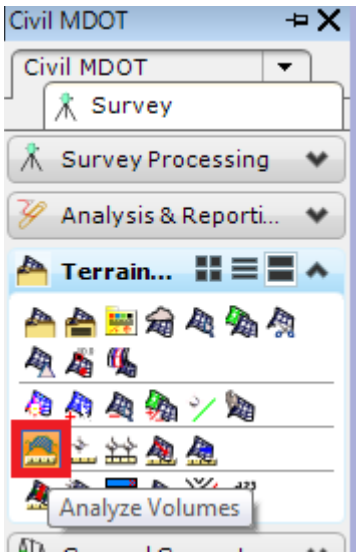


UNSUITABLE EXCAVATION

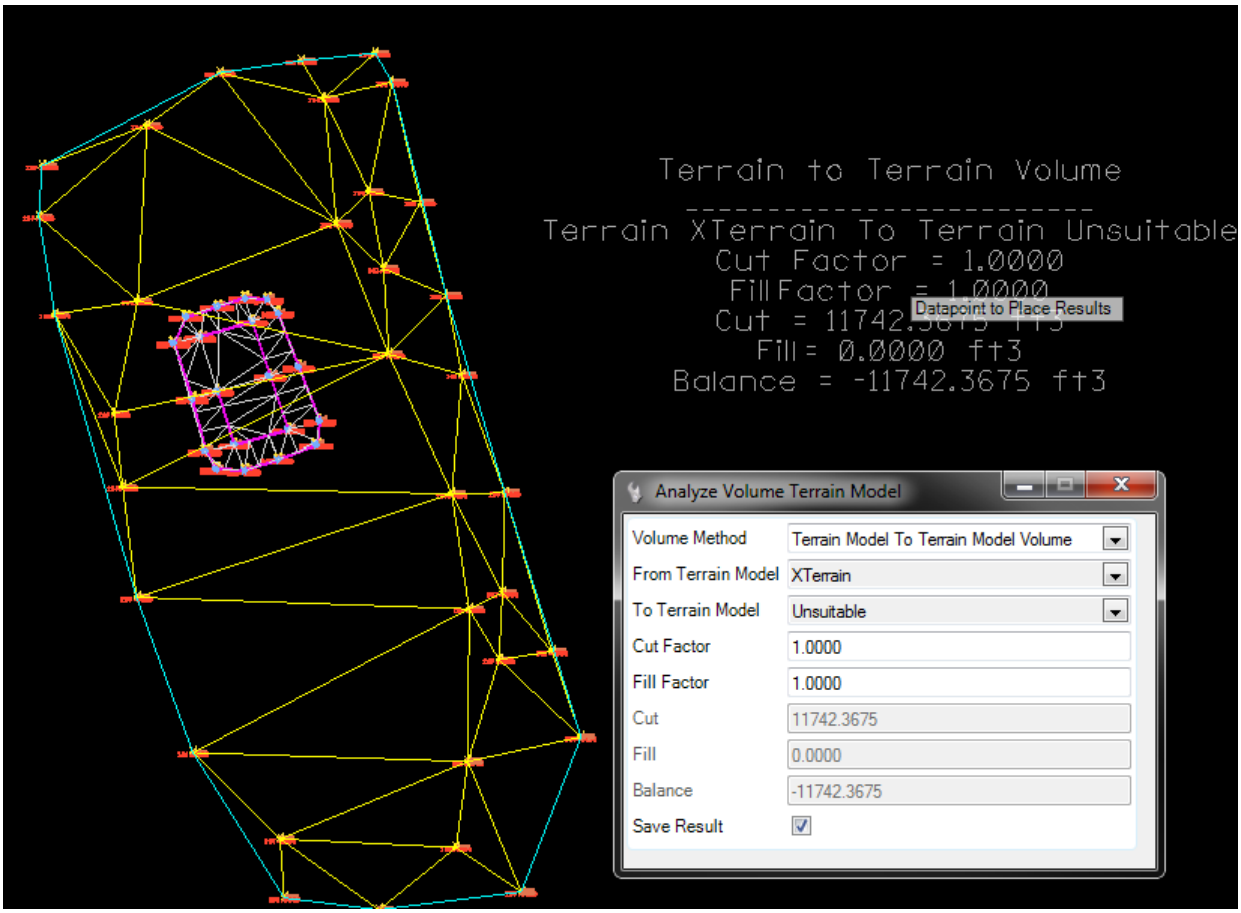
1) Enter your Unsuitable Model and reference the Original (or Default) Model.



2) Go to the Civil menu -> Survey -> Terrain -> Analyze Volumes

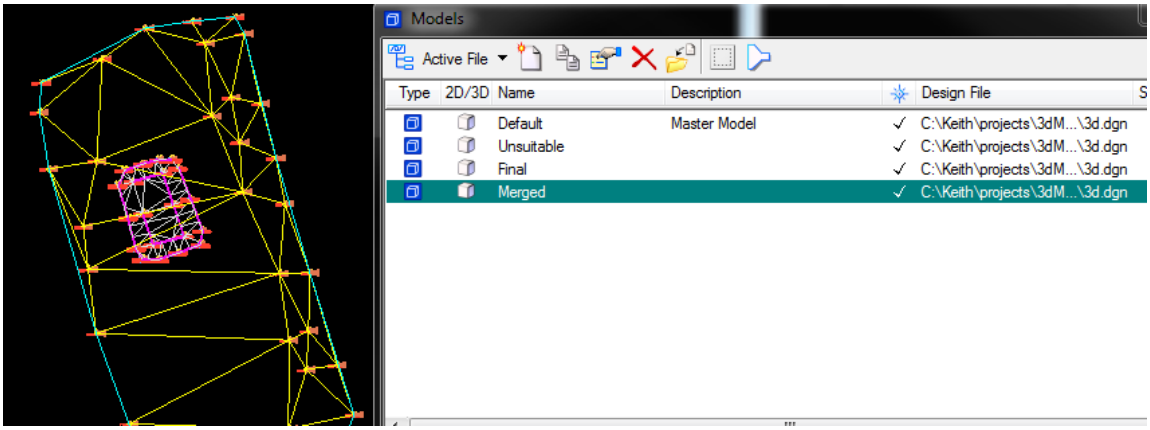


3) Choose Terrain Model to Terrain Model & follow the prompts.

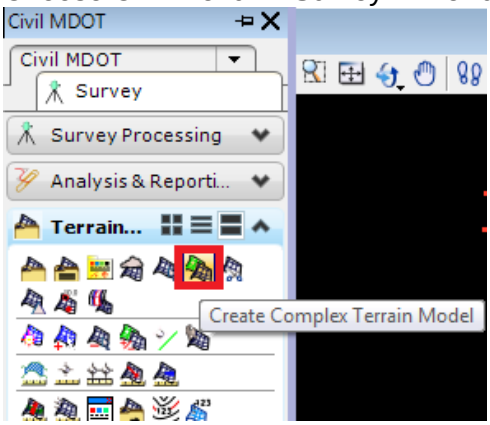


Merging the Original & Unsuitable Terrains

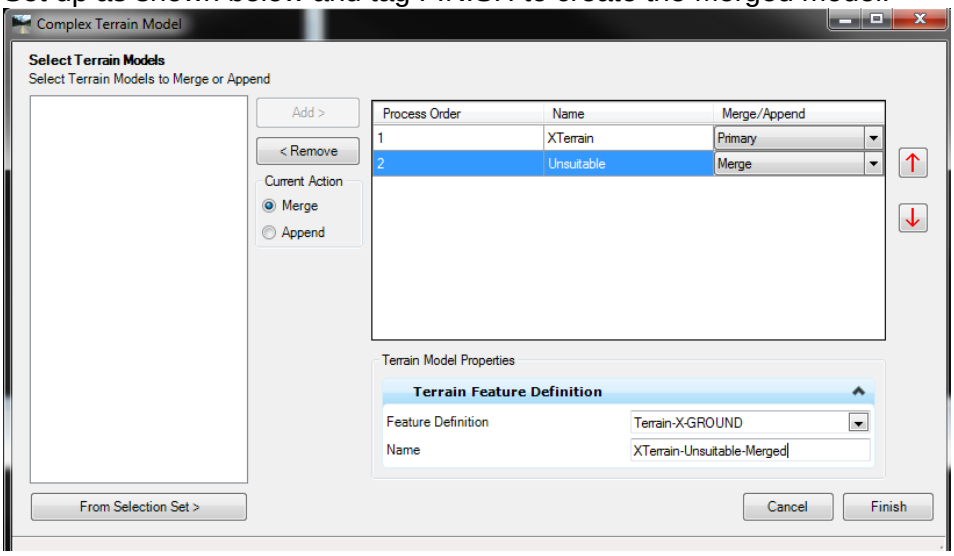
1) Create a new model called Merged.
2) Reference in the Original “Default” and Unsuitable models. Follow same procedure as described above.



3) Choose Civil Menu -> Survey -> Terrain -> Create Complex Model

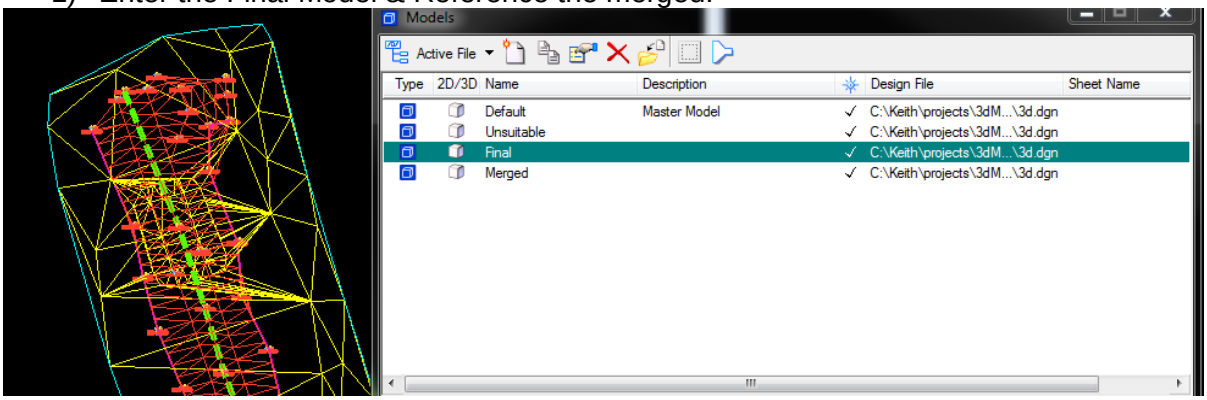


4) Set up as shown below and tag FINISH to create the Merged model.

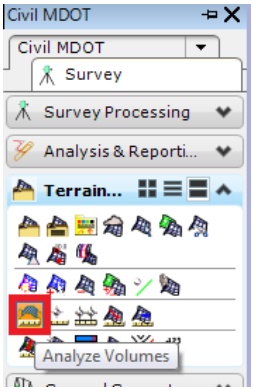


Final Earthwork

1) Enter the Final Model & Reference the merged.



2) Go to the Civil menu -> Survey -> Terrain -> Analyze Volumes



3) Choose Terrain Model to Terrain Model & follow the prompts.