

## Workflow 1: DTM - Extracting Graphics

1. Open the .dtm file that contains the 3 dimensional elements that will be used to create the tin.
2. Access the DTM Menu by clicking on **Applications>GEOPAK ROAD>DTM Tools** as shown below:

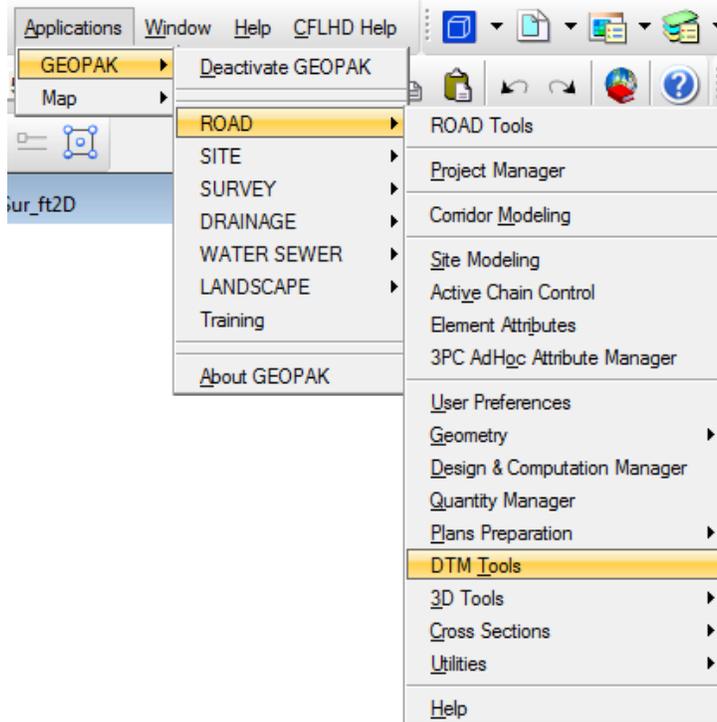


Figure 5.1-1: Accessing DTM Tools

or by clicking on the DTM icon in the Road toolbar.



Figure 5.1-2: DTM Tools Icon

3. This will bring up the following dialog box. Select the Extract Graphics button.

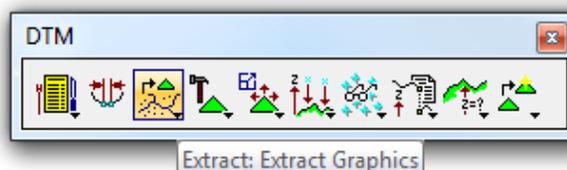


Figure 5.1-3: DTM Tools Dialog

4. The following dialog box will come up.

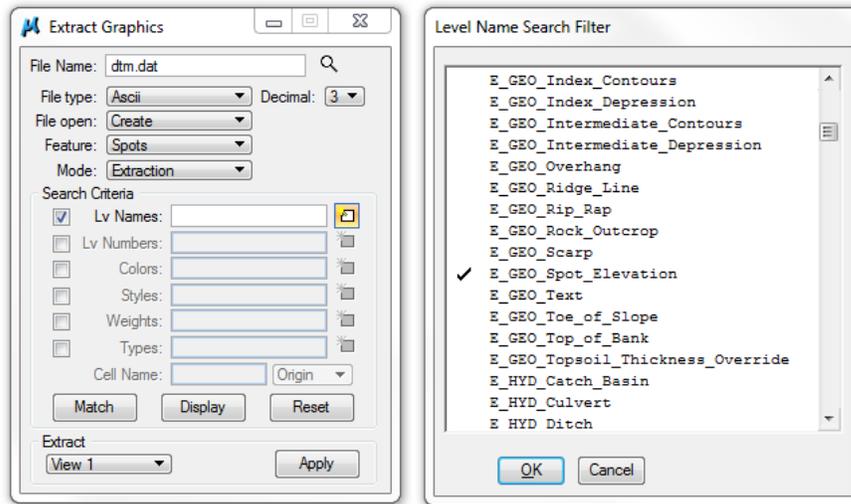


Figure 5.1-4: Extract Graphics

Fill in the file name for the .dat file, make sure the File open button is on Create unless adding information to an existing .dat file.

5. CFLHD leveling convention allows for easy separation by level only so the Levels Numbers box should be the only one marked in the Search Criteria area. Pick the Select box by the Levels label to bring up a MicroStation Level Name Search Filter dialog box. Since Spots is the Feature identified above in the Search Criteria area, make sure all spots are on level E\_GEO\_Spot\_Elevation and then mark level E\_GEO\_Spot\_Elevation only, then select OK.
6. Fit your MicroStation view so all elements are included within the current view, make sure View is selected in the Extract portion of the Extract Graphics dialog box and pick Apply.
7. Once that data is extracted change the Extract Graphics dialog box to show File Open = Append and Feature = Breaks as shown.

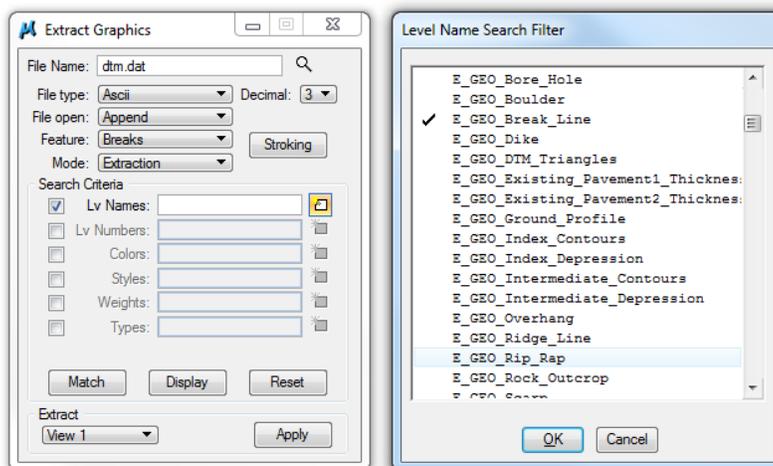
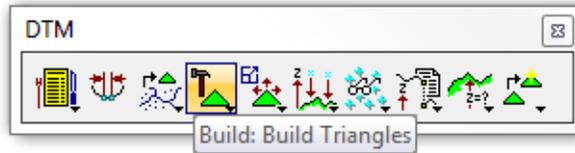


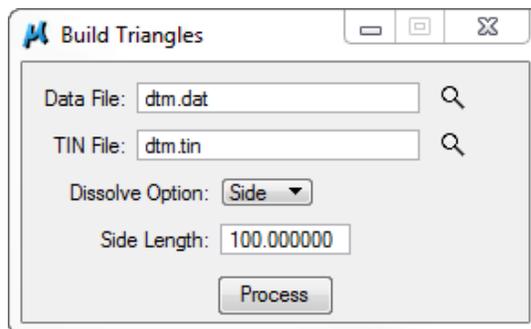
Figure 5.1-5: Append Settings

8. *Make sure all the break lines are on level E\_GEO\_Break Line and then change the Selection Level to level E\_GEO\_Break Line and select Apply.*
9. *Once the .dat file is completed, pick the Build Triangles button.*



**Figure 5.1-6: Build Triangles Icon**

*This will bring up the following dialog box.*



**Figure 5.1-7: Build Triangles**

10. *GEOPAK will automatically input the .dat file just created. Type in the .tin file name and change the Dissolve Option from None to Side.*



The side length refers to the length of a triangle leg placed on the exterior of the tin. We do not want the triangles jumping across areas on the exterior boundary of the survey where there is no survey data. Make sure this length is long enough to avoid any gaps in the middle of the tin, but short enough to keep the triangles from spanning areas where there is no survey.

11. *Select process and GEOPAK will build the tin.*