

# GEOPAK Crossing Chains

Design Manual

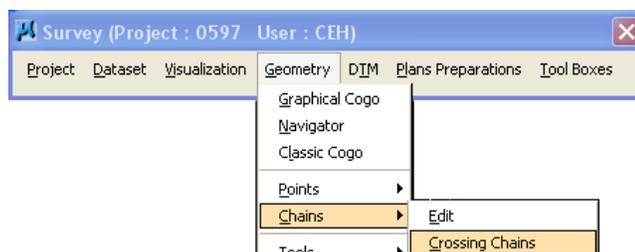
Chapter 40

Survey Information

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## GEOPAK Crossing Chains

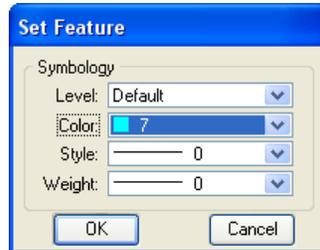
- 1) The GEOPAK Edit Crossing Chains can be used to find crossing breaklines in your Field\_DTM model. To start this tool select **Geometry>Chains>Crossing Chains** on the GEOPAK *Survey* tool bar.



- 2) The **Edit Crossing Chains** dialog box will now open. Here are descriptions of the options on this dialog box:
  - a. Mode – There are two different modes, Interactive and Non-stop. The Non-stop option finds all of the crossing breaklines and marks them with a circle. You can then go thru your model and find and fix the crossing breaklines. The **Interactive** option searches for all of the breaklines and allows you to continue using the tool to help you find each crossing breakline. This tool allows you move from one error to another and fits each error to the computer screen.
  - b. Determine Chain From – **Feature Table** is the option to use. This option has the tool check all survey chains that have been determined to be good for the DTM by the smd file.
  - c. Apply Elevation Filter – You can use this option to have the tool skip crossing breaklines whose elevations are within an acceptable tolerance.
  - d. Mark Crossing Circle – Selecting this option has the tool place a circle at the crossing error location. You can select the size of this circle by changing the radius size.
  - e. Display Only – If you are using the Interactive option you will want to have this checked so that the circle goes away after you make the correction. If you are you the Non-stop option you will want to have this option unchecked. This will draw the circles permanently into the file so that you can find the errors after the tool stops running.



- 3) You can change the attributes of the circle that is drawn by clicking on the line in the black box next to the Display Only text. On the *Set Feature* dialog box, change the level to one that is not used by something else. Change the color to one that has also not been used before. Press the **OK** button when finished.



- 4) On the *Edit Crossing Chains* dialog box, press the **Set Datasets** button. This will open the *Set Search* dialog box. This allows you to choose which survey information is checked. Press the **OK** button when finished.



- 5) If everything on the Edit Crossing Chains dialog box looks correct, press the Process button. The box below will appear as GEOPAK checks all of the appropriate chains to see if they cross.

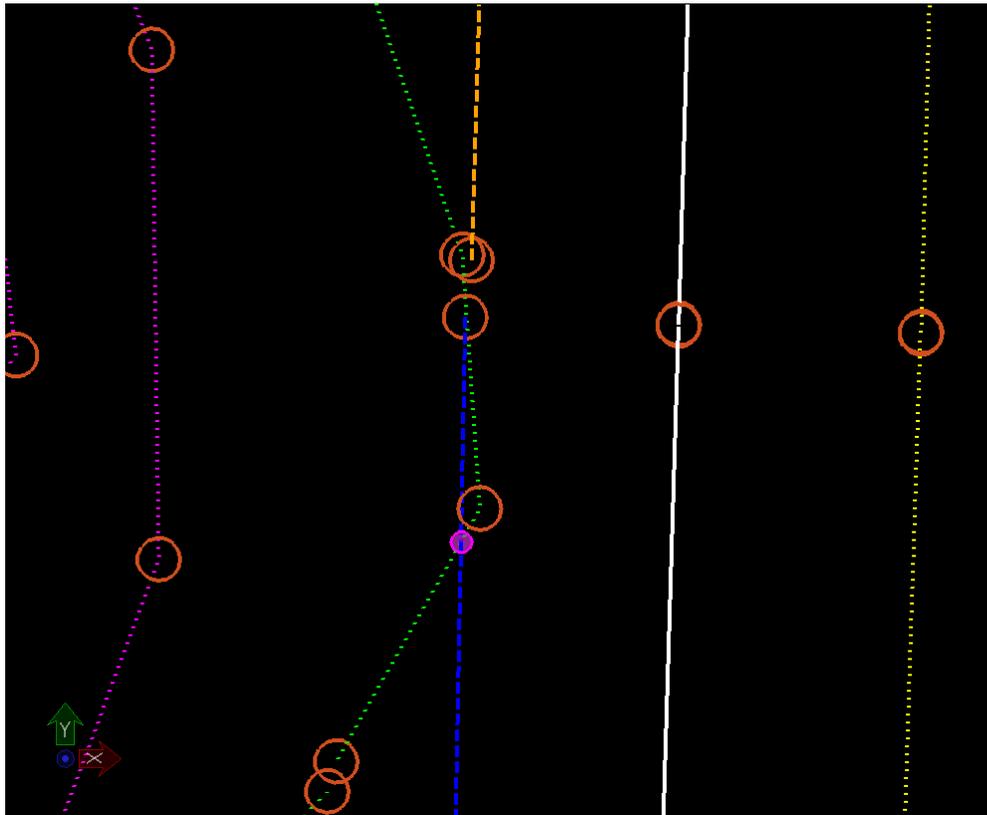


- 6) If you have chosen the **Non-stop** option and had the Display Only selection unchecked, the tool has placed circles at all of the crossing locations. The tool has done its work and will disappear. You will now have to use the Microstation view tools to find each error and then use the GEOPAK Edit Point or Edit Chain tool to fix the error.

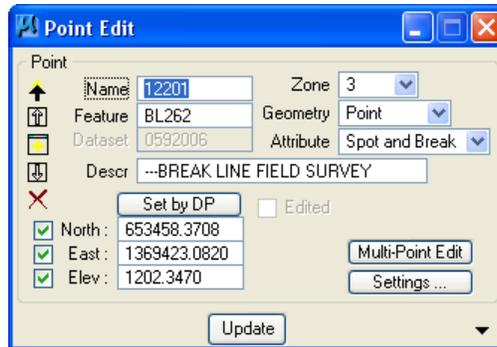
- 7) If you have chosen the **Interactive** option another *Edit Crossing Chains* dialog box will appear. The first crossing error will be fit to your screen and will be shown with the circle attributes you set previously. The tool will also highlight the two chains that are crossing. You can set the highlight colors of these chains by clicking on the color squares and choosing another color. The dialog will also give you the names of the two chains, their feature codes and the elevation of each chain where they cross. You can use the “vcr” buttons to move from one error to another. The dialog also tells you how many crossing errors that are within the datasets you previously chose. You can then toggle which chain you want to edit and then whether you want to edit a point or the chain.



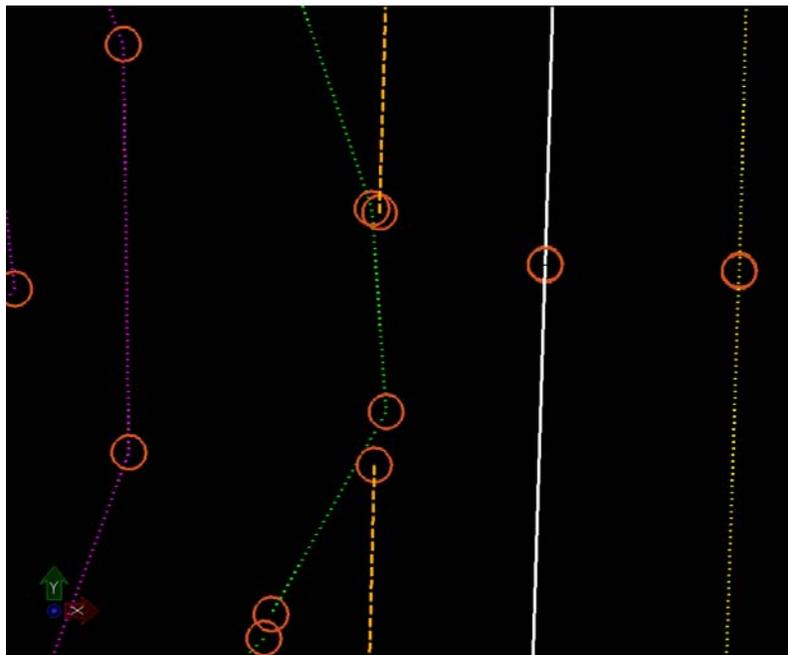
- 8) In the example below, the green edge of bank line crosses the blue edge of shoulder line. For this example we will move the last point of the shoulder breakline so that it will not cross the edge of bank line. Press the **Point Edit** button.



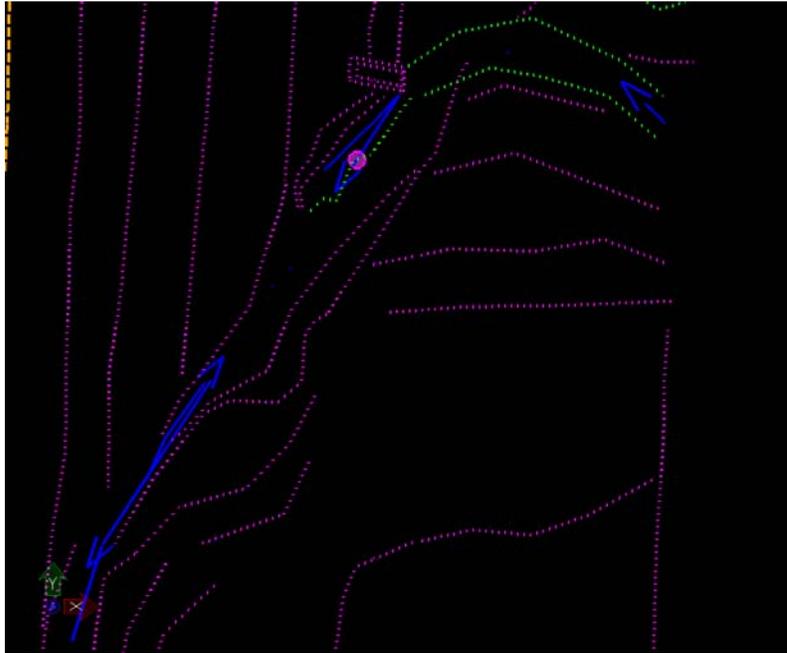
- 9) The *Point Edit* dialog will appear. GEOPAK will not know which point you want to edit so you will have to type in the point number or select the point graphically. In this example we will change the Northing of the last point on the edge of shoulder survey chain. When you have this point changed, press the **Update** button.



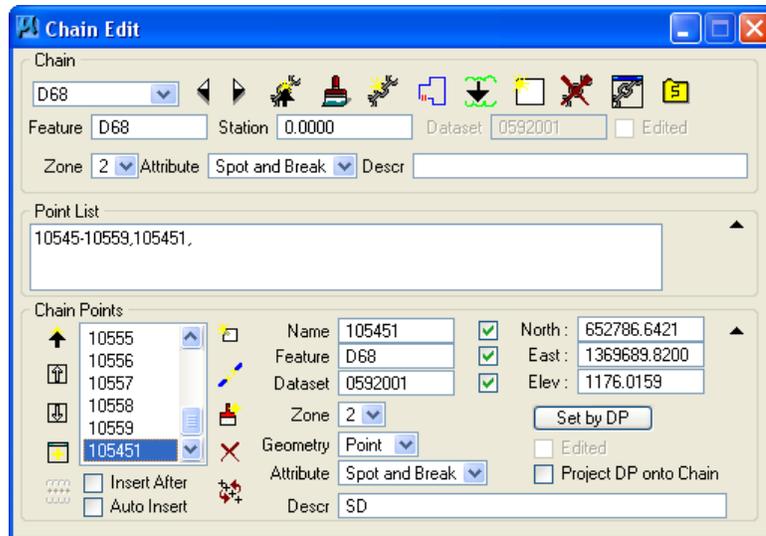
- 10) If the chains no longer cross, you will not see the corrected picture below. If the lines no longer cross the tool will move on to the next error and the number of errors will be lower by one. You can use the MicroStation View Previous tool to move back to this view if you want to verify that the correction was made.



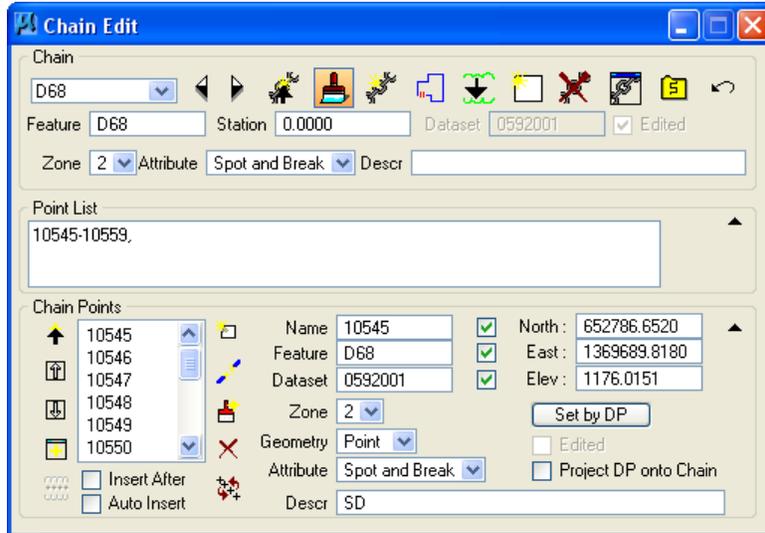
- 11) The following picture shows another error. This draw doubles back on itself. To fix this, we will use the **Chain Edit** button on the *Edit Crossing Chains* dialog box. Click on the toggle to determine which chain to edit then press the **Edit Chain** button.



- 12) The *Chain Edit* dialog will appear. If chose the correct chain to edit, this chain will already be selected in this box. If your dialog does not show all of the information that is in this example, press the black double-down arrows in the lower right hand corner of the *Chain Edit* dialog box. The point to be removed has been highlighted in the example below. Once you have the point to be removed you can press the red “X” next to the point numbers to delete it. You can also edit the point number in the Point List area. To update the chain with your corrections you must press the Update Chain button (paint brush).



13) The point is now removed from the chain.



14) The corrected survey chain is shown below. The tool will automatically move to the next error.

