

Exercise 19-6

This completes a series of exercise that demonstrate a method for determining bridge length using cross sections. The previous exercises in the series are 15-1 and 19-2 through 19-5.

1. Open the MicroStation file:
t:\br-proj\ a_geopak\d5\j5p0100\data\xs_bh_j5p0100.dgn.

2. Open the project **t:\br-proj\ a_geopak\d5\j5p0100\project\j5p0100.prj.**
 Enter the as user **userc.**
 Go into **Road.**

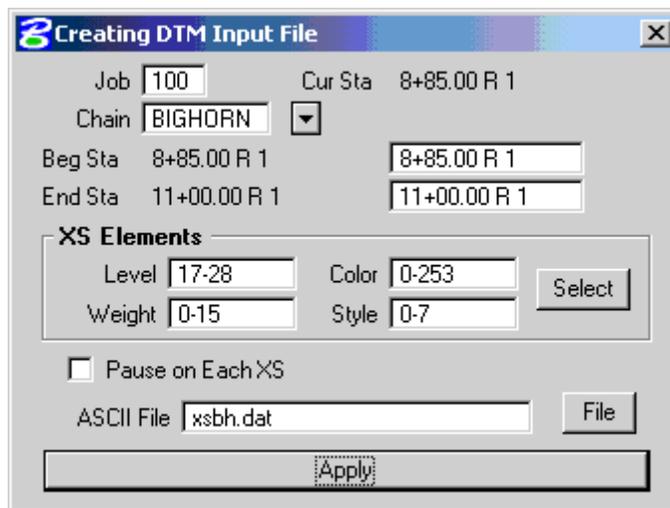
3. Select the **BigHorn** working alignment.

4. Choose **Reports and XS Quantities** from the **Project Manager** dialog.



Select the **DTM Input** report.

The dialog shown below will appear. Enter the information as shown:



Once the information is entered, click on **Apply.**

5. Select the **Profile Grade** report from the **XS Reports** dialog.



The dialog shown below will appear. It can be used to generate a reports from cross sections based on Criteria Elements, Search Text, or an Offset. Use the **Search Text** option. For the Search Text option, the stationing can be related to the alignment chain (Design Alignment) or the location of the text (Text Alignment). Select the **Sta Text Alignment**. Enter the rest of the information as shown:

Criteria Elements

▶ Search Text

Offset

Profile Grade Report [X]

File

Job Cur Sta

Chain Profile

Beg Sta

End Sta

Existing Ground Line

Level Color

Weight Style

Proposed Finish Grade

Level Color

Weight Style

Search Text Pause on Each XS

Text

Offset	Chain	Profile	Preference
SLPSTKL	SLPSTKL	SLPSTKL	Text Alig
SLPSTKR	SLPSTKR	SLPSTKR	Text Alig

Store Text:

Store Prof Store Chain

Beginning Point Number

ASCII File

Sta Design Alignment

▶ Sta Text Alignment

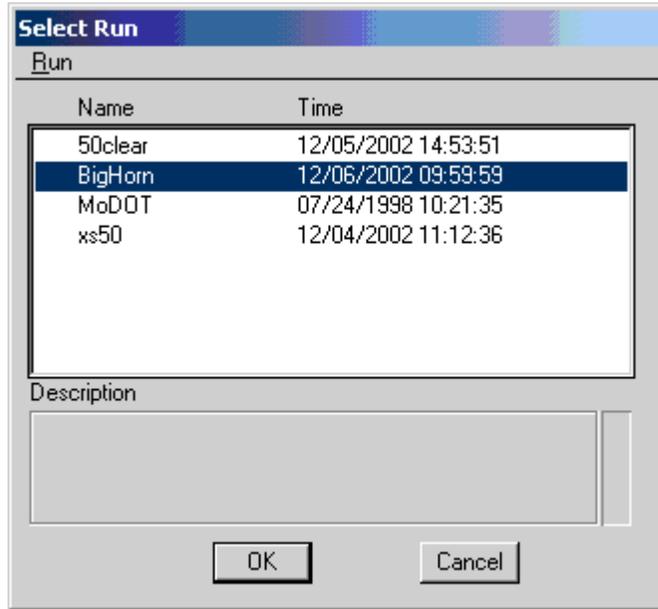
Once the information is entered, click on **Apply**.

When notified the process is complete, close all the XS Report dialogs. If you wish, you can go into COGO to verify the creation of the chains and the profiles SLPSTKL and SLPSTKR.

6. Choose **Existing Ground** from the **Project Manager** dialog.



Copy the **MoDOT** run to **BigHorn**, and open that run.

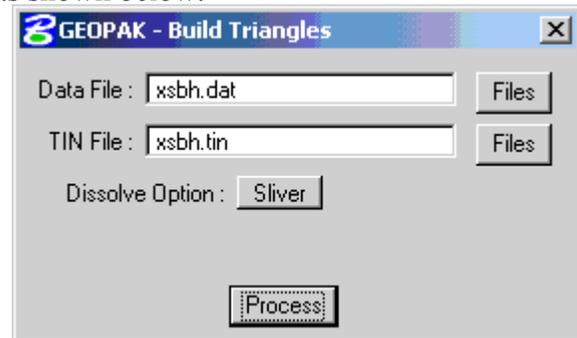


From the DTM menu, shown below, select **Build > Triangles**.



When the following dialog appears, populate it as shown below:

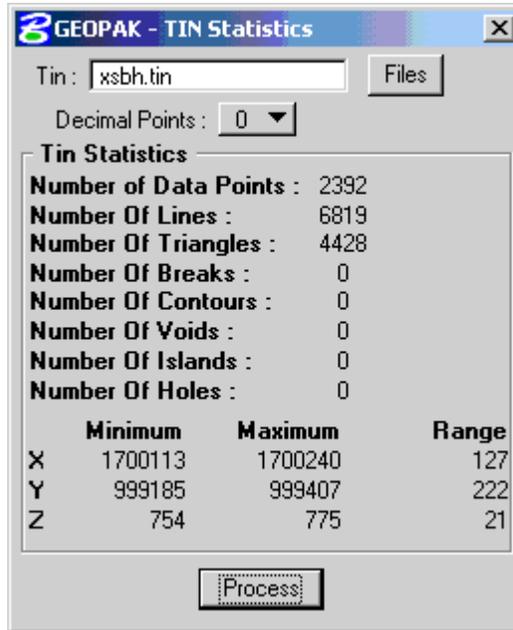
Data File: **xsbh.dat**
 TIN File: **xsbh.tin**
 Dissolve Option: **Sliver**



When the “Build Triangles Complete” appears in the MicroStation Status Bar, close the Build Triangles dialog. Say YES, when asked if you want to save the settings.

7. Select **Reports > Triangle Statistics** from the DTM menu.

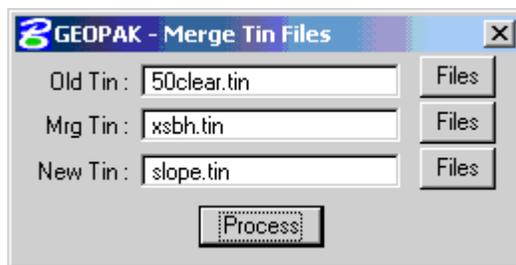
When the following dialog appears, load the file **xsbh.tin** and Process the report. Compare your results to those shown below.



8. Select **Build > Merge TINs** from the DTM menu.

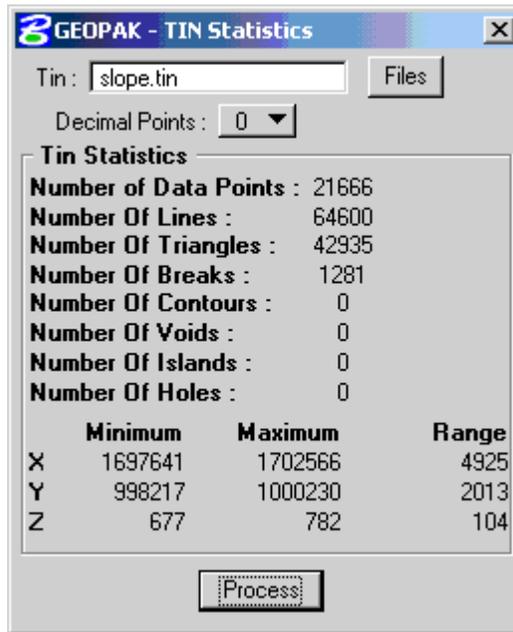
When the following dialog appears, populate it as shown below:

Old Tin: **50clear.tin**
 Mrg Tin: **xsbh.tin**
 New Tin: **slope.tin**



Once the dialog is set, click on **Process**. When the “Build Merge Complete” appears in the MicroStation Status Bar, close the Merge Tin Files dialog.

9. Check the statistics for **slope.tin**. Compare your results to those shown below.



10. Open the MicroStation file:

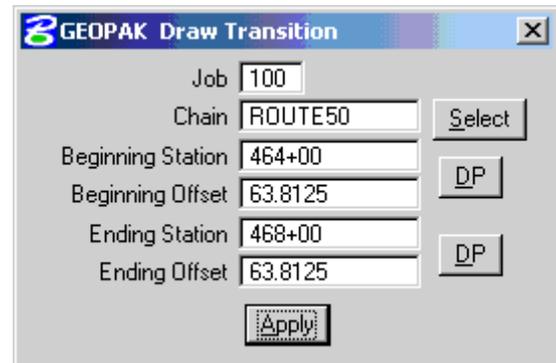
t:\br-proj\a_geopak\d5\j5p0100\data\topo_j5p0100.dgn.

11. Use the **Draw Transition** tool (the third icon in the Plan View Design tool box) to draw the following lines relative to the **Route 50** chain. They represent the outside face of the exterior girder webs. Use symbology of your choosing.

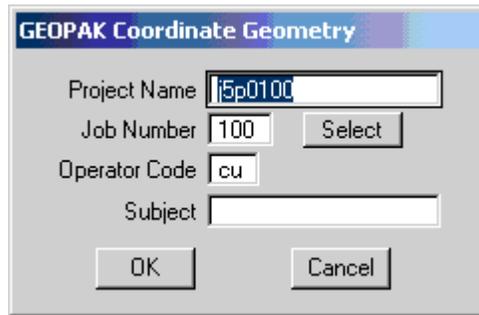
Beginning		Ending	
Station	Offset	Station	Offset
464+00	24.4375	468+00	24.4375
464+00	63.8125	468+00	63.8125

The values for drawing the first line are shown in the figure to the right.

After drawing the drawing the line, close the Draw Transition dialog and do a MicroStation fit view and save the changes to the file.

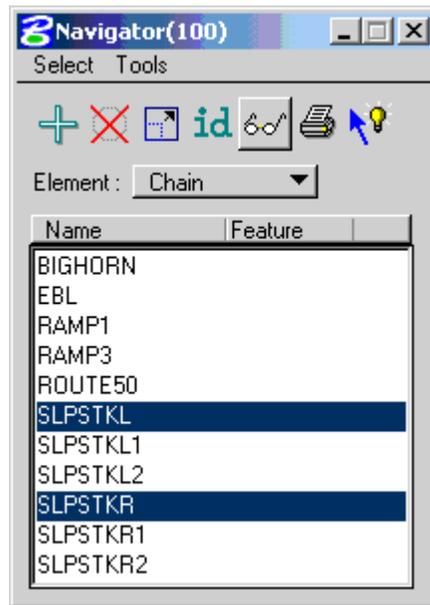


12. Go into Coordinate Geometry with the following settings.

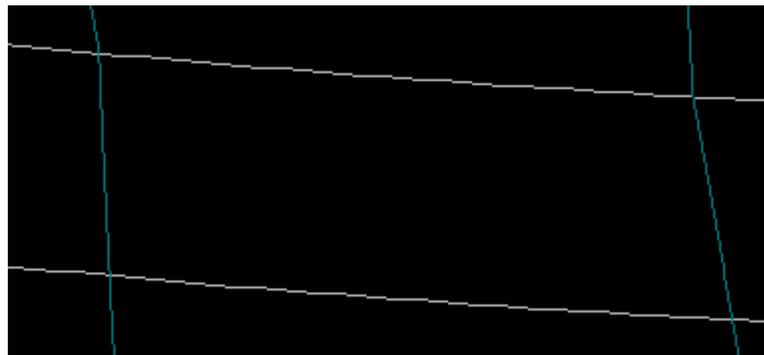


Set the visualization to **Permanent**.

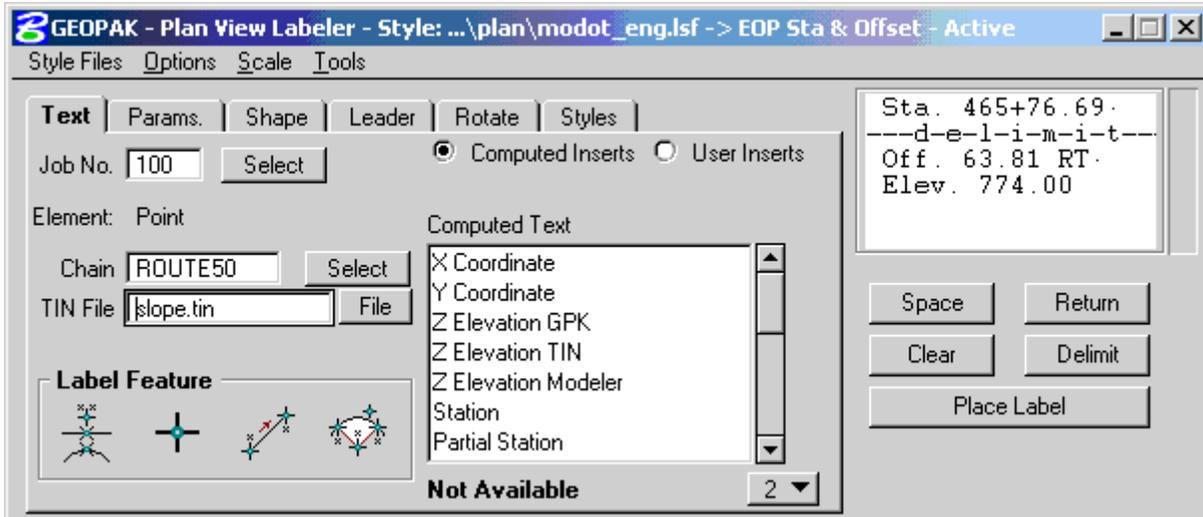
Use the COGO Navigator to **plot** the **chains**: SLPSTKL and SPLSTKR, as shown in the following figure.



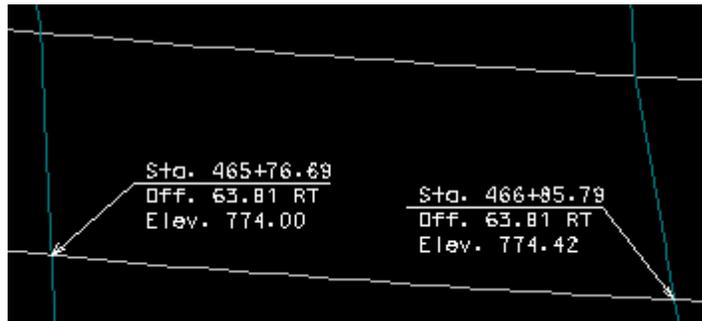
The following screen capture shows the girder lines with the two chains crossing them.



13. Use the Plan View Labeler or any other tool to find the station and elevation where the two changes cross the line with 63.8125' offset. The dialog for using Plan View Labeler is shown below.



A screen capture showing the label in place is shown in the following figure.



Note that the stations and elevations match the results from in Exercises 14-1 through 14-3. The process for laying out the bents from this point would be the same as was done in Exercise 14-4.

14. To graphically see the results, use Load DTM Features to display xsbh.tin, as shown below.

