

Drawing Horizontal Alignments

Design Manual Chapter 40 Design Survey Specifications

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40D-13

Geopak Survey Menu

Start GEOPAK from the MicroStation menu by selecting Applications > GEOPAK > Activate GEOPAK, as shown at the right.

After GEOPAK has been activated, access the GEOPAK **Survey** menu from the MicroStation menu by selecting **Applications > GEOPAK > SURVEY > Survey**, as shown at the right.

The **Survey** tool bar should display, as shown at the right.





1. From the **Survey** tool bar, *click* **'Plans Preparations > D and C Manager**'), as shown below, to open the Design and Computation (D&C) Manager dialog box, (here-in-after referred to as **D&C**). The D&C tools will be used to plot the horizontal alignment chains. These chains are different from survey chains in that they may contain spirals, curves, etc.



2. Confirm that the correct D&C ".ddb" file is open. The path to the ".ddb" file is as follows:

W:\Highway\Design\CADD\Geopak\Survey\SeedFiles\GEOPAKSurvey\DCManager\IDOTSurvey.ddb

The ".ddb" file path should display in the first line of the D&C Manager dialog, as shown below.

| 💯 Design and Computation Manager | |
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| W:\Highway\Design\CADD\Geopak\Survey\SeedFiles\GEOPAKSurvey\DCManager\IDOT | Survey.ddb |
| 🗁 Survey Files (.sur) | |
| Wintighway/Design/LaDD/Geopak/Survey/SeedFiles/GEUPAKSurvey/DEManagen/DUT Survey Files (.sur) Instructions - Design Manual, Chapter 40 | |
| | 2 |

If the wrong ".ddb" file is attached, find and attach the correct one by *clicking File > Open*, as shown at the right.



The **File > Open** command will open the "**Database Name**" dialog. *Click* the *drop-down* list arrow, as shown at the right, to locate and select the correct file. *Double-Click* the file name to open it.



3. The horizontal alignment is drawn in the **Field_TOPO_0100** model.

Open the **Field_TOPO_0100** model by *double-clicking* the model name in the **Models** dialog, as shown at the right.

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| 6 | | Field_TXT_0100 | | Existing Text Information F | \checkmark | W:\Highw |
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4. In **D&C**. *double-click* on the Design and Computation Manager _ 🗆 🗙 Field_TOPO_0100 folder and then *double-click* on the File Edit Settings Favorites Help Existing Horizontal Alignment tool. This tool stands out because it is the only id tool in this folder with a paint brush icon in front of it, as shown at the right. 🎟 W:\Highway\Design\CADD\Geopak\Survey\SeedFiles\GE Burvey Files (.sur) Instructions - Design Manual, Chapter 40 All Models 🛅 Field Drainage Areas Field_G_Sheet Field TOPO 0100 Convert Line From Complex 🖹 Element Copy Parallel Linestyle Shift (Slide Text In Line) Linestyle Reverse Direction (Single Line) Linestyle Reverse Direction (Selection Set or Fence Fir Modify Extend Single Line

5. The above step should cause the **Existing Horizontal Alignment** dialog to display, as shown at the right. To continue to the next step, *click* the **Draw Plan & Profile** button, which should open the **Draw Plan & Profile** dialog, as shown below.



6. In the **Draw Plan & Profile** dialog, make sure that the **Element Type** is set to **Chains**, as shown by the red arrow at the right. Next, select (*single-click*) the alignment that you would like to draw, as shown by the blue arrow. *Clicking* on the alignment name draws that alignment into the MicroStation file. Multiple alignments can be drawn by *clicking* on each **chain** name individually.



7. The alignment should look something like what is shown at the right. The line representing the alignment is all that is drawn in this model.



8. The horizontal alignment curve information, stationing, and tick marks are all drawn into the **Field_TXT_0100** model. Open this model, as shown at the right.



9. In **D&C**, *double-click* on the **Field_TXT_0100** folder and then *double-click* on the **Horizontal Alignment Stationing and Curve Data** tool. You can easily recognize this tool as it is the only one with a paint brush icon in front of it in this folder.



10. The above step should cause the **Existing Horizontal Alignment** dialog to display, as shown at the right. To continue to the next step, *click* the **Draw Plan & Profile** button, which should open the **Draw Plan & Profile** dialog, as shown below.



11. The first thing to be drawn is the curve data. Make sure that the **Element Type** is set to **Chains**, as shown by the red arrow. Place a check (\square) on the **Curve Data** item, as shown by the black arrow. *Single-click* on the alignment name (blue arrow). This will cause the curve data for that chain to be drawn into the MicroStation file.

Repeat for as many alignments as necessary.







13. To draw the curve data into this model the line representing the alignment must also be drawn into the file.

NOTE: This line is not needed in the **Field_TXT_0100** model and should be deleted.



14. To draw the tick marks and stationing, change the **Element Type** to **Stationing**, as shown at the right. Place check-marks (\square) in front of the items to be drawn. When ready to draw, *single-click* on the appropriate alignment name and the selected information will be drawn into the file.

Repeat for as many chains as necessary by *single-clicking* on each individual alignment name.

| Item: | Horizontal Alignment Stationing And Curve Da |
|------------------------|---|
| Element Type: | Stationing 💽 Label Scale: 100 |
| Key-in Points: | |
| Select Chain to ML1 | ick Marks |
| | PC/PT/TS/CS/SC/ST/PI La PI Labels Small Ticks Ticks Left; Labels Left |
| | PC/PT/TS/CS/SC/ST/PI La PI Labels Small Ticks |
| | PC/PT/TS/CS/SC/ST/PI La PI Labels Small Ticks Ticks Left; Labels Left |
| | PC/PT/TS/CS/SC/ST/PI La PI Labels Small Ticks Ticks Left; Labels Left Large Ticks |

15. The stationing and tick marks should now be drawn into the MicroStation file and should resemble the data shown below.



Chronology of Changes to Design Manual Section:

040D-013 Drawing Horizontal Alignments

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