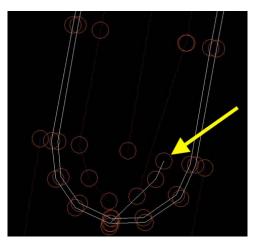


## **Editing Survey Data**

Design Manual Chapter 40 Design Survey Specifications Originally Issued: 09-30-11

Geopak Survey Chains, Points, and COGO are accessed through the Geopak Survey menu.

In the Picture at the right, two BL points were added to the end of a GU survey chain by mistake. This type of problem is to be corrected through Geopak menus, tools, and dialogs, as described below.



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.

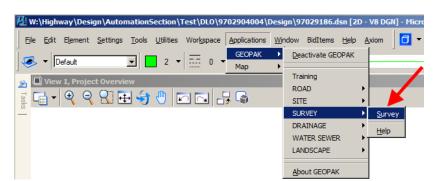
The **Survey** menu should display, as shown below.

W:\Highway\Design\AutomationSection\Test\DLO\9702904004\Design\97029186.dsn [2D - V8 DGN] - Mi

Ele Edit Element Settings Tools Utilities Workspace Applications Window BidItems Help Axiom

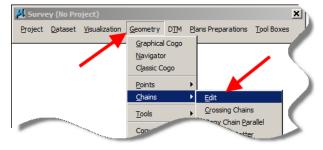
Image: Setting Setting Settings Tools Utilities Workspace Applications Window BidItems Help Axiom

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From the GEOPAK **Survey** menu tool bar, *select* **Geometry > Chains > Edit** to fix the chain.

The **Chain Edit** dialog should open, as shown below.



On the **Chain Edit** dialog, *click* the **Select Chain** button, then in the MicroStation file, *data-point* (*select*) the chain that is to be edited. This will load all of the information for the chain into the **Chain Edit** dialog, as shown at the right.

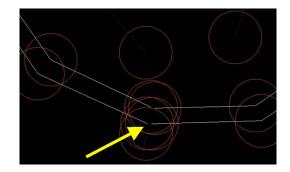
Points 10249 and 10250 are to be removed from the end of the chain. To do this, simply **delete** the points from the **Point List** portion of the dialog. 😤 Chain Edit Chain GU17 🛓 💉 🗐 乎 🗂 🗶 🖉 🗈 • Feature GU17 Station 0.0000 Dataset IA63TO Zone 2 Attribute Spot and Break Descr | Point List . 10225-1024 10249-10250, Select Chain Chain Points 2 North: 583149.7746 Name 10225 . + 10225 • 6 7 East: 1633682.7290 Feature GU17 10226 Ŷ 1 10227 Dataset IA63T0P0 Elev: 812.0371 10228 J h Zone 2 Set by DP 10229 Geometry Point Г -10230 × -Project DP onto Chain Attribute Spot and Break Г Insert After ----22 Descr CONC GUTTER Г Auto Insert



*Click* the **Update Chain** button to finalize the edit.

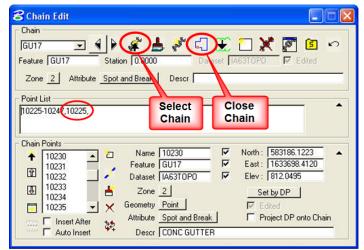
After *clicking* the **Update Chain** icon, the chain will be automatically updated in both the MicroStation and "gpk" files.

In the picture at the right, the CU chain and the GU chain both have gaps that should be connected.

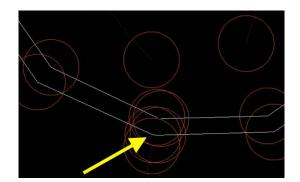


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On the **Chain Edit** dialog, use the **Select Chain** button again to select the chain that is to have a gap closed up. *Click* the **Close Chain** button and the last point of the chain will be connected to the first point of the chain.



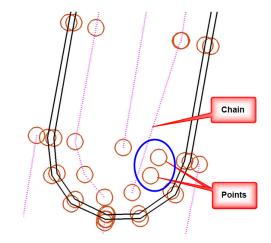
The closed chain appears as shown at the right.



To add the original points to the correct survey chain, *click* the **Select Chain** button again to identify the survey chain where the points are to be added.



The picture at the right shows the BL survey chain and the points that are to be added.

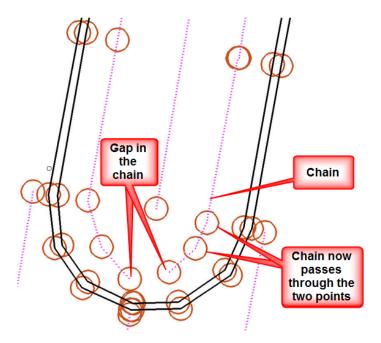


Since the two points to be added to the chain belong in the same sequential order as the other chain points, a hyphen can be used between the first and last point numbers, as shown at the right. If the points to be added were not in sequential order with the other chain points, they should be inserted at the appropriate locations and separated by commas.

After the point numbers have been modified, *click* the **Update Chain** button.



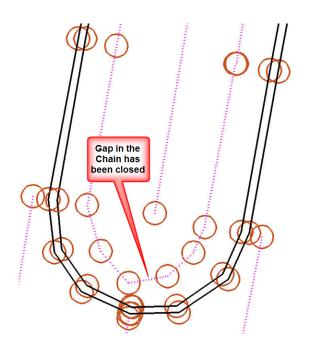
The modified BL survey chain is shown at the right. There is still a gap in the chain that must be repaired.



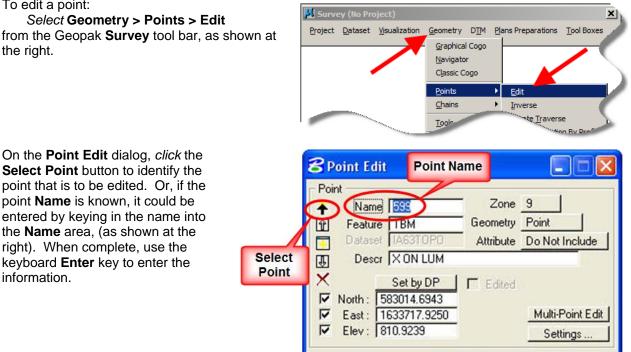
To repair (eliminate) the gap in the above shown chain, use the **Select Chain** and **Close Chain** tools, as shown at the right.



The repaired chain, with the closed gap, is shown at the right.



## To edit a point:

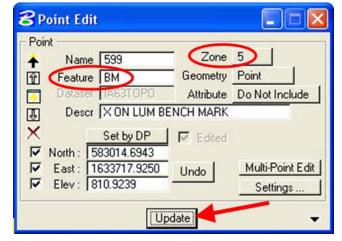


The "TBM" feature for the above listed point was entered in the Feature field of the Point Edit dialog, above. That feature name was not found in the "SMD" file so the point was plotted with the "DEFAULT POINT FEATURE", as shown at the right.



Using the **Point Edit** dialog again, the **Feature** of the point was then changed to **BM** and the Zone was changed to 5.

*Click* the **Update** button to activate the changes.



Update

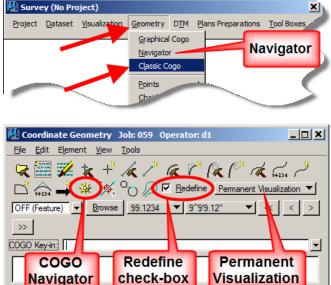
When the **Update** is activated the MicroStation and "gpk" files are both automatically updated and the point changes, as shown at the right.



Another way to modify points is through the **Coordinate Geometry** (COGO) **Navigator**. The **Navigator** dialog can be accessed directly from the **Survey > Geometry** drop-down menu, as shown at the right, or also from the **Coordinate Geometry** dialog, using the yellow "ship's wheel" icon (※), as shown below.

Before modifying points, a couple of settings must be made on the Classic COGO -Coordinate Geometry dialog. As stated above, the dialog can be accessed from the Survey > Geometry > Classic Cogo selection, and the resulting Coordinate Geometry dialog is shown at the right.

In the **Coordinate Geometry** dialog, the **Redefine** check-box must be *checked* (🗹) and the visualization must be set to **Permanent Visualization**, as shown. After completing these two settings, access the **COGO Navigator** dialog.



The **Navigator** dialog is shown below. To modify a point, *select* (highlight) the point row then *click* on the specific item to be modified, such as the **Outlet Feature** shown below, then directly make the change.

🧏 🗙 🗗 id				
Element Point				
Name	Feature / Feature /	Select Northing	Easting	Elevation
	Feature / ription	Select Northing 583111.055	Easting 1633766,423	Elevation 805.060
10767 10775	UTLET )TL18"" RCP RR=8.6"	593111.055 583060.044 583012.943	1633766.423 1633766.871 1633760.438	805.060 811.889 812.055
Name 10767 10775 10776 10777 10733	TOUTLET TL18"" RCP RR=8.6" TO SOUTH"	593111.055 583060.044 583012.943	1633766.423 1633766.871	805.060 811.889 812.055

The modification to the **Feature** is shown at the right. The point is automatically updated in the MicroStation file.

				18
<sup>1</sup> × → id d in k? Element: <u>Point</u>				
			1.601.011	
Name /	Feature	Description	Select I	No
Name / 10766				No F
				-
10766 10767	BB			-
10766 10767				

Several points can also be modified at the same time. *Click* on (*select*) the first point to be modified.

Then -

If all points to be modified are adjacent to each other in the **Navigator** dialog list, *hold down* the keyboard **Shift** key and *click* (select) the last point to be modified, which will cause all points in between to also be selected. Or -

If the points are not adjacent to each other in the **Navigator** dialog list, *hold down* the keyboard **Ctrl** key and *click* each individual point (row) that is to be edited.

After all the points that are to be edited have been *selected*, (highlighted), *right-click* anywhere within the highlighted area and select the option in the *pop-up* menu that describes the action to be taken. In the example at the right, the **Edit Element Feature** option has been chosen for editing the three selected points.

Select Tools <sup>N</sup> × I <sup>®</sup> id ≜ I <sup>®</sup> № Element: Point ▼			
Name /	Feature	Description	Select N.
10768	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583
10769	CON75	TOP CONC LID CONCRETE OR A/C SLAB	5831
10770	CON75	TOP CONC LID CONCRETE OR A/C SLAB	58311
10771	CON75	TOP CONC LID CONCRETE OR A/C SLAB	58310
10772	INB	2.9X2.9 GRATE-SUR FL INTAKE-BEEHIVE	58306
10773	INB	BB 2.5X2.5 CONC BASIN BB=2 INTAKE-BEEHIVE	58306
10774	INB	OUTLET FL18""RCP RR=2.2"	58306
10775	"STA76	TO SOUTH"	58?
10776	"STA76	TO SOUTH"	58
10777	"STA76	TO SOUTH"	5
10770	107177		58
-	"STA77 "STA77 "STA78	FROM E"	5830
	107470	TOP	

Select Tools			
📉 🗙 🗹 id	🖕 🗎 🗞 🖗		
Element : Point	-1		
Name /	Feature	Description	Select
10768	CON75	TOP CONC LID CONCRETE OR A/C SLAB	
10769	CON75	TOP CONC LID CONCRETE OR A/C SLAB	
10770	CON75	TOP CONC LID CONCRETE OR A/C SLAB	
10771	CON75	TOP CONC LID CONCRETE OR A/C SLAB	
10772	INB	2.9K2.9 GRATE-SUR FL INTAKE-BEEHIVE	
10773	INB	BB 2.5×2.5 CONC BASIN RR=2 INTAKE-BEEHIVE	
10774	INB	OUTLET FL18""RCP RR=2.2"	
10775	"STA76.	TO SOUTH"	
10776	''STA	Add Element	
10777	''STA	Delete Element	
10778	"STA		
10779	"STA	Edit Element	
10780	"STA	Print/Describe Element	-
10781	"STA	Edit Element Feature	-
10782	CP	Edit Element Description	_
•		state statistics is a set in statistic	-

The **Edit Element Feature** dialog should now display. In this dialog use the keyboard to enter the **New Feature** name for the points to be edited, as shown.



Click the Apply New Feature button.

The points have now been modified, as shown at the right.

Select Tools					
🔨 🗙 🔂 id	📥 🖹 🔊				
Element : Point 💌					
Name /	Feature	Description	Select		
10768	CON75	TOP CONC LID CONCRETE OR A/C SLAB			
10769	CON75	TOP CONC LID CONCRETE OR A/C SLAB	5.		
10770	CON75	TOP CONC LID CONCRETE OR A/C SLAB	58		
10771	CON75	TOP CONC LID CONCRETE OR A/C SLAB	58		
10772	INB	2.9X2.9 GRATE-SUR FL INTAKE-BEEHIVE	58		
10773	INB	BB 2.5X2.5 CONC BASIN RR=2 INTAKE-BEEHIVE	58		
10774	IND	OUTLET FL18""RCP RR=2.2"	5		
10775	PIP	TO SOUTH"			
10776	PIP	TO SOUTH"			
10777	PIP	TO SOUTH"			
10778	STA/7	TO W"			
105	"STA77 "STA78	FROM E"	5		
	UCTA70	TO			

## **Chronology of Changes to Design Manual Section:**

040d-004 Editing Survey Data

9/30/2011 NEW New