

40A-02

# GEOPAK Load XYZ

Design Manual Chapter 40 Survey Information Originally Issued: 01-09-09

## Using GEOPAK Survey and ASCII XYZ Survey Files

## 1) Setting the GEOPAK Survey Project Preferences

Start GEOPAK by selecting Applications>GEOPAK>Activate GEOPAK on the *Microstation* menu.

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Eile	<u>E</u> dit	E <u>l</u> ement	<u>S</u> ettings	<u>T</u> ools	Utilities	Wor <u>k</u> space	Applications	Window Help Axiom	🗖 • 🖻 • 🎕 • 🥪 • 🔂 🔂 🐠
Defe	dł		-	2 -	0	_ = .	GEOPAK	▶ Activate GEOPAK	AVB A ~ ?

On the *Microstation* menu bar select **Applications>GEOPAK SURVEY>Survey**.

<b>8</b> C:\SurveyTraining\509\509.sur, Field_Project_0	verview (3D - V8 DGN) -	MicroStation V8 2004 Edition
File Edit Element Settings Tools Utilities Workspace	Applications Window Help	Axiom 🗖 • 🖻 • 🎼 • 🥪 • 🕤 🔂 🐠
Default 👤 🗖 2 🗸 🧮 0 🔻 🗮 0	GEOPAK GEOPAK BRIDGE	
R :	GEOPAK DRAINAGE	
	GEOPAK LANDSCAPE	* <u></u>
+ 8	GEOPAK ROAD	•
	GEOPAK SITE	•
	GEOPAK SURVEY	▶ <u>S</u> urvey

The GEOPAK Survey tool bar will then appear.



## Select **Project>Preferences**.

8 C:\SurveyTraining\509\509.sur, Field_Pro	ject_Overview (3D - V8 DGN) - MicroStation V8	2004 Edition
Eile Edit Element Settings Iools Utilities Work	sspace Applications <u>Wi</u> ndow <u>H</u> elp <u>A</u> xiom	🖻 • 🍓 • 🥪 • 🕤 🔂 🔮
Default 👤 🗖 2 🔻 🚃 0 🔻		
💦 😳 🔀 View 1 - Field_Project_Overvie	Survey (No Project)	×
+	Project Dataset Visualization Geometry DIM Plan	ns Preparations <u>T</u> ool Boxes
	Open	
7, 0,	Save Close	
	Delete	
±₽ *,	<u>U</u> sers	
** **	Preferences	

Complete the <i>Project</i>	Settings based on	the Survey An	d Photogrammetry	Number (SAP#).

Project	] para	15	(Courseling View)	) Carachi	) DTH	3	Directory
 Floject		12	Directory :	I Geometry	I DIM		1
 Settings	509.pri		c:\SurvevTrai	nina\509\			
Configuration	Description						
1	IA 63 From 135	to La	ndfill				
	Job Number :		Job Directory :				
	509	Q	c:\SurveyTrai	ning\509\			
Global Working	g Directory :						
	10 00 00					- 10 - 10	

Fill in the Project User information based on the party chief and project description.

Project	Dataset	Visualization	Geometry	) DTM
	- Name:	Full Name :		••••••
Settings	Hightshoe	Preliminary St	urvey	
Configuration	Description :			
	IA 63 From 135	5 to Landfill		
	OP Code :	Password :		
	PS			

You can place a check in the box shown below on the Project Configuration tab.

Project	Dataset	Visualization	Geometry	) DTM	
Settings User Configuration	Auto Ope	Survey Menu Bar n last project n first project found efault Project If None Fo ject Manager When Ex	bund	<b></b>	

For the *Dataset Settings*, what you type in here is used as the defaults for the dataset names and descriptions you will create later in the process.

Project	Dataset	Visualization	Geometry	) DTM
Settings	Name :			
Data Source	IA63Topo			
Linking Codes	Description :			
Obs File	Using SMI on I	IA 163		
Beduction	Output Director	y:		
Configuration				Q
	✓ Use datase	et name as output sub-	directory	
	It Oscidulase	A name as output sub	directory	

The Dataset Data Source sets what type of file the dataset will use.

<u>D</u> efault				
Project	Dataset	Visualization	Geometry	) DTM
Settings Data Source Linking Codes Obs File Control File Reduction Configuration	Data Source	: ASCII File(s)	ASCIIType : <u>&gt;</u> aw Data	ŶZ to Coordinates
	🗖 Use this F	ïle Extension(s) instead	of the default : 「	cor;*.xyz;*.txt

Linking Codes will not be used.

- Project	Dataset	Visualization	Geometry	) DTM
Settings	Begin Line : ∫	BL* PC (	Curve : PC*	Continuation : CN*
Data Source Linking Codes	End Line : [	EL* PT (	Curve : PT*	Left Right : LR×
Obs File Control File	Beg/End Curve : 🖡	BC* Cur	ve Fit : CF*	Front Back : FB*
Reduction Configuration	Close Figure : [	CF* PCC C	Curve : CC*	Up Down : UD*
	☐ Store Linking ( Linking Code I	Code as Point De: s After Feature	scription I	Duplicate Prefix : CALC Comment Char :

You do not need to change the Obs File default settings.

Project	Dataset	Visualization	Geometry	) DTM	
Settings Data Source Linking Codes	Use String Substitutions				
Obs File	🗖 Remove [	) uplicate Shots from OB	S when converting		
Control File Reduction Configuration	Force Sur	vey Chains to be Create ement Duplicate Chain N	ed with No GAPS Names when conver	ting	
	Renumber Po	ints By: <u>None</u>	<b>•</b>		

You do not need to change the *Control File* default settings.

Project	Dataset	Visualization	Geometry	) DTM
Settings Data Source Linking Codes Obs File	Import CT     Set the D     CASurveyPn	L points refault CTL File to use : niects\50191\SMIN.oAs	SMIN 645 ctl	Q
Control File Reduction Configuration	Transfer (	Coordinate Records wł	nen converting Raw	data

Make sure that the Adjustment Method is set to No Adjustment and the Correct for earth curvature box is checked on the *Dataset Reduction* tab.

Preferences	
<u>D</u> efault	
Project	Dataset Visualization Geometry DTM
Settings Data Source Linking Codes Obs File Control File Reduction Configuration	Adjustment Method :       No Adjustment       ▼         ✓       Correct for earth curvature and atmospheric refraction.       Distance 0.030 Angle 30.00 Elevation 0.100         XYZ Decimal Places       3 ▼
	Do not show reduce dialog when processing.
	<u>O</u> k <u>C</u> ancel

The Dataset Configuration check boxes determine how the Dataset operations run.

Preferences					
<u>D</u> efault					
Project	Dataset	Visualization	1	Geometry	) DTM )
Settings Data Source Linking Codes Obs File Control File Reduction Configuration	<ul> <li>Auto Open</li> <li>Delete Ren</li> <li>Delete Ren</li> <li>Auto Open</li> <li>Auto Open</li> <li>Auto Open</li> <li>Auto Open</li> <li>Auto Creat</li> </ul>	Editor moves Data files moves From GPK I last dataset I first dataset found e default dataset	य य न न य य	Import After R Store Element Scan GPK for Auto Open AS Show Other U Clear Raw File	eduction s into GPK Orphan datasets :CII Dialog ser Datasets e List When Dataset New
	<u> </u>	<u>]k</u>	<u>C</u> a	ancel	

The *Visualization Settings* determines what "smd" file to use and what scale to draw the objects. Use should set the *Plot Scale* to **5**. The location of the "smd" file is:

Tab	Default				Click to
	Project Dataset Settings Mapping Configuration Cross Section Plot Scale : 5.00000 ✓ Apply Featur Use Shared	<u>Nisualization</u> a: Files\GEOPAKSurvey\SM re Best Match Cells	Geometry   D1	TM	Select File
	<u>0</u>	<u></u> a	incel		

## C:\SurveySeedFiles\GEOPAKSurvey\SMD\IDOTSurvey.smd

Place check marks in all of the boxes for *Visualization Mapping*. This will give you the ability to plot these items in Microstation.

jerault				
Project Settings Mapping Configuration Cross Section	Dataset  Name / N  Elevation  Comment  Comment	Visualization lumber abel	Geometry	DTM

For the *Visualization Configuration* tab, you can check the box to automatically draw the survey information after processing. Make sure that the Point Label Re-Mapping is set to **Redraw** according to SMD.

<u>e</u> fault				
Project	Dataset	Visualization	Geometry	DTM
Settings Mapping Configuration Cross Section	I Auto Dra ☐ Always D [C:\SurveyPr	w Mapping After Proce raw Mapping to this D1 ojects\Training\509\51	iss or Import GN file : 39.sur	٩
	Point Label R	e-Mapping: <u>Redraw</u>	according to SMD 🗨	▼1

The default settings for Visualization Cross Section can be used.

Preferences				
<u>D</u> efault				
Project	Dataset	Visualization	Geometry	] DTM ]
Settings Mapping Configuration Cross Section	Plot Elev.	ation Text : 12 <b>,</b> 34 des	Hor N Horizontal Distanc Vertical Distanc	rizontal Scale 10 /ertical Scale 10 ce Between : 1000.0 ce Between : 1000.0
Cross S	Section Element S	ymbology :	Horizonta Vertica	al Tolerance : 0.01 al Tolerance : 0.01
	1	<u>0</u> k	<u>C</u> ancel	

The Geometry Settings should look like this for English.

Preferences					
<u>D</u> efault					Geometry Tab
Project	Dataset	Visualization	Geometry 📥	DTM	
Settings	Unit System : <u>E</u>	nglish 🔻	Set Global Geodetic	Data	
Configuration	Coordinate : <u>N</u>	E 🔻	99.123 🔻		
	Direction : B	earing 🔻	9^9'9.1 💌		
	Station : <u>1</u>	2+34 🔻	9+99(9).12 🔻		
<u>.</u>		-10			
	<u>k</u>				

The *Geometry Configuration* tab should have the **Redefine** box checked. This will allow for editing of information after it has already been processed.

Preferences						
<u>D</u> efault						
Project	Dataset	Visualization	Geometry		) DTM	- I
Settings Configuration	Input Director	Elements in GPK y (Optional) :				
	Γ			۹		
	Output Directo	ory (Optional) :		~		
				Q		
<u>.</u>						
		<u>0</u> k	<u>C</u> ancel			

The *DTM Settings* should be changed to match the box below. These settings determine how the "tin" file is created.

<u>)</u> efault					- DTM
Project Settings Stroking	Dataset Determine Dissolve O	Visualization	Geometry Feature Table (SMD ide Length: 100.000		
		<u>0</u> k	<u>C</u> ancel	]	

The default settings for DTM Stroking can be used.

ataset ) Stroke Curves Stroke Linear	Visualization Arc Stroke To	Geometry	) ртм
ataset   Stroke Curves Stroke Linear	Visualization Arc Stroke To	Geometry	) DTM
Stroke Curves Stroke Linear	Arc Stroke To	elerance 0.100	
Stroke Linear	15 01 1 5	and a second second second second	
	Linear Stroke L	istance 75.000	
<u>0</u> k	li D	<u>C</u> ancel	
	<u>D</u> k	<u>Dk</u>	<u>Dk</u>

## 2) Creating the GEOPAK Survey Project

To actually create the GEOPAK Survey project you must select **Project>New** on the *Survey* toolbar.



The *Project New* box that appears will have the information already filled out based on the preferences you set. Press the **OK** button if everything is correct.

<b>2</b> Project New	
Name 509.pr Directory : [c:\SurveyTraining\5 Job Number : 509 Q Description :	<u></u> ५
IA 63 From 135 to Landfill           Dk         Cance	

#### 3) Creating a New Dataset

Now that the project has been created, we can create the first dataset. A dataset is a file, or files, of survey information that is loaded into GEOPAK. Each dataset may contain one day's work or the entire project. To create the dataset select **Dataset>New**.

8 C:\Surv	eyTrainir	ng\509\5	i09.su	ır, Fiel	d_Pro	ject_(	0vervie	ew (	3D - V8 DG1	4) - 1	MicroS	tation	V8 2	004	Editio	m		
Eile Edit	Element	<u>S</u> ettings	<u>T</u> ools	Utilities	Wor	<u>k</u> space	Applica	ations	<u>W</u> indow <u>F</u>	<u>t</u> elp	<u>A</u> xiom	C	• [	•		• 🤘 •	<b>1</b>	3 🖌
Default	1	J 🔲	2 🕶		0 -		) <b>-</b>				) 🖻	8	X	Đ	ß	$\infty \alpha$	?	
	名 View '	1 - Field				Surve	<mark>7 (P</mark> roje	ct : 5	i09 User:H	light	shoe)						×	
+, 💡						Proje	ct <u>D</u> ata	aset	Visualization	Ge	ometry	D∐M	Plans	Prepa	rations	<u>T</u> ool Box	es	

The *Dataset New* box will appear and be preset based on the preferences you set. Click on the **Dataset Add Source File to List** button to select the file containing the survey information.

逽 Dataset New			
Name     A63Topo	Overwrite 💌		
Description : Using SMI	on IA 163		
Data Source : ASCII File(	s) 🛛 🚽 XYZ to Coordinate:	s 🔻	
Output Directory :		Q	
🔽 Use da	taset name as output sub-dir	ectory	
♥ Use dal Source Format : XYZ to I	taset name as output sub-dir <b>Coordinates</b> File(:	ectory s) to Use : 🛃	
Vise dai Source Format : XYZ to t	taset name as output sub-dir <b>Coordinates</b> File(:	s) to Use :	
Vise dal Source Format : XYZ to t	taset name as output sub-dir <b>Coordinates</b> File(:	s) to Use : 2	
Vise dal Source Format : XYZ to (	taset name as output sub-dir Coordinates File(:	ectory s) to Use : ★	

Select the file and then press the **OK** button.

Select File(s)		
Fijles:   05091000.cor	Directories: C:\SurveyTraining\509\	
05091000.cor	C:\ SurveyTraining 509 IA63Topo projdbs	_
List Files of <u>T</u> ype: ≛.cor,*.xyz,*.txt	Dri <u>v</u> es: ▼ □ □ C:	 Cancel ▼Help

If everything looks correct, press the **OK** button.

B Dataset Nev	v 🔲	
Name :	IA63Topo Overwrite 💌	
Description :	Using SMI on IA 163	
Data Source :	ASCII File(s) 🔻 XYZ to Coordinates 💌	
Output Directory :	[]	۹
	☑ Use dataset name as output sub-directory	
Source Forma	t : XYZ to Coordinates	
-	File(s) to Use :	
	.C:\SurveyTraining\509\05091000.cor	ð
		×
		+
		12.0

In the *XYZ to Coordinates* dialog box that appears next you must tell GEOPAK what each column represents. There are many options available.

e z	nates User : Hightshoe Dataset : IA63Topo 🔲 🗖 🕅 🔀
F PNum F PNum LCode	ing\509\05091000.cor Q Delimiter Comment Delimiter Space ▼
Chain DTM ParName ParValue	099.61,806.335,CP FD 5/8 RE-ROD 068.88,657.538,CP FD 5/8 RE-ROD 557.93,887.505,CP FD 5/8 RE-ROD
Zones LCodePCode	583017.6199 1633745.022 811.635 CP
► None _Rese	None         ▼         None         ▼         None         ▼           t         Next>>         Link w/ No Gap (LF)         ▼         Chain         ▼
C Load ASCII Dia C Open Editor Aft Process Looded	log On Dataset Open er Processing

For a standard XYZ ASCII file, you should use the settings shown below. Press the **Process** button after all of the columns have been identified.

<b>8</b> XYZ to Coordinates	User : Hightshoe	Dataset : IA6	ЗТоро	
File C:\SurveyTraining\509\	05091000.cor	ά .		
Delimit	er _, 💌	Comment	Delimiter <u>Space</u>	, ▼
17,583194.08,1633099.61,8	06.335,CP FD 5/8 RE-RI 57 598 CP FD 5/8 RE-RI	DD DC		<u> </u>
19,582622.83,1637557.93,8	87.505,CP FD 5/8 RE-RI			
200 59201	7 6199 16227/5	022 9116	25 r	тр Пр
900 5000 50001 PNum ▼ Y	▼  ×	▼  Z		°Code ▼
ResetNex	«t >>	Link w/	No Gap (LF) 🔻	Chain 🔻
Load ASCII Dialog On Da	ataset Open Proce		iort After Process	
Open Editor After Process     Process LoodePcode sar	sing me as Baw Data	Sto	re Elements into (	ЗРК

Press the **OK** button on the dialog box that appears next. This dialog explains how the chains will be named.



You will get the following Alert box if you have used any feature codes that are not in the "smd" file. Press the **OK** button to continue.



If a point has already been loaded into the "gpk" file from another dataset, the following dialog box will appear. You will have to decide what action to take.

Over Writing Info	rmation in GPK
The point [17] alrea	dy exists.
Existing N: 583194.080 E: 1633099.610 Z: 806.335 Dataset : IA63T0P0 Feature : CP Zone : 5	New N: 583194.080 +0.000 E: 1633099.610 +0.000 Z: 806.335 +0.000 Dataset : IA63T0P0 Feature : CP Zone : 5
Over Write     Do Not Over Wr     Change Point/Cl     Add Prefix     Add Suffix     Merge Chains	ite hain Name
Apply 4	Apply All Stop Import

After all of the following *Importing Points into the GPK and Importing Chains into the GPK* dialogs have gone away, the survey information will have been plotted into the Microstation file. If you had any unknown feature codes the dialog box from above will be shown again. Press the **OK** button on this box.

Importing Chains into the GPK.
0%
/

You can use the **Fit View** button on the **Microstation View Control** tool bar to fit all of the survey items onto the screen.



Below is an example of the survey information shown in Microstation.



## 4) Editing a Survey Chain

In the Picture below, two BL points were added to the end of a GU survey chain by mistake.



Select Geometry>Chains>Edit from the Survey tool bar to fix this chain.



Press the **Select Chain** button on the *Chain Edit* dialog box and then data point on the chain you want to edit. This will load all of the information for the chain into the *Chain Edit* dialog box as shown below.

名 Chain Edit		
Chain	1 6 🗖 🛓 🖉 🗂 🏵	* ¥ 7 6
Feature GU17	Station 0.0000 Dataset	IA63TOPO
Zone 2 Attribute	Spot and Break Descr	
Point List		<b>^</b>
	f	
Chain Points	Nome 10225	North : 583149 7746
↑ 10225 ▲ 10226	Feature GU17	East : 1633682.7290
10227 -	Dataset IA63TOPO	Elev: 812.0371
10228	📥 Zone 2	Set by DP
10223	🗙 Geometry <u>Point</u>	F Edited
m Insert After	Attribute Spot and Break	Project DP onto Chain
www. E Auto Insert	** Deer CONC GUTTER	

Points 10249 and 10250 need to be removed from the end of the chain. To do this, simply **delete** the points from the *Point List* portion of the box. Press the **Update Chain** button to finalize the edit.



After the Update Chain button has been pressed the chain will be automatically updated in the Microstation and "gpk" files. In the picture below the CU chain and the GU chain both have gaps in them that should be connected.



On the *Chain Edit* dialog box use the **Select Chain** button again to select the chain you want to close. Press the **Close Chain** button and the last point of the chain will be connected to the first point of the chain.



The closed chains appear below.



To add the original to points into the correct survey chain, use the **Select Chain** button to identify the survey chain you want to add them to.

🕇 Chain Edit		
Chain		··· 🛏 🐱 📼 🚗
BL18 -	Y 👫 🖻 😤 🗔 3	t 🗋 🦧 😰 🗉
Feature BL18	Station 0.0000 Datase	st TA63TOPO 🔽 Edited
Zone 3 Attribute	Spot and Break Descr	
- Point List		
T OINCEISC		
r oint List		
r oint List		
Chain Points	1 🍎 Name 10248	✓ North: 583153.0523
Chain Points	Name 10248	✓ North: 583153.0523     ✓ East: 1633685.8890
Chain Points  Chain 2018  10248  10251  10252	Name 10248 Feature BL18 Dataset IA63T0P0	✓ North: 583153.0523     ✓ East: 1633685.8890     ✓ Elev: 812.6443
Chain Points ↑ 10248 ▲ 10251 10252 10253	Name 10248     Feature BL18     Dataset IA63TDP0     Zone 3	✓ North : 583153.0523     ✓ East : 1633685.8890     ✓ Elev : [812.6443     Set hu DB
Chain Points ↑ 10248 ▲ 10251 10252 10253 10253 10254	Name 10248 Feature BL18 Dataset IA63TOPO	<ul> <li>✓ North : 583153.0523</li> <li>✓ East : 1633685.8890</li> <li>✓ Elev : 812.6443</li> <li>Set by DP</li> </ul>

The following picture shows the two points and the BL survey chain they need to be made a part of.



Because the two points could be added to the chain in sequential order with the existing points, the point list was changed to what is shown below using a hyphen. If the points were not in sequential order they could have been added in the appropriate locations separated by commas. Press the **Update Chain** button after the point numbers have been modified.



The modified BL survey chain is shown below.



This chain also needed to be closed using the Select Chain and Close Chain buttons.



The finished chain is shown below.

## 5) Edit Points

Select Geometry>Points>Edit on the *Survey* tool bar to edit a point.

8 C:\SurveyTraining\509\509.sur, Field_Pro	ject_Overview (3D - V8 DGN	I) - MicroStation	V8 2004 Edition	
Eile Edit Element Settings Tools Utilities Work	space Applications <u>Wi</u> ndow H	lelp <u>A</u> xiom	• 🖻 • 🎼 • 🤗 • (	<b>9</b> 🕄 🔮
brgAluminum 💽 🛛 2 🗸 🚃 0 🗸	<b>0</b> •			?
N Siew 1 - Field_Project_Overvie	Survey (Project : 509 User : H	ightshoe Datase	t : 1A63Topo)	×
+	Project Dataset Visualization	Geometry DTM	Plans Preparations Tool Boxes	
		<u>N</u> avigator	*****	
1. O		Classic Cogo		
Bo A		Points		

Use the **Select Point Button** on the *Point Edit* dialog box to identify the point to edit. If you know the point name you can also just type it in the *Name* area and hit the **Enter** key.

名 Point Ec	lit		
Point —		Zone	9
T eat		Geometry	Point
Datas	et nassTOP0	Attribute	Do Not Includ
J Des	cr XON LUM		
×	Set by DP	Edited	
North:	583014.6943	· · · · · · · · · · · · · · · · · · ·	
🔽 East:	1633717.9250		Multi-Point E
Elev:	810.9239		Settings

This point came in with the default feature because the feature that was assigned to it in the field (TBM) is not in the "smd" file.



The *Feature* of this point was changed to BM and the zone was changed to 5.



After pressing the **Update** button the Microstation and "gpk" file are both automatically updated as shown below.



Another way to modify points is in the *Coordinate Geometry (COGO) Navigator*. You can access the **COGO Navigator** from the *Survey* tool palette.



After selecting the button, two boxes will appear. The *COGO* box is shown below. To make this procedure work correctly, the **Redefine** box must be checked and the visualization must be set to **Permanent Visualization**.

<u>file E</u> dit E <u>l</u> eme	nt <u>V</u> iew <u>T</u> ools					
😦 🔤 💋	ta + /a /	a Cal	a Carl	2 d 🏠.	* * * · ·	n D 🔽 <u>R</u> edefin
Permanent Visual	ization VIOFE (Feature	Browse	Edit 99 123	▼   9^991	- ulu	

The *COGO Navigator Box* is shown below. To modify an individual point highlight it's row. Then click on the item, such as Feature, that you want to change and type in the new information.

8 Navigator (509)							
Select Tools							
🏹 🗙 🔄 id 🖕							
Element Point	<b>_</b>						
Name	Feature / D	escription	Select	Northing	Easting	Elevation	-
10767	"OUTLET F	L18""' RCP RR=8.6"		583111.055	1633766.423	805.060	
10775	"STA76 T	O SOUTH"		583060.044	1633766.871	811.889	Street and
10776	"STA76 T	O SOUTH"		583012.943	1633760.438	812.055	

The change to the feature code is shown below. The point is automatically updated in the Microstation file.

8 Navigator (509)						. 🗆 🛛
Select Tools						
💘 🗙 🖃 id 🛓 🗎	) 🖓					
Element : Point 🔹						
Name /	eature	Description	Select Northing	Easting	Elevation	
10766	BB	4.0×3.0 CONC BASIN RR=7.6 BILLBOARD OR SIGN	583111.055	1633766.423	806.060	1.000
10767	PIP	FL18"" RCP RR=8.6"	583111.055	1633766.423	805.060	
10768	CON75	TOP CONCILID CONCRETE OR A/C SLAB	583108.688	1633767.929	813.620	
10769	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583112.350	1633768.656	813.714	

You can also modify multiple points at one time. Click on the first point to modify. If all of the points to be modified are in order in the COGO Navigator window, hold down the Shift key and data point on the last point. If the points are not next to each other in the COGO Navigator window, hold the CTRL key down and data point on each individual point that need to be edited.

名 Navigator (509)						
Select Tools						
Se x 🖂 id	A = N					
2 × 11 10	A 🗐 13.					
Element : Point	<b>•</b>					
Name /	Feature	Description	Select Northing	Easting	Elevation	-
10768	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583108.688	1633767.929	813.620	1.12
10769	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583112.350	1633768.656	813.714	
10770	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583113.297	1633763.814	813.636	
0771	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583109.676	1633763.056	813.543	
10772	INB	2.9X2.9 GRATE-SUR FL INTAKE-BEEHIVE	583061.416	1633767.238	811.880	
10773	INB	BB 2.5×2.5 CONC BASIN RR=2 INTAKE-BEEHIVE	583061.416	1633767.238	809.480	
10774	INB	OUTLET FL18""RCP RR=2.2"	583061.416	1633767.238	809.680	
10775	"STA76	То зоитн"	583060.044	1633766.871	811.889	
10776	"STA76	TO SOUTH"	583012.943	1633760.438	812.055	
10777	"STA76	TO SOUTH"	582986.270	1633754.241	801,787	
10778	"STA77	T0 W"	583075.283	1633723.829	812.755	
10779	"STA77	FROM E"	583080.410	1633696.311	811.576	

ς.

Once all of the points are highlighted, right-click on the highlighted area and select the option that describes what you want to edit. In this case I am going to edit the feature of these three points.

8 Navigator (509)						
Select Tools						
N     N     Id       Element:     Point	<b>≜</b>					
Name /	Feature Description		Select Northing	Easting	Elevation	
10768	CON75 TOP CONC LID C	ONCRETE OR A/C SLAB	583108.688	1633767.929	813.620	
10769	CON75 TOP CONC LID C	CON75 TOP CONC LID CONCRETE OR A/C SLAB		1633768.656	813.714	
10770	CON75 TOP CONC LID C	CON75 TOP CONC LID CONCRETE OR A/C SLAB		1633763.814	813.636	
10771	CON75 TOP CONC LID C	175 TOP CONC LID CONCRETE OR A/C SLAB		1633763.056	813.543	
10772	INB 2.9X2.9 GRATE-9	2.9X2.9 GRATE-SUR FL INTAKE-BEEHIVE		1633767.238	811.880	
10773	INB BB 2.5K2.5 CONC	BB 2.5X2.5 CONC BASIN RR=2 INTAKE-BEEHIVE		1633767.238	809.480	
10774	INB OUTLET FL18""F	IB OUTLET FL18""'RCP RR=2.2"		1633767.238	809.680	
10775	STA76 TO SOUTH"		583060.044	1633766.871	811.889	
10776	"STA Add Element		583012.943	1633760.438	812.055	
10777	"STA Solutione		582986.270	1633754.241	801.787	
10778	"STA Delete Element		583075.283	1633723.829	812.755	
10779	"STA Edit Element		583080.410	1633696.311	811.576	
10780	"STA Print/Describe Eleme	nt	583078.963	1633693.640	811.485	
10781	"STA Edit Flowert Fosture		583024.578	1633684.235	809.099	
10700	CD Eule demenureature	DINIT	E0010E 100	1000700-104	013 013	0.00

In the Edit Element Feature box, type in the feature that you want the points changed to.

<b>3</b> Edit Element Fea	ture 🔲 🗖 🔀
New Feature : FIF	
Apply New	Feature

The points have now been modified as shown below.

名 Navigator (509)						
Select Tools						
📉 🗙 📑 id 🤅	<b>≥</b> 📄 ⊳⁰					
Element : Point	•					
Name /	Feature	Description	Select Northing	Easting	Elevation	
10768	CON75	TOP CONCILID CONCRETE OR A/C SLAB	583108.688	1633767.929	813.620	1.12
10769	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583112.350	1633768.656	813.714	
10770	CON75	TOP CONCILID CONCRETE OR A/C SLAB	583113.297	1633763.814	813.636	
10771	CON75	TOP CONC LID CONCRETE OR A/C SLAB	583109.676	1633763.056	813.543	
10772	INB	2.9X2.9 GRATE-SUB FL INTAKE-BEEHIVE	583061.416	1633767.238	811.880	
10773	INB	BB 2.5×2.5 CONC BASIN RR=2 INTAKE-BEEHIVE	583061.416	1633767.238	809.480	
10774	INB	OUTLET FL18""RCP RR=2.2"	583061.416	1633767.238	809.680	
10775	PIP	TO SOUTH"	583060.044	1633766.871	811.889	
10776	PIP	TO SOUTH"	583012.943	1633760.438	812.055	
10777	PIP	TO SOUTH"	582986.270	1633754.241	801.787	
10778	"STA77	TO W"	583075.283	1633723.829	812.755	
10779	"STA77	FROM E"	583080.410	1633696 311	811 576	