LAB 2 - Working with InRoads Survey

Lab 2.1 - Opening Survey Data

Start by viewing a survey fieldbook that is already complete.

Section Objectives:

- Open a MicroStation file.
- Open an existing Survey Fieldbook.
- Double-click on the InRoads Survey desktop button or select
 Start > All Programs > Bentley > InRoads Group V8i (SELECTseries 2)> InRoads Survey.
- 2. In the MicroStation Manager dialog go to the Workspace group section and change
 - User: CDOT User
 - Project: 12345
 - Interface: CDOT

Look in:	🔰 Working		-	G 🦻	🖻 🛄 -	🖻 🖪	*	3D - V8 DGN	
(Ha	Name	*	Date modi	fied	Туре				
Desktop	₩12345Surv	eyTopo100Scale01.dgn	10/30/2009) 12:56	Bentley M	iicroStati			
Computer									
	•	m				,			
	File name:	12345SurveyTopo100)Scale01.dgn		•	Open	User:	CDOT User	
	Files of type:	MicroStation DGN File	s (*.dgn)		-	Cancel	Project:	12345	
Network									

- 3. From the *Working* folder select the file *C:\Projects\12345\ROW_Survey\Working\12345SurveyTopo100Scale01.dgn*
- 4. **<D>** the **OK** button or double click the filename.

- Den Open Look in: 1. ROW_Survey - 🗿 🏚 📂 🖽 -Name Date modif... Type Size Correspondence Recent Places Drawings 退 InRoads Research Desktop Survey 퉬 Working R CDOT CDOT Computer -File name Open Network Cancel Files of type: InRoads Files (*.rwk;*.dtm;*.alg;*.fwd;*.xin) -Help
- 5. From the InRoads Survey pull-down **File > Open**. The **Open** dialog will appear.

6. From the **Open** dialog change the Files of Type to **Survey Data (*.fwd)**.

🔀 Open	_						23
Look in:]] Field_Books	ield_Books			G 🦻	⊳ 🛄	
(Pa)	Name	Date modif	Туре	Size			
Recent Places		/_Fieldbook.fwd					
Computer Computer Network	File name: Files of type:	Survey Data	(*.fwd)			•	Open Cancel Help

- **Note:** Notice how the directory folder changed to **Field_Books** when the Files of type changed. This is one of the benefits of setting up the Project Defaults for each discipline.
- 7. Select the file

C:\Projects\12345\ROW_Survey\InRoads\Field_Books\12345SURVFieldbook.fwd

- 8. **<D>** the **Open** then **Cancel** buttons.
 - **Note:** InRoads is **Memory** based, **not Disk** based. The file(s) in the Workspace pane are copies from the disk drive and reside in the computer's memory. Any changes to these data files (or creation of new data files) requires them to be saved back to the disk drive.

Lab 2.2 - CAD vs. Fieldbook Viewing

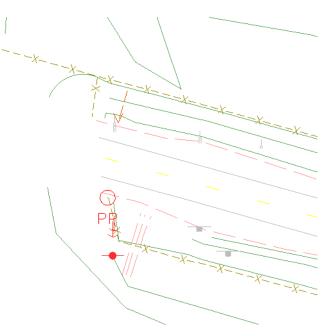
Take a look at the InRoads Survey interface; notice the two files loaded in the Survey tab. The file with the red box around the button is the active file. Any commands that are selected will use the active file.

Section Objectives:

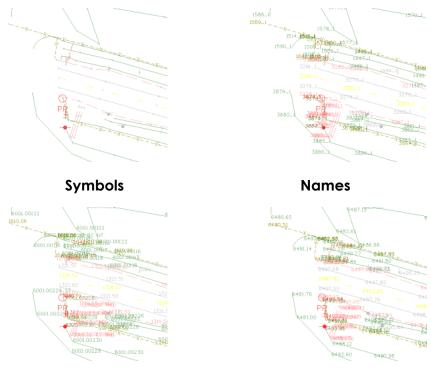
- View a fieldbook in the Survey Information Window.
- View the survey data in the MicroStation view.
- Fit the Survey data in a MicroStation view.
- Use the shortcut menus in the Interface.
- 1. Use your cursor and **<D>** on the default Survey fieldbook **Book 1**.
- 2. **<R>** on *Book 1* and from the fly out menu select **Set Active**. Notice how the red box moved to *Book 1* this indicates the active fieldbook.
- 3. **<R>** on *12345SURVFieldbook* and from the fly out menu select **Set Active** and make that the active fieldbook book again.
- 4. Fit the survey data to the view from the pull-down **Survey > Fit View** the entire fieldbook will be displayed in the active view.



5. Use the MicroStation viewing tools to zoom to the west end of the project.



- 6. From the InRoads pull down menu select **Tools > Survey Options**. The Survey Options dialog will appear.
- 7. On the *General* tab change the *Text Scale* value to *1*.
- 8. **<D>** the **OK** button the Survey Options dialog will close.
- 9. Investigate the viewing options of the Survey data. From the pull-down menu toggle the display on and off for:
 - Survey > View Survey Data > Planimetrics
 - Survey > View Survey Data > Symbols
 - Survey > View Survey Data > Names
 - Survey > View Survey Data > Codes
 - Survey > View Survey Data > Elevations
 - Survey > View Survey Data > Errors
 - Survey > View Survey Data > Notes
 - Survey > View Survey Data > Networks.
 - Ignore Write Survey Data to Graphics for now.



Codes

Elevations

10. Also practice viewing different combinations of data using the **View Survey** toolbar. Ignore **Write Survey Data to Graphics** for now.

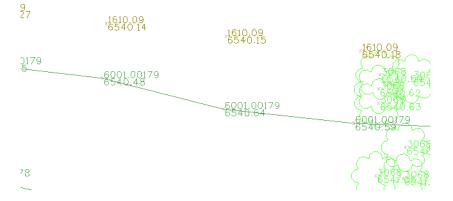


- **Note:** The survey data that is viewed is dynamic. Nothing is actually in the MicroStation design file. Control of the size of the dynamic text for Point Name, Elevation, and Code etc. from the Survey Options Text Symbology tab.
- 11. From the pull down menu **Survey > Find Point in View** the **Find Point in View** dialog will appear.
- 12. Type in the field Point Name: 3686 Radius: 50

Find Poin	t in View	
Point Name:	3686	+ Apply
Radius:	50.00	Close
		Help

- 13. **<D>** the **Apply** button. The MicroStation view is updated and zoomed into point number 3686.
- 14. **<D>** the **Close** button in the **Find Point in View** dialog.
- 15. Toggle on View Planimetrics, View Symbols, View Codes and View Elevations.





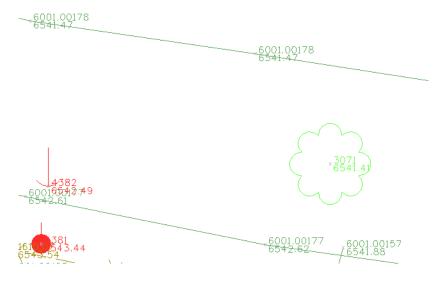
 From the pull-down menu, select Tools > Survey Options the Survey Options dialog will appear. 17. Select the **Symbology** tab.

🔣 Survey Option	IS		X
General Units	Symbology Corrections	Observation Standard	d Deviation
Justify Elevat	ion at Decimal		Edit View
Elevation Precisi	on: 0.123	-	Help
Point Text Symb	ol: X		
Symbology:			
Object	Name		
Text Point Symb		BYL	
Text Point Name		BYL	
Text Point Code		BYL	
Text Point Eleva Text Point Error		BYL	
Text Point Note		BYL	
	-		
[OK Preference	es Cancel	1
L	Preference	Lancel	J

- 18. In the Survey Options dialog select the Text Point Elevations
- 19. In the Precision drop down list select .**123**. Then select the **Save** button. The elevations will update in the MicroStation view.
- 20. Review your results.
- 21. Set the Elevation precision back to .12

Survey Options			×
General Units Symbol	ogy Corrections	Observation Standar	rd Deviation
Justify Elevation at De	cimal		Edit View
Elevation Precision 0.12		-	Help
Point Text Symbol: X			
Symbology:			
Object	Name		
Text Point Symbols		BYL	
Text Point Names Text Point Codes		BYL BYL	
Text Point Elevations		BYL	
Text Point Errors		BYL	
Text Point Notes		BYL	
			ר
OK	Preference	es Cancel	

- 22. **<D>** the **Save** and **OK** buttons. The **Survey Options** dialog will close.
- 23. Use the MicroStation view commands A ? C I Z Z ? to zoom in, out, and pan the view.



Note: Notice how the text changes size and remains legible based upon the zoom ratio.

- 24. **<D>** MicroStation **Fit View**. In the lower left hand corner of MicroStation the status bar states **No Elements Found**.
 - **Note:** MicroStation Fit View command does not work because graphics displayed are *dynamic* graphics, not graphics written to the CADD file.
- 25. From the pull-down menu, select **Survey > Fit View** or use **Fit View** button **Image:** From the **View Survey** toolbar. **Image:** Fit **View** or use **Fit View** button **Image:** Fit **View** button **Image:** Fit
- 26. Continue to **Pan**, **Zoom** and **Fit** the survey data until it is comfortable.
- 27. Continue to toggle Survey display data on and off as needed.



- 28. Explore the InRoads interface. **<D>** the "+" (expand) button next to the Survey data *12345SURVFieldbook01.fwd*.
- 29. The workspace bar will display the Station names. Select the Station name at the top **CO RD 33**. When the Station name is selected the Observations from that Station will display in the Information Window pane.

<u>File S</u> urface <u>G</u> eometry Survey <u>E</u> valuation Dr <u>a</u> fting <u>T</u> ools <u>H</u> elp							
<unnamed> 💽 🔞 📚 🚳 🔪 🏏 📓 🚽 🔐 🗄 👔</unnamed>							
圓 III 1 (Unnamed>							
Lee +, 1,2 °,8 👎 🛆 🕫 🏷 💆	/# 📽 🖾 🐼						
	Point Name	Northing	Easting	4			
🖃 🛕 Survey Data	102	1558430.90	3266629.98	μ			
Book 1	4 103	1555770.83	3266639.57				
12345SURV_Fieldbook	<104	1555781.53	3269304.03				
	<105	1558527.87	3279643.18				
GAP 27_33	<106	1558562.81	3282329.69				
Found monuments	4 107	1555920.99	3282335.45				
	<108	1555884.03	3279671.70				
📸 Preferences 🛕 Survey 🔹 🕨			•				

30. Continue to explore the **12345SURVFieldbook** Survey Data. Experiment right clicking in the different areas of the interface to find different useful shortcut menus.

		Point Name	Northing	Easting	Elevation	
🖃 🤷 Survey Data		<102	1558430.90	3266629.98	6654.37	
Book 1		4 103	1555770.02	3266639.57	6615.17	
12345SURV_F	Save	▲104 E	Edit	3269304.03	6627.27	
		<105	1558527.87	3279643.18	6585.79	
GAP 27_1	Save As	106	1558562.81	3282329.69	6505.88	
Found m	Import	1 07	1555920.99	3282335.45	6545.91	
	Export	<108	1555884.03	3279671.70	6623.76	
	Laportin	<1001	1556625.17	3277676.66	6630.38	
	Set Active	<1002	1556621.03	3277675.01	6630.25	
	Edit	<1003	1556629.38	3277678.56	6630.25	
	Close	<1004	1556638.38	3277681.00	6630.40	
		<1005	1556645.97	3277682.03	6630.23	
Preferences 🔒 Surv		<1006	1556657.66	3277685.71	6632.15	
	ey i i	•				

Lab 2.3 - Viewing the Fieldbook Data

Open and explore some of the basic features of the electronic fieldbook. The Fieldbook will be covered in greater detail later in the manual.

Section Objectives:

After completing this exercise you will know how to:

- Open the **Fieldbook** dialog.
- Find points in the **Fieldbook** dialog.
- Use the shortcut menus in the **Fieldbook** dialog.
- Use the Select Figure button.
- Use the chainage tool in the **Fieldbook** dialog.
- 1. **<D>** the **Fieldbook button** from the Survey toolbar. The Survey Fieldbook will appear.



2. Take a minute to review the electronic Fieldbook.

		Duplicates O	Inly	T	H	elp
Stations:						_
Station Name	Northin	ng Easting	Elevation	on Code	Status	-
CO RD 33						
GAP 27_33						
Found monum	ents					
•						F.
Observations:	< 1078	_	▼ >			
Observations: Point Name	Northing	Easting	Elevation	Code	51010	<u> </u>
Dbservations: Point Name 106	Northing 1558562.81	3282329.6.	Elevation 6505.88	Code 1078	FA	î.
Dbservations: Point Name 106 107	Northing 1558562.81 1555920.99	3282329.6. 3282335.4.	Elevation 6505.88 6545.91	Code 1078 1078	FA	^
Point Name 106 107 2070	Northing 1558562.81 1555920.99 1555976.44	3282329.6. 3282335.4. 3281511.3.	Elevation 6505.88 6545.91 6574.93	Code 1078 1078 1075	FA FA F	^
Point Name Point Name 106 107 2070 105	Northing 1558562.81 1555920.99 1555976.44 1558527.87	3282329.6. 3282335.4. 3281511.3. 3279643.1.	Elevation 6505.88 6545.91 6574.93 6585.79	Code 1078 1078 1075 1075	FA FA FA FAN	^
Deservations: Point Name 106 107 2070 105 2050	Northing 1558562.81 1555920.99 1555976.44 1558527.87 1555913.36	3282329.6. 3282335.4. 3281511.3. 3279643.1. 3280349.7.	Elevation 6505.88 6545.91 6574.93 6585.79 6608.33	Code 1078 1078 1075 1077 1075	FA FA FAN FAN	<u></u>
20bservations: Point Name 106 107 2070 105 2050 108	Northing 1558562.81 1555920.99 1555976.44 1558527.87	3282329.6. 3282335.4. 3281511.3. 3279643.1.	Elevation 6505.88 6545.91 6574.93 6585.79 6608.33 6623.76	Code 1078 1078 1075 1075	FA FA FA FAN	^
Deservations: Point Name 106 107 2070 105 2050 108 2140	Northing 1558562.81 1555920.99 1555976.44 1558527.87 1555913.36 1555884.03	3282329.6. 3282335.4. 3281511.3. 3279643.1. 3280349.7. 3279671.7.	Elevation 6505.88 6545.91 6574.93 6585.79 6608.33 6623.76 6476.81	Code 1078 1078 1075 1075 1077 1075 1078	FA FA FAN F FAN FA	
Dbservations: Point Name	Northing 1558562.81 1555920.99 1555976.44 1558527.87 1555913.36 1555884.03 1555292.70	3282329.6. 3282335.4. 3281511.3. 3279643.1. 3280349.7. 3279671.7. 3285275.5.	Elevation 6505.88 6545.91 6574.93 6585.79 6608.33 6623.76 6476.81 6447.64	Code 1078 1078 1075 1077 1075 1078 1078	FA FA FAN FAN FA FA FA	

 In the column headers of the Stations <R> on the Station Name. The Fieldbook Custom View dialog will appear.

🔣 Fieldbook Custom View	/		×
Available:		Selected:	ОК
Notes	Add ->	Station Name	
Attributes	<- Remove	Northing	Cancel
	<- Remove	Easting	Help
		Elevation	Linde
		Code	
		Status	
		Backsight Point	
		Backsight Direction	
	All	Instrument Height	Move Up
	None		Move Down
Mode		Altemate Label:	
Station Observa	tion	Station Name	

Note: This dialog allows the order of the columns to be customized in the Fieldbook.

- 4. In the **Mode** section of the dialog **<D>** on the **Observation** radio button.
- 5. Select **Target Height** in the **Selected**: section on the right side.

Fieldbook Custom Vie	w		8
Available:		Selected:	ОК
Notes	Add ->	Point Name	
Attributes		Northing	Cancel
	<- Remove	Easting	Help
		Elevation	Help
		Code	
		Status	
		Horizontal Obs.	
		Vertical Obs.	
	All	Slope Distance	Move Up
	None	Target Height	Move Down
Mode		Alternate Label:	
Station Observ	ation	Target Height	

6. **<D>** the **Move Up** button until *Target Height* rests under the *Code*.

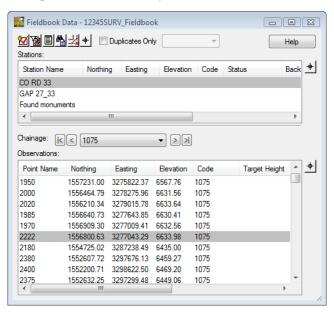
🔢 Fieldbook Custom Viev	v		8
Available: Notes Attributes	Add -> <- Remove	Selected: Point Name Northing Easting Elevation Code	OK Cancel Help
	All	Target Height Status Horizontal Obs. Vertical Obs. Slope Distance	Move Up Move Down
Mode Station Observation	ation	Alternate Label: Target Height	

7. **<D>** the **OK** button. The **Fieldbook Custom View** dialog will close.

- 🌃 Fieldbook Data 12345SURV_Fieldbook 🕅 🗐 📸 🛨 📄 Duplicates Only -Help Stations: Back + Station Name Northing Easting Elevation Code Status CO RD 33 GAP 27_33 Found monuments • ъ Chainage: K < 1078 >> Observations: + . Point Name Northing Code Target Height Easting Elevation 106 1558562.81 3282329.6...6505.88 1078 107 1555920.99 3282335.4...6545.91 1078 2070 1555976.44 3281511.3 6574.93 1075 1558527.87 3279643.1...6585.79 105 1077 2050 1555913.36 3280349.7...6608.33 1075 108 1555884.03 3279671.7...6623.76 1078 2140 1555292.70 3285275.5...6476.81 1075 2160 1555023.30 3286494.7...6447.64 1075 2120 1555353.04 3284587.2...6503.54 1075 2090 1555825.32 3282538.4...6547.98 1075 1
- 8. **Resize** the Fieldbook so the column change for *Target Height* is in the view.

- 9. From the View Survey toolbar turn on only View Planimetrics ¹/₂, View Symbols
 ¹/₂, and View Names ¹/₂. Turn off all other View Survey Data commands.
- 10. **Select** Station Name **CO RD 33** in the top half of the **Fieldbook Data** dialog. Notice that the bottom half of the dialog updated with the observations collected from that instrument setup.

- 11. Select Point Name 2222 in the bottom half of the Fieldbook Data dialog.
 - Use dialog scroll bars or
 - ◆ Intelli-mouse wheel or
 - Page Up or Page Down keys or
 - Up or Down arrow keys

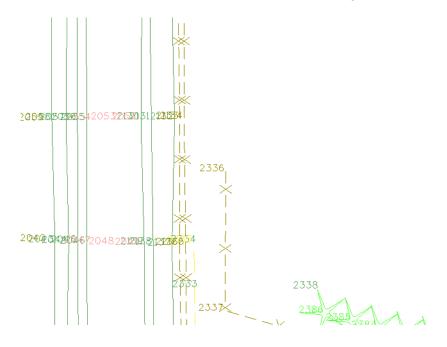


- 12. **Right click** on Point Name **2222** to access the shortcut menu. Select **Center** from the available list. Look in your MicroStation view Point Name **2222** is centered in *View 1*.
 - **Note:** Center only centers the point to the active view zoom ratio. It may be necessary to zoom in closer and re-center from the shortcut menu.
- 13. Added Practice
 - Find and Center Station Setup GAP 27_33 Point Name 107
 - Find and Center Station Setup Found monuments Point Name 1088_2

- 14. From the pulldown menu **Survey > Find Point in View** the **Find Point in View** dialog will appear.
- 15. Type n the field Point Name: 2336 Radius: 50

🔣 Find Poin	t in View		
Point Name:	2336	+	Apply
Radius:	50.00		Close
			Help
			Help

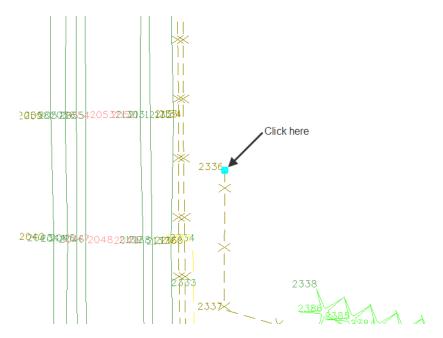
- 16. **<D>** the **Apply** button. The MicroStation view is updated and zoomed into point number 2336.
- 17. **<D>** the **Close** button in the **Find Point in View** dialog.



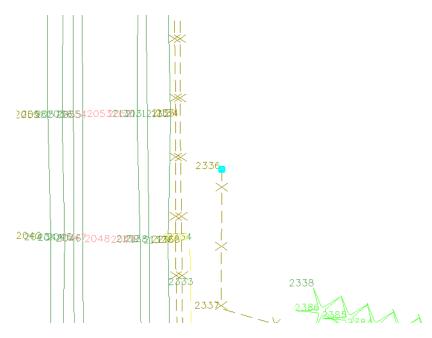
From the Fieldbook Data dialog <D> the Select Figure button. The Fieldbook Data dialog will contract allowing more screen space to make a selection.

-	Data - 12345S						
20 20 20 4	📩 🕈 📄	Duplicates On	ly	-		[Help
Stations:							
Station Name	Northin	g Easting	Elevation	Code	Status		Back _
CO RD 33							
GAP 27_33							
Found monum	ents						
•							•
Chainage: 🛛	< 1610.19		- > >	1			
Observations:				J			
<u> </u>	Northing	Easting	Elevation	Code	Та	rget Heigh	t ^ _
Observations:					Ta	rget Heigh	t_^
Observations: Point Name	Northing	Easting	Elevation	Code		rget Heigh	t_^
Observations: Point Name 2328	Northing 1556178.86	Easting 3279701.35	Elevation 6619.14	Code 4576	т	rget Heigh	t_^
Observations: Point Name 2328 X2329	Northing 1556178.86 1556179.05	Easting 3279701.35 3279702.03	Elevation 6619.14 6618.97	Code 4576 4510.03 S	T 70	rget Heigh	t_^
Observations: Point Name 2328 X2329 2330	Northing 1556178.86 1556179.05 1556183.52	Easting 3279701.35 3279702.03 3279702.29	Elevation 6619.14 6618.97 6618.58	Code 4576 4510.03 S 6001.0017	T 70 71	rget Heigh	
Observations: Point Name 2328 X2329 2330 2331	Northing 1556178.86 1556179.05 1556183.52 1556231.03	Easting 3279701.35 3279702.03 3279702.29 3279703.05	Elevation 6619.14 6618.97 6618.58 6618.43	Code 4576 4510.03 S 6001.0017 6001.0017	T 70 71 19	rget Heigh	
Observations: Point Name 2328 X2329 2330 2331 2332	Northing 1556178.86 1556179.05 1556183.52 1556231.03 1556283.98	Easting 3279701.35 3279702.03 3279702.29 3279703.05 3279702.06	Elevation 6619.14 6618.97 6618.58 6618.43 6618.30	Code 4576 4510.03 S 6001.0017 6001.0018	T 70 71 19 19	rget Heigh	
Observations: Point Name 2328 X2329 2330 2331 2332 2333	Northing 1556178.86 1556179.05 1556183.52 1556231.03 1556283.98 1556335.87	Easting 3279701.35 3279702.03 3279702.29 3279703.05 3279702.06 3279701.61	Elevation 6619.14 6618.97 6618.58 6618.43 6618.30 6618.13	Code 4576 4510.03 S 6001.0017 6001.0018 6001.0018	T 70 71 19 19	rget Heigh	
Observations: Point Name 2328 X2329 2330 2331 2332 2333 2333 2334	Northing 1556178.86 1556179.05 1556183.52 1556231.03 1556283.98 1556335.87 1556354.70	Easting 3279701.35 3279702.03 3279702.29 3279703.05 3279702.06 3279701.61 3279701.14	Elevation 6619.14 6618.97 6618.58 6618.43 6618.30 6618.13 6617.91	Code 4576 4510.03 S 6001.0017 6001.0018 6001.0018 6001.0018	T 70 71 19 19 19	rget Heigh	
Observations: Point Name 2328 X2329 2330 2331 2332 2332 2333 2334 2335	Northing 1556178.86 1556179.05 1556183.52 1556231.03 1556283.98 1556335.87 1556354.70 1556354.71	Easting 3279701.35 3279702.03 3279702.03 3279703.05 3279702.06 3279701.61 3279701.14 3279699.50	Elevation 6619.14 6618.97 6618.58 6618.43 6618.30 6618.13 6617.91 6618.12	Code 4576 4510.03 S 6001.0017 6001.0018 6001.0018 6001.0018 4510.03	T 70 71 19 19 19	rget Heigh	

19. Select **<D>** at the start of the fence line. The **Fieldbook Data** dialog will expand with point name 2336 selected.



20. In the **Fieldbook Dat**a dialog **<R>** point name **2336** to access the shortcut menu and select **Highlight Observations**. Notice at the start of the line segment the **Box-X** in MicroStation View 1.



Note: In the middle of the **Fieldbook Data** dialog there is an option to follow a chainage. A chainage is a good way to follow a planimetric feature in the fieldbook and in the view.

		Duplicates On	Ŋ				Help
Stations:					_		
Station Name	e Northin	g Easting	Elevation	n Code	Status		Back _
CO RD 33							
GAP 27_33							
Found monum	ents						
•		111					P.
Observations:	< 1610.19		✓ >>>]			
-	< 1610.19		 >>]			
-) < 1610.19 Northing	Easting	▼ >>	Code	Tan	get Heigh	t ^ <u>-</u>
Observations:			 ▼ >> Elevation 6619.14 	Code 4576	Tan	get Heigh	t_^_ <u>+</u>
Observations: Point Name	Northing	Easting				get Heigh	t_^_ <u>-</u>
Observations: Point Name 2328	Northing 1556178.86	Easting 3279701.35	6619.14	4576	т	get Heigh	t_^_ <u>4</u>
Dbservations: Point Name 2328 X2329	Northing 1556178.86 1556179.05	Easting 3279701.35 3279702.03	6619.14 6618.97	4576 4510.03 S	T 70	get Heigh	t_^_ <u>4</u>
Observations: Point Name 2328 X2329 2330	Northing 1556178.86 1556179.05 1556183.52	Easting 3279701.35 3279702.03 3279702.29	6619.14 6618.97 6618.58	4576 4510.03 S 6001.0017	T 70 71	get Heigh	t ^ <u>4</u>
Observations: Point Name 2328 X2329 2330 2331	Northing 1556178.86 1556179.05 1556183.52 1556231.03	Easting 3279701.35 3279702.03 3279702.29 3279703.05	6619.14 6618.97 6618.58 6618.43	4576 4510.03 S 6001.0017 6001.0017	T 70 71 19	get Heigh	t ^ <u>4</u>
Observations: Point Name 2328 X2329 2330 2331 2332	Northing 1556178.86 1556179.05 1556183.52 1556231.03 1556283.98	Easting 3279701.35 3279702.03 3279702.29 3279703.05 3279702.06	6619.14 6618.97 6618.58 6618.43 6618.30	4576 4510.03 S 6001.0017 6001.0017 6001.0018	T 70 71 19 19	get Heigh	t ^ <u>4</u>
Observations: Point Name 2328 X2329 2330 2331 2332 2333	Northing 1556178.86 1556179.05 1556183.52 1556231.03 1556283.98 1556335.87	Easting 3279701.35 3279702.03 3279702.29 3279703.05 3279702.06 3279701.61	6619.14 6618.97 6618.58 6618.43 6618.30 6618.13	4576 4510.03 S 6001.0017 6001.0017 6001.0018 6001.0018	T 70 71 19 19	get Heigh	t ^ <u>4</u>
2328 X2329 2330 2331 2332 2333 2333 2334	Northing 1556178.86 1556179.05 1556183.52 1556231.03 1556283.98 1556335.87 1556354.70	Easting 3279701.35 3279702.03 3279702.29 3279703.05 3279702.06 3279701.61 3279701.14	6619.14 6618.97 6618.58 6618.43 6618.30 6618.13 6617.91	4576 4510.03 S 6001.0017 6001.0017 6001.0018 6001.0018 6001.0018	T 70 71 19 19 19	get Heigh	t ^ <u>4</u>

- 21. Use the chainage buttons
 - ◆ First Previous Next and Last to follow the fence line chain. Notice the Highlighted Box-X that follows each point along the chain. As the point continues outside the current view the point becomes centered in the MicroStation view.
- 22. When the end of the chainage is reached **<D>** the **OK** button.

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ind of chainage
ОК

- 23. Added practice
 - From the west end of the project.
 - Follow the chainage for a code *1310* Edge of Oil
 - Follow the chainage for a code 6001 Terrain Breakline
 - **Note:** When having difficulty locating any chains try selecting the line segment instead of the start or end points.
- 24. Close the **Fieldbook Data** dialog by clicking the **X** in the upper right hand corner of the dialog.

		Duplicates On	ly	T			Help	
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Summary:

- In *Lab 2.1 -Opening Survey Data* the existing MicroStation file and InRoads Survey Fieldbook file was opened.
- In *Lab 2.2 -CAD vs. Fieldbook Viewing* the fieldbook data was viewed in the MicroStation view.
- In *Lab 2.3 Viewing the Fieldbook Data* the data in the fieldbook dialog was explored.