


LAB 2 - Working with InRoads Survey

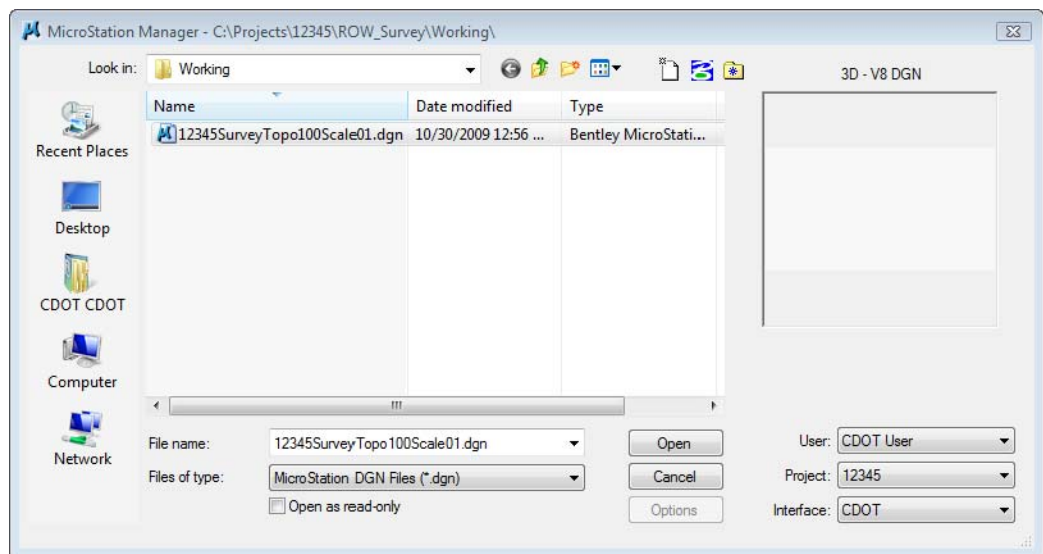
Lab 2.1 - Opening Survey Data

Start by viewing a survey fieldbook that is already complete.

Section Objectives:

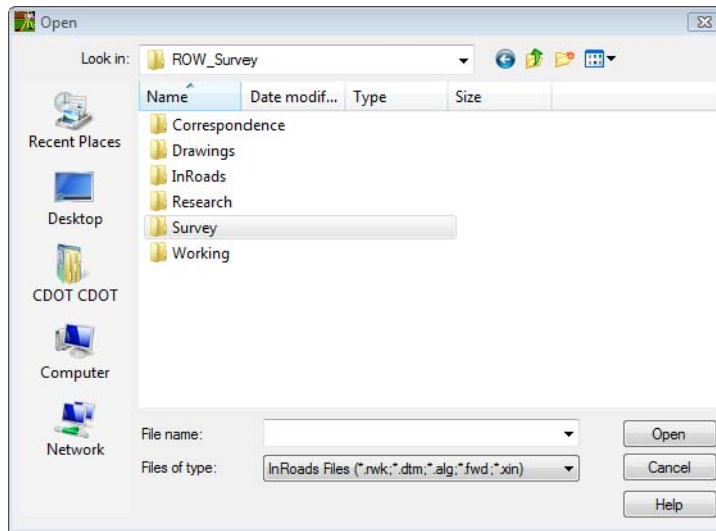
- ◆ Open a MicroStation file.
- ◆ Open an existing Survey Fieldbook.

1. 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**

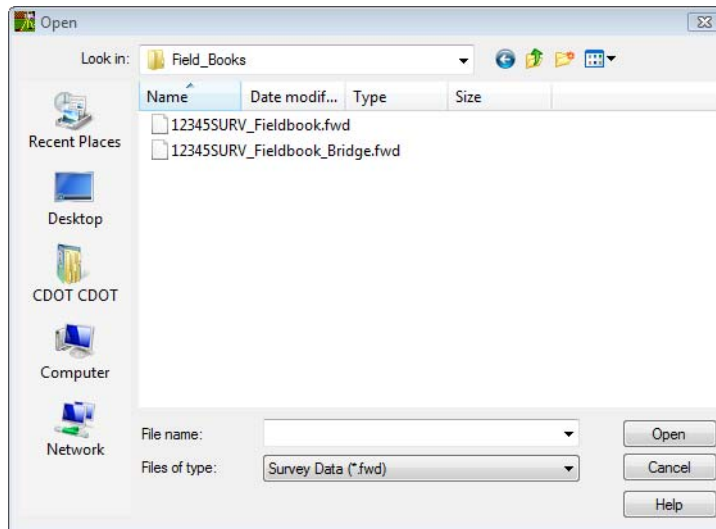


3. From the **Working** folder select the file **C:\Projects\12345\ROW_Survey\Working\12345SurveyTopo100Scale01.dgn**
4. **<D>** the **OK** button or double click the filename.

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)**.



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

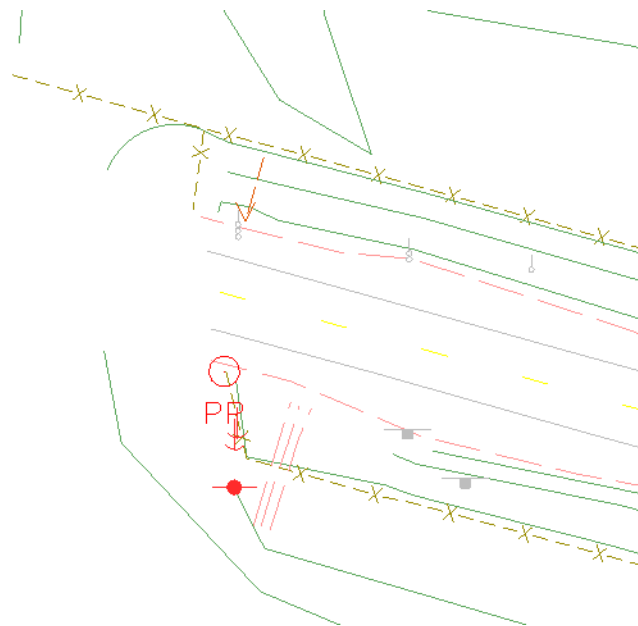
Take a look at the InRoads Survey interface; notice the two files loaded in the Survey tab. The file with the red box around the button is the active file. Any commands that are selected will use the active file.

Section Objectives:

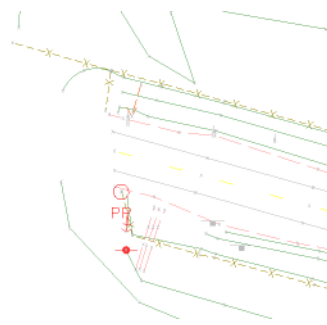
- ◆ View a fieldbook in the Survey Information Window.
 - ◆ View the survey data in the MicroStation view.
 - ◆ Fit the Survey data in a MicroStation view.
 - ◆ Use the shortcut menus in the Interface.
1. Use your cursor and **<D>** on the default Survey fieldbook **Book 1**.
 2. **<R>** on **Book 1** 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.



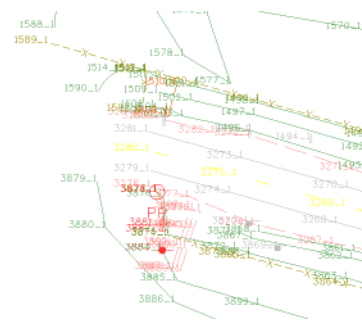
5. Use the MicroStation viewing tools to zoom to the west end of the project.



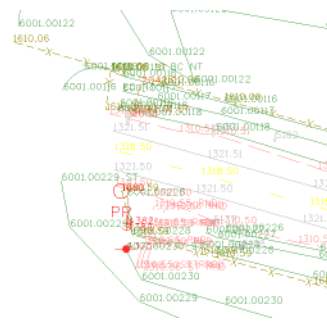
6. From the InRoads pull down menu select **Tools > Survey Options**. The Survey Options dialog will appear.
7. On the *General* tab change the *Text Scale* value to **1**.
8. **<D>** the **OK** button the Survey Options dialog will close.
9. Investigate the viewing options of the Survey data. From the 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.



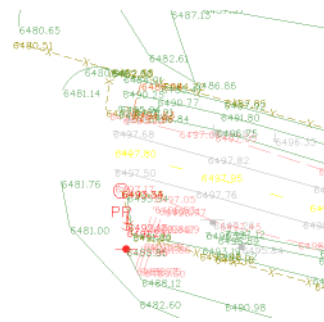
Symbols



Names

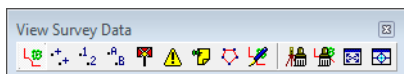


Codes



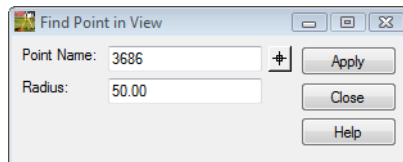
Elevations

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

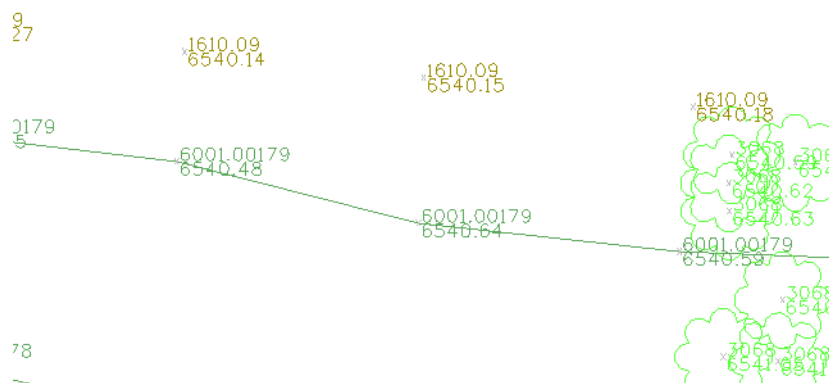
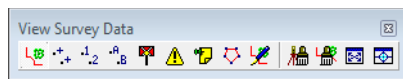


Note: The survey data that is viewed is dynamic. Nothing is actually in the MicroStation design file. Control of the size of the dynamic text for Point Name, Elevation, and Code etc. from the Survey Options Text Symbology tab.

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**

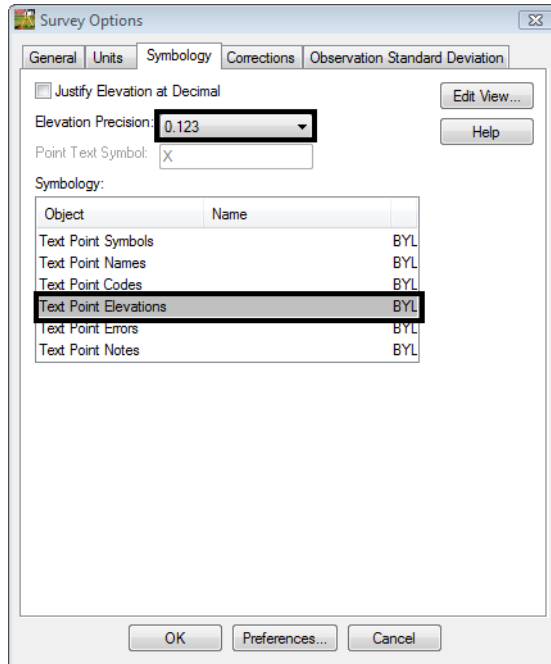


13. **<D>** the **Apply** button. The MicroStation view is updated and zoomed into point number 3686.
14. **<D>** the **Close** button in the **Find Point in View** dialog.
15. Toggle on **View Planimetrics**, **View Symbols**, **View Codes** and **View Elevations**.



16. From the pull-down menu, select **Tools > Survey Options** the **Survey Options** dialog will appear.

17. Select the **Symbology** tab.

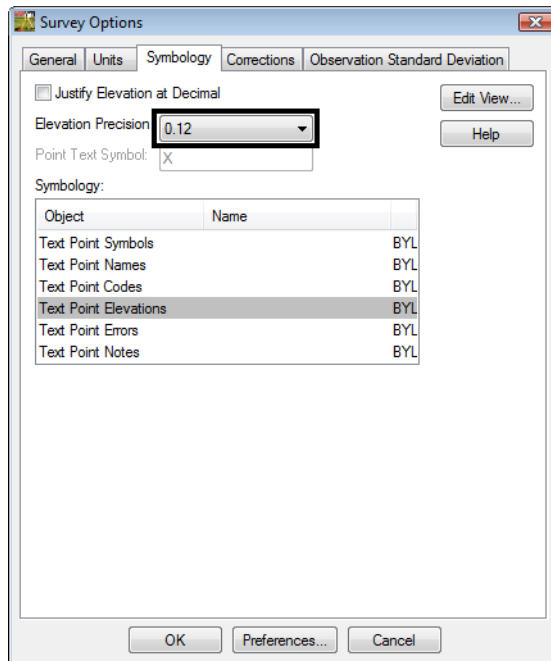



18. In the **Survey Options** dialog select the **Text Point Elevations**

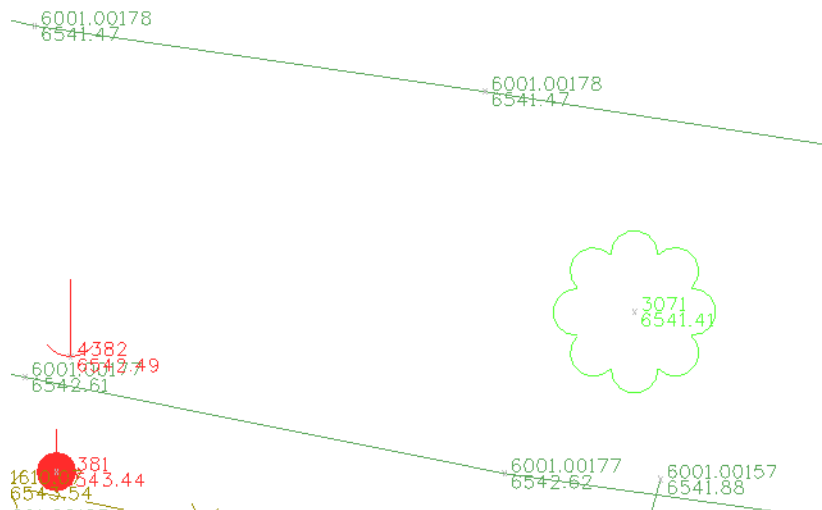
19. In the Precision drop down list select **.123**. Then select the **Save** button. The elevations will update in the MicroStation view.

20. Review your results.

21. Set the Elevation precision back to **.12**




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



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

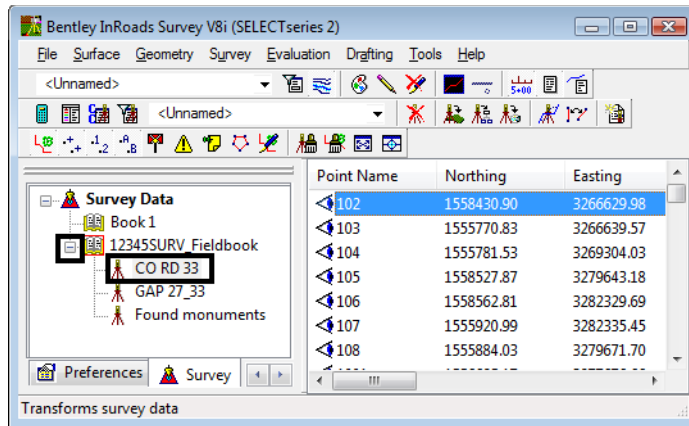
24. <D> MicroStation **Fit View**. In the lower left hand corner of MicroStation the status bar states **No Elements Found**.

Note: MicroStation Fit View command does not work because graphics displayed are *dynamic* graphics, not graphics written to the CADD file.

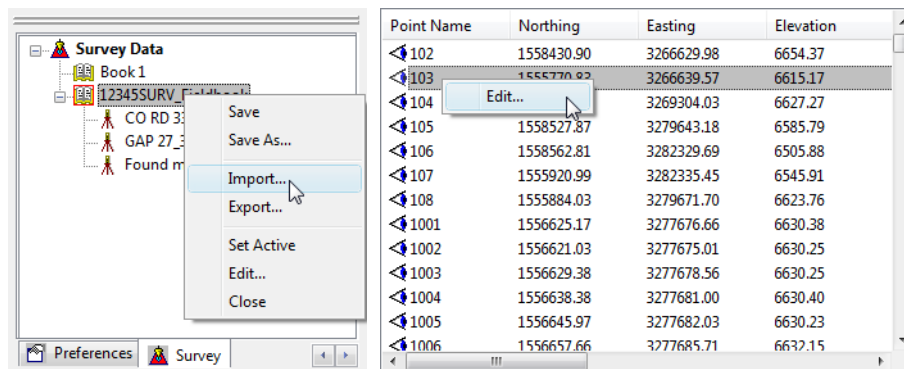
25. From the pull-down menu, select **Survey > Fit View** or use **Fit View** button  from the **View Survey** toolbar.
26. Continue to **Pan**, **Zoom** and **Fit** the survey data until it is comfortable.
27. Continue to toggle Survey display data on and off as needed.



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.



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




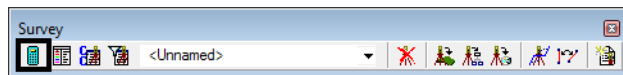
Lab 2.3 - Viewing the Fieldbook Data

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

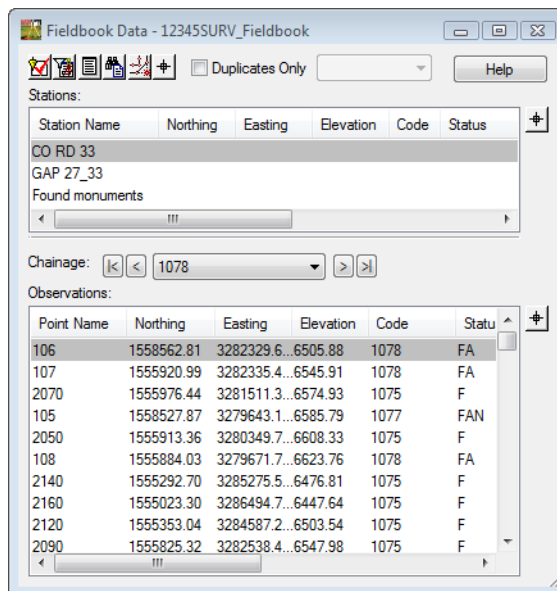
Section Objectives:

After completing this exercise you will know how to:

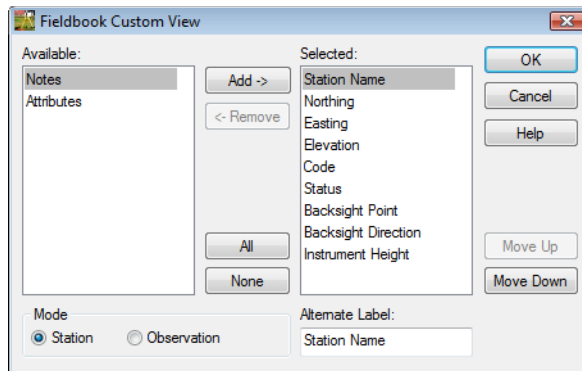
- ◆ Open the **Fieldbook** dialog.
 - ◆ Find points in the **Fieldbook** dialog.
 - ◆ Use the shortcut menus in the **Fieldbook** dialog.
 - ◆ Use the Select Figure button.
 - ◆ Use the chainage tool in the **Fieldbook** dialog.
1. <D> the **Fieldbook**  button from the Survey toolbar. The Survey Fieldbook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



2. Take a minute to review the electronic Fieldbook.

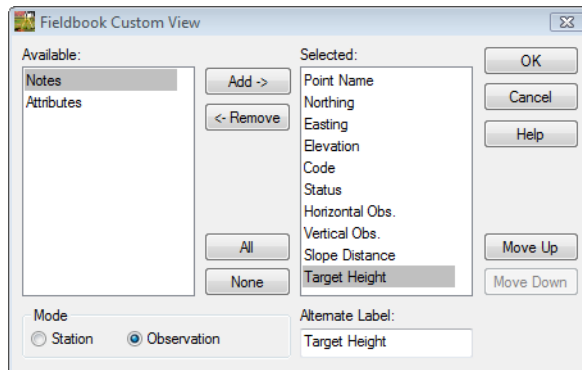


3. In the column headers of the Stations <R> on the Station Name. The **Fieldbook Custom View** dialog will appear.

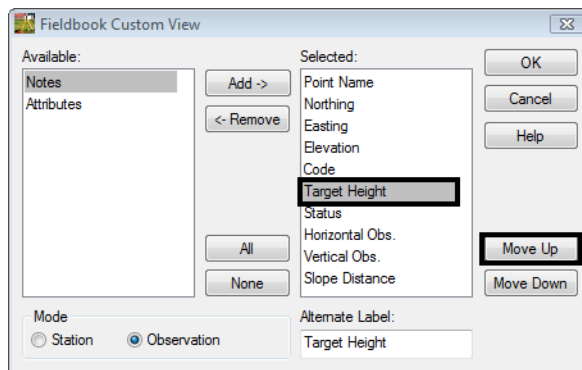


Note: This dialog allows the order of the columns to be customized in the Fieldbook.

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.

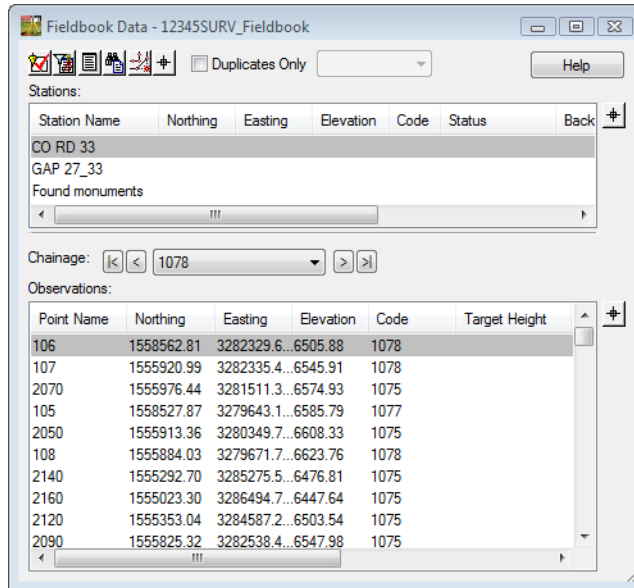





6. <D> the **Move Up** button until *Target Height* rests under the *Code*.



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

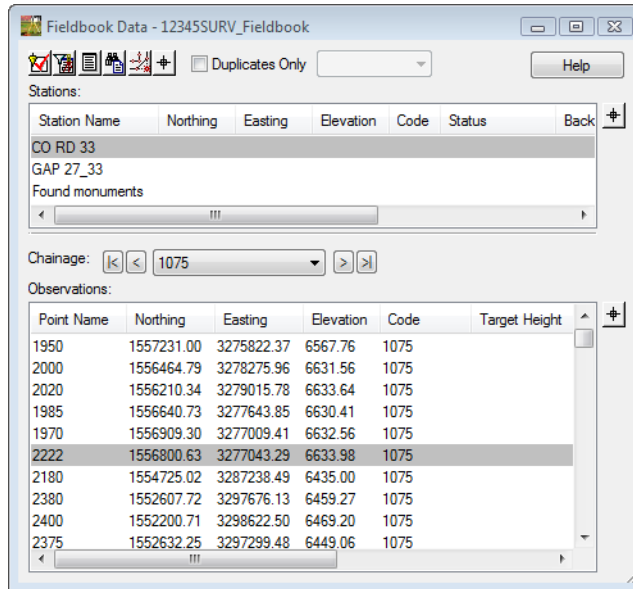
8. **Resize** the Fieldbook so the column change for **Target Height** is in the view.



9. From the View Survey toolbar turn on only **View Planimetrics** , **View Symbols** , and **View Names** . 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



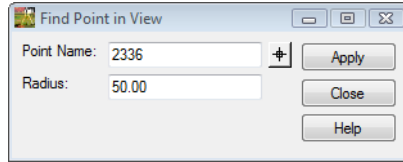
12. **Right click** on Point Name **2222** to access the shortcut menu. Select **Center** from the available list. Look in your MicroStation view Point Name **2222** is centered in **View 1**.

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.

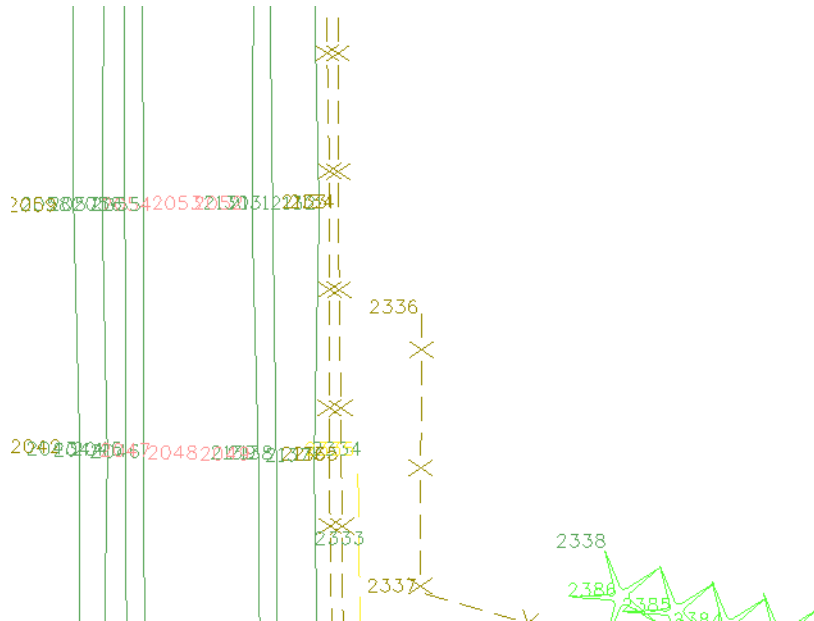
13. Added Practice

- ◆ **Find** and **Center** Station Setup *GAP 27_33*
Point Name *107*
- ◆ **Find** and **Center** Station Setup *Found monuments*
Point Name *1088_2*

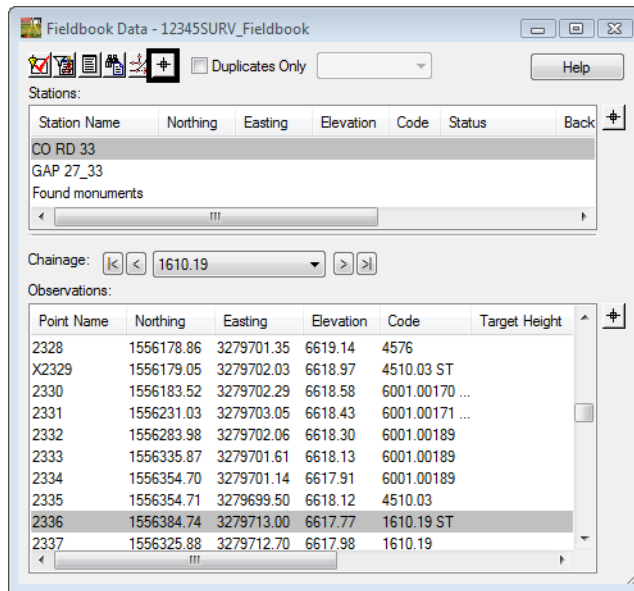
14. From the pulldown menu **Survey > Find Point in View** the **Find Point in View** dialog will appear.
15. Type in the field Point Name: **2336** Radius: **50**



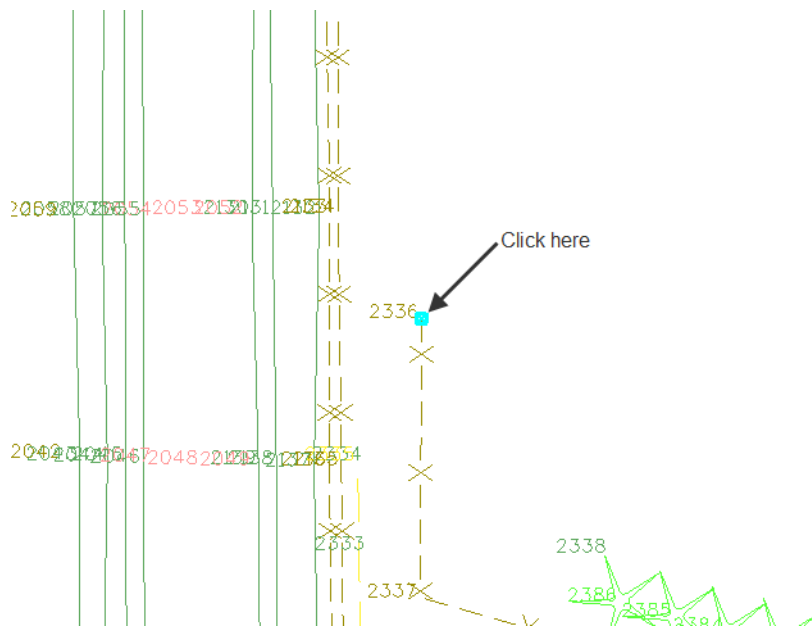
16. **<D>** the **Apply** button. The MicroStation view is updated and zoomed into point number **2336**.
17. **<D>** the **Close** button in the **Find Point in View** dialog.



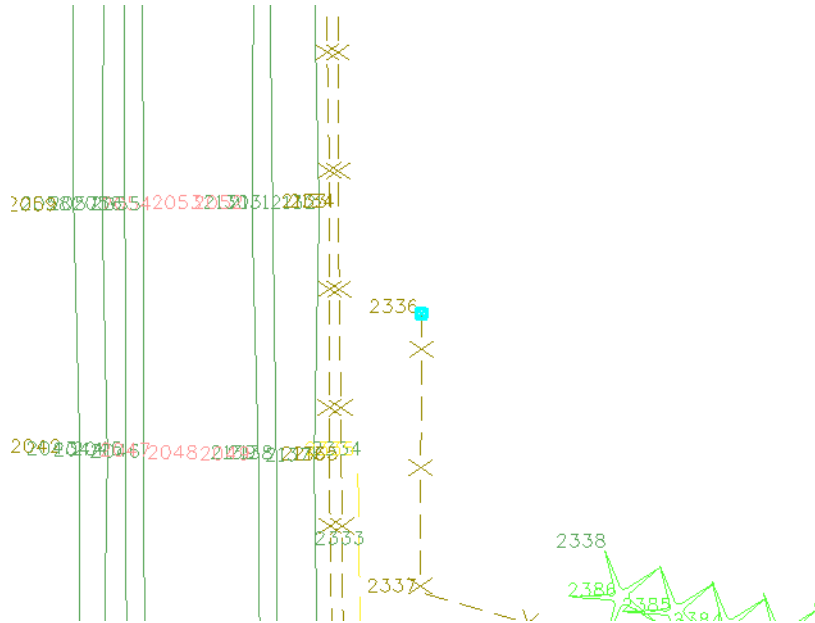
- From the **Fieldbook Data** dialog <D> the **Select Figure** button. The **Fieldbook Data** dialog will contract allowing more screen space to make a selection.



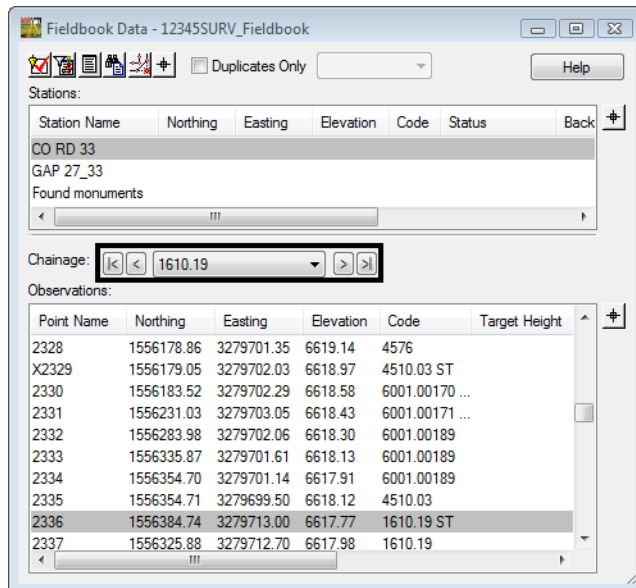
- Select <D> at the start of the fence line. The **Fieldbook Data** dialog will expand with point name 2336 selected.







- In the **Fieldbook Data** 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.



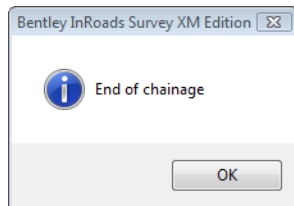
Note: In the middle of the **Fieldbook Data** dialog there is an option to follow a chainage. A chainage is a good way to follow a planimetric feature in the fieldbook and in the view.



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.

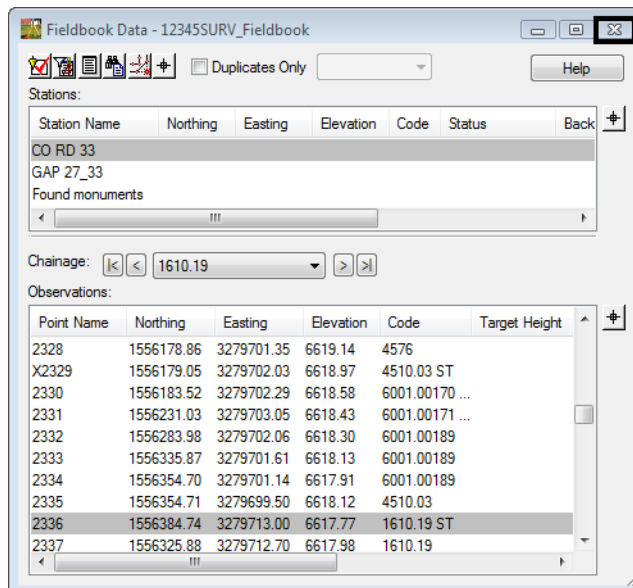


23. Added practice

- ◆ 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.



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.

