LAB 4 - Creating Cogo Points

This lab demonstrates creating cogo points a number of different ways. The Cogo points will then be displayed in the MicroStation view.

Chapter Objectives:

- Creating Cogo points graphically
- Creating Cogo points by coordinate input
- Writing geometry vertices to the Cogo buffer
- Geometry Snaps - review only
- Cogo point intersection commands
- Create alignments with Cogo Points
- Create parallel and offset alignments
- Create parcels

Lab 4.1 - Cogo point creation by graphic input

Prior to generating the proposed right-of-way geometry, the public land survey lines (section lines), existing right-of way, and existing parcels will be developed. Additionally the reference line alignment vertices will be sent to the Cogo buffer.

1. **Open** the MicroStation design file *C:\Projects\12345\ROW_Survey\Drawings\Reference_Files\12345ROW_Model.dgn*

2. **Open** the Geometry Project *C:\Projects\12345\ROW_Survey\InRoads\Geometry\12345_ROW.alg* that was created in the earlier lab.

3. Use the MicroStation **Fit** command to view the extents of the project.

4. From the pull down menu select **Utilities > Saved Views** the Saved Views dialog will appear.

5. Highlight the view named *ROW Reference* and **<D> Apply**. This exercise will be working in the Summit Business Park area outlined above.

6. Use the MicroStation **Window** command to zoom into this area.

> *Note:* Cogo point 105 was created by the fieldbook export. The locations marked as 117
> & 120 are required to establish section lines that are necessary for the development
> of right of way. These 2 Cogo points will be created in the following exercises.

7. Use MicroStation to **Window** into the location for point *117*.
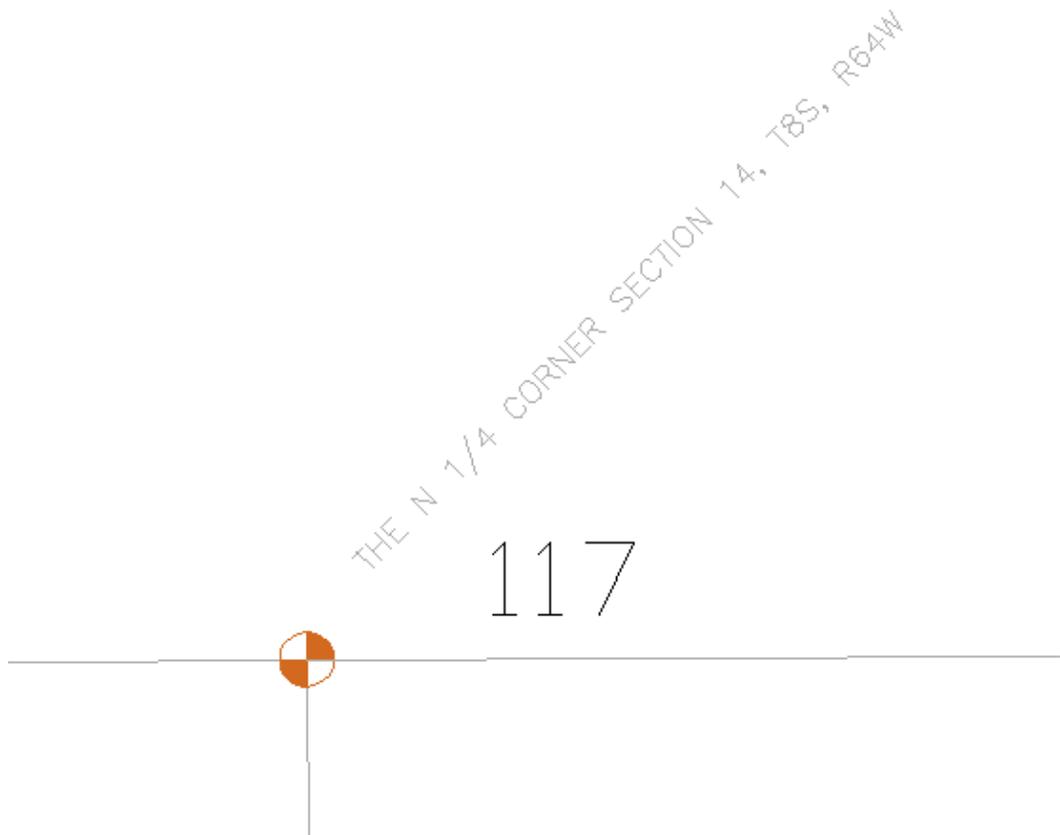
8. From the pull down menu select **Geometry > Cogo Points > New** the New Cogo Point dialog will appear.
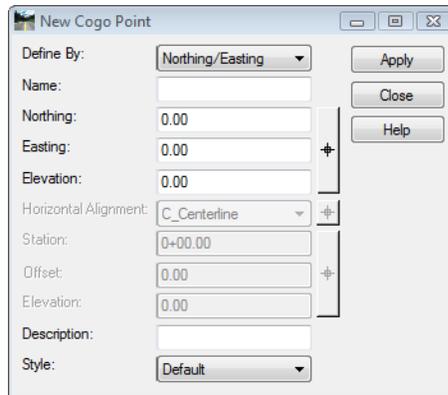
9. In the *Name* field key-in **117**.

10. **<D>** the Northing Easting Elevation **Target** button to interactively define the coordinates. The New Cogo Point dialog will temporarly minimize to allow for more of the MicroStation view to be available.
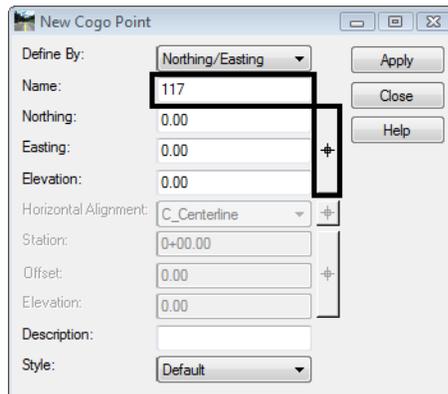
11. **<T>** then **<D>** to the CAD graphics at the section corner. The New Cogo Point dialog will reappear with the coordinates applied.
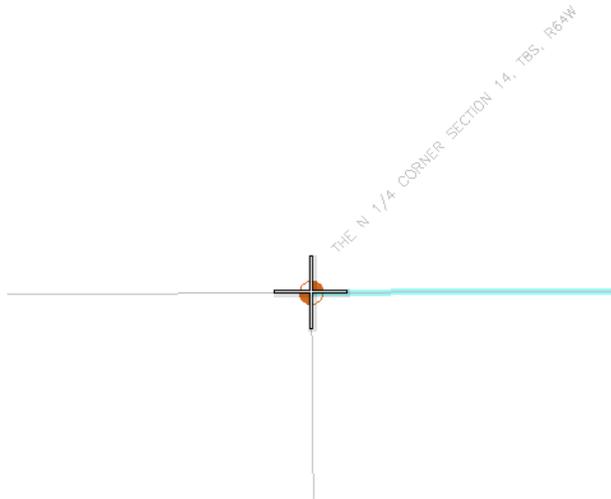
12. In the ***Description*** field key-in ***N 1/4 Cor Section 14***.

13. From the ***Style*** drop down list select the **RW_Working-exist**.
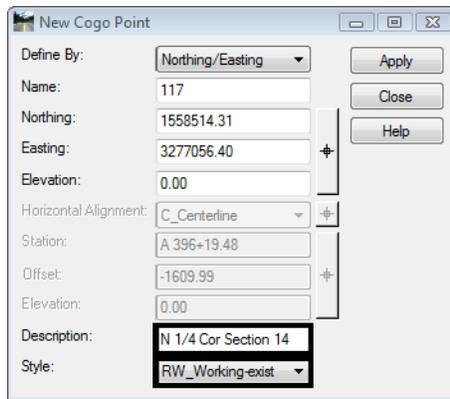
14. **<D> Apply** then **<D>** the **Close** buttons. The Cogo point is created and displayed to the MicroStation screen.

If Report lock is ON, a Results dialog opens.

15. **<D>** the **Close** button in the Results dialog.

Lab 4.2 - Cogo point creation by coordinate input

In the New Cogo Point dialog, define Cogo point 120 which is located south of Summit Business Park

1. In the *Name* field key-in ***120***.

   Note: When entering multiple Cogo points the Name field automatically increments.

2. From another source, the SE Corner of Section 14 (future point 120) has been determined as having the coordinate values of:

   ♦   North = ***1,553,239.97***

   ♦   East = ***3,279,699.86***

3. In the *Description* field key-in ***SE Cor Section 14***

4. From the *Style* drop down list select **RW_Working-exist**

5. **<D> Apply** then **<D>** the **Close** buttons. The Cogo point is created and displayed to the MicroStation screen.

Lab 4.3 - Centering a MicroStation View on a Cogo Point

1. From the pull down menu select **Geometry > Cogo Points > Center Point** the Micro-Station status bar prompts you to *Identify point/Key in point name*.
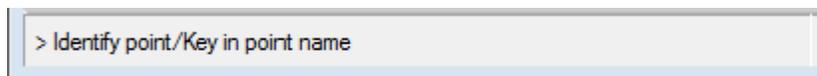
2. In the MicroStation Key-in window, key-in *120* **<Enter>**

3. If more then one view is opened you are prompted to Select a View.

4. **<D>** in any MicroStation **View** the MicroStation view is repositioned to center the specified Cogo point.

   Note: The above command will not change the display volume of the MicroStation screen.   You may be required to zoom in or out to achieve desirable results.

5. Continue to **Center** other cogo points *105* and *117*.

Chapter Summary:

- In LABLINK1.1????? a Geometry Project file was loaded into InRoads
- In LABLINK1.2????? a new Cogo point was created using graphics in the MicroStation view
- In LABLINK1.3????? a new Cogo point was created using known point coordinates
- In LABLINK1.4????? Cogo points were centered to the MicroStation view