18. DP Station Offset & Labeler Tools

In this exercise, we look at some tools for placing smart labels in our plans. These labels can automatically calculate values from chains, profiles, cross sections or even drainage structures. We will look specifically at the Plan View Labeler but all other labeler tools work in the same manner.

First, we will take a quick look at what has to be one of the handiest tools GEOPAK has, the DP Station Offset tool, which sends a data point for you based on a station and offset.

I.) DP Station Offset

This tool can be used with any MicroStation or GEOPAK tool that needs a data point. In this exercise, we illustrate its use with MicroStation's Zoom In command.

Remember:
If anything needs a data point, you can send one by station and offset with this tool.

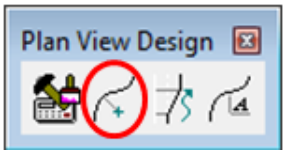
1) Open the MicroStation file

C:\Projects\Roane\SR95PoplarCr\ROSR95Proposed.dgn

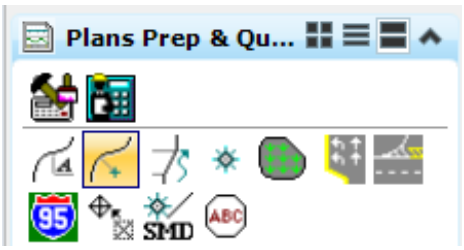
Access Project Manager.

2) Select the icon Plan View Design button from the Project Manager workflow dialog.

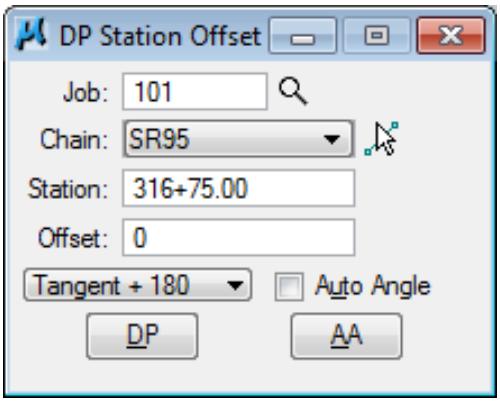
3) From the Plan View Design tool bar, select the DP/Station Offset icon.



This tool is also available from the Plans Prep & Quantities task group under the Horizontal Plans Preparation tools when running Civil Workflows.

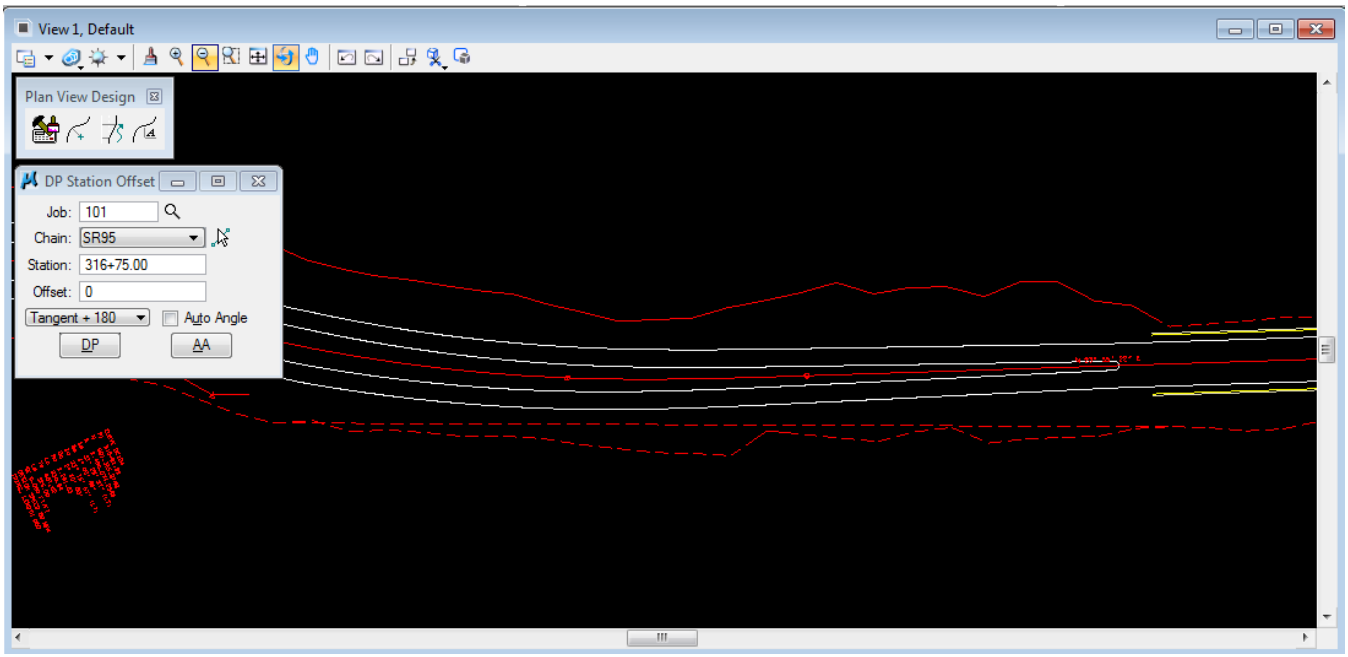


4) We need to go to the beginning station of the transition from the 4 Lane Depressed Median section to the 5 Lane Curb & Gutter section at Sta. 316+75 so complete the dialog as shown below.



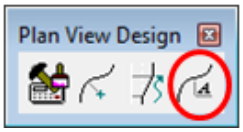
5) Next, select the MicroStation Zoom In tool and press the DP button on the above dialog. Continue to click the DP button as the view is zoomed in onto this area of interest.

You may need to turn off the Survey reference file to clear the view and rotate the view so that the transition area is horizontal.



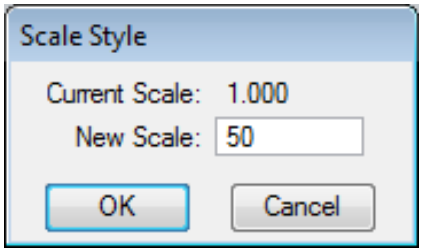
II.) Plan View Labeler

1) From the Plan View Design tool box, select the Plan View Labeler icon.

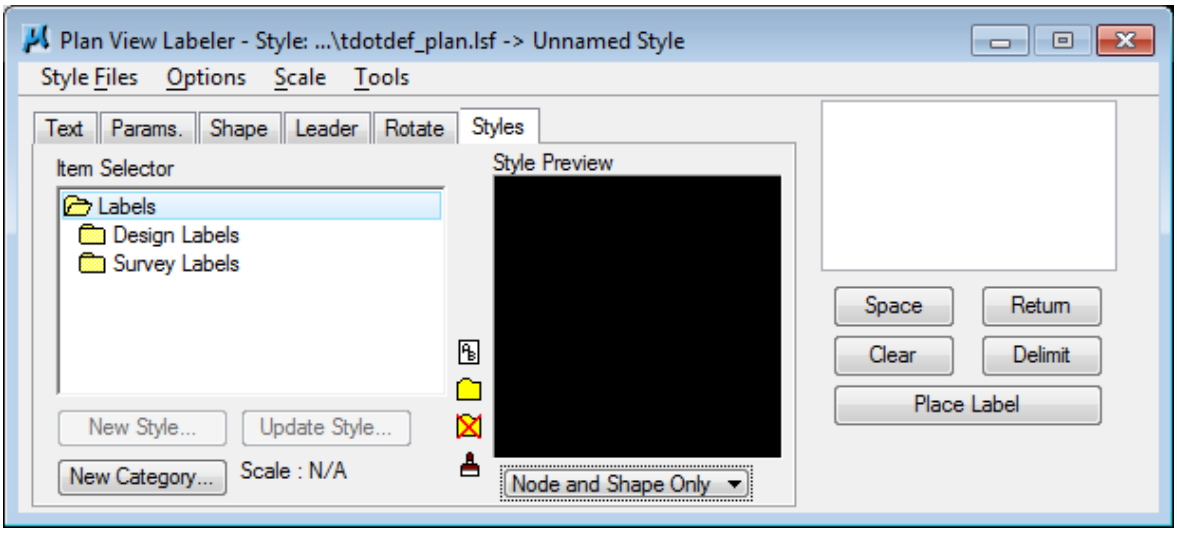


or from the Plans Prep & Quantities task group in the Horizontal Plans Preparation tools.

2) In the Plan View Labeler, first go to the drop down option Scale → Change Scale and key in 50. Click OK to set the scale.



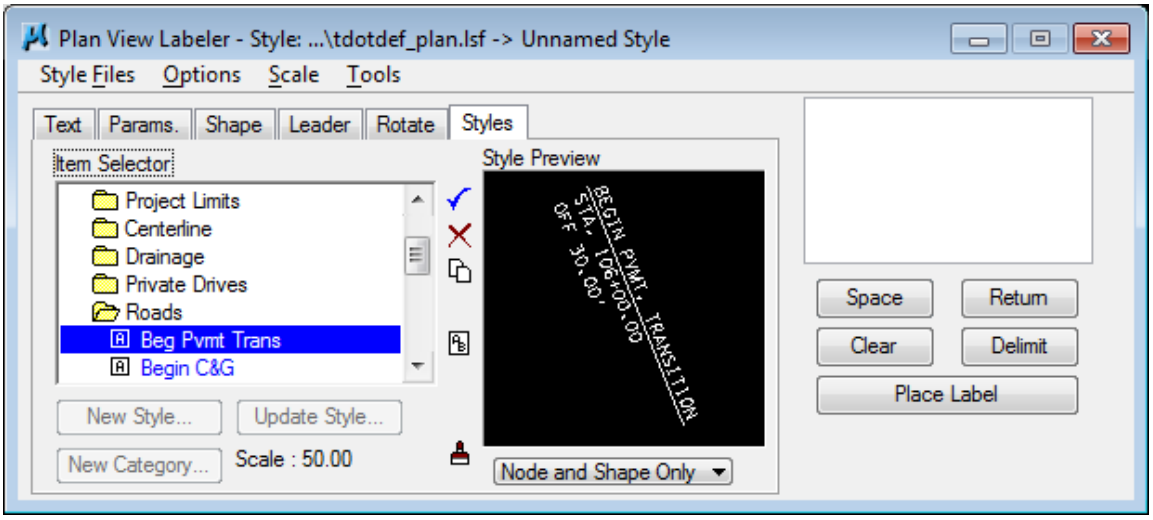
3) Select the Styles Tab.



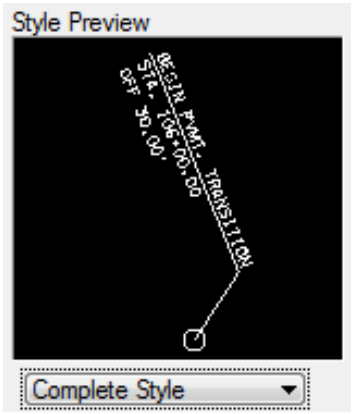
NOTE:
By default, the standard plan view label style file for T.D.O.T. Roadway Design Division, tdotdef_plan.lsf is already loaded and available. Label styles are listed in the Item Selector list.

4) Traverse within the Item Selector box to locate the following style:

Labels → Design Labels → Roads → Beg Pvmt Trans

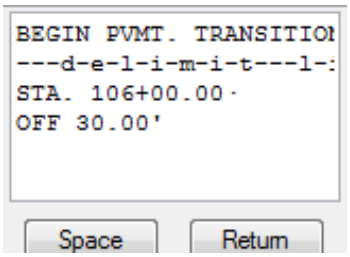


5) Modify the option from Node and Shape Only to Complete Style to preview the defined style for this label.



6) Press the Select Style Item button (checkmark) or double click on the style name to activate this style.

Once activated, the label data is shown in the text display area on the right. You must not type text in here adjacent to any data item such as station and offset values with this style. Doing this will kill the intelligence of the label style.

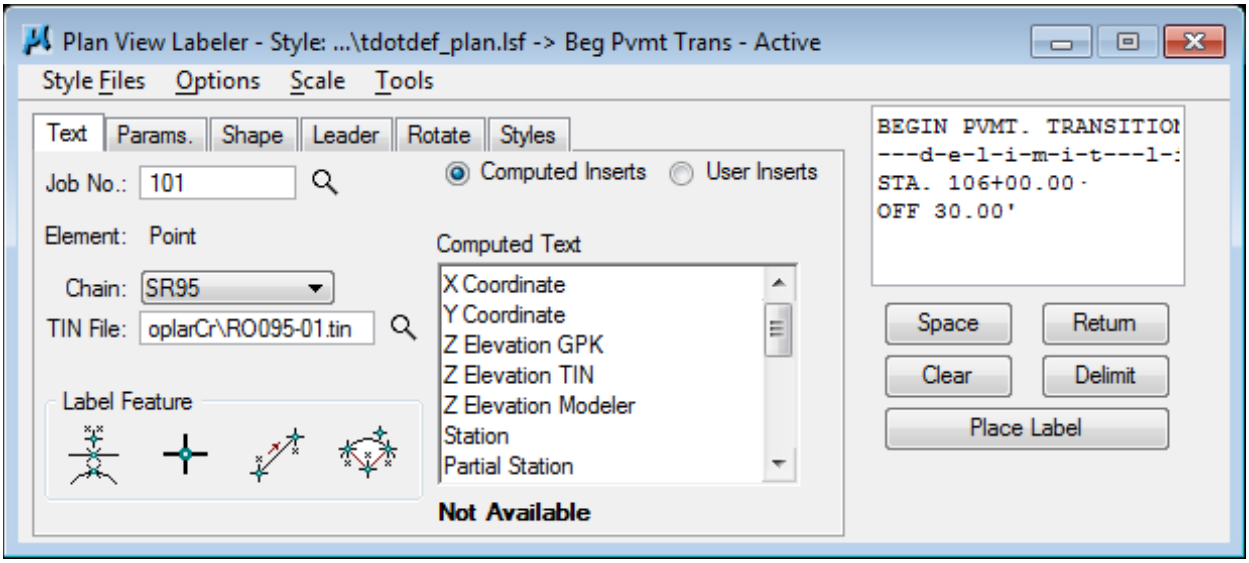


7) Move back to the Text tab and complete the data items on the left as defined below:

Job No.: 101

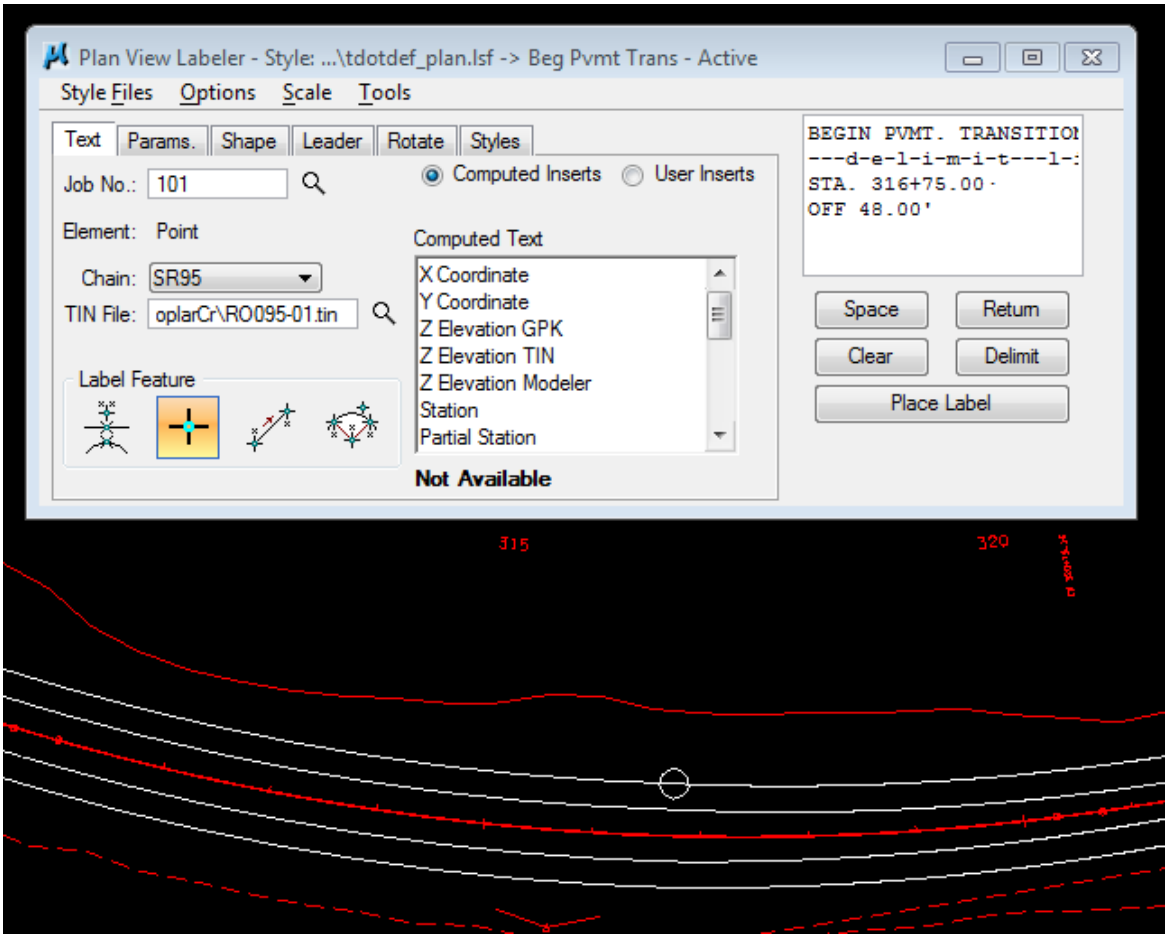
Chain: SR95

TIN File: RO095-01.tin



In the following steps, we will use the Plan View Labeler to label the beginning and ending station and offset for the transition area of the left and right roadways.

8) To begin the process, under Label Feature at the lower left select the Data Point Location button and then data point the location that you wish for the Station and offset to be computed. Snap to the pavement line at the beginning of the pavement transition. The labeler automatically calculates the information.

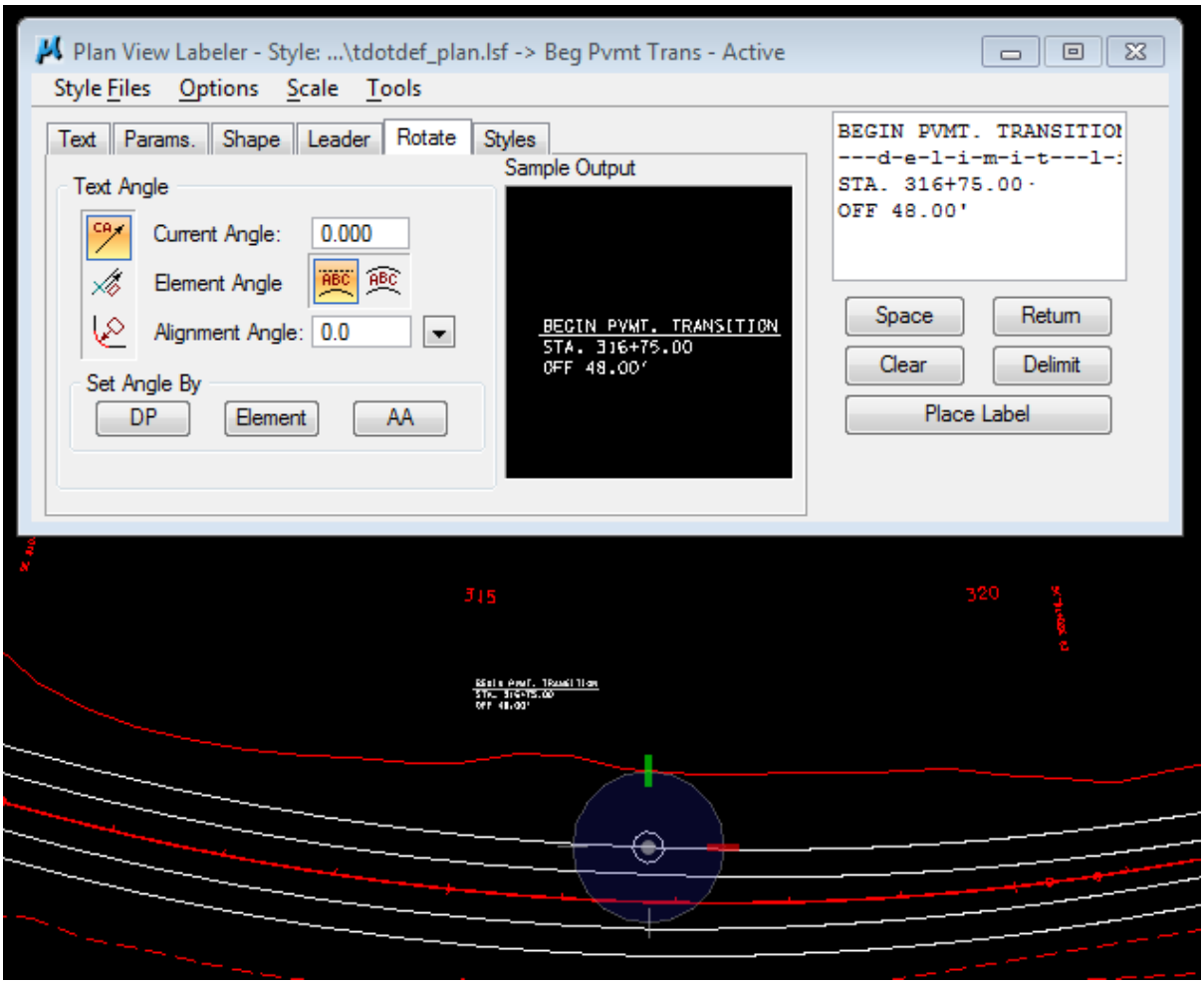


The Label Feature tool used depends on the label type. In our case, we are labeling a point location so we used Data Point Location. If we were labeling a distance on a line, we would use the Select GEOPAK or MS Element label feature tool.

9) Use the Shape, Leader and Rotation tabs to experiment with different labeling options. Click the AA button under Rotation to use the current active angle which is normally set to 0. This will to force horizontal placement of the label.

For the best results make sure the Current Angle value is set to 0 prior to picking the desired rotation option. That angle value can influence the others.

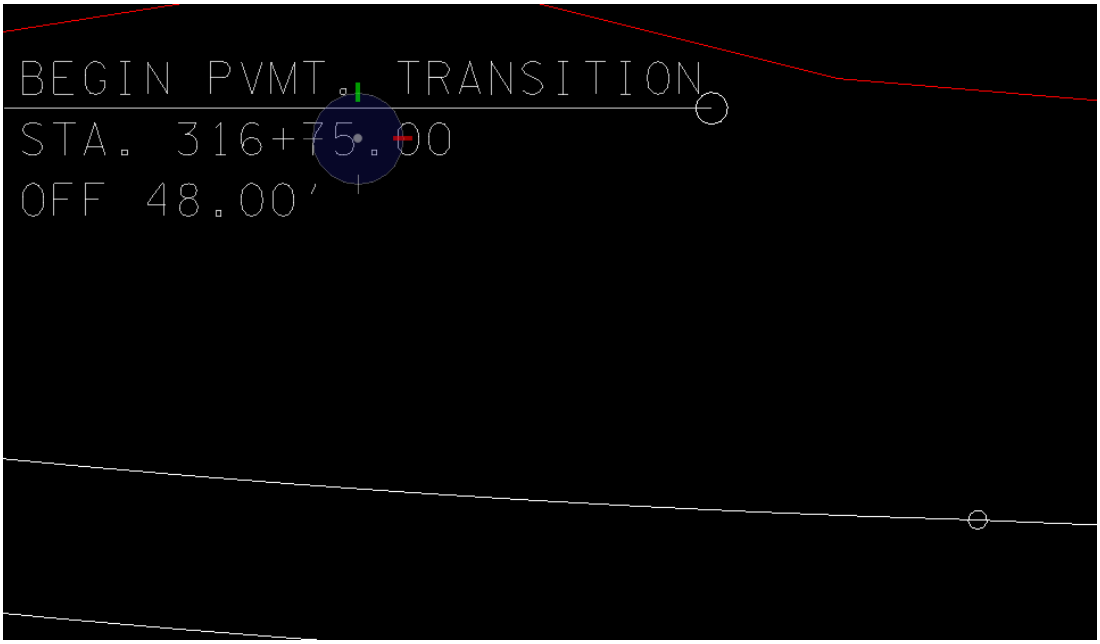
10) When you move your mouse pointer out over the view, the label is now attached to your cursor (without the leader for the delimiter). If you do not see the label, press the Place Label button on the right. Use this button anytime you must use other tools such as Zoom In just prior to placement to return focus to placing the label.



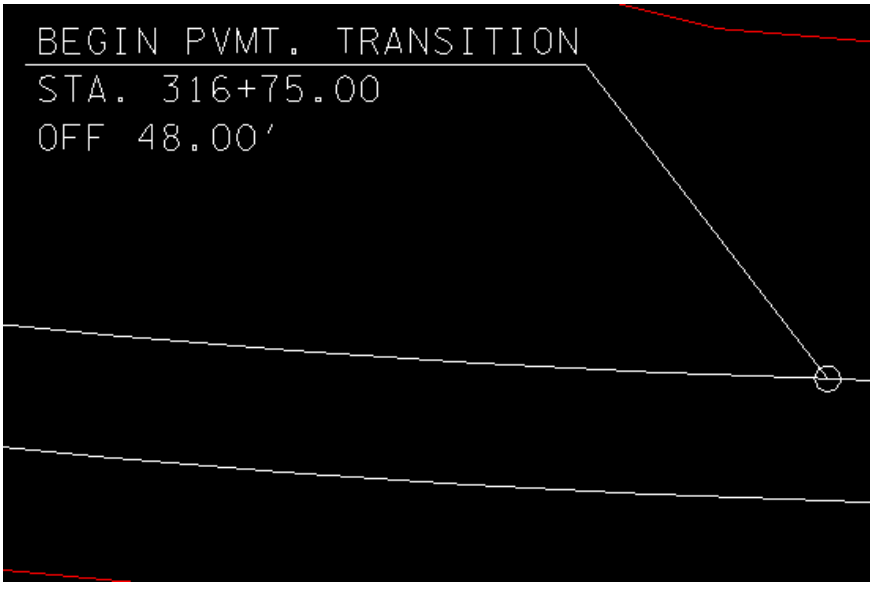
11) Data point at the location you wish the text to be located.

12) Move your cursor around and notice the small circle jump from one end of the delimiter to the other.

The next data point will define the side of the label to which the leader line will be drawn from the delimiter line to the computed location.

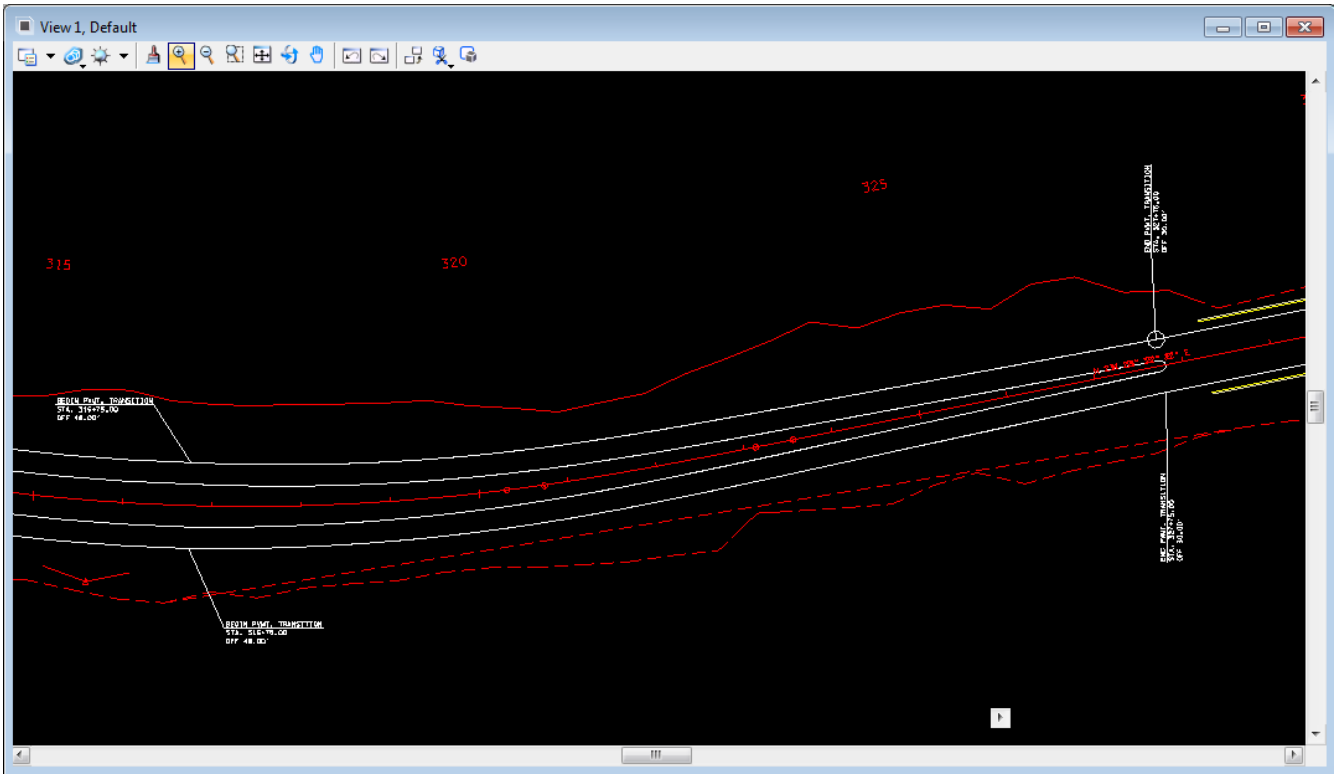


Data point when positioned as desired. The leader line is added.

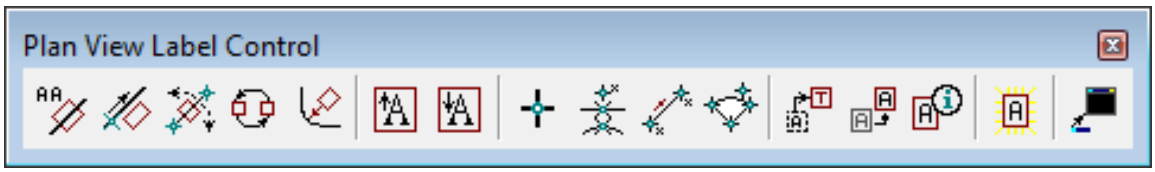


13) Using the same label style, repeat steps 8-12 to label the transition on the right side of the roadway.

14) Activate style End Pvmt Trans to label the ends of the transitions. Try another rotation option such as 90 degrees to the alignment.



15) Try using the Label Tool Box to start labels and to set rotation options. It can be accessed from the drop down location Options → Label Tools.



III.) Other Labelers

Labelers are also available for labeling Profiles, Cross Sections and Drainage Structures.

All of these labelers function about the same except for the computed inserts which are available. As you might guess, the computed inserts are based on objects found in that area of interest.

If time permits, try out the Profile and Cross section Labelers which can be found at the locations given below. We do not have a drainage project set up on this job so you will not be able to use that one.

1) Profile Labeler:

Task Bar: Civil Workflows → Plans Prep & Quantities → Profile Plans Preparation → Profile Labeling

Menu Bar: Applications → GEOPAK →Road → Plans Preparation → Profile Labeling

Style File: tdotdef_prof.lsf

2) Cross Section Labeler:

Task Bar: Civil Workflows → Plans Prep & Quantities → Cross-Section Plans Preparation → Cross Section Labeling

Menu Bar: Applications → GEOPAK → Road → Cross Sections → Cross Section Labeling

Style File: tdotdef_xs.lsf

3) Drainage Labeler: (GEOPAK Drainage must be activated first)

Tool Box: Drainage Main → Utilities → Labeler

Menu Bar: Drainage → Utilities → Labeler

Style File: tdotdef_drainage.lsf

T.D.O.T. Roadway Design Division Labeling Tools:

Several labeling tools have been developed by T.D.O.T.'s Roadway Design Division for use in plans preparation and can be accessed from Geopak's D&C Manager under Drafting Standards or with the T.D.O.T. Roadway Design Division interface from the MicroStation drop down menu TDOT. Some of these are illustrated in chapter 21.