

# LAB 6 - Draw the Median Island Nose Section

In this lab, you'll draw the nose section shown below using AccuDraw and precision keys.



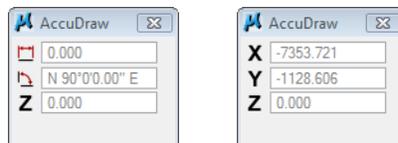
1. If AccuDraw is docked, as shown below, drag the AccuDraw Window and float it in the view.



**Note:** If AccuDraw is not on, toggle it on from the **Primary** toolbar.



If your compass is set to **Polar** mode, below left, switch it to **Rectangular** mode, below right, by pressing **<spacebar>** on the keyboard.

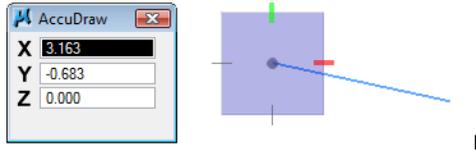


## Lab 6.1 - Draw a Concrete Gutter Pan Section

1. On the CDOT Menu, set the **Explorer** to **Drafting**, the **Category** to **Linework**, the **Filter** to **WT** and select **Item Weight 1**.
2. Key in **xy=990,990** to define the begin of the line
3. Key in **xy=1100,1100** to define the end of the line
4. Select **Fit View** to zoom around the line
5. Delete the line
6. Select **Place Smartline**
7. Key in **xy=1000,1000** to define the starting coordinate for drawing the section (the upper left corner).

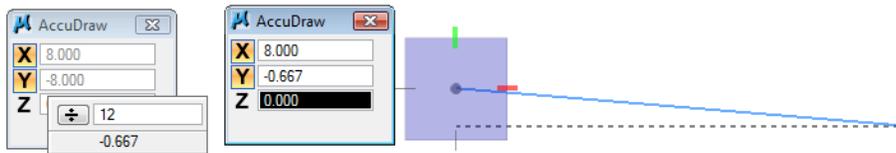
**Note:** If you can't see the line's endpoint and it is "rubber banding" into the view, **Zoom Out** and then **reset once <R>** back into the **Place Line** command. If you zoom with your mouse wheel, you don't have to reset.

- Set your cursor to slope down and to the right to establish the direction.



- Use the **AccuDraw's** rectangular compass to place the median's 8 ft. gutter pan at a 1:12 slope. Key in **8** for **X** and **8/12** for **Y**. (The Y value updates to -0.667). Make sure your cursor is set to slope **down** before entering the values.

**Note:** Remember, **do not** move your cursor into the AccuDraw window to key in your values; you may lose your positive/negative axis orientation. The focus (blinking cursor) is already set for you in the **X** field – just start typing! Then, **<Tab>** or arrow down to the next field.



- <D>** to place the point.
- Zoom in**, if necessary, to see the line.



Note that the compass rotates to the segment. You actually want to place the next line from the horizontal axis, so you need to rotate the compass so that X is horizontal.

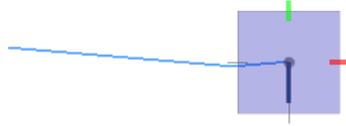
- Press **V** on the keyboard to rotate the compass to the view. The X-axis (red tic mark) should now be horizontal.



- Position your cursor up and to the right to establish the direction of the next segment.
- Key in **2** for **X** and **2/12** for **Y** (The Y value updates to 0.167 to establish the slope on the next line).



15. <D> to place the point.
16. Press **V** on the keyboard to rotate the compass to the view.



17. Lock your cursor on the  $-Y$  axis by moving your mouse to the left and hitting enter; then key in .5 in the Y field for the next segment. <D> to place the point.

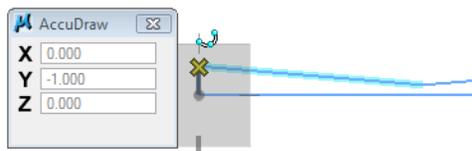
**Note:** You don't have to key in the negative, AccuDraw knows the direction from your cursor location.



18. Press **V** on the keyboard to rotate the compass back to the view.
19. Lock your cursor on the  $-X$  axis and key in 10 in the X field. <D> to place the point.



20. Hover over the starting point of the median section. When you see the bold X, <D> to AccuSnap to the point to complete.

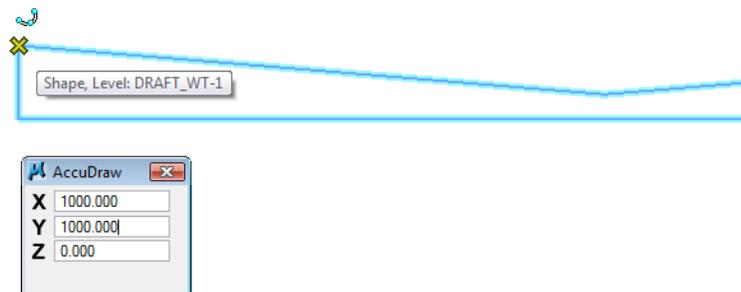


## Draw the median cover

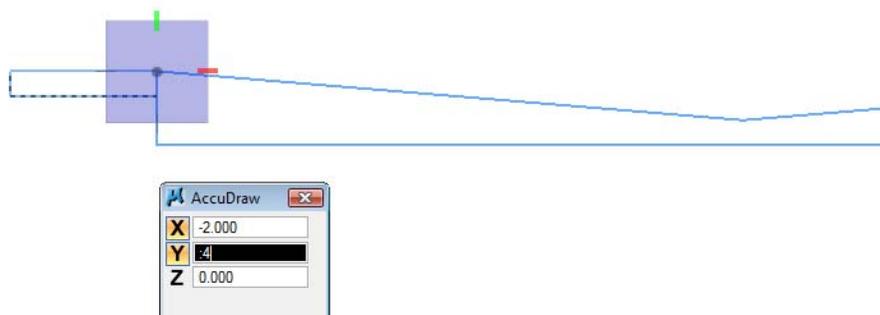
1. Fit the view.



2. Select the **Place Block** command.
3. **AccuSnap** on the upper-left corner of the median.

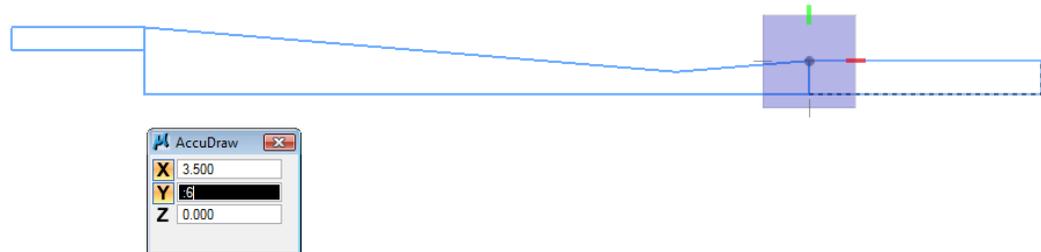


4. Place your cursor down and to the left to establish the direction.
5. Using **AccuDraw's** rectangular window, place a 2 ft. X 4 in. block as shown. Key in 2 for X and :4 for Y (don't forget the colon in front of the 4 to specify inches.) <D> to place the point.
6. <R> when done.

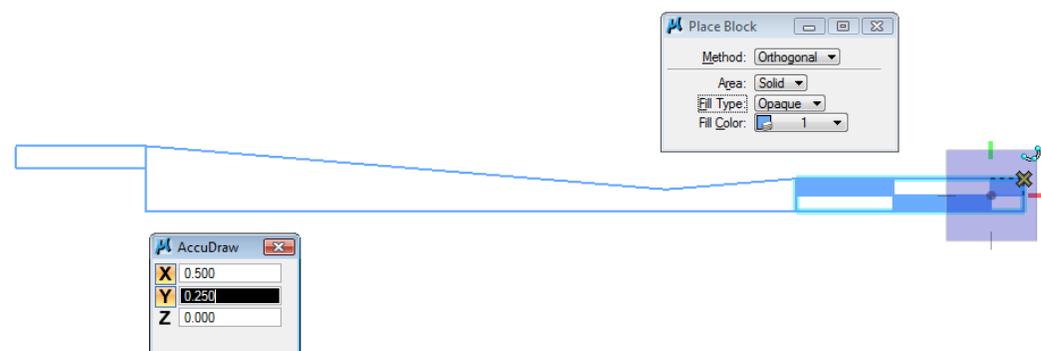


## Draw the pavement section

1. While still in the **Place Block** command, **AccuSnap** on the upper-right corner of the concrete section.
  - a. Using **AccuDraw**, place a 3.5 ft X 6" block as shown.



2. In the **Place Block Tool Settings**, toggle **Fill Type** to **Opaque**.
  - a. Use **AccuDraw** to place two 1.5 ft X 3 in. and one 6 in. X 3 in. filled blocks to create the pattern as shown.



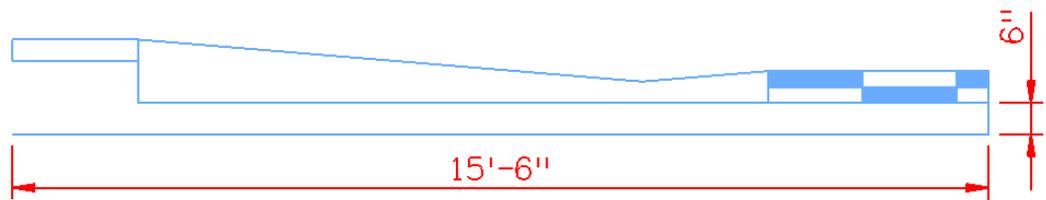
3. Set **Fill Type** back to **None**.

## Draw the Subgrade Section

1. Select the **Place SmartLine** tool.



2. AccuSnap on the lower-right corner of the asphalt to start the subgrade.



3. Use the information above to place the SmartLine using AccuDraw.
4. To practice drawing these lines again using precision keyins, Delete the two lines you just placed to start over.

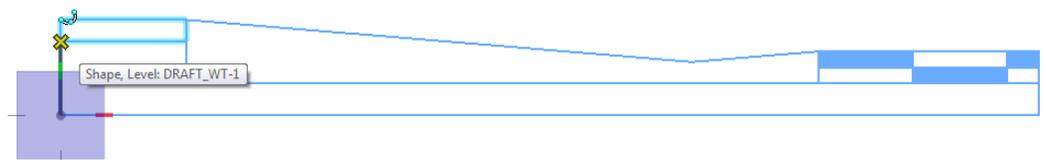


5. Re-draw the two lines using the **dx=** precision keyin (delta keyin).
  - ◆ AccuSnap to the starting point.
  - ◆ Key in **dx=-:6** for the first line.
  - ◆ Key in **dx=-15.5** for the second line.

**Note:** Don't forget the negative signs. You could also key in **.5** instead of **:6** and **15:6** instead of **15.5**.

6. Again, Delete the two lines you just place to start over.
7. Re-draw the two lines using the **di=** precision keyin (distance, direction keyin).
  - ◆ Select the Smartline command
  - ◆ AccuSnap to the starting point
  - ◆ Key in **di=:6,-90** for the first line
  - ◆ Key in **di=15.5,180** for the second line
  - ◆ AccuSnap to the location shown to finish

**Note:** You don't need the negative signs because of the direction you move the mouse.



8. Fit the view.

You've now used MicroStation's two main techniques for precision placement – precision keyins and **AccuDraw**. By using each method, you can compare the two methods and determine which you prefer.

You'll practice more with precision keyins and AccuDraw in other labs.

9. Save Settings (**File > Save Settings**).
10. Exit MicroStation.

