

Displaying and Annotating Sections

As you have learned, creating a design is only part of the story—you also have to display and annotate it in ways that effectively represent your design for its intended purpose. This also applies to sections. As you'll see in this chapter, there are styles that control the appearance of the sections themselves as well as the section views that house them. There are labels that attach themselves to the sections and labels that can float in the section views. In fact, the methods you used to stylize and annotate sections and section views are very similar to those used for profiles and profile views.

Of course, there are also differences. For instance, you have to address the stylization and labeling of a corridor section, which you don't need to do with profile views. Another difference is that section views typically are created in bulk, so their arrangement and grouping into sheets must also be managed.

In this chapter, you'll learn to:

- ▶ Apply section styles
- ▶ Apply section labels
- ▶ Control corridor section display with code set styles
- ▶ Apply labels with code set styles
- ▶ Apply section view styles
- ▶ Apply section view bands
- ▶ Apply group plot styles
- ▶ Create section view labels

Applying Section Styles



Before I jump into section styles, I'll discuss the difference between sections and corridor sections. *Sections* are derived from surfaces, and they can be thought of as a very close relative to surface profiles. Like surface profiles, they are typically represented by a single line and can be annotated using a label set. Corridor sections are something quite different. You can think of a *corridor section* as an assembly superimposed on a section view. It consists of subassemblies, points, links, and shapes. Because of the differences between sections and corridor sections, the methods you use to stylize and label them are different.

With that out of the way, let's look at section styles. *Section styles* are used to change the appearance of a section either directly or by displaying it on a different layer. The most common application of a section style is the differentiation between sections that represent existing and proposed ground surfaces. You can also use section styles to show point markers at each vertex in the section line.

If you haven't already done so, download and install the files for Chapter 11 according to the instructions in this book's Introduction.

Exercise 11.1: Apply Section Styles

In this exercise, you'll apply section styles to differentiate between sections that represent finished ground, existing ground, and rock surfaces.

Because you're working exclusively with section views in this chapter, the drawings are set up with a single viewport rather than the multiple viewports used in prior chapters.

You may need to click the **Section: Rock** ribbon tab to see the **Section Properties** icon.



Using the **Section Properties** command to change the style is only one of three ways you can do this. You'll try out the other two later in this exercise.

1. Open the drawing named *Applying Section Styles.dwg* located in the Chapter 11 class data folder.
Here, you see three section views that were plotted to investigate the shallow rock layer. The section views show a corridor section, existing ground surface section, and rock section.
2. Click the lowest section in the 8+50.00 (0+260.00) section view, and then click **Section Properties** on the **Section: Rock** ribbon tab.
3. On the **Information** tab of the **Section Properties** dialog box, change **Object Style** to **Rock**. Click **OK** to close the dialog box. Press **Esc** to clear the selection.
The rock section now appears as a gray dashed line.
4. Repeat the previous two steps for the section that appears above the rock layer, this time assigning a style of **Existing Ground**.
The section representing existing ground now appears as a red dashed line along with the rock section from the previous step (see Figure 11.1).

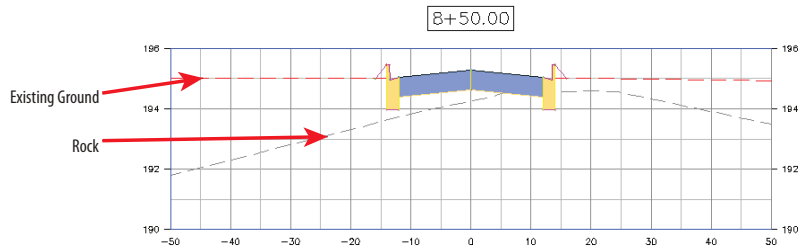




FIGURE 11.1 The sections have been stylized to differentiate between rock and existing ground.

5. Click the lower section in the 9+00.00 (0+270.00) section view, right-click, and select Properties. 
6. In the Properties window, change Style to Rock. Keep the Properties window open.
7. Press Esc to clear the selection of the rock section. Click the existing ground section, and use the Properties window to change its style to Existing Ground.
8. Press Esc to clear the previous selection, and then click one of the grid lines for the 9+25.00 (0+280.00) section view. Click Section View Properties on the ribbon. 
9. On the Sections tab of the Section View Properties dialog box, in the Style column, change the style of the section named EG to Existing Ground, and for the section named Rock, change the style to Rock. Click OK to dismiss the Section View Properties dialog box. Press Esc to clear the selection.

All three section views should now properly display the existing ground and rock sections.
10. Save and close the drawing.

You can view the results of successfully completing this exercise by opening Applying Section Styles - Complete.dwg.

If the section view grid obscures the red dashed line, select the section view, right-click, and select Display Order > Bring To Front.

Using the Properties window to change the style is the second of three methods available to you. This method is a bit quicker because both sections can be changed in the same window.

Using the Section View Properties command to change the style is the third of three methods available to you. This method shows all the sections that are present in the section view.

Applying Section Labels



At times, you may need to annotate sections with information about their elevations, slopes, offsets, and so on. As you learned in Chapter 8, “Displaying and Annotating Profiles,” label sets enable you to apply multiple labels at once as well as apply important configuration settings to the labels such as increment, weeding, and so on. For sections, the AutoCAD® Civil 3D® software environment provides the following four types of labels that can be compiled into a label set:

Major Offset Labels These labels are placed at constant increments along the section. You can use this label type to label offset, elevation, instantaneous grade, and many other properties.

Minor Offset Labels These are the same as major offset labels except they are created at a smaller increment and must exist as children of the major offset labels.

Segment Labels You use this label type to label the grade, length, and other properties of the line segments that make up the section.

Grade Break Labels You use this label type to label the offset, elevation, and other properties of grade breaks—the locations where segments meet.

The first two types are created at increments, so they are spaced evenly across the section. The last two are created at individual components of the section, so they are placed wherever these components exist. Because sections sometimes have many short segments, you can configure the label sets to skip points that are close together to prevent labels from overlapping.

Exercise 11.2: Apply Section Labels

In this exercise, you’ll configure labels to show information on the elevations of the rock layer in each section view.

1. Open the drawing named Applying Section Labels.dwg located in the Chapter 11 class data folder.
2. Click the rock section on the lowest section view, and then click Edit Section Labels on the ribbon.



If you haven’t already done so, download and install the files for Chapter 11 according to the instructions in this book’s Introduction.

Here you see the same three section views from the previous exercise. The section view styles have been modified to create some extra space beneath the sections.

3. In the Section Labels – Rock dialog box, do the following:

- a. For Type, select Grade Breaks.
- b. For Section Grade Break Label Style, select Rock.
- c. Click Add.
- d. For Dim Anchor Opt, select Graph View Bottom.
- e. For Dim Anchor Val, enter 0.
- f. Click OK.

You should see three labels along the bottom of the section view with lines extending upward from each one.

ANCHORS AWEIGH

In step 3 of Exercise 11.2, you adjusted two settings relating to anchors. The concept of anchors is unique to certain types of labels that appear in section views and profile views. As a label style is composed, certain key points can be located at an anchor point whose location will be determined at the time the label is applied. This gives you some additional control over the placement of the labels. For example, in the previous steps, you specified that the labels should be aligned to the bottom of the grid by assigning Graph View Bottom as the Dim Anchor Opt setting. The Dim Anchor Val setting is an offset from the anchor point, which enables you to fine-tune the position of the label even more. An easy way to find out whether a label style that you have selected can respond to anchors is to look for a second grip. When initially created, this grip will be located where the anchor options specify. The grip can be moved to a location of your choice, providing even more flexibility with label placement.

With the options you have selected, only three labels appear. It would be better to increase the number of labels to include more points along the section. In steps 4 and 5, you'll adjust the Weeding setting to provide more labels.

4. Press Esc to clear the selection from the previous step. Click one of the labels, and then click Edit Label Group on the ribbon.
5. In the Weeding column, change the value to 5 (2). Click OK. Press Esc to clear the selection.



As shown in Figure 11.2, more labels appear because the Weeding setting allows the space between the labels to be as small as 5 feet (2 meters) rather than 100 feet (25 meters).

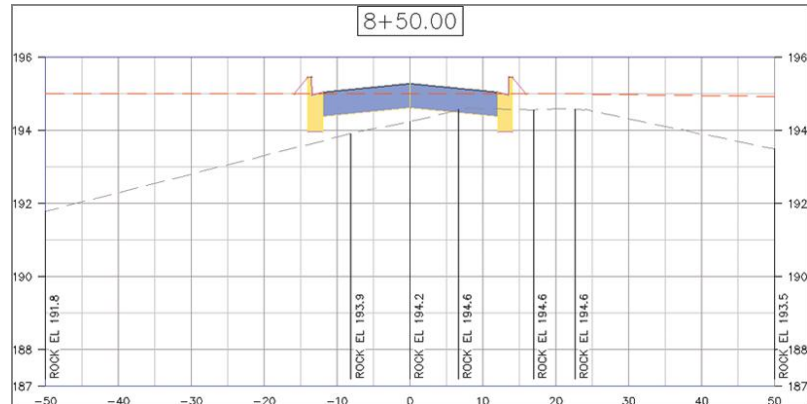


FIGURE 11.2 A label set has been applied to the rock section to provide information about the elevations of the rock layer.

6. Apply the same labels to the rock section in the other two section views.

THERE ARE LABEL SETS FOR SECTION VIEWS TOO

You learned about label sets in Chapter 6 and Chapter 8 when dealing with alignment and profile labels. The same label set functionality is available for section views too. Try it for step 6 in Exercise 11.2. Instead of manually setting up the rock labels, use the Save Label Set function to save the first configuration, and then use Import Label Set to apply it to the other section views.

7. Save and close the drawing.

You can view the results of successfully completing this exercise by opening Applying Section Labels - Complete.dwg.

Controlling Corridor Section Display with Code Set Styles

You have already seen how section styles can be used to change the appearance of sections, but what about corridor sections? As stated earlier, the way this is handled is different and is done through the use of a *code set style*. The setup of code set styles is complicated, and it's often left to the expertise of a CAD manager or very experienced Civil 3D user. However, once code set styles are created and made available to you, the task of assigning them to a corridor section is fairly simple.

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CODE SET STYLES

Let's take a closer look at code set styles. First, it will be easier if you think of a corridor section as an assembly. You have already learned that assemblies are made up of smaller parts called *subassemblies*. You have also learned that subassemblies are made up of smaller parts called *points*, *links*, and *shapes*. Points, links, and shapes all have at least one *code* assigned to them, and this little string of text is the key to how code set styles work.

For example, one code that is used quite often is Pave. The BasicLaneTransition subassembly in your corridor uses a rectangular shape to represent the lane, and the Pave code is assigned to this shape as a property of the subassembly.

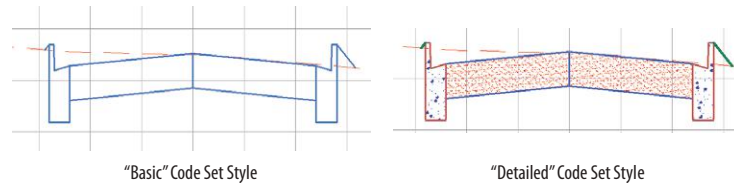
Shapes have styles just like all the other Civil 3D objects you have studied. For example, you can create a shape style called Hatched Pavement that displays the outline of the shape and fills it with a dot hatch to represent the pavement material. Another shape style might be Basic Pavement, which shows just an outline and no hatching.

Even for a simple assembly, the number of codes that are involved can grow quickly. And the number of styles can grow quickly as well—for example, you may want to apply a different style to each code to visually differentiate pavement from curbing from sidewalk, among other things. One job of a code set style is to match up multiple codes with multiple styles and store them all under one name. So, for example, you may have a code set style called Basic that uses the Basic Pavement style for any shape coded Pave. This might be only one of several or even dozens of match-ups between style and code in this code set style. Then, in another code set style named Detailed, you may decide to use the Hatched Pavement style for any instances of the Pave shape code. Again, this might be one of many code-style match-ups.

(Continues)

CODE SET STYLES *(Continued)*

Now, with both code set styles in place, you can quickly change the appearance of your corridor section to take on either a Basic or Detailed appearance by simply switching the code set style, as shown in the following diagrams.



If you haven't already done so, download and install the files for Chapter 11 according to the instructions in this book's Introduction.

Exercise 11.3: Apply Code Set Styles

In this exercise, you'll apply different code set styles to corridor sections and observe the changes that can occur. You'll explore code set styles for an individual section and for a section view group.

1. Open the drawing named *Applying Code Set Styles.dwg* located in the Chapter 11 class data folder.
2. Click the corridor section in the bottom section view, and then click **Section Properties** on the ribbon.
3. On the **Information** tab of the **Corridor Section Properties** dialog box, change **Object Style** to **Road Sections** and click **OK**. Press **Esc** to clear the selection.
4. Using the same procedure, change the style to **Road Sections – Top Highlighted**.
5. In the lower-right corner of your screen, click the icon for the customization menu. If there is no check mark next to **LineWeight**, click **LineWeight** to activate the button on the status bar.
6. Click the **Lineweight** icon on the status bar to turn on the display of lineweights.
The icon turns blue if the feature is on.

The drawing is zoomed in to the same three section views from the previous exercise.



The appearance of the corridor section changes to a more basic outline.



You now see the top surface of the corridor section highlighted in red.



7. Change the style of the corridor section to Presentation.
With this style, the pavement is hatched with a different pattern than the curbs.
8. Press Esc to clear the previous selection. Zoom out, and pan to the north where the sheets of section views are located. Click one of the section views, and select View Group Properties on the ribbon.
9. Click the Sections tab. In the Style column, change the style for Jordan Court to Presentation.
10. Click OK to dismiss the Section View Group Properties dialog box and return to the drawing. Zoom in, and study the change to the section views.
The code set style has been assigned throughout the entire section view group (see Figure 11.3).



This opens the Section View Group Properties dialog box.

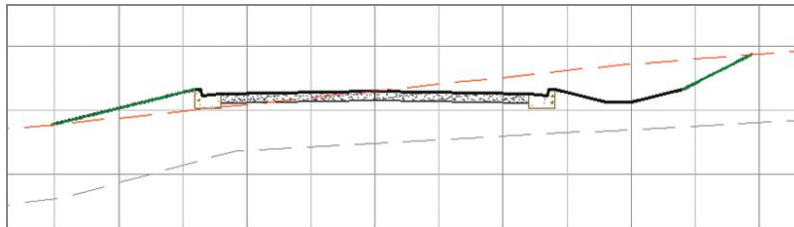


FIGURE 11.3 The Jordan Court corridor section with the Presentation code set style applied

11. Save and close the drawing.

You can view the results of successfully completing this exercise by opening Applying Code Set Styles - Complete.dwg.

Applying Labels with Code Set Styles

As you have seen, code set styles are very effective at assigning styles based on point, link, and shape codes. They can also be used to apply labels to corridor sections, and just as with styles, codes are the key to automating the placement of labels.



If you haven't already done so, download and install the files for Chapter 11 according to the instructions in this book's Introduction.

Once again, the drawing is zoomed in to the design section views from the previous exercises.



Exercise 11.4: Apply Labels with Code Set Styles

In this exercise, you'll use a code set style to add labels to a corridor section. You'll then modify the code set style to add a label at the crown.

1. Open the drawing named `Labeling with Code Set Styles.dwg` located in the Chapter 11 class data folder.
2. Click the corridor section in the bottom section view, and then select `Section Properties` on the ribbon.
3. Change `Object Style` to `Design With Labels`, and click `OK`. Press `Esc` to clear the selection.

The corridor section now includes labels for slopes, elevations, and shape codes. Next, you'll modify the code set style to add an elevation label at the crown of the road.
4. Open the `Tool Palettes` window by clicking the `Tool Palettes` icon on the `Home` tab of the ribbon. Click the `Basic` tab in the `Tool Palettes` window to make the `Basic` palette come to the forefront.


You're taken directly to the `Help` window for this subassembly.
5. Right-click `BasicLaneTransition`, and select `Help`.

You're taken directly to the `Help` window for this subassembly. Note that point `P1` is coded `Crown` (see Figure 11.4)—this is the code you'll use.

| Point, Link, or Shape | Codes | Description |
|-----------------------|----------------|--------------------------------------|
| P1 | Crown | Crown of road on finish grade |
| P2 | ETW | Edge-of-traveled-way on finish grade |
| P3 | Crown_Subbase | Crown of road on subbase |
| P4 | ETW_Subbase | Edge-of-traveled-way on subbase |
| L1 | Top, Pave | Paved finish grade |
| L3 | Datum, Subbase | Subbase |
| S1 | Pave1 | |

Coding Diagram

FIGURE 11.4 Coding diagram for the `BasicLaneTransition` subassembly

6. Scroll to the bottom of the Help page, and study the coding diagram.
7. Close the Help window. Click the corridor section, and then click Section Properties > Edit Code Set Style on the ribbon. 
8. On the Codes tab of the Code Set Style dialog box, expand the Point section and locate the Crown code beneath it.
9. Click the icon to the right of <None> in the Label Style column across from Crown. Select Crown Elev, and click OK.
10. Click OK to dismiss the Code Set Style dialog box. Press Esc to clear the selection of the section.

A marker and label are now displayed at the crown of the road. The code set style recognized the use of the Crown code in the corridor section and applied the label accordingly (see Figure 11.5).

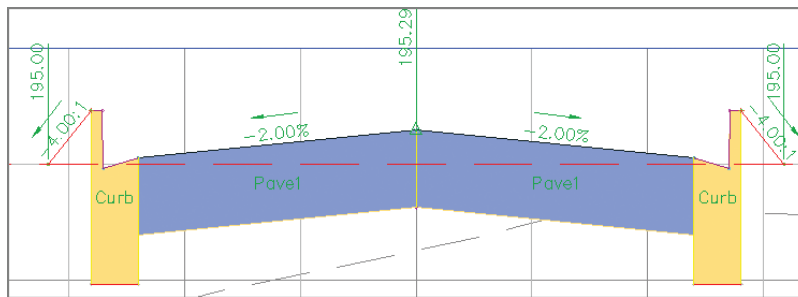


FIGURE 11.5 A code set style that includes labels has been applied to the Jordan Court corridor section.

11. Save and close the drawing.

You can view the results of successfully completing this exercise by opening Labeling with Code Set Styles - Complete.dwg.

Applying Section View Styles

Now that you have studied the display and annotation of sections, let's take a look at the appearance of the section view that provides the backdrop for the sections. Once again, there are many similarities between section views and profile views. Both have the capability to display a grid, both can apply a vertical

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If you haven't already done so, download and install the files for Chapter 11 according to the instructions in this book's Introduction.



Once again, you're viewing the three design cross sections that you have been working with in previous exercises.



One way you might use this section view style is for close inspection and detailed editing of the section, because the grid lines appear very frequently and the vertical dimensions of the sections are exaggerated even more.

exaggeration, and both can use bands to provide supplemental information along the bottom or the top of the view. In fact, the only significant difference between profile views and section views is that profile views display stations (read along the alignment) whereas section views display offsets (read perpendicular to the alignment).

Exercise 11.5: Apply Section View Styles

In this exercise, you'll experiment with changing the section view style for an individual section view as well as for a group of section views.

1. Open the drawing named *Applying Section View Styles.dwg* located in the Chapter 11 class data folder.
2. Click the lowest section view, and then click **Section View Properties** on the ribbon.
3. On the **Information** tab of the **Section View Properties** dialog box, change the style to **Design 10V Major And Minor – No Padding**. Click **OK**. Press **Esc** to clear the selection.



ALL THAT WITH ONE STYLE?

In step 3 of Exercise 11.5, when you changed the section view style from **Design 5V Major And Minor** to **Design 10V Major And Minor – No Padding**, the following changes were made to the section view:

- ▶ The vertical exaggeration changed from 5 to 10, causing the elevation changes in the sections to be much more dramatic.
- ▶ The elevation grid interval changed to increase the frequency of both the major grids and minor grids along with their associated labels.
- ▶ The space beneath the sections (padding) was removed.
- ▶ The minor interval of the offset grid lines was increased.

This is a classic example of the power of styles. To make these changes manually would have taken several minutes to figure out—even for an experienced user. Instead, all you have to do is assign a different style, and all the changes are applied instantaneously.

4. Use the Section View Properties command to change the style to Design IV Major And Minor – No Padding.
This view is similar to the previous one, but this time there is no vertical exaggeration.
5. Use the Section View Properties command to change the style to Design IV – No Grid.
Because this section view style excludes the grid and labels, you might use it to create illustrations for a report.
6. Use the Section View Properties command to change the style to Design 5V Major Only.
This view is similar to the other views immediately above it, except the minor grids aren't displayed.
7. Press Esc to clear the previous selection. Zoom out, and pan north to the three sheets of section views. Click one of the section views, and select View Group Properties on the ribbon.
This opens the Section View Group Properties dialog box.
8. On the Section Views tab, click in the Style column in the first row across from Section View Group – 1.
The new section view style applies a vertical exaggeration of 2, so the section views take up more space top to bottom. In the next step, you'll rearrange the views on the sheet so they're easier to read.
9. Select Road Section Type 2, and click OK. Click OK again to dismiss the Section View Group Properties dialog box.
10. With one of the section views still selected, click Update Group Layout on the ribbon.

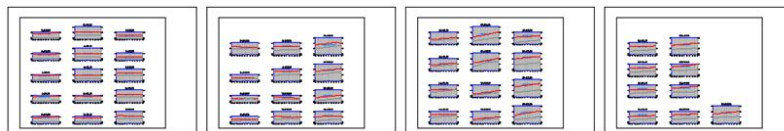


FIGURE 11.6 A fourth sheet is created as a result of changing the section view style applied to the section view group.

11. Save and close the drawing.

You can view the results of successfully completing this exercise by opening Applying Section View Styles - Complete.dwg.

Applying Section View Bands

You may need to display additional information about the sections to accompany what is conveyed by the section view. Bands can be a useful tool for this purpose, enabling you to display information both graphically and textually. There are two types of section view bands, as described here:

Section Data Bands You use this type of band for labeling offset and elevation data at regular increments along the section view.

Section Segment Bands You use this type of band to label length and slope information about individual segments. Because the individual labels are created segment by segment, they aren't evenly spaced across the band as you see in a section data band. Weeding can be applied to improve situations where segments are short and labels overlap.

If you haven't already done so, download and install the files for Chapter 11 according to the instructions in this book's Introduction.




Exercise 11.6: Apply Section View Bands

In this exercise, you'll apply section view bands to an individual section to display information for stations, elevations, and rock depth. You'll then apply bands to a group of section views and update the layout of the section views to account for the additional space taken up by the bands.

1. Open the drawing named Applying Section View Bands.dwg located in the Chapter 11 class data folder.
2. Click the grid of the bottom section view, and select Section View Properties on the ribbon.
3. On the Bands tab of the Section View Properties dialog box, do the following:
 - a. For Band Type, verify that Section Data is selected.
 - b. Under Select Band Style, verify that Design – EG Elev is selected.
 - c. Click Add.

- d. Change the Gap value for the newly added band to 0.
- e. Scroll right, and select EG in the Section1 column.
- f. Click OK.

The band is added, but there are values with lines through them at either end of the band.

4. With the section view still selected, click Section View Properties on the ribbon again. 
5. On the Bands tab of the Section View Properties dialog box, uncheck the boxes in the Label Start Offset and Label End Offset columns. Click OK.
The labels at either end of the band are now omitted.
6. Add a band showing the depth of the rock surface beneath the existing ground surface by applying these settings:

- ▶ Type: Section Data
- ▶ Style: Rock Depth
- ▶ Gap: 0
- ▶ Label Start Offset: Unchecked
- ▶ Label End Offset: Unchecked
- ▶ Section1: EG
- ▶ Section2: Rock

7. Add a band showing offset values by applying these settings:
 - ▶ Type: Section Data
 - ▶ Style: Design – Offsets
 - ▶ Gap: 0
 - ▶ Label Start Offset: Checked
 - ▶ Label End Offset: Checked
8. Access the Bands tab of the Section View Properties dialog box again. Click Save As Band Set.
9. Enter Off-Elev-Rock Depth in the Name field, and click OK. Click OK to close the Section View Properties dialog box.



10. Press Esc to clear the previous selection. Click the section view to the north, and then click Section View Properties on the ribbon.
11. On the Bands tab of the Section View Properties dialog box, click Import Band Set. Select Off-Elev-Rock Depth, and click OK.
12. Select EG for Section1 of the first two bands. Select Rock as Section2 of the second band. Click OK.

The bands for this section view now match the bands of the section view that you modified in steps 2 through 7 (see Figure 11.7).

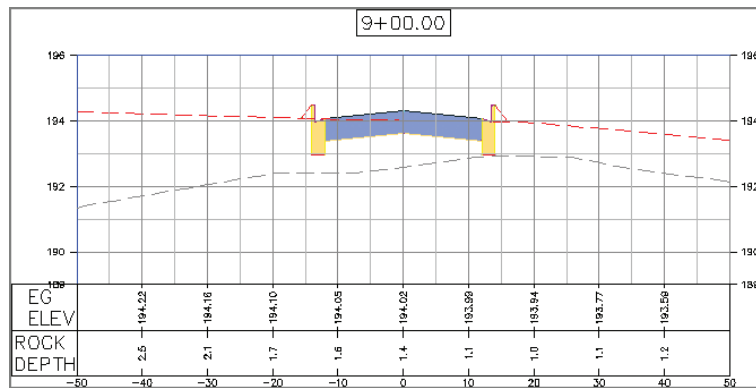


FIGURE 11.7 A section view with bands added for existing ground elevations, rock depth, and offsets

13. Repeat steps 10 through 12 to add the same band set to the third design section view.
14. Press Esc to clear the previous selection. Zoom out, and pan north to the sheets of section views. Click one of the section views, and then click View Group Properties on the ribbon.
15. On the Section Views tab, click the ellipsis in the first row of the Change Band Set column.
16. Click Import Band Set, and select Section Sheets. Click OK until you have dismissed all dialog boxes and returned to the drawing.

The bands have been added to the section views, but the section views must now be rearranged to account for the additional space they occupy. You'll address this in the next step.



17. With one of the section views still selected, click Update Group Layout on the ribbon.



Civil 3D automatically creates a fourth sheet as a result of this update (see Figure 11.8).

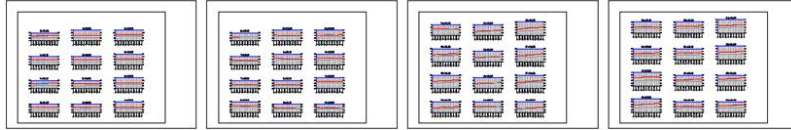


FIGURE 11.8 A fourth sheet is created to accommodate the extra area taken up by the section view bands.

18. Save and close the drawing.

You can view the results of successfully completing this exercise by opening Applying Section View Bands - Complete.dwg.

Applying Group Plot Styles

Throughout this chapter, you have been working with several sheets' worth of section views all neatly arranged within predefined sheet borders. You may be wondering what controls this behavior, and if you guessed that it's some sort of style, you're correct. The arrangement of multiple section views is accomplished by a *group plot style*.

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A group plot style uses an assortment of settings to configure the layout of multiple section views. When section view groups are created, there are two placement options: Production and Draft. When a section view group is created using the Production placement option, the layout of section views is made to fit on individual sheets. The size and shape of the individual sheets come from a template (.dwt) file. When the Draft placement option is used, the section views are laid out as a single group and aren't bound within a given area.

Another function of group plot styles is to overlay a grid on the sections. With this approach to sheet creation, the section views don't typically have their own grid but are superimposed on a grid that covers the entire sheet.

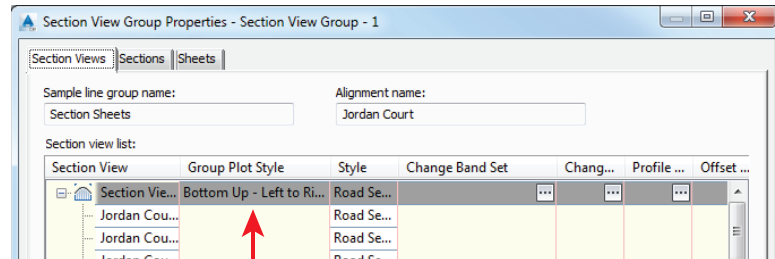
If you haven't already done so, download and install the files for Chapter 11 according to the instructions in this book's Introduction.



Exercise 11.7: Apply Group Plot Styles

In this exercise, you'll experiment with applying different group plot styles to change the arrangement of the section views.

1. Open the drawing named Applying Group Plot Styles.dwg located in the Chapter 11 class data folder.
2. Click one of the section views displayed on the three sheets, and then click View Group Properties on the ribbon.
The Section View Group Properties dialog box opens.
3. On the Section Views tab, click the first row in the Group Plot Style column (see Figure 11.9). Select Left To Right – Top Down, and click OK.



Click here.

FIGURE 11.9 Where to click to change the group plot style for the section view group

4. Click OK to dismiss the Section View Group Properties dialog box.
5. Click one of the section views, and click View Group Properties again. This time, do the following:
 - a. Click the top row in the Group Plot Style column, and select Bottom Up – Left To Right With Grid.
 - b. Click the top row in the Style column, and select Design IV – No Grid.
 - c. Click the ellipsis in the Change Band Set column.
 - d. Select the Section Data band listed in the Section View Group Bands dialog box, and then click the red X to remove it. Click OK.
 - e. Click OK to close the Section View Group Properties dialog box.

Notice that the section views shift toward the top left of the sheet and that they are arranged with the stations increasing from left to right.



- Zoom in, and study the newly configured sheets.

With this configuration, the section views are superimposed on a grid provided by the sheets. Because the grid is already there, the section view styles don't show the individual grids. These styles also have their own offset labels across the bottom, so the section view bands have been removed.

- Click one of the section views, and then click Update Group Layout on the ribbon.



With the newly applied section view styles and group plot style, the section views now all fit on two sheets (see Figure 11.10).

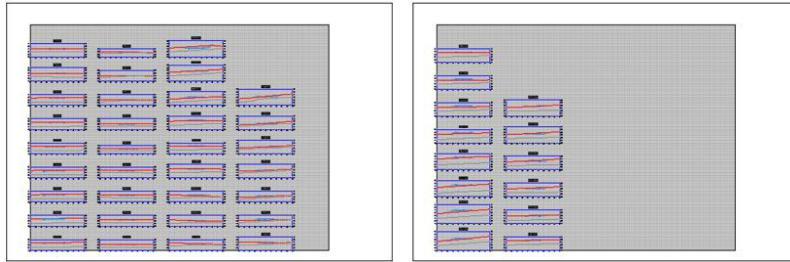


FIGURE 11.10 A section view group with a new group plot style applied

- Save and close the drawing.

You can view the results of successfully completing this exercise by opening Applying Group Plot Styles - Complete.dwg.

Creating Section View Labels

So far in this chapter, you have seen how to create many different types of annotations. There are label sets that are applied to sections, labels applied to corridor sections through code set styles, labels applied to section views and bands, and even labels attached to objects that have been projected to section views. One limitation of these labels is that they're all connected to something and therefore get their information and location from another object. What if you need to create a basic, all-purpose label that can be used to convey offset and elevation on a section view? To do this, you create a *section view label*.

Section view labels are attached to the section view itself. They can be placed anywhere in the section view and used to label just about anything.

If you haven't already done so, download and install the files for Chapter 11 according to the instructions in this book's Introduction.



Exercise 11.8: Create Section View Labels

In this exercise, you'll create a section view label that calls out the location of the curb flowline in a section view.

1. Open the drawing named `Creating Section View Labels.dwg` located in the Chapter 11 class data folder.

The drawing is zoomed in to the first section view on Jordan Court where the road is widened to accommodate a turn lane. The scenario for this exercise is that you have been asked to include offset and elevation information for the curb flowline so that the contractor knows exactly where to place the curb in the widened area.
2. On the Annotate tab of the ribbon, click Add Labels. In the Add Labels dialog box, do the following:
 - a. For Feature, select Section View.
 - b. For Label Type, select Offset Elevation.
 - c. For Offset Elevation Label Style, verify that Offset Over Elevation is selected.
 - d. For Marker Style, verify that Basic is selected.
 - e. Click Add.
3. Click one of the grid lines of the section view. Right-click while holding down the Shift key, and then select Endpoint. Click the flowline of the left curb.
4. Press Esc to clear the current command. Click the newly created label, and drag its square grip up and to the left to improve its readability.
5. Click the label, and then click Edit Label Text on the ribbon. This opens the Text Component Editor dialog box.
6. In the window on the right, click just to the left of the word *Offset* to place your cursor in the position before it. Type **CURB FLOWLINE**, and press Enter.

The result should look like Figure 11.11.

The flowline is located at the bottom of the vertical curb face. This is where the flow of water is concentrated during a rainfall event.



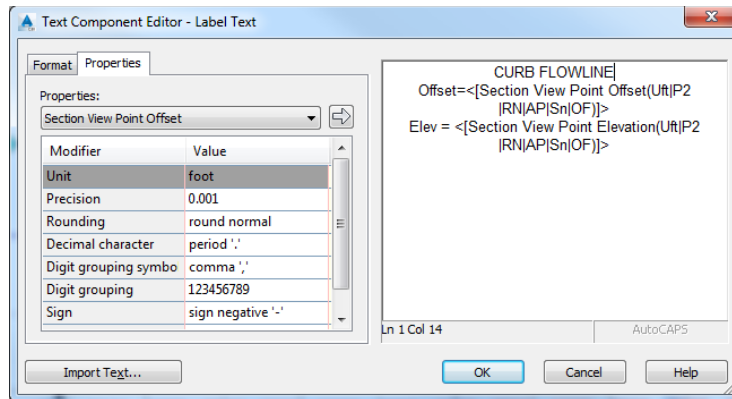


FIGURE 11.11 Customizing the label contents for a section view label

- Click OK to close the Text Component Editor dialog.
The label should now appear as shown in Figure 11.12.

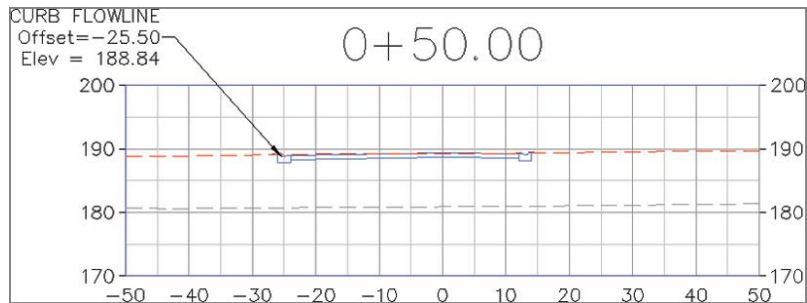


FIGURE 11.12 A label has been added that indicates the offset and elevation of the curb flowline.

- Save and close the drawing.

You can view the results of successfully completing this exercise by opening *Creating Section View Labels - Complete.dwg*.

BE CAREFUL

Although the label in Exercise 11.8 is pointing to the curb, it isn't attached to it. If a change in the design causes the curb to move, the label might not be pointing to the right spot and will need to be updated manually. This isn't a difficult thing to do, but it's something that could easily be overlooked. A more permanent solution would be to incorporate the label into a code set style.

Now You Know

Now that you have completed this chapter, you're able to apply section styles, code set styles, and section view styles to change the appearance of cross sections for your designs. You're also able to add labels through code set styles, section labels, and section view labels. You can display additional information in your section views using bands. Finally, you know how to use group plot styles to configure an array of section views that are formatted to fit on various sheets for easy documentation.

You're now ready to begin displaying and annotating sections and section views in a production environment.