Creating Specific Views and Match Lines

As you can see, the Autodesk® Revit® Architecture platform is all about the views. In fact, by using Revit, not only are you replacing the application you use for drafting, but you're also replacing your existing file storage system. This is largely because you're now using one model, and you're using views of that model for your project navigation.

This chapter covers the following topics:

▶ **Duplicating views**

▶ **Creating dependent views**

▶ **Adding match lines**

▶ **Using view templates**

Duplicating Views

I wanted to dedicate an entire chapter to project navigation. Although you've steadily gained experience in this area, you can expand on it much more to round out your Revit expertise.

The first item you'll tackle in this chapter is the process of duplicating a view to create another. Although it's a straightforward procedure, a lot is riding on the hope that you proceed with this function correctly. As you're about to find out, this command isn't a simple copy-and-paste operation.

Revit will change how you organize a project. You'll no longer open a file and save it as another file so that you can make changes without affecting the original. As you know, Revit is all-inclusive in terms of files. There is only one file. From that one file, there are views that reside in the Project Browser.

Of course, I'm not telling you anything you haven't learned already. If you've gone through the book from page 1, you've gained experience in

creating views (especially in Chapter 3, "Creating Views"). If you're jumping to this chapter, you most certainly have had some exposure to view creation. This topic is broken into two chapters to help you gain a more in-depth understanding of how you can manipulate and organize views.

> **N O T E**   Metric users should not type in *mm* or other metric abbreviations when entering amounts suggested in the exercises. Revit won't accept such abbreviations. Simply enter the number provided within the parentheses.

Now let's duplicate some views! To begin, open the file you've been using to follow along. If you didn't complete the previous chapter, go to the book's web page at www.sybex.com/go/revit2017ner. From there, you can browse to the Chapter 12 folder and find the file called NER-12.rvt.

The objective of the following procedure is to create a furniture plan of Level 1 and then turn off the furniture on the original Level 1. Follow these steps:

1. In the Project Browser, find the Level 1 floor plan, and right-click.

2. Select Duplicate View ➢ Duplicate With Detailing, as shown in Figure 12.1.

The difference between choosing Duplicate With Detailing and Duplicate is that Duplicate With Detailing also copies all the tags and annotations you have in the original view. Duplicate copies only the geometry.
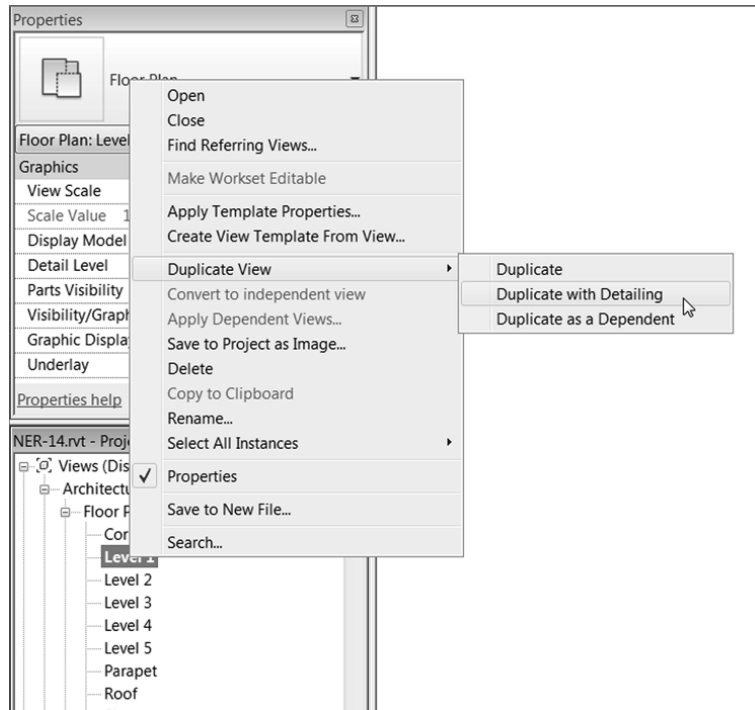
F I G U R E   1 2 . 1 :   Right-clicking the Level 1 floor plan in the Project Browser

3. You now have a view called Copy of Level 1. Right-click it in the Project Browser.

4. Rename it **Level 1 Furniture Plan**.

5. Make sure you're in the Level 1 floor plan, not the new furniture plan. In the Level 1 view window, type **VG**. Doing so brings up the Visibility/Graphics Overrides window.

6. In the Visibility column, deselect Casework, Furniture, and Furniture Systems.

7. Click OK.

Now, any time you add furniture or casework, it will appear only in the furniture plan. You don't need to deal with layer or display configuration.

The ability to create a copy of a view and then modify its visibility graphics to display certain items is a critical function in Revit. Another similar task is also available: creating coordinated match-line divisions in a model by creating dependent views.
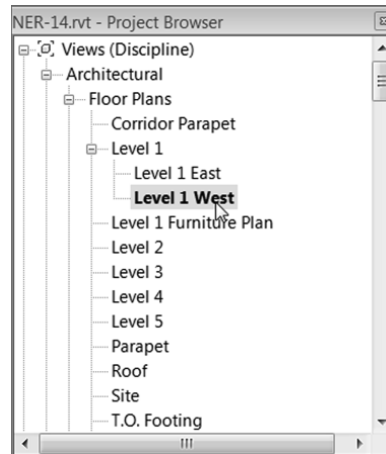
Creating Dependent Views

You create a dependent view in much the same way you duplicate a view. In fact, you *are* duplicating a view. The function of a dependent view is to nest a duplicate of a view within the host view (or the view of which you're making the duplicate). This nested view is dependent on the host view in terms of visibility graphics and View Properties. You can have multiple dependent views categorized under the host view.

You create dependent views in order to add match lines. Yes, you could simply duplicate a view and move its crop region, but when you have dependent views, as you'll see in Chapter 13, "Creating Sheets and Printing," you can tag those views in a specific way for Revit to track the sheets they're on. Dependent views also give the advantage of making your Project Browser much less cluttered, without unnecessary floor plans.

In the next procedure, you'll make a dependent view of the Level 1 floor plan:

1. In the Project Browser, right-click the Level 1 floor plan.

2. Select Duplicate View ➢ Duplicate As A Dependent. You now have a view that is nested under Level 1. As you can see, Level 1 is expanded to show its dependencies.

3. Right-click Level 1 again.

4. Select Duplicate View ➢ Duplicate As A Dependent. You now have two views nested under Level 1 (see Figure 12.2).

**F I G U R E   1 2 . 2 :**   Creating the two views dependent on Level 1

5. Right-click Dependent (2) on the Level 1 dependent view.

6. Rename it **Level 1 East**.

7. Rename the other dependent view **Level 1 West** (see Figure 12.2).

Now that the views are duplicated and nested in the host view, it's time to divide the Level 1 floor plan. You'll do this by adjusting the crop region.
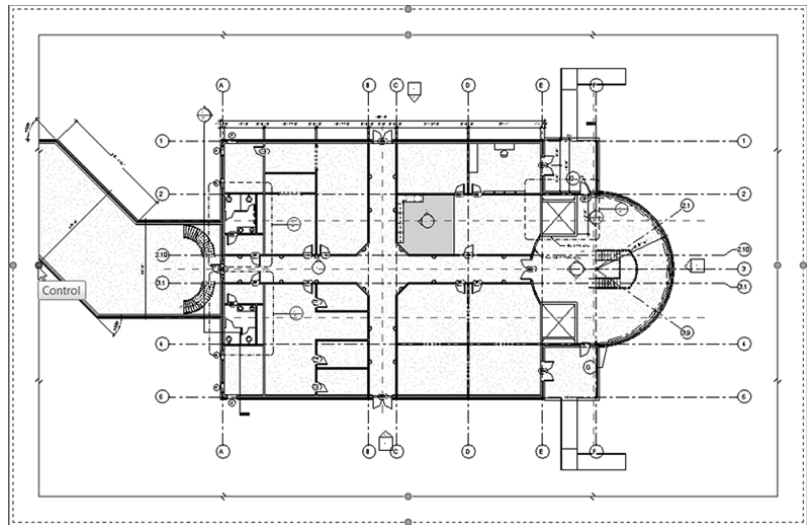
Adjusting the Crop Regions

Every view in Revit has a crop region. Crop regions play an important role when your plan is too large to fit on a sheet. All you need to do at this point is to slide the east and west crop regions to display the appropriate parts of the plan based on the name of the views.

1. Open the Level 1 West dependent view.

2. Select the crop region, as shown in Figure 12.3.

**3.** Drag the right side of the crop region to the position shown in Figure 12.3.
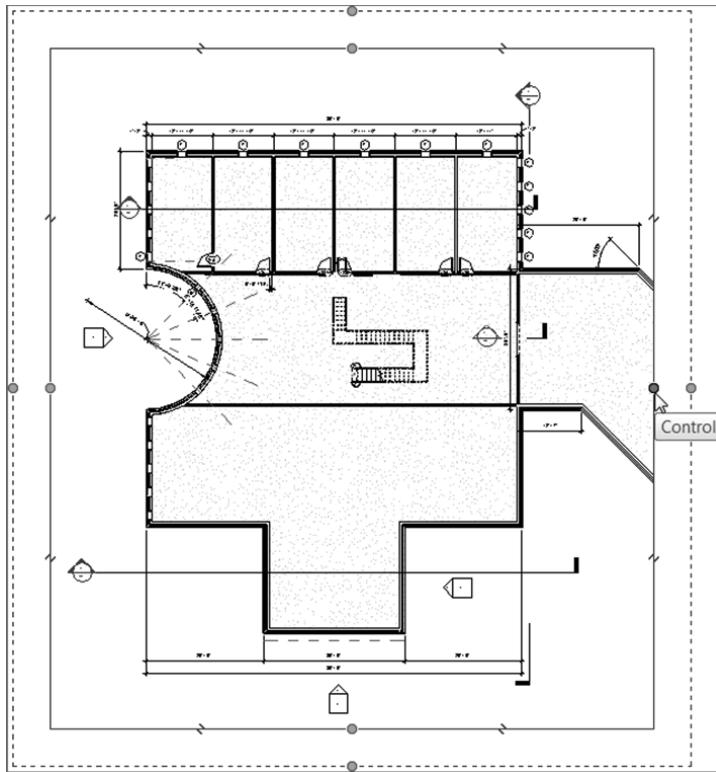
FIGURE 12.3: Dragging the crop region in the Level 1 West view

4. Open the Level 1 East view.

5. Select the crop region.

6. Drag the left side of the region to the right, as shown in Figure 12.4.

7. Select the crop region again, if it isn't selected already, and right-click.

8. Choose Go To Primary View to open the Level 1 floor plan.

9. In the Level 1 floor plan, turn on the crop region by clicking the Show Crop Region button on the View Control toolbar, as shown in Figure 12.5.
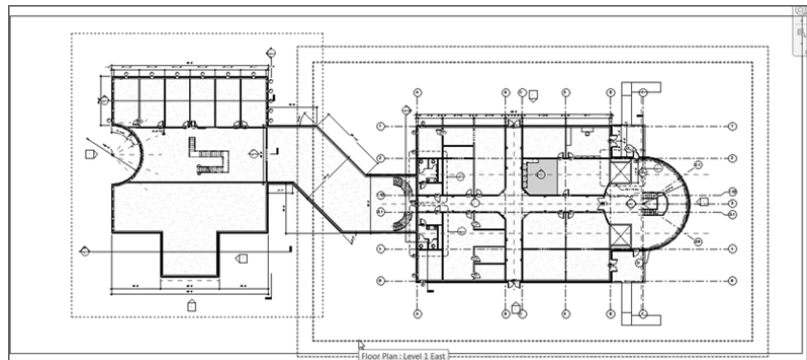
F I G U R E   1 2 . 4 :   Dragging the crop region to the right in the Level 1 East view
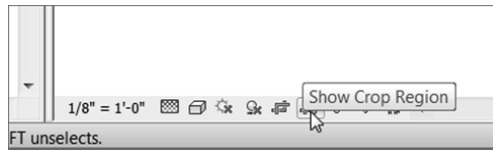
F I G U R E   1 2 . 5 :   Turning on the crop region from the View Control toolbar

You can see the area where you need to draw the match line. The crop region should overlap in the corridor. If not, drag the crop regions so they match Figure 12.6.

F I G U R E   1 2 . 6 :   Adjusting the crop regions to overlap in the corridor

Stretch That View

You'll notice that there are two stretch grips. One is for the actual crop region, and the other is for the annotation crop region. We'll cover what the annotation crop region means in a moment. For now, pick the stretch grip to the inside, as shown here:
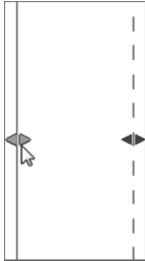
N O T E If you want to turn a dependent view back into an independent view, you can right-click the dependent view and select Convert To Independent View. Doing so breaks the link to the host view.

Unfortunately, if you have a match-line situation in your project, you must follow this procedure with each floor plan separately. For multifloor projects, doing so can become time-consuming. Alternatively, you can right-click a view that has dependencies and select Apply Dependent Views. From there, you can select the views to which the dependent views will be added.

As you can see, adjusting the crop region is how you specify which part of the plan will appear on your sheet. This poses one issue: if you have text that you would like to lie outside the crop region—that is, if a leadered note is pointing to an item within the cropped boundary—you may not see the note. To fix this, you can adjust the annotation crop region.

Adjusting the Annotation Crop Region

Because the crop region cuts off the model at a specified perimeter, what is to become of text that needs to lie outside this boundary? This is where the annotation crop region comes in handy. You'll always have the situation where leadered text must be outside the geometry it's labeling. You can make adjustments to ensure that this can happen.

Let's adjust an annotation crop region to clean up a plan. Follow these steps:

1. In the Project Browser, open the Level 1 West dependent view.

2. Select the crop region, as shown in Figure 12.7. Notice the two perimeters: one is a solid-line type, and the other is a dashed-line type.
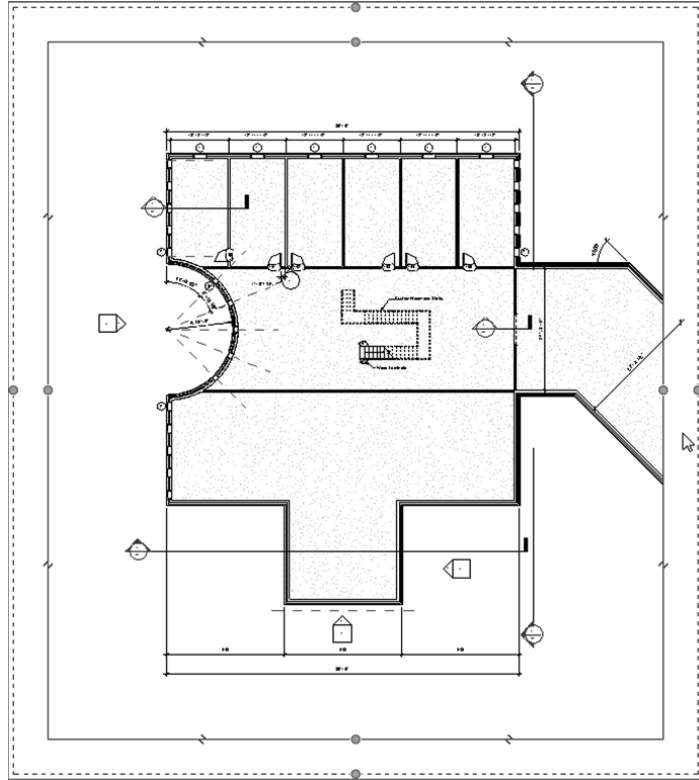

F I G U R E   1 2 . 7 : Selecting the plan's crop region. Notice the additional region on a dashed line type—this is the annotation crop region.

3. In the corridor is a dimension that seems to be floating. This is because the crop region allows this dimension to show. With the crop region still selected, pick the outside stretch grip, as shown in Figure 12.8, and stretch the annotation crop region in until the dimension disappears.

N O T E   The Annotation Crop feature is available in any view. This example uses a plan, but you can use the same procedure in a section or an elevation as well.
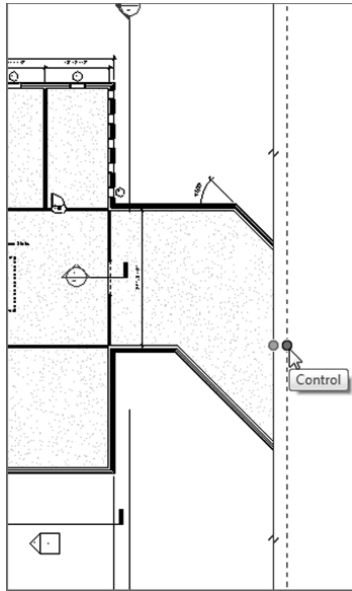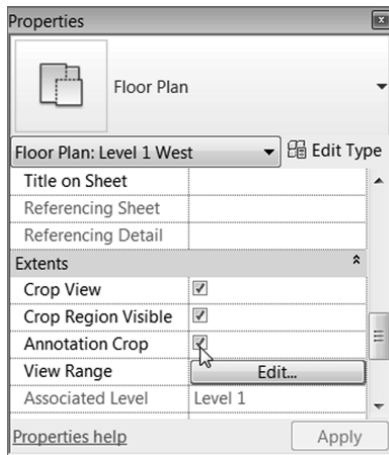
F I G U R E   1 2 . 8 :   Stretching the annotation crop region to the left

Now that you understand how to add crop regions and display them appropriately, let's add the match line.

THE SECOND LINE

If you don't see the second line, follow these steps:

1. In the Properties dialog box, scroll down to the Extents area.

2. Make sure the Annotation Crop option is selected, as shown here:

Adding Match Lines

In CAD, adding a match line is nothing more than the simple practice of draw-ing a line. The same is true in Revit, except that in Revit, you draw that line in Sketch Mode, and you can propagate it to other views. Also in Revit, after you place the line, it registers as having two sides of a model. In Chapter 13, when you drag your views onto sheets, Revit will know where each side of the model is located in terms of being placed on a sheet.

The objective of the next procedure is to place a match line into the model. Follow these steps:

1. Open the Level 1 floor plan.

2. On the Sheet Composition panel of the View tab, click the Matchline button, as shown in Figure 12.9.
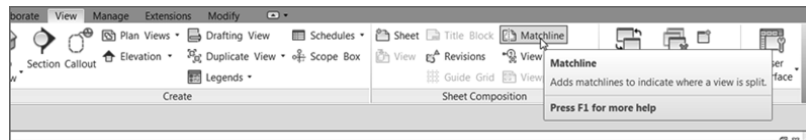
F I G U R E   1 2 . 9 :   The Matchline button on the View tab

3. In the Properties dialog box, make sure the Top and Bottom con-straints are set to Unlimited.

4. On the Draw panel, click the Line button.

5. Draw the match line as shown in Figure 12.10.

6. Click Finish Edit Mode on the Mode panel.

Your match line appears as a bold, dashed line. Because the physical appear-ance of a match line never seems to be the same from firm to firm, you can adjust the line's appearance.
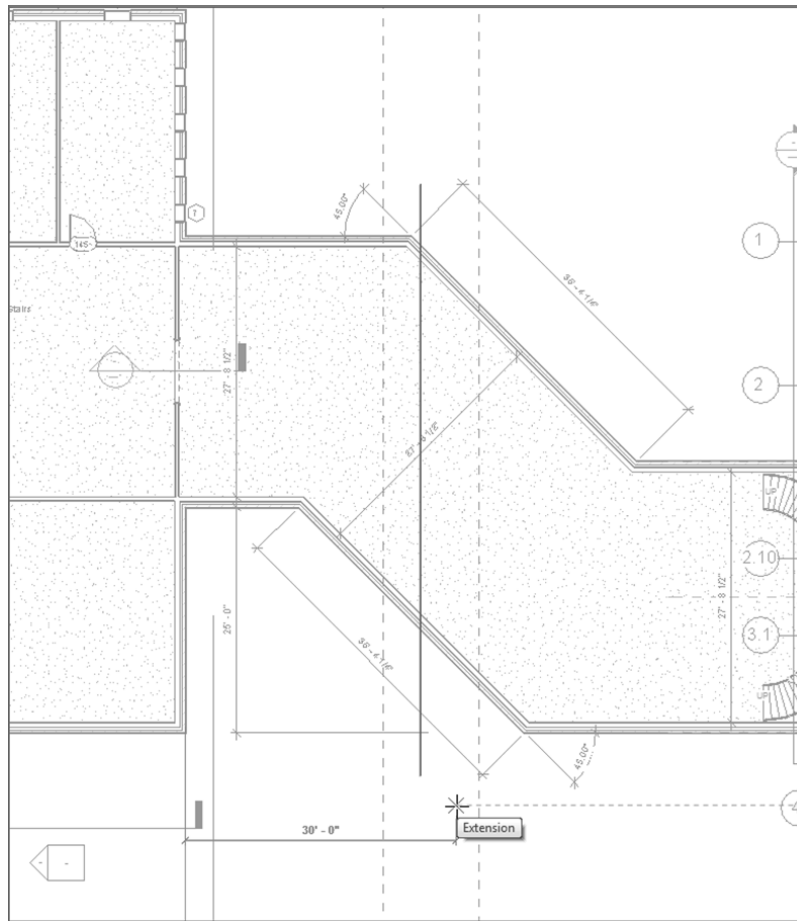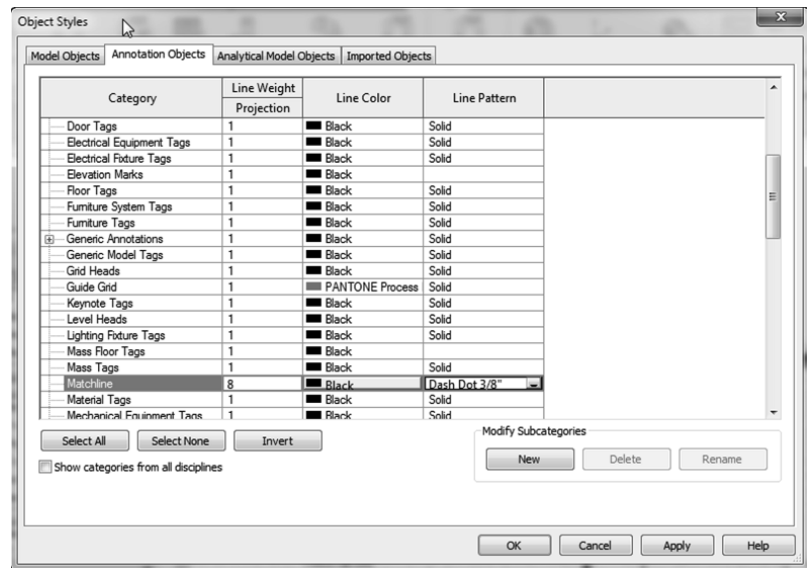
FIGURE 12.10: Placing the match line

Match-Line Appearance

A match line isn't an actual line by definition; it's an object. Therefore, you can control its appearance by using the Object Styles dialog box.

The next procedure focuses on changing the appearance of the match line:

  1. On the Manage tab, click the Object Styles button.

2. Click the Annotation Objects tab, as shown in Figure 12.11.

F I G U R E   1 2 . 1 1   Changing the Matchline line pattern to Dash Dot 3/8″

3. Scroll down to the Matchline category.

4. Click into Line Pattern (the Dash cell).

5. You see a menu arrow. Click it, and select Dash Dot 3/8″ (10 mm) (see Figure 12.11).

6. Click OK. Your match line is now a different line type.

With the match line in place and the plan split into two halves, let's add an annotation to label the match line. For the match-line annotation, you'll place a piece of text that says MATCHLINE. But when you're referencing each side of the plan, you'll need to add view references.

Adding View References to a Match Line

After the plan is split and the match line is in place, you can tag each side of the match line. When you drag the view onto a drawing sheet, the tag will be filled out with the correct page name. It's important to note, however, that although this process is automatic, it isn't *fully* automatic. You do need to specify the correct view name as you're placing the tag.

In this procedure, you'll place a piece of text that says MATCHLINE along the match line and add a view reference to each side of the match line. Follow these steps:

1. In the Project Browser, open the Level 1 floor plan view.

2. On the Annotate tab, click the Text button.

N O T E   Unfortunately, when you're placing text, you can't rotate the text until after you've added it. In this procedure, place the note, rotate it, and then move it into position.

3. On the Modify | Place Text tab are leader options. Click the No Leader button (the letter A), as shown in Figure 12.12.
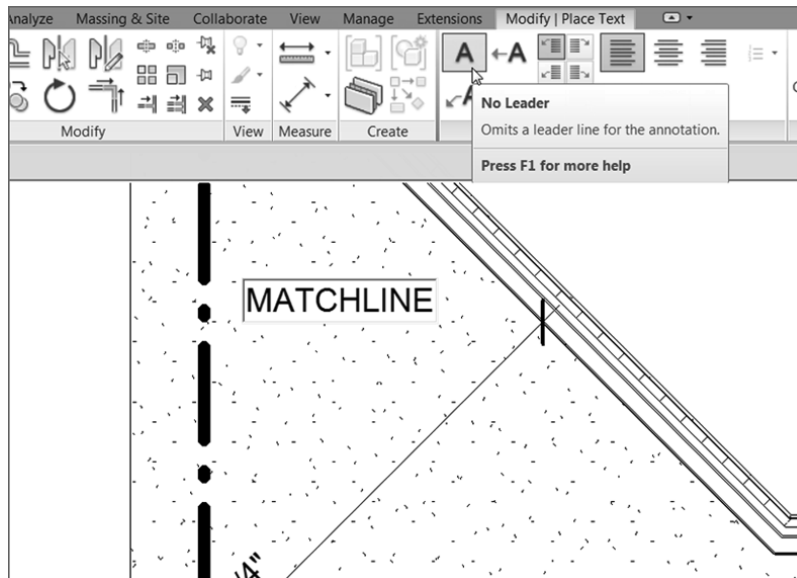
F I G U R E   1 2 . 1 2 : Typing the text MATCHLINE

4. Pick a window near the match line for the text.

5. Type the word **MATCHLINE**, click off the text, and press Esc twice (see Figure 12.12).

6. Select the text (if it isn't selected already).

7. Click the rotate grip, and rotate the text 90°.

8. Click the move grip, and drag the text over to the match line so it's positioned as shown in Figure 12.13.
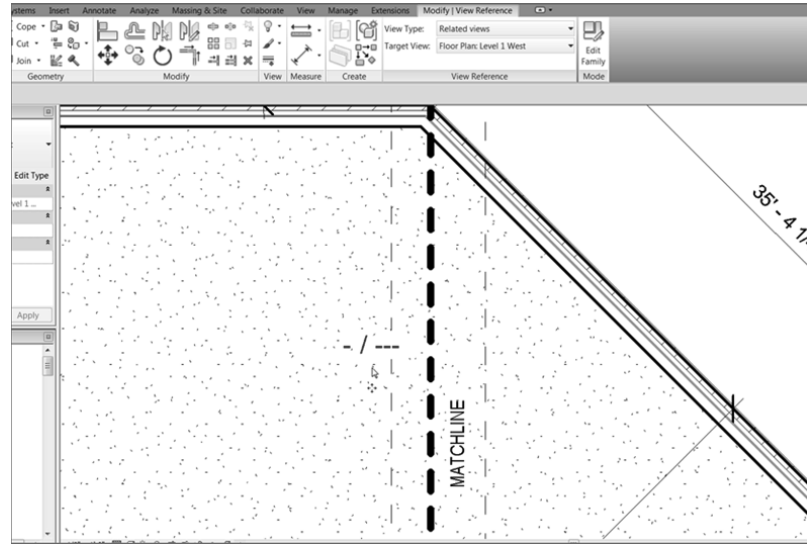
F I G U R E 1 2 . 1 3 : Adding a view reference includes choosing the correct target view.

9. On the Sheet Composition panel of the View tab, click the View Reference button.

10. In the View Reference panel is a Target View list. Make sure Floor Plan: Level 1 West is current (see Figure 12.13).

11. Pick a point to the left of the match line (again, see Figure 12.13).

12. With the View Reference command still running, change Target View to Floor Plan: Level 1 East.

13. Place a view reference to the right of the match line.

14. Press Esc. You have two view references, and you're ready to add these views to a drawing sheet in the next chapter. Once you do this, the tags will become populated with the sheets on which you placed the views.

One last item to discuss before we close this chapter is how to create and use settings from a single view, after you determine that you want to repeat the view settings.

Using View Templates

When you created the furniture plan in the beginning of the chapter, you manip-
ulated the data in the Visibility/Graphics Overrides options to hide furniture in a
specific plan. It would be nice to build settings like these into a template so you
could simply apply that template to a view the next time the situation arose.

Let's create a view template and apply it to another view. Follow these steps:

1. In the Project Browser, right-click the Level 1 floor plan.

2. Select Create View Template From View.

3. In the Name dialog box, call the template **Without Furniture or
   Casework**, and then click OK.

4. In the View Templates dialog box, Revit allows you to further control
   the View Properties and visibility graphics. Because you don't need to
   make any other adjustments, click OK.

5. Right-click the Level 2 floor plan.

6. Select Apply Template Properties.

7. In the Apply View Template dialog box, select the Without Furniture
   Or Casework template, as shown in Figure 12.14.
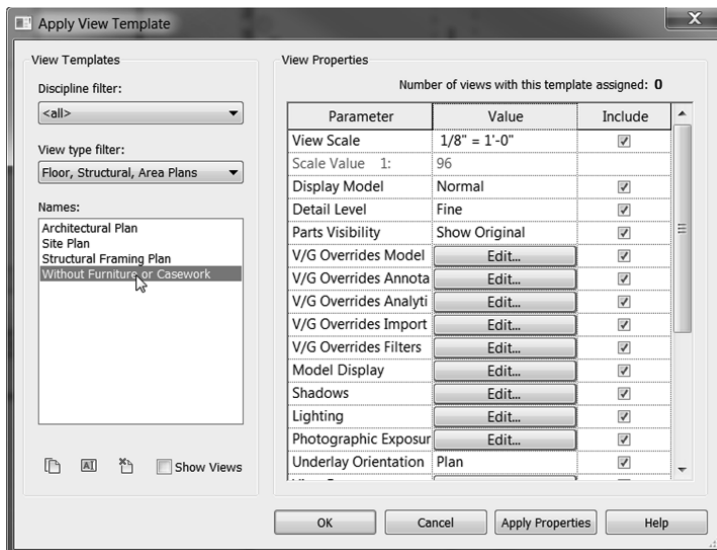
F I G U R E   1 2 . 1 4 :   Selecting the Without Furniture Or Casework template

8. Click OK.

As you can see, using view templates will help you immensely with maintaining company-wide standards. Use templates as often as possible.

> ▶
>
> **You can also select multiple items and apply the same template to many plans, if you desire.**

Are You Experienced?

Now you can…

     ✔ **create duplicates of views and tell the difference between duplicating with detailing and simply duplicating a view**

     ✔ **create dependent views, allowing separate views to be nested under one host view**

     ✔ **add match lines and view reference tags**

     ✔ **create and use view templates**