

PRO-TECH Drawing Quick Start

This guide will get you started with the basics of PRO-TECH's drawing functionality. Topics discussed in this article include: creating simple elevations, drawing guidelines, editing object properties, explanation of defaults, and manipulating projects and elevations. This overview is only intended to get you started using the drawing program, for advanced use, please contact EDSS for further training options.

Quick Start Conventions

Whenever this document instructs you to "click" on an object, it means to use the left mouse button; otherwise, the document will specify the right mouse button. Also, "click" means to click the mouse button once; otherwise, the text will instruct you to "double-click". **Bolded** text, in the instructions, either matches text on the application or represents a keyword to remember.

Open the Drawing Module

Open the drawing module from PRO-TECH. Figure 1 below depicts the main interface of the drawing module and contains the tools needed to create an elevation.

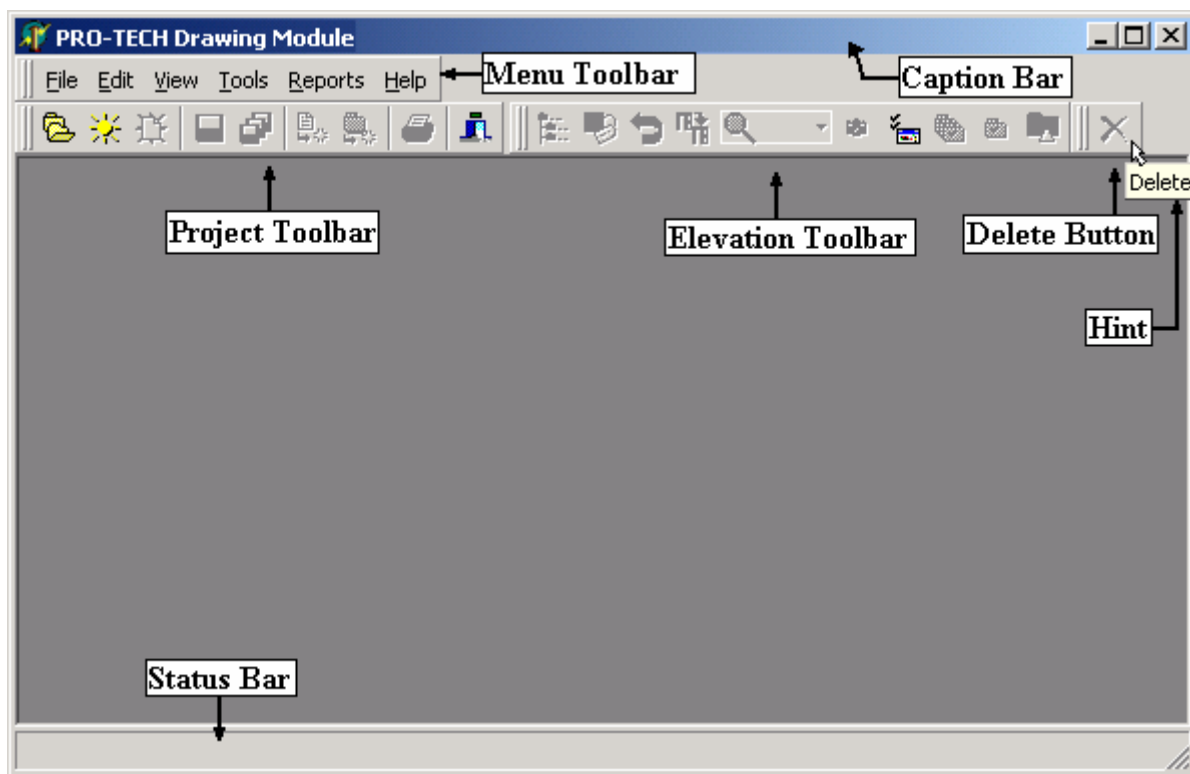


Figure 1

1. Position your mouse over the **Project Toolbar**'s buttons and notice the pop-up hints that describe each image button. Take a brief moment to hover your mouse over the buttons to become familiar with their descriptions.
2. Notice the **Caption Bar** at the top of the screen. If your caption bar, like the one above, doesn't contain a project name, a project is not open. If a project is not open, follow the instructions in the next section, **Opening a Project**. Otherwise, skip the next section and proceed to the section labeled: **Creating a Blank Elevation**.

Opening A Project

1. From the **Project Toolbar**, click on the  (Open Project) image button to open the project list.

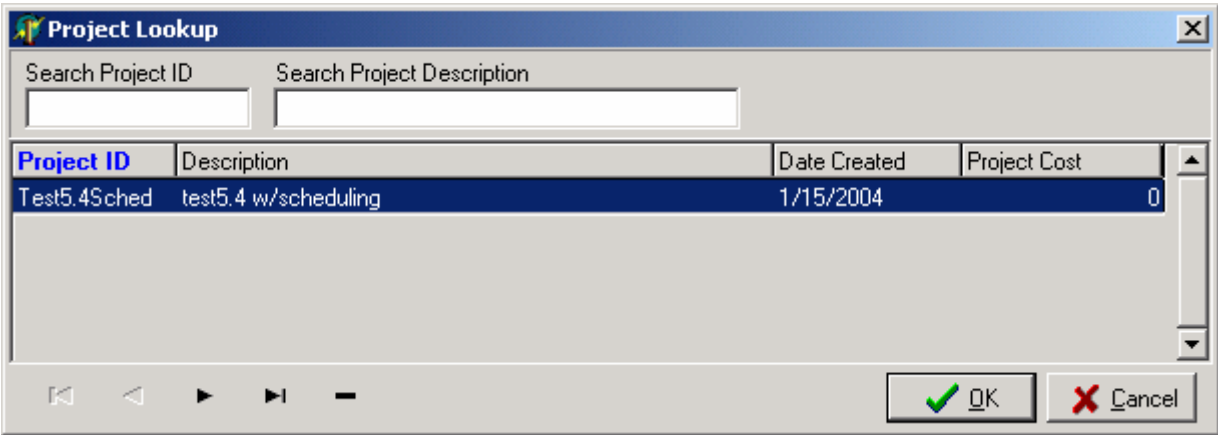



Figure 2

2. Click once on the project that you want to work with then click the OK button. Notice the **Caption Bar**'s new title: PRO-TECH Drawing Module – *Project Description [Project ID]*.



Creating a Blank Elevation

In this section, we will create a blank elevation from the wizard and then draw a three-sided frame on that elevation. Whenever we want to create a new elevation, we will use the wizard.

1. From the **Project Toolbar**, open the wizard by clicking on the  (New Elevation) image button. The following wizard page, shown in Figure 3, will appear.

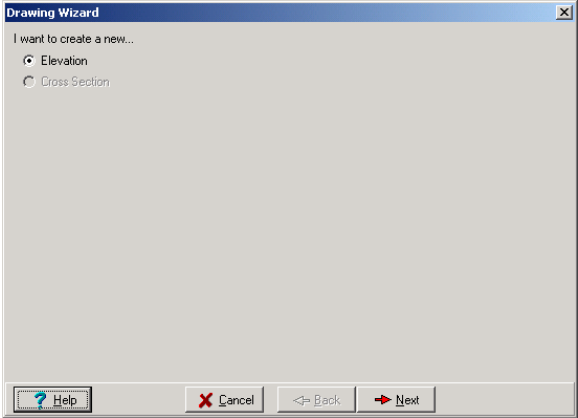


Figure 3

2. Select the **Next** button to navigate to the next page in the wizard, pictured in Figure 4.
3. Let's give the elevation a name. The text box labeled, **“What is the name of your elevation?”**, contains the text: “Untitled”. Replace this text with “3F” like the picture in Figure 4. Click **Next** to navigate to the Anchor wizard page.

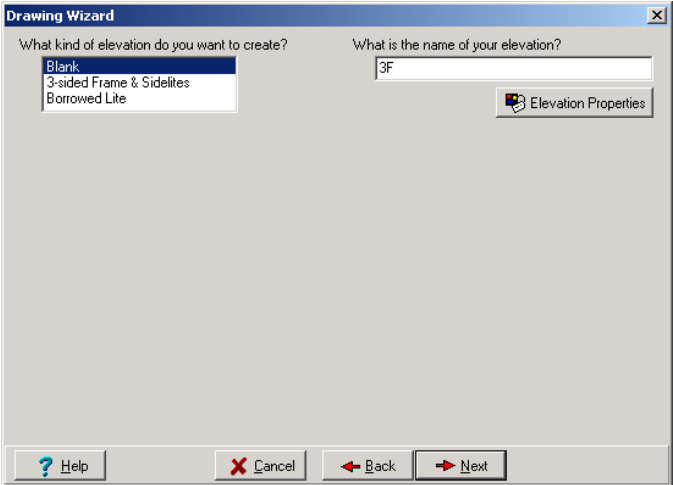


Figure 4

4. We will leave the Anchor page untouched. Click **Finished**.
 - Note: Selecting anchors from this page will add the selected anchor types to each of the outermost vertical frame members. Further explanation of anchors is out of the scope of this guide.

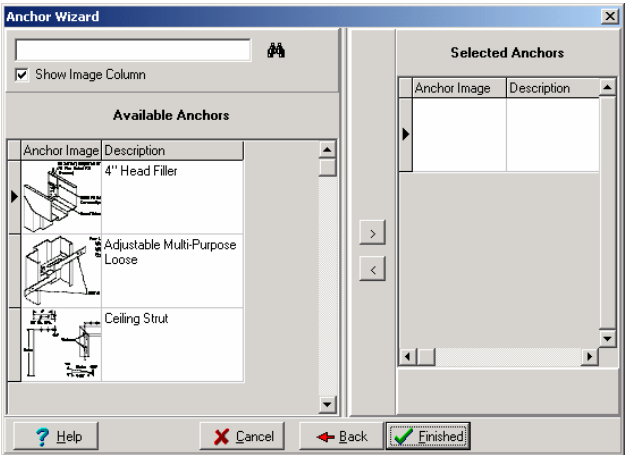


Figure 5

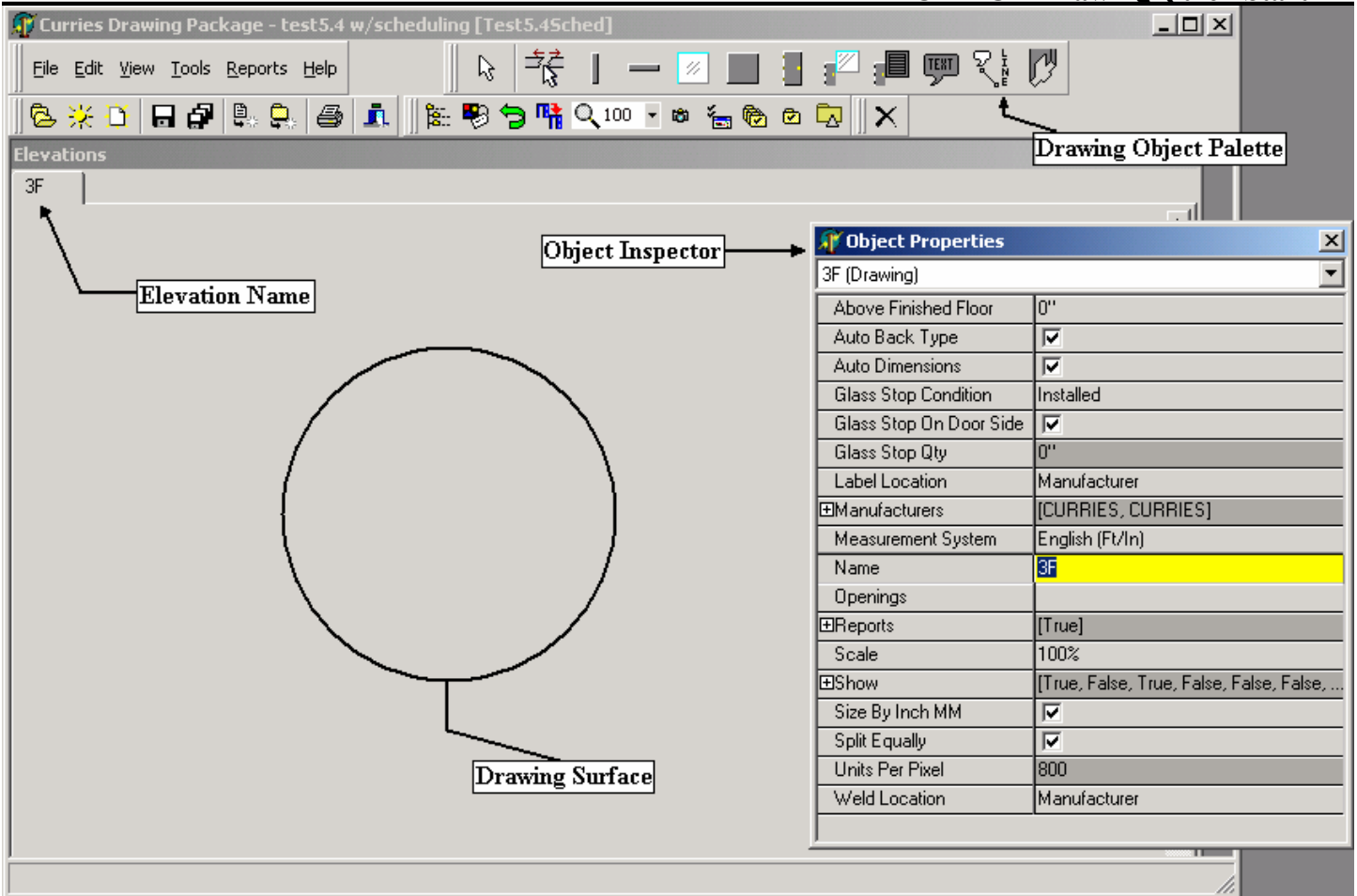


Figure 6

5. Take a moment to compare Figure 6 with the application on your computer to become familiar with the program interface.
 - The invisible **Drawing Surface**, highlighted by the circle, is the canvas that the elevations will be drawn upon.
 - Look at the **Elevation Name** tab in figure 6 and notice that it points to the **Drawing Surface** tab labeled "3F" (the name we gave the elevation).
 - Give particular attention to the **Drawing Object Palette** toolbar that wasn't shown before. This palette gives you access to the drawing tools and it is only visible when a **Drawing Surface** is open.
 - Another important tool, the **Object Inspector**, allows you to change the properties of drawing objects like frame length, glass thickness, and frame steel type to name a few. It is also the interface for application, project, and elevation defaults. We will describe the **Object Inspector** and defaults in further detail later.
 - Note: The **Object Inspector** property values in Figure 6 may not match the property values in your application. This may be the result of different default values on different machines; default values will be explained later in this guide.

Manually Building a Three Sided Frame

- 1. Let's begin by creating a vertical frame member. Click somewhere on the drawing surface (the area under the tab). While holding the mouse button down, drag the mouse towards the bottom of the drawing surface like Figure 7. Now, let go of the mouse button to complete the drawing of the frame. At this point, the frame doesn't need to be a specific length.

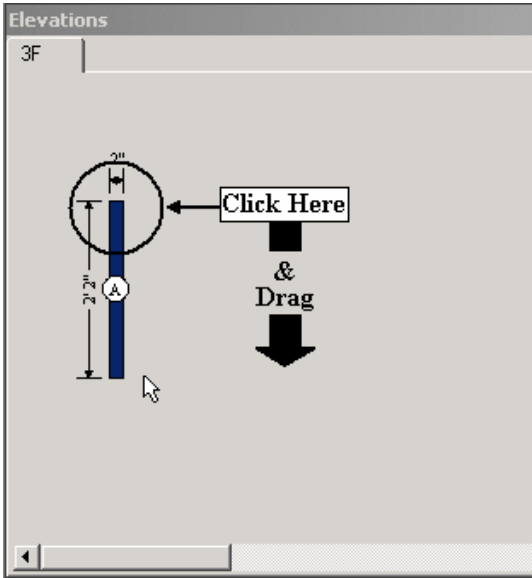


Figure 7

- 2. To create the second vertical frame member, click anywhere to the right and below the top of the first frame member like that in Figure 8. Again, drag the mouse down to the bottom of the screen, but this time, let go of the mouse button when the new frame's bottom is somewhere above the bottom of the first frame. After letting go of the mouse button, you should notice that the new frame will **stretch** to the size of the frame to the left. This stretching will only happen effectively if it is drawn like this instruction describes.

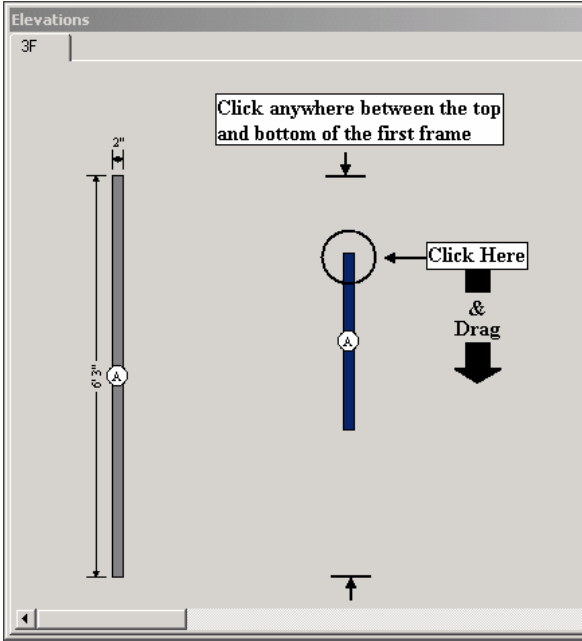


Figure 8

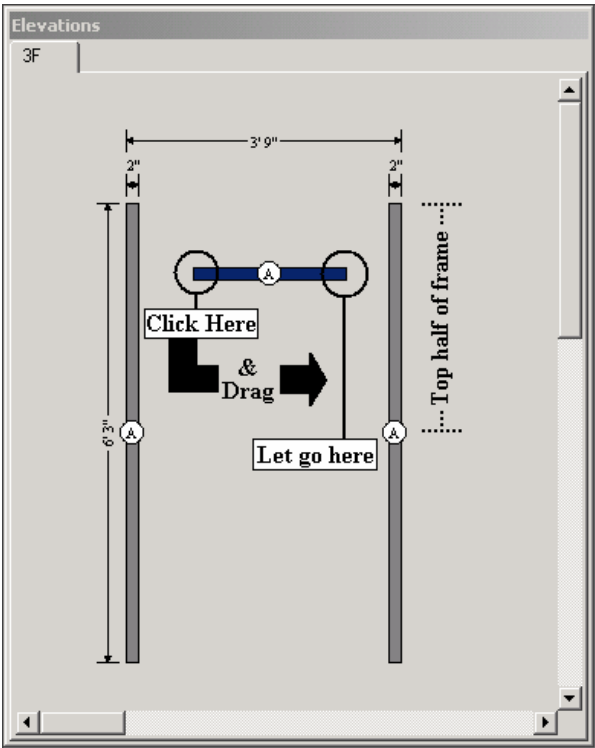


Figure 9

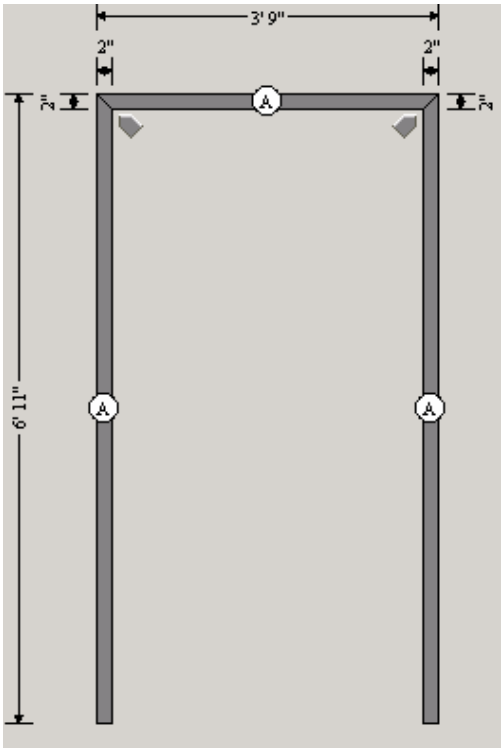


Figure 10

3. Now we will draw the head for our three-sided frame. See figure 9. Click somewhere between the two vertical frames. The mouse should also be pointed somewhere within the top half of the frames. Then drag the mouse to the right. Do not allow the right side of the head to intersect with the right vertical frame. The picture above depicts this operation. After letting go of the mouse, the head will **stretch** to the outside frames. Since the head was drawn inside the top half and inside the vertical frames, the head will position itself at the top of these frames. The completed frame should resemble figure 10 above.

Manually Adding a Sidelite

Creating a sidelite begins with a three sided frame so we will use the one that we just created titled “3F”. In this section we will create a right sidelite.

1. Use your mouse to click on the right-most vertical frame member, which highlights the frame, then, drag it to the right.
 - See figure 11. Notice that the head frame stretched while moving the vertical frame member. This “rubber-banding” effect worked because the horizontal frame stretched between the two vertical frames and attached itself to those pieces when we originally created it. You will not be able to attach frame pieces manually, and if drawing objects don’t attach to each other, they won’t be able to utilize the “rubber-banding” effect.
 - Also, notice that the dimension of the horizontal frame changes while moving the vertical frame piece. This is one way of sizing an opening. To make the opening taller or shorter, click the horizontal frame and drag it up or down

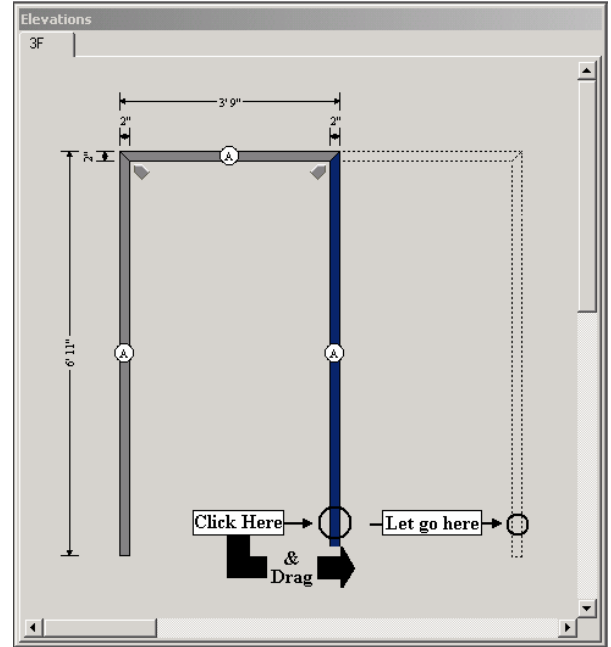


Figure 11

2. By now, you should be familiar with creating frame members by clicking on the drawing surface and dragging the mouse. Inside the three-sided frame, create a vertical frame member as the mullion. See figure 12.

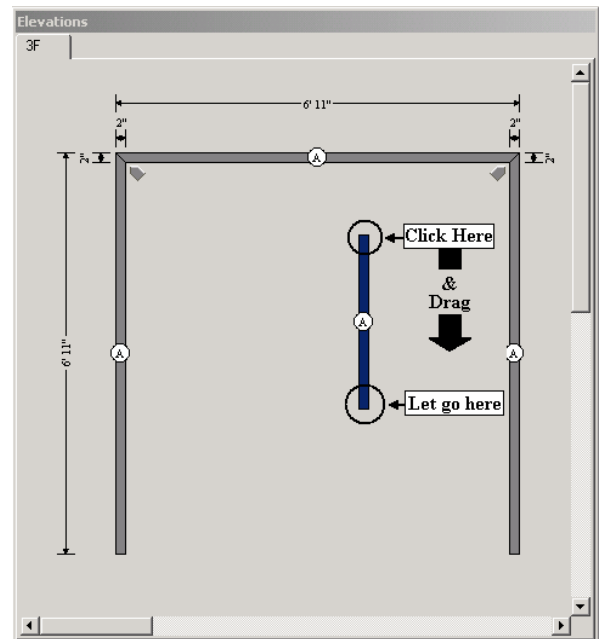


Figure 12

- 3. Draw a sill towards the bottom of the elevation between the mullion and right vertical frame member. After drawing the sill, it stretches to the nearby frames. After the sill attaches, the drawing software detects that there are four sides surrounding an area and it automatically creates a glass piece in this area.

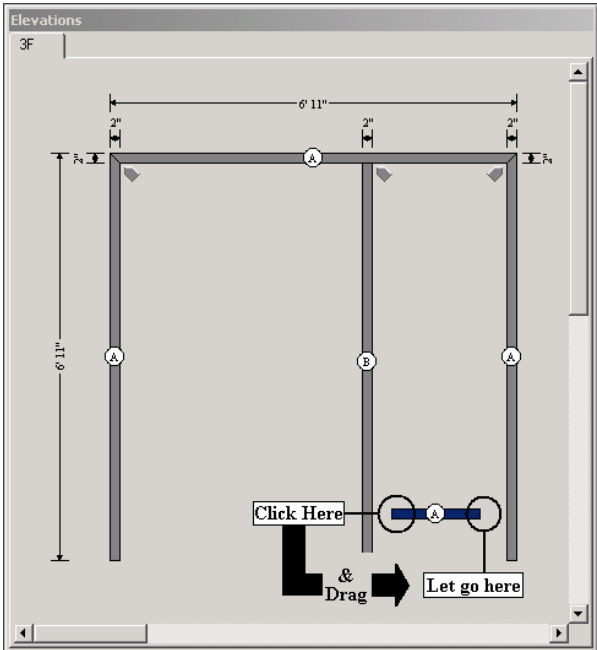


Figure 13

- 4. To complete the sidelite, click on the sill and drag it towards the bottom of the frame until it won't go any further. The sill detects that it has reached the bottom of the two attached frames and won't allow itself to be taken any further.

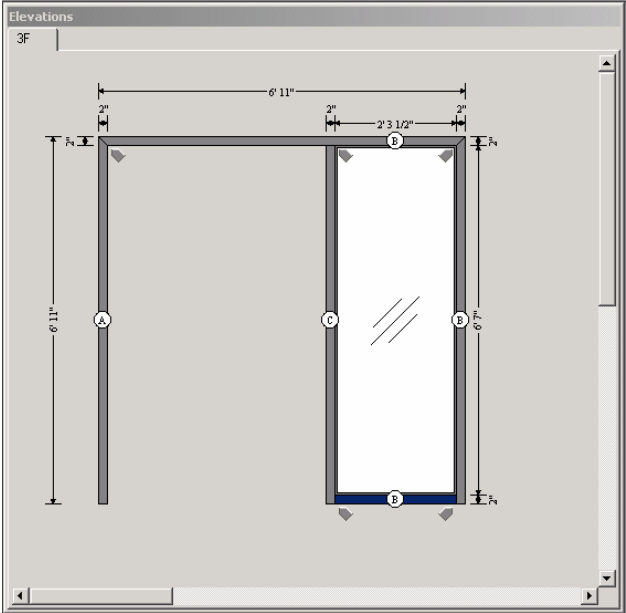



Figure 14

Three-sided Frame Wizardry

1. From the **Project Toolbar**, open the wizard by clicking on the  (New Elevation) image button. The following wizard page will appear. Click **Next**.
2. Select **3-sided Frame & Sidelites** from the listbox labeled, “What kind of elevation do you want to create?”. Selecting this option will make available fields for editing the elevation. Name this elevation “101” by editing the top-right textbox. Leave the other edit boxes unchanged.
 - Take a glance at this wizard page to become familiar with its features; we will use this same form to create an elevation with a sidelite later in the Quick Start Guide .
3. Click the **Next** button.
4. Again, we will leave the Anchor wizard page unchanged, click **Finished**.

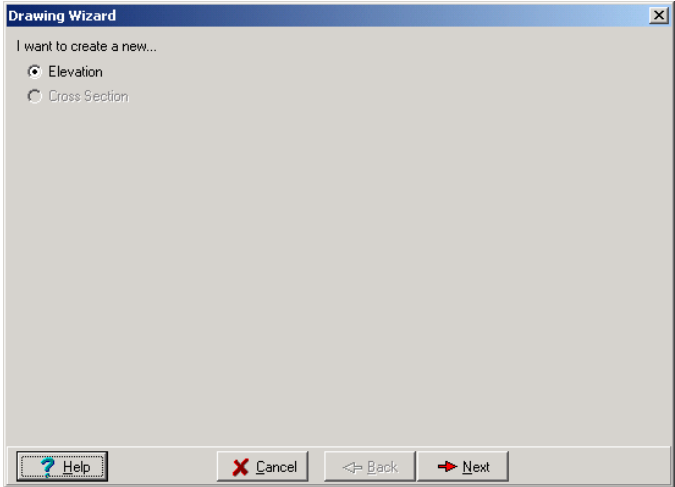


Figure 15

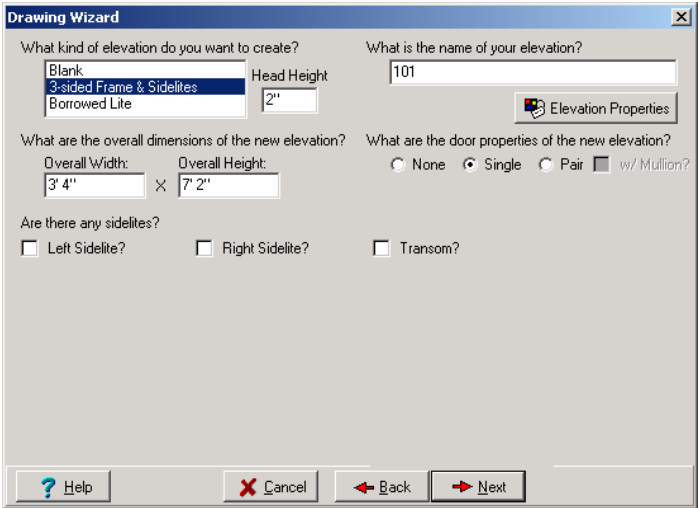


Figure 16

Your elevation should resemble the picture in figure 17. Notice that a new tab, titled “101”, was created in addition to our original “3F” drawing. This feature allows multiple elevations to be opened at one time. Click on the tabs to switch between the two elevations.

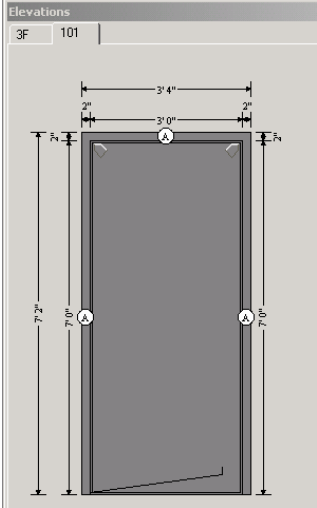


Figure 17

Sidelite Wizardry

In this section, we're going to create a frame with a 4" head and with a 2x2 sidelite on the left and a 1x1 sidelite on the right.

1. Proceed by opening the wizard and navigating to the second page. Refer to instructions 1 and 2 in the section titled **Three-sided Frame Wizardry** if you need assistance.
2. Name the elevation "102".
3. If not done already, select **3-sided Frame & Sidelites**.
4. Change the **Head Height** from 2" to 4".
5. Change the **Overall Width** field to 12' 10" and the **Overall Height** field to 7' 4".
6. Click on the **Pair** radio button and select the **w/ Mullion?** Checkbox.
7. Check both the **Left Sidelite?** and **Right Sidelite?** check boxes.
8. Make sure the **Door Width** field reads 3' 0".
9. Finally, use your mouse to click and drag from the top-left box of the **Left Sidelite? Rows/Columns** box so that it highlights a 2x2 area.
10. Make sure that the **Sill Height** text reads 2".
11. Make sure your page resembles figure 18 and click **Next**.
12. At the Anchor page, click on the **Finished** button.

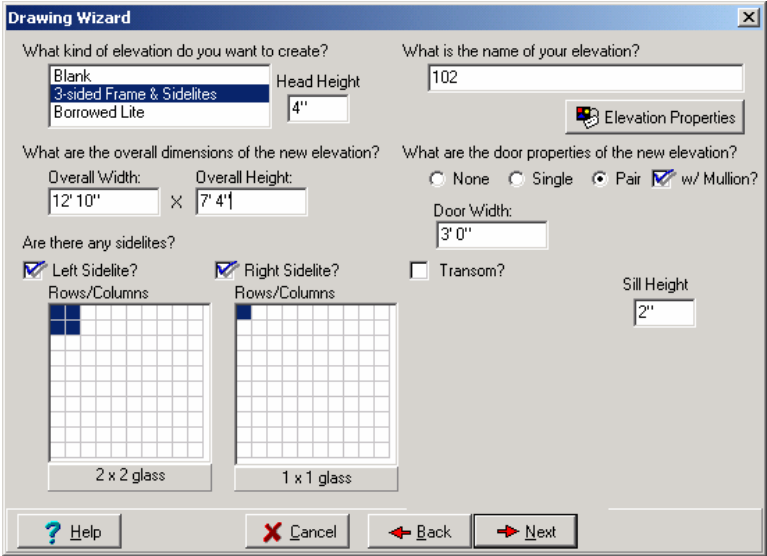


Figure 18

You should have a frame that resembles the following picture:

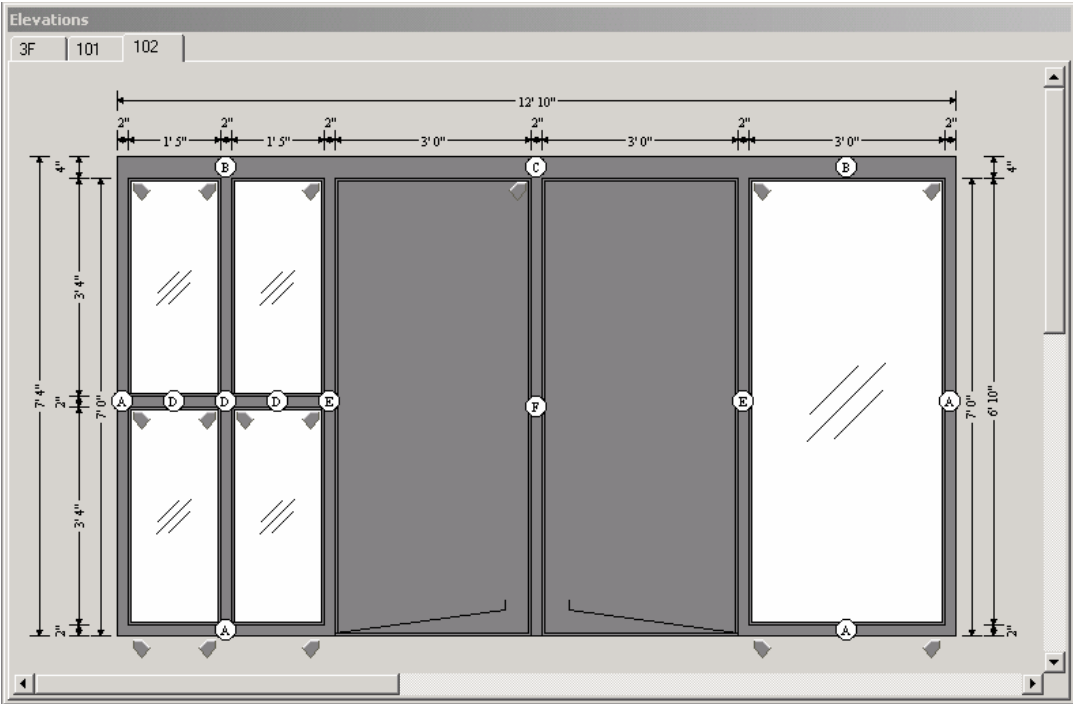



Figure 19

Editing Elevation Properties

To edit elevation properties and frame object properties, we created a tool called the **Object Inspector**. In this next section, we'll briefly describe how to change basic properties of frame members with the **Object Inspector**. Let's use opening 101, a three-sided frame, to make the changes.

1. Click on the tab above, labeled "101".
2. Click on the head to highlight it.
3. Either push the **F11** key or click on the  (object properties) button to open the **Object Inspector**.
 - Any time we want to see the properties of an object, click on it and follow this step.
4. Look through the list of properties and click on the **Face** property.
5. Change the Value of the property to 4" and then click on the **Frame Gauge** property below it.
 - Notice how the head, on the drawing surface, resized to 4".
6. While we're in the **Frame Gauge** property, use the drop-down to select 12 for the gauge size.
 - Changing the frame gauge property will not be reflected on the drawing like it did with the face size. Some properties will change the look of the drawing and some will not.

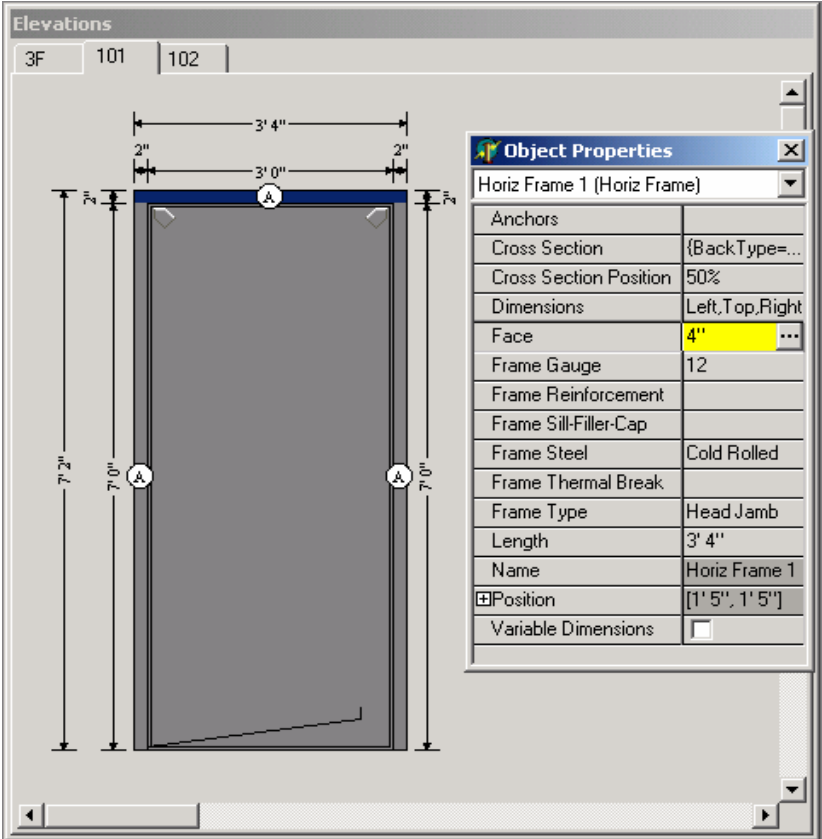


Figure 20

Editing Defaults

Throughout the following instructions you will learn how to change property defaults and discover how defaults are intended to work. There are currently three default types, **Application Defaults**, **Project Defaults**, and **Elevation Defaults** which will make property changes effortless. Again, the **Object Inspector** is the interface that you will use to edit the defaults.

Elevation Defaults

1. First, lets open the **Elevation Defaults** properties. Click on the **Tools** menu in the Menu Toolbar, and then select **Elevation Options**.
2. Click on the plus sign, next to the **Frames** property to expand the node.

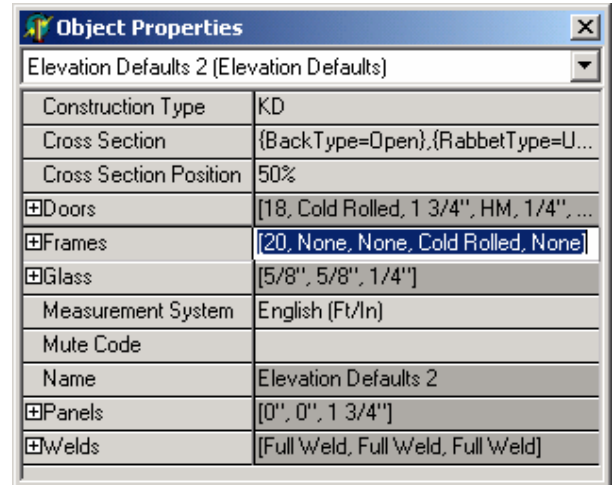


Figure 21

3. Change the **Frame Gauge** property to 20 gauge by clicking on the drop-down menu in the **Frame Gauge** field.
4. Take a moment to click on all three frame members on the drawing surface of our elevation to inspect their corresponding **Frame Gauge** field in the **Object Inspector**. Notice that the two vertical frame members, which were once 16 gauge, changed to 20 gauge but the head stayed at 12 gauge.

- Explanation:
 - When a drawing object, like a frame member, is created, it inherits the values from the elevation's default properties. This is why all the frame members of our newly created elevation had 16 gauge steel.
 - After creating a frame member, we can change the gauge, or other inherited properties to whatever gauge we want; just like we did with the head piece. If you recall, we changed our head piece from 16 gauge to 12 gauge.
 - Just now, when we changed the elevation's default **Frame Gauge** from 16 to 20, all frame members with a frame gauge of 16 were changed to 20. Thus, the two vertical frame members are now 20 gauge while the head (which was at 12 gauge) was unchanged.

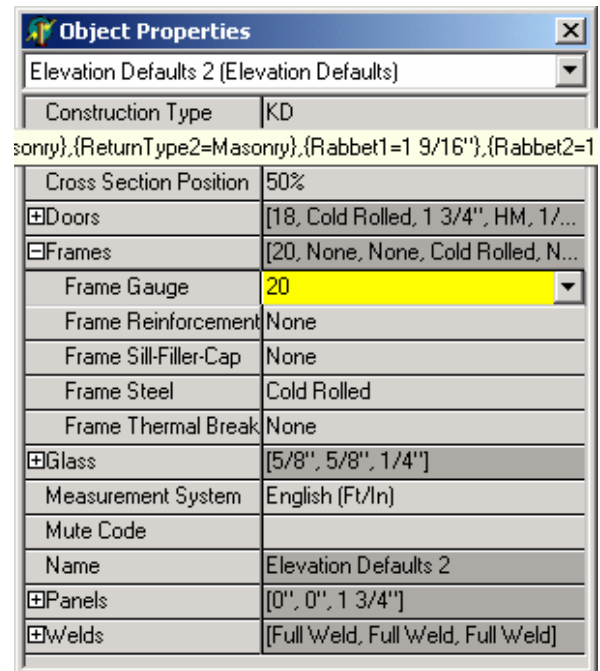


Figure 22

Application And Project Defaults



The purpose of using default values is to save time editing properties. For instance, if you know that every project will typically use 16 gauge steel, you can set the **Frame Gauge** property in the **Application Defaults** to 16; so that, every project created will have a default value of 16 for their frame gauge properties. Likewise, if you are scheduling a project that will mostly use ½” glass, then you can edit the **Glass Thickness** property in the **Project Defaults**; so that, every elevation you create will default its glass property to ½”. Finally, as described before in the section labeled, **Elevation Defaults**, each glass piece created in an elevation will default its thickness to ½” if the elevation defaults’ **Glass Thickness** property is ½”.

Application defaults, project defaults, and elevation defaults work together in a similar fashion as drawing objects and elevation defaults work together, but with a slight difference. The difference being that, where you change a default in an elevation, like glass thickness, the elevation defaults finds all matching glass the sizes of the previous value, and changes those values to the new value. Application, project, and elevation defaults together, will not work in this manner. If you were to change the **Frame Gauge** property to 20 in application defaults, it would not make those changes to existing projects, only new ones.

Note: Practice is the best teacher for understanding these concepts. After finishing the PRO-TECH Quick Start guide, create some test elevations and practice editing the default values of your application, project, and elevation. Notice how changing project defaults only changes the defaults of new elevations. Also, notice how changing the properties in elevation defaults changes matching values of properties for drawing objects of that elevation.

Opening Elevations

This next section will briefly describe how to open elevations using the **Project Viewer**. The project viewer performs other functions as well but those functions are not in the scope of this guide.

1. Click on the **File** menu to drop-down the menu options. Click on the menu item labeled **Close Project** to close the project.
2. From the **Project Toolbar**, click on the  (Open Project) image button to open the project list.
3. Click once on the project that we’ve been working with and then click the **OK** button. Notice the **Caption Bar**’s new title: PRO-TECH Drawing Module – *Project Description [Project ID]*.
4. Now, click on the  (Project Viewer) button in the elevation toolbar.
5. From the **Opening List**, use the mouse to click on the checkboxes for openings “101”, and “3F” so that both openings are checked at the same time.
6. Finally, click on the **Open** button on the **Project Viewer Toolbar**. (Hint: If you can’t find the **Open** button, hover your mouse over the image buttons in the **Project Viewer Toolbar**).
7. Close the **Project Viewer** and find that openings “101” and “3F” are opened.

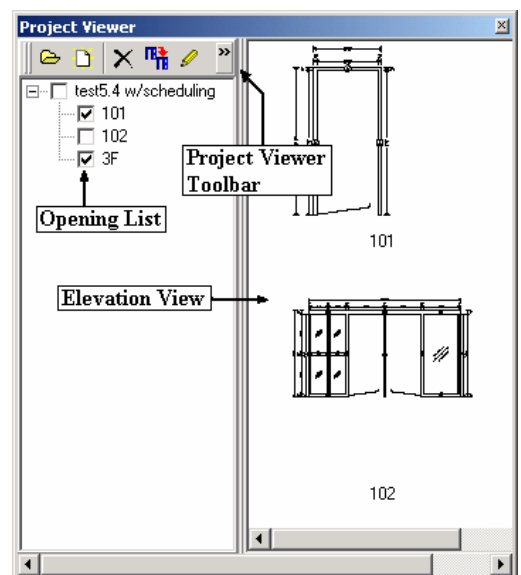



Figure 23

Using Drawing Object Palette

The **Drawing Object Palette** contains the tools we need to draw elevations. We create objects by clicking one of the palette's buttons, and then clicking somewhere on the **Drawing Surface**. Let's try this with by creating a panel.

Deleting Objects

1. We'll use elevation "3F". If not done already, bring the elevation in view by clicking on the "3F" tab above the **Drawing Surface**.
2. Use your mouse to click on the glass in the sidelite. When selected, the glass will be bordered with a blue line.
3. Now, click on the  (Delete Button) to delete the glass.
 - Anytime you delete a drawing object, click on the object (make sure it's highlighted), then select the delete button.

Creating Objects

1. Click the **Panel** button on the **Object Palette Toolbar** to notify the program of which object you're going to create. If you don't know which button is the **Panel**, hover your mouse over the **Object Palette** buttons until the hint displays the word "Panel".
2. Finally, click once on the drawing surface but inside the area where the glass once resided. This will draw the panel in this area.
 - Notice that the panel stretches inside the frame's boundaries attaching itself to the outer-four frame members. By doing this, we've created the elevation properly because it will implement the "rubber-banding" effect when the outer frames are moved.

Drawing Guidelines

Following some general guidelines when drawing frames will give you more freedom and allow you to use the software with ease.

- I. When drawing frame members, it is usually best to start creating them from the outside and then work your way in. This is the same thing we did when we created our original sidelite.
 - a. It is usually best to create the two outermost vertical frame members on a three-sided frame first.
- II. When drawing members do not have the "rubber-banding" effect—because members aren't attached—, then most likely, the members were created incorrectly.
 - a. For example, if you created a three-sided frame and then dropped another horizontal frame member (head) above the three-sided frame, the new head would not stretch when the members of the three-sided frame were being moved. This would be an incorrect drawing. The frame member that was drawn outside of the three-sided frame could not be attached to the other frame members and therefore it is useless.
 - b. If you catch yourself in a situation where a drawing object (especially a frame member) is not stretching with its attached object, either delete the anomaly or start over. The drawing module is very robust and would allow you to create a proper frame in seconds.
- III. Use a test project and practice with multiple elevations before beginning with your company's main accounts. Especially with more complex frame designs.
 - a. This will give you a chance to see how the drawing package works.
- IV. It is the user's responsibility to save periodically. All drawings are memory resident when they are opened and when they are created. If your computer crashes after creating ten elevations or fifty elevations, and those elevations were not saved, then all that work would be lost.
 - a. An automatic save occurs when: the program properly closes, closing a project, and printing a report.
- V. Consider the amount of memory your computer has when working with multiple opened elevations. If your computer's performance is diminishing, try closing some elevations and work with a few at a time.

Drawing Shortcuts

- I. Right mouse-click on drawing tabs
 - ✓ Brings up a menu to switch position of the tabs (Top, Bottom, Left, Right).
- II. Double-click **Opening List** text or **Elevation View** image in **Project Viewer**
 - ✓ Opens the elevation
- III. Shift-click on drawing object tool-button
 - ✓ Enters **Multi-Add** mode where the drawing object stays selected and you only need to click and draw without having to re-select the tool button.
 - ✓ To turn-off **Multi-Add** mode, click on the drawing object in the **Drawing Object Palette**.
- IV. Shortcut Menu Keys
 - ✓ Holding the Alt key down and pressing the underlined letter of any menu item or button will take you directly there.
- V. Drawing horizontally with the mouse will automatically draw a horizontal frame.
- VI. Drawing vertically with the mouse will automatically draw a vertical frame.
- VII. Holding the following keys down while drawing with the mouse will draw:
 - ✓ Ctrl + G - Glass
 - ✓ Ctrl + P - Panel
 - ✓ Ctrl + D - Door
 - ✓ Ctrl + W - Window on door
 - ✓ Ctrl + L - Louver
 - ✓ Ctrl + T - Text (Caption)
- VIII. Escape Key
 - ✓ Pressing the Esc key while drawing will cancel that operation.
- IX. Right-click on frame piece
 - ✓ Shows you the cross section associated with that frame member.
 - ✓ To close the cross section window, click on the cross section window.
- X. Delete Key
 - ✓ If the object inspector is not shown then pressing the delete key will delete the currently selected drawing object.
- XI. Pair of Doors
 - ✓ Dropping a door on top of another door will duplicate the door and create a pair of doors for you.
- XII. Ctrl + arrow key
 - ✓ While a drawing object is selected, you can press ctrl + arrow key to move the drawing object.
- XIII. Double-click in **Object Inspector**
 - ✓ Depending on the type of property editor this will either go to the next item in the list or open the dialog associated with the property.