Materials Tutorial

Materials display on the surfaces of objects in 3D views and can make a 3D view appear highly realistic. When applied to most objects, material quantities will also be calculated in the Materials List.

This tutorial continues from where the Kitchen and Bath Design Tutorial ended. You may want to save this tutorial using a new name to archive your previous work. In this tutorial you will learn about:

- Setting Materials Defaults
- Using the Materials Panel
- Using the Material Painter
- Blending Colors with Materials
- Using the Material Eyedropper
- Using the Color Chooser
- Custom Materials, Images, and Backdrops
- Generating a Materials List
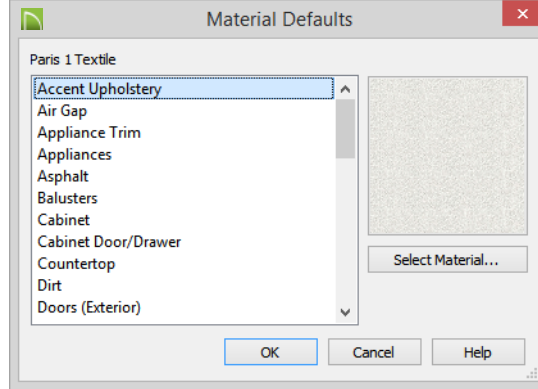
Setting Materials Defaults

Material default settings determine the materials used by different objects when they are initially created. Setting the correct material defaults before beginning a project may help you save time. For more information, see "Preferences and Default Settings" on page 75 of the Reference Manual.

To set material defaults

1. Select **Edit> Default Settings** 🔧 to open the **Default Settings** dialog.
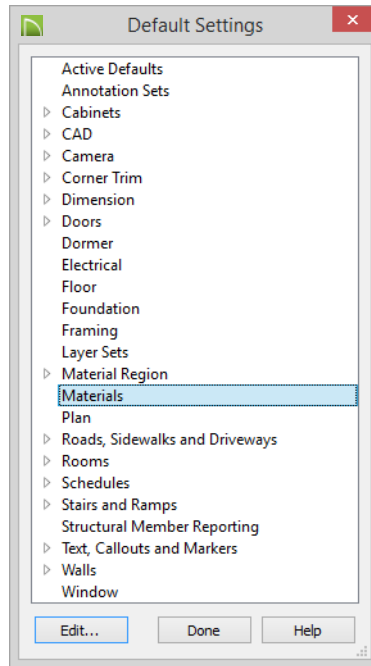
2. There are a two options. You can do either or both:
    - Select an item in the tree list and click the **Edit** button to open the defaults dialog for that type of object. The default dialogs for architectural objects such as doors and windows have a MATERIALS panel that allows you to set the material defaults for object components. See "Using the Materials Panel" on page 3.
    - Select **Materials** and click the **Edit** button to open the **Material Defaults** dialog. Here you can set the material defaults for many different objects, including some that do not have default dialogs. See "Material Defaults" on page 861 of the Reference Manual.

3. When you are finished, click **OK** to close the defaults dialog, then click **Done** to close the **Default Settings** dialog.

Once an object has been placed in a plan, the materials applied to it can be changed in a number of ways.

Using the Materials Panel

Most objects' materials can be assigned in their specification dialog in both 2D and 3D views. The materials used by a door, for example, can be edited on the MATERIALS panel of the **Door Specification** dialog. For more information, see "Materials Panel" on page 864 of the Reference Manual.

To change material on an object using the Materials panel

1. Click the **Select Objects** button, then click on the double door leading from the master bedroom to the deck on Floor 2 to select it.

2. Click the **Open Object** edit button to open the **Door Specification** dialog.

3. Select one of the door's components from the list on the left.
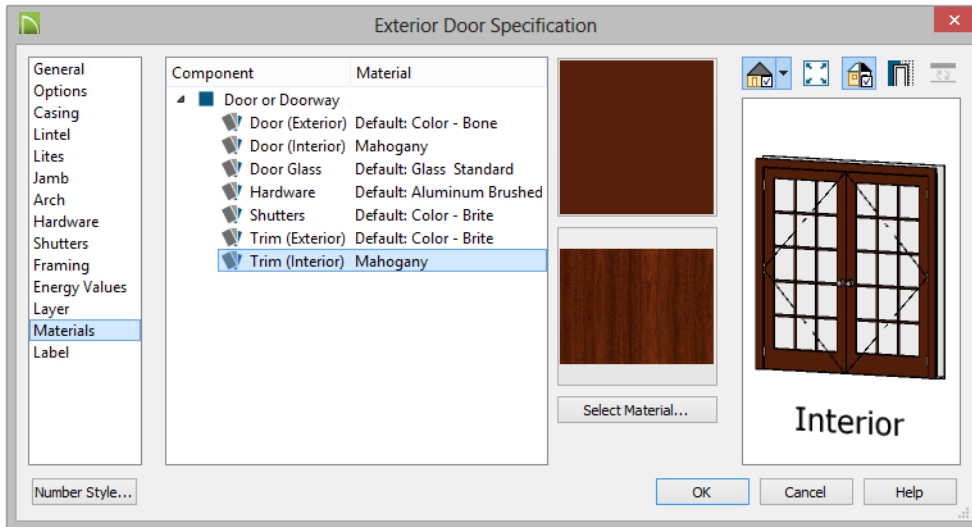
- Click on the name of a material component in the tree list to select it.
- Click the **Select Material** button to open the **Select Material** dialog.

4. Find and select a material and click **OK**. to apply it to the selected component.
5. You can continue to specify component materials. The preview in the dialog updates as changes are made. When finished, click **OK** to close the specification dialog.

6. Create a **Full Camera** 📷 view of the door to see the results.

The materials used in individual rooms can also be specified. Rooms can be selected in both floor plan and 3D views:

- In floor plan view, click in an empty space within a room. When selected, the whole room is highlighted. If you accidentally select an object other than the room, you can press the Tab key on the keyboard until the room is selected.

- In camera views and overviews, click on the floor of the room to select it.

To edit a room using the Materials panel

1. Select the master bedroom and click the **Open Object** ▯ to open the **Room Specification** dialog.
2. In the tree list on the MATERIALS panel, select "Molding" under the Crown Molding component and click the **Select Material** button.
3. In the **Select Material** dialog, select a material and click **OK** to close the dialog.
4. Click **OK** to close the **Room Specification** dialog.
5. The results can be seen in a **Full Camera** 🔘 view.

Using the Material Painter

The **Material Painter** 🔳 tool allows you to select a material and then apply it to an object in a 3D view.

There are five Material Painter Modes which specify how broadly or narrowly the selected material will be applied to surfaces in your plan. In this tutorial, the **Component Mode** is used. For more information, see "The Material Painter" on page 862 of the Reference Manual.

To apply a material using the Material Painter

1. While still in the 3D view of the door, select **3D> Material Painter** and confirm that there is a checkmark next to **Material Painter Component Mode** .

2. Click the **Material Painter** button to open the **Select Material** dialog. Browse to Flooring> Carpeting, select a carpet material, and click OK.
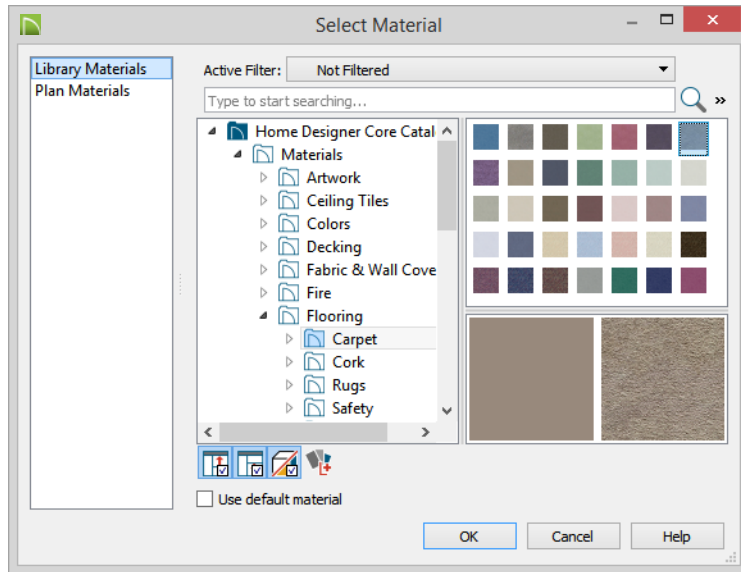
3. Move your cursor into the 3D view and notice that it displays a spray can icon .

4. Click on the floor of the master bedroom to apply the selected material to that surface, which is a component of the room.

> You can also place an area rug symbol from the library in a room and assign to it whatever material you wish. See "Placing Library Objects" on page 846.

With the **Material Painter** 🔳 tool you can apply a material to nearly any surface, including many that can't be individually selected like the base molding on a wall or the frame of a

window. When either the **Component** 🔳 or **Object** 🔳 Modes is active, you can continue to apply the selected material to objects until a different tool is selected.

To add artwork to a frame

1. A variety of frames can be found in the Interiors library category. Place a wall or desk frame in your plan and create a camera view in which it can be seen.

2. Select **3D> Material Painter** and confirm that there is a checkmark next to **Material Painter Component Mode** 🔳.

3. Click the **Material Painter** 🔳 button to open the **Select Material** dialog and choose a painting, photo or print from the Artwork library.

4. Move your cursor over the middle area of the frame and click to apply the selected artwork.


The artwork displayed in a frame can also be specified in the frame's specification dialog. See "Symbol Object Specification Dialogs" on page 854 of the Reference Manual.

Blending Colors with Materials

Instead of using the **Material Painter** to replace a material with a new one, you can use it with

the **Blend Colors With Materials** 🖌 feature to blend a color with a textured material such as the carpet in the master bedroom and create a new material. For more information, see "Blend Colors With Materials" on page 863 of the Reference Manual.

To blend a color with a texture

1. In a 3D view, select **3D> Material Painter> Material Painter** 🖌.
2. In the **Select Material** dialog, select a solid color for the carpet from the Generic Colors library, then click OK.
3. When you move your cursor into the view, it displays a paint roller icon 🖌.

    • When **Blend Colors with Materials** 🖌 is active and a solid color is loaded in the

    Material Painter, your cursor displays the paint roller icon 🖌.

• If you see the spray can icon ⁺🗃 instead, select **3D> Material Painter> Blend Colors With Materials** 🖌 or click the **Blend Colors With Materials** edit button to turn this feature on.

4. Click on the carpet to blend the selected color with the carpet texture. The result is a new material with the textured appearance of the carpet as well as the color you selected.

Using the Material Eyedropper

The **Material Eyedropper** 🖊 tool allows you to load a material that can be seen on a surface in a 3D view into the **Material Painter** 🗃 tool and then apply it to another surface. For example, in the master bedroom the wood material assigned to the crown molding is different than the material assigned to the chair rail and base molding.They can easily be made the same using the **Material Eyedropper** 🖊 tool.

1. Return to the Camera view.

2. Select **3D> Material Painter> Material Eyedropper** 🖊 and notice that the mouse pointer displays an eyedropper icon ⊬🖊.

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3. Click once on the crown molding to load the wood material. Notice that the mouse pointer changes to a spray can , indicating that the loaded material is ready to apply to another object.
4. Click on the chair rail and base moldings to apply the loaded material.

Using the Color Chooser

With the **Color Chooser** you can load any color that is displayed on your monitor and save it to the library for use in your plans.

To create a new material using the Color Chooser

1. Select **Tools> Color Chooser** to open the **Color Chooser** dialog.

2. Place your mouse pointer over the eyedropper at the right of the dialog, then click and drag the eyedropper to an open image on your screen.

3. Release the mouse button to load the color, then click the **Create Material** button in the **Color Chooser** dialog. Click OK to close the **Color Chooser** dialog.

4. The new "Custom Color" is now saved in the User Catalog with its R, G, B colors specified in its name. It can be renamed and moved, and is available for use in any plan.

Custom Materials, Images, and Backdrops

Chief Architect allows you to customize your 3D views by importing your own materials, image objects, and backdrops that display in 3D views. For more information about images, see "Pictures, Images, and Walkthroughs" on page 1137 of the Reference Manual.

> Note: The following steps make use of image files that are not included with the program. You can use your own image files to create materials, images, and backdrops.

Creating Materials

You can create your own custom materials and save them in the library for use in any plan. Many materials are represented in 3D views using textures, which are digital images that have been specially edited to tile seamlessly when applied to a 3D surface. Bear in mind, therefore, that not all images will necessarily serve as effective material textures.

To add a new material to the library

1. Select **View> Library Browser** or press Ctrl + L to open the Library Browser.

2. Right-click on the User Catalog and select **New> Material** from the contextual menu.
3. In the **Define Material** dialog, give the new material a short, descriptive **Name**.

4. On the TEXTURE panel, click the **Browse** button to open the **Select Texture File** dialog, where you can choose an image file saved on your computer to be the new material's texture.
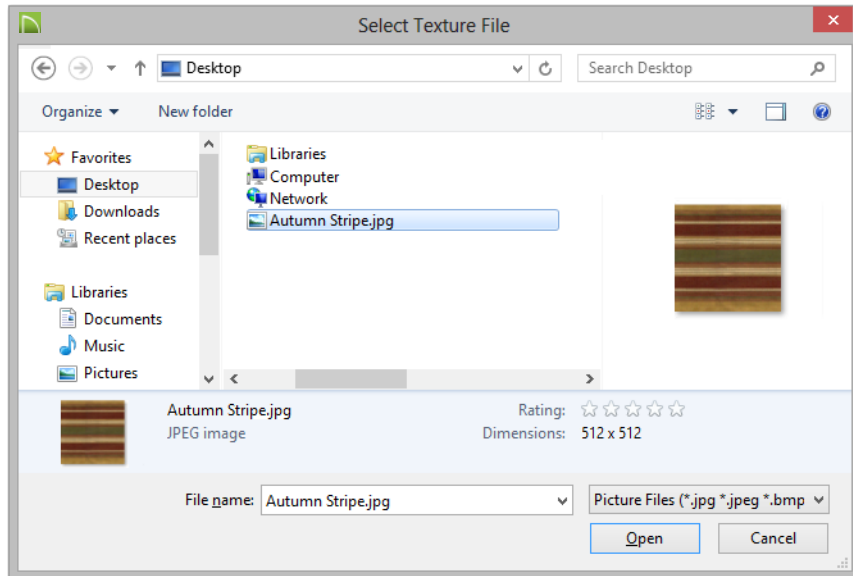
5. Select an image file and click the **Open** button to return to the **Define Material** dialog.
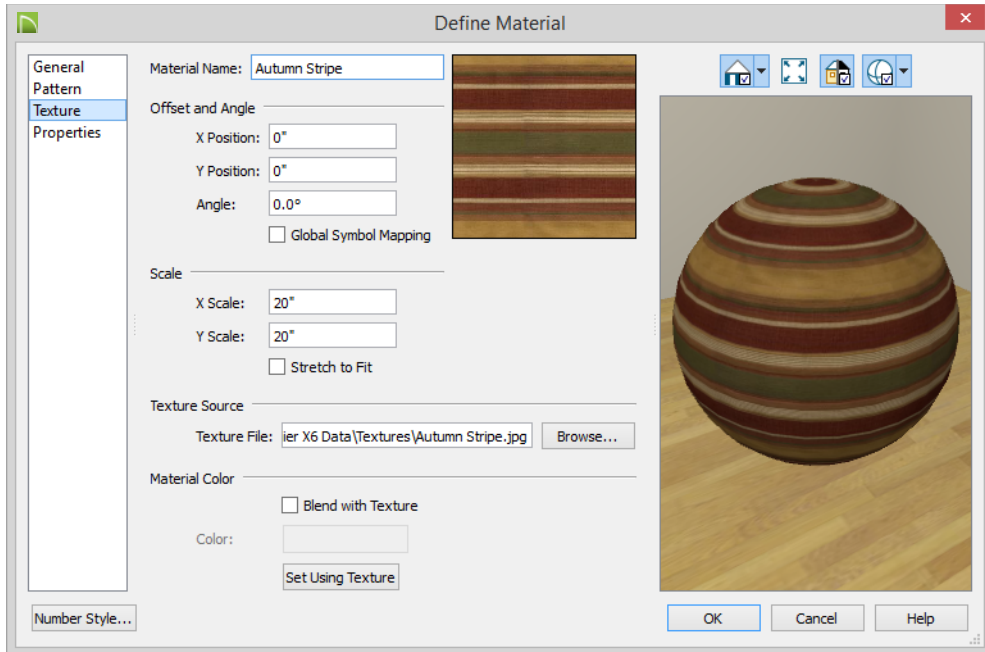
6. Specify the **Scale** of the texture, which controls how large the image will appear on the surfaces it is applied to.
7. On the PROPERTIES panel, specify the **Material Class** and attributes of the material. A Matte material will most closely resemble cloth, which is what this material will be used for.
8. Click **OK** to add the new material to the **User Catalog**.

For more information, see "Define Material Dialog" on page 876 of the Reference Manual.

Creating Images

In Chief Architect, image objects are more than just 2D pictures. Images have size and height attributes and can contain transparency information. In floor plan view, they display only as 2D symbols; but in 3D views, the visual information that images contain can be seen.

*To create an image and save it to the library*

1. Right-click on the User Catalog folder, then select **New> Image** from the contextual menu to open the **Image Specification** dialog. For more information, see "Image Specification Dialog" on page 1141 of the Reference Manual.

2. On the IMAGE panel, click the **Browse** button and browse to an image file saved on your computer. Here, an image of a cat that has transparency data associated with it is used; however, you can use any image.
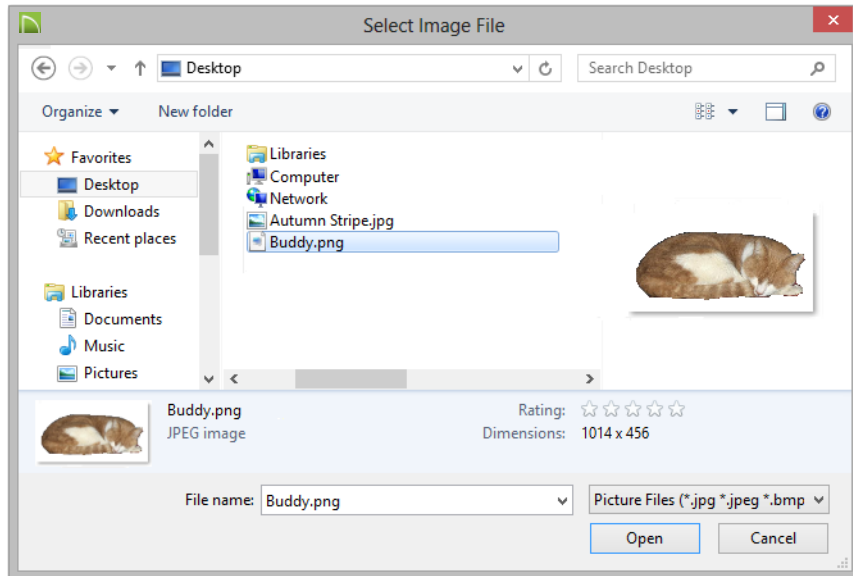
3. Click **Open** to return to the **Image Specification** dialog.
4. On the IMAGE panel, enter the **Height** or **Width**, adjusting one will adjust the other, maintaining the correct proportion. Enter a **Height Above Ground** value to specify the

elevation at which the image displays. A value of 24 inches works well in this case as we'll be placing the image on a piece of furniture.
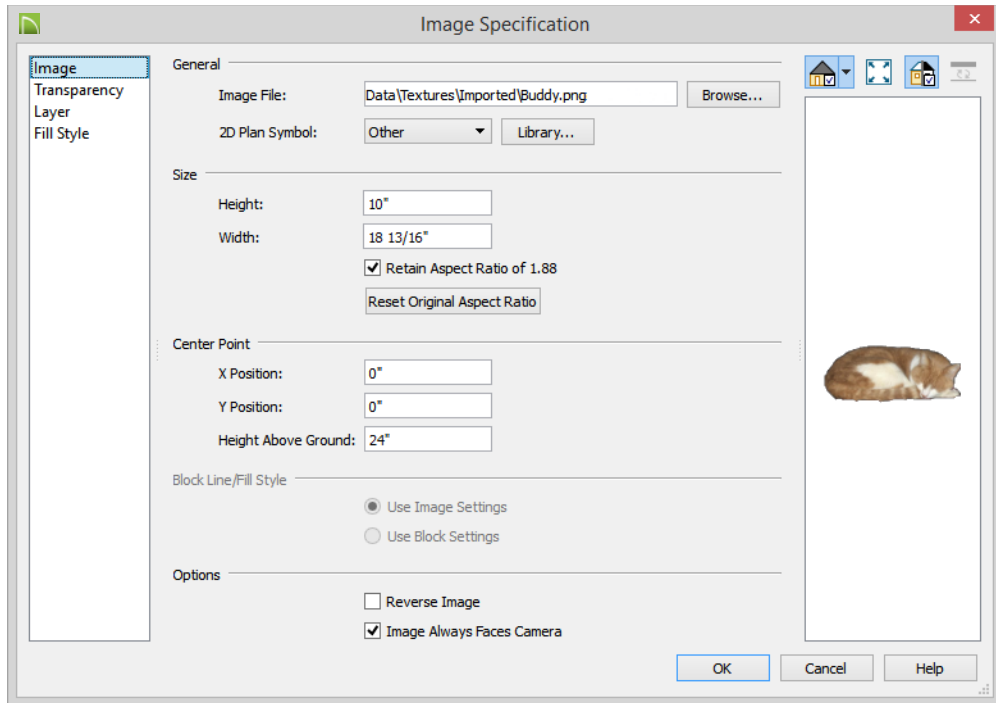
5. Specify the transparency settings on the TRANSPARENCY panel. Since this example is a png file with transparency already applied, selecting **Use Transparency From the Image File** is the best choice.
6. Click **OK** to close the **Image Specification** dialog and add the new image to the **My Images** category in the Images library.

Images can be placed in a plan just as plants, furnishings and fixtures are: by selecting the image and clicking any floor plan view, camera view or overview.

Importing Backdrops

Backdrops are images that display behind 3D views. In Chief Architect, you can take a photo of a site, save it to the library as a backdrop, and display it behind 3D views to create a realistic rendering of your model and its surrounding view.

To import a backdrop and save it to the library

1. Select **File> Import> Backdrop** and browse to an image on your computer.

2.   Select the image and click **Open** to add it to the User Catalog.

To apply a backdrop to 3D views

1.   Select **3D> 3D View Defaults** to open the **3D View Defaults** dialog.
2.   On the BACKDROP panel, click the **Select Backdrop** button to open the **Select Library Object** dialog.
3.   Click the **Select Backdrop** button and in the **Select Library Object** dialog, find and select your new backdrop in the User Catalog and click **OK**.
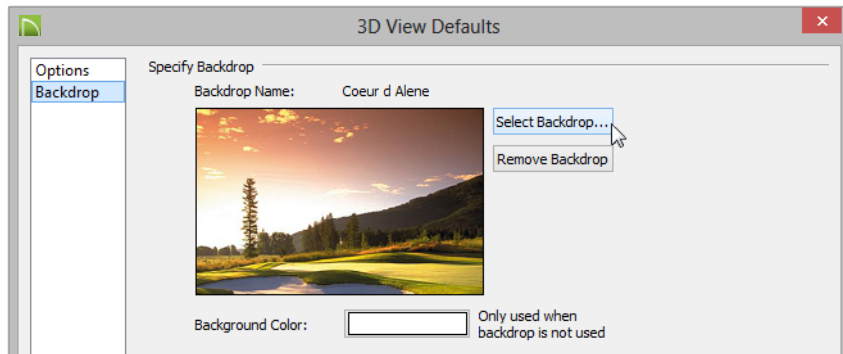
4.   Click **OK** to close the **3D View Defaults** dialog.

You can see your custom material, image, and backdrop by creating a **Full Camera** view.

Generating a Materials List

To conclude this tutorial, we'll generate a materials list for the house. You can generate a materials list for a single room, an area of the plan on one floor, or the whole plan. For more information, see "Materials Lists" on page 1293 of the Reference Manual.

> Note: The Materials List is only a rough cost estimate. Always compare the Materials List with a manual take-off before providing a quote or ordering materials for a project.

To generate a materials list for the whole plan

1. Select **Tools> Materials List> Calculate Materials for All Floors** . A materials list is generated for all floors of the house.
2. Locate the an item, such as one under the Fixtures category.
3. Click in the "Price" column and type in a value. Notice that the subtotal and Total both update to reflect the pricing change. You can specify prices for every material in your plan, allowing you to generate a cost estimate.
4. If you wish, you can select **File> Export Materials List** and save the list as a Tab-delimited **.txt** file, comma-delimited **.csv** file, Excel **.xml** file, or **.html** file.
5. Close the materials list by selecting **File> Close Window** from the menu. A dialog will give you the opportunity to name and save the Materials List before closing, if you wish.

You can generate a materials list to estimate the cost of an entire plan or just a portion of a plan. For more information, see "Materials Lists" on page 1293 of the Reference Manual.

To calculate a materials list for an individual room

1. Click the **Select Objects** button, then click in a room to select it.

2. With the room selected, click the **Calculate Materials for Room** edit button or select

    Tools> Materials List> Calculate Materials for Room . The program calculates a list of the objects and materials contained in the selected room.

To calculate a materials list for just the deck

1. In floor plan view, select **Tools> Materials List> Calculate from Area** .
2. Click and drag a rectangle surrounding the an area to display a materials list for the area within the rectangle. The resulting materials list only includes objects and materials located within the rectangle.
3. When you have finished, remember to **Save** your work.

When you are ready, you can continue working on this plan in the Landscaping Tutorial.