Chief Architect®
Home Designer Landscape and Deck® 2014

Reference Manual

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Program Overview

Home Designer Landscape and Deck is designed to help home enthusiasts visualize, develop and share their design ideas. Home Designer Landscape and Deck uses parametric design technology, which means that as you draw, a 3D model is created and is updated as you make changes. You can tile a floor plan view next to a 3D view and watch one update automatically as you draw in the other.

Chapter Contents

Startup Options

When Home Designer Landscape and Deck opens, the **Startup Options** dialog displays, allowing you to choose how you want to begin working in the program or access useful resources.

The **Startup Options** dialog can be opened at any time by selecting **File> Startup Options** .

❶ Getting Started- Click to launch your default internet browser to the Getting Started page on our web site, www.HomeDesignerSoftware.com. There, you will find links to a variety of online resources to help you begin using the program.

❷ Select a **File** command to open a .plan file.

• Click **New Plan** to open a new, blank plan. See "Creating a New Plan" on page 31.

• Choose **Open Plan** to work on an existing plan file. See "Opening and Importing Files" on page 36.

3 **Recent Files** lists the names of the most recently opened files. Click on a name to open the file.

4 Remove the check from **Show Options on Startup** if you do not want this dialog to display when you launch Home Designer Landscape and Deck. Instead, a new blank plan the **Create New Plan** dialog opens.

To have the **Startup Options** dialog display at startup again, select **File> Startup Options** and place a check mark at **Show Options on Startup**.

5 The **Build** number of the program version you are using and the first five characters of your software license **Product Key** display here.

The Home Designer Landscape and Deck Environment

Object-Based Design

Home Designer Landscape and Deck's parametric, object-based design technology means you place and edit objects, rather than work with the many individual lines or surfaces used to represent them.

You can quickly select and edit the location, size, shape, style and other properties of objects as well as change the materials applied to their surfaces.

Use Home Designer Landscape and Deck's editing capabilities to make the objects you place in a plan match the objects they represent in real life. For example, you can set up your windows and doors to match those available from your supplier.

3D Drafting

In Home Designer Landscape and Deck, the entire drawing area is laid out on a Cartesian grid, a three dimensional coordinate system described using the X, Y and Z axes. The current position of your mouse pointer displays in the Status Bar at the bottom of the program window.

Architectural objects take up space in all three dimensions and their height, width and depth can be specified in Imperial or metric units. In addition, the location of objects can be precisely defined using coordinates, again specified in Imperial or metric units.

Easy Access to Tools

You can access Home Designer Landscape and Deck's features in various ways using the mouse and keyboard.

- Menus provide access to most tools.
- Convenient toolbar buttons allow fast access to tools and let you customize the interface.
- Keyboard shortcuts are available for most tools.
- Contextual menus display with a right-click of the mouse.
- The Status Bar at the bottom of the screen provides tool descriptions and other information about the current task.

Title Bar
Menus
Parent Tools
Edit Toolbar
Selected Object
Library Browser
Library Preview Panes
Status Bar

Reference Grid Lines   *Pointer*   *Crosshair Lines*
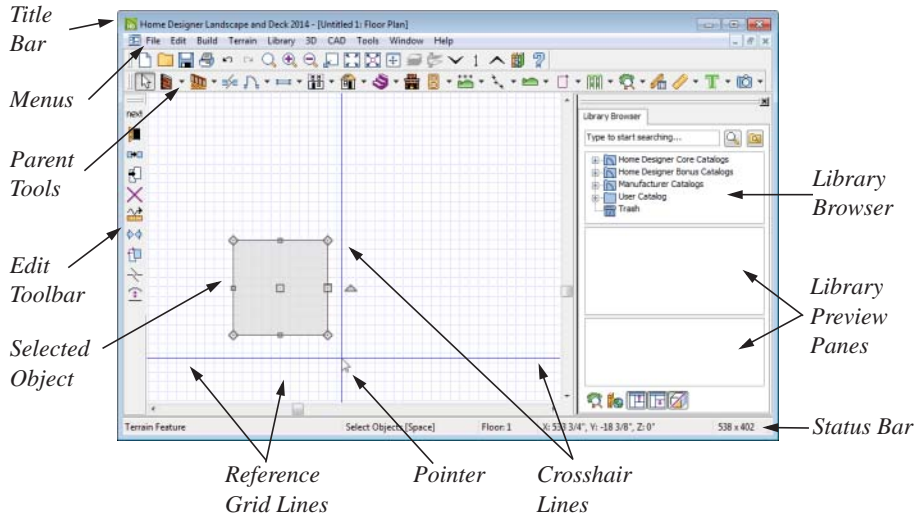
Using the Mouse

Many objects, such as doors and cabinets, are created by clicking the left mouse button. Others, such as walls, stairs and dimension lines, are created by dragging the pointer from one end of the object to the other.

The **left button** is the primary button used in Home Designer Landscape and Deck. Unless specified otherwise, Home Designer Landscape and Deck documentation refers to the left mouse button.

Note: If you are left-handed and have re-programmed your mouse, reverse the instructions for left and right buttons in this manual.

The **Right button** has several uses. Right-click to select any object.

If, for example, the **Straight Wall** tool is active, the left mouse button allows you to select only walls. You can select other object types such as plants with the right mouse button.

You can also use the right mouse button to open a context sensitive menu with additional editing commands.

The **Middle button** can be used to pan in floor plan view

You can also program it to work as a double-click.

The **Mouse Wheel** can be used to zoom in and out in most views.

Using the Edit Handles

When you select an object, its edit handles display.

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When you pass the mouse over the edit handles, the pointer changes to show how you can use that handle.

- A two-headed arrow indicates that the object, corner or edge can be moved in the direction of the arrows.

- A four-headed arrow indicates that the selected object or edge may be moved in multiple directions.

- A circular arrow indicates that the selected object can be rotated.

Resize handles display along the edges of the object are used to change the size. See "Resizing Objects" on page 88.

The Move handle at the object's center lets you move the object. See "Moving Objects" on page 85.
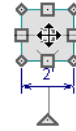
The triangular Rotate handle lets you rotate the object. See "Rotating Objects" on page 90.

You can cancel any edit handle operation before it is completed by pressing the Esc key on your keyboard or by pressing any two mouse buttons at the same time.

The edit handles that display depend on the type of object selected, the current view, and how far you are zoomed out.

Edit handles do not resize as you zoom in or out. If you are zoomed out far enough, some edit handles may be hidden so that they do not stack over one another. As you zoom in, these handles become visible again.

Toolbars

Using the toolbar buttons is the fastest, easiest way to access many program features.

The toolbars that display in a given view depend on the view type. For example, toolbars that control camera position display in 3D views but not in floor plan view.

When you pass the pointer over a toolbar button, a "tool tip" displays the name of the tool. When you see one of these tool tips, press F1 to get more information about that

item. A more detailed description displays in the Status Bar at the bottom of the window.

You can use either of two styles of toolbar interface: drop-down tools or parent-child buttons.

Drop-Down Tools

Click on the arrow to the right of a button to display a drop-down list of related tools. For example, click the arrow to the right of the

Window ▭ button to display a drop-down list of the other Window Tools.
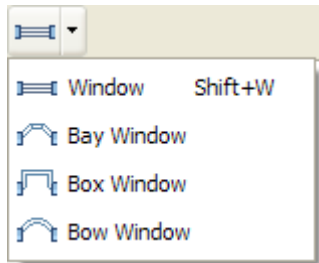
The most recently selected tool displays in the toolbar.

Parent and Child Tools

An alternative to the Drop-Down toolbar interface are Parent and Child tools. Parent toolbar buttons have a blue triangle in the lower right corner. When you select a parent button, child tools display on the right side of the toolbar.

When you click the **Window Tools** ▭ parent button, for example, its child buttons display to the right.

You can select either Parent-Child or Drop-Down tools in the **Preferences** dialog. See "Appearance Panel" on page 45.

The Edit Toolbar

When you select an object, the edit toolbar appears. By default, it is located at the of the program window. The toolbar buttons that display can be used to edit the selected object(s). Which buttons display depends on the type of object selected, the current view, and how you selected the object.

The edit toolbar buttons are the same as the options in the contextual menu when you right-click on an object.

Hotkeys

Many commands can be invoked from the keyboard. Press Alt on your keyboard and press the underlined letter in a menu name to access that menu, as well as items in the menus and submenus.

Other keys or key combinations will invoke a variety of program commands. If a Home Designer Landscape and Deck menu item has a keyboard shortcut, or hotkey, associated with it, that hotkey will display to the right of its name in the menu.

Menus

Home Designer Landscape and Deck uses a standard Windows menu format. The menus are located below the title bar in the program window and can be used to access nearly all tools in the program. Click on a menu name to expand it, then click on a menu item to either activate that tool or access the item's

submenu. Items with a submenu have an arrow to the right of the name.

Menu items with an icon to their left have a toolbar button associated with them.

The menus can be accessed using the keyboard. Press the Alt key once to enable this functionality - one letter in each menu

will become underlined. Press the key associated with one of these underlined letters to expand its menu - one letter in each menu item's name will be underlined. Press the key associated with one of these letters to activate that tool or access the item's submenu. Press the Esc key to undo your last selection, or click with the mouse to exit out of this functionality.

Many tools in Home Designer Landscape and Deck also have hotkeys associated with them. If a menu item has a hotkey, it will display to the right of the item's name. See "Hotkeys" on page 54.
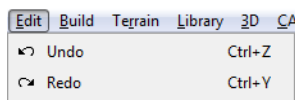
Edit menu items with button icons to the left and hotkeys to the right

In the Home Designer Landscape and Deck documentation, menu paths are written in this format: **Build> Window> Box Window** . An icon image after the menu path indicates that a toolbar button is also available.

Contextual Menus

Contextual menus are context sensitive menus that display tools relevant to a selected object or view.

To access contextual menus, right-click on an object, in an empty space in a view window or in a text field in any dialog box.

Contextual menus can be enabled or disabled in the **Preferences** dialog. See "Appearance Panel" on page 45.

Dialogs

Default settings, object specifications, display settings, and many other functions are accessed through dialog boxes.

Dialog tabs and settings can be accessed using the mouse. You can also navigate the settings on a given dialog tab using the keyboard:

- Press the Tab key proceed from one set-ting to the next, or Shift + Tab to go in the reverse direction.

- Line items in tree lists can be browsed using the arrow keys. Up and Down navi-gate the list, while Left and Right expand and contract categories.

- Settings with spin control arrows can be adjusted by typing in the text field, using the up and down arrow keys, or the mouse scroll wheel.

- Settings with slider bars can be adjusted by typing in the text field, using the left and right arrow keys, or the mouse scroll wheel.

- Press Enter on your keyboard to close any dialog and apply your changes.

Many dialogs have a preview that shows how the changes affect the object. This preview updates when you click in a different field or press the **Tab** key on your keyboard.

Some dialog boxes are resizable. Resizable dialogs have a size grip at the lower right corner of the box which you can click and drag.

Specification Dialogs

Each object in Home Designer Landscape and Deck has a unique specification dialog where you can enter size, style and other information specific to the selected object. To access it, select the object and click the **Open Object** edit button. You can also double-click on an object with the **Select Objects** tool active to open its specification dialog. See "Selecting Objects" on page 68.

The Status Bar

The Status Bar at the bottom of the main program window displays information about the current state of the program.

This information depends on a variety of conditions such as the type of object selected, and the current position of the pointer. The information may include the following:

- A brief description of the toolbar button or menu item highlighted by the mouse.

- A description of the selected object.
- The total number of objects currently group-selected.
- Basic information about a selected library object, folder, or catalog.
- The current floor.
- The screen redraw time.
- The length and/or angle of an object as it is being drawn.

Message Boxes

As you work in Home Designer Landscape and Deck, the program will alert you if you command it to do something that could potentially cause a problem, or if the program encounters a problem that needs your attention.
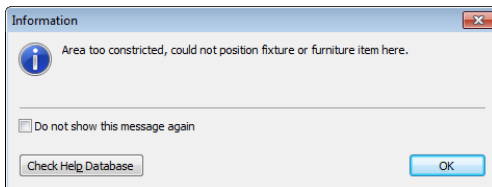
Situations where such message boxes may display include:

- Closing a file without saving;
- A file referenced outside the program, such as an image or texture, is missing;
- Creating an object in a space too small to contain it.

You can access the settings in a message box using the mouse, or navigate them using the keyboard:

- Press the Tab key proceed from one setting to the next, or Shift + Tab to go in the reverse direction.

- When a checkbox is the active setting, press the Spacebar to check or to clear it.
- Buttons have hotkeys associated with them. Press the Alt key on the keyboard to underline the hotkeys in the current message box.
- Press Enter on your keyboard to close the message box and perform the action associated with the highlighted button.

Some message boxes include a "Remember my choice" or a "Do not show this again" checkbox. Check this box to prevent messages of this specific type from displaying in the future.

To allow all message boxes to display again, click the **Reset Message Boxes** button in the **Preferences** dialog. See "Reset Options Panel" on page 50.

Preferences and Default Settings

Preferences and default settings control many aspects of the user interface and tool behavior in Home Designer Landscape and Deck. You can use these settings to customize the program to suit your personal work style.

For more information about defaults and preferences, see "Preferences & Default Settings" on page 41.

Preferences

Preference settings let you change program behavior to suit your workflow. For example, you can:

- Turn certain display elements on or off.
- Choose background and editing feedback colors.
- Set rendering specifications to maximize efficiency and quality.

Preference settings are global, affecting all plan files.

Defaults

Most objects in Home Designer Landscape and Deck derive their intial properties from their respective default dialogs.

For example, a newly placed **Window** gets its initial values from the **Window Defaults** dialog and a newly placed **Hinged Door** gets its initial values from the **Door Defaults** dialog.

Once an object is placed in a plan, its initial properties can be overridden, but setting up your defaults before you begin drawing can save you considerable time as you build a model in the program.

Default settings, unlike Preferences, are file specific.

Dynamic Defaults

Most default settings are static: if you change one, any objects of that type in the current file will not be affected. A few defaults, however, are dynamic: they are tied to existing objects in the drawing and if you change the default, those objects may be affected. See "Dynamic Defaults" on page

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43.

Set material defaults for roof, walls, and rooms.

Set style defaults for doors, windows, cabinets and other objects.

Viewing Your Plan

You can see your model in a variety of different 2D and 3D views. You can display more than one view at a time; and in any view, you can pan or zoom in or out. See "Zoom & View Tools" on page 301.

Floor plan view is a 2D view of the model and is most commonly used for drawing and editing. In floor plan view, each floor displays separately and you can only edit one floor at a time; however, you have extensive control over which objects display at any given time,

can easily switch between floors, and can also display items on a second floor for reference.

You can create interior and exterior 3D views of your model from any perspective. As in floor plan view, you can select and edit many objects in 3D views and control which objects are visible. See "3D Views" on page 309.

All views can be exported as a graphic image. See "To export a picture" on page 363.

Getting Help

There are many forms of help available in Home Designer Landscape and Deck including: Tool Tips, the Status Bar, and the online Help menu.

All these forms of help assume you have a basic working knowledge of the Windows® operating system, including how to use a mouse, open, close and save files, copy, paste, and right-click to access contextual menus. Help also assumes you are familiar with Windows® terminology.

More information is available in the product documentation in electronic format and on Home Designer's official web site, www.HomeDesignerSoftware.com. See "Additional Resources" on page 397.

Tool Tips

When you move the pointer over a toolbar button or menu item, a **Tool Tip** displays, offering a brief description of the tool. More information displays in the Status Bar at the bottom of the window.

Online Help Menu

Online **Help** is a searchable menu that provides information about all of the tools in Home Designer Landscape and Deck. Select

Help> Contents & Index to open the online Help and explore the table of contents, browse the Index, or search for keywords.

Current Mode Help

Online Help can also be used to provide instant information about toolbar buttons, menu items, and objects in your plan.

- When you move the cursor over a toolbar button or menu item, a brief summary of that tool displays in the Status Bar. Press the F1 key to open online Help to a page with more information about the tool.

- When an object is selected, edit handles display. Place the cursor over an edit handle and press **F1** to open online Help to a page with information about that handle.

- Press the **Help** button in any dialog box to open online Help to a page describing the options in that dialog.

> Chief Architect strives to make our documentation as helpful as possible for all of our customers. Please send any questions, comments, or feedback to documentation@chiefarchitect.com.

About Home Designer Landscape and Deck

Select **Help> About Home Designer Landscape and Deck** to view information about your software license, the program's version number, and its release date.

Contact information for Chief Architect, Inc. is available on the **More Information** tab.

Upgrade to Chief Architect

Select **Help> Upgrade to Chief Architect** to launch your default web browser to the Chief Architect web page, www.chiefarchitect.com, where you can learn about this powerful home design software for building professionals.

Chief Architect can open plans originally created in Home Designer, and offers an extensive set of drawing, editing and rendering tools that allows you to produce complete, professional working drawings.

File Management

Home Designer Landscape and Deck saves the complete 3D model of a structure and surrounding terrain as well as text in **.plan** files.

All commands related to opening, saving and closing plans are located in the File menu. You can also open plans from the **Startup Options** dialog. See "Startup Options" on page 18.

Just as with files created in other software applications, you should back up your plan files externally on a regular basis to avoid accidental loss of work.

Chapter Contents

- Compatibility with Other Programs
- Organizing Your Files
- Home Designer Landscape and Deck Data
- Creating a New Plan
- Saving, Exporting, and Backing Up Files
- Auto Archive
- Undo Files
- Opening and Importing Files
- Backup Entire Plan
- Closing Views and Files
- Exiting Home Designer Landscape and Deck

Compatibility with Other Programs

Plans produced in the following programs can all be read by Home Designer Landscape and Deck 2014.

- Chief Architect® X1 through X4 (limited editability if enabled)

- Chief Architect® 5.0 through 10.08 (read only)

- 3D Home Architect® 3.0 and 4.0

- Chief Architect® Home Edition 5.0

- All Better Homes and Gardens Home Designer® products, Interior Designer, and Landscaping and Deck Designer, Versions 6 through 8.

- All Chief Architect Home Designer® products, Interior Designer, and Landscaping and Deck Designer, Versions 9 through 2014.

- Trading Spaces® Design Companion™

> Note: 3D Home Architect 5.0 was not developed by Chief Architect, Inc. Plans written using 3D Home Architect 5.0 or later cannot be read by Home Designer Landscape and Deck.

Files that have been opened and saved in Home Designer Landscape and Deck 2014 cannot be read by any of the program versions listed above. To continue to read files in the program in which they were created, be sure to create copies of your files before opening them in Home Designer Landscape and Deck 2014.

Plans created in Chief Architect, build 11.4 and later, can be opened in Home Designer programs for viewing and annotating only. Limited editability in Home Designer programs is an option that can be enabled when the file is opened in Chief Architect.

Organizing Your Files

You should keep your plan files separate from the support files needed to run Home Designer Landscape and Deck. To keep files organized, you may find it helpful to create a new folder for each project.

Home Designer Landscape and Deck files may use imported images, textures and other custom content saved in their own external data files. Consider storing copies of all external files in the same folder as the plan files that use them so that they are easily found.

Here is one way to organize your files:

- Create a folder in your Documents directory ("My Documents" in Windows XP) called "Home Designer Landscape and Deck Plans" or another name you prefer. See Microsoft Windows Help to learn how to create folders.

- Inside this folder, make a new folder for each project. Save all the files for that project inside this folder, including plan files and referenced external files. See "Saving, Exporting, and Backing Up Files" on page 32.

Bear in mind, though, that path names exceeding 260 characters cannot be opened by Home Designer Landscape and Deck. As a result, it is a good idea to limit the number of embedded folders you use in your file organization method.

Once you understand the file management of Home Designer Landscape and Deck, you can decide on a naming convention that suits your needs.

Home Designer Landscape and Deck Data

When Home Designer Landscape and Deck 2014 is installed, the program automatically creates a folder in the user Documents directory called **Home Designer Landscape and Deck 2014 Data**. This folder contains important user-specific information saved in the following folders and files and should not be moved, renamed or deleted:

• **Archives** - A folder of automatically archived plan files. See "Auto Archive" on page 35.

• **Backdrops** - A folder of custom back-drop images. See "3D Backdrops" on page 313.

• **Images** - A folder of custom images. See "Adding Materials and Images" on page 280.

• **Database Libraries** - A folder of user library data. See "Library Content" on page 276.

• **Scripts** - A folder for custom Ruby scripts associated with Chief Architect plans.

• **Templates** - A folder of plan template files. See "Creating a New Plan" on page 31.

• **Textures** - A folder where you can save image files used to create custom material textures. See "Creating Materials" on page 296.

• **Toolbars** - A folder of toolbar files. See "Toolbar Arrangement" on page 54.

⚠ If the Home Designer Landscape and Deck 2014 Data folder is renamed, moved or deleted, the program will automatically replace it using default information from the Home Designer Landscape and Deck installation folder. When this occurs, customized user settings and custom user library content will not be available.

Because the Home Designer Landscape and Deck 2014 Data contains custom user data, it is not deleted when the program is uninstalled. See "Uninstalling Home Designer Landscape and Deck" on page 21 of the User's Guide.

Creating a New Plan

To open the **Create New Plan** dialog, select **File> New Plan**.

You can also choose **New Plan** in the **Startup Options** dialog. See "Startup Options" on page 18.

Template Plans

When you select **File> New Plan** in Home Designer Landscape and Deck, the **Create New Plan** dialog opens, letting you select a template for your new plan. The resulting new plan uses either metric or Imperial units of measurement and predefined default settings, layer settings, wall definitions, and page setup information.
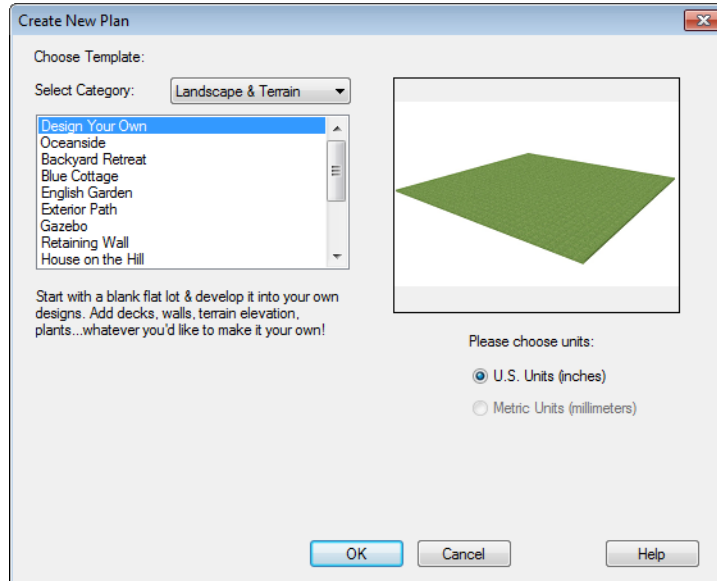
Home Designer Landscape and Deck includes a selection of plan templates, each with different default settings that allow you to begin working in a particular plan style quickly. See "Default Settings vs Preferences" on page 42.

Choose a category from the drop-down list, then select a style template from the scrollable list beneath it. If you are uncertain as to the right style for your plan, choose Default, as you cannot change the plan style template once a plan has been created.

Select either **U.S. Units** or **Metric Units** of measurement, and click **OK**. The floor plan view window opens, ready for you to begin drawing.

New, blank plans are called **Untitled.plan**. Unless these files are named and saved, they will be lost when closed.

Saving, Exporting, and Backing Up Files

Saving, exporting, and backing up your files are three separate tasks that accomplish different things:

- Saving a plan file retains your work so that it can be later opened in Home Designer Landscape and Deck.

- Exporting a file allows you to save certain kinds of data in a format that can be used by a program other than Home Designer Landscape and Deck.

- Backing up your files involves taking steps to make sure that your valuable data is protected and available when needed.

Saving Plan Files

When you first save a new, untitled file, you must select a location for it on your computer and give it a name. There are two options for saving plan files: **File> Save** and **File> Save As**.

> Although the program warns you if you try to exit without saving, you should get in the habit of saving plan files before exiting the program.

Both **Save** and **Save As** can be used to save your plan files; however, they accomplish this in two different ways.

- **File> Save** saves the current state of your plan file without changing its name and should normally be used for saving your work.

- **File> Save As** opens the **Save Plan File** dialog, allowing you to save the plan file using a different name or location on your computer.

To save an untitled plan file

1. Select **File> Save** to open the **Save Plan File** dialog.
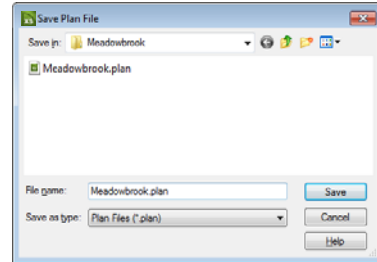
2. In the **Save in** drop-down, browse to the location on your computer where you would like to save the file. See "Organizing Your Files" on page 30.

3. In the **File name** text field, type a name for the file.

4. Home Designer Landscape and Deck automatically assigns the **File of type** and file extension **.plan**.

5. When both the Save in location and File name are correct, click **Save**.

Initially, all **Open** and **Save As** operations go to the "My Documents" folder of your computer. After that, the location last visited is remembered and subsequent

Open or **Save As** commands default to the directory last used for that operation. This path is saved when the program exits. The next time Home Designer Landscape and Deck is launched, these defaults are used.

Exporting Files

Home Designer Landscape and Deck has a number of options for exporting and

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importing information out of and your drawings. Often, file export dialogs are nearly identical to the **Save Plan File** dialog. See "Pictures, Images, & Walkthroughs" on page 357.

Similarly, file import dialogs are often similar to the **Open Plan File** dialog. See "Importing Files" on page 37.

Revision Files

Revisions are a common aspect of any design project. There are a number of possible strategies for organizing revision files:

• Prepending the file name;

• Appending the file name;

• Saving revisions in separate folders.

To avoid confusion and potential mistakes, it is recommended that you always give files unique names - including revision files. If you choose to organize your revisions by saving them in separate folders, you should also give each file a unique name that makes it impossible to confuse it with another file saved in a different folder.

Backup Entire Plan

File> Save As is a simple way to transfer a plan to a different location on your computer. Bear in mind, though, that plan files often reference external data files such as imported textures, images, and backdrops. These external files are not affected when

Save As is used.

If you transfer a plan file from one computer to another, the program will warn you of missing files if the external data files used by the plan cannot be found when you open it.

When transferring plans to another computer that does not have these external files, use the **Backup Entire Plan** tool. See "Backup Entire Plan" on page 37.

Backing Up Your Files

It is always a good idea to create backup copies of all your important files on your computer.

It is strongly recommended, however, that you never save directly onto removable media such as a USB thumb drive, CD, or DVD. Instead, copy your files to such locations in Windows Explorer only after you have saved them on your computer's hard drive and exited the program.

Archive folders are used by Home Designer Landscape and Deck to manage prior versions of your files. You should not view these files as a substitute for your own backup routine, and should never save a file in an archive folder. See "Auto Archive" on page 35.

When backing up your Home Designer Landscape and Deck files, consider backing up not only your **.plan** files, but your custom user data, as well - including library content, toolbar configurations, and textures. This custom data is all located in the Home Designer Landscape and Deck Data folder, so it can be easily backed up. See "Home Designer Landscape and Deck Data" on page 31.

You can, if you wish, create a folder inside the Data folder for your **.plan** files, as well. See "Organizing Your Files" on page 30.

Auto Archive

The first time a plan is saved, Home Designer Landscape and Deck creates an Archive folder in the Home Designer Landscape and Deck Data folder. The Archive folder contains Auto Save and Archive files.

The program does not create Auto Save and Archive files for untitled plans. In order for these to be created, a file must have been previously saved and given a name and save location on your computer. Further, Archive files are only updated when you save your work.

Auto Save and Archive files should not be viewed as a substitute for regularly saving your work by selecting **File> Save** 🖫 or pressing Ctrl + S on the keyboard, nor should they be considered an alternative to your own file backup routine.

Archive Files

Every time a drawing is saved, Archive files that keep a historical archive of your plan are automatically created or updated.

> ⚠ If you do not save your work regularly, your archive files will not be updated.

Plan files from previous versions of the program are automatically moved to the archive folder when the plan is opened and saved in Home Designer Landscape and Deck.

Archive files are meant to be for emergency use only. If you must access an archive file, open it as you would any other file. See

"Creating a New Plan" on page 31. As soon as the file is open, use **Save As** 🖫 to save this file to another location.

Auto Save Files

As you work, Home Designer Landscape and Deck automatically creates Auto Save files at regular intervals when changes are made to a file but not saved by selecting **File> Save** 🖫.

These Auto Save files are appended **_auto_save.plan** and are saved in the Archive folder.

When you close a file normally, its Auto Save file is retained until the next time the file is opened - at which time the Auto Save file is overwritten.

🔳 JonesResidence_auto_save.plan

Auto Save file after normal shut-down

Auto save files created as a result of an improper program shutdown are appended **_auto_save_bak.plan**.

🔳 JonesResidence_auto_save_bak.plan

Auto Save file after abnormal shut-down

If your computer shuts down accidentally, you can recover some of your work by opening the **_auto_save_bak** file.

> ⚠ A file is auto saved only if you have saved it previously. Auto Save does not work for unnamed files.

When you reopen a file after a computer shut down or system crash, the following dialog displays if an Auto Save file newer than the original file is found.
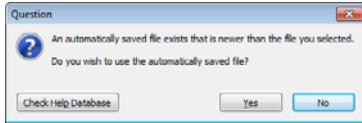
Even with Auto Save, you should save your work manually on a regular basis using any of the following methods:

*   Click the **Save** 🖫 button.
*   Select **File> Save** 🖫.
*   Press Ctrl + S on the keyboard.

Undo Files

Home Designer Landscape and Deck stores a set number of copies of all open plan file changes, known as undo files. Undo files are referenced whenever you select **Edit>**

Undo 🔙 or **Edit> Redo** 🔜. See "Undo and Redo" on page 92.

Undo files are stored in the Windows Temporary Directory. When you use

Windows system cleanup features, these files can be deleted. Because of this, you should only use these type of utilities when Home Designer Landscape and Deck is not running.

When Home Designer Landscape and Deck is closed normally, any current Undo files are deleted.

Opening and Importing Files

Opening and importing files are often similar tasks, but accomplish two very different things:

*   Opening a file refers to opening it in the program in which it was created. Only plan files can be opened in Home Designer Landscape and Deck. See "Compatibility with Other Programs" on page 30.
*   Importing a file brings data that was created in a different program into Home Designer Landscape and Deck. A number of different file types can be imported into Home Designer Landscape and Deck.

Select **File> Open Plan** to open an existing **.plan** file located on your computer. Home Designer Landscape and Deck automatically browses to the directory last used.

> ⚠ Never open a file located on a server or other computer on a network, or on a removable storage device. Copy such files to your local machine's hard drive first, and then open the copy.

The **Open Plan File** dialog can be resized by clicking and dragging the lower right corner.
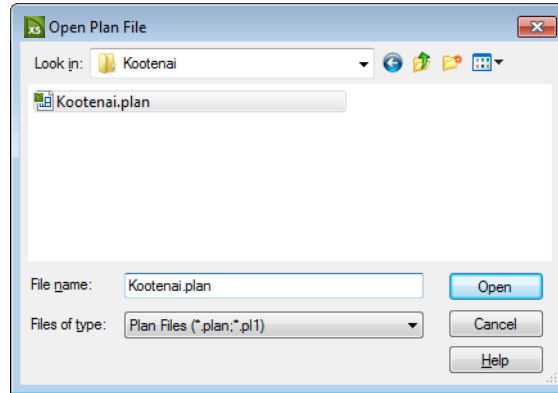
- In the **Look in** drop-down, browse to the location on your computer where the file you wish to open is saved.

- Any folders and **.plan** files in the current location display in the field below. The file type that displays depends on the Files of Type selection.

- Click on the file you wish to open. Its name will display in the **File name** text field.

- The only file type available in the **Files of type** list is **.plan**.

- When the desired file is selected, click **Open**.

Plan files open to the floor that was active when the file was last saved and closed.

Importing Files

Home Designer Landscape and Deck has a number of options for exporting and importing information out of and into your drawings. Often, file import dialogs are nearly identical to the **Open Plan File** dialog. See "Pictures, Images, & Walkthroughs" on page 357.

Similarly, file export dialogs are often similar to the **Save Plan File** dialog. See "Exporting Files" on page 33.

Recently Opened Files

The names of the plan files you most recently opened or saved display at the bottom of the **File** menu. Click on a recent file to open that file without using the **Open Plan File** dialog.

The names of recently open files also display in the **Startup Options** dialog. Click on the name of a file to open it. See "Startup Options" on page 18.

Backup Entire Plan

 Because Home Designer Landscape and Deck plans often contain many references to other external files, it is necessary to copy all the associated files to a

new location when a plan is moved. You can do this easily by selecting **File> Backup Entire Plan**.

Backing up an Entire Plan is important when:

• Migrating legacy files created in older program versions.

• Transferring files to another computer or sending them to another user.

• Archiving or backing up your work.

To back up a plan

1. To copy all associated plan files to a new directory, select **File> Backup Entire Plan** 📭. The **Backup Entire Plan** dialog opens for you to choose what files are copied.
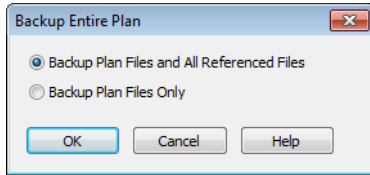
• Choose **Backup All Files** to copy all plan files and all externally referenced files such as linked plan files, inserted picture files, metafiles, and texture, image, and backdrop graphics files.

• Choose **Backup Plan Files Only** to copy all associated plan files and any externally linked files and inserted picture files, but no graphics or texture files. This is best used only when trans-

ferring a file to a computer that already has the graphics files installed.

2. When you click the **OK** button in the **Backup Entire Plan** dialog, the **Browse for Folder** dialog opens. Here you can select the destination folder for the associated plan files.
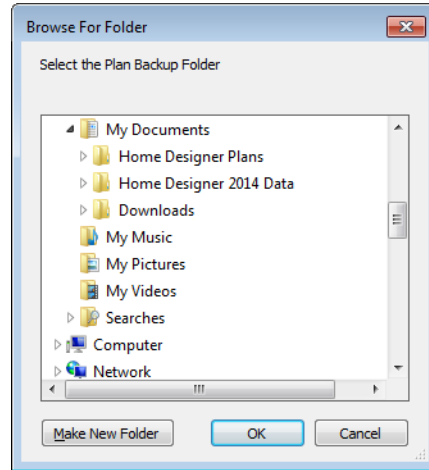
3. Navigate to any empty folder on your system and click on it to select it.

• To create a new folder, click on a folder already present on your system, then click the **Make New Folder** button.

4. With the destination folder for the backup selected, click **OK**.

⚠ You must select an empty folder for the Backup Entire Plan feature to work. If you select an existing folder that is not empty, the backup is cancelled.

Closing Views and Files

Choose **File> Close** to close the active window. If it is the last open view for a plan and you have not saved it, the program prompts you to save before closing.

Select **File> Close All** to close all currently open windows.

> Although the program warns you if you try to exit without saving, you should get in the habit of saving plan files before exiting.

Exiting Home Designer Landscape and Deck

Select **File> Exit** to exit the program. If you have not saved any open plans, you are reminded to do so. It is better to save your work before exiting than to save on exit.

When you exit from the program using **File> Exit**, all Autosave files and Undo files are automatically deleted.

Preferences & Default Settings

Preferences are global settings that affect the functionality and appearance of the Home Designer Landscape and Deck environment, while default settings control what objects look like when they are initially created. You can save time by becoming familiar with these settings and customizing them before you begin a new drawing.

Chapter Contents

- Default Settings vs Preferences
- Dynamic Defaults
- General Plan Defaults Dialog
- Preferences Dialog
- Angle Style Dialog

Default Settings vs Preferences

Default and preference settings have important effects on how the tools in Home Designer Landscape and Deck function. Default settings are file specific, while Preferences are global, taking effect regardless of what file is open.

Defaults and Preference settings can be customized to suit your needs and improve your efficiency, so it is recommended that you become familiar with them and learn how you can use them to your advantage.

Default Settings

Default settings determine the initial characteristics of objects when they are first drawn. For example, when you place a door in a plan, its size, materials, hardware are determined by settings in the **Door Defaults** dialog.

Defaults are file-specific, which means that any changes that you make to the default settings in one plan file will have no effect on other plans

You can access a complete list of the various default settings by selecting **Edit> Default Settings** from the menu.
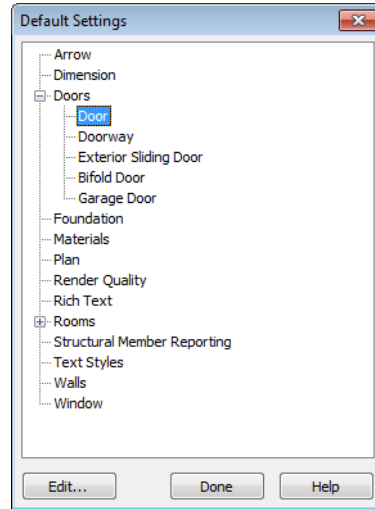
• To open the defaults dialog associated with an item in the list, double-click on the line item, or click on the item and then click the **Edit** button.

Preferences

Preference settings influence the overall environment of the program, such as what the interface looks like and how the tools are accessed. See "Preferences Dialog" on page 44.

Unlike default settings, preferences are global, which means that any changes that you make to them will take effect in all plan files.

To access the **Preferences** dialog, select **Edit> Preferences** from the menu.

Dynamic Defaults

Dynamic defaults are values that can be changed globally throughout a model.

- If you change a dynamic default value in a defaults dialog, all objects of that type that are set to use the default will update automatically to use the new value.

- Any objects of that type that are not using the default value because of editing will not be affected if you change the default.

Dynamic defaults are found in the default dialogs of a variety of objects, including dimension lines, walls, doors, cabinets and rooms.

Materials are another example of an attribute that uses Dynamic Defaults.

In object specification dialogs, dynamic defaults are followed by either a (D) in the value field or a Default check box.
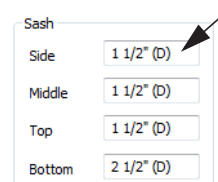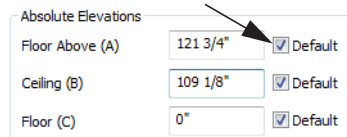
To edit a dynamic default, delete the (D) or remove the check from **Default** box and type the desired value.

To reset a value back to the dynamic default, type the letter D in the field or click the Default checkbox.

General Plan Defaults Dialog

The settings in the **General Plan Defaults** dialog control basic features of the Home Designer Landscape and Deck environment. To open this dialog, select **Edit> Default Settings** 🔧, select **Plan**, and click the **Edit** button.
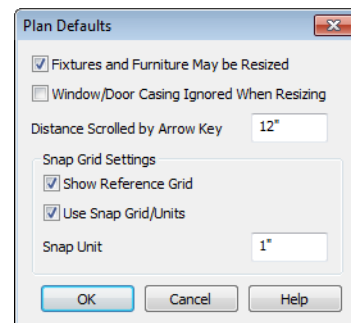
- Check **Fixtures and Furniture May be Resized** to display side edit handles on selected fixtures and furniture so you can

resize them. Clear this option to display only Move and Rotate edit handles. See "Editing Box-Based Objects" on page 80.

Changes made to fixture/furniture sizes are not reflected in the Materials List because the Materials List refers to objects by their labels, not by their physical dimensions. If you resize a fixture or furniture object, the correlation between its label and its actual physical dimensions is no longer accurate.

• Casing is the trim that surrounds a door or window. When you resize a door or window, its sides are kept away from intersecting walls by the width of the casing. Check **Window/Door Casing Ignored When Resizing** to ignore the casing so

that doors and windows can be moved or resized flush against an intersecting wall.

• **Inches Scrolled by Hotkeys** determines how far your plan will scroll when you press an arrow key. The initial default is 12 inches (300 mm).

• Check **Show Reference Grid** to display the Reference Grid, the virtual graph paper used to create a sense of scale in floor plan view.

• Check **Use Snap Grid/Units** to enable Grid Snaps, which snaps objects to a grid as you draw or edit them. See "Grid Snaps" on page 61.

• Specify the **Snap Unit**: the increments at which you want snapping to occur. The initial default is 1 inch (10 mm).

Preferences Dialog

The settings in the **Preferences** dialog are global: they apply to all plan files and are preserved between sessions. To access this dialog, select **Edit> Preferences**.

The **Preferences** dialog consists of panels which are accessed by clicking on the names in the Category tree along the left side.

The category tree structure is similar to other Windows programs. A "+" next to a category indicates that it has subcategories. Click the "+" to make the subcategories visible; to hide them, click the "-."

The program remembers which panel you last accessed and opens to that panel the next time you open the dialog.

Preference dialog panels:
• Appearance Panel
• Colors Panel
• Library Browser Panel
• General Panel
• Folders Panel
• Edit Panel
• Render Panel
• Video Card Status Panel
• Reset Options Panel

Appearance Panel
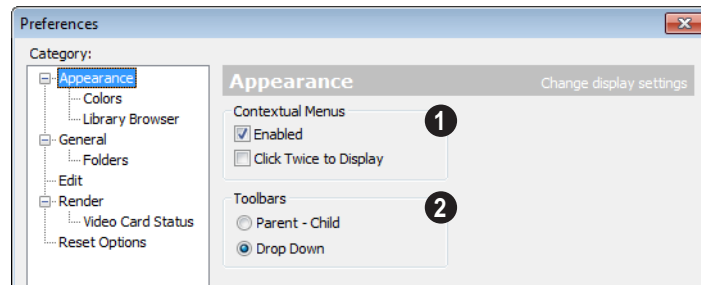
1 When **Contextual Menus** are enabled, you can right-click an object and a contextual menu displays with options that are unique to the selected object. The options in a contextual menu are usually the same as those on the Edit toolbar.

A menu of general commands displays if you right-click in an empty space in a view window, away from any object.
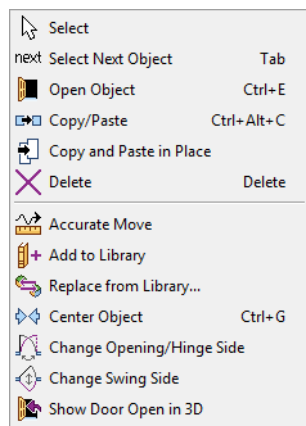
The contextual menu for a door

Since Home Designer Landscape and Deck can use the right-click as a general select,

you have the option to disable or limit the contextual menus.

- Check **Enabled** to activate contextual menus. Clear the check box to disable contextual menus.

- Check **Click Twice to Display** to require two right-clicks on an object before the contextual menu displays. This allows the first right-click to be a general select. See "Selecting Objects" on page 68.

  In 3D views, the two clicks must be on the same object surface in order for the contextual menu to display: Clicking on two different surfaces of the same object is treated like two single-clicks.

2 Specify how **Toolbars** present child tools when a parent button is clicked.

- Choose **Parent-Child** to display child tools as buttons at the end of the toolbar where the parent button resides.

- Choose **Drop Down** to display child tools when the drop-down arrow to the right of the parent button is clicked.

Colors Panel
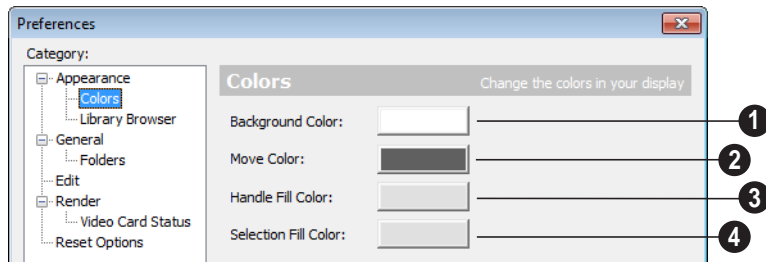
Click a color bar to open the **Color Chooser** dialog. See "Color Chooser Dialog" on page 300.

1 **Background Color** - Click the color bar to select the background color for floor plan view.

The background color for 3D views that do not use or a backdrop image is set in the **3D Backdrop** dialog. See "3D Backdrop Dialog" on page 310.

2 **Move Color** - Click the color bar to select the color of the lines that represent object(s) as they are being moved.

3 **Handle Fill Color** - Click the color bar to select the color for the edit handles for selected objects.

4 **Selection Fill Color** - Click the color bar to specify a color for selected objects. The color may change to ensure that selected objects are always visible, so this may not always be the color you expect.

⚠ If the move color and the handle fill color are similar, it may be difficult to distinguish between active and inactive points. The colors should be sufficiently dissimilar to avoid confusion between active and inactive points.

Library Browser Panel

The Library Browser panel controls the appearance of the Library Browser window. See "The Library Browser" on page 272.
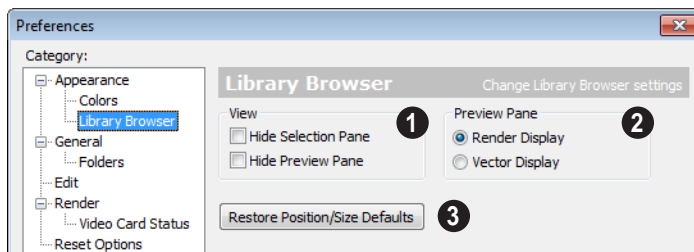
1 **View** options control the display of the main sections of the Library Browser.

- **Hide Selection Pane** - Check to hide the pane that displays objects in a selected library or library folder.

- **Hide Preview Pane** - Check to hide the pane that shows a preview of a selected object.

2 **Preview Pane** - Specify how selected library items look in the Preview Pane.

- **Render Display** - Library items previews display textures and appear as they do in 3D views.

- **Vector Display** - Library item previews are line-based and display patterns.

3 Click the **Restore Position/Size Defaults** button to restore the original position and size of the Library Browser: docked on the right side of the Home Designer Landscape and Deck window.

General Panel
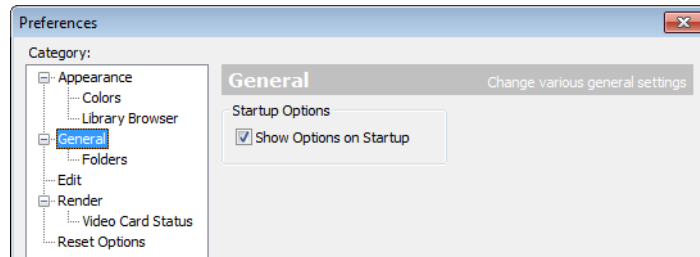
Check **Show Options at Startup** to open the **Startup Options** dialog when Home Designer Landscape and Deck is launched. See "Startup Options" on page 18.

Folders Panel
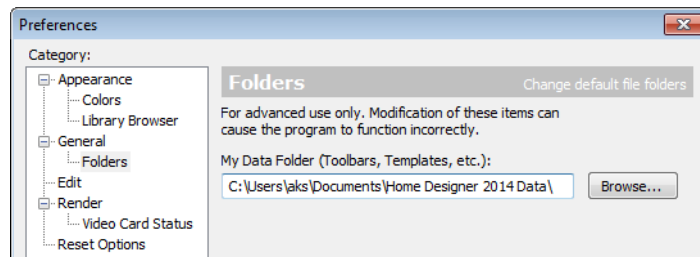
Important user-specific information is saved in a folder on your computer called **Home Designer Landscape and Deck 2014 Data**. This folder contains custom library content, toolbars, template files, archive files, and other important data and is located in My Documents by default. See "Home Designer Landscape and Deck Data" on page 31.

While you cannot change the name of this directory, you can change its location. To avoid unexpected results, it is best to use a location on your local hard drive.

If you move this folder on your computer without specifying its location here, the program will automatically replace it using default information from the Home Designer Landscape and Deck installation folder. The same result will occur if you specify a location on a network or removable device and this location becomes inaccessible. When this occurs, customized user settings will not be used and custom library content will not be available.

Edit Panel
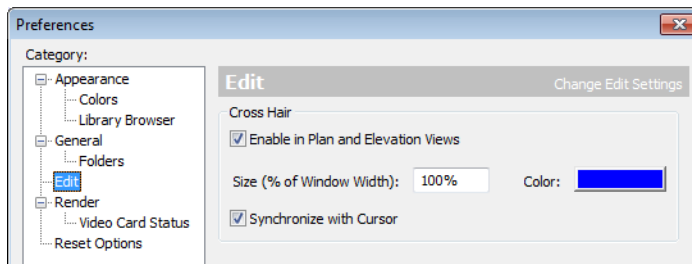
Use a cursor with **Cross Hairs** and control its appearance.

- Check **Enable in Plan and Elevation Views** to use a cross hair cursor in floor plan view. This option is checked by default.

- Click the **Color** bar to open the **Color Chooser** dialog and specify the color of the cross hairs.

- Cross hair size is specified as a percentage of the width of the view window. Specify the **Size (% of Window Width)** as 100% to extend the cross hairs across the entire screen.

- When **Synchronize with Cursor** is checked, the mouse pointer and cross hairs always move together on screen. If you feel that they do not keep up with your mouse movements, try unchecking this option.

Render Panel
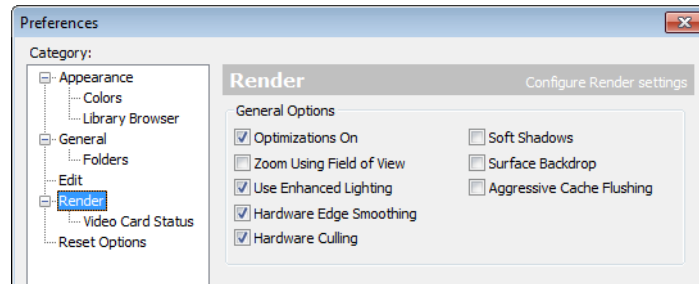
- **Optimizations On** saves rendering data to your video card, which speeds up rendering time. This option may cause problems if the rendering data for your model exceeds the video card's memory.

  If your computer stops responding when rendering, try unchecking **Optimizations On**. This slows down rendering time considerably, though, so if the problem is not solved, leave this check box selected.

- **Zoom Using Field of View** directs the program to zoom in 3D views by adjusting the camera's Field of View, which can result in perspective distortion. See "Field of View" on page 319.

  When **Zoom Using Field of View** is unchecked, zooming in 3D views is done by cropping or expanding the view's extents. See "Zooming" on page 319.

- When **Use Enhanced Lighting** is checked, Standard rendered views generate lighting effects that require a video card that supports OpenGL 2.0. Unchecking this box may speed up Standard rendering times somewhat; however, the quality of lighting effects will be reduced. Not available if your video card does not

support OpenGL 2.0. See "OpenGL and Hardware" on page 310.

- **Hardware Edge Smoothing** uses the video card to remove the jagged edges that sometimes result along surface edges, producing cleaner lines. Not available if your video card does not support this feature.

- **Hardware Culling** improves rendering times by preventing surfaces not actually visible in the scene from being generated. On some systems, this setting may slow down rendering times. If unchecking it does not solve the problem, though, leave this check box selected. See "System Requirements" on page 7 of the User's Guide.

- **Soft Shadows** displays shadows with soft edges instead of hard edges in **Final Views with Shadows** 🏠. See "Rendering Tips" on page 325.

- **Surface Backdrop** generates the backdrop image using hardware acceleration. For some graphics cards, this option improves rendering speed considerably.

- **Aggressive Cache Flushing** regularly flushes cached video memory, which may be helpful for older video cards. On most

systems, unchecking this box will produce faster rendering times.

Video Card Status Panel

The Video Card Status panel displays information about your video card, including the vendor and the version of OpenGL it uses. See "OpenGL and Hardware" on page 310.

This information may be important if you are having problems generating 3D views.

Notice the information following the **Acceleration** label. If your video card supports hardware acceleration for OpenGL,

this says "Installed Client Driver." If it does not, it says "No Hardware Acceleration." There is a significant difference in speed between rendering with acceleration and without.

The **Max Lights** value indicates how many lights you can have turned on at any given time when generating a 3D view. This value should be 8 or higher, depending on your video card. See "Lighting" on page 326.

Reset Options Panel
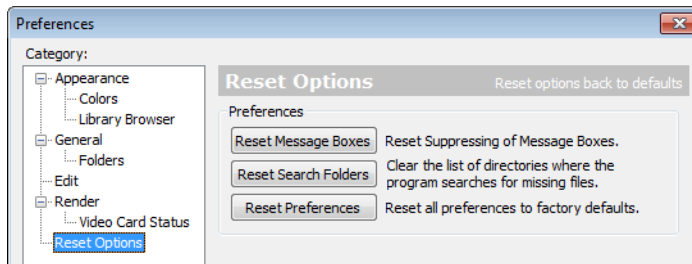
If message boxes have been suppressed, you can make them display again by clicking **Reset Message Boxes**.

Home Designer Landscape and Deck retains a list of locations where you have located missing files in the past. If you find that the program takes a long time to search for files

before informing you that they are missing, you can click the **Reset Search Folders** button to clear this list.

Click the **Reset Preferences** button to restore all preferences to those that originally came with the program. For the reset to take effect, you will need to restart the program.

Angle Style Dialog

At the bottom of the **Terrain Specification** dialog, you can click the **Angle Style** button

to open the **Angle Style** dialog. See "Terrain Specification Dialog" on page 236.

The settings in this dialog are global and control the format of distances, coordinates and angles of angles in dialog boxes as well as in the Status Bar. See "The Status Bar" on page 24.

These settings control the format of values used in dialogs but do not limit how you can enter these values. For example, if you set your Number Style to use Inches, values will display using fractional inches. You can, however, enter values using decimal inches, inches and feet, or even decimal feet. When the dialog you're typing in updates, the value will be converted to fractional inches.
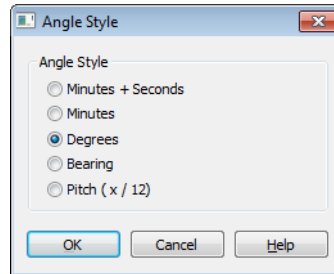
Angles can be displayed using one of five methods:

- **Degrees/Minutes/Bearings** - Measured counterclockwise from a line drawn horizontally to the right of the angle's vertex. Useful for most drawing tasks. Select the level of accuracy that you require.

- **Bearings** - Measured from a vertical line representing North/ South, Quadrant Bearings use directional bearings in their measurements. Useful for site drawings.

- **Pitch** - Defined as a ratio of vertical rise to horizontal run. In Imperial units, the run is always 12"; in metric units it is 1000 mm.

Toolbars & Hotkeys

Two of the most efficient ways to access Home Designer Landscape and Deck's tools are the toolbars and keyboard shortcuts, also referred to as hotkeys.

Toolbars are organized into configurations, which are basically collections of multiple toolbars arranged for use during specific drawing tasks. Within a given toolbar configuration, buttons are arranged so that similar tools are located near one another.

Chapter Contents
- Toolbar Arrangement
- Hotkeys

Toolbar Arrangement

Toolbars can be viewed in Drop-Down or Parent-Child arrangement. You can specify which to use in the **Preferences** dialog. See "Appearance Panel" on page 45.

Drop-Down toolbar buttons have an arrow to the right of the button that accesses additional, related tools.
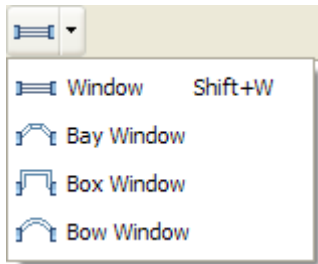
Alternatively, you can use the Parent-Child toolbar arrangement. In this arrangement,

you select a "parent" button to display its "child" buttons to the right.

Moving Toolbars

You can, if you wish, move any toolbar to a different location. Toolbars can be docked to any side of the program window, or they can be undocked and left floating. Undocked toolbars can also be moved outside of the program window.

The location of moved toolbars is not saved between program sessions. The next time you use Home Designer Landscape and Deck, the toolbars will be back in their original locations.

Hotkeys

Many Home Designer Landscape and Deck tools have a keyboard shortcut, or hotkey, associated with them. If such a hotkey exists, it will display to the right of the tool's name in the menu.
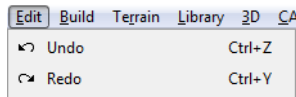
Edit menu items with button icons
to the left and hotkeys to the right

To use a hotkey, simply press the appropriate key or combination of keys on your keyboard instead of selecting the menu item or clicking the toolbar button. For example, press the Ctrl and Z keys at the same time to perform an **Undo**.

Layers

Layers are used to organize and manage the display of all objects in all views. A layer can be thought of as a transparency sheet with objects placed on it for viewing. Nearly all views use multiple layers, like a stack of transparencies put together to show different types of objects.

You can customize how each layer displays in a particular view in the **Display Options** dialog.

Multiple layers are organized into Layer Sets, which allow you to control which objects display in different views.

Chapter Contents

Displaying Objects

The display of objects in different views is controlled by layer sets and layers in the **Display Options** dialog. See "Display Options Dialog" on page 57.

Primary and Secondary Layers

Every object is placed on a layer which controls whether it displays in a given view. This layer is referred to as the object's primary layer.

In addition, some objects have secondary layers which may alter the appearance of objects on the primary layer, but do not control whether the objects display or not.

For example, the primary layer for plants is "Plants". In addition, plants have a secondary layer, "Plants, Labels", that controls the display of their labels.

> Note: If an object's primary layer is turned off, information on its secondary layers will not display - even if those layers are turned on.

All layers with a check in the "Disp." column display when the current layer set is active. Objects that are not displayed cannot be seen or selected. If you try to place or draw an

object on a layer that is hidden, the program asks if you want to turn the layer on.
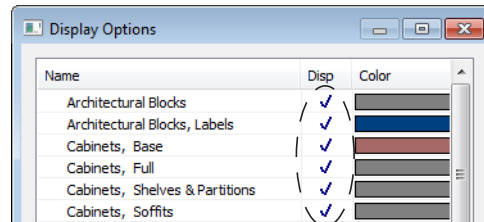
Some objects cannot stand alone in a drawing: they can only be inserted into another object. If the display of an object that contains an inserted object is turned off, the display of the inserted object will be turned off, as well For example, if the display of a wall is turned off, any doors and windows in that wall will not display either. See "Inserted Objects" on page 285.

The **Color** attribute assigned to a layer determines how the lines representing objects on that layer appear in floor plan view.

Many objects, including terrain and text objects, allow you to override the line color without changing the layer's color attribute.

Layer Sets

Layer Sets are used to control the layer settings for different views in a plan file.

A layer set consists of a complete list of the layers in the current plan along with the display settings for each layer as set for a particular type of view. These display

settings can be modified, and can be different for each type of view. See "Display Options Dialog" on page 57.

Layer sets are file specific, which means that changes made in one plan file have no effect on the settings in other files.

Home Designer Landscape and Deck uses a different layer set for the each type of view of your plan:

• Floor plan view.

• Camera views and Overviews. See "3D View Tools" on page 311.

• Reference Display. See "The Reference Floor" on page 166.

While any view is active, select **Tools> Display Settings> Display Options** ☑ to

make changes to the layer set used for that view type.

Any changes made to settings in the **Display Options** dialog for one particular view will affect all views using that same layer set. For example, if you make changes for a camera view, all camera views and overviews in the current plan will be affected. See "Display Options Dialog" on page 57.

Display Options Dialog

☑ The display of objects in all views is controlled in the **Display Options** dialog. To make changes to the display settings for a particular type of view, open a view of that type and select **Tools> Display Settings> Display Options**.

If the display of a particular layer is turned off and an object assigned to that layer is placed in the plan, the program will

automatically ask you if the layer should be turned on so that the new object will be visible. After you make your choice, the object will be created - even if you select "No."

Only displayed objects are included whenEMF files are exported, and only displayed objects print.
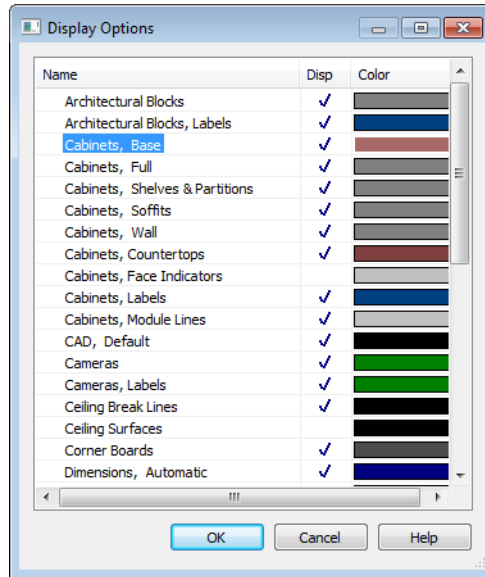
- Remove the check from the "Disp." column to turn off the display of a category of objects in the current view.

- Click a color bar to open the **Color Chooser** dialog and set the display color for objects on that layer in floor plan view. See "Color Chooser Dialog" on page 300.

- Click on a column header to sort all layers by that column. Click again to sort in reverse order.

- Click the size grip at the lower right corner and drag to resize the dialog box.

Note: Not all objects display in all views. For instance, door labels do not appear in 3D views.

Creating Objects

There are a wide variety of objects in Home Designer Landscape and Deck that you can use to create 3D models and plan drawings. Although these objects are sometimes very different from one another, the methods used to create them are similar.

Once an object is created, it can be selected and edited to meet the requirements of your project. The editing characteristics common to most objects are described elsewhere. See "Editing Objects" on page 67.

Chapter Contents
- Architectural vs CAD Objects
- Snap Behaviors
- Object Snaps
- Angle Snaps
- Grid Snaps
- Creating Objects
- Copying and Pasting Objects

Architectural vs CAD Objects

There are two broad categories of objects in Home Designer Landscape and Deck: architectural objects and CAD objects.

Text, text lines with arrows, and dimensions are 2D CAD objects that can be created and edited in floor plan view but do not display in 3D camera views and overviews. See "Dimensions" on page 331 and "Text" on page 343.

In contrast, architectural objects such as walls, doors, windows, and stairs display in 2D and 3D views.

Some architectural objects, such as terrain features, have some behaviors in common with CAD objects and are referred to as CAD-based.

Snap Behaviors

There are three categories of snap behavior in Home Designer Landscape and Deck that affect how objects are created and how they can be edited:

- **Object Snaps**, which snap objects to other objects.

- **Angle Snaps**, which snap objects at specific angles.

- **Grid Snaps** , which snap objects to points on a grid.

You can select **Edit> Snap Settings** to quickly turn Object, Angle and Grid Snaps on or off.

To temporarily disable Snap Behaviors and other move restrictions, press the Ctrl key while dragging an edit handle. See "Moving Objects" on page 85.

Object Snaps

Object Snaps allow you to position objects precisely relative to each other; for example, to position lines so that their endpoints meet.

Object Snaps can be turned on or off by selecting **Edit> Snap Settings> Object Snaps**.

There are many locations on an object that other objects can snap to.

- Object endpoints and corners

- The midpoints of object edges

- Object center points

- Intersection points where an object drawn at an allowed angle meets another object.

In addition, **On Object** snapping occurs anywhere on an object's edges and is most noticeable when Angle and Grid Snaps are turned off.

When multiple objects are selected, the selection set's only snap point is its midpoint.

Extension Snaps

Extension snaps allow you to snap to a point that is not actually on an object. Instead, these snaps locate points that are either colinear to the end of a wall or orthogonal (at a 90° angle) to it.

Extension snaps function when you are drawing or editing walls and create a "sticky point" where the wall being drawn reaches a point that is either colinear or orthogonal to another wall's end point. See "Drawing Walls" on page 99.

Angle Snaps

It is often important that objects be drawn at exact angles. This can be accomplished using **Angle Snaps**.

Angle Snaps allow you to draw lines, walls, and other objects at angles in 7.5° increments. Angle Snaps also affect the way objects rotate, the radius of arcs, and a variety of other operations.

Angle Snaps can be turned on or off by selecting **Edit> Snap Settings> Angle Snaps** .

Grid Snaps

Grid Snaps allow you to snap objects to points on an on-screen grid. The display and size of this Snap Grid can be controlled in the **Plan Defaults** dialog. See "General Plan Defaults Dialog" on page 43.

In addition to the Snap Grid, the **Reference Grid** is provided to give you a visual sense of scale. The Reference Grid is composed of 12" x 12" squares and is useful for zooming in and out, or for general layout guidelines, but is not used for snapping.

Snap Unit is set to 12" (1 foot), drawing a new wall at an Allowed Angle snaps the wall length to 0", 12", 24", and so on.

> To draw a line or wall at an Allowed Angle but with unrestricted length, disable Grid Snaps and leave Angle Snaps on.

Grid Snaps and Angle Snaps

Of the three snap behaviors, Grid Snaps have the lowest priority and are overridden by Angle Snaps and Object Snaps.

When Grid snaps and Angle Snaps are both enabled, objects are drawn and edited using Polar Coordinates. For example, if the grid

Creating Objects

In Home Designer Landscape and Deck, there are three ways to create objects: by clicking to place an object, by clicking and dragging to draw an object, or by importing custom symbols, pictures or metafiles.

If you create an object using any of these methods and the layer it will go on is turned off, the program will ask you if you want to display the layer. See "Object Creation and Layers" on page 63.

While the size of the drawing area in Home Designer Landscape and Deck is limited only by the resources on your computer, it is best to begin your drawing near the origin, 0,0,0. The current position of your mouse pointer displays in the Status Bar at the bottom of the program window. See "3D Drafting" on page 19.

Click-to-Create

Many objects, including doors and windows, library symbols, terrain objects, text, pictures and images are created by clicking. Select a or library object, then click in the drawing area to place the object at that location.

Continue clicking to place the selected object until another tool is selected.

If you click at a location where there is not enough room for the object to be placed, one of two things may happen:

- Some objects, notably doors, and windows, will resize smaller to fit into the space.

- Most objects cannot resize in this manner, so the program will present a warn-

ing message indicating that there is not sufficient space at the current location.

When most drawing tools are active or library symbols selected for placement, a preview outline follows your mouse pointer, indicating the size and shape of the object to be created. If your pointer is positioned at a location where the object cannot be placed, this preview outline will not display.

As you move the mouse pointer, the center point of the object's back edge will snap to active snap points when **Grid Snaps** or **Object Snaps** are enabled. See "Snap Behaviors" on page 60.

Many architectural objects can be created in floor plan view or any 3D view. In order to place a stand-alone, click-to-create object in 3D, it is necessary to click near a wall or within the Terrain Perimeter as these objects help orient the new object within the 3D space.

Clicking and Dragging

Other objects, including walls and railings, straight stairs, and terrain features are created by clicking and dragging to define either a path or an enclosed area. Select a tool, then click and drag in the drawing area to draw an object between your start and end points.

Continue drawing the selected object until another tool is selected.

You can temporarily slow the movement of the mouse as you drag by holding down the Shift key on your keyboard..

You can cancel any click-and-drag drawing operation before it is completed by pressing the Esc key on your keyboard, or by pressing any two mouse buttons at the same time.

Importing Objects

Custom symbols, pictures and metafiles can be imported into the program and placed in the drawing area with a click. See "Importing 3D Symbols" on page 369 and "Pictures, Images, & Walkthroughs" on page 357.

Object Creation and Layers

When it is created, every object is placed on a layer which controls whether and how it displays. See "Layers" on page 55.

If you try to create an object on a layer that is not set to display in the current view, the program will ask if you want to turn that layer on. See "Message Boxes" on page 24.

- Click **Yes** to create the object and turn on its layer in the current view.
- Click **No** to create the object but leave its layer turned off in the current view.
- Click **Cancel** to not create the object and leave the layer turned off.

Copying and Pasting Objects

New objects can also be created by cutting, copying, and pasting existing objects, either individually or in groups. Objects can be copied from one floor to another, one view window to another, and one file to another. Because copying uses the Windows Clipboard, some objects can be pasted into other applications, as well.

Objects cannot be pasted into any views that they cannot be created in normally. For example, text cannot be pasted into a 3D camera view or overview.

A few objects, such as Terrain Perimeters and camera symbols, cannot be copied.

Cut

Select **Edit> Cut** to remove the selected object(s) from the file and save them in the Windows Clipboard. To paste the selection in Home Designer

Landscape and Deck or another application, select **Edit> Paste** or press **Ctrl + V** while in that application to enable the Paste function.

Copy

Select **Edit> Copy** to copy the selected object(s) to the Windows Clipboard. To paste the selection in Home Designer Landscape and Deck or another application, select **Edit> Paste** or press **Ctrl + V** while in that application to enable the Paste function.

Paste

Select **Edit> Paste** to enable Paste mode, then left- or right-click in the current view to paste the selected object(s) previously copied to the Windows Clipboard at that location.

Once pasted, these object(s) are selected. Objects pasted in 3D views are selected on their top surfaces.

If the selection being pasted consists of text, it is placed in a Text object.

Copy/Paste

Click the **Copy/Paste** edit button to copy the selected object(s) to the Windows Clipboard and immediately enable the **Paste** function in Home Designer Landscape and Deck.

The **Copy/Paste** edit button activates Paste mode in which each available edit tool and handle makes a copy in addition to its primary function and four new edit buttons display on the edit toolbar.

- Click the **Sticky Mode** edit button remain in the current mode and place multiple copies of the selected object(s).

- Click the **Main Edit Mode** edit button or press the Esc key to return to the selected objects's main edit toolbar.

If you paste a selection in a file other than its original source file, when you return to the original, Paste mode is still enabled.

The **Copy/Paste** edit button can be used with the edit handles in either of two ways: by clicking or by dragging an edit handle.

To Copy/Paste by clicking

1. Select an object or objects to copy.

2. Click the **Copy/Paste** edit button, select **Edit> Copy** from the menu or press **Ctrl** + **C** to copy and then **Ctrl** +

V to activate the Paste functionality. The cursor displays the Copy/Paste icon.

3. If you wish to paste the copy in a different view or program window, open that window.

4. If your cursor does not display the Copy/Paste icon, select **Edit> Paste** from the menu or press **Ctrl** + **V**.

5. Left- or right-click once to paste a copy of the object at that location.

To Copy/Paste by dragging

1. Select an object or objects to copy.

2. Click the **Copy/Paste** edit button, select **Edit> Copy** from the menu or press **Ctrl** + **C**. The cursor displays the Copy/Paste icon.

3. Drag an edit handle:
   - Drag the Move edit handle to position the copy at a new location.

4. You can position the copy accurately with respect to the original by watching the moved distance in the Status Bar at the bottom of the screen.

Sticky Mode

Normally, after an action is performed using the edit tools or handles while in an edit mode such as Paste mode, you return to the Main Edit Mode. Click the **Sticky Mode** edit button to remain in Paste mode and continue pasting copies of the selected object(s).

To exit Paste mode and return to the main edit toolbar for the selected object, click the **Main Edit Mode** edit button or press the

Esc key on your keyboard. If you have not pasted a copy of the selected object and immediately click **Copy/Paste** ⏩ after returning to the Main Edit Mode, **Sticky Mode** 📌 is still enabled.

Copy and Paste in Place

Click the **Copy and Paste in Place** edit button to create a copy of the selected object(s) at the same location as the original. The copy remains selected so you can perform additional operations.

Because multiple walls, railing and fencing cannot share the same space, the **Copy and Paste in Place** 📋 edit button is not available for these objects.

Paste Hold Position

When copying between different floors or view windows, you can paste a copy at the same absolute position as the original selection using **Paste Hold Position**.

To use Paste Hold Position

1. Select the object(s) to be copied.

2. Click the **Copy/Paste** ⏩ edit button.

3. Switch to the desired floor or plan file and select **Edit> Paste> Paste Hold Position** 🔲.

4. A copy is placed at the same X, Y coordinates on the new floor or in the new plan as the original's position.

Paste Special

The **Paste Special** tool allows you to choose a representation for the selection to be pasted.

Selections can be pasted as:

- Enhanced Windows Metafiles (EMF). See "Metafiles" on page 364.

- Device Independent Bitmaps (BMP). See "Importing Pictures" on page 363.

- Unformatted non-unicode text (TXT).

- File Name (a path to a file). Depending on the file type, it will be either opened or imported (if supported).

- Unformatted text (HTML). Pastes as text.

- Model Objects - Home Designer Landscape and Deck format, not compatible with other programs.

To use Paste Special

1. Select an object, image, text or file on your computer and copy it.

2. Switch to the desired Home Designer Landscape and Deck view window and select **Edit> Paste> Paste Special** 🔲.

3. In the **Paste Special** dialog, select the desired representation for the selection and click OK.

4. Click in the drawing area to place the copy at that location.

Copy Region as Picture

The **Copy Region as Picture** tool allows you to copy any portion of the screen and save it as a picture. See "Copy Region as Picture" on page 367.

Editing Objects

Just as the methods used to create different objects in Home Designer Landscape and Deck are similar, the options for moving, rotating, resizing, and otherwise editing them are also alike.

Edit handles allow objects to be resized, relocated, or rotated using the mouse. Edit toolbar buttons and the contextual menus access edit tools relevant to the selected object(s). Most objects have a specification dialog that allows you to edit it in ways that are specific to that type of object.

The editing characteristics common to most objects are described in this chapter. Unique, object-specific editing behaviors and the specification dialogs are covered in their respective chapters.

Chapter Contents

- Selecting Objects
- Editing Line Based Objects
- Editing Arc Based Objects
- Editing Open Polyline Based Objects
- Editing Closed-Polyline Based Objects
- Editing Box-Based Objects
- Editing Spline Based Objects
- Displaying Objects
- Moving Objects
- Aligning Objects
- Resizing Objects
- Reshaping Objects
- Rotating Objects
- Deleting Objects
- Undo and Redo

Selecting Objects

"Select" refers to selecting an object for editing. An object must be selected before it can be edited.

In order for an object to be selected, it must be visible in the current view. See "Layers" on page 55.

When an object is selected, it displays edit handles and a grey selection fill color. In 3D views, a selected object will also display lines representing the selected edge or surface. The size of the edit handles does not change as you zoom in or out. To prevent them from stacking on one another, some edit handles may not display as you zoom away from the selected object.

When an object is selected, its edit toolbar also displays, typically on the upper left side of the Home Designer Landscape and Deck program window. See "The Edit Toolbar" on page 22.

Information about the selected object or objects may also display in the Status Bar. See "The Status Bar" on page 24.

A selected object remains selected until another object is selected, a different tool is activated, the Esc key on the keyboard is pressed, or any two mouse buttons are pressed at the same time.

Select Objects

Any object created using Home Designer Landscape and Deck can be selected using the **Select Objects** tool. Select **Edit> Select Objects**, click the toolbar button or press the **Space** bar on your keyboard to activate this tool, then click on an object to select it.

You can also select objects or open context sensitive menus using the right mouse button when any tool is active.

Selecting Similar Objects

If a tool other than **Select Objects** is active, you can only select objects of that type using the left mouse button. For example, if the **Straight Wall** tool is active, you can only select walls using the left mouse button.

This can be useful for selecting an object when many objects of a different type occupy the same space in floor plan view.

Objects can be selected using the right mouse button, regardless of which tool is active.

Right-Clicking

Regardless of which tool is active, you can select an eligible object by right-clicking on it once. When you right-click to select an object a contextual menu also appears, displaying the object's edit tools. See "Contextual Menus" on page 23.

If a drawing tool is active and you right-click to select an object, you can unselect it by left-clicking in an empty space in the drawing area. Although a drawing tool is active, it is not used. If you then left-click a second time, the active tool will be used.

Selected Edge

When you click on a polyline- or box-based object, the edge that you click nearest becomes the selected edge and displays an edit handle larger than those on other edges. The handle on this edge may also display at the point where you clicked to select it.
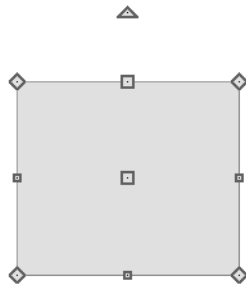
This edge can be edited on the Selected Line or Selected Arc tab of the object's specification dialog. See "Moving Objects Using Dimensions" on page 339, "Selected Line Tab" on page 206 and "Selected Arc Tab" on page 207.

Select Next Object

If there is more than one object in a particular space, it may be difficult to select the desired object. When a nearby object is selected, click the **Select Next Object** edit button or press the Tab key until the desired object becomes selected. This function cannot be applied to groups of selected objects.

Marquee Select

Groups of objects can be selected by holding down either the Shift or Ctrl key when the **Select Objects** tool is active and then

dragging a marquee around the objects to be selected. An object does not need to be completely enclosed by the marquee to be selected: it will be selected if the marquee includes only a small portion of it.

If an object is currently selected and a selection marquee is drawn around it, that object becomes de-selected. If an object is currently selected and a marquee is drawn around other objects, the original object remains selected and the other objects are added to the selection set.

When using the marquee-select method, both text and architectural objects included in the marquee are selected. To remove an object from the selection set, hold down the Shift key and click it.

The Shift key can also be used to marquee-select objects of a similar type. For example, click the **Hinged Door** child button, hold down the Shift key, drag a marquee, release the mouse button, and only door objects within the marquee are selected. The Ctrl key will always marquee-select objects of all types, regardless of the active tool.

To make marquee selection easier, you can turn off the display of objects you do not want to include in your selection set. See "Displaying Objects" on page 56.

Shift Select

You can select a group of objects by adding them to the selection set one by one. Select an object, hold down either the Shift or Ctrl key, and click additional objects to select them.

More than one type of object can be selected using this method, but the ability to edit the

group-selected items is limited to attributes that all selected objects have in common.

To remove an object from a selection set, click it once more - again, with either the Shift or Ctrl key pressed.

Edit Area

The **Edit Area** tool allows you to quickly define an area of your plan and select the objects in that area. Once selected, they can then be repositioned, rotated, or deleted. Select **Edit> Edit Area**, then click and drag a rectangular marquee around the area that you would like to move.

Unlike other selection methods, the **Edit Area** tool cuts walls, railings and fencing where the selection marquee intersects them, allowing you to edit only the selected portion of these objects.

Some objects, such as cabinets, are included in the selection only if more than half of the object is contained within the marquee.

Editing Line Based Objects

Objects are considered line-based when they can be resized along one axis using the edit handles.

Elevation lines, straight walls and railings, straight stairs and straight roads are examples of line-based objects.

Most line-based objects can be connected to other like objects to form polyline-based objects. See "Editing Open Polyline Based Objects" on page 75 and "Editing Closed-Polyline Based Objects" on page 78.

Some objects, notably walls, have line-based editing behavior only when selected on certain surfaces. See "Editing Walls" on page 104.

Wall openings such as doors and windows have line-based editing behavior in floor plan view only but cannot be rotated, reversed or converted to an arc. See "Editing Doors" on page 135 and "Editing Windows" on page 151.
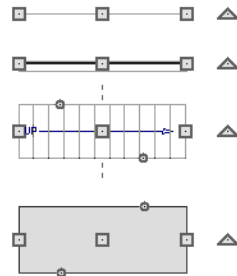
Other objects, such as stairs and roads, have additional edit handles that allow you to concentrically adjust the object's width.

Using the Edit Handles

When selected, a typical line-based object displays four edit handles.

Any action performed using the edit handles can be cancelled by pressing the Esc key or any two mouse buttons at the same time.

Move

- Movement may be limited or stopped by other objects or Snap Behaviors. Move

restrictions can be overridden by holding down the Ctrl key while dragging. See "Unrestricted Movement" on page 86.

Rotate

• The **Rotate** handle is used to rotate the object about its center. See "Rotating Objects" on page 90.

Extend/Change Angle

• Drag an end handle parallel to the selected line to change its length.

• Drag an end handle at an angle to the selected line to change its angle. When

Angle Snaps 〖 are on, the line snaps to Allowed Angles. See "Angle Snaps" on page 61.

Adjust Width

Some line-based objects, such as stairs and roads, have additional handles that allow the width of the object to be adjusted.

Adjust Width
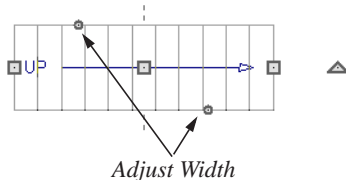
• Click and drag a small, round **Expand** handle to increase or decrease the object's width. By default, objects are resized in 1" increments. This Snap Unit is defined in the **Plan Defaults** dialog. See "General Plan Defaults Dialog" on page 43.

Using Dimensions

Dimensions can be used to position line-based objects relative to other objects. See "Moving Objects Using Dimensions" on page 339.

Dimensions cannot, however, be used to adjust the length of line-based objects, or the width of line-based objects such as stairs.

Using the Specification Dialog

Line-based objects can be edited using their specification dialogs. See "Specification Dialogs" on page 24.

Using the Edit Toolbar

A selected line-based object can be edited in a variety of ways using the buttons on the edit toolbar.

The following toolbar buttons may display on the edit toolbar for a selected line-based object:

• Click the **Select Next Object** next edit button to select nearby objects instead of the selected object. See "Selecting Objects" on page 68.

• Click the **Open Object** edit button to open the specification dialog for the selected object(s). See "Specification Dialogs" on page 24.

• Click the **Copy/Paste** edit button to copy the selected object(s) to the Windows Clipboard so they can be pasted elsewhere. See "Copying and Pasting Objects" on page 63.

• Click the **Copy and Paste in Place** edit button to create a copy of the selected object(s) at the same location as

the original. See "Copy and Paste in Place" on page 65.

- Click the **Delete** ✕ edit button to delete the selected object(s). See "Deleting Objects" on page 90.

- Click the **Accurate Move** 🖼 edit button to slow down the mouse speed when using the edit handles. See "Accurate Move" on page 86.

- Click the **Center Object** ⟷ edit button to center an object along along a wall within a room or relative to a cabinet fixture. See "Using Center Object" on page 87.

- Click the **Move to Front of Group** 🔲 edit button to display the selected object in front of other objects in the same drawing group. See "Move to Front of Group" on page 84.

- Click the **Break Line** ⤞ edit button to add a new corner or pivot point to the selected object. See "Break Line" on page 89.

- Click the **Change Line/Arc** ⬍ edit button to change a line-based object to an arc, or vice versa. See "Change Line/Arc" on page 90.

Editing Arc Based Objects

Objects are considered arc-based when they can be resized along a curve using the edit handles.

Curved walls and railings, curved stairs, elevation lines that have been changed to arcs, and curved are examples of arc-based objects. See "Change Line/Arc" on page 90.

Most arc-based objects can be connected to other like objects to form polyline-based objects. See "Editing Open Polyline Based Objects" on page 75 and "Editing Closed-Polyline Based Objects" on page 78.
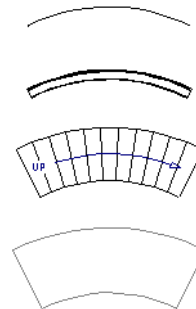
Some objects, notably curved walls, have arc-based editing behavior only when selected on certain surfaces. See "Editing Walls" on page 104.

Other objects, such as curved stairs and roads, have additional edit handles that allow you to concentrically adjust the object's width.

Using the Edit Handles

When selected, a typical arc-based object displays seven edit handles.

Any action performed using the edit handles can be cancelled by pressing the Esc key or any two mouse buttons at the same time.

Move

- Two Move edit handles allow the arc to be relocated without changing its shape. One is located at the center of the chord and the other, at the arc center.

- Movement may be limited or stopped by other objects or Snap Behaviors. Move restrictions can be overridden by holding down the Ctrl key while dragging. See "Unrestricted Movement" on page 86.
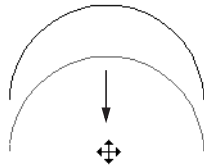
Move edit handle

Rotate

- The **Rotate** handle is used to rotate the arc about its center. See "Rotating Objects" on page 90.

Extend

- The end edit handles expand or contract the arc when moved along the arc radius or chord.

- If you follow the path of the arc, the end edit handles allow you to adjust the arc length.

- The angle formed by the center point of the arc and its two endpoints is referred to as the Included Angle. If **Angle Snaps** are on, the Included Angle of the arc can be rotated at Allowed Angles. See "Angle Snaps" on page 61.
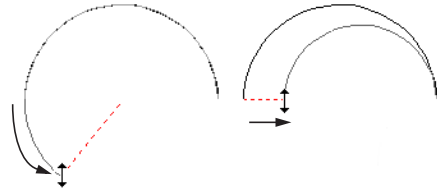
Extend edit handles

Resize

- Drag the small, round **Resize** edit handle to change the radius and included angle of the arc while maintaining its center.
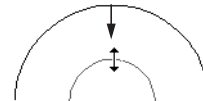
Resize edit handle

Reshape

- Drag the small triangular **Reshape** handle to change the length and location of the center without moving the endpoints.
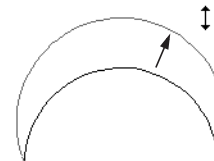
Reshape edit handle

Adjust Width

Some arc-based objects, such as stairs, have additional handles that allow the width of the object to be adjusted.
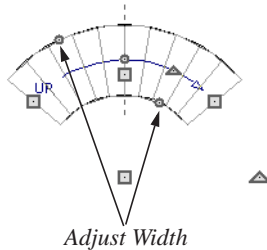
Adjust Width

- Click and drag a small, round edit handle to increase or decrease the object's width. By default, objects are resized according to the Snap Unit defined in the **Plan Defaults** dialog. See "General Plan Defaults Dialog" on page 43.

Using Dimensions

Dimensions can be used to position arc-based objects. Dimension lines typically locate tangent extension lines and any extension lines that may be parallel to those lines rather than the arc itself. See "Moving Objects Using Dimensions" on page 339.

Using the Specification Dialog

Arc-based objects can be edited using their specification dialogs. See "Specification Dialogs" on page 24.

Using the Edit Toolbar

A selected arc-based object can be edited in a variety of ways using the buttons on the edit toolbar.

The following toolbar buttons may display on the edit toolbar for a selected arc-based object:

- Click the **Select Next Object** next edit button to select nearby objects instead of the selected object. See "Selecting Objects" on page 68.

- Click the **Open Object** edit button to open the specification dialog for the selected object(s). See "Specification Dialogs" on page 24.

- Click the **Copy/Paste** edit button to copy the selected object(s) to the Windows Clipboard so they can be pasted elsewhere. See "Copying and Pasting Objects" on page 63.

- Click the **Copy and Paste in Place** edit button to create a copy of the selected object(s) at the same location as the original. See "Copy and Paste in Place" on page 65.

- Click the **Delete** edit button to delete the selected object(s). See "Deleting Objects" on page 90.

- Click the **Accurate Move** edit button to slow down the mouse speed when using the edit handles. See "Accurate Move" on page 86.

- Click the **Center Object** edit button to center an object along along a wall within a room or relative to a cabinet

fixture. See "Using Center Object" on page 87.

- Click the **Move to Front of Group** [icon] edit button to display the selected object in front of other objects in the same drawing group. See "Move to Front of Group" on page 84.

- Click the **Break Line** [icon] edit button to add a new corner or pivot point to the selected object. See "Break Line" on page 89.

- Click the **Change Line/Arc** [icon] edit button to change an arc-based object to a line, or vice versa. See "Change Line/Arc" on page 90.

Editing Open Polyline Based Objects

Open polyline-based objects are composed of individual line- and arc-based objects that are connected at their end points but do not form an enclosed area.

Connected walls, stairs, and roads are examples of open polyline-based objects.
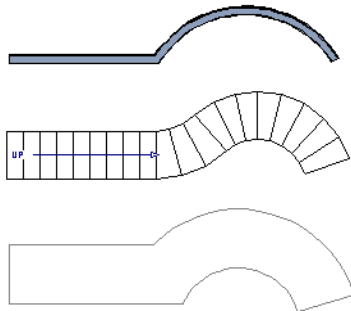
Other objects, such as connected stair and road segments, have additional edit handles that allow you to concentrically adjust the width of all segments of the object.

Using the Edit Handles

A polyline-based object can be composed of many segments.

When selected, an open polyline-based object displays a Move handle, a Rotate handle, a Reshape handle at the intersection of each segment, and an Extend handle at each end.

Each straight, line-based segment also has a Move edit handle along its length.

Each curved, arc-based segment has its own Move handle at the center of its chord, a Resize handle and, if it has an unlocked center, a Reshape handle. See "Editing Arc Based Objects" on page 72.

When a polyline is selected, the edge that you click nearest is called the selected edge, and certain operations affect only this edge. The Move handle of the selected edge is larger than that of other edges. It displays along the length of a line segment, or at the center of the chord on an arc segment. See "Selected Edge" on page 69.

Any action performed using the edit handles can be cancelled by pressing the Esc key or any two mouse buttons at the same time.

Move polyline — *Move arc segment* — *Resize arc* — *Move line segment* — *Reshape arc* — *Extend* — *Reshape polyline* — *Rotate*

Move

- Click and drag the Move handle to move the object.

- Movement may be limited or stopped by other objects or Snap Behaviors. Move restrictions can be overridden by holding down the Ctrl key while dragging. See "Unrestricted Movement" on page 86.

Rotate

- The **Rotate** handle is used to rotate the object about its center. Its position varies depending on which edge is currently selected. See "Rotating Objects" on page 90.

Extend

- Click and drag an Extend handle to lengthen or shorten the unconnected end of the selected line or arc segment, or to change the radius of the selected arc. See "Editing Arc Based Objects" on page 72.

Reshape

- Click and drag a Reshape edit handle to change the angle and/or length of the segments on either side of it, or the size of the object.

Move Line Segment

- The **Move Line Segment** edit handle is found on straight segments of open poly-lines and moves the straight section perpendicular to itself. Adjacent segments may extend or contract in their original directions to maintain their connections.

Move Arc

- Click and drag the Move Arc edit handle to change the radius and/or chord length or position. Adjacent segments may extend, contract, or change angle to maintain their connections.

Resize Arc

- Click and drag the Resize Arc edit handle to change the radius, chord length and chord position of the arc segment. Adjacent segments may extend, contract, or change angle to maintain their connections.

Reshape Arc

- Click and drag the Reshape Arc edit handle to change the radius of the arc without moving its end points.

Adjust Width

Some arc-based objects, such as stairs and roads, have additional handles that allow the width of the object to be adjusted.

Adjust Width
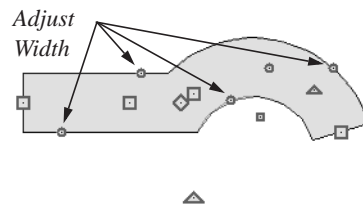
- Click and drag a small, round edit handle to increase or decrease the object's width.

By default, objects are resized in 1" increments. This Snap Unit is defined in the **Plan Defaults** dialog. See "General Plan Defaults Dialog" on page 43.

Using Dimensions

Dimensions can be used to move or reshape polyline-based objects. See "Moving Objects Using Dimensions" on page 339.

Using the Specification Dialog

Open polyline-based objects can be edited using their specification dialogs. See "Specification Dialogs" on page 24.

Using the Edit Toolbar

A selected open polyline-based object can be edited in a variety of ways using the buttons on the edit toolbar.

The following toolbar buttons may display on the edit toolbar for a selected open polyline-based object:

- Click the **Select Next Object** next edit button to select nearby objects instead of the selected object. See "Selecting Objects" on page 68.

- Click the **Open Object** edit button to open the specification dialog for the selected object(s). See "Specification Dialogs" on page 24.

- Click the **Copy/Paste** edit button to copy the selected object(s) to the Windows Clipboard so they can be pasted elsewhere. See "Copying and Pasting Objects" on page 63.

- Click the **Copy and Paste in Place** edit button to create a copy of the selected object(s) at the same location as the original. See "Copy and Paste in Place" on page 65.

- Click the **Delete** edit button to delete the selected object(s). See "Deleting Objects" on page 90.

- Click the **Accurate Move** edit button to slow down the mouse speed when using the edit handles. See "Accurate Move" on page 86.

- Click the **Center Object** edit button to center an object along along a wall within a room or relative to a cabinet fixture. See "Using Center Object" on page 87.

- Click the **Move to Front of Group** edit button to display the selected object in front of other objects in the same drawing group. See "Move to Front of Group" on page 84.

- Click the **Break Line** edit button to add a new corner or pivot point to the selected object. See "Break Line" on page 89.

- Click the **Change Line/Arc** edit button to change a line-based polyline edge to an arc, or vice versa. See "Change Line/Arc" on page 90.

Editing Closed-Polyline Based Objects

Closed polyline-based objects are composed of individual line- and arc-based objects joined end-to-end and forming an enclosed area.

Terrain features and stair landings are examples of closed polyline-based objects.
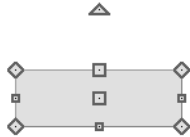
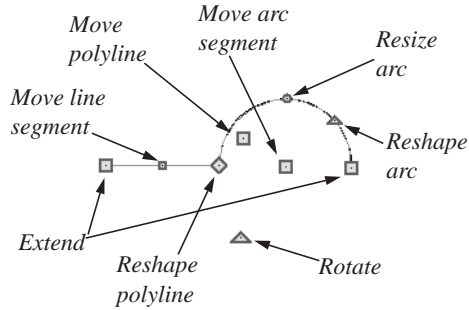
Using the Edit Handles

A polyline can be composed of many segments.

When selected, a closed polyline-based object displays a Move handle, a Rotate handle, and a Reshape handle at the intersection of each segment.

Each straight, line-based segment has a Move edit handle along its length.

Each curved, arc-based segment has its own Move handle at the center of its chord, a Resize handle and a Reshape handle. See "Editing Arc Based Objects" on page 72.

When a polyline is selected, the edge that you click nearest is called the selected edge, and certain operations affect only this edge. The Move handle of the selected edge is larger than that of other edges. It displays along the length of a line segment, or at the center of the chord on an arc segment. See "Selected Edge" on page 69.

Any action performed using the edit handles can be cancelled by pressing the Esc key or any two mouse buttons at the same time.

Move

- Click and drag the Move handle to move the object.

- Movement may be limited or stopped by other objects or Snap Behaviors. Move restrictions can be overridden by holding down the Ctrl key while dragging. See "Unrestricted Movement" on page 86.

Rotate

- The **Rotate** handle is used to rotate the object about its center. Its position varies depending on which edge is currently selected. See "Rotating Objects" on page 90.

Reshape

- Click and drag a Reshape edit handle to change the angle and/or length of the segments on either side of it, or the size of the object.

Move Line Segment

- The **Move Line Segment** edit handle is found on straight segments of closed polylines and moves the straight section-

perpendicular to itself. Adjacent segments may extend or contract in their original directions to maintain their connections.

Move Arc

- Click and drag the Move Arc edit handle to change the radius and/or chord length or position. Adjacent segments may extend, contract, or change angle to maintain their connections.

Resize Arc

- Click and drag the Resize Arc edit handle to change the radius, chord length and chord position of the arc segment. Adjacent segments may extend, contract, or change angle to maintain their connections.

Reshape Arc

- Click and drag the Reshape Arc edit handle to change the radius of the arc without moving its end points.

Using Dimensions

Dimensions can be used to move or reshape closed polyline-based objects. See "Moving Objects Using Dimensions" on page 339.

Using the Specification Dialog

Closed polyline-based objects can be edited using their specification dialogs. See "Specification Dialogs" on page 24.

Using the Edit Toolbar

A selected closed polyline-based object can be edited in a variety of ways using the buttons on the edit toolbar.

The following toolbar buttons may display on the edit toolbar for a selected closed polyline-based object:

- Click the **Select Next Object** next edit button to select nearby objects instead of the selected object. See "Selecting Objects" on page 68.

- Click the **Open Object** edit button to open the specification dialog for the selected object(s). See "Specification Dialogs" on page 24.

- Click the **Copy/Paste** edit button to copy the selected object(s) to the Windows Clipboard so they can be pasted elsewhere. See "Copying and Pasting Objects" on page 63.

- Click the **Copy and Paste in Place** edit button to create a copy of the selected object(s) at the same location as the original. See "Copy and Paste in Place" on page 65.

- Click the **Delete** edit button to delete the selected object(s). See "Deleting Objects" on page 90.

- Click the **Accurate Move** edit button to slow down the mouse speed when using the edit handles. See "Accurate Move" on page 86.

- Click the **Center Object** edit button to center an object along along a wall within a room or relative to a cabinet

fixture. See "Using Center Object" on page 87.

- Click the **Move to Front of Group** ⬚ edit button to display the selected object in front of other objects in the same drawing group. See "Move to Front of Group" on page 84.

- Click the **Break Line** ⬚ edit button to add a new corner or pivot point to the selected object. See "Break Line" on page 89.

- Click the **Change Line/Arc** ⬚ edit button to change a line-based polyline edge to an arc, or vice versa. See "Change Line/Arc" on page 90.

Editing Box-Based Objects

Box-based objects are similar to closed polyline-based objects, but must always have four sides with right-angled corners.

Text objects, many library symbols, pictures and images are examples of box-based objects.
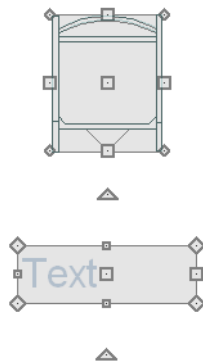
Using the Edit Handles

When selected, a box-based object displays ten edit handles.

Any action performed using the edit handles can be cancelled by pressing the Esc key or any two mouse buttons at the same time.
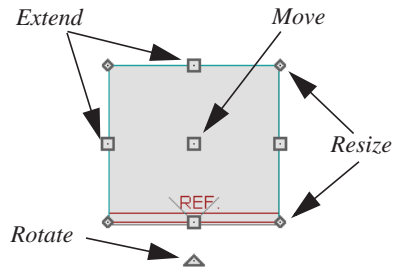
- Click and drag the Move handle to move the object.

- Movement may be limited or stopped by other objects or Snap Behaviors. Move restrictions can be overridden by holding down the Ctrl key while dragging. See "Unrestricted Movement" on page 86.
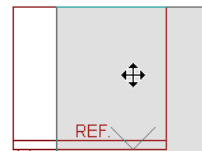
- The four **Resize** handles located at each corner are used to increase or decrease the size of the object.

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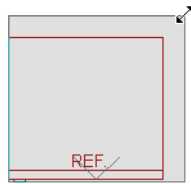
- The four **Extend** handles display along each edge. If you select an object on an edge, the Extend handle displays at the point where you clicked; otherwise, it displays at the center of the edge.
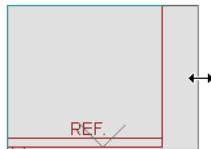
- The triangular **Rotate** handle located near the selected edge of the object is used to rotate it about its center. The pointer changes to a circular arrow ↻ when moved over this handle. See "Rotating Objects" on page 90.
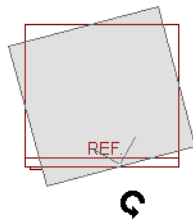
Using Dimensions

Dimensions can be used to move or reshape box-based objects. See "Moving Objects Using Dimensions" on page 339.

Using the Specification Dialog

Box-based objects can be edited using their specification dialogs. See "Specification Dialogs" on page 24.

Using the Edit Toolbar

A selected closed polyline-based object can be edited in a variety of ways using the buttons on the edit toolbar.

The following toolbar buttons may display on the edit toolbar for a selected closed polyline-based object:

- Click the **Select Next Object** next edit button to select nearby objects instead of the selected object. See "Selecting Objects" on page 68.

- Click the **Open Object** edit button to open the specification dialog for the selected object(s). See "Specification Dialogs" on page 24.

- Click the **Copy/Paste** edit button to copy the selected object(s) to the Windows Clipboard so they can be pasted elsewhere. See "Copying and Pasting Objects" on page 63.

- Click the **Copy and Paste in Place** edit button to create a copy of the selected object(s) at the same location as the original. See "Copy and Paste in Place" on page 65.

- Click the **Delete** ✕ edit button to delete the selected object(s). See "Deleting Objects" on page 90.

- Click the **Accurate Move** ⛏ edit button to slow down the mouse speed when using the edit handles. See "Accurate Move" on page 86.

- Click the **Center Object** ◄► edit button to center an object along along a wall within a room or relative to a cabinet

fixture. See "Using Center Object" on page 87.

- Click the **Move to Front of Group** 🗗 edit button to display the selected object in front of other objects in the same drawing group. See "Move to Front of Group" on page 84.

Editing Spline Based Objects

A Spline is a curve that passes smoothly through a set of points. Splines are typically used in situations where there is an irregular curve. Splines are useful wherever a free-flowing curve is needed.

Sprinkler lines, spline terrain curbs, spline terrain walls and both round and kidney-shaped terrain features are spline-based objects. See "Terrain" on page 223.

Using the Edit Handles

When a spline is selected, several different types of handles display.

Any action performed using the edit handles can be cancelled by pressing the Esc key or any two mouse buttons at the same time.
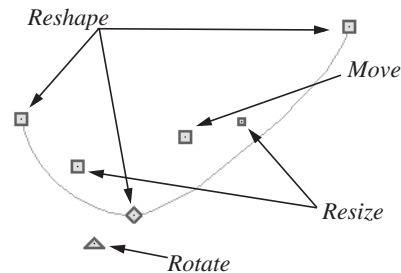
Move

- Click and drag the Move handle to move the object.

- Movement may be limited or stopped by other objects or Snap Behaviors. Move restrictions can be overridden by holding down the Ctrl key while dragging. See "Unrestricted Movement" on page 86.

Rotate

- Click and drag the Rotate edit handle to rotate the entire spline.

Reshape

- The Reshape edit handles display along the spline at each vertex. Click and drag a Reshape edit handle to change the length, angle and curve of adjacent segments without affecting other reshape handles.
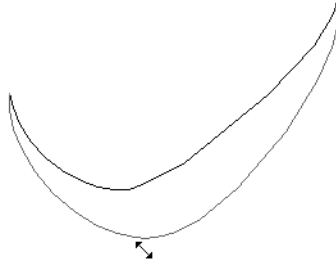
Resize

- The Resize edit handles display along the spline, between each vertex. Click and drag a Resize edit handle to move the adjacent vertices and lengthen or shorten adjacent segments.
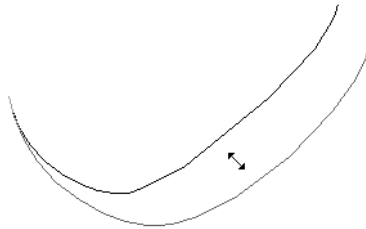
Using the Specification Dialog

Spline-based objects can be edited using their specification dialogs. See "Specification Dialogs" on page 24.

Using the Edit Toolbar

A selected spline-based object can be edited in a variety of ways using the buttons on the edit toolbar.

The following toolbar buttons may display on the edit toolbar for a selected spline-based object:

- Click the **Select Next Object** next edit button to select nearby objects instead of the selected object. See "Selecting Objects" on page 68.

- Click the **Open Object** edit button to open the specification dialog for the selected object(s). See "Specification Dialogs" on page 24.

- Click the **Copy/Paste** edit button to copy the selected object(s) to the Windows Clipboard so they can be pasted elsewhere. See "Copying and Pasting Objects" on page 63.

- Click the **Copy and Paste in Place** edit button to create a copy of the selected object(s) at the same location as the original. See "Copy and Paste in Place" on page 65.

- Click the **Delete** edit button to delete the selected object(s). See "Deleting Objects" on page 90.

- Click the **Accurate Move** edit button to slow down the mouse speed when using the edit handles. See "Accurate Move" on page 86.

- Click the **Center Object** edit button to center an object along along a wall within a room or relative to a cabinet fixture. See "Using Center Object" on page 87.

- Click the **Move to Front of Group** edit button to display the selected object in front of other objects in the same drawing group. See "Move to Front of Group" on page 84.

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- Click the **Break Line** ⟋ edit button to add a new corner or pivot point to the selected object. See "Break Line" on page 89.

- Click the **Move to Front of Group** edit button to display the selected object in front of other objects in the same drawing group. See "Move to Front of Group" on page 84.

Displaying Objects

The display of objects in 2D and 3D views can be controlled by layer. See "Displaying Objects" on page 56.

Line and Fill Styles

Line style and color can be controlled by layer or overridden in the specification dialogs for many objects. See "Line Style Tab" on page 209.

In addition, some objects have a fill style that can be specified in the objects' specification dialogs. See "Fill Style Tab" on page 209.

Color On/Off

The display of color on-screen can be toggled on and off in floor plan view by selecting **Tools> Display Settings> Color On/Off**.

Drawing Groups

Each object in a plan file belongs to one of three drawing groups, which influences whether it displays in front of or behind other objects.

- The **Default Group** is where most objects are placed when first created.

- Objects on the **Back Group** display behind those in the other two drawing groups.

- Objects on the **Front Group** display in front of those in the other two drawing groups.

Most objects are drawn in the Default Group. Notable exceptions are imported pictures, which are placed in the Back Group, and Walkthrough Paths, which are placed in the Front Group. Objects in the Default Group display in front or behind one another according to program-defined rules that can be modified in only limited ways.

Move to Front of Group

Click the **Move to Front of Group** edit button to move the selected object(s) so that it displays in front of other objects in the same drawing group.

Move to Front of Group only affects the display of objects when they are of the same type: for example, furnishings, fireplaces, or plant images. It cannot make a fireplace display in front of a plant; but it can make a selected plant display in front of other plants.
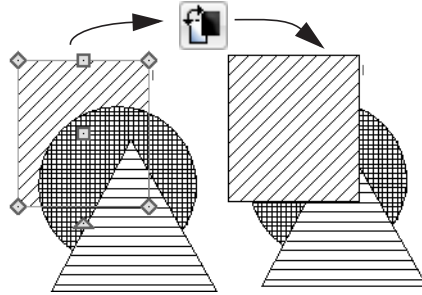
Move to Front of Group [icon] is not available for Walkthrough Paths.

Textures

The appearance of architectural objects in 3D views is affected by the materials applied to the objects' surfaces. See "Materials" on page 291.

In views, you can turn on or off the display of textures by selecting **3D> Toggle Textures** [icon].

Delete Surface

[icon] In any 3D view, select **3D> Delete Surface**, then click a surface in the view to temporarily remove the surface from the current view. See "Delete 3D Surface" on page 314.

Refresh Display

Refresh Display redraws the current window to clean up extra lines, show missing items, and correct random on-screen effects caused by changes to a model. Select **Tools> Display Settings> Refresh Display** or press the F5 key to refresh the on-screen display.

Moving Objects

Objects can be moved using the edit handles as well as a variety of edit tools. Multiple selected objects can also be moved as a group. See "Selecting Objects" on page 68.

Using the Edit Handles

Select an object, then click the **Move** edit handle and drag it to a new location. When your pointer is over the Move handle, it displays a four-headed arrow.
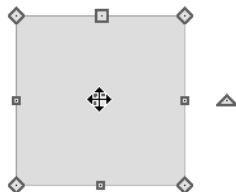
When moved, the selected object moves orthogonal, or at a right angle to, any of its edges.

As an object is moved, it jumps at set increments when **Grid Snaps** are enabled. See "Grid Snaps" on page 61.

If an selected object passes over its original location as it is being moved, it will snap to that location.

You can temporarily slow the movement of your mouse as you drag an edit handle by holding down the Shift key on your keyboard.

Bumping/Pushing

When an object bumps into another similar object while it is being moved, it stops. Continue dragging and the selected item resumes movement through the obstructing object.

Walls, wall openings furnishings and fixtures are examples of objects that can push other objects of these same types once they have bumped into them. Instead of dragging through the obstructing object(s), release the mouse button and then click and drag the Move edit handle a second time in the same direction to push.

Unrestricted Movement

Many objects have restrictions placed on their movement by their own properties or specification settings. Architectural objects, for example, bump into other 3D objects as they are being moved.

Other move restrictions are activated by the **Snap Settings**. See "Snap Behaviors" on page 60.

These restrictions can be overridden when necessary by holding down the Ctrl key while dragging to move an object.

To move an object freely

1. Select the object.
2. Hold down the Ctrl key.

3. Click the Move edit handle and drag it to the new location.

You can also press the Ctrl key while dragging an object's Move handle to override move restrictions.

Accurate Move

Click the **Accurate Move** edit button, then move the selected object(s) at a slower speed than normal for greater precision. **Accurate Move** can also be used to resize, reshape or rotate objects.

Accurate Move is not a toggle button: it only affects the speed of the mouse during the next edit. The next time you want to use this edit tool, you need to click it again.

You can also slow down the movement speed of a selection after you have started moving it by pressing the Shift key. Release the Shift key to resume movement at normal speed.

Center Object

The **Center Object** edit button allows you to move walls, cabinets and other objects so that they are centered along a wall within a room or relative to a window or cabinet.

Using Dimensions

Objects or the selected edges of some objects can be moved using dimensions. See "Moving Objects Using Dimensions" on page 339.

Aligning Objects

It is often important to align objects such as text boxes or walls, or to align objects on different floors. There are several methods to choose from.

Using the Mouse Cross Hairs

Objects can be aligned by eye using the mouse cross hairs as a reference. This method can help you draw, place and edit objects quickly and with reasonable accuracy, but is not necessarily as accurate as some of the other approaches described here.

The mouse cross hairs can be turned on and off by selecting **Tools> Display Settings> Show Crosshairs**.

Using Snap Settings

With **Object Snaps**, you can snap the edge of a selected object to that of another. Select an edge of an object. Drag it to the edge of another object, then release the mouse.

With **Grid Snaps** on and **Angle Snaps** off, select the left side of the object, and drag from the center move handle. This snaps the selected side to the grid.

When both **Grid Snaps** and **Angle Snaps** on, objects snap at increments equal to the **Snap unit** specified in the **Plan Defaults** dialog rather than onto the grid itself. This does not align objects to the grid unless they were already snapped to the grid. See "Snap Behaviors" on page 60.

Using Dimensions

Create a temporary or manual dimension relative to an object such as a wall or line, and relocate the objects to the same dimension. See "Moving Objects Using Dimensions" on page 339.

> Text objects can be aligned using settings in the Text Specification dialog. See "Aligning Text" on page 350.

Using Center Object

The **Center Object** edit button can be used to center a variety of objects relative to another object.

To center an object

1. Select an object.

2. Click the **Center Object** edit button.

3. Move the mouse pointer over the object you would like to center the selected object relative to.

    • As the pointer passes over an eligible object, it becomes highlighted and a dashed centering axis line displays.

4. When the desired centering axis displays, click once to center the selected object along that axis line.

To center an object in a room

1. Select an object such a cabinet.

2. Click the **Center Object** edit button.

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3. Move the mouse pointer in the room that you would like to center the selected object relative to.

   • As you move the pointer, a centering axis will display along the wall it is closest to.

   • The selected object does not have to be inside a room in order to be centered relative to that room.

4. When a centering axis displays along the correct wall, click once.

5. The object is moved perpendicular to the centering axis.

If you click outside an exterior wall instead of clicking inside, the selected object is centered along the edge of the Exterior Room. See "The Exterior Room" on page 119.

Aligning Objects on Different Floors

Objects on different floors can be aligned with one another using the **Reference Display** . See "The Reference Floor" on page 166.

Resizing Objects

Objects can be resized using the edit handles and specification dialogs.

Using the Edit Handles

The end, corner and/or side edit handles can be used to resize a selected object.

To override any movement restrictions caused by snap settings or the presence of other objects, press the Ctrl key while dragging an edit handle.

As an object is resized, any dimensions indicating its size will update to reflect yoru changes. You can use dimensions as references to help you achieve the correct size for most objects.

You can temporarily slow the movement of your mouse as you drag an edit handle by holding down the Shift key on your keyboard.

Using the Specification Dialog

Most objects can be accurately resized in their specification dialogs. See "Specification Dialogs" on page 24.

Using Dimensions

Many objects can be resized by selecting an edge and then moving that edge using dimensions. See "Moving Objects Using Dimensions" on page 339.

Walls can also be resized using dimensions; however, it is important to understand that the selected edges of other objects cannot be resized using dimensions - they can only be moved. To resize an edge, select an adjacent edge and move that edge instead.

Reshaping Objects

There is a variety of ways to reshape objects using the edit handles, specification dialogs and edit toolbar buttons.

Some objects, notably box-based objects, cannot be reshaped - only resized. See "Resizing Objects" on page 88.

Using the Edit Handles

Depending on the type of object selected, the end, corner and/or side edit handles can be used to reshape a selected object.

To override any movement restrictions caused by snap settings or the presence of other objects, press the Ctrl key while dragging an edit handle.

You can temporarily slow the movement of your mouse as you drag an edit handle by holding down the Shift key on your keyboard.

Using the Specification Dialog

A variety of terrain objects can be reshaped by editing values on either the Selected Line or Selected Arc tab of their specification dialogs. See "Selected Line Tab" on page 206 and "Selected Arc Tab" on page 207.

Using Dimensions

Both temporary and manually drawn dimensions can be used to increase or decrease the distance between the edge a line- or polyline-based object and another, parallel edge or line.

Break Line

The **Break Line** edit button can be used to break an individual line-, arc-, or spline-based object into two segments. The edges of a polyline-based object can also be broken.

Note: The Break Line edit button is not available for box-based objects or some architectural objects such as stairs.

The **Break Line** edit tool can be used to create two types of breaks: partial breaks and complete breaks.

When a partial break is created, a new corner edit handle is placed at the location of the break. Partial breaks are also referred to as joints, nodes or pivot points.

- Click the **Break Line** edit button to add a new corner or pivot point to the selected object.

To create a partial break

1. Click the object or edge that you want to break into two segments.

2. Click the **Break Line** edit button once or press the 3 key.

3. Click the edge to create a new corner edit handle at that location and two separate edges on either side of that handle.

If you click and drag one of the edit handles on either side of the partial break, the edge moves at a right angle to itself and another

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edge forms, connecting the moved edge with the one on the other side that does not move.

You can remove an edge from a polyline-based object by clicking and dragging a corner handle until it snaps to an adjacent corner handle.

Change Line/Arc

Select an individual line-based or arc-based object or a segment of a polyline-based object and click the **Change Line/Arc** edit button to convert the selected segment from a line to an arc or vice versa.
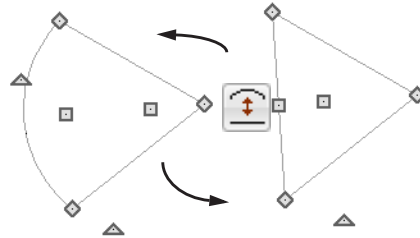
Rotating Objects

Objects can be rotated using the edit handles as well as a variety of edit tools. Multiple selected objects can also be rotated as a group. See "Selecting Objects" on page 68.

By default, an object or group of objects rotate about the center point of the selection set.

Using the Edit Handles

Select an object, then click the triangular **Rotate** edit handle and drag it in any direction. When your pointer is over the Rotate handle, it displays a curved arrow.

The angles of line-based objects can also be changed by dragging an end handle in a direction other than parallel to the object. The object rotates about the opposite end point. See "Editing Line Based Objects" on page 70.

Objects snap to Allowed Angles as they are rotated. See "Angle Snaps" on page 61.

To override any movement restrictions caused by snap settings or the presence of other objects, press the Ctrl key while dragging an edit handle.

You can temporarily slow the movement of your mouse as you drag an edit handle by holding down the Shift key on your keyboard.

Using the Specification Dialog

The exact angle of some objects such as lines, arcs, walls and the selected edges of polylines can be specified on either the General tab, Selected Line tab, or Selected Arc tab of that object's specification dialog. See "Selected Line Tab" on page 206 and "Selected Arc Tab" on page 207.

Deleting Objects

Objects can be deleted in a variety of ways:

- Select an object or group of objects, then click the **Delete** ✖ edit button, select **Edit> Delete** ✖ from the menu, or press the either the Delete or Backspace key on your keyboard.
- Entire categories of objects can be deleted using the **Delete Objects** dialog.
- Objects are deleted if the floor they are placed on is deleted. See "Deleting Floors" on page 163.

If an object has a line with arrow attached to it, the arrow is deleted if the object is deleted. To prevent the arrow from being deleted, drag the attached end away from the object before deleting it.

Delete Objects Dialog

Use the **Delete Objects** dialog to delete all objects of one or more specified types in one room, on the current floor, or in the entire plan.

To use the Delete Objects dialog

1. Select **Edit> Delete Objects** ✖ to open the **Delete Objects** dialog.

2. Specify the **Delete Scope** as **Single Room** or **All Rooms On This Floor**.

3. In the **Delete** section, check the box for each category of objects you want to delete. Click **Select All** to check all the boxes or **Clear All** to uncheck all boxes.

4. When the scope is set to **Single Room**:
   - Move your cursor into the drawing area and click in a room of the plan to delete objects of the selected type within that room without closing the dialog.
   - Continue clicking on rooms or choose a different Delete Scope.
   - Click **Done** when all selections have been deleted.

5. If you select **All Rooms On This Floor**, you do not need to click in floor plan view. The **Delete** button becomes available, and clicking it closes the dialog and deletes the specified objects.
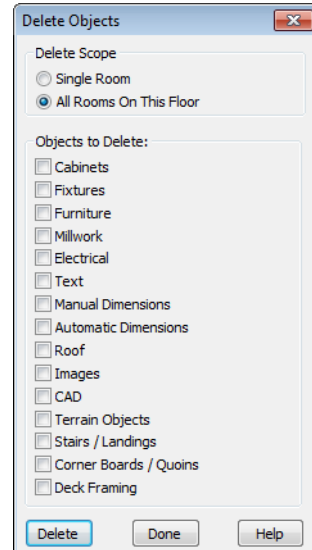
Deleting Polyline Edges

To remove an edge from a polyline, drag a corner handle until it overlaps an adjacent corner handle to remove the edge between them and merge them into a single handle. See "Reshaping Objects" on page 89.

Delete Surface

In any 3D view, select **3D> Delete Surface**, then click a surface in the view to temporarily remove the surface from the current view without permanently affecting the object. See "Delete 3D Surface" on page 314.

Undo and Redo

The **Undo** and **Redo** commands allow you to both undo the last action performed, as well as redo actions that were recently Undone.

The ten most recent actions can be Undone or Redone. Actions that can be Undone and Redone include creating, editing, and deleting objects.

To Undo an action, select **Edit> Undo**, click the **Undo** button, or press Ctrl + Z on your keyboard.

The Redo command is only available immediately after Undo has been used. To Redo an Undone action, select **Edit> Redo**, click the **Redo** button or press Ctrl + Y on your keyboard.

It is important to note that **Undo** and **Redo** do not affect all actions in the program, including:

- Save and Save As. See "Saving, Exporting, and Backing Up Files" on page 32.
- Changes made in the Library Browser. See "The Library Browser" on page 272.
- Changes made in a dialog while the dialog box is open. See "Dialogs" on page 23.
- Changes made to the display by panning the display or zooming in or out. See "Undo Zoom" on page 302.

Walls, Railings & Fencing

There are several ways that walls can be created in Home Designer Landscape and Deck. The most common is to simply draw them with the Wall Tools.

In addition, exterior walls can be generated automatically when a new floor is built by using another floor as a model. For more, see "Adding Floors" on page 162.

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- The Wall Tools
- The Deck Tools
- The Fencing Tools
- Exterior and Interior Walls
- Foundation Walls
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- Invisible Walls
- Polygon Shaped Decks
- Hatch Wall
- Break Wall
- Drawing Walls
- "The House Wizard is a time-saving feature used to create a preliminary room-by-room design of a home without getting caught up in the details. Once the shape and layout of the rooms are finalized, the House Wizard converts them into a working plan that can be edited and detailed to completion." on page 355Connecting Walls
- Displaying Walls
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- • Aligning Walls
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- • Attic Walls
- • Wall Type Definitions

- • Wall Specification Dialog
- • Railing and Fencing Specification Dialogs
- • Wall Hatch Specification Dialog

Wall Defaults

Default Settings can be accessed by selecting **Edit> Default Settings**. Click on "Walls" and click the **Edit** button to open the **Wall Defaults** dialog.

The settings in the wall defaults dialog determines what wall types are drawn when the different wall tools are used. It is a good idea to be familiar with these settings and how they relate to your style of building.

Wall Defaults Dialog
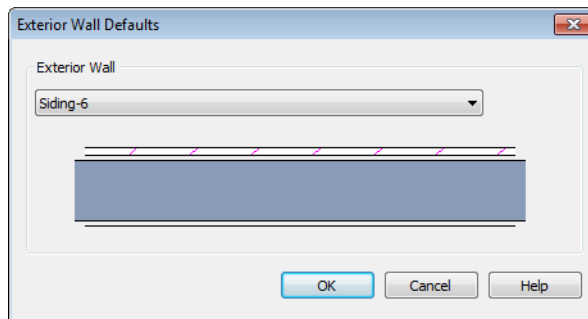
Exterior Wall Tool - From the drop-down list, select the wall type drawn with the

Exterior Wall tool.

The Wall Tools

Select **Build> Wall** to access the Wall Tools. The type of wall drawn by each wall tool is specified in its corresponding defaults dialog.

The **Curved Wall** tools are similar to their corresponding **Straight Wall Tools**. Select **Build> Curved Wall** to access these tools.

Exterior Walls
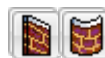
The **Exterior Wall** and **Curved Exterior Wall** tools draw walls using the default wall thickness specified for exterior walls in the **Wall Defaults** dialog.

Railings

The **Railing** and **Curved Railing** tools create railings. See "Railings" on page 97.

Invisible Wall

Invisible Walls are walls used to define separate room areas in a plan. They can display in floor plan view but not in 3D views. You can also convert a normal wall into an invisible wall and vice versa in the **Wall Specification** dialog. See "Invisible Walls" on page 97.

Hatch Wall

The **Hatch Wall** tool applies a hatch pattern to a wall that displays in floor plan views. You must click the wall that you want to apply the hatch pattern to. You can then select the hatch and resize it if you want to only hatch a portion of a wall. See "Hatch Wall" on page 98.

Break Wall

The **Break Wall** tool applies a break in a wall. Once a wall is broken, the two wall segments are separate walls that can be modified independent of each other. See "Break Wall" on page 99.

The Deck Tools

Select **Build> Deck** to access the Deck Tools. When a room is defined using deck railing, its **Room Type** is automatically set to "Deck". See "Decks" on page 123.

Deck Railing

The **Straight Deck Railing** and **Curved Deck Railing** tools draw decks, complete with framing and bounded by a railing. If a foundation level exists, supports for the deck are also created. See "Railings" on page 97.

Deck Edges

The **Straight Deck Edge** and **Curved Deck Edge** draw decks complete with framing, but without a railing. No deck supports are created.

Polygon Shaped Deck

The **Polygon Shaped Deck** tool opens the **New Polygon Shaped Deck** dialog, where you can specify the exact size and number of sides of a new polygonal deck room and then click in floor plan view to create that deck room. See "Polygon Shaped Decks" on page 98.

The Fencing Tools

Select **Build> Fencing** or click the **Fencing Tools** to access the fencing tools.

The **Fencing** and **Curved Fencing** tools are used to draw fences, which are similar to railings but by default do not define room areas. Fencing is created and edited much like walls and railings, and normally used outside of a building and follows the shape of the terrain. See "Terrain" on page 223.

Fencing automatically follows the shape of the terrain.

You can specify a fence panel style in the **Fencing Specification** dialog. See "Railing and Fencing Specification Dialogs" on page 112.

Exterior and Interior Walls

Whether a wall is recognized by the program as an actual exterior or interior wall is based on the model. Any wall that is entirely surrounded by interior room areas is considered an interior wall. Any wall exposed to the outside of the building is considered an exterior wall.

Foundation Walls

Foundation walls are similar to the interior and exterior walls but also have a footing. Foundation walls are created automatically when a foundation floor is created. See "Building a Foundation" on page 169.

Railings

Railings are created and edited just like walls. See "Drawing Walls" on page 99.

Railings are ideal for a number of tasks:

- Creating changes in floor and/or ceiling height. See "Floor & Ceiling Heights" on page 123.

- Creating stairwells. See "Creating a Stairwell" on page 199.

- Drawing decks. See "Decks" on page 123.

To produce a break in a railing for a stairway or other access, use a **Doorway** . This keeps the railing continuous and maintains room definition. See "Room Definition" on page 118.

When first drawn, railings are specified as **No Locate**, which prevents **Auto Exterior Dimensions** from locating them. The **No Room Def** attribute may also be helpful if

you do not want a railing to divide an area into two separate rooms. See "General Tab" on page 110.

Newels and balusters do not display in floor plan view.

Railing Types

A variety of railing types can be specified in the **Railing** and **Deck Railing Specification** dialogs. See "Rail Style Tab" on page 113. Available types include:

- **Baluster** creates railings composed of newel posts, balusters, a railing, and an optional bottom rail.

- **Solid** produces a framed railing wall, or Half Wall.

- If **Panels** is selected, you can choose a panel style such as glass or ironwork from the library. See "Newels/Balusters Tab" on page 114.

Invisible Walls

Invisible walls can display in floor plan view but not in 3D views or the Materials List. They are used to create or modify room definition, most often by defining smaller areas within larger rooms.

Invisible walls can also be used to define areas with different floor or ceiling materials or heights, for example, to create a stepped deck.

An invisible wall can be turned into a normal wall, or vice versa, by clicking the **Invisible**

check box in its **Wall Specification** dialog. See "General Tab" on page 110.

Invisible walls are are placed on the "Walls, Invisible" layer by default. A wall placed on a non-default layer and then specified as Invisible, however, will not move to the "Walls, Invisible" layer.

Important Notes on Invisible Walls

- Floor, wall and ceiling areas are calculated separately for rooms divided by invisible and normal walls.

- Fixtures and furniture can be moved freely through Invisible walls.

- Invisible Walls are automatically generated to connect "island" rooms to the larger structure around them. See "Room Definition" on page 118.

Polygon Shaped Decks

Select **Build> Deck> Polygon Shaped Deck** to open the **New Polygon Shaped Deck** dialog and create a polygon shaped deck with regular sides.
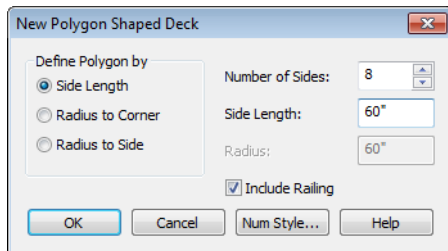
The settings in this dialog are saved between program sessions.

To create a polygon shaped deck

1. Click the radio button beside an option to specify whether you want to **Define Polygon by Side Length**, **Radius to Corner** or **Radius to Side**.

2. Specify the desired **Number of Sides**.

3. Specify the desired **Side Length** or,

4. Specify the desired **Radius**.

5. Uncheck **Include Railing** to produce a deck platform defined by Deck Edges. This option is not available in the **New Polygon Shaped Room** dialog.

6. Click **OK**, then click once in floor plan view to create the specified polygon shaped deck.

Hatch Wall

The **Hatch Wall** tool can be used to fill wall segments with a single hatch pattern in floor plan view.

To apply wall hatching, select **Build> Wall>**

Hatch Wall , then click on a wall. The hatch pattern covers the entire length and width of the wall segment.

Note: The Hatch Wall tool cannot be used to apply a hatch pattern to Invisible Walls. See "Invisible Walls" on page 97.

Hatch Wall places a hatch pattern across all layers of the selected wall, covering any fill styles specified for that wall type.

Once created, wall hatching can be selected, edited and deleted much like other line-based objects. See "Editing Line Based Objects" on page 70.

If you use the **Hatch Wall** ![icon] tool to apply a hatch pattern to a wall that has been divided into multiple segments using the **Break Wall** ![icon] tool, the pattern is only applied to the segment that you clicked on . See "Break Wall" on page 99.

Like doors and windows, wall hatching cannot extend across multiple wall segments. Unlike these objects, hatching cannot be located by dimension lines.

The wall hatch pattern can be specified in the **Wall Hatch Specification** dialog. See "Wall Hatch Specification Dialog" on page 115.

When editing or deleting wall hatching, make sure that it is selected rather than the wall by noting that "Wall Hatching" displays in the Status Bar. See "The Status Bar" on page 24.

Break Wall

![icon] To divide a wall or railing, select **Build> Wall> Break Wall** and click on the wall. The wall is divided into two wall sections at the point where you click.

The **Break Wall** ![icon] tool remains active, so you can continue to place breaks in walls. When you are finished, select a different tool.

If a wall break is placed near the intersection of two walls, the break is positioned at the center of the intersection.

Once a break is placed, click the **Select Objects** ![icon] tool and select the original wall.

If edit handles display near the break, the wall was correctly broken.

Walls separated by a break can be rejoined. Select one of the segments, then click on the end edit handle located at the break and drag it a few plan inches (mm) away from the break. See ""The House Wizard is a time-saving feature used to create a preliminary room-by-room design of a home without getting caught up in the details. Once the shape and layout of the rooms are finalized, the House Wizard converts them into a working plan that can be edited and detailed to completion." on page 355Connecting Walls" on page 101.

Drawing Walls

Walls by clicking and dragging from end to endcan be drawn in floor plan view, camera views, and overviews.

Drawing walls to create a floor plan is simple if you keep a few things in mind:

- Draw exterior walls first to define the building's footprint, then draw the interior walls after the perimeter is in place.

- It is easiest to draw walls at the approxi-mate location and length needed and then

move or resize them precisely using dimensions later. See "Moving Objects Using Dimensions" on page 339.

- As walls are drawn, "sticky" points identify points that are either collinear or orthogonal to the end points of other walls, making alignment easier. See "Extension Snaps" on page 61.

- When walls enclose an area to form a room, the program will orient all exterior walls so that the siding material faces outward.

- To flip the layers of a wall after it is drawn, select it and click the **Reverse Layers** edit button. See "Editing Walls" on page 104.

- Initial wall heights are determined by the default floor and ceiling heights of the current floor.

Wall Positioning

The recommended method of drawing walls is to draw them at their approximate location and length, then move them into position with accuracy using dimensions. To make this task quick and efficient:

- Notice the temporary wall that displays as you draw. Its length and angle display in the Status Bar at the bottom of the window and adjust as you move the mouse. Release the mouse button to draw the wall at the displayed length and angle. See "The Status Bar" on page 24.

- Use Snaps to help ensure proper wall alignment and orientation. See "Snap Behaviors" on page 60.

Once walls are drawn, they can be accurately dimensioned and moved as needed. See "Measuring Walls" on page 102.

Wall Openings

To create a door or doorway, do not draw wall sections with a gap between them. Walls should be drawn to completely enclose rooms, and then door and window objects should be placed in the walls to create openings later. See "Doors" on page 131 and "Windows" on page 145.

Masonry fireplaces placed in walls are also considered to be wall openings. See "Fireplaces" on page 174.

Temporary Dimensions

Temporary dimensions will display along the length of a wall as it is drawn, helping you draw walls to the desired length. Although dimensions display as you are drawing, you do not need to position walls precisely when you first draw them: they can be easily moved into place at any time. See "Editing Walls" on page 104.

Drawing Curved Walls

To draw a curved wall or railing, select a curved wall tool, click at the point where you would like the wall to begin, then drag along the desired curve. Release the mouse button to create the wall.

A straight wall can be converted into a curved wall and vice versa using the **Change Line/Arc** edit button. See "Change Line/Arc" on page 90.

"The House Wizard is a time-saving feature used to create a preliminary room-by-room design of a home without getting caught up in the details. Once the shape and layout of the rooms are finalized, the

> To create a room in the shape of a circle, you must draw two curved walls.

"The House Wizard is a time-saving feature used to create a preliminary room-by-room design of a home without getting caught up in the details. Once the shape and layout of the rooms are finalized, the House Wizard converts them into a working plan that can be edited and detailed to completion." ## Connecting Walls

When walls are drawn sufficiently close to one another, they will snap together to form an intersection. This snapping occurs when the walls' center lines are within a distance defined by the larger of the two walls' widths and will occur even when **Object Snaps** are turned off. See "Object Snaps" on page 60.

If the two walls in question have the same wall type and identical specifications, and are collinear, they will merge to become a single wall. See "Aligning Collinear Walls" on page 107.

When three or more walls connect to form a completely enclosed area, that area defines a room. See "Rooms" on page 117.

When walls snap together to form an intersection and **Object Snaps** are enabled, the program joins them at theirMain Layers. See "Aligning Walls" on page 106.

- The wall that is being drawn or edited will move, lengthen, or shorten slightly to meet the other wall.

- The other wall will not move; however, its length may be affected.

Removing Wall Breaks

The **Break Wall** ⧉ tool allows you to break a wall into two or more separate wall segments. See "Break Wall" on page 99.

To merge two collinear walls separated by a break,select one of the segments, then click on the end edit handle located at the break and drag it a few plan inches (mm) away from the break.

If the two walls do not merge, either one or both walls have been moved and they are no longer collinear, or one or both has been edited in some way and they are no longer identical. Open the **Wall Specification** dialog for each wall and determine how they differ. See "Wall Hatch Specification Dialog" on page 115.

Displaying Walls

The display of walls in all views is controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

If a "Walls" layer is turned off, any doors and windows placed in walls on that layer will not display, either. See "Displaying Doors" on page 134 and "Displaying Windows" on page 150.

In Floor Plan View

There are several options for controlling how walls are displayed in floor plan view. In the **Display Options** dialog, you can specify whether or not various types of walls display. Walls are placed on layers with "Walls" at the beginning of the layer name, such as "Walls, Normal".

> Note: In floor plan view, railings not specified as Solid display their Main Layer regardless of whether "Walls, Layers" or "Walls, Main Layer Only" is turned on.

It is sometimes helpful to display the walls from a floor other than the current floor. To do this, select and display a reference floor. See "The Reference Floor" on page 166.

In 3D Views

As in floor plan view, the display of walls can be controlled by layer in the **Display Options** dialog.

While most architectural objects in the program can display in both floor plan and 3D views, a few cannot. Invisible walls and wall hatching are examples of objects that do not display in 3D.

Wall Materials

There are several ways that materials can be assigned to walls. See "Rooms" on page 117.

You can change the surface material of an individual wall in the **Wall Specification** dialog. See "Wall Specification Dialog" on page 110.

You can also change a room's wall material in the **Room Specification** dialog. See "Materials Tab" on page 294. To restore the default material, select **Use Default** in the **Select Library Object** dialog. See "Select Library Object Dialog" on page 285.

> Note: Wall materials that are specified on the Materials tab of either the Wall or Room Specification dialog are not calculated in the Materials List.

Measuring Walls

Accurate wall measurements are an essential aspect of any drawing, and can be achieved by following two basic rules:

- Be aware of what part of a wall assembly dimensions are locating;
- Position walls using dimensions rather than edit handles or edit tools.

These rules can easily be met when you keep the following recommendations in mind.

Use Dimension Defaults

Dimensions can be set to locate walls at their Main Layers or at surfaces. Before drawing dimensions - and particularly, before using them to move your walls into position - make sure that your Dimension Defaults are set up to meet your needs. See "Dimension Defaults Dialog" on page 331.

Edit Dimension Lines

Once a dimension line has been drawn, its extension lines can be edited to locate a number of locations on a wall assembly:

- The exterior surface
- The Main Layer's exterior
- The center line of the wall assembly
- The Main Layer's center line
- The Main Layer's interior
- The interior surface

See "Editing Extension Lines" on page 338.

Moving Walls Using Dimensions

By far, the most precise method of positioning walls is using dimension lines. To produce accurate measurements, remember to:

- Be aware of what part of your walls is being located by dimensions.
- Avoid specifying dimension values with greater accuracy than your dimensions are set to display. See "Format Tab" on page 333.

See "Using Dimensions" on page 105.

Use Object, Angle and Grid Snaps

Object Snaps, Angle Snaps, and Grid Snaps make it easier to align walls when they are being drawn as well as when they are edited. See "Snap Behaviors" on page 60.

Object Snaps help to ensure consistent wall connections and are particularly helpful when aligning collinear walls.

When **Grid Snaps** are enabled, walls are drawn on a regularly spaced grid, which helps avoid inaccurate wall placement. This can become particularly important if you forego positioning walls using dimensions in favor of using edit handles to move them.

Angle Snaps make it easy to accurately draw walls at regular angles, ensuring walls that are truly parallel or perpendicular to one another and separated by consistent distances.

No Locate

If a wall is specified as **No Locate** in the **Wall Specification** dialog, it will be ignored by **Auto Exterior Dimensions** in floor plan view, as will any doors or windows placed in it. By default, **Railings**, **Deck Railings**, and **Invisible Walls** are specified as No Locate. See "General Tab" on page 110.

The **No Locate** setting also affects the behavior of **Manual Dimensions** and **End to End Dimensions**. If a Manual or End to End Dimension is drawn between two No Locate walls, a dimension line will be created; however, if one of the walls is No Locate and one is not, no dimension line will be drawn. See "Dimensions" on page 331.

Once a dimension line has been created, it can be edited so that it locates a No Locate wall or railing that is perpendicular to it. See Editing Dimension Lines.

Editing Walls

Walls can be selected individually and as a group in all views. When a wall is selected, it displays edit handles and an edit toolbar that can be used to edit it in various ways. When a wall is selected, temporary dimensions will also display.

The ways in which a wall can be edited depends on the current view and which edge is selected. See "Selecting Objects" on page 68.

Selecting Walls

- When you try to select a wall in a 3D view, the interior or exterior room that it defines may be selected first. Click the

  Select Next Object next edit button or press the Tab key on your keyboard to select the wall itself.

- In floor plan view, if wall hatching has been applied to a wall using the **Hatch**

  Wall tool, the hatching may be selected first. Click **Select Next**

  Object next to select the wall itself. See "Hatch Wall" on page 98.

Using the Edit Handles

Depending on the type of view, a wall displays a different set of edit handles when selected.

- In floor plan view, straight and curved walls can be edited like other line- and arc-based objects. See "Editing Line Based Objects" on page 70 and "Editing Arc Based Objects" on page 72.

- In a camera view or overview, click on the top surface of a wall to display the same edit handles as in floor plan view, allowing you to rotate, move, and extend or shorten the length of the wall.

- In a camera view or overview, click on an interior or exterior surface to display an edit handle at the center of each side edge, allowing you to shorten or lengthen the wall. Curved walls can be shortened in this manner, but not lengthened.

- When a wall is connected to other walls it can only be moved perpendicular to itself or, in the case of curved walls, perpendicular to its chord using the Move edit handle.

In the Specification Dialog

The appearance and structure of walls can be customized in the **Wall Specification** dialog. See "Wall Specification Dialog" on page 110.

The characteristics of the roof directly above a selected wall can also be specified in the **Wall Specification** dialog. See "Roof Tab" on page 111.

Using the Edit Tools

A selected wall or walls can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

The characteristics of the roof directly above a selected wall can also be specified in the **Wall Specification** dialog. See "Roof Tab" on page 111.

Using Dimensions

Automatic, manually-drawn, and temporary dimension lines can be used to both resize and move walls with accuracy. Select a wall, then click on a dimension line that locates it and type in the value that you need. See "Moving Objects Using Dimensions" on page 339.

When a wall is resized using dimensions, the inline text field used to edit the dimension will have three unique buttons: **Move Start**, **Move End**, and **Move Both Ends**. Choose the option that you want to use before pressing the Enter key.
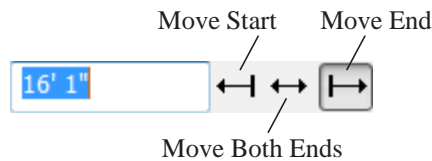
If both ends of the selected wall intersect walls that are not parallel to one another, a fourth option will be available: **Move Along Rails**. When this option is used, the selected wall both resizes and changes position so that it remains connected to the other walls when you press the Enter key.
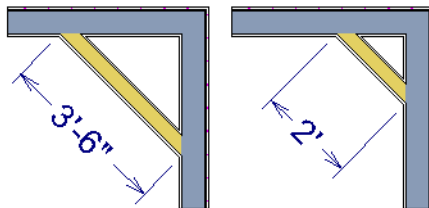
Move Along Rails resizes and moves a selected wall.

Depending on your **Dimension Defaults** settings, dimension lines may locate wall surfaces or Main Layers. See "Dimension Defaults Dialog" on page 331.

Wall Thickness

The initial thickness of a wall is determined by its wall type.

You can specify a selected wall's thickness in its **Wall Specification** dialog. See "General Tab" on page 110.

If a selected wall's thickness is changed:

- A copy of the wall's wall type is created with the same name but appended with a number equal to the thickness of the structural layer, and that new type is assigned to the wall.

- The change in thickness will be applied to new wall type's structural layer.

- The structural layer must be at least 1/16" thick, and the wall's thickness cannot be less than the original wall type's total thickness minus the thickness of its structural layer.

If a wall type's thickness is modified, the wall will resize about the outside edge of its Main Layer. In some instances, the wall may appear to move as a result of changes made to the thicknesses of its layers.

Wall Heights

The height of a wall is controlled by the ceiling height of the room(s) it defines. If the ceiling or floor height of a room is changed, the height of the walls that define it also change.

- The ceiling height of a single room can be set in its **Room Specification** dialog. See "General Tab" on page 127.

Wall Length

Wall length can be modified in several different ways:

- Using dimensions. See "Measuring Walls" on page 102.

- In the **Wall Specification** dialog. See "General Tab" on page 110.

- By dragging the end edit handles. See "Editing Line Based Objects" on page 70 and "Editing Arc Based Objects" on page 72.

Bear in mind that if you try to resize a wall by a small amount using one of its edit handles and that wall is connected to another wall at that end, its length will not change because its end will snap back to the existing intersection. See ""The House Wizard is a time-saving feature used to create a preliminary room-by-room design of a home without getting caught up in the details. Once the shape and layout of the rooms are finalized, the House Wizard converts them into a working plan that can be edited and detailed to completion." on page 355Connecting Walls" on page 101.

The most accurate way to specify wall length is using dimensions. By default, wall length is measured at the outside edge of the Main Layer. You can instead specify that dimension lines locate surfaces in the **Dimension Defaults** dialog. See "Dimension Defaults Dialog" on page 331.

Editing Straight/Curved Wall Combinations

If you move a straight wall connected to a curved wall with a locked center, the curved wall extends along its curve and the straight wall will either lengthen or shorten as needed to stay connected to the curved wall.

If the connection between the straight and curved wall cannot be maintained because of the curved wall's radius, it will be broken.
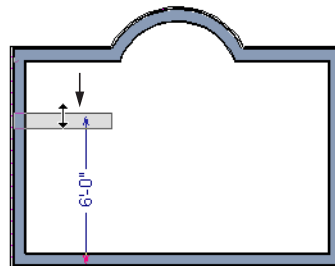
Aligning Walls

Wall alignment refers to the way wall segments line up with one another, either on the same floor or on the floor above or below. Walls may need to be aligned in a variety of situations.

To make alignment easier when drawing or resizing walls, "sticky" points identify points that are either collinear or orthogonal to the end points of other walls. See "Extension Snaps" on page 61.

Aligning Collinear Walls

Collinear walls are parallel walls connected end to end and drawn on the same floor. When collinear walls join end-to-end, the walls snap together. If these walls have the same wall type and identical specifications, and if **Object Snaps** are enabled, they will merge to become a single wall segment.

Aligning Walls

Place Wall Breaks here   *Position these walls as needed*
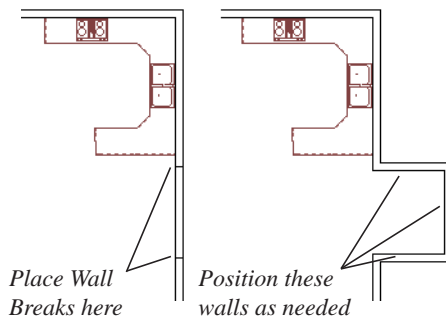
Between Floors

Walls can be aligned between floors by clicking the **Align With Wall Above** ⬆ and **Align With Wall Below** ⬇ edit buttons.

> 💡 In order for these edit tools to be available, the areas of the walls in question must be partially aligned, or overlapping.

To align walls between floors

1. Select a wall that you want to align with another wall either above or below it.

2. If the wall is above or below the other wall along only part of its length, you must click on it along that part. Select **Tools> Reference Floors> Reference Display On** 📗 to help make sure you click on the correct part of the wall.

3. When you have selected the wall at the desired location, click either the **Align With Wall Above** ⬆ or **Align With Wall Below** ⬇ edit button.

Aligning Curved Walls Between Floors

Curved walls are aligned between floors using the same technique to align straight walls. If the centers and radii of the walls are within a few inches of each other, the **Align With Wall Above** ⬆ and **Align With Wall Below** ⬇ edit buttons are enabled for the selected wall. The selected curved wall will take on the radius and center of the referenced wall when the walls are aligned.

Roof Directives in Walls

To automatically generate a roof plane using values other than the defaults or to not generate a roof plane bearing on a particular wall (as for a gable or the sides of a shed roof), you can change the settings in the **Wall** Specification dialog. See "Roof Tab" on page 111.

Hip, Gable, and Shed Roofs

By default, the program will produce a roof plane over each exterior wall to create a hip

roof. You can instead specify a gable or shed roof above the selected wall.

- Check **Full Gable Wall** to create a gable with a ridge centered above the selected wall(s).

- Check **High Shed/Gable Wall** for the side walls or the wall under the high side of a shed roof.

- You can also select a wall and click the **Change to Gable Wall(s)** ⬠ edit button, or change it back by clicking the **Change to Hip Wall(s)** ⬠ edit button.

Pitch

The default pitch for roof planes is set in the **Build Roof** dialog. However, any exterior wall can define the pitch of the roof plane built above it.

You can also specify a second, upper pitch above a given wall. Mansard, gambrel, gull wing and half-hip are examples of roof styles that use two pitches. See "Roof Tutorial" on page 43 of the User's Guide.

Extend Slope Downward

Check **Extend Slope Downward** to extend the roof plane downward over a bumpout, instead of creating additional roof planes.

The two connecting walls that create the bumpout must be Full Gable walls.

In the following image, the bearing wall of the bumpout has **Extend Slope Downward** checked. The two short side walls are **Full Gable Walls**.

Before

Full Gable Wall
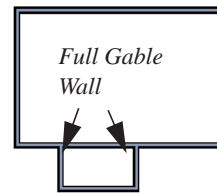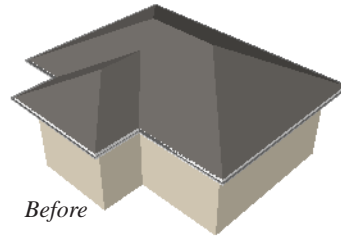
Extend Slope Downward

After
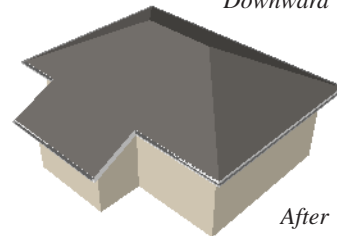
Attic Walls

In Home Designer Landscape and Deck, walls are built between the floor and ceiling platforms of the current floor. See "Floor & Ceiling Heights" on page 123. When the program detects an open space between a wall and the roof plane above it, it automatically creates an Attic Wall on the floor above that wall to fill in the gap.

Attic Walls are typically found above Full Gable Walls, forming a gable or closing the top portion of a side wall of a shed roof. Attic walls are often found on the Attic floor, but

can be generated on other floors, as well. See "The Attic Floor" on page 165.

> If you do not want to keep a particular Attic Wall in your plan, specify it as Invisible. See "Invisible Walls" on page 97.

Knee Walls

Knee Walls are a bit like Attic Walls in that they are not meant to generate to full ceiling height. Instead, they build upward until they encounter a roof plane. Unlike Attic Walls, however, Knee Walls are used in the interior of a structure, typically to separate unused areas from rooms on the upper floor of a story-and-a-half structure. See "Room Types" on page 121.

Home Designer Landscape and Deck does not specify walls as Knee Walls automatically. If an interior wall is drawn in a location where the roof is lower than the ceiling height, you should specify it as a Knee Wall in the **Wall Specification** dialog. See "Roof Tab" on page 111.

Wall Type Definitions

Every wall drawn in a plan is assigned a wall type, and its Wall Type Definition determines its structure, its appearance in floor plan view, and its default materials.

You can specify the default wall types used when walls are first created, and can specify the wall type of any wall after it is drawn in the **Wall Specification** dialog. See "Wall Defaults" on page 94 and "General Tab" on page 110.

The structural layer of a wall type is its Main Layer, which controls a number of things:

- At intersections, walls join at the interior surfaces of their Main Layers. See ""The House Wizard is a time-saving feature used to create a preliminary room-by-room design of a home without getting caught up in the details. Once the shape and layout of the rooms are finalized, the House Wizard converts them into a working plan that can be edited and detailed to completion." on page 355Connecting Walls" on page 101.

- Exterior walls on different floors are aligned by the exterior edges of their Main Layers.

- Roof baselines are placed at the outer edge of the Main Layer.

- Walls resize about the exterior surface of their Main Layer when their wall type is changed.

- Object Snaps locate the exterior surface of a wall's Main Layer. See "Object Snaps" on page 60.

- By default, dimension lines locate walls at their Main Layer. See "Dimension Defaults Dialog" on page 331.

Interior and Exterior Surfaces

Every wall has an interior and exterior surface - including walls in a plan that are recognized by the program as being interior walls. See "Exterior and Interior Walls" on page 96.

Having separate designations for a wall's two surfaces allows you to specify different materials for each in the **Wall Specification** dialog. See "Materials Tab" on page 112.

In floor plan view, you can identify a selected wall's exterior surface by the location of its edit handles, which display on the exterior of the Main Layer.

Wall Specification Dialog

To open the **Wall Specification** dialog, select a wall and click the **Open Object** edit button.

The tabs of the **Wall Specification** dialog are also found in the **Railing**, **Deck Railing**, and **Fencing Specification** dialogs. See "Railing and Fencing Specification Dialogs" on page 112.

General Tab
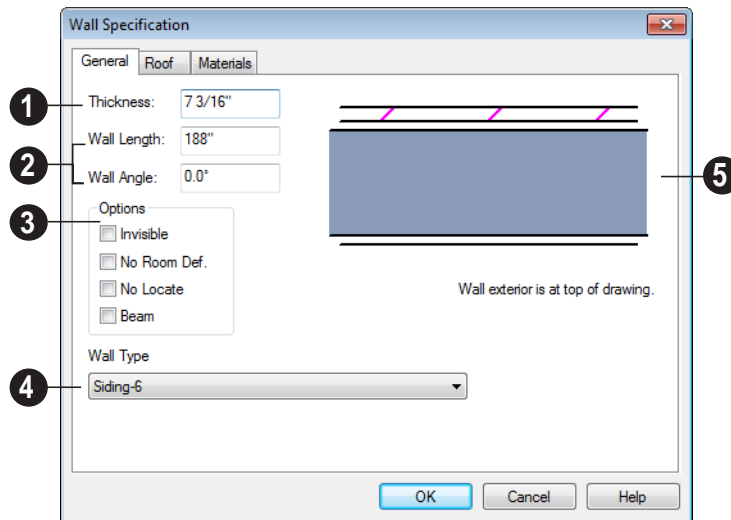
Some items on the General tab are available only when they apply to the selected wall or railing.

1 The **Thickness** of the selected wall displays and can be changed here. If the wall is a Post to Overhead Beam railing, this setting also affects the width of the beam. See "Wall Thickness" on page 105.

2 Specify the **Wall Angle** and **Wall Length** of a straight wall. These options are not available for curved walls.

• **Wall Angle** - The current absolute angle of the wall in a floor plan view is shown. Type in a new angle to rotate the wall about its locked point.

- **Wall Length** - The current length is shown. Type in a new length. The part of the wall that extends or contracts is determined by where it is locked.

③ Check any of the **Options** to modify the selected wall accordingly. In most cases, multiple options can be selected. Not available for fencing.

- Select **No Room Def.** to display the wall in floor plan and/or 3D views but not create room definition. See "Room Definition" on page 118.

- Select **No Locate** to prevent Auto Exterior Dimensions from locating a wall.

Railings have No Locate selected by default. See "No Locate" on page 103.

- Select **Beam** to have the wall display as two lines in floor plan view and a beam in 3D views.

④ The **Wall Type** drop-down allows you to change the type of the wall currently selected to any of the available options. Its graphic representation in the upper right corner will update to reflect the wall type that is currently selected. Not available for fencing.

⑤ A preview diagram of the selected wall type displays here.

Roof Tab

Any automatically generated roof style other than a hip requires roof information to be defined in the exterior walls. On the Roof tab, you can specify how the selected wall interacts with the roof plan, defining the portion of the roof plan that bears on it..

The Roof tab is not available for Foundation Walls or Fencing. See "Foundation Walls" on page 96 and "The Fencing Tools" on page 96.
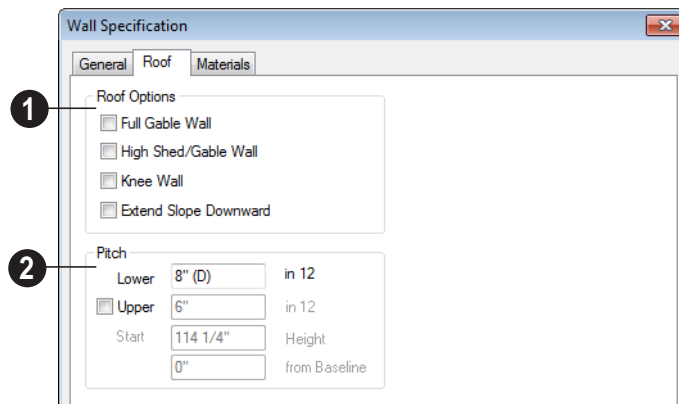
① **Roof Options** - Specify the shape of the wall relative to the roof.

- Check **Full Gable Wall** to create a gable end over the selected wall.

- Check **High Shed/Gable Wall** to specify the selected wall as the high end of a shed roof.

- Check **Knee Wall** to define the selected interior wall as a knee wall. Only an interior wall can be defined as a knee wall. A knee wall's height is defined by the roof above, not the ceiling height. See "Knee Walls" on page 109.

- Check **Extend Slope Downward** to continue a roof down over a bumpout in an exterior wall. See "Extend Slope Downward" on page 108.

2 **Pitch Options** - Specify the pitch or pitches of the roof plane(s) above the selected wall.

- Enter a value to define the **Pitch** of the roof plane bearing on the selected wall.

- Check **Upper Pitch** to create a roof with two pitches or, if the selected wall is a Full Gable Wall, a half hip condition.

- Enter the **Pitch** of the second, upper roof.

- Specify the **Height** that the Upper Pitch **Starts at,** or define the distance **in from Baseline** that the second pitch begins. The two values are dynamic. Press the Tab key to update the relative numbers.

Rail Style Tab

The Rail Style tab is only available for Railings, Deck Railings, and Fencing. See Rail Style Tab.

Newels/Balusters Tab

The Newels/Balusters tab is only available for Railings, Deck Railings, and Fencing. See   Newels/Balusters Tab.

Materials Tab

All walls - including interior walls, railings and fencing - have an "Exterior Wall Surface" and an "Interior Wall Surface". See "Interior and Exterior Surfaces" on page 109.

The materials specified on the Materials tab affect the appearance of walls and Solid Railings in 3D views but are not calculated in the Materials List. See "Materials Lists" on page 389.

For most railing types, the "Exterior Wall Surface" component only affects the appearance of the floor platform under the railing. and "Interior Wall Surface" component is not used. For fencing, neither material component is used.

Railing and Fencing Specification Dialogs

To open the **Railing** or **Fencing Specification** dialog, select a railing or fencing and click the **Open Object** edit button.

The **Railing** and **Fencing Specification** dialogs are the same as the **Wall Specification** dialog, but have two tabs that apply only to Railings, Deck Railings, and Fencing. See "Wall Specification Dialog" on page 110.

Rail Style Tab

The Rail Style tab is only available for Railings, Deck Railings, and Fencing. See "Railings" on page 97, "The Deck Tools" on
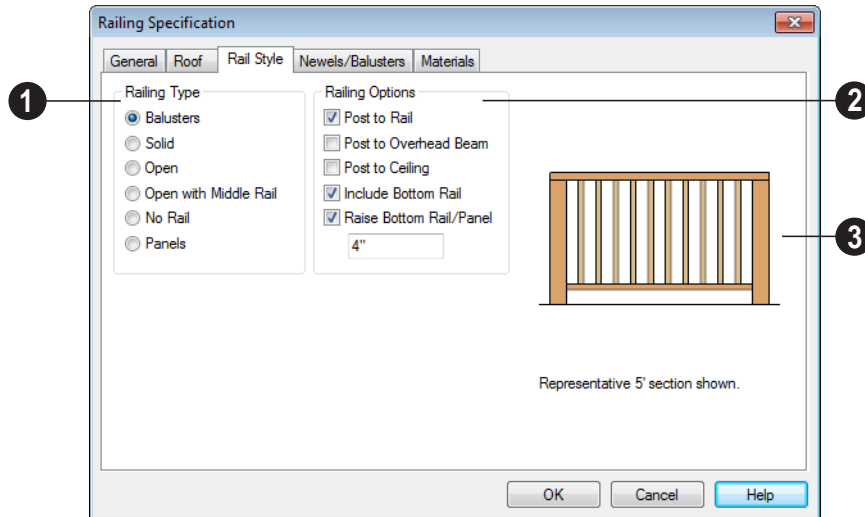
① **Railing Type** - Select the radio button for the desired railing type. A preview of the selected type displays to the left.

- **Balusters** - Create regularly spaced balusters between larger newel posts.

- **Solid** - Create a solid, wall style railing. The wall is the type defined by the current wall layer definition.

- **Open** - Create a railing with only a top rail.

- **Middle Rail** - Create a railing with a top and a middle rail.

- **No Rail** - Eliminate rails, leaving only posts (and overhead beam, if selected).

- **Panels** - Add panels between the newel posts.

- Click the **Panel Library** button to select a style of panel from the library. Options include glass and ironwork panels. See "Select Library Object Dialog" on page 285.

② **Railing Options** - Specify how newel posts and the bottom rail are generated.

- **Post to Rail** - Create newel posts from the floor to the bottom of the railing. This option is selected by default.

- **Post to Overhead Beam** - Create newel posts from the floor to an overhead beam placed just under the ceiling height. The beam's width is based on the Thickness of the selected railing wall.

- **Post to Ceiling** - Extend the newel posts to the ceiling.

- When none of the Post options is selected, newel posts will build to the top of the railing.

- Uncheck **Include Bottom Rail** to eliminate the bottom rail and extend the balusters to the floor. Not available for Panel railings.

- Check **Raise Bottom Rail**, then specify the bottom rail's height off the floor platform in the text field below.

3 A preview of the railing displays here and updates as options are changed.

Newels/Balusters Tab
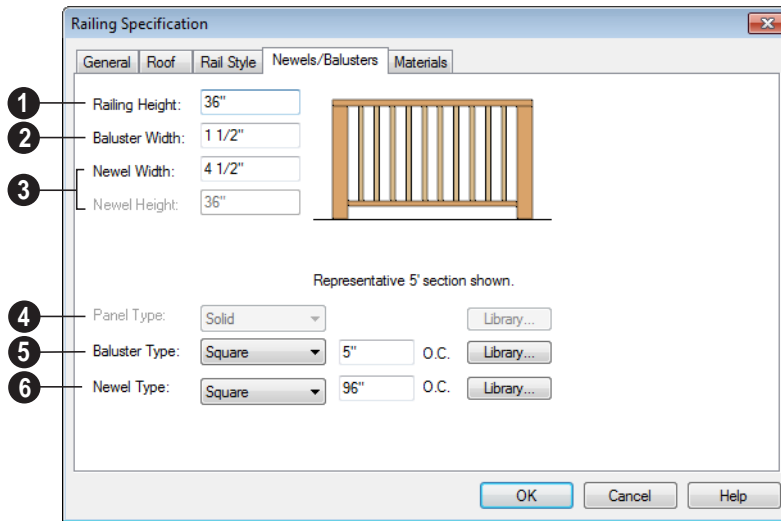
1 **Railing Height** - Specify the railing height. For interior railings, this is measured from the height of the floor finish.

2 **Baluster Width** - Specify the width or diameter of each baluster at its widest point. For a Panel railing, this is the panel's thickness and can be no larger than the railing's total thickness, shown on the General tab.

3 Specify the characteristics of the selected railing's newels.

- Specify the **Newel Width**. For a library newel, this is its width or diameter at its widest point.

- Specify the **Newel Height**, which is the height from the ground to the top of the newel. Not available if Post to Rail, Post to Overhead Beam or Post to Ceiling is selected on the Rail Style tab.

4 **Panel Type** is only available when the railing type has been specified as Panels on the Rail Style tab. Select "Solid", "Framed", or "Library" to select a symbol to be used as a railing panel.

5 **Baluster Type** - Only available when the railing type is "Balusters." Select square, round, or Library balusters and specify their on-center (**O.C.**) spacing.

6 **Newel Type** - Select square, round, or Library newels and specify their on-center (**O.C.**) spacing.

Note: Selecting Library from the Panel, Baluster or Newel Type drop-down list is the same as clicking the Library button to the immediate right and allows you to select a symbol from the library. See "Select Library Object Dialog" on page 285.

Wall Hatch Specification Dialog

To open the **Wall Hatch Specification** dialog, select a Wall Hatch and click the **Open Object** edit button. See "Hatch Wall" on page 98.
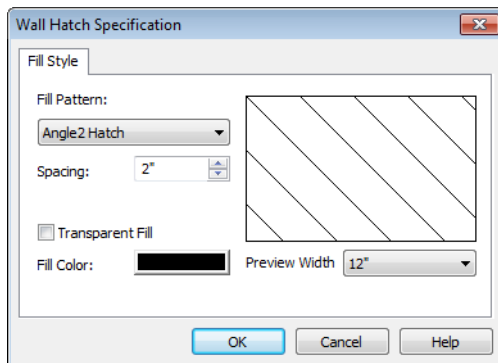
- Choose a **Fill Pattern** from the drop-down list. A preview of the selected pattern displays to the right.

  The options that follow are disabled until you select a pattern other than **None** from the **Fill Pattern** drop-down list.

- Define the **Spacing** for the selected fill pattern. Hatch spacing set at 12" matches grid/reference spacing set at 12".

- Check **Transparent Pattern Fill** to make the fill pattern transparent. When you check this option, any objects behind the fill pattern are visible through it.

- **Fill Color** - Click the color bar to select a color for the fill pattern lines or fill color if a solid fill is specified. This overrides the layer color. See "Color Chooser Dialog" on page 300.

- Choose a **Preview Width** from the drop-down list. This value controls how large an area the preview represents. The selected value indicates the length of each side of the preview in plan inches (mm).

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Rooms

When walls or railings create an enclosed area, a "room" is created. You can select rooms defined in this manner like other objects in Home Designer Landscape and Deck.

Rooms are assigned a Room Type. Each Room Type has predefined characteristics. For example, a room defined as Porch is assigned certain attributes that are different than a Kitchen.

Floor and ceiling heights, baseboard, chair-rail, and crown moldings and materials can be defined room-by-room or for the entire floor.

Chapter Contents

Room Defaults

Select **Edit> Default Settings** to open the **Default Settings** dialog where you can access several defaults dialogs which directly affect rooms.

Room Defaults

- Normal Rooms
- Kitchens/Baths/Utility Rooms
- Decks

- Garage/Porches/Slabs

These Room Defaults dialogs are accessed by expanding the "Rooms" category in the **Default Settings** dialog. Select a room type and click the **Edit** button to open the defaults dialog for that room type. See "Room Types" on page 121.

These dialogs allow you to specify the floor and ceiling covering materials for different Room Types.

Room Definition

A room is a totally enclosed area defined by any combination of joined walls or railings, visible or invisible. To be recognized as a room by Home Designer Landscape and Deck, a room must have an unbroken perimeter.

Unless otherwise specified, rooms generate floor and ceiling platforms automatically. Most rooms are also automatically covered by the roof when one is built. There are exceptions to this, such as rooms defined as Decks. See "Room Types" on page 121.

If a room is drawn within a larger structure and none of its walls connect to the exterior walls, either directly or indirectly by connecting to walls that do, it is referred to as an "island" room. The program will connect such a room to the larger structure with an Invisible Wall. See "Invisible Walls" on page 97.

Room definition disappears if part or all of a surrounding wall is deleted. It is a good idea to finalize the position of walls before defining rooms with names and attributes such as floor height and ceiling height.

Selecting Rooms

Room definition is established when a room is completely enclosed by walls. You can confirm that a room has room definition by using the **Select Objects** tool to select it. When a fully-enclosed room is selected, the room highlights.

The Exterior Room

The room at left is selected

You can also select the exterior of a model. This allows you to control the building's exterior wall coverings and materials using the **Room Specification** dialog.

Click just outside an exterior wall using the **Select Objects** [cursor] tool to select the Exterior Room. When it is selected, a highlighted band around the plan's exterior displays. This band represents the selection area for the Exterior Room.

The Exterior Room is selected

In camera views and overviews, the Exterior Room can be selected by clicking on the exterior surface of an exterior wall using the **Select Objects** [cursor] tool.

In 3D Views

Click on the floor of a room or on a wall surface inside the room in a 3D view using the **Select Objects** [cursor] tool. If you select another object instead of the room, click **Select Next Object** [next] edit button or press the Tab key until the room is selected. The Status Bar indicates which object is currently selected.

The Exterior Room can also be in 3D views selected by clicking once on the exterior surface of an exterior wall using the **Select Objects** [cursor] tool.

Note: If the wall height of the Exterior Room is adjusted in a 3D view, the default Floor or Ceiling Height of the entire floor is changed.

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Displaying Rooms

Unlike most things in Home Designer Landscape and Deck, a room is not an individual object. Rather, a room is defined by the walls that enclose it.

In Floor Plan View

Rooms typically display a transparent fill in floor plan view. You can, however, specify a solid color or fill pattern for individual rooms in the **Room Specification** dialog. See "Fill Style Tab" on page 130.

In order for room fill styles to display, the "Rooms" layer must be turned on. See "Displaying Objects" on page 56.

Room labels that include the room's name as well as its size and other information can be set to display in floor plan view. See "Room Labels" on page 122.

Editing Rooms

Once a room is defined by walls or railings, its structure and appearance can be edited using the edit buttons or the **Room Specification** dialog.

In 3D Views

The floor and ceiling heights for floors and rooms can be edited using edit handles in 3D views. Lowered ceilings cannot be edited in 3D. See "3D Views" on page 309.

The default floor and ceiling heights for an entire model can be edited by selecting the Exterior Room. See "The Exterior Room" on page 119.

To change default ceiling heights in 3D

1. Create a 3D view of the exterior of your plan.

2. Click on the exterior surface of a wall to select the Exterior Room. The Status Bar indicates when the exterior room is selected. See "The Exterior Room" on page 119.

3. Click and drag the edit handle on the top wall edge to adjust the default ceiling height, or the edit handle on the bottom edge to adjust the default floor height. Temporary dimensions display.

To adjust room heights in 3D

1. Create a 3D view of your plan.

2. Click on the surface of a wall that faces the room to select it. When the room is selected in 3D:

    *   The room highlights.
    *   The Status Bar says "Room". See "The Status Bar" on page 24.
    *   Two edit handles display on the top and bottom edges of the highlighted wall.

3. Click and drag the edit handle on the top wall edge to adjust the room ceiling height, or the handle on the bottom edge to adjust its floor height. Temporary dimensions display.

4. As you drag a handle, notice that all walls defining that room are affected.

Room materials such as floor, ceiling, and wall materials can be changed in 3D views using the **Material Painter** . See "The Material Painter" on page 292.

In the Specification Dialog

Floor and ceiling heights, floor platform structure, moldings, and materials can all be specified in the **Room Specification** dialog. See "Room Specification Dialog" on page 127.

Room Types

When a room is first created by enclosing an area with walls, it is assigned a generic room type of "Unspecified."

Once your floor plan is laid out, each room should be assigned a **Room Type** in the **Room Specification** dialog. See "General Tab" on page 127. The Room Type applies appropriate structural and display properties to the room.

When you assign a Room Type, a label showing the room's Type displays in floor plan view.

You can edit the text of a room label in floor plan view, but the type of room originally assigned remains until it is changed in the **Room Specification** dialog. See "Editing Room Labels" on page 122.

Available Room Types

There are three categories of room types: Interior, Exterior and Hybrid.

Interior - Living, Dining, Family, Kitchen, Nook, Bath, Master Bath, Master Bedrm, Bedroom, Study, Office, Entry, Hall, Closet, Dressing, Storage, Laundry, Utility and Unspecified.

Exterior - Court, Deck, Balcony.

Hybrid - Open Below, Garage, Slab, Porch, Attic.

Effects of Room Types

The program applies specific structural and display properties to rooms depending on the assigned Room Type.

Ceilings and Roofs

- Interior rooms have a ceiling and roof above them unless specified otherwise.

- Exterior rooms are assumed to be open to the outside and do not generate a roof above them, or room moldings.

- Attic rooms are ignored by the program's automatic roof generator.

- Garage, Slabs, and Porches are treated like exterior rooms in all cases except that they generate a ceiling and a roof above them.

- A room's default ceiling structure and finish definitions are determined by its Room Type. See "Room Defaults" on page 118.

Floors and Foundations

- Open Below is a unique type of interior room. It has no floor platform and can be used for defining stairwell openings.

- Walls that define the garage have a foundation under them with a concrete slab at the top of stem wall or grade beam.

- The floor in Garage and Slab rooms display in 3D on Floor 0, not the first floor. See "Garages" on page 171.

- A room's default floor structure and finish definitions are determined by its Room Type. See "Room Defaults" on page 118.

- Courts, decks and balconies do not generate foundations.

Doors and Windows

- A window placed in a wall between an exterior room and an interior room always faces out toward the exterior.

- Windows placed between interior rooms generate a warning message.

- Door placed between interior and exterior type rooms display threshold lines.

- Interior doors do not display thresholds.

- Open Below rooms are treated as interior rooms for window and door placement.

Electrical

- Any outlet manually placed in an exterior room automatically becomes a waterproof outlet designed for exterior use.

Trim and Molding

- Moldings are not automatically drawn in exterior or hybrid rooms.

- Baseboards and chair rails are not initially drawn in Open Below rooms, but crown molding, if present, is.

Room Labels

A label can display in floor plan view for any area defined as a room. There are two parts to each room label:

- The Room Name, which is similar to a

  Text [T] object and can be selected and edited. See "The Text Tools" on page 344.

- The room area, which is not a standard text entry and cannot be directly edited.

You can assign a custom Room Name, move a room label or even delete it without affecting the Room Type. See "Room Types" on page 121.

⚠ Room labels can move or even disappear when room entries are revalidated.

Editing Room Labels

Room labels are similar to simple **Text** [T] objects and can be changed, moved and resized much like any other text object. You can also modify a room label's Text Style and other attributes in the **Room Label Specification** dialog.

The text of a room label cannot be modified in its specification dialog, however: it must be specified in the **Room Specification** dialog. See "General Tab" on page 127.

If you delete a room label, the Room Type and Room Name remain unchanged in the **Room Specification** dialog. To restore the label, check the **Show Room Label** check box on the General tab of that dialog.

Room Area

Unlike the rest of a room label, the room area and dimensions are not standard text entries and cannot be edited or changed. The room area moves, resizes and rotates with the rest of the room label. See "Displaying Rooms" on page 120.

Decks

A Deck room is an exterior-type room that uses deck planking and framing to create a floor platform rather than using a single floor surface that spans the entire room area.

To draw a deck, select **Build> Deck> Deck Railing** , then click and drag to draw a railing.

- To create a deck without a railing, use one of the **Deck Edge** tools. See "The Deck Tools" on page 95.

- You can also create a regular, polygon-shaped deck using the **Polygon Shaped Deck** tool. See "Polygon Shaped Deck" on page 95.

A room does not have to be defined by Deck Railing to be specified as a "Deck." See "Room Types" on page 121. You can also define a room as a "Deck" in the **Room Specification** dialog. See "General Tab" on page 127.

By default, decks do not have roofs. If you want a roof over a deck, check **Roof Over This Room** in the **Room Specification** dialog. See "Structure Tab" on page 128.

To give the roof a visible means of support, you can select the **Post to Beam** option in the **Wall Specification** dialog. See "Rail Style Tab" on page 113.

Openings in deck railings can be created using **Doorways** . See "Openings in Railings" on page 138.

Floor & Ceiling Heights

Use the **Room Specification** dialog to set floor heights on a room-by-room basis. See "Room Specification Dialog" on page 127.

Different rooms on the same floor can have unique floor and ceiling heights, allowing you to create:

- Split levels and bi-levels

- Sunken living rooms and garages

- Cathedral and coffered ceilings.

In 3D views, you can adjust the default floor and ceiling height for the entire floor or the floor and ceiling height for an individual room. See "In 3D Views" on page 120.

All floor and ceiling heights are measured relative to zero, which is the default floor height for Floor 1. Unlike other default floor and ceiling heights, the default floor height for Floor 1 cannot be changed, but the floor heights of rooms on Floor 1 can be edited individually.

In order to raise or lower an area's floor or ceiling height, you must give it a room definition. To create room definition without enclosing an area with solid walls, use

Railings .

Ceiling and floor heights are interrelated. Changing the floor height in one room can affect ceiling heights of the rooms below.

• If a room's floor is lowered, its ceiling height is increased while the ceiling below that room drops.

• If the floor is raised, the ceiling height decreases while the ceiling below that room is raised.

If the rooms above a particular room have more than one floor height, the room's ceiling is stepped.
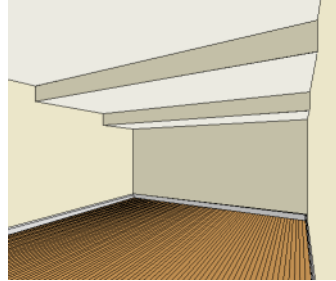
In a situation like this, a Lowered Ceiling can be used to cover "steps" made by different floor heights on the floor above. See "General Tab" on page 127.

To ensure that steps in floor and ceiling platforms have solid sides, define their room areas using Invisible Railings.

Split Levels

A split level can be created by raising or lowering the floor and ceiling heights of various areas of the plan.

In the following example, the lowest floor height is 0, the next is 24, and the next is 48 inches. The ceiling height in each room is set at 109 inches. See "Split Levels" on page 163.
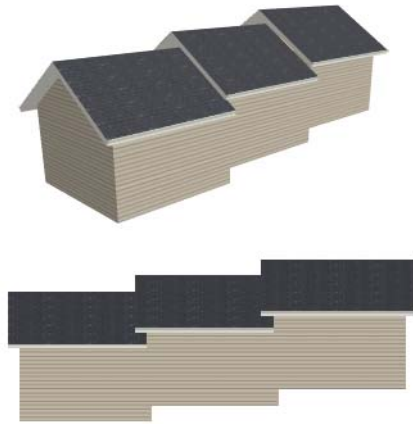
Special Ceilings

By default, the program builds a flat ceiling platform on top the wall plates of a room. More varied and complex ceilings are made using settings in the **Room Specification** dialog.

Lowered Ceilings

You can define a lowered or dropped ceiling in a room without affecting the top plate height of the walls by increasing the thickness of the Ceiling Finish.

In the following illustration, the default ceiling height for the entire first floor is 120", and the room on the right has a ceiling finish lowered to 96".

Normal ceiling   *Lowered ceiling*
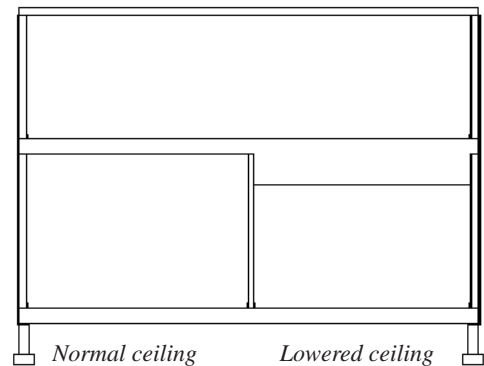
To create a lowered ceiling

1. Select the room in which you would like to specify a lowered ceiling.

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

3. On the Structure tab, increase the **Ceiling Finish** value by the amount that you would like to lower the ceiling.

4. Notice that the preview diagram represents the Finished Ceiling height (F).
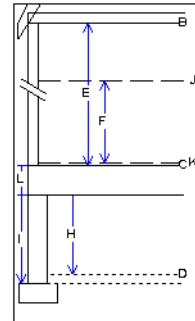
Cathedral Ceilings

A cathedral ceiling has the same pitch as the roof and is created using the underside of the roof above the room.

To create a cathedral ceiling

1. Build a roof for your plan. See "Roofs" on page 179.

2. Select the room and open the **Room Specification** dialog. See "Room Specification Dialog" on page 127.

3. On the Structure tab, clear the check box for **Ceiling Over This Room**.

Tray Ceilings

A tray ceiling is flat in the center and sloped around the perimeter, and is easily created using the underside of roof planes above.

To create a tray ceiling

1. In the **Room Specification** dialog, make sure that **Ceiling Over this Room** is checked, then specify the desired height of the walls as the **Ceiling Height**. See "Structure Tab" on page 128.

2. Make sure that **Auto Rebuild Roofs** is unchecked, then build the roof. See "Build Roof Dialog" on page 181.

3. Change the **Ceiling Height** of the room to the desired height of the flat ceiling surface in its center.

In floor plan view, dashed lines indicate where the ceiling changes from sloped to flat. These lines are located on the "Ceiling Break Lines" layer in the **Display Options** dialog. See "Display Options Dialog" on page 57.

If the roof is rebuilt after the ceiling height is adjusted upward, the new roof will be raised to match the new ceiling height and a tray ceiling will not be created.

In the following example, a hip roof is built on 8' (2400 mm) ceilings. After the roof is built, the Ceiling Height is raised to 10' (3000 mm). The resulting ceiling follows the roof pitch for 2' (600 mm), then becomes a flat ceiling.

Hip roof with cathedral ceiling over.

Hip roof, ceiling over, ceiling height raised.

Ceiling Break lines in floor plan view.
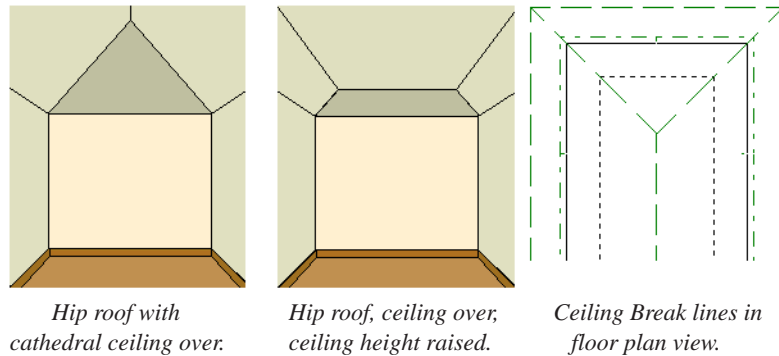
Cantilever Undersides

Occasionally, a room will cantilever out past an exterior wall. You can specify the surface material of the underside of a cantilever on the Materials tab of the **Room Specification** dialog. See "Room Specification Dialog" on page 127.

Room Specification Dialog

 The **Room Specification** dialog controls the structural characteristics and appearance of a selected room. To open the **Room Specification** dialog, select a room and click the **Open Object** edit button. See "Selecting Rooms" on page 118.

The Materials tab in the **Room Specification** dialog is also found in the **Room Defaults** dialogs. See "Room Defaults" on page 118.

General Tab
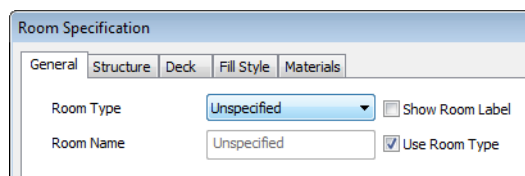
The settings here control the Room Type and the appearance of the Room Label.

- Select the **Room Type**. This affects some of the room's characteristics. See "Room Types" on page 121.

- Check **Show Room Label** to display the room label in floor plan view. This option is unchecked automatically if you select "Unspecified" as the room type. See "Room Labels" on page 122.

- If you wish to use a custom name in the room label, uncheck **Use Room Type**,

then specify the desired **Room Name** in the text field.

Structure Tab

The Structure tab features a cross section diagram that shows the relationships between its various heights and platform thicknesses. It is meant to represent the relationships between heights and thicknesses rather than provide a scaled drawing of the model.

Two floors can be included in the diagram: the floor that the selected room is located on, and the floor below it, if one exists.

What appears in both the diagram and in the settings to its left may be affected by the

location where you clicked to select the room. For example:

- If the selected room is located above two rooms with different structural settings, the position of the pointer relative to these two lower rooms determines which of them displays as the floor below.

- If the selected room is located below two rooms with different floor heights, its absolute and relative ceiling height settings will be disabled.
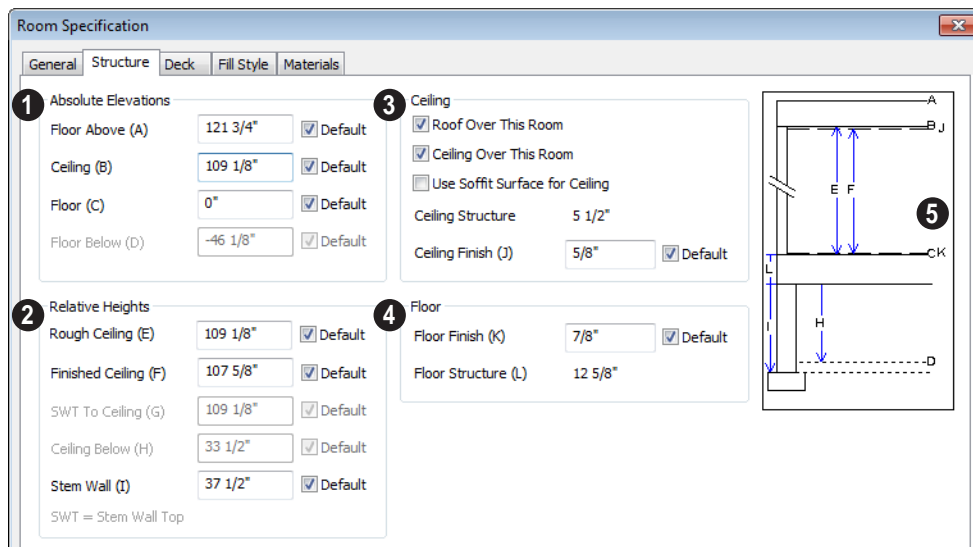
Check the **Default** box beside any height value to restore the default setting.

① **Absolute Elevations** - These height values are measured from the default first floor height of zero. See "Floor & Ceiling Heights" on page 123.

- Specify the **Floor Above** height, which is the floor height of the room or rooms on the floor above the selected room. If multiple floor heights are specified directly above the selected room, this setting will be inactive and "No Change" will display.

- Specify the **Ceiling** height of the selected room. Not available if multiple floor heights are specified above the selected room.

- Specify the **Floor** height.

If a room is defined directly beneath the selected room on the floor below, additional settings may be available.

- Specify the **Floor Below** height, which is the floor height of the room directly below where you clicked to select the currently selected room.

- If the selected room is directly above a Garage and there is a foundation present, you can specify the **SWT Below** height, which is the top height of the concrete stem walls around the perimeter of the garage.

2 **Relative Heights** - These height values are measured from surfaces within the selected room or the room below.

- Specify the **Rough Ceiling** height, as measured from the subfloor surface to the bottom of the ceiling framing. Not available if multiple floor heights are specified directly above the selected room.

- Specify the **Finished Ceiling** height, as measured from the finished floor surface to the finished ceiling surface. Not available if multiple floor heights are specified directly above the selected room.

- Specify the distance from the **Stem Wall Top to Ceiling**. Only available when **Floor for this Room is Supplied by the Foundation 'Room' from the Floor Below** has been checked.

- Specify the **Ceiling Below** height, which is the height of the ceiling of the room

below, as measured from that room's sub-floor to rough ceiling surfaces. Not available when Auto Rebuild Foundation is enabled or if there is no room below the selected room. See "Rebuilding Foundations" on page 170.

- Specify the **Stem Wall** height, which is measured from the bottom of the room's floor framing to the top of the foundation wall footing and including a treated sill plate, if one is specified. Only available if the selected room or the room below it is defined by foundation walls.

3 Specify the characteristics of the room's **Ceiling**.

- If **Roof Over This Room** is checked, a roof automatically generates over the room. If unchecked, no roof generates.

- If **Ceiling Over This Room** is checked, the room has a flat ceiling. If unchecked, the ceiling follows the underside of the roof.

- Check **Use Soffit Surface for Ceiling** to improve the 3D appearance of the transition between ceiling and eaves of exterior rooms with Ceiling Over This Room unchecked.

- The thickness of the **Ceiling Structure** displays here for reference but cannot be changed.

- Specify the thickness of the **Ceiling Finish** layer.

4 Specify the thickness of the **Floor Finish** layer.

- The thickness of the **Floor Structure** displays here for reference but cannot be changed.

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⑤ A cross section diagram showing the relationship between the various height settings displays here for reference.

Deck Tab

The options on the Deck tab are only available for rooms designated as Decks. See "Decks" on page 123.
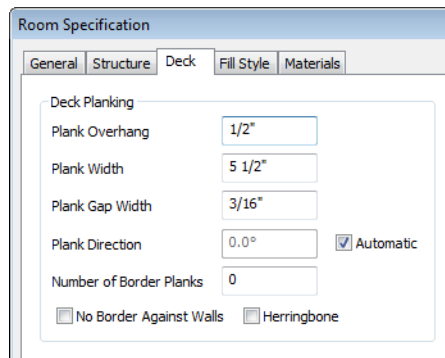
Specify the appearance of the **Deck Planking**.

- Specify how far the deck planking **Overhangs** the rim joists.

- Specify the **Plank Width** of the deck planking.

- Specify the **Plank Gap Width**, which is the distance between individual planks.

- If you want to enter a **Plank Direction**, remove the checkmark from **Automatic**. Enter the direction as degrees.

- Specify the **Number of Border Planks**. These are planks that follow the outside edge of the deck and may not be parallel with the rest of the planking. Border planks generate as long as the length of an inside edge is greater than 0". They do not generate on curved deck edges.

- Check **No Border Against Walls** to prevent border planking from being generated along any walls defining the deck.

- Check **Herringbone** to produce a herringbone pattern where the border planks meet.

Fill Style Tab

The settings on this tab affect the appearance of the room in floor plan view. For more information, see "Fill Style Tab" on page 209.

Materials Tab

The settings on this tab affect the appearance of a selected room's walls, floor, ceiling and moldings in 3D views. See "Materials Tab" on page 294.

Doors

Home Designer Landscape and Deck comes with tools for creating a wide variety of interior and exterior doors. In addition, the library offers a large selection of specialty doors and doorways including hinged, sliding, bifold, and garage doors. Additional name-brand door catalogs are also available for download from our web site, www.HomeDesignerSoftware.com.

Chapter Contents

Door Defaults

Default Settings are accessed by selecting **Edit> Default Settings**. The values in the **Door Defaults** dialog are initial values for interior or exterior doors. Individual doors can be edited after they are created.

The **Door Defaults** dialogs look nearly the same as the **Door Specification** dialog. See "Door Specification Dialog" on page 140. There are only a couple of differences:

- Since default settings are specified here, "Use Default" is not an option for some

settings as it is in the **Door Specification** dialog.

- The **Door Type** cannot be changed in the Defaults dialogs.

The Door Tools

To place a door, select the type you want from the **Build> Door** submenu.

With a Door Tool active, move your mouse pointer over a wall section. If there is room enough along the wall to fit a 12" (300 mm) wide door, a preview of the door will display. When a preview can be seen, click on a wall to place a door in the wall at that location.

Hinged and Sliding Doors have both Interior and Exterior Door Defaults. If the wall is an exterior wall or one that separates an interior from an exterior room, the program places an exterior door based on the default settings for exterior doors. If the wall is an interior wall, the program places an interior door based on the default settings for interior doors. This rule applies to doors copied and pasted from one location to another just as it does to newly placed doors. See "Door Defaults" on page 131.

Once placed, any door may be changed into any other type of door using the **Door Specification** dialog. See "Door Specification Dialog" on page 140.

Hinged Doors

Select **Build> Door> Hinged Door** and click a wall where you want to place a hinged door. Hinged doors can be placed on interior or exterior walls, and can be set up so that different door styles are placed in each. A hinged door becomes a double door when its width is four feet or greater.

The initial swing direction of a hinged door depends on the location of the mouse pointer relative to the wall when you click. The door will swing towards the side of the wall that you click nearest.

The initial hinge side of a hinged door can be set by clicking to place the door and then holding the mouse button down rather than releasing it. Move the mouse toward the end of the door that you would like the hinges to be on: as the mouse pointer nears either end, the door preview's hinge side will move to that end. You can also adjust the door's swing direction in this manner. When the swing direction and hinge side are correct, release the mouse button.

Doorways

Choose **Build> Door> Doorway** and click a wall to place a doorway (an opening without a door). Doorways can be placed on interior or exterior walls, or in railings and fences to provide an opening. You can assign a door from the library to a doorway.

Sliding Doors

Select **Build> Door> Sliding Door** and click a wall where you want to place a sliding door. Sliding doors can be placed on interior or exterior walls and can be set up so that different door styles are placed in each. If placed in an exterior wall, the door is glass; if placed in an interior wall, it is a solid slab.

The initial opening side of a sliding door can be specified by moving the mouse pointer along the wall while the mouse button is still pressed.

The default sliding door dimensions are 5'-0" x 6'-8" with a 12" bottom frame and a 6" frame on the sides and top.

Bifold Doors

Choose **Build> Door> Bifold Door** and click a wall where you want to place a bifold door.

Like a hinged door, the initial opening side of a bifold door depends on the location of the mouse pointer relative to the wall when you click. The door will open towards the side of the wall that you click nearest.

Similarly, the initial hinge side of a sliding door can be specified by moving the mouse pointer along the wall while the mouse button is still pressed.

The default interior single bifold door is 2'-6" x 6'-8". A bifold door becomes a double bifold if its width is greater than three feet.

Bifold doors always display closed in all 3D views.

Garage Doors

Choose **Build> Door> Garage Door** and click a wall to place a garage door.

The default garage door is 8'-0" x 7'-0" high. A garage door must be at least two feet wide.

In floor plan view, dashed lines show the size and location of the garage door when open.

Garage doors will build into a garage stem wall provided the room is designated as a garage before the door is inserted. See "Room Types" on page 121.

The Doors & Doorways Library

The Doors & Doorways library can be accessed by selecting **Library> Library Browser** and browsing to Home Designer Content> Architectural. This library folder contains a variety of interior and exterior doors, as well as special entryways and wrapped openings.

Entryways and wrapped openings are examples of Doorways, which are wall openings that do not have doors within them.

To add a door to the Doorway, select a **Door Type** other than "Doorway" from the drop-down list in the **Door Specification** dialog. See "General Tab" on page 140.

You can also select a custom door from the library and place it into a doorway in floor plan view or any 3D view.

To place a library door in a doorway

1. Go to floor plan view or any 3D view.

2. Open the Library Browser.

3. Navigate through the Doors library category until you find the custom door style desired.

4. Select the door in the Library Browser, then click on the doorway to place the selected door within it. If a door already exists, it is replaced.

5. Continue clicking other doorways until all changes have been made.

Displaying Doors

The display of doors, door labels, and opening indicators is controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

Doors can only be placed in walls, so if a wall's layer is turned off, any doors placed in that wall will not display, either. See "Displaying Walls" on page 101.

If the "Doors" layer is turned off, doors and their casing do not display but openings in the walls where they are located are visible.

In Floor Plan View

When the "Doors" layer is turned on in floor plan view, door symbols represent the width of the opening and indicate its swing. If a door is recessed, the affected wall layers will adjust to accomodate the casing.

Doors in exterior walls and doors that open to exterior type rooms such as a Garage, Porch, or Deck have a threshold line across the opening in floor plan view. See "Room Types" on page 121.

Threshold Line
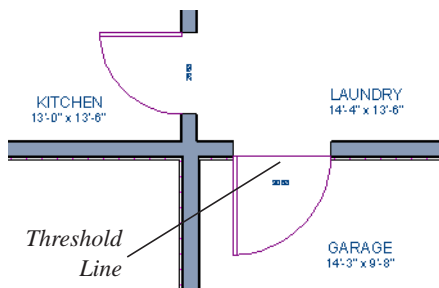
If an exterior door to a Garage room on Floor 1 extends into a Garage stem wall or curb on Floor 0, its location will be indicated on Floor 0. See "Garages" on page 171.

In 3D Views

You can specify whether a selected door is shown open or closed in 3D views by clicking the **Show Door Open in 3D** and **Show Door Closed in 3D** edit buttons as well as in the **Door Specification** dialog. See "General Tab" on page 140.

If a door is set to display open in 3D, the angle of the open door can be changed using the edit handles. See "Using the Mouse" on page 135.

Door Labels

Door labels display in floor plan view, centered on the doors they represent, when the "Doors, Labels" layer is turned on. Door labels indicate Width and Height. For example:

- In Imperial plans, the label for a 3'-0" wide, 6'-8" high double hung window will read 3068.

- In metric plans, the label for a 900 mm wide, 2100 mm high double hung window will read 900x2100.

Editing Doors

Before a door can be edited, it must be selected. To select a door, click it when the

Select Objects 🔘 tool or any of the **Door Tools** 🔘 are active. Doors and/or windows can also be group selected and edited. See "Selecting Objects" on page 68.

Blocked units are made up of individual doors and windows that have been grouped together to act as one object. You can create what is essentially a blocked door unit by assigning a library door to a doorway from the library

Select a blocked unit by clicking on it in any view. To select a door that is a component of a blocked unit, click at the location of the component in question, then click the **Select Next Object** next edit button. See "Selecting Objects" on page 68.

In the Specification Dialog

🔘 The most precise method of editing a door is to use the **Door Specification** dialog. Door type, size, casing, materials, and more can all be specified in this dialog. See "Door Specification Dialog" on page 140.

Using the Mouse

In floor plan view, click either of the two end handles and drag along the wall to change the width. The label showing the size updates as the handles are dragged. Click and drag the Move handle at the center to move the door along the wall it is placed in. Use the triangular Rotate handle to adjust the door's

swing. If the door's label displays, an additional handle is available to move the label.

In 3D views, a selected door has five edit handles: the Move handle at the center and a Resize handle on each edge. Click and drag an edge handle to resize the door.

A door or window moved against an intersecting wall temporarily stops when the casing meets the intersecting wall. You can continue to drag and it resumes movement past the intersecting wall.

Using the Edit Tools

A selected door or doors can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

- Click the **Change Opening/Hinge Side** 🔘 edit button to change the side of the door that its hinges are on. See "Changing Door Swings" on page 136.

- Click the **Show Door Open in 3D** 🔘 or **Show Door Closed in 3D** 🔘 edit button to control the selected door's appearance in 3D views. See "In 3D Views" on page 134.

- Click the **Gable Over Door/Window** 🔘 to create a gable over the selected door(s) the next time the roof is rebuilt. See "Gable Over Door/Window" on page 183.

Centering Doors

The **Center Object** edit button allows you to center a selected door along a wall within a room or relative to a cabinet or window. See "Using Center Object" on page 87.

To center a door along a wall

1. Select a door or combination of windows and doors in floor plan view.

2. Click the **Center Object** edit button then choose from one of the following options:

   • Click near a wall inside a room to center the door along that wall in that room.

   • Click outside the house (on the exterior room) near an exterior wall to center the door along an exterior wall.

Changing Door Swings

Door swing direction and hinge side can be changed using the **Change Opening/Hinge Side** and **Change Swing Side** edit buttons.

The **Change Opening/Hinge Side** edit button is available for all doors except double doors and garage doors.

Hinged Doors

In addition to using the edit buttons, hinged doors' hinge side and swing direction can be changed using the triangular Rotate edit handle.

To adjust the angle of swing:

1. In floor plan view, select the door and grab the triangular handle.
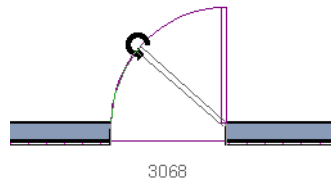
2. Drag to change the amount of swing.
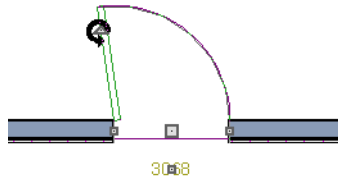

3068
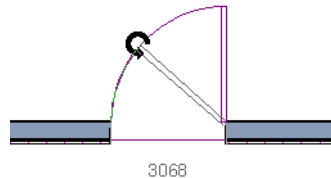
3. Release the mouse.

If you drag near the closed position, the door snaps to a closed position.

To change the swing using edit handles:

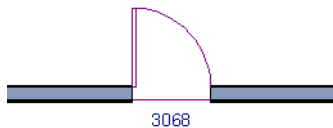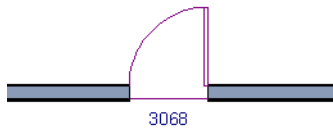1. In floor plan view, select the door and grab the triangular edit handle.

3068

2. Drag the pointer along the path of the new arc to change the hinge side and/or swing direction.

3. Release the mouse.

To change the swing using edit buttons:

1. In floor plan view, select the door.

2. To change the hinge side, click the **Change Opening/Hinge Side** ⬜ edit button.

3. To change the swing direction, click the **Change Swing Side** ◈ edit button.
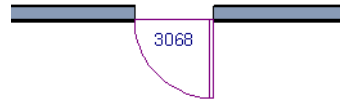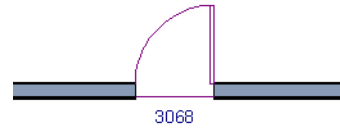
Sliding Doors

To change the side of a sliding door that is fixed, select the sliding door then click the **Change Opening/Hinge Side** ⬜ edit button.

To flip the fixed and moving sides of the door, click the **Change Swing Side** ◈ edit button.

As with hinged doors, you can also change the Opening/Hinge and Swing sides of a sliding door by clicking and dragging the triangular edit handle.

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Bifold Doors

To change the side of a bifold door that is fixed, select it then click the **Change Opening/Hinge Side** edit button.

To change the hinged side of the door, click the **Change Swing Side** edit button.

As with hinged doors, you can also change the Opening/Hinge and Swing sides of a bifold door by clicking and dragging the triangular edit handle.

Garage Doors

To change the side of a garage door that it faces, select it and click the **Change Swing Side** edit button.
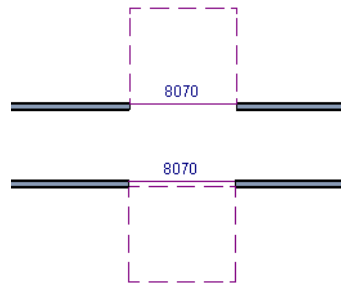
As with other door types, you can also change the Swing side of a bifold door by clicking and dragging the triangular edit handle.

Special Doors

A variety of special doors and doorways can be created in Home Designer Landscape and Deck.

Wrapped Openings

You can create a wrapped opening by placing a doorway in the wall and checking **Suppress Casing** in the **Door Specification** dialog. See "Casing Tab" on page 141. If base molding is present, it will wrap around the opening.

Openings in Railings

Use the **Doorway** tool to open a railing for a stairway or other access.

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Doorway

To open a railing across an entire section, resize the doorway's **Width** so that it is greater than the length of the railing in the **Door Specification** dialog. The opening resizes to the maximum width possible for that space. See "General Tab" on page 140.
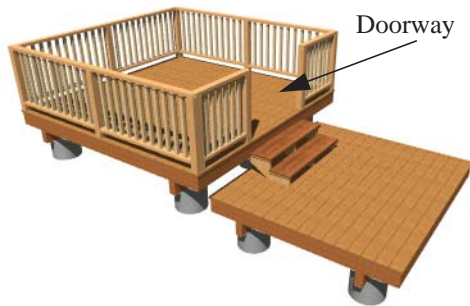
To add a gate, specify the doorway's **Door Type** as a Door, then choose an appropriate gate as the **Door Style**. A selection of gates is available in the Fences & Railings library folder. See "Placing Library Objects" on page 284.

Transoms Above Doors

Transom windows above doors are created the same as other stacked windows. See "Grouped Windows" on page 148.

Creating a Doorway with a Railing

When a railing is specified as **No Room Def**, it can be positioned within a **Doorway** ⬚.

To create a doorway with railing

1. Place a **Doorway** ⬚ at the desired location in your plan.

2. Select **Build> Wall> Straight Railing** ⬚, then click and drag to draw a railing parallel to the wall with the doorway.

3. Click on the railing, then use the Resize edit handles to adjust the length of the railing as needed. See "Using the Edit Handles" on page 70.

4. With the railing selected, click the **Open Object** ⬚ edit button.

5. On the General tab of the **Railing Specification** dialog, check **No Room Def** and click OK. See "General Tab" on page 110.

6. With the railing still selected, Ctrl + drag it into position within the doorway. See "To move an object freely" on page 86.

3068
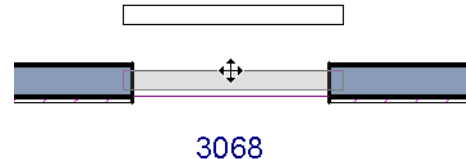
Positioning a railing in a doorway

Placing a Gable Over a Door

⬚ Click the **Gable Over Door/Window** edit button to produce a gable roof over the selected door(s) the next time automatic roofs are built. See "Gable Over Door/Window" on page 183.

You can manually edit or delete this gable line at any time. Your changes take effect when the automatic roofs are rebuilt. This can also be used with group selected doors.

Door Specification Dialog

To open the **Door Specification** dialog, select a door and click the **Open Object** edit button or double-click on a door using the **Select Objects** or a **Door** tool.

General Tab
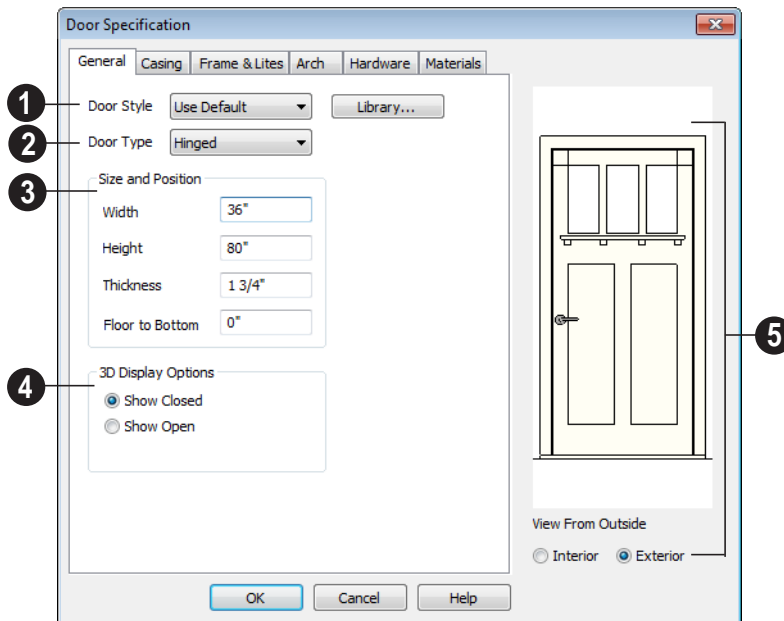
① **Door Style** - Define the door as slab, glass, panel, or louvered, or select a door style from the library. Choose "Use Default" to use the default door style set in the **Door Defaults** dialog. See "Door Defaults" on page 131.

- Select "Library" from the list or click the **Library** button to choose a door symbol from the library. Once a library door is selected, that door is added to the Door Style list. See "Select Library Object Dialog" on page 285.

② **Door Type** - Specify doorway, hinged, slider, bifold, or garage door.

Slider, bifold and garage are not allowed as Exterior Door Defaults.

③ Specify the **Size and Position** of the selected door.

- Specify the **Width**, **Height**, and **Thickness** of the door.

- **Floor to Bottom** - Specify the height of the bottom of the door frame as measured from the subfloor.

④ 3D Display Options - Specify whether the selected door is drawn closed or open in 3D views.

⑤ A preview of the door displays on the right side of the dialog box.

- Select **Interior** or **Exterior** to specify which side of the door displays in the preview.

Casing Tab

Changes made on the Casing tab can only be seen in 3D views.
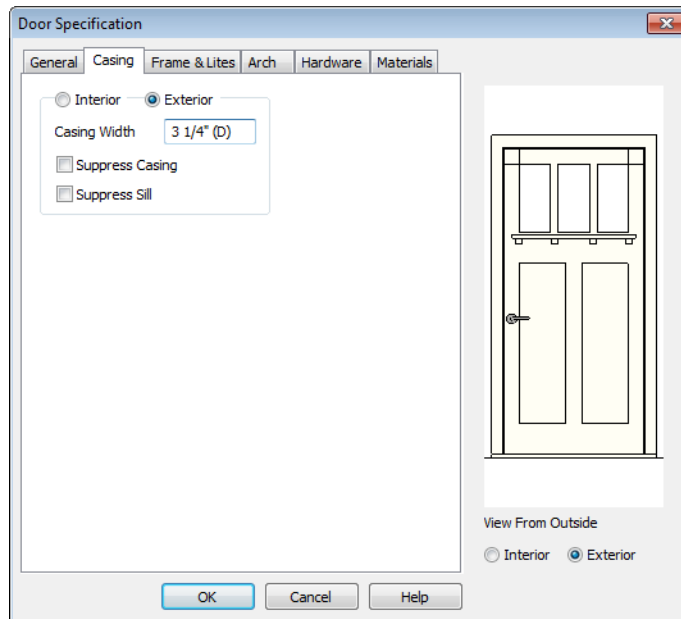
Specify the casing for the selected door.

- Select the **Interior** or **Exterior** radio button to define the casing for that door side and display it in the preview image. This choice is not available for interior doors, which use the same values for both sides.

- Define the **Width** of the selected casing.

- Check **Suppress Casing** to have a wrapped opening instead of casing.

- Check **Suppress Sill** to prevent a sill from being generated under the door.

Frame & Lites Tab
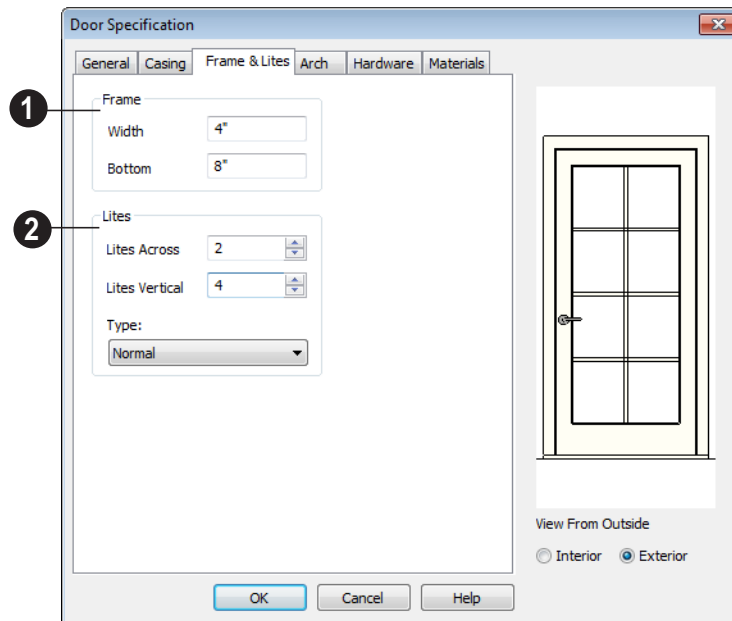
1 **Frame** - Specify the dimensions of the door's rails and stiles. Only available for Glass, Panel, and Louvered Doors. See General Tab.

- Specify the **Width** of the stiles and top rail.

- Specify the height of the **Bottom** rail.

2 Specify the number of **Lites**, or panes of glass, as well as their configuration. Only available for Glass doors.

- Specify the number of horizontal **Lites Across**.

- Specify the number of **Lites Vertical**.

- Choose a **Type**, or style, from the drop-down list.

- **Normal** style is the most common, with vertical and horizontal muntin bars.

- **Diamond** style uses angled muntins to divide the lites.

- **Prairie** style is based on the normal style, but with all the central muntins removed, leaving only the two outside muntins, both horizontally and vertically. Lites Across and Vertical are typically set between 6 and 8.

- **Craftsman** style is based on the normal style, but only the topmost horizontal muntin is kept with all the portions of the vertical muntins above it. Lites Across and Vertical are typically set between 4 and 8.

Normal   Diamond   Prairie   Craftsman
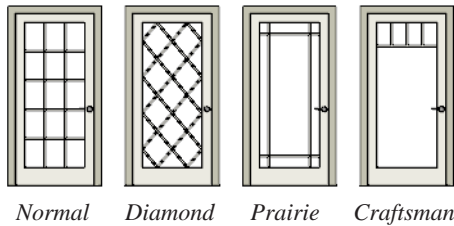
Hardware Tab

Many of the settings on the Hardware tab are Dynamic Defaults: if "Use Default" is selected, the setting in the **Door Defaults** dialog is used. See "Dynamic Defaults" on page 43.
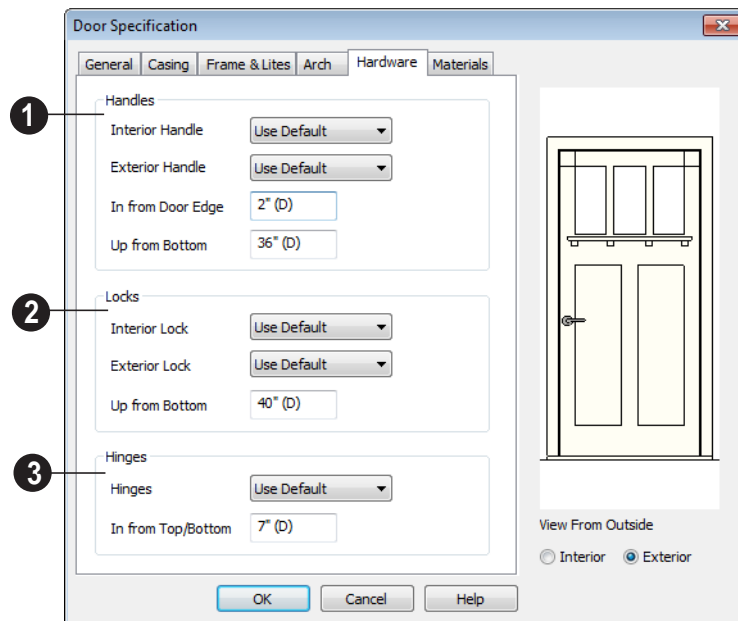
1 Specify the **Handles** to be used on the selected door.

• Select an **Interior Handle** and/or **Exterior Handle** from the drop-down lists.

• Specify the location of the door handles **In From Door Edge**.

• Specify the location of the door handles **Up From Bottom**.

2 Specify the door's interior and exterior **Locks**.

• Select an **Interior Lock** and/or **Exterior Lock** from the drop-down lists.

• Specify the location of the door locks **Up From Bottom**. The locks use the same In From Door Edge value as the handles.

3 Specify the **Hinges** to be used on the door. Two hinges are placed for interior doors, and three for exterior doors.

• Select a style of **Hinges** from the drop-down list.

• Specify the distance **In From Top/Bottom** of the door to the center of the top and bottom hinges.

Note: For hinges to look right, it is best to have at least a 1/4" (6 mm) reveal for the interior, or hinge side, door casing.

Materials Tab

The Materials tab is available for numerous objects. For more information, see "Materials Tab" on page 294.

Windows

Home Designer Landscape and Deck can model a wide variety of windows. Fixed glass, hung, casement, sliding, awning, hopper, and louver window styles can all be created with the standard Window tool, and even set as the default. Home Designer Landscape and Deck can create bay, box, and bow windows at the click of a button. In addition, the library contains many mulled window combinations.

Chapter Contents

Window Defaults

Default Settings can be accessed by selecting **Edit> Default Settings**. Select Window from the **Default Settings** dialog.

The settings in the **Window Defaults** dialog control the attributes of a window when it is initially placed in a plan, so you should define the type of window that will be placed most often in your model. See "Default Settings vs Preferences" on page 42.

The tabs in the **Window Defaults** dialog are similar to those found in the **Window**

Specification dialog. For more information, see "Window Specification Dialog" on page 155.

Dynamic Window Defaults

A variety of window default values are dynamic, including the **Window Type, Casing Specifications**, and **Sash** sizes. All **Materials** are also dynamic. When a dynamic default is changed, existing windows using the default value are affected. See "Dynamic Defaults" on page 43.

The Window Tools

To place a window, select **Build> Window** and choose the desired window type. Click on a wall to place a window of the selected type at that location. Bay, box and bow windows can only be placed in straight walls, while standard windows can be placed in both straight and curved walls.

Standard Windows

Select **Build> Window> Window**, then click on a straight or curved wall to place a standard window at that location.

A standard window is a single window that is not a bay, box, or bow window. These special types are made up of multiple standard windows.

A standard window that is part of a special window is called a component window.

Standard windows can be specified as any of a variety of window types, such as double hung, casement and awning. See "Window Specification Dialog" on page 155.

Bay Windows

⚠ The roof is affected by Bay, Box and Bow Windows. These windows should therefore be placed before the roof is built.

A **Bay Window** is composed of three wall sections, each with a single component window. The two side walls are at an angle to the main wall. Select **Build> Window> Bay Window** and click on a straight wall to produce a bay window.

When initially placed, bay windows measure 2'-2" across at the front, 4'-2" across at the back, and are 1'-0" deep. The component windows are specified in the **Window**

Defaults dialog and their sizes adjust to fit the available space.
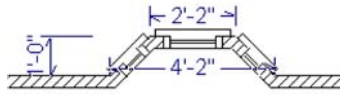
Box Windows

A **Box Window** is a bay window with side angles set at 90°. Select **Build> Window> Box Window** and click on a straight wall to produce a box window.

Box windows initially measure 4'-2" wide with a depth of 1'-6". The component windows are specified in the **Window Defaults** dialog and their sizes adjust to fit the available space.

Bow Windows

A **Bow Window** is a group of identical wall segments that form a segmented curve. Select **Build> Window> Bow Window** and click on a straight wall to produce a 5-section bow window.

The component windows are specified in the **Window Defaults** dialog. Their sizes adjust to fit the available space.
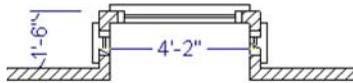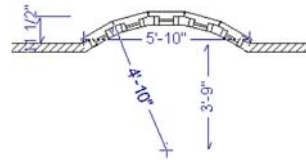
The 5-section bow below has a 4'-10" radius centered 3'-9" inside the wall, giving an opening 5'-10" across and a depth of 11½".

Note: Bay, box, and bow window areas are not included in the living area or in room standard area calculations. They are included in room interior area calculations.

Windows Library

Select **Library> Library Browser**, then browse to Home Designer Core Catalogs> Architectural to access a selection of special windows. Select the desired window, then click on a wall to place the window at that location.

Special Windows

A variety of special windows can be created using multiple standard windows, the edit tools or custom symbols.

Creating Manual Bay, Box and Bow Windows

Sometimes it is easier to draw bay, box and bow windows manually than to use the automatic tools. Bays created using walls can have more than one window per section, which is not possible using a bay window unit.

Bear in mind that moving a manually created bay, box or bow window is generally more difficult than moving a unit created with one

of the **Window Tools** ▣ since it is composed of individual walls.

Corner Windows

Corner windows are produced when each window has one edge at or past the interior side of the adjacent wall.

To create a corner window, first create the desired window on each side of the corner. The header height and the sill height of both windows must be the same.

> 💡 To move a window all the way into a corner, check Ignore Casing for Opening Resize in the Plan Defaults dialog. See "General Plan Defaults Dialog" on page 43.

Once the corner window is formed, its components and corner post size can be adjusted. Blocked units can also meet at a corner this way.

Special Window Shapes

A selection of special shaped windows is available in the Windows Library, including arched windows and mulled units.

Placing a Gable Over a Window

⌂ Click the **Gable Over Door/Window** edit button to produce a gable roof over the selected window(s) the next time automatic roofs are built. See "Gable Over Door/Window" on page 183.

You can manually edit or delete this gable line at any time. Your changes take effect when the automatic roofs are rebuilt. This tool can also be used with group selected windows.

Stained Glass

A selection of solid stained glass materials is available in the Home Designer Core Catalogs> Materials> Glass library. See "Materials" on page 291.

Vents

A selection of attic, foundation and gable vents are available in the Library Browser. See "The Library" on page 271.

Vents are placed in the same manner as regular windows and can be edited in much the same way, as well.

Grouped Windows

Windows can be grouped together to create a wide variety of custom configurations. Stacked windows are easy to create in 3D

views, using their edit handles. See "Editing Windows" on page 151.

Notice how the windows and door in this example are separate, with spaces between them. Doors and/or windows can also be organized into a unit in which there are no spaces between the windows and door units, and the casing between them is shared.

Automatically Mulled Openings

To form a mulled group of windows and/or doors, move them close enough together so that their casings touch. Once the casings touch, the windows are mulled together with one casing between the two of them.

The sill of each window in the group must be at the same level for them to share the middle casing. The casing tops do not have to be at the same level. The casings are modeled as if they are one unit but the windows remain separate objects for dimensioning and the Materials List.

Windows can be automatically mulled to doors if the bottom of the window is at the elevation of the floor, equal to the bottom of the door.

Mulled Units in the Library

A selection of mulled window units is available in the Windows library. To place one in your plan, select it and click on a wall in any view. See "Placing Library Objects" on page 284.

Selecting Components of Mulled Units

To select a component of a mulled unit from the library, click at the location of the component in question, then click the **Select Next Object** next edit button or press the Tab key until that individual component is selected. Only the component clicked on is selectable using this method. If you need to select a different component, click on it and repeat the process.

If there are multiple levels, it is easiest to select the components in a 3D view. When you have selected an individual component, you can change its parameters in the **Window Specification** dialog. See "Window Specification Dialog" on page 155.

If the selected component is not itself a mulled unit and has no components above it, its **Height** and **Arch** parameters can be changed. Changing the Height causes the component top to move. The bottom remains stationary.

Displaying Mulled Units

As with other windows, the display of mulled window units is controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

Mulled units are placed on the "Windows" layer by default and have a single label, which is on the "Windows, Labels" layer. Mulled units from the library are also included in the windows category of the

Materials List. If the component objects of a mulled unit have unique moldings or

materials, they will not be noted in the Materials List.

Displaying Windows

The display of windows in floor plan and 3D views can be controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

Windows can only be placed in walls, so if a wall's layer is turned off, any windows placed in that wall will not display, either. See "Displaying Walls" on page 101.

If the "Windows" layer is not set to display, window casing and other components are not visible, but the openings in the walls where they are located can still be seen.
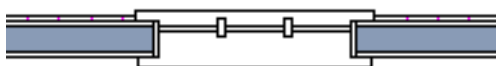
In Floor Plan View

A window's frame, glass, and sill are all represented in floor plan view. This makes some window types, notably Sliding and Double and Triple Casement windows, distinguishable.
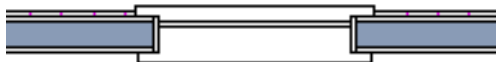
Double Hung
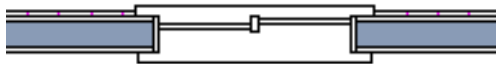
Left Sliding

Triple Casement

Window types in floor plan view

Bay, box,and bow windows have dimensions lines associated with them.

*   You can suppress their display by turning off the "Manual Dimensions" layer or on a unit by unit basis in the unit's specification dialog. See "Bay/Box/Bow Window Specification Dialog" on page 160.

*   The arrow style and fill are set in the **Dimension Defaults** dialog. See "Dimension Defaults Dialog" on page 331.

Window Labels

Window labels display in floor plan view, centered on the windows they represent, when the "Windows, Labels" layer is turned on.Window labels indicate Width and Height, followed by Type. For example:

*   In Imperial plans, the label for a 3'-0" wide, 4'-0" high double hung window will read 3040 DH.

*   In metric plans, the label for a 900 mm wide, 1200 mm high double hung window will read 900x1200 DH.

Editing Windows

Before a window can be edited, it must be selected. Click on a window when the **Select Objects** [icon] tool or any of the **Window Tools** [icon] are active. Doors and/or windows can also be group-selected and edited. See "Selecting Objects" on page 68.

To select a window that is part of a blocked unit, click the component window, then click the **Select Next Object** [next] edit button. See "Selecting Components of Mulled Units" on page 149.

Windows can be edited using their edit handles, the edit toolbar buttons, and the **Window Specification** dialog. See "Window Specification Dialog" on page 155.

When you select a window in floor plan view, the window size label displays the width followed by the height. For example, a 3036 window is 3'-0" wide by 3'-6" high.

In the Specification Dialog

[icon] The most precise method of editing a window is to use the **Window Specification** dialog. The window type, size, casing, materials, and more can all be specified in this dialog. See "Window Specification Dialog" on page 155.

Using the Mouse

- In floor plan view, click either of the two end handles and drag along the wall to change the width. The label showing the size updates as the window is resized.

- In 3D views, a selected window has five edit handles: the Move handle at the cen-

ter and a Resize handle on each edge. Click and drag an edge handle to resize the window.

Note: Using the edit handles is the only way to resize bay, box and bow window systems.

- A single window or a group of windows can be moved with the center edit handle.

- A door or window moved against an intersecting wall temporarily stops when it is the casing distance from the intersecting wall. You can continue to drag and it resumes movement past or onto the intersecting wall. Enable **Ignore Casing for Opening Resize** in the **Plan Defaults** dialog to turn off this behavior. See "General Plan Defaults Dialog" on page 43.

Using the Edit Tools

A selected window or windows can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

- Click the **Gable Over Door/Window** [icon] to create a gable over the selected window(s) the next time the roof is rebuilt. See "Gable Over Door/Window" on page 183.
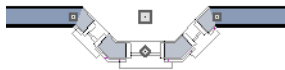
Bay, Box, and Bow Windows

Bay, Box and Bow Windows are created much the way regular windows are: select a tool, then click a wall to place that window type.

Home Designer Landscape and Deck automatically builds a foundation under bay/box/bow windows placed on floor 1 unless they are raised from their original position. That section of the foundation wall is also a bay/box/bow, but without windows. If the foundation was generated before the window is placed, the foundation must be rebuilt or edited manually.

Editing Bay, Box and Bow Windows

Bay, box and bow windows are edited similar to regular windows, with one exception: in floor plan view, a diamond-shaped Depth edit handle displays on the section. Drag this Depth handle outward to increase the depth, or inward to decrease the depth of the unit. See "Editing Windows" on page 151.

Depth edit handle on a bay window

Bay, box and bow windows can also be edited in their respective specification dialogs. See "Bay/Box/Bow Window Specification Dialog" on page 160.

Displaying Bay, Box and Bow Windows

The display of bay, box and bow windows is controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

Like other windows, bay, box and bow windows can display labels. See "Window Labels" on page 150.

Bay, box and bow window width and radius dimensions, which display in floor plan view, are placed on the "Dimensions, Manual" layer. See "Displaying Objects" on page 56.

Component Windows

A component window within a bay, box or bow window can be resized like any other standard window. To select a component window, click at the location of the component in question, then click the **Select Next Object** ⬚ edit button or press the Tab key.

- Only the bay or box window component that was clicked on is selected using this method. If you need to select a different component, click on it and repeat the process.

- In a bow window, all components are identical, so only one component can be selected. Changing this component changes them all.

Resizing Components

An individual component window can be resized using the edit handles, by changing

settings in the component's **Window Specification** dialog.

When a bay/box/bow window is first created, there is room for one standard trimmer on each side of each component window. When the bay as a whole is moved and resized, its components automatically resize so that a standard trimmer is still accomodated.

If a component window is resized, it retains its size if at all possible when the containing bay/box/bow window is moved or resized. If the bay is resized in such a way that the component is too large to fit even with a thinner trimmer, the component resumes its default behavior, resizing as the containing bay window is resized.

Floors and Ceilings

When originally created, the floor and ceiling within a bay, box, or bow window are the same heights as the floor and ceiling of the room in which it is placed.

Both the top and bottom heights of these window units can be adjusted in a 3D view using the window's edit handles to create a lowered ceiling and/or a bench seat or garden window.

When the ceiling is lowered, the top heights of the walls that define the window unit are also lowered. When a roof is built over the unit, its height will be affected, as well.

When the bottom of the window is raised to create a bench seat, the unit's walls will not reach the ground. As a result, window units with bench seats will have no foundation beneath them when the foundation is built.

Bay, Box, Bow Windows & Roofs

Several different roof styles can be specified for bay, box and bow window units in the

Bay/Box/Bow Specification dialog. See "Bay/Box/Bow Window

Specification Dialog" on page 160.

If you change a bay, box, or bow window's roof specification, you will need to rebuild the roofs to see the changes. See "Rebuilding Roofs" on page 181.
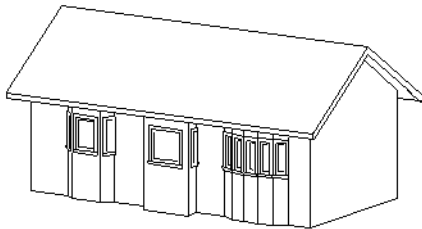
Hip Roofs

By default, a hip roof is built above the unit when roofs are automatically generated. No roof directives need to be selected in the specification dialog to produce this roof.



Use the Existing Roof

To generate a standard roof that ignores a bay, box, or bow window, check **Use Existing Roof**.

With this option the bay, box, or bow windows is tucked under the roof eave. You may find it helpful to increase the width of the eaves. See "Roof Tab" on page 182.

Extend the Existing Roof

To have the main roof extend down over the window unit and follow the shape of the unit, select **Extend Existing Roof**.
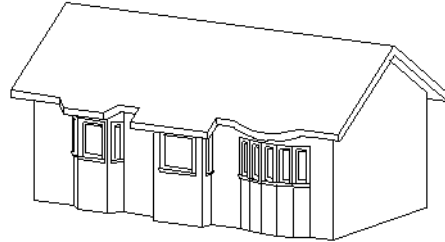
For this roof style, the ceiling heights of the window unit and the adjacent room must be the same. If you lower the ceiling of the window unit and then build the roof, a lower hip roof over the window is created. See "Floors and Ceilings" on page 153.

If a header is desired over the window unit, first build the roof, then lower the ceiling of the window unit. Do not rebuild roof planes.
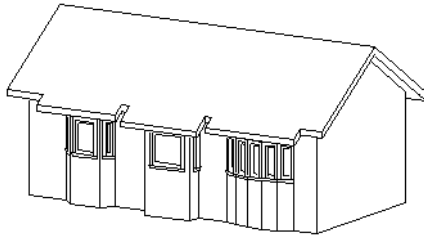
Rectangular Hip Roofs

To create a rectangular-shaped hip roof above a bay, box, or bow window, select **Rectangular Roof Over**.

Extend Existing Roof - Rectangular

To extend the main roof down over a window unit to create a rectangular roof over it rather than one that follows its shape, select both **Extend Existing Roof over** and **Rectangular Roof Over**.

Gable Roof

A gable roof is not one of the automatic options for the roof above a bay, box or bow window.

> To create a gable roof over a normal window, use the Gable Over Door/ Window edit button. See "Gable Over Door/ Window" on page 183.
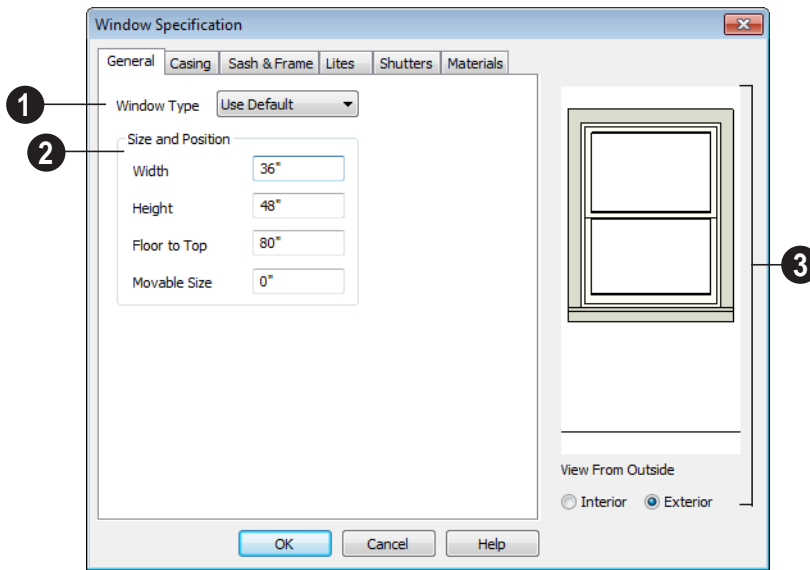
Window Specification Dialog

To open the **Window Specification** dialog, select a window and click the **Open Object** edit button or double-click the window using the **Select Objects** or a **Window** tool.

The settings in this dialog are similar to those in the **Window Defaults** dialog. See "Window Defaults" on page 146.

General Tab

1 **Window Type** - Select the type of window from the list. The first entry in the list is the Default type set in the **Window Defaults** dialog.

2 Specify the **Size and Position** of the selected window.

- Specify the **Width** and **Height** of the window.

- **Floor to Top** - Specify the height of the top of the window frame as measured from the subfloor.

- **Movable Size** - Specify the dimension of the movable portion of the window. A value of 0 defaults the movable size to

whatever is normal for that type of window. Not available for Fixed Glass, Single or Double Casement, Single Awning or Hopper, Louvered, Pass-Thru or mulled units.
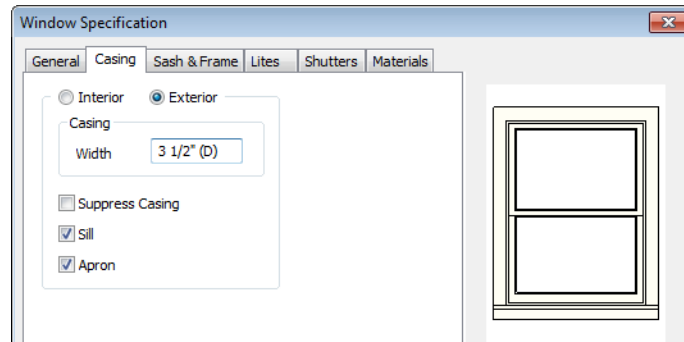
- **Louver Size** - Specify the vertical height of the selected window's louvers. Only available for Louvered windows.

3 A preview of the selected window displays here.

- Select **Interior** or **Exterior** to specify which side of the window displays in the preview.

Casing Tab

Changes made on the Casing tab can only be seen in 3D views.

Specify the casing for the selected window or mulled unit.

- Select the **Interior** or **Exterior** radio button to define the casing for that window side and display it in the preview image.

- Define the **Width** of the selected casing.

- Check **Suppress Casing** to have a wrapped opening instead of casing on the selected side of the window.

- Check **Sill** to have a sill on the selected side of the window.

- Check **Apron** to include an apron under the sill.

Sash & Frame Tab
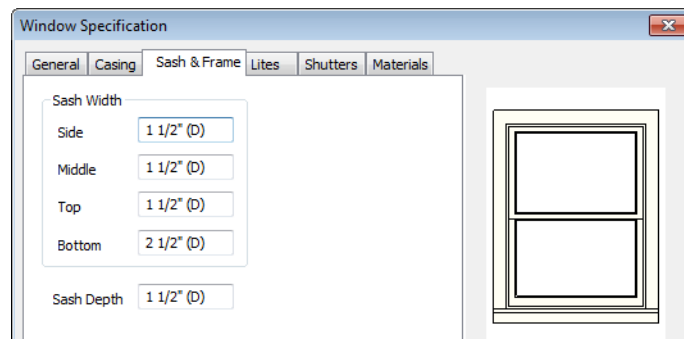
Specify the size and position of the **Sash**. Increasing the Side, Middle, Top or Bottom decreases the area of the glass.

- Specify the **Side** width of all vertical sash members: those at the window sides as well as the central members of casement and sliding windows. This is also the width of the top portion of the window when an arch is specified.

- Specify the **Middle** width of horizontal components between the top and bottom sash in double hung, double and triple awning, and double and triple hopper

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windows. It does not affect casement and sliding windows.

• Specify the **Top** and **Bottom** sash widths. The **Top** value is not used if the window has an arch.

2 Specify the **Depth**, or thickness, of the sash stock measured from the exterior to the interior.
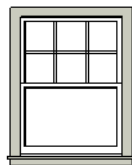
Lites Tab

The Lites tab allows you to add muntins to various window styles. There are four possible styles of muntin bars.
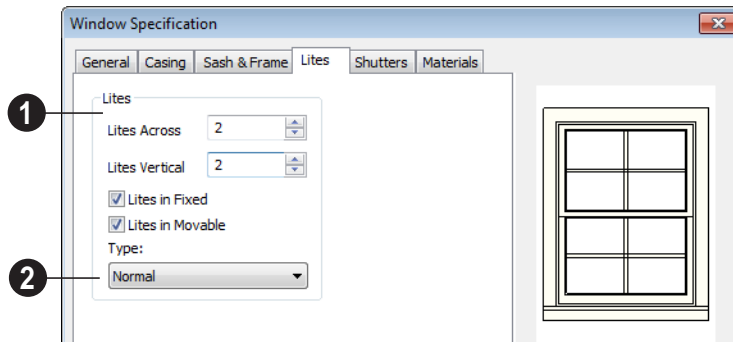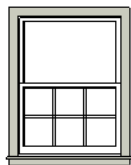

1 Specify the number, position and style of **Lites** for the selected window.

• Enter the number of horizontal **Lites Across** in each sash.

• Enter the number of vertical **Lites Vertical** in each sash.

• Check or uncheck **Lites in Fixed** and **Lites in Moveable** to specify either one or both of the sashes to have divided lites.

Lites in Fixed   *Lites in Movable*

Note: Because the fixed window in a Triple Sliding window is twice the size of the movable windows, the fixed section has a vertical muntin bar. To eliminate this, clear the Lites in fixed check box.
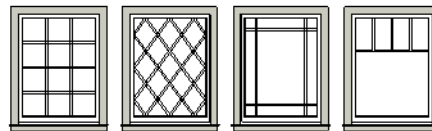
2 Select a **Type**, or style, of window lite from the drop-down list.

| Normal | Diamond | Prairie | Craftsman |
| Across = 3 | Across = 3 | Across = 6 | Across = 4 |
| Vertical = 4 | Vertical = 3 | Vertical = 8 | Vertical = 3 |

• **Normal** style is the most common, with muntins going horizontally and vertically.

Colonial windows are an example of the normal style.

- **Diamond** style uses angled muntin bars to divide up the lites. French windows are an example of the diamond style.

- **Prairie** style is based on the normal style, but with all the central muntin bars removed, leaving only the two outside muntin bars both horizontally and vertically. Typically, both Lites Across and

Lites Vertical should be set between 6 and 8. Federal or Federation windows are an example of the Prairie style.

- **Craftsman** style is based on the normal style, but only the topmost horizontal muntin bar is kept with all the portions of the vertical muntin bars above it. Typically, both Lites Across and Lites Vertical should be set between 4 and 8.

Shutters Tab

The settings on the Shutters tab allow you to specify exterior shutters for the selected window.
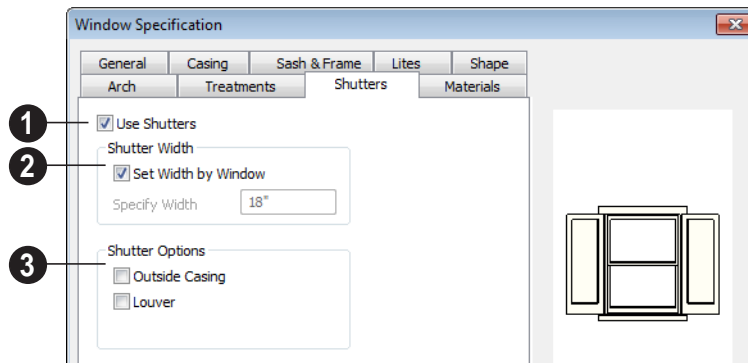
1 Check **Use Shutters** to apply shutters to the selected window's exterior and enable the settings below.

2 Specify the **Shutter Width** for the selected window.

- Unheck **Set Width by Window** to type a width in the **Specify Width** field. If the window is later resized, the shutters width will not adjust in response.

- When **Set Width by Window** is checked, a shutter width exactly half that of the window, excluding casing, is used.

3 Additional **Shutter Options** can be specified here.

- Check **Outside Casing** to position shutters outside the window casing, as decorative shutters often are. Uncheck this to position the shutters just outside the window frame, like functional shutters.

- Check **Louver** for louvered shutters. Uncheck this for solid shutters. If Outside Casing is checked, the louvers face outward, away from the wall; if checked, louvers face toward the wall.

A preview of the selected window displays on the right.

- Select **Interior** or **Exterior** to specify which side of the window displays in the

preview. In order to see exterior shutters in the preview, Exterior must be selected.

Materials Tab

The settings on the Materials tab are the same as those found on the same tab in dialogs throughout the program. See "Materials Tab" on page 294.

Bay/Box/Bow Window Specification Dialog

To open the **Bay/Box Window Specification** dialog, select a bay, box or bow window and click the **Open Object** edit button.

The options in this dialog can only be set for objects placed in a plan: bay, box, and bow windows do not have defaults dialogs.
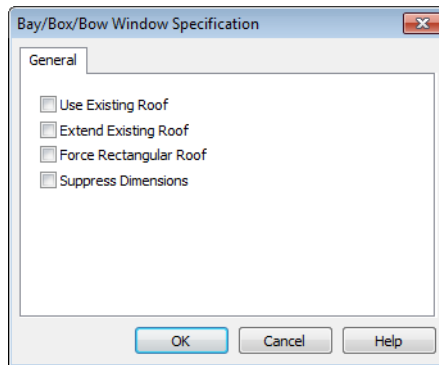
Specify the structure of the **Roof** over the selected window unit. See "Bay, Box, Bow Windows & Roofs" on page 153.

- Check **Use Existing Roof** if the existing roof needs no changes to accomodate the bay window.

- Check **Extend Existing Roof** to extend the existing roof plane to cover the bay window below.

- Check **Force Rectangular Roof** to create a roof over the bay window that is square across the end instead of following the profile of the roof.

- Check **Suppress Dimension** to suppress the automatically-produced dimensions that show the size of the window unit in floor plan view.

Multiple Floors

When a new plan file is opened in Home Designer Landscape and Deck, two floor levels are present: Floor 1 and the Attic Floor. You can add more floors whenever you like: up to 3 total. Once created, floors can also be copied and deleted.

Home Designer Landscape and Deck also supports special floors for foundations and attics. Only one foundation level and one attic can exist in a plan. Foundations are discussed in their own chapter. See "Foundations" on page 167.

Chapter Contents

- Floor Tools
- Adding Floors
- Displaying Floors
- Deleting Floors
- Split Levels
- The Current Floor

Floor Tools

Select **Build> Floor** to access the floor tools.

Select **Build> Floor> Build New Floor** to build a new floor. A new floor can be generated based upon the perimeter of the floor below or a blank floor can be created and drawn from scratch. See "Adding Floors" on page 162.

Choose **Build> Floor> Build Foundation** to open the **Foundation** Defaults dialog and build a foundation floor. See "Building a Foundation" on page 169.
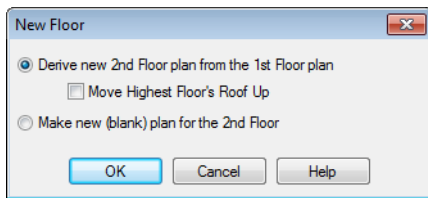
Select **Build> Floor> Delete Foundation** to remove the foundation from the plan. See "Deleting Foundations" on page 171.

Adding Floors

New floors can be added in floor plan view and 3D views.

To create a new floor

1. Select **Build> Floor> Build New Floor** to open the **New Floor** dialog.

2. Select the options that you need and click **OK**.
    *   **Derive new 2nd floor plan from the 1st floor plan** creates a new top floor with exterior walls generated directly over the exterior walls of the floor below. Wall types and roof directives associated with the walls on the floor below are duplicated; however, interior walls are not. See "Roof Tab" on page 111.
    *   Check **Move Highest Floor's Roof Up** to move any roof planes displaying on the highest floor in the plan up one floor when the new floor is created. Roof planes displaying on floors other than the top floor are unaffected. This option is only available if there are roof planes built on the top floor and is not available when **Auto Rebuild Roofs** is enabled. See "Build Roof Dialog" on page 181.
    *   **Make new (blank) plan for the 2nd floor** creates a new top floor that is blank. This option is typically selected only if none of the exterior walls on the new floor will be directly above the exterior walls on the floor below. If you choose this method, it may be helpful to turn on the Reference Display when drawing walls on the new floor. See "The Reference Floor" on page 166.

3. The new floor becomes the current floor in floor plan view. If, however, the new floor is created in a 3D view, the camera remains on its original floor and does not move.

Note: Home Designer Landscape and Deck allows only one floor, the foundation/basement, below the first floor. Keep this in mind when you begin an as-built or plan for a multi-story building.

Adding a Foundation

To add a foundation, select **Build> Floor> Build Foundation**. See "Building a Foundation" on page 169.

Displaying Floors

Home Designer Landscape and Deck allows you to view the floors in your plan in a variety of ways.

In Floor Plan View

In floor plan view, only one floor can be active for editing at a time. This is referred to as the Current Floor. See "The Current Floor" on page 165.

In addition to the Current Floor, one other floor can be displayed for reference purposes: the Reference Floor. Objects on

the Current Floor can snap to those on the Reference Floor, helping you align objects. See "The Reference Floor" on page 166.

In 3D Views

In 3D views, all floors in a plan are visible, from the foundation up to the attic.

See "3D View Tools" on page 311.

Deleting Floors

Select **Build> Floor> Delete Current Floor** to remove the current floor from the plan. If there is a floor above, it becomes the current floor; if there is no floor below, the floor beneath becomes the current floor.

To delete Floor 0, select **Build> Floor> Delete Foundation**. You can

delete the foundation without actually being on Floor 0. Floor 0 cannot be deleted while **Auto Rebuild Foundation** is turned on. See "Deleting Foundations" on page 171.

⚠ When a floor is deleted, all objects on that floor are deleted with it.

Stepped Floor & Ceiling Platforms

Each floor has default floor and ceiling heights. You can, however, use the **Room Specification** dialog to specify floor and ceiling heights on a room by room basis to create stepped floors and ceilings. See "Structure Tab" on page 128.

If you require a single floor platform with a uniform height and thickness but different ceiling heights for the rooms below, specify a lowered ceiling using the **Ceiling Finish Specification** dialog. See "Lowered Ceilings" on page 125.

Split Levels

Both split level floor plans and split level entries can be created by controlling the floor and ceiling heights of individual rooms in a multiple story structure.

Split Level Floor Plans

A split level, or tri-level, structure is a building where the floor level in one part of the plan is located approximately half way between the floor and ceiling levels of another part of the plan.

Split Level Home

To create a simple split level plan

1. Draw a simple rectangular structure divided into two separate halves by an interior wall.

2. Select one of the rooms and click the **Open Object** edit button. See "Room Specification Dialog" on page 127.

3. Raise the **Floor Height** then press the Tab key.

4. Restore the **Relative Rough Ceiling** to the default value, then click OK.

5. Build a stem wall foundation. See "Foundations" on page 167.
    - The foundation under the room with the lower floor height will have the specified Min Stem Wall Height.
    - The foundation under the room with the raised floor will have taller stem walls.
    - Both can be edited in the **Room Specification** dialog.

6. If you add a Floor 2, note that the **Ceiling Height** in the room on Floor 1 will be reset to the default value.
    - To maintain a stepped condition on multiple floors, return to this room and

set the **Relative Rough Ceiling** back to using the default.

Split Level Entries

A split level entry, or divided entry, is characterized by an entry door that opens onto a landing positioned half way between the basement floor and first floor levels.

Split Level Entry

To create a simple split level entry

1. Create a plan file with a full basement at the location of the entry door. See "Basement Rooms" on page 172.

2. Go to Floor 0 and draw a stair **Landing** at the location of the entry. See "Landings" on page 196.

3. Draw stairs upward from the basement floor to the landing.
    - The number of treads and risers in the stair section will determine the landing height.

4. Draw a second stair section from the landing upward.

5. Select the stairs and click the **Auto Stairwell** edit button. See "Creating a Stairwell" on page 199.

Split level entries are often associated with daylight basements. See "Daylight Basements" on page 173.

For more detailed instructions, visit www.HomeDesignerSoftware.com.

The Current Floor

Only one floor can be active at any given time. The active floor is referred to as the **Current Floor**, and it is the only floor on which objects can be edited.

If you want to edit two different floors at the same time, you can open the plan again. This opens a second window on the current open plan that has the same editing abilities as the first. Only one of these windows can be active at any given time.

Floor Up / Floor Down

If you are working with more than one floor, you can select **Tools> Reference Floors> Up One Floor** or **Down One Floor** to switch from one floor to another.

You can change the current floor in floor plan and 3D views. The current floor displays on the **Change Floor/Reference** ⟨1⟩ button, which can be found between the **Down One Floor** and the **Up One Floor** buttons.

Floors become available once they have been built. The Attic and foundation levels are also accessible using these tools.

Change Floor / Reference

If there are multiple floors, select **Tools> Reference Floors> Change Floor/Reference** to open the **Change Floor/Reference** dialog, where you can select both the current floor and which floor is used in the Reference Display, as well as control the appearance of the Reference Display.

The Attic Floor

Home Designer Landscape and Deck automatically creates a floor above the top numbered floor level of each plan. This floor is called the Attic floor and has only one purpose: to provide a space for automatically generated Attic walls. See "Attic Walls" on page 108.

Because the Attic floor is not meant to be a living area, a warning message will display if

you try to draw walls or other objects on this floor.

In some situations, you may find it necessary to draw one or more walls on this floor; however, even if you enclose an area with walls, rooms cannot be created on the Attic floor.

If you wish to create an attic loft, bonus room, or storage area in your plan, you will need do so on a numbered floor level.

The Reference Floor

When there is more than one floor in a model, it is often helpful to see how different floors relate to each other. Any floor can be shown as the **Reference Floor** along with the current floor.

When the Reference Display is turned on, the floor that you were last on prior to the current floor is used as the Reference Floor. Objects on the Reference Floor cannot be selected or edited.

Reference Display

To display the Reference Floor, select **Tools> Reference Floors> Reference Display** or press F9 on your keyboard.

If the Reference Display is turned on when a view is printed, it will be included in the printed output. See "Display Options and Printing" on page 377.

Note: If objects on the current floor and the Reference Floor have edges that line up, the Reference Floor may be difficult to see on screen. When lines of two different colors are superimposed upon each other, discoloration may result.

Reference Display Options

The display of objects in the Reference Display is controlled by selecting **Tools> Reference Floors>**

Reference Display Options. See "Display Options Dialog" on page 57.

Change Floor / Reference

By default, the floor below the current floor is the Reference Floor, but any floor can be referenced using the **Change Floor/Reference** dialog. To open the dialog, select **Tools> Reference Floors> Change Floor/Reference** button.
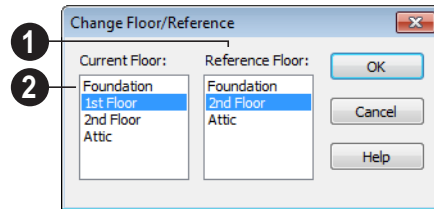
1 The **Reference Floor** currently used for reference is highlighted here. You can select another floor.

2 The **Current Floor** is highlighted here. You can select another floor to make it the current floor.

Swap Floor/Reference

If one floor is defined as the current floor and another floor is defined as the reference floor, select **Tools> Reference Floors> Swap Floor/Reference** to switch the status of the two floors.

Foundations

There are two foundation types in Home Designer Landscape and Deck: stem walls with footings and monolithic slab. The foundation type can be specified in the **Foundation Defaults** dialog when the foundation is built.

There can be only one foundation level in your plan, Level 0. Foundation walls can be drawn on upper floors using the **Wall** tool.

⚠️ Always consult registered geotechnical and civil engineers for information regarding the proper foundation for your site.

Chapter Contents

Foundation Defaults

Foundation Defaults can be accessed by selecting **Edit> Default Settings**.

Select "Foundation" and click the **Edit** button to open the **Foundation Defaults** dialog.

The settings in the **Foundation Defaults** dialog are similar to those in the **Build**

Foundation dialog, which opens when **Build> Floor> Build Foundation** is selected. The primary difference is that when you click **OK** in the **Foundation Defaults** dialog, no changes are made to the model. See "Building a Foundation" on page 169.
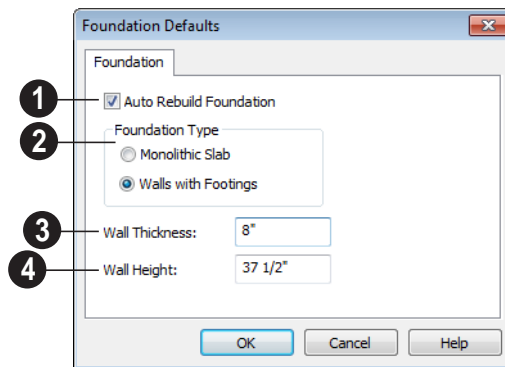
① Check **Auto Rebuild Foundation** to automatically rebuild the foundation whenever changes are made to Floor 1 that affect the structure of the foundation. See "Rebuilding Foundations" on page 170.

② Click the radio button beside either **Monolithic Slab** or **Walls with Footings** to specify which foundation type the program should build.

③ **Wall Thickness** - Specify the desired thickness of the foundation wall. See "Wall Thickness" on page 105.

④ **Wall Height** - Specify the desired height of the foundation walls.

If the wall height is at least 6 feet (1800 mm), a slab floor is generated above the footings and inside the foundation walls. The Wall Height includes the thickness of this slab.

If you do not want this slab, specify the "rooms" on Floor 0 as **Open Below** in the **Room Specification** dialog. See "Available Room Types" on page 121.

Building a Foundation

Two foundation types are available: stem walls with footings and monolithic slabs. The first option is created using walls; the second creates concrete slabs with footings.

Automatically built foundations are placed on Floor 0 and are based on wall positions and floor heights on Floor 1. Foundation walls or slab footings are generated under:

- All exterior walls on Floor 1 that define a room other than a Court, Deck or Balcony room type. See "Room Definition" on page 118.

- Any interior walls on Floor 1 defining rooms with different floor heights. See "Floor & Ceiling Heights" on page 123.

At least one room must be defined on Floor 1 for a foundation to be automatically generated. If no rooms are defined on Floor 1, a blank Floor 0 is created.

To build an automatic foundation

1. Select **Build> Floor> Build Foundation** .

2. Specify the desired foundation type and other information in the **Build Foundation** dialog. The settings in this dialog are similar to those in the Foundation Defaults dialog. See "Foundation Defaults" on page 168.

3. In the **New Floor** dialog, select **Derive new Foundation plan from the 1st floor plan** and click **OK** to build a foundation based on Floor 1.

If you prefer, you can instead select **Make new (blank) plan for the Foundation** to create an empty foundation level where you can manually draw foundation walls or slabs.

In most cases, it is preferable to base Floor 0 off the first floor plan and then manually edit the foundation as needed. See "Editing Foundations" on page 170.

Displaying Foundations

The display of foundation walls, slabs, curbs and footings is controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

- Foundation Walls, including slab footings and Garage curbs, are placed on the "Walls, Foundation" layer.

- Footings under Foundation Walls and slab footings are placed on the "Footings" layer.

In floor plan view, foundation walls are drawn with solid lines and footings, with dashed lines.

If a door on Floor 1 extends into a stem wall or curb defining a Garage room, its location will be indicated on Floor 0.

In 3D views, all objects on Floor 0 will only display when the "Foundation" layer is turned on.

While the display of foundation walls and their footings can be controlled independent of one another in floor plan view, in 3D views this is not the case. If a foundation wall is set to display, its footing will as well - even if the "Footings" layer is turned off. The reverse is also true - if a foundation wall's display is turned off, so will its footing's.

The display of monolithic slab foundations in 3D views is controlled by the "Foundation" layer. Slab footings are located on the "Walls, Foundation" layer; but if this layer is turned off, any slab footings that define a foundation room will continue to display as long as the "Foundation" layer is on.

Editing Foundations

Stem wall with footings and monolithic slab foundations are both created using walls which enclose room areas.

- Foundation walls can be selected and edited much like other walls. See "Editing Walls" on page 104.

- Foundation rooms can also be selected and edited like other rooms. See   Foundations and Rooms.

Rebuilding Foundations

By default, foundations update automatically when changes are made to the structure on Floor 1. For example, if exterior walls are moved or floor platforms are raised or lowered, the foundation will be rebuilt.

If you prefer that the foundation not rebuild automatically, you can uncheck **Auto Rebuild Foundation** in the **Foundation Defaults** dialog. See "Foundation Defaults" on page 168.

You can also rebuild an automatically generated foundation by selecting **Build> Floor> Build Foundation** from the menu.

When **Auto Rebuild Foundation** is enabled, walls cannot be edited, manually drawn or

deleted on Floor 0. When the foundation is rebuilt, any manually drawn or edited walls are deleted. Similarly, rooms on Floor 0 cannot be edited while this option is enabled.

Changing Foundation Types

When a foundation is generated, the program creates default settings for Floor 0 based on the information in the **Build Foundation** dialog. If you specify a Monolithic Slab foundation, the default Floor Structure on Floor 1 will also be changed to a slab rather than a framed platform.

If you rebuild the foundation using a different Foundation Type, it is advisable to check the floor heights of all rooms on Floor 1 - particularly Garage and Slab rooms, as well as any rooms that do not use the default floor height of 0".

> ⚠ To avoid unexpected results, it is recommended that you not change the Foundation Type once the foundation is built.

Stem Wall Height

When a foundation is created, all of Floor 0 uses the stem wall height specified in the **Foundation Defaults** dialog,

This height is measured from the bottom of floor platform of Floor 1 to top of the stem walls' footings. If Floor 1 has multiple floor platform heights, the foundation stem walls will be stepped.

Once a foundation is created, stem wall heights can be adjusted either on a room-by-room basis or for individual walls.

To change a room's stem wall height

1. Select a room on Floor 0 and click the

    Open Object ![icon] edit button.

2. Specify the desired **Stem Wall Height** in the **Room Specification** dialog. See "General Tab" on page 127.

3. If you wish to reduce the **Stem Wall Height**, you will first need to reduce the **Ceiling Height** value by the same amount.

If adjacent rooms have stem wall heights that differ by at least 1/16 of an inch, the stem wall separating them uses the larger of these two values.

Deleting Foundations

![icon] Select **Build> Floor> Delete Foundation** to delete the entire foundation floor.

You can also select and delete individual foundation walls and slabs by clicking the

Delete ![icon] edit button or pressing the Delete key. See "Deleting Objects" on page 90.

Deleting and rebuilding the foundation is often the quickest way to update the model when substantial changes are made to Floor 1 after the foundation is built.

Foundations and Rooms

When a foundation plan is created, rooms included in the Living Area calculation generate a stem wall or slab foundation below them. Garage rooms generate slab foundations, but exterior rooms such as Decks, Courts and Balconies do not generate any foundation.

Interior foundation walls are not generated unless:

•   They separate the area under a Slab or Garage room from the rest of the plan;

•   They define areas under rooms with different floor heights.

Note: To remove all or part of the concrete slab in the basement area, select a basement room and define it as Open Below in the Room Specification dialog.

Garages

When a foundation is generated based on the floor plan of Floor 1, a room on the first floor specified as either a Garage or Slab type will

receive a foundation with a slab floor and stem walls. If a monolithic slab foundation is generated, the room will receive a slab floor with curbs.

By default, a room on Floor 1 specified as a Garage or a Slab will be assigned a lower floor height when the foundation is built. The amount that it is lowered depends on the foundation type:

- The floor height will drop the default thickness of the floor platform for Floor 1 plus 12" (300 mm) - a total of 24 5/8" (618 mm) - in a Walls with Footings foundation.

- The floor height will drop 3 1/2" (88 mm) in a Monolithic Slab foundation.

To build a Garage slab with stem walls

1. Before the foundation is generated, specify the room as a Garage or Slab.

2. Build a Wall with Footings foundation.

To build a Garage slab with curbs

1. Before the foundation is generated, specify the room as a Garage or Slab.

2. Build a Monolithic Slab foundation, specifying the required Lower Garage Floor value.

Basement Rooms

When a foundation's type is Walls with Footings and it is assigned a Minimum Wall Height of 76" (1900 mm) or greater, the resulting basement is automatically created with a 4" (100 mm) concrete slab floor.

Similarly, if a foundation is set up to have a Basement Ceiling Height of 72" (1800 mm) or greater when built, it is automatically given a painted drywall Ceiling Finish.

Regardless of its ceiling height, however, you can specify a ceiling finish for any room in the **Room Specification** dialog. See "Structure Tab" on page 128.

The resulting basement can be divided into separate rooms using **Interior Walls** or any wall type you wish.

Foundations and the Terrain

Home Designer Landscape and Deck automatically positions the terrain a set distance below Floor 1. See "Terrain Height vs Floor Height" on page 224.

In a plan with a foundation present, this distance will be:

- 6" (187 mm) below the top of the stem walls in a Walls with Footings foundation.

- 8" (200 mm) below the top of the slab in a Monolithic Slab foundation.

Floor platform

Stem Wall Top

Terrain

6"
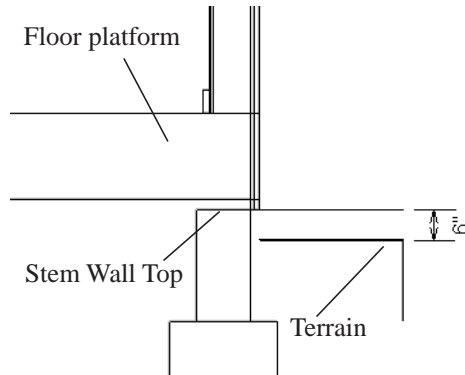
By default, the program will also create a flattened pad under the building footprint.

Not all foundations have these requirements, of course, so you can customize your foundation and terrain to suit your needs.

Daylight Basements

Daylight basements, also referred to as look-out basements, have walls that are tall enough for basement windows to be positioned above the terrain. They are often found in split level or split entry structures.

To create a daylight basement condition, build a stem wall foundation and modify these settings in the **Terrain Specification** dialog:

- Uncheck **Auto Calculate Elevation**.
- Increase the **Building Pad Elevation**, which is the distance between the default floor height of Floor 1 and the terrain.

Walkout Basements

Walkout basements are a type of daylight basement typically located on sloped terrain.

They feature walls that are above ground at the lower end of the slope so that a door can be positioned above the terrain at that end.

To create a walkout basement, build a stem wall foundation and modify these settings in the **Terrain Specification** dialog:

- Uncheck **Flatten Pad**.
- Uncheck **Auto Calculate Elevation**.

You will also need to create sloped terrain and adjust the **Building Pad Elevation** and/ or terrain data so that the terrain is at the appropriate height relative to the structure at both the high and low ends of the slope.

Stepped Foundations

Stepped foundations are usually built on sloping terrain. A stepped foundation will be produced automatically if more than one floor height is present on Floor 1 when the foundation is built.

As with a walkout basement, you will need to build a stem wall foundation and modify these settings in the **Terrain Specification** dialog:

- Uncheck **Flatten Pad**.
- Uncheck **Auto Calculate Elevation**.

You will also need to create sloped terrain and adjust the **Building Pad Elevation** and/ or terrain data so that the terrain is at the appropriate height relative to the structure at both the high and low ends of the slope.

You can also create a stepped foundation by editing foundation rooms. See "Stem Wall Height" on page 170.

Fireplaces

A masonry fireplace can be placed in or away from a wall by selecting **Build> Fireplace** and then clicking in the drawing area.

- If created in a wall, it is considered a wall opening and can be moved or resized like a window or door.

- If created away from a wall, it moves and resizes similar to a cabinet.

A selection of prefabricated metal fireplaces is also available from the Fixtures (Interior) library category. These can be framed in with standard walls. See "The Library" on page 271.

The display of fireplaces is controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

Fireplaces are edited, moved, resized, and deleted similar other objects. See "Editing Objects" on page 67.

Built into a Wall

To place a masonry fireplace in a wall, select

Build> Fireplace and click on a wall. A fireplace is created with the outside of the fireplace flush with the outside of the wall.
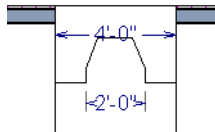
Select the fireplace to display four edit handles located along the wall.
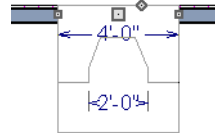
Click the diamond-shaped Depth handle and drag toward the outside of the wall. The fireplace will stop when the firebox front is flush with the inside edge of the wall.
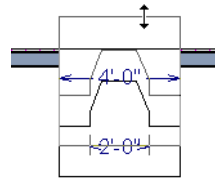
In 3D views, fireplaces placed in walls display five edit handles: a Resize handle along each edge and a Move handle at the center.

Fireplaces always face the interior when placed on an exterior wall. When placing a fireplace in an interior wall, click on the edge of the wall that you want the fireplace to face. The fireplace is created with the firebox on the same side as the wall edge you clicked on to create it.

Freestanding

To place a free-standing masonry fireplace,

select **Build> Fireplace** and click in an open area away from a wall.
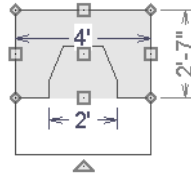
Unlike fireplaces placed in walls, free-standing fireplace have ten edit handles when selected and may be rotated, resized, or moved in any direction, similar to the way CAD boxes can. See "Editing Box-Based Objects" on page 80.

Free-standing fireplaces can be selected and replaced with a symbol from the library by clicking the **Replace From Library** edit

button. See "Replace From Library" on page 286.

Fireplace Foundations

When a Walls with Footings foundation is built, a fireplace foundation will be

generated under any **Fireplaces** present on Floor 1. See "Building a Foundation" on page 169.

Fireplace foundations are the same material type as the original fireplace, but do not have a firebox or a hearth. Fireplace foundations can be edited or deleted as needed. A firebox and hearth can be added in the **Fireplace Specification** dialog.

Fireplace Specification Dialog

Select a masonry fireplace and click the **Open Object** edit button to display the **Fireplace Specification** dialog.

Dimensions in this dialog here must be entered in whole inches. Fractions and decimals are not accepted.

General Tab
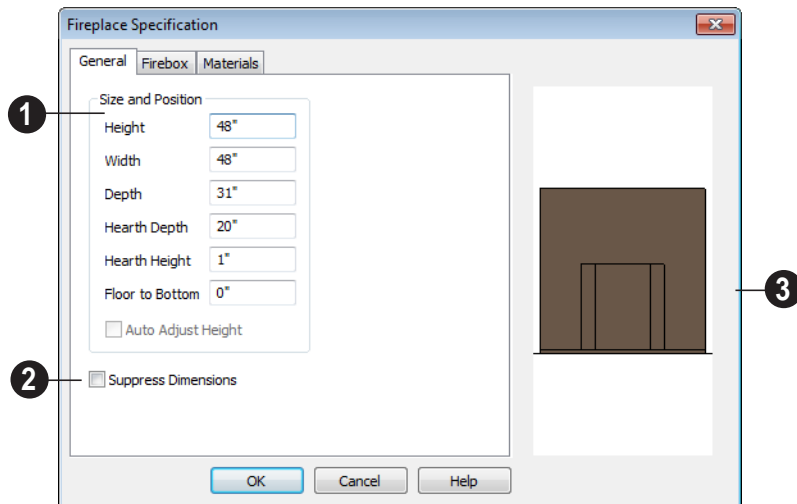
1 Specify the **Size and Position** of the selected fireplace and its hearth.

- Specify the **Height** of the fireplace.

- Specify the **Width** of the fireplace.

- Specify the **Depth** of the fireplace.

- Specify the **Hearth Depth**. This is measured from the front of the fireplace out into the room. To eliminate the hearth altogether, enter a zero for this value.

- Specify the **Hearth Height**, relative to the floor in that room.

- Enter the **Floor to Bottom** distance from the floor to the bottom of the hearth.

- When the selected free-standing fireplace is outside a room and **Auto Adjust**

Height is checked , its Floor to Bottom height is measured relative to the terrain height. When this is unchecked, the Floor to Bottom height is measured from the default floor height of Floor 1. Only available for free-standing fireplaces. See "Terrain Height vs Floor Height" on page 224 of the Reference Manual.

2 Check **Suppress Dimensions** to turn off the display of the selected fireplace's width and firebox width dimensions in floor plan view.

3 The preview image of the fireplace updates as changes are made. Press the Tab key to update to the most recent change.

Firebox Tab
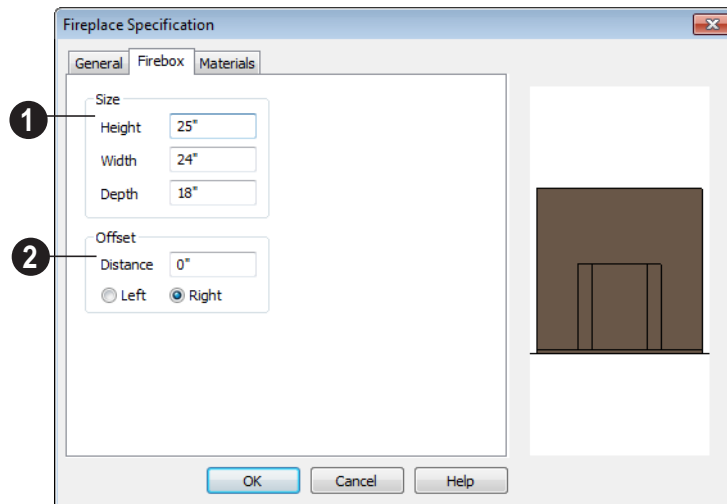
① Define the **Size** of the selected fireplace's firebox.

- Specify the firebox's **Height** and **Width**.
- Specify the **Depth** of the firebox.
- The defaults are 25, 24, and 18 inches respectively.

② Define the firebox **Offset**, measured from the center of the fireplace.

- Enter offset **Distance**, which is how far the firebox is offset from the fireplace center. A value of 0 centers the fire box in the fireplace.
- **Offset to Left/Right** - Choose to offset the firebox to the left or to the right.

Materials Tab

For information about the settings on this tab, see "Materials Tab" on page 294.

Chimneys

Chimneys can be created using a variety of methods.

Masonry Fireplace Chimneys

To create a chimney on a masonry fireplace

1. Select the fireplace in a 3D view.

2. Ctrl + drag the top edge of the chimney upward through all the floors and the roof until it is to the desired height. See "Unrestricted Movement" on page 86.

3. When the chimney is approximately the correct height, select the fireplace, click

the **Open Object** edit button, and type in the exact height.

Chimney Chases & Caps

There are two ways to draw a chimney chase.

• Place a closed box geometric shape in position over the chimney chase, resize it to match, then increase its height either in its specification dialog or in a 3D view using the same method as extending a masonry fireplace.

• Define the chimney chase as a room area using walls, making sure these walls are aligned between floors. The chimney chase "room" on the uppermost floor should have a much higher ceiling than the other rooms on that floor and should also have no ceiling or roof. See "Room Specification Dialog" on page 127.

A selection of chimney tops is available in the library. In addition, custom chimney caps can be made using Geometric Shapes. See "General Shapes" on page 263.

Roofs

Home Designer Landscape and Deck's automatic Roof Tools allow you to draw almost any roof style.

Proficiency with the Roof Tools can only be attained through practice, but mastering these tools saves you time and effort in plan development. For information about creating specific roof styles, see "Roof Tutorial" on page 43 of the User's Guide.

Chapter Contents

- Roof Defaults
- The Roof Tools
- Automatic Roofs
- Build Roof Dialog
- Editing Roofs
- Skylights
- Roof Hole/Skylight Specification Dialog
- Roof Pitches in Degrees

Roof Defaults

Select **Edit> Default Settings**, to open the **Default Settings** dialog for a variety of drawing tools, several of which directly affect roof generation.

Build Roof Dialog

While not listed in the **Default Settings** dialog, the **Build Roof** dialog functions as the defaults dialog for roofs. Many, but not all, initial default values for automatically generated roofs are set in this dialog. See "Build Roof Dialog" on page 181.

Floor and Ceiling Heights

The floor and ceiling heights in individual rooms influence roof heights and are specified in the **Room Specification** dialog. See "Structure Tab" on page 128.

If Auto Rebuild Roofs is checked in the Build Roof dialog and you change floor or ceiling heights, wall positions or roof directives in walls, the roof rebuilds to reflect your changes. See "Rebuilding Roofs" on page 181.

Wall Specification Dialog

By default, when a roof is built, a roof plane is generated over each exterior wall, creating a hip roof.

Any deviations from this default hip roof, such as a gable or a different pitch, can be specified in the **Wall Specification** dialog for any exterior wall. See "Roof Tab" on page 111.

The Roof Tools

Select **Build> Roof** to access the Roof Tools.

Build Roof

Select **Build> Roof> Build Roof** to open the **Build Roof** dialog, specify the settings for automatically generated roof planes, and build or rebuild a roof. See "Build Roof Dialog" on page 181.

When roofs are automatically generated, a roof plane is created over each exterior wall by default, resulting in a hip roof.

To automatically generate a roof plane using values other than the defaults or to not

generate a roof plane bearing on a particular wall (as with a gable or the sides of a shed roof), you can change the settings in the **Wall Specification** dialog. See "Roof Tab" on page 111.

For more information about creating different roof styles, see "Roof Tutorial" on page 43 of the User's Guide.

Skylight

Select **Build> Roof> Skylight**, then draw a rectangle over an existing roof plane to create a skylight. The skylight, skylight shaft, and ceiling hole (if a ceiling

exists) are drawn at the same time. See "Skylights" on page 184.

Delete Roof

Select **Build> Roof> Delete Roof** to delete all roof planes in the plan. See "Deleting Roof Planes" on page 183.

Automatic Roofs

When roofs are automatically generated, a roof plane is created over each exterior wall by default, resulting in a hip roof.

Roof Directives in Walls

To automatically generate a roof plane using values other than the defaults or to not generate a roof plane bearing on a particular wall (as with a gable or the sides of a shed roof), you can change the settings in the **Wall Specification** dialog for that wall. See "Roof Tab" on page 111.

For more information about creating different roof styles, see "Roof Tutorial" on page 43 of the User's Guide.

Rebuilding Roofs

By default, when changes are made to the model, the roof does not update to reflect these changes.

When **Auto Rebuild Roofs** is checked in the **Build Roofs** dialog any changes made to the position of an exterior wall or to its roof directives will prompt the roof to regenerate to reflect these changes. See "Roof Tab" on page 182.

Changes made to floor or ceiling heights will also cause the roof to be automatically rebuilt.

You can also rebuild the roof at any time to reflect the current state of the model by opening the **Build Roof** dialog and clicking OK.

Build Roof Dialog

The **Build Roof** dialog is used to automatically build or rebuild roof planes. To open the **Build Roof** dialog, select

Build> Roof> Build Roof .

Roof planes are generated based on the positions and roof directive settings for each exterior wall in the plan. If you make changes to any of these walls, you will need

to build the roof again for them to take effect. See "Roof Tab" on page 111.

There are three tabs in the **Build Roof** dialog:

- Roof Tab
- Materials Tab
- Roof Styles Tab

Roof Tab
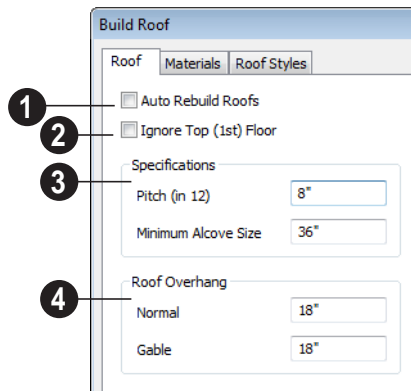
1 If you check **Auto Rebuild Roofs**, the program automatically rebuilds the roof if you make a change that affects the roof, such as to exterior wall positions or ceiling heights.

2 Check **Ignore Top Floor** to build the roof so that it bears on the walls of the floor below the top living floor in the plan. When unchecked, the roof builds so that it bears on the walls on the top floor of the plan.

3 The options in the **Specifications section** are basic roof structure settings.

• Enter a value to describe the **Pitch** as a ratio over 12. For a conversion to degrees, see "Roof Pitches in Degrees" on page 187.

• **Min. Alcove** - Specify the minimum width of an alcove (depression into an otherwise straight exterior wall). Any alcove less than the specified width is treated as though the exterior wall continues straight across. Alcoves that measure wider than this value are not roofed over; they cause a change in roof planes.

Following is an example showing this difference. If **Min Alcove** is 36", a 36" wide alcove requires a change in the roof line. Each wall of the alcove has an eave. On the right, the alcove is less than the 36" minimum, so the roof passes right over it.
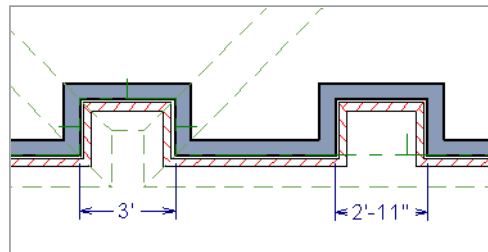
4 The **Roof Overhang** is measured horizontally from the exterior surface of the wall's framing layer to the end of the top of the rafter. It does not include gutters, sheathing or siding.

• **Normal** is the overhang at the eaves and is always the overhang for a roof plane having the default Pitch specified above. If the pitch for a particular roof plane is set differently, its overhang may try to maintain its fascia at the same height.

Overhang can be greater for a shallower pitch, lesser for a greater pitch.

- **Gable** is the overhang dimension at gable ends or rake walls.

⚠ If the roof overhang values are not sufficient to extend past the outer layer of exterior walls, the walls may   not generate correctly in 3D views..

Materials Tab

The settings on this allow you to specify materials for the roof's various components. See "Materials Tab" on page 294.

Roof Styles Tab

The Roof Styles tab provides links to tutorial information about creating different roof styles automatically. Click on a roof style to launch the online Help to a page with information about the roof style you selected. See "Roof Tutorial" on page 43 of the User's Guide.

Editing Roofs

Unlike most other objects in Home Designer Landscape and Deck, roof planes cannot be selected and edited. To make changes to the roof, you must edit the edit roof directives in walls and/or settings in the **Build Roof** dialog, and then rebuild. See "Rebuilding Roofs" on page 181.

An exception to this rule is the **Material Painter** 🖍 tool, which you can use to change the materials used by individual roof planes without rebuilding the roof. Bear in mind, though, that any changes made using

the **Material Painter** 🖍 will not be retained if the roof is later rebuilt. See "The Material Painter" on page 292.

Deleting Roof Planes

There are several ways to delete roof planes.

Delete the entire roof quickly by selecting **Build> Roof> Delete Roof**.

You can also delete all roof planes at once in the **Delete Objects** dialog. See "Delete Objects Dialog" on page 91.

Gable Over Door/Window

The **Gable Over Door/Window** edit button allows you to add a small gable dormer over one or more selected doors or windows the next time automatic roof planes are built.

To use the Gable Over Door/Window tool

1. Select one or more doors or windows.

2. Click the **Gable Over Door/ Window** 🏠 edit button.

- **Gable Over Door/Window** 🏠 is not available for openings placed in Full Gable Walls or for Bay, Box or Bow Windows. See "Bay, Box, Bow Windows & Roofs" on page 153.

3. The next time automatic roof planes are built, gables will be created over each of these doors and windows.

   - Each gable will extend 12" (300 mm) on either side of its door or window.
   - If two of these openings are within 30" (750 mm) of each other on the same wall, a single gable will be created.
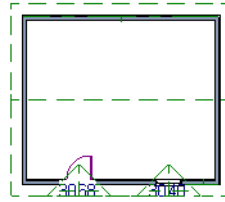
- If you move or resize the door or window(s), the associated Gable Line will not update until the roof is built again.

4. To remove a Gable Over Door/Window, select the door(s) or window(s) and click the **Delete Gable Over Opening** 🗙 edit button. The next time the roof is built, the gable will be removed.

Skylights

🏠 A skylight can be created by selecting **Build> Roof> Skylight** and drawing a rectangular polyline within a single roof plane. You can also simply click once within a roof plane to place a 2' x 2' skylight.

The **Skylight** 🏠 tool places a flat panel skylight into a roof hole, produces a hole in the ceiling platform below, and automatically generates the skylight shaft between these two holes.

To place a skylight in a vaulted ceiling, uncheck **Ceiling Over This Room** in the **Room Specification** dialog, draw the ceiling planes to produce the vault and edit them as needed, and then draw the skylight. See "Structure Tab" on page 128.
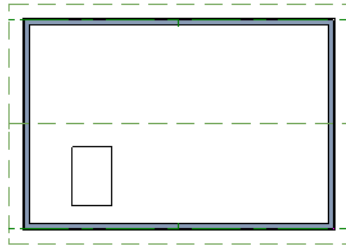
See "Roof Hole/Skylight Specification Dialog" on page 185.

Skylights must always be contained by a single roof plane. If the roof plane is deleted, any skylights or holes it contains are also deleted.
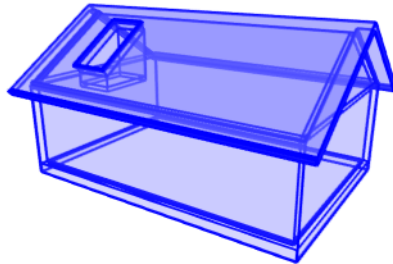
Editing Skylights

Once selected, skylights can be edited using the edit handles, edit toolbar buttons, or the **Roof Hole/Skylight Specification** dialog.

Roof Hole/Skylight Specification Dialog

Select a skylight and click the **Open Object** edit button to open the **Roof Hole/Skylight Specification** dialog. See "Skylights" on page 184.

General Tab
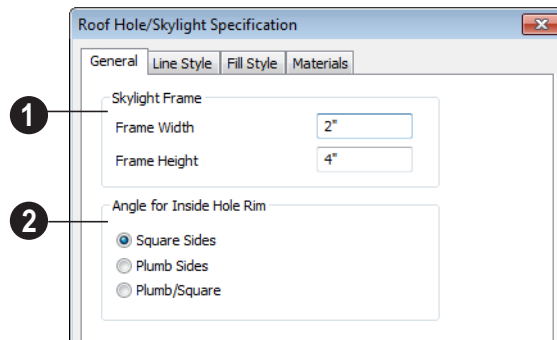
1 **Skylight Frame Width** and **Height** - Define the width and height of the frame or curb of the skylight.

2 **Angle for Inside Hole Rim** - Defines the shape of the skylight well where it passes through the roof plane.

- **Square Sides** - The framing for the skylight is cut square to the pitch of the roof.
- **Plumb Sides** - The framing for the skylight is plumb-cut.
- **Plumb/Square** - The bottom edge is plumb-cut, the top edge square-cut.

Line Style Tab

For information about the settings on this tab, see "Line Style Tab" on page 209.

Fill Style Tab

The settings on the Fill Style tab control the appearance of the selected skylight in floor plan view. For information about these settings, see "Fill Style Tab" on page 209.

Materials Tab

For information about the Materials tab, see "Materials Tab" on page 294.

Roof Pitches in Degrees

$$\angle^\circ = \frac{rise}{run}$$

4.75°	9.46°	14°	18.44°
12	12	12	12
1	2	3	4

22.5°	26.57°	30.26°	33.69°
12	12	12	12
5	6	7	8

36.87°	39.81°	42.51°	45°
12	12	12	12
9	10	11	12

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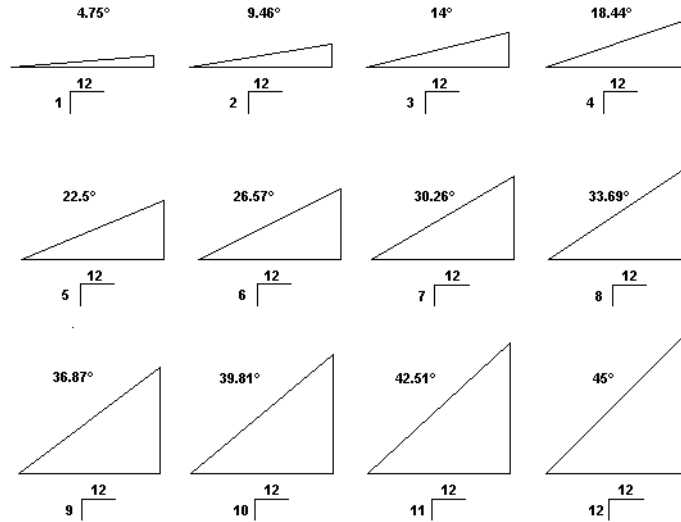
Stairs & Landings

Staircases can be composed of one or more straight or curved stair sections and landings. Stairs can be drawn, selected and edited in 2D and 3D views.

Stairwells can be created automatically or manually and can be seen in 3D views.

⚠ Local building and fire authorities must be consulted for specific stair construction codes and access requirements.

Chapter Contents

Stair Defaults

The purpose of interior stairs is to provide passage from one floor platform to another, so the attributes that influence floor heights - including ceiling heights - also influence the structure of stairs. When considering a staircase's structure, bear in mind that riser height is directly dependent on the distance from one floor platform to another.

The Stair Tools

Select **Build> Stairs** to access the Stair Tools.

Straight Stairs

To draw a straight staircase select **Build> Stairs> Straight Stairs**, then click and drag in floor plan or a 3D view. You can also click once to place a staircase that extends from the current floor up to the next floor. See "Drawing Stairs" on page 192.

Click Stairs

Select **Build> Stairs> Click Stairs** to create stairs between levels on the same floor with a single click of the mouse. Click the low side, within a few feet of where the floor changes height.

- If you click on the low side of a floor platform defined by a railing, a doorway will be created in the railing, adjacent to the stairs.

- If you click on the low side of a floor platform defined by a wall, stairs will be created but a doorway will not.

- If you click at a location that is not near the edge of a floor platform, a full height staircase will be created.

Curved Stairs

Select **Build> Stairs> Curve to Left** or **Curve to Right** and click once in floor plan view to place a curved staircase. See "Curved Stairs" on page 192.

Landing

Select **Build> Stairs> Landing** to draw a landing, which is a platform connecting two or more stair sections. See "Landings" on page 196.

There are two ways to create a landing using this tool:

- Click once to place a landing measuring 39" (975 mm) on each side.

- Click and drag from end to end to draw a rectangular landing sized as needed. See "Polylines" on page 15.

Anatomy of a Staircase

Stairs are often described in terms of **rise** and **run**. Rise is typically between 6" and 8", and the run between 10" and 12". In metric plans, rise is 177 to 190 mm, and the run is about 250 mm.

Staircase Terminology

Balusters - The vertical members that run between the handrail and the treads or bottom rail.

Bracket - Decorative L-shaped supports on the exposed side of stairs below each tread.

Landing - A platform connecting two or more stair sections.

Newels - The end post of a stair railing located at landings and the beginnings and endings of new stair sections.

Rise - The height of a riser, measured from tread surface to tread surface, Also referred to as Unit Rise.

Rise Angle - The angle of the staircase or stair section, defined by a line drawn through the back surfaces of its treads.

Riser - The vertical stair member located between the treads. Risers may be solid or open. When open, the front surfaces of the stringers are considered the risers.

Run - The depth of a tread, measured from riser surface to riser surface. Run does not include the Tread Overhang. Also referred to as Unit Run.

Runner - The carpet that runs down the center of the staircase.

Shoe - The bottom railing, placed on the landing floor, that anchors the balusters at landings.

Stringer - The inclined support member of a staircase that supports the treads and risers.

Tread - The horizontal member of a stair that the foot is placed on.

Tread Overhang - The portion of a tread extending past the front surface of the riser and over the tread below. Also referred to as Nosing or Nosing Extension, it is not included in the Run or Tread Depth measurements.

Thread Thickness - The vertical depth of the tread material.

Stair Structure and the Model

Stairs locate the height of the floor platform that they are drawn on, and seek the next level, which may be the floor platform of the floor above or a landing. The stringers locate the subfloor of the floor platforms and maintain consistent riser height. If the stairs are long enough to reach the next level at a reasonable rise angle, their tread depth and number of treads are automatically calculated to create a staircase with consistent tread and riser dimensions along its entire length.

Stair Sections and Subsections

In Home Designer Landscape and Deck, staircases can be composed of multiple sections and subsections. See "Merging Stair Sections" on page 194.

- Stair sections are separated by landings.

- Subsections are considered part of the same section because they are connected

to one another directly rather than separated by a landing.

Drawing Stairs

Stairs can be drawn in floor plan and 3D views. In 3D views, these objects can only be drawn in the presence of a floor platform or terrain perimeter. See "Working in 3D" on page 320.

There are a few things to keep in mind when drawing stairs.

- Before stairs are created, make sure that the heights for both the lower and upper floors are correctly defined.

- Stairs are drawn going **UP**, so they should be drawn from the lower of the two floors they connect.

- By default, stairs adjust their riser and tread dimensions to connect two floor heights if possible. The rise and run are calculated so that the steps are consistent in size.

- If you have the **Reference Display** turned on, stairs snap to the reference display.

- If a stairwell room has been defined on the floor above, the top of the stairs can be dragged until it stops at the railing or wall defining the stairwell.

- When drawing stairs up from the terrain, it is a good idea to make sure the terrain is up to date. See "Building the Terrain" on page 234.

Straight Stairs

Straight Stairs can be created in three different ways:

- Click and drag in a straight line to draw stairs that are the length that you drag.

- Click once to place stairs that go from the current floor up to the height of the next floor level.

- Click once using the **Click Stairs** tool to create stairs between rooms on the same floor with different floor heights or between exterior rooms and the terrain.

An individual stair section must be between 6" (150 mm) and 100' (30,000 mm) in length. If a greater length is needed, connect two sections using a landing.

Curved Stairs

Curved Stairs can be created in floor plan view by selecting **Build> Stairs> Curve to Left** or **Curve to Right**. Click to place a 90° curved stair section that can then be edited. You can continue clicking to place additional curved staircases until another tool is selected.

- In addition, you can change a straight stair section into curved stairs, or vice versa by selecting the stairs and clicking the **Change Line/Arc** edit button. See "Change Line/Arc" on page 90.

Drawing Stairs Downward

Stairs can be drawn from the current floor level downward; however, drawing stairs between floors in this manner is not recommended. Drawing downward should only be used to create a staircase between a porch or deck and the terrain when you require the direction arrow to say "DN" instead of "UP".

To draw stairs going downward

1. Select **Build> Stairs> Straight Stairs** .

2. Hold down the Alt key or the right mouse button.

3. Click and drag to create straight stairs.

When drawing stairs from a floor platform to the terrain, or vice versa, they will locate the height of the terrain as long as it is lower than the floor height. You can also create "room" outside the structure and use it to establish the bottom height of the stairs. Then, draw in an upward direction from the lower platform to the upper platform.

Displaying Stairs and Landings

The display of stairs and landings in all views is controlled in the **Display Options** dialog. Stairs and landings are placed on the Stairs & Ramps" layer. See "Displaying Objects" on page 56.

In Floor Plan View

In floor plan view, stairs and landings display on the floor they were drawn on and are only visible from the floor above if there is a stairwell.

Stairs have an arrow indicating the direction they run. Interior stairs have an **UP** arrow on the floor they were created on and a **DN** arrow when viewed from the floor above. See "Drawing Stairs" on page 192.

The style and size of a direction arrow can be specified in the **Staircase** or **Ramp Specification** dialog. The color and display are controlled by the "Stairs & Ramps, Up/Down Arrows" layer.

When a staircase is selected in floor plan view, the numbers associated with each of its sections and subsections display. Stair sections are assigned a single-digit number. Subsection numbers have two parts: a section number and subsection number, separated by a hyphen.

Stair section number

Stair subsection numbers
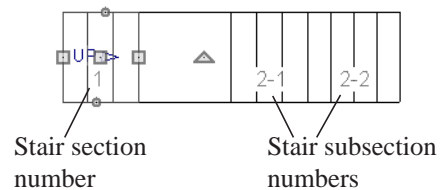
In 3D Views

Although stairs span between two floors, they can only belong to one floor. As a result, only multi-floor views show the upper floor with the platform opening and the lower floor with the staircase simultaneously. In Doll House Views, stairwells may appear as

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an empty spaces. See "3D View Tools" on page 311.

Editing Stairs

Staircases can be selected and edited in floor plan view and 3D views. See "Selecting Objects" on page 68.

Using the Mouse

When a staircase is selected, its edit handles display. These edit handles can be used to customize the object in many ways. See "Editing Objects" on page 67.

- Straight stair sections are edited like lines. They have additional edit handles for resizing the width of the section. See "Editing Line Based Objects" on page 70.

- Curved stair sections are edited like arcs and also include edit handles for resizing the stair's width. See "Editing Arc Based Objects" on page 72.

- When stair sections are merged, the edit handles display differently depending on what subsection is currently selected. See "Merging Stair Sections" on page 194.

- When moving merged stair sections, all merged sections move as one.

In the Specification Dialog

Stairs can be customized in the **Staircase Specification** dialog. See "Staircase Specification Dialog" on page 201.

Using the Edit Tools

A selected staircase can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Merging Stair Sections

Any combination of straight and curved stair sections using **Automatic Heights** can be merged. The resulting staircase section is made up of subsections and, if there are no landings, functions as a single unit.

Stair subsections must be drawn in the same direction if they are to be merged:

- The top edge of a stair section cannot merge with the bottom edge of another section.

- Combinations of stairs drawn in the **UP** and **DOWN** directions cannot be merged.

Stair subsections merge at the center points of their upper and lower edges.

To merge stair sections

1. Confirm that the stairs that you wish to merge are using **Automatic Heights**. See "General Tab" on page 202.

2. Position the sections so they are in the desired relationship to each other.

- In order to merge stair sections correctly, they must be parallel to one another.
- To create merged subsections that change direction, make one of the merged sections curved.

3. Select either stair section so that its edit handles display.

4. Click the Extend handle on the end to be merged and drag it to the point where the two stairs are to meet.
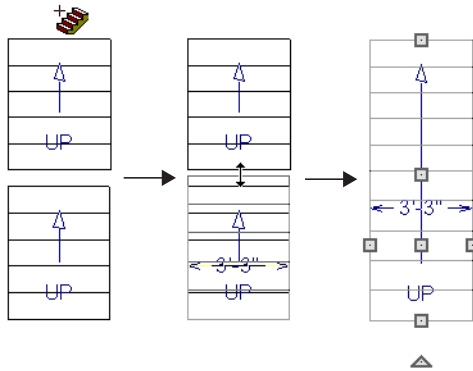
Merging parallel stair sections

A staircase consisting of merged subsections resembles a single stair section in floor plan view. The **UP** (or **DN**) arrows join, becoming a single direction arrow.

When a subsection is selected, the entire staircase is selected. Additional edit handles, indicating the presence of multiple subsections and allowing you to reposition the line along which they join. See "Using the Mouse" on page 194.

Curved Subsections

Stair subsections attached at both ends by other sections do not have a free end that can be dragged into a curve. In this situation, change the middle sub-section to a curve using the **Change Line/Arc** ⬆ edit button. See "Change Line/Arc" on page 90.

To curve an enclosed stair subsection

1. Draw three straight stair sections and connect them end to end.

2. Select the middle subsection.
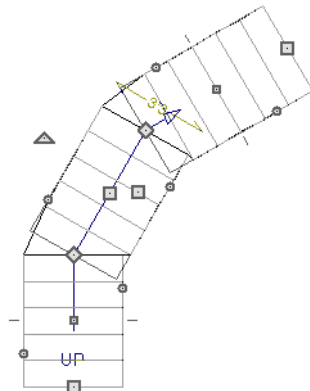
Select the middle stair subsection

3. Click the **Change Line/Arc** ⬆ edit button. The center section turns into a curved stair section.

195
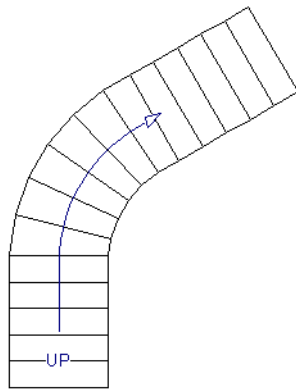
After using Change Line/Arc

4. Use the triangular Change Curve edit handle to adjust the curvature of the middle section as needed.

Landings

Stair landings are platforms between stair sections and can be created in either of two ways:

- Using the **Landing** ⬙ tool.
- By clicking between two stair sections using the **Straight Stairs** ⬙ tool.

To create a landing between stair sections:

1. Draw two stair sections going UP. They can be at any angle.

2. Click between the two sections using the **Straight Stairs** ⬙ tool to create a landing. Notice that only one direction arrow displays after the sections are joined by a landing.
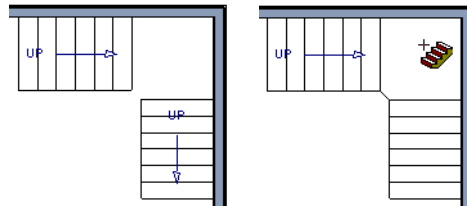
Creating a stair landing

Multiple stair sections can be connected to one landing. For example, two or three stair sections might meet at a landing with a single stair section continuing to the next level.

To be linked by a landing, all sections must be drawn in the same **UP** direction and the top of one section should be near the bottom of the next.

Stair sections connected with a landing will move together as a single unit.

A landing formed between two stair sections having less than a 90° angle between them

are created with a short edge not less than 6" (150 mm). This is because most building codes require the shortest tread to be at least 6" wide. This edge can be manually edited to less than 6" if needed.

Editing Landings

Landings can be selected in 2D and 3D views, both individually and in groups, and edited using the edit handles, the edit toolbar, and the **Landing Specification** dialog. See "Stair Landing Specification Dialog" on page 206.

Landings derive their initial materials and railing characteristics from the stairs attached to them. You can assign a unique material to a landing in its specification dialog or using the **Material Painter** ; however, the railing style is always defined by the attached stairs.

Custom Shaped Landings

Landings can be edited like other closed polyline-based objects. You can add or remove edges, convert an edge from straight to curved, or vice versa. A curved landing creates curved railings. See "Editing Closed-Polyline Based Objects" on page 78.

You can edit the shape of a landing into a wide variety of shapes. So that the railings of stair sections connect properly to the landing railings, make sure that each stair section end is snapped to a landing edge with the same length as the stair's width. If necessary, use the **Break Line** tool to create a break in a landing edge if it is longer than the connecting stairs are wide. See "Break Line" on page 89.

Landing Height

A landing's height is controlled by the program and will adjust automatically as the stairs attached to it are modified so that the stairs maintain a consistent rise angle.

Maintaining Tread Depth

Most building codes require staircases to maintain a consistent tread depth.

Home Designer Landscape and Deck measures a stair section's length and tread depth along a Walk Line located 12" (30 cm) from the right edge of the stair section. On curved stairs, it is located 12" (30 cm) from the inside edge of the curve.

When a curved stair section has **Automatic Treads** specified in the **Staircase Specification** dialog and the Walk Line is

used, the number and/or width of treads in a section or subsection changes when the inner edge is moved. For this reason, it is best to finalize stair section width as early as possible.

Wrapped Stairs

Stairs can be wrapped around the corner of a deck or landing. Curved stairs and stairs with multiple subsections cannot be wrapped. See "Style Tab" on page 204.

To wrap stairs around a deck

1. Draw a deck if you have not already done so. See "Decks" on page 123.

2. Use the **Click Stairs** tool to draw a stair section on each side of the corner around which you want them to wrap.

3. Draw a second set of stairs on the other edge of the deck the same way.

4. If necessary, move the stair sections toward the corner of the deck. The two sections merge to form wrapped steps.

> You can also draw stairs down from a deck by right-clicking to draw them or by pressing the Alt key while you drag. See "To draw stairs going downward" on page 193.

To wrap stairs around a landing

1. Draw two perpendicular **Straight Stair** sections.

2. Click between them to create a landing.

3. Rotate one stair section 180°.
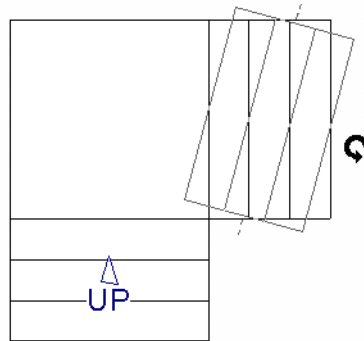
4. The stairs wrap around the corner. Notice that the Up arrow displays on the most recently edited stair section.
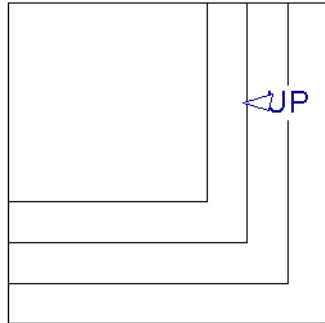
Other Special Railings & Stairs

Stairs can be customized to meet a variety of needs.

Solid Railings

To create a solid rail along a staircase, create the Railing against, but not underneath, the stairs and specify it as Solid. See "Rail Style Tab" on page 113.
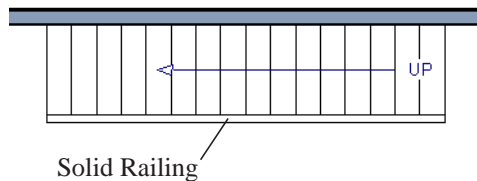
Solid Railing

The solid railing recognizes the adjacent stairs and climbs alongside them.

If any balusters show beyond the railing, eliminate them by unchecking **Left railing** or **Right railing** in the **Staircase Specification** dialog. See "Style Tab" on page 204.

Creating a Stairwell

An interior staircase must be located in a stairwell, an opening to the floor above. A stairwell is an Open Below room type on the floor above. See "Room Types" on page 121.

If you create a stairwell away from other walls so the Open Below is created in the center of another room, connect a wall of the Open Below room to another wall using an invisible wall.

Creating a Stairwell Automatically

To create a stairwell that matches the perimeter of a selected staircase, click the **Auto Stairwell** edit button. This button is only available when a living space exists above the staircase. It will not be available if the space above is Open Below or on the Attic Floor.

Auto Stairwell automatically creates a room on the floor above enclosed by railings, defined as **Open Below** in the **Room Specification** dialog, and given a **Stairwell** room label. This room can be selected and edited like any other room.

Creating a Stairwell Manually

Stairwells can also be created manually.

To create a manual stairwell

1. Draw a two-story building. Create the staircase on the first floor.

2. Make the second floor the **Current Floor** and the first floor the **Reference Floor**. See "The Reference Floor" on page 166.

3. Select **Tools> Reference Floors> Reference Display** to show the Reference Floor, including the stairs.

4. On the upper floor, use the **Railing** tool to create a room around the stairs. Use the edit handles to position the railings as needed.
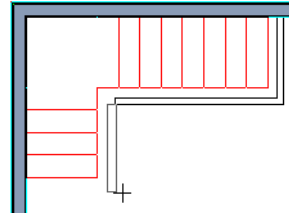
5. Select the railings one at a time and move them into position.

    *   When a railing is selected, its bounding box shows the location of the outer surface of the railing's drywall layer. For best results, this outer surface (which does not display when the railing is not selected) should meet the top edge of the stairs.

    *   If you prefer, you can also go **Down One Floor** and adjust the top edge of the staircase to snap it to the surface of the railing on the floor above.

6. When the railings are positioned properly, select **Tools> Reference Floors> Reference Display** to turn off the display of the Reference Floor.

7. Click inside the room using the **Select Objects** tool to select it, then click the **Open Object** edit button.

8. On the General tab of the **Room Specification** dialog, select "Open Below" from the **Room Type** list. Click **OK** to close the dialog.
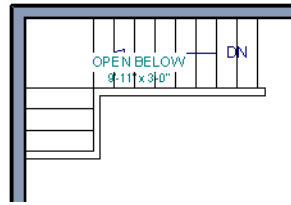
9. Place a **Doorway** ⊢⊣ in the railing at the top step for an opening.

10. Select the doorway and define a large width in the **Door Specification** dialog.

If the doorway is specified wider than the railing, its width maximizes to fit the space available.

Staircase Specification Dialog

Staircases can be defined with the greatest accuracy using the **Staircase Specification** dialog. To open the **Staircase Specification** dialog, select a stair section and click the **Open Object** edit button or double-click a stair section using the

Straight Stairs 🪜 or **Select Objects** ⬚ tool.

If a staircase is composed of multiple stair sections, the section that you clicked on to select the staircase is the Selected Section; however, information about all the sections is available and can be edited in this dialog.

⚠️ It is recommended that all floor heights, ceiling heights and platform thicknesses be established before using the Staircase Specification dialog.

General Tab
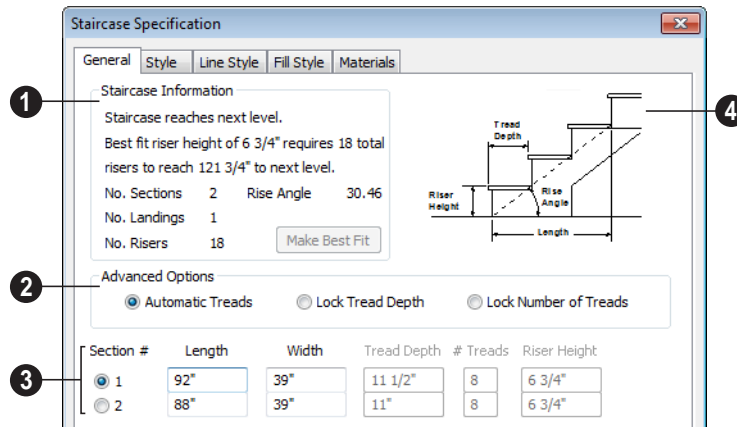
1 Staircase Information - Structural information about the selected staircase displays here. This information cannot be edited directly, but updates as changes are made in the dialog. If you modify a value elsewhere, press the **Tab** key to update this information.

- The first comment tells whether or not the staircase reaches the next level. It also indicates whether its rise angle is either steeper or more shallow than the Best Fit, described below. If **Automatic Heights** is unchecked, this comment instead says "Start and end heights are set manually".

- The second comment, **Best fit riser height of ___ requires ___ total risers to reach ___ to next level**, describes the ideal rise and run for the selected staircase. The program defines the Best Fit Riser Height as the riser height closest to 6 3/4" (168.75 mm) that allows the selected staircase to meet the next level precisely. This comment is only active if **Automatic Heights** is checked, below.

- The total number of stair **Sections**, **Landings**, and **Risers** associated with the selected staircase also display here.

- The **Rise Angle** of the currently active stair section also displays here.

- Click the **Make Best Fit** button to add or remove risers to the Selected Section. Only available when **Automatic Heights** is checked and the staircase does not currently use the Best Fit Riser Height.

Make Best Fit will also extend stairs drawn in a downward direction until they reach the terrain. See "Terrain Perimeter" on page 223.

2 The **Advanced Options** apply to all sections and subsections.

Automatic Treads, Lock Tread Depth, and Lock Number of Treads affect how treads are calculated. Only one of these options can be selected at a time.

- Select **Automatic Treads** to have the program define the depth and number of stair treads. If the staircase has multiple

sections, each may have different tread depths.

- Select **Lock Tread Depth** to specify the Tread Depth for each stair section, below, and prevent them from changing. When Lock Tread Depth is selected and the length of the stairs is changed, the number of treads will change.

- Select **Lock Number of Treads** to specify the number of treads in each stair section and prevent it from changing. When Lock Number of Treads is selected and the length of the stairs is changed, the tread depths will change.

- Uncheck **Automatic Heights** if you would like to specify the bottom and top heights of each stair section, as measured from the default floor height of Floor 1, 0" (mm). When checked, the program automatically defines the top and bottom heights by precisely locating floor platforms and landings.

Lock Bottom and Lock Top are actions rather than settings. If you make changes to the staircase that will affect its length, first lock either the bottom or top end of the Selected Section to prevent it from moving. The height of the Selected Section's locked end is not affected by these settings - only its position on the X/Y axis.

- Select **Lock Bottom** to lock the position of the selected stair section's bottom end to prevent it from moving. Sections and landings below the selected section do not move when you click OK, while those above do move.

- Select **Lock Top** to lock the position of the selected stair section's top end to prevent it from moving. Sections and land-

ings above the selected section do not move when you click OK, while those below do move.

> If you select a staircase by clicking near its bottom end, Lock Top will be selected; if you select it near its top end, Lock Bottom will be selected.

3 The specifications for each stair section and subsection display and can be edited here. A maximum of ten items can display.

A change in one value usually affects other values. You may need to reposition the staircase after making changes.

- The **Section #** column identifies the Selected Section and the number of each section of the selected staircase. The radio button to the left indicates which section or subsection is selected. See "Displaying Stairs and Landings" on page 193.

- Define the **Length**, or run, of each section.

  When the length of a section changes, other sections and landings in the staircase unit move in response. You can specify whether the bottom or top edge of the Selected Section moves when you resize it by selecting either the Lock Bottom or Lock Top radio button, above.

- Define the **Width** of each section. If a section is connected to a landing, its width should equal the length of the landing edge that it connects to. See "Landings" on page 196.

- Specify the **Tread Depth**, or run, of each stair tread in the selected section.

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- Define the number of **Treads** in a stair section or subsection.

- Define the **Bottom Height**, the height of the stair section's bottom edge. To lock this value, click the radio button to the left of the section's number, then click the Lock Bottom radio button, above, and click OK.

- Define the **Top Height**, the height of the stair section's top edge. To lock this value, click the radio button to the left of the section's number, then click the Lock Top radio button, above, and click OK.

- Define the **Riser Height**, the height of the risers in each stair section.

4 A diagram of a sample staircase's structure displays here for reference.

Style Tab

The settings on the Style tab affect all stair sections and subsections.
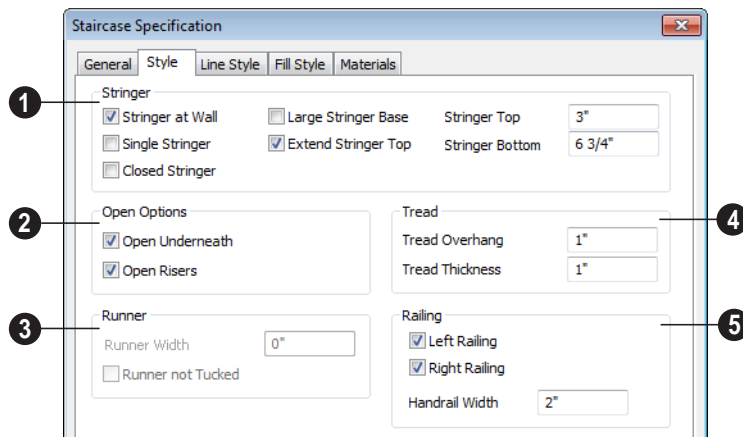
1 Specify the attributes of the selected staircase's **Stringers**, which are the angled support members that support the treads. See "Anatomy of a Staircase" on page 191.

- Check **Stringer at Wall** to produce a raised stringer top baseboard at the sides of the stair sections against walls. This baseboard follows the slope of the stair.

- Check **Single Stringer** to form a single 5-inch (125 mm) thick stringer in the center

of the staircase.

Checking **Single Stringer** automatically checks **Open Risers** and unchecks **Stringer at Wall** and **Closed Stringer**. You may want to increase the tread thickness when this is checked.

- Check **Closed Stringer** to raise the tops of the exposed stringers to cover the sides of the treads. If this is checked, no central stringer is applied to open riser stairs.

This setting only affects those stringers that are not against a wall.

- Check **Large Stringer Base** to widen the stringers at the foot of the staircase. This is helpful when walls are created below the stairs.
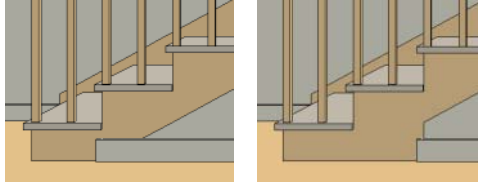
Large Stringer Base shown at right

- **Extend Stringer Top** is checked by default and extends a triangular portion of the stringer under the landing or platform at the top of the stairs.

- Specify the height of the **Stringer Top** when **Stringer at Wall** or **Closed Stringer** is selected. This is measured along the plane of the riser face from the top of a tread to the top of the stringer. It cannot be less than 2 inches (5 cm).

- Specify the height of the **Stringer Bottom**. This is measured from the top back corner of a tread down to the bottom edge of the stringer. It must be equal to or greater than the riser height.

② **The Open Options** control whether the selected stairs have open risers or an open underside.

- Uncheck **Open Underneath** to add a skirt below the staircase along the two sides. It looks like a wall in 3D, but it has only a single face. Base molding does not generate along the bottom of the skirt, and doors cannot be placed in it.

- Check **Open Risers** to eliminate the riser face under each tread and expose the stringers. If **Closed Sides** is also selected, no central stringer is supplied.

③ Specify the attributes of the staircase's carpet **Runner**. Only available when **Open Risers** is unchecked, above.

- Specify the **Runner Width**. The default value of 0 does not create a runner. Only available when **Open Risers** is unchecked, above.

- Check **Runner not Tucked** to have the runner drop straight down from the tread front to the riser below. This is unchecked by default.

④ Specify the characteristics of the staircase **Treads**. See "Anatomy of a Staircase" on page 191.

- Specify the **Tread Overhang**, which is the distance that each tread overhangs the riser.

- Specify the **Tread Thickness**.

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the program. For information about these settings, see "Line Style Tab" on page 209.

Fill Style Tab

The settings on the Fill Style tab affect the appearance of the selected staircase in floor plan view. For information about these settings, see "Fill Style Tab" on page 209.

Materials Tab

The settings on the Materials tab affect the appearance of the selected staircase in 3D views and are available for a variety of objects throughout the program. For information about these settings, see "Materials Tab" on page 294.

The settings on this tab will also affect the materials applied to any landings attached to the selected staircase. See "Landings" on page 196.

Stair Landing Specification Dialog

Select a landing and click the **Open Object** edit button to open the **Stair Landing Specification** dialog. See "Landings" on page 196.

The tabs in this dialog are found in the specification dialogs for a variety of different objects in the program.

Polyline Tab

The Polyline tab indicates the length of the landing's **Perimeter**, its enclosed **Area**, and its **Volume**.

The settings on the this tab are available for a variety of other objects in the program.
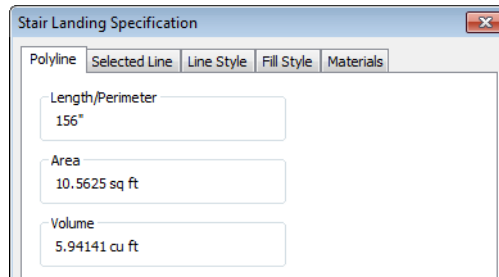
Selected Line Tab

The Selected Line tab is available when the selected edge is a line as opposed to an arc. See "Selected Edge" on page 69.

The settings on this tab are available for a variety of other objects in the program.
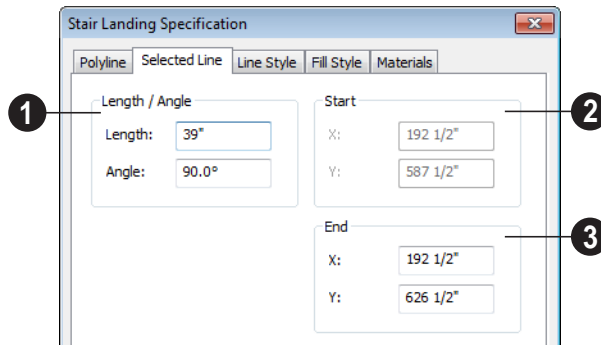
1 Specify the **Length** and **Angle** of the selected line.

2 The X and Y coordinates for the **Start** point of the line display here.

3 Specify the X and Y coordinate for the **End** of the line here.

Moving the End of a line segment moves the start of the next connected line.

Selected Arc Tab

The Selected Arc tab is available only when the selected edge has been converted to an arc. See "Change Line/Arc" on page 90.

The settings on this tab are available for a variety of other objects in the program.
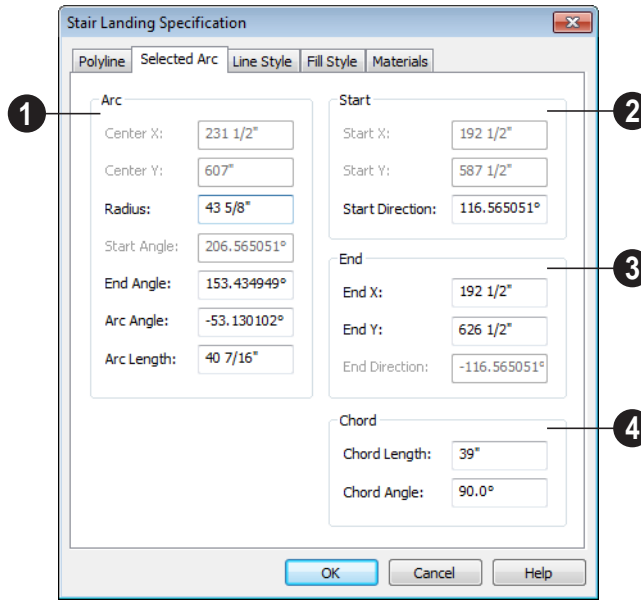
1 **Arc -** These settings define the arc.

- **Center X** - The x coordinate for the center of the arc displays here for reference.

- **Center Y** - The y coordinate for the center of the arc displays here for reference.

- **Radius** - Specify the distance between the center of the arc and the arc surface.

- **Start Angle** - The angle of a line drawn from the arc center to the arc start displays here for reference.

- **End Angle** - Specify the angle of a line drawn from the arc center to the arc end.

- **Arc Angle** - Specify the angle between the center of the arc and each end.

- **Arc Length** - Specify the length of the arc along the curve.

2 **Start** - Information about the starting point of the selected arc displays here.

- **Start X** - The X coordinate of the arc's starting point displays here.

- **Start Y** - The Y coordinate of the arc's starting point displays here.

- **Start Direction** - Specify the angle of a tangent line at the start of the arc.

3 **End** - Information about the end point of the selected arc displays here.

- **End X** - Specify the X coordinate for the end of the arc.

- **End Y** - Specify the Y coordinate for the end of the arc.

- **End Direction** - The angle of a tangent line at the end of the arc displays here.

4 **Chord** - Define the selected arc's chord, which is the line drawn between its start and end points.

- **Chord Length** - The straight line distance between the two ends of the arc.

- **Chord Angle** - Specify the angle of the chord.

Line Style Tab

The settings on the Line Style tab are available for a variety of objects throughout the program.
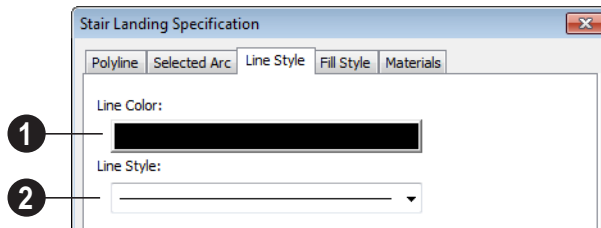
1 Click the color bar and specify the **Line Color** used to represent the selected object. See "Color Chooser Dialog" on page 300.

2 Select a **Line Style** to represent the selected object from the drop-down list.

Fill Style Tab

The settings on the Fill Style tab affect the appearance of the selected landing in floor plan view.
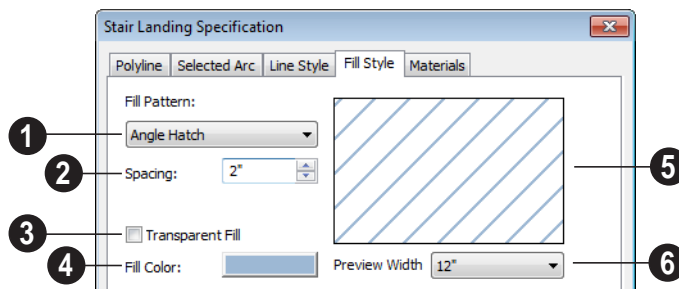
1 Choose a **Fill Pattern** from the drop-down list.

The options that follow are disabled until you select a pattern other than **None** from the **Fill Pattern** drop-down list.

2 Define the **Spacing** for the selected fill pattern.

3 Check **Transparent Pattern Fill** to make the fill pattern transparent. When you check this option, any objects behind the fill pattern are visible through it.

4 **Fill Pattern Color** - Select a line color or fill color if a solid fill is specified. This overrides the layer color. See "Color Chooser Dialog" on page 300.

5 A preview of the selected pattern displays here. As changes are made to the settings on this tab, the preview will update.

6 Choose a **Preview Width** from the drop-down list. This value controls how large an area the preview represents. The selected value indicates the length of each side of the preview in actual plan inches (mm).

Materials Tab

When a landing is attached to stairs, its initial materials are derived from the stairs.

The settings on this are available for a variety of objects throughout the program. For information about these settings, see "Materials Tab" on page 294.

Electrical

The electrical plan shows the location of all electrical objects such as lights, switches, outlets, smoke detectors and vent fans.

Electrical objects can be displayed in 2D and 3D views. Some electrical light fixtures also add light sources to 3D views. See "Lighting" on page 326.

Usually, the electrical plan is one of the last additions to a plan since the position of most electrical objects is determined by the location of walls, cabinets and other objects.

⚠ Building requirements vary throughout the country and around the world. It is your responsibility to comply with local codes.

Chapter Contents

- The Electrical Tools
- Electrical Library
- Displaying Electrical Objects
- Editing Electrical Objects
- Electrical Service Specification Dialog

The Electrical Tools

Select **Build> Electrical** to access the Electrical Tools.

Click in floor plan view to place an electrical object. Some can only be placed against walls, some only on the ceiling or floor, and some automatically change as needed. If you click within 12" of the wall, the selected object is placed on the wall.

Once an electrical object has been placed, it can be edited in the **Electrical Service Specification** dialog. See "Electrical Service Specification Dialog" on page 214.

Outlets

Select **Build> Electrical> 110V Outlet** to place 110 volt duplex outlets in walls or on the floor. Select **Build> Electrical> 220V Outlet** to place 220 volt outlets.

Certain room types and situations cause various types of outlets to be placed. For example, Outlets placed outside the building or in an exterior area such as a deck or porch are labeled WP, or Water Proof.

To take advantage of the program's capabilities, define room types properly before placing electrical objects. See "Room Types" on page 121.

Light Fixtures

Select **Build> Electrical> Light** to place light fixtures. All light fixtures placed in a plan can also serve as light sources in 3D views. To place a light fixture using the Light tool

- Click near a wall to place a wall-mounted fixture at that location.

- Click away from a wall to place a ceiling mounted light.

- Some light symbols from the library can be mounted under wall cabinets, as well.

Switches

Select **Build> Electrical> Switch** to place electrical switches as specified in the **Electrical Defaults** dialog. Like outlets, the height of switches is measured from the floor to the center of the object.

An electrical switch can be placed on either a wall or a cabinet, depending on the type of switch. A selection of each type is available in the Library Browser. See "Placing Library Objects" on page 284.

Lighting and Electrical Libraries

A selection of free-standing and ceiling-, wall- and cabinet-mounted light fixtures is available in the Library Browser at Home Designer Core Catalogs> Architectural> Lighting.

Special use outlets, switches, jacks and numerous other electrical items can be found at Home Designer Core Catalogs> Mechanical, Electrical, Plumbing> Electrical. See "The Library" on page 271.

Electrical Library

Select **Library> Library Browser** to accesses a variety of electrical symbols. See "The Library" on page 271.

Browse for electrical objects such as fans, lights, and more. Select a symbol, then click in your plan to place it on a wall, floor, or ceiling.

Displaying Electrical Objects

The display of electrical objects is controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

When displayed in 3D views, light fixtures act as sources of light that help illuminate the 3D model. See "Lighting" on page 326.

Electrical labels display in floor plan view when the "Electrical, Labels" layer is turned on.

Note: Some electrical objects are represented in floor plan view by a symbol that includes text. This text is not part of the object's label and does not use the Default Label Text Style.

In the Materials List

Electrical objects, including outlets, switches, lights, and symbols from the library, are listed under the Electrical Category in the Materials List. See "Materials Lists" on page 389.

Editing Electrical Objects

Electrical objects can be selected as a group and individually in 2D and 3D and edited using the edit handles and the edit toolbar .

Using the Edit Handles

The edit handles for electrical objects vary depending on the location of the object. Wall mounted electrical objects cannot be rotated, so only the Move edit handle displays.
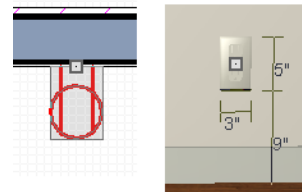
Wall-mounted outlet in 2D and 3D views

Electrical objects placed on floors and ceilings can be rotated.

Using the Edit Buttons

A selected electrical symbol can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Adjusting the Height of Electrical Objects

To change the height of an electrical object in floor plan view, open the object for specification and type the desired height in the **Electrical Service Specification** dialog. See "Electrical Service Specification Dialog" on page 214.

Electrical objects placed in 3D views are placed wherever you click a wall, regardless of the height. In 3D views, the position of an electrical object can be adjusted using its edit handles.

Deleting Electrical Objects

An electrical object can be deleted by selecting it and clicking the **Delete** edit button or by pressing the Delete key.

All electrical objects in a room, on a floor, or in the entire plan can be deleted as a group using the **Delete Objects** dialog. See "Deleting Objects" on page 90.

Electrical Service Specification Dialog

Select an electrical object and click the **Open Object** edit button to open the **Electrical Service Specification** dialog.

The settings in this dialog vary, depending on the type of object(s) you select.

General Tab

The items on this tab vary, depending on the type of electrical object selected.
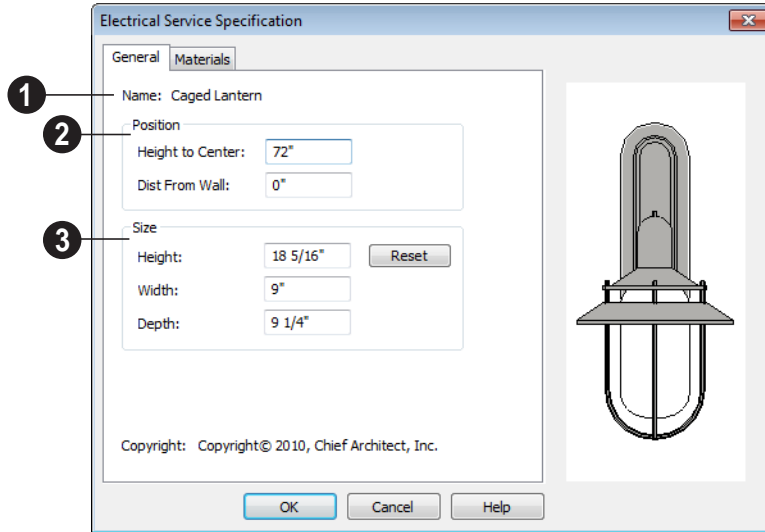
① The **Name** of the selected object as used in the Library Browser and Materials List displays here.

② Specify the **Position** of the selected electical symbol. The options available depend on the type of electrical symbol selected.

- Specify the **Offset From Ceiling** of a ceiling outlet or ceiling mounted light. If the light is mounted to a cabinet, this value is the offset from the cabinet.

- Specify the **Height to Center** of a switch, wall outlet or wall light.

- Specify the **Offset From Floor** of a floor outlet or floor lamp.

- Specify the **Distance From Wall** of a wall mounted symbol. A negative value

will recess the symbol into the wall and may prevent it from being seen in 3D.

③ Specify the **Size** of the selected electical symbol.

- Specify the **Height**, **Width** and **Depth** of the selected symbol.

- Click the **Reset** button to restore the electrical symbol's original size

Materials Tab

The Materials tab is found in the specification dialogs for a variety of objects. For more information, see "Materials Tab" on page 294.

Trim Tools

The Trim Tools allow you to place corner boards and quoins at wall intersections that form corners.

You can also assign interior and exterior casing to doors and windows in their specification dialogs. See "Specification Dialogs" on page 24.

Chapter Contents

Trim and Molding Defaults

Select **Edit> Default Settings** to open the **Default Settings** dialog where you can access the defaults for a variety of drawing tools, including a number that affect trim and moldings.

- Click the + beside "Door" " to access the defaults for Interior and Exterior Doors. See "Door Defaults" on page 131.

- Select "Window" and click the **Edit** button to specify the default casing for windows. See "Window Defaults" on page 146.

Corner Boards

Corner boards are added to a building exterior in any view by selecting **Build> Trim> Corner Boards**.

Click at a wall corner where you want to add trim. Be sure to click where the outside wall surfaces meet. If you click where the inside surfaces meet, corner trim will be created inside the room.

.Corner boards extend from the top plate down to the bottom of the floor platform of the floor on which it is placed, but do not extend to other floors. You must add corner boards to all floors of the building that you want to have corner boards.

A selected corner board or boards can be moved, but only to another wall corner or corners. In 3D views, corner boards can be lengthened or shortened using the edit handles. Corner boards can be copied, deleted and resized similar to other objects using the edit toolbar or the **Corner Board Specification** dialog.

The default material for corner boards is defined by the **Exterior Trim** entry in the **Material Defaults** dialog. See "Material Defaults" on page 299.

Corner Board Specification Dialog

Select a corner board and click the **Open Object** edit button to open the **Corner Board Specification** dialog.

General Tab
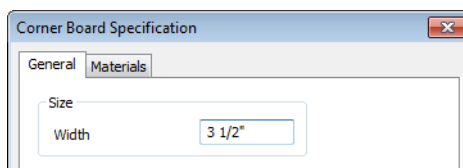
Specify the **Width** of the selected corner board(s).

Materials Tab

The settings on the Materials tab are available for a wide variety of objects in the program. For information about these settings, see "Materials Tab" on page 294.

Quoins

Select **Build> Trim> Quoins** in any view and click at a wall corner where you want to place quoins.

A selected quoin or quoins can be moved, but only to another wall corner or corners. In 3D views, quoins can be lengthened or shortened using the edit handles. Quoins can be copied, deleted and resized similar to other objects using the edit toolbar or the **Quoin Specification** dialog.

The size of quoins in floor plan view is relative on their size in 3D.

Initially, quoins use the same material as the default material of the wall surface they are placed against.

Quoin Specification Dialog

Select a quoin and click the **Open Object** edit button to open the **Quoin Specification** dialog.

General Tab
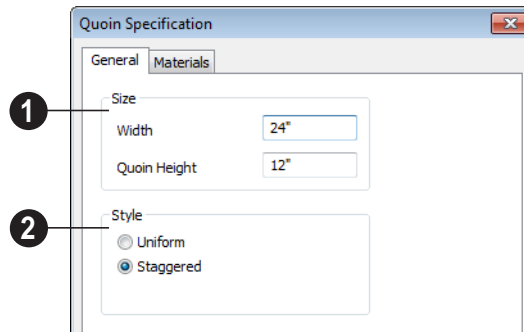
1 Specify the dimensions of the quoins in the selected Quoin object.

- Specify the **Width**, which is the long dimension of each quoin in the selected Quoin object. The dimension along the other wall is half this value when they are staggered or mirrored.

- Specify the **Quoin Height** for individual quoins in the selected Quoin object.

2 Specify the arrangement of quoins used by the selected Quoin object(s).

- **Uniform** - Produce quoins that are of equal length on both sides of the corner.

- **Staggered** - Produce quoins that have one long side and one short side staggered on opposite sides of the corner.

Materials Tab

The settings on the Materials tab are available for a wide variety of objects in the program. For information about these settings, see "Materials Tab" on page 294.

Editing Corner Boards and Quoins

Before a corner board or quoin can be edited, it must be selected. Click on a trim object when the **Select Objects** tool is active. Corner boards and quoins can also be group selected and edited. See "Selecting Objects" on page 68

Corner boards and quoins can be edited using their edit handles, the edit toolbar buttons, and their specification dialogs.

Using the Mouse

Depending on the type of view, a corner board or quoin displays a different set of edit handles when selected.

- In floor plan view, corner boards and quoins display one edit handle and can be moved from one eligible location at a wall corner to another.

- In 3D views, corner boards and quoins can be moved, lengthened, and shorted much the other line-based objects are.

See "Editing Line Based Objects" on page 70.

Using the Edit Buttons

A selected corner board or quoin can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Deleting Corner Trim

Corner boards and quoins can be selected individually or in groups and deleted using the **Delete** edit button or the Delete key on the keyboard. They can also be removed using the **Delete Objects** dialog. See "Deleting Objects" on page 90.

Millwork

A selection of various types of millwork including columns, corbels and finials is available in the Library Browser. See "The Library Browser" on page 272.

Most millwork items can be placed in a plan as free-standing objects. Some items -

notably, newels and balusters - can be assigned to objects such as railings, stairs and ramps. See "Placing Library Objects" on page 284.

Terrain

Home Designer Landscape and Deck allows you to model the terrain around a house. Begin by specifying elevation data that creates the surface contours, and then add surface features such as planting areas, water features and plants.

You can import terrain data from a variety of sources and use this data to produce your 3D model.

Roads and sidewalks are among the objects that can be placed in your terrain and are discussed in "Roads, Driveways & Sidewalks" on page 259.

Chapter Contents

Terrain Perimeter

The Terrain Perimeter is a closed polyline defining the boundary of the terrain that generates in 3D views and of the contour lines that generate in floor plan view.

A Terrain Perimeter should be present in your plan already, but if one is not, select **Terrain> Create Terrain Perimeter** to create one.
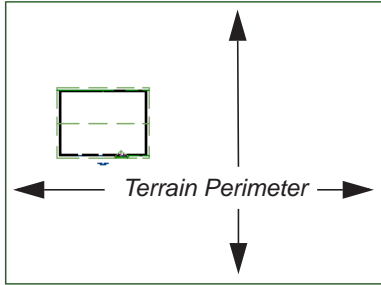
Terrain Perimeter

If you create a terrain perimeter in floor plan view but do not see it, select **Window> Fill Window** . See "Zoom Tools" on page 302.

Once created, the terrain perimeter can be resized and edited like other polyline-based objects. See "Editing Closed-Polyline Based Objects" on page 78.

When a terrain perimeter is first created, it is completely flat and is placed at a height of 0'-0", or sea level.

Terrain perimeter at 0' - 0" in a 3D view

The terrain perimeter by itself does not have elevation data associated with it. You can use the **Elevation Data** and **Terrain**

Modifier tools to create terrain that slopes in a wide variety of ways. If you do not create elevation data within the terrain perimeter, the terrain remains flat at an elevation of 0' - 0". See "Elevation Data Tools" on page 225 and "Terrain Modifier Tools" on page 228.

Terrain Height vs Floor Height

Home Designer Landscape and Deck always defines the default height of Floor 1 at 0'-0". This height value is the constant by which the heights of architectural objects and structural elements in the program, including walls, floors, and ceilings, are measured.

The default height of Floor 1 is not, however, the absolute by which terrain elevation is measured. Instead, elevation data is measured relative to sea level. This means that if you want to, you can use real-world elevation data to generate a 3D terrain model without also having to measure floor and ceiling heights from sea level. See "Importing Elevation Data" on page 245.

The program automatically positions Floor 1 a set distance above the terrain. To do this, it first finds the center point of the building footprint. Then, it determines the elevation of the terrain at that point. Finally, it adds 6" (150 mm) plus the thickness of the floor platform to this value. The resulting value, referred to as the Building Pad Elevation, is how far the default height of Floor 1 is above sea level in the current plan. See "Foundations and the Terrain" on page 172.

In a plan with no elevation data, the terrain is assumed to be at sea level and this Elevation distance is 6" (150 mm) plus the thickness of the floor platform when a foundation is pres-

ent. Once terrain has been built, the Elevation distance is stated in the **Terrain Specification** dialog. You can specify a custom Elevation value to produce a daylight or walkout basement. See "General Tab" on page 236.

> Note: When no foundation has been built, the distance from Floor 1 to the terrain is 12" (320 mm).

Build Terrain

Select **Terrain> Build Terrain** to generate the terrain surface based on the provided elevation data. Build Terrain also updates the Building Pad Elevation value in the **Terrain Specification** dialog. See "Building the Terrain" on page 234.

The Terrain Perimeter has a variety of editable properties that affect the appearance of the terrain in 2D and 3D views. See "Terrain Specification Dialog" on page 236.

Elevation Data Tools

Select **Terrain> Elevation Data** to add elevation information to your terrain.

When terrain is generated, this data is used to calculate the surface of your site and is represented by contour lines in floor plan view and a curved surface in 3D. See "Displaying Terrain" on page 234.

Elevation data can be specified using the **Elevation Point** , **Elevation Line** , and **Flat Region** tools.

Elevation data can also be imported. See "Importing Elevation Data" on page 245.

The elevation of each Elevation Line, Spline and Region is specified relative to sea level.

In order to create rising and/or falling terrain, multiple terrain data objects with different elevation values must be used. If only one terrain data object is placed, the terrain will be flat regardless of the object's specified elevation.

> To avoid unexpected results, do not draw Elevation Data objects with different elevation information at the same location.

Elevation Points

An **Elevation Point** contains the absolute elevation data for one point in the terrain model. Typically, Elevation Points are imported rather than placed manually.

Home Designer Landscape and Deck requires many points to make an accurate approximation of your site. Even small sites may require over a hundred points to generate an accurate model of the terrain if it is sloped. For the sake of illustration, the following example shows only a few elevation points.

To place an elevation point

1.   Select **Terrain> Elevation Data> Elevation Point** and click in floor plan

view at the point where you would like to place elevation data.

2. The **Elevation Point Specification** dialog opens. Enter an elevation value and click **OK**. See "Elevation Point Specification Dialog" on page 238.

3. Click somewhere else in floor plan view and the **Elevation Point Specification** dialog opens again with the last elevation value entered.
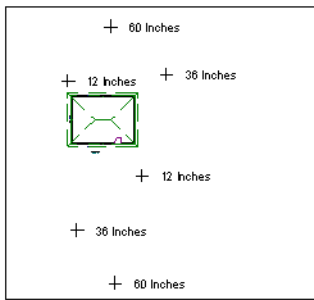
Elevation Points before terrain generation

4. Repeat steps 1, 2 and 3 to place additional elevation points with varied elevation values as needed.

5. Select **Terrain> Build Terrain** . See "Building the Terrain" on page 234.
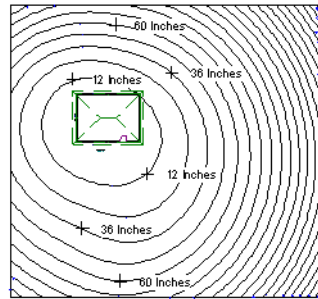
Contour lines after terrain generation

> Elevation Points are most effective when they are imported. When adding elevation data manually, use Elevation Lines instead. See "Importing Elevation Data" on page 245.

Elevation Lines

An **Elevation Line** contains absolute elevation data for many points along a line at a constant elevation. Elevation lines can be connected to create a polyline with many straight sections. For the sake of illustration, the images in the following example show single-section elevation lines.

To draw an elevation line

1. Select **Terrain> Elevation Data**> **Elevation Line** , then click and drag a line inside the Terrain Perimeter in floor plan view.

2. Click on the elevation line to select it, then click the **Open Object** edit button.

3. At first, an elevation line is at elevation 0' - 0". In the **Elevation Line**

Specification dialog, specify the desired elevation and click OK. See "Elevation Line/Region Specification Dialog" on page 239.

4. Repeat steps 2 and 3 to draw additional elevation lines as needed.
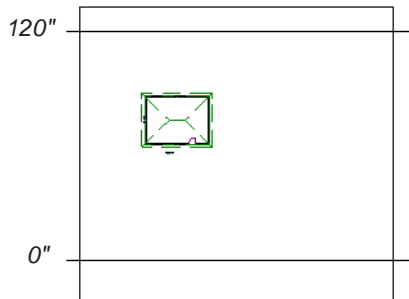
Elevation Lines before terrain generation

5. Select **Terrain> Build Terrain** . See "Building the Terrain" on page 234.
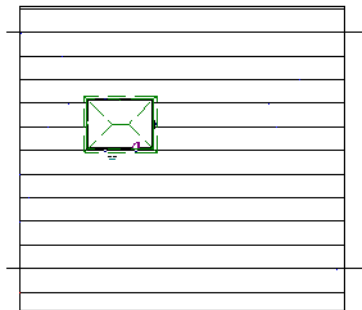
Contour lines after terrain generation
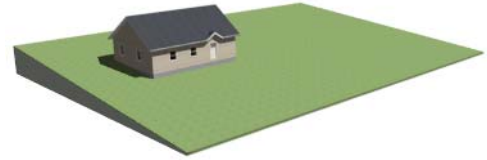
Full Overview after terrain generation

After it is drawn, an Elevation Line can be edited much the way other line-based objects can. See "Editing Line Based Objects" on page 70.

Flat Regions

A **Flat Region** contains absolute elevation data for an enclosed region and is ideal for creating a flat surface in your terrain.

To create an elevation region

1. Select **Terrain> Elevation Data> Flat Region** .

2. There are two ways to add a Terrain Modifier to your plan:
    *   Click once to place an 8' (0.6 m) square feature at that location.
    *   Click and drag from end to end to draw a feature sized as needed.

3. Click on the region to select it, then click the **Open Object** edit button.

4. At first, an elevation line is at elevation 0' - 0". In the **Flat Region Specification** dialog, specify the desired elevation and click OK. See "Elevation Line/Region Specification Dialog" on page 239.
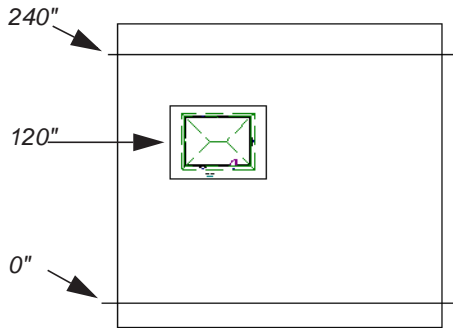
Elevation lines create a terrain grade; an elevation region creates a building pad.
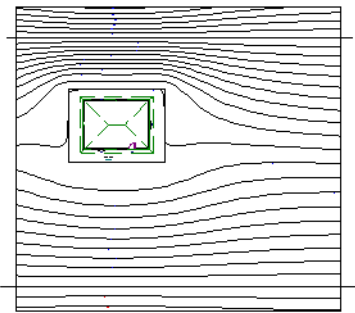
Contour lines after terrain generation
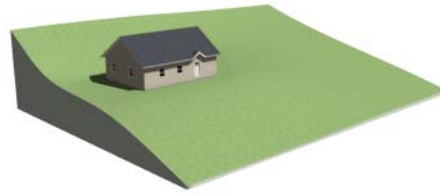
Full Overview after terrain generation

An **Flat Region** 🏠 can also be created by drawing a closed polyline using **Elevation Lines** 🔢.

After it is drawn, a Flat Region can be reshaped much the way other closed polyline-based objects can. See "Editing Closed-Polyline Based Objects" on page 78.

Terrain Breaks

Terrain Modifier Tools

Select **Terrain> Modifier** to access tools that allow you to modify the existing elevation data by drawing a closed polyline. Their height is relative to the terrain surface generated from the Elevation Data provided in your plan.

The elevation data associated with a Terrain Modifier only affects the terrain within its perimeter. The rest of the terrain is unaffected.

Raised and Lowered Regions

The **Raised Region** tool creates a raised area with a top surface that is flattened like a plateau but follows the surface of the terrain. The **Lowered Region**

tool creates a depression with a bottom that follows the terrain and is flattened.

Lowered Region

Raised Region
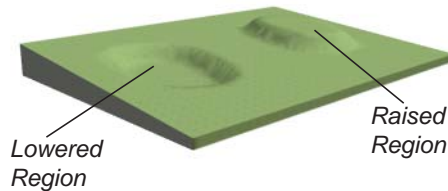
Hills and Valleys

The **Hill** and **Valley** tools create raised and lowered areas in the terrain that come to a point rather than flattening at their highest or lowest elevations.

Valley

Hill
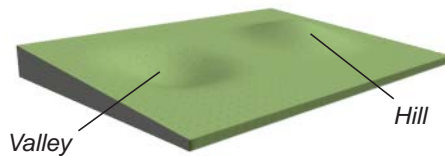
There are two ways to add a Terrain Modifier to your plan:

• Click once to place a modifier with end-points that form a 10' (4 m) square at that location.

• Click and drag from end to end to draw a feature sized as needed.

Terrain Modifiers can only be drawn when a Terrain Perimeter is present, and will only display in 3D when they are drawn within the perimeter. See "Displaying Terrain" on page 234.

Once created, Terrain Modifiers can be selected and edited in a variety of ways. See "Editing Spline Based Objects" on page 82.

Terrain Feature Tools

Select **Terrain> Feature** to access tools for drawing bounded areas that follow the contours of the terrain rather than modifying them.

Terrain Features are useful for creating landscaping features because they have specified heights and materials. You can, for example, create paths and planting beds with gravel or mulch materials that stand out in a grassy Terrain Perimeter. See "Adding Terrain Features" on page 104 of the User's Guide.

In fact, **Driveways**, **Garden Beds**, **Water Features** and **Stepping Stones** are special Terrain Features with material and height attributes already applied to them, saving you time when drawing these objects.

Terrain Features can only be drawn when a Terrain Perimeter is present, and will only display in 3D when they are drawn within the perimeter. See "Displaying Terrain" on page 234.

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Terrain Features can be created in either of two ways:

- Click once to place a feature with end-points that form a 10' (4 m) square at that location.

- Click and drag from end to end to draw a feature sized as needed.

Once created, Terrain Features can be edited into nearly any shape you require. See "Editing Closed-Polyline Based Objects" on page 78 and "Editing Spline Based Objects" on page 82.

> Terrain Features can be drawn in 2D and 3D views.

Rectangular Features

The **Rectangular Feature** tool can be used to create straight-sided features that can be edited into a wide variety of shapes.

Rectangular Features can also be edited like other closed polyline-based objects. See "Editing Closed-Polyline Based Objects" on page 78.

Round Feature

The **Round Feature** tool can be used to create features with rounded edges and smoothly curved corners.

Round Features can be edited like other closed spline-based objects. See "Editing Spline Based Objects" on page 82.

Kidney Shaped Features

The **Kidney Shaped Feature** tool allows you to quickly create features with curved edges, smooth corners and a right angle bend in its shape.

Kidney Shaped Features can be edited like other closed spline-based objects. See "Editing Spline Based Objects" on page 82.

For information about adding height and material information to Terrain Features, see "Terrain Feature Specification Dialog" on page 241.

Terrain Holes

A **Terrain Hole** is a region that cuts a hole in the terrain.

Terrain Holes are useful for manually clipping the terrain around a foundation that does not match the footprint of the first floor.

Garden Bed Tools

Select **Terrain> Garden Bed** to access tools that can be used to place garden bed features in your terrain.

Garden Beds are basically **Terrain Features** with material and height attributes typical of

planting beds. See "Terrain Feature Tools" on page 229.

In addition, you can choose to distribute copies of a plant image within a Garden Bed. See "Distributed Plant Tab" on page 241.

Polyline Garden Bed

This tool draws a garden bed with straight sides and four right angles. See "Rectangular Features" on page 230.

Round Garden Bed

Use this tool to draw garden beds with rounded edges and smoothly curved corners. See "Round Feature" on page 230.

Kidney Shaped Garden Bed

You can draw a kidney shaped garden bed with this tool. See "Kidney Shaped Features" on page 230.

Once drawn, Garden Beds can be selected and edited just like other Terrain Features.

Specify the material and set the height of Garden Beds in the **Terrain Feature Specification** dialog. See "Terrain Feature Specification Dialog" on page 241.

Water Feature Tools

Select **Terrain> Water Feature** to access tools for drawing ponds in your terrain.

Ponds are basically **Terrain Features** with material and height attributes typical of bodies of water. See "Terrain Feature Tools" on page 229.

Similarly, Streams are Terrain Curbs with a water material. See "Terrain Wall and Curb Tools" on page 233.

Round Pond

Use this tool to draw a pond with rounded edges. See "Round Feature" on page 230.

Kidney Shaped Pond

This tool draws a kidney shaped pond. See "Kidney Shaped Features" on page 230.

Stream

Select the **Stream** tool, then click and drag to draw a stream.

To draw a stream

1. Select **Terrain> Water Feature> Stream** and draw the first segment just as you would a line. A single stream segment looks identical to a line.
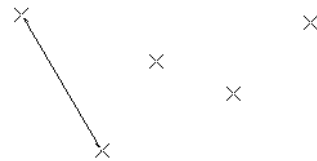
2. Draw the second segment from the end point of the first at a different angle.
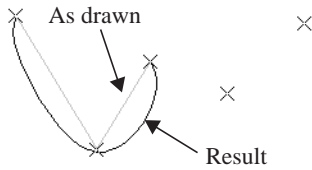
3. As soon as two straight segments connect end-to-end, they become a curve that passes through the endpoints defined by the original segments.

4. Draw a few more segments, connecting each to the free end of a previously drawn segment.
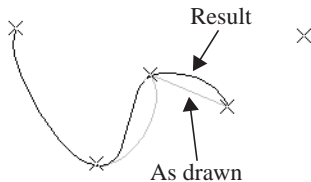
5. Notice as additional segments are drawn that the spline changes the curvature of the previous segment to create a continuous curve between the last three points.
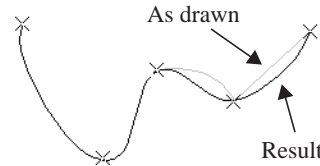
Streams follow the contours of the terrain, so they may appear to flow uphill if they are not drawn correctly in the terrain. Try to draw them so that they follow a downward course for their entire length.

Once drawn, Water Features can be selected and edited just like any other Terrain Feature.

Specify the material and set the height of Water Features in their specification dialogs. See "Terrain Object Specification Dialogs" on page 236.

Stepping Stone Tools

Select **Terrain> Stepping Stone** to place a walkway made of individual stepping stones.

Stepping Stones are basically **Terrain Features** with material and height attributes typical of walking paths. See "Terrain Feature Tools" on page 229.

There are two ways to draw Stepping Stones:

- Click once to place a stepping stone with endpoints that form a 1' (300 mm) square at that location.

- Click and drag from end to end to draw a stepping stone sized as needed.

Polyline Stepping Stone

The **Polyline Stepping Stone** tool draws rectangular stepping stones. See "Rectangular Features" on page 230.

Round Stepping Stone

The **Round Stepping Stone** tool draws stepping stones with rounded edges. See "Round Feature" on page 230.

Once drawn, Stepping Stones can be selected and edited just like any other Terrain Feature.

By default, Stepping Stones have a concrete material; however, you can specify the material and set the height of Stepping Stones in the **Terrain Feature Specification** dialog. See "Terrain Feature Specification Dialog" on page 241.

Terrain Wall and Curb Tools

Select **Terrain> Terrain Wall and Curb** to draw landscaping walls and curbs that follow the contours of the terrain.

Straight and curved Terrain Walls and Curbs are drawn just as other walls are. See "Drawing Walls" on page 99.

Terrain Walls and Curbs are examples of Terrain Paths. Other examples include Sidewalks and Streams. See "Terrain Path Specification Dialog" on page 244.

Terrain Walls

Use the **Straight Terrain Wall** tool to draw a wall that sits on top of and follows the terrain.

Use the **Spline Terrain Wall** to draw a curved terrain wall. This wall is drawn the same way as a Stream. See "To draw a stream" on page 231.

Once drawn, a Terrain Wall can be like other line-based objects. See "Editing Line Based Objects" on page 70 and "Editing Spline Based Objects" on page 82.

Terrain walls are 5' (1500 mm) high and concrete by default, but you can specify the material, height and more in the **Terrain Path Specification**. See "Terrain Path Specification Dialog" on page 244.

Retaining Walls

Use the **Straight Retaining Wall** tool draws a straight wall that holds back sloped terrain.

Use the **Curved Retaining Wall** tool to draw a curved retaining wall.

A Retaining Wall's height is determined by the elevation of the terrain on each side. By default, the height of the wall matches the terrain on the high side of the break and the bottom matches the low side. If you insert a Retaining Wall into flat terrain, it looks like a concrete strip in 3D views.

Once drawn, a Retaining Wall can be edited much like other walls. See "Editing Walls" on page 104.

Terrain Curbs

Terrain Curbs are useful for creating curbs around planting beds and along paths, driveways and roads.

Use the **Straight Terrain Curb** tool to draw a straight landscaping curb.

Use the **Spline Terrain Curb** tool to draw a curved landscaping curb. This curb is drawn the same way as a Stream. See "To draw a stream" on page 231.

Once drawn, a Terrain Curb can be like other line-based objects. See "Editing Line Based

Objects" on page 70 and "Editing Spline Based Objects" on page 82.

You can specify the height of straight and spline terrain curbs on the General tab of the **Terrain Path Specification**. See "Terrain Path Specification Dialog" on page 244.

> 💡 You can also add Fencing to your terrain, complete with gates from the Doors Library. See "The Fencing Tools" on page 96.

Terrain Objects in the Library

The Library Browser contains a variety of objects that can be placed in a plan's terrain, including plants, exterior fixtures, accessories and roadway objects. See "The Library Browser" on page 272.

You can also create your own objects and save them in the library. Select any combination of elevation points, elevation lines, terrain features, roads, sidewalks, road markings, or even the terrain perimeter itself and send them to the library as one unit. This library object can then be placed into any plan. Once placed into a plan, each object is independent and is no longer part of the group. See "Adding Library Content" on page 280.

Displaying Terrain

The display of terrain objects in 2D and 3D views is controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

You can customize appearance of Terrain Features, Roads and other terrain objects in floor plan view by changing their line and fill styles. See "Terrain Object Specification Dialogs" on page 236.

Plant images are represented in floor plan view by 2D symbols. You can select a plant's symbol in the **Plant Image Specification** dialog. See "Image Tab" on page 252.

When elevation data has been drawn or imported into a plan, contour lines will display in floor plan view. See "Elevation Data Tools" on page 225.

In 3D Views

In order for objects such as Terrain Features and Roads to be visible in 3D views, the Terrain Perimeter layer must also display. In addition, only the portions of these objects that are drawn within the Terrain Perimeter will be seen in 3D views. See "Terrain Feature Tools" on page 229.

A variety of tools are available to help you adjust the perspective of your 3D views. See "Editing 3D Views" on page 318.

Building the Terrain

When terrain is generated, Home Designer Landscape and Deck gathers all elevation data that has been added to the model and creates a terrain surface. The

program interpolates the data to produce smooth contours.

A terrain perimeter with no additional elevation data drawn within it generates terrain that is flat at the elevation 0' - 0", or sea level.

The terrain is automatically built before a 3D view is generated. This process takes a variable amount of time, depending on the amount of elevation data and number of terrain features in the plan. The **Building Terrain** progress dialog displays as terrain is generated, sometimes only briefly, indicating the progress.
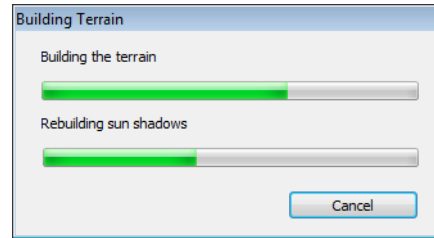
Terrain & 3D Drawing Time

Terrain is typically large with many surfaces, which often increases the drawing time of 3D views. The time required is affected by the amount of elevation data and number of terrain features present.

Lights and symbols can be placed outdoors and included in 3D views when the terrain is generated. These objects can also contribute to the time needed to generate 3D views. See "Rendering Tips" on page 325.

Editing Terrain Objects

Before a terrain object can be edited, it must be selected. All terrain objects can be selected in floor plan view. In addition, the Terrain Perimeter and Terrain Features can be selected in 3D views. See "Selecting Objects" on page 68.

A selected terrain object can be edited using its edit handles, edit tools and specification dialog. See "Specification Dialogs" on page 24.

Any time elevation data is changed, the terrain must be regenerated. This occurs automatically when a 3D view is created. It can also be done manually by selecting

Terrain> Build Terrain .

Using the Edit Handles

- The shape of the Terrain Perimeter can be edited like other polyline-based objects. See "Editing Closed-Polyline Based Objects" on page 78.

- Elevation Points can be moved in floor plan view using the Move edit handle.

- **Elevation Lines** are edited like other line-based objects. See "Editing Line Based Objects" on page 70 and "Editing Closed-Polyline Based Objects" on page 78.

- The shape of a **Raised Region**, **Lowered Region**, **Hill**, and **Valley** can be edited

like a spline. See "Editing Spline Based Objects" on page 82.

- Terrain Features are edited like other spline- and polyline-based objects. See "Editing Closed-Polyline Based Objects" on page 78 and "Editing Spline Based Objects" on page 82.

Using the Edit Tools

A selected terrain object can be edited in a variety of ways using the buttons on the edit toolbar. The edit tools available for a terrain object depends on the type of terrain object selected. See "The Edit Toolbar" on page 22.

> Note: If you copy terrain objects from one plan to another, you cannot view the pasted objects in 3D unless a Terrain Perimeter exists.

Terrain Object Specification Dialogs

Just as there are a number of different types of terrain objects, there are a number of different specification dialogs for them.

Terrain Specification Dialog

The **Terrain Specification** dialog controls how your terrain is modeled, as well as its appearance.

The **Terrain Specification** dialog can be accessed in any of two ways:

- Select the Terrain Perimeter and click the **Open Object** edit button.
- Double-click the Terrain Perimeter using the **Select Objects** tool.

General Tab
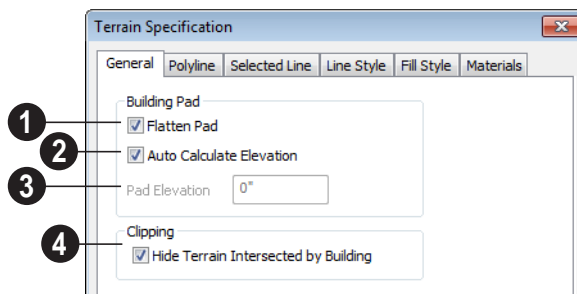
1 Check **Flatten Pad** to flatten the area beneath your building.

2 Check **Auto Calculate Elevation** to automatically calculate the building pad

elevation value during terrain rebuild. Home Designer Landscape and Deck takes the center of the building footprint and finds the terrain elevation at this point. This elevation is added to 8, 12, or 18 inches to calculate the building pad elevation. 8 inches is used for a slab foundation, 18 is used if a foundation floor is present, and 12 is used otherwise.

3 **Building Pad Elevation** - Enter the value of the elevation of the floor height of the first floor in your plan. This value does not change elevation data and does not alter the contours. This option is only available when Auto Calculate Elevation is unchecked.

For example, if a structure is placed in the middle of a terrain sloping evenly from a height of 100.00' to a height of 112.00', entering a value of 106.00' for the building pad elevation will display the structure at the correct height in 3D views.

4 Check **Hide Terrain Intersected by Building** to cut out the portion of the terrain that is intersected by the first floor footprint. Checking this box prevents the generation of contour lines inside the house.

Polyline Tab

The Polyline tab indicates the polyline's **Length/Perimeter**, its enclosed **Area**, and its **Volume**.

The settings on the this tab are available for a variety of other objects in the program. For information about these settings, see "Polyline Tab" on page 206.

Selected Line Tab

The Selected Line tab is available when the selected edge of the Terrain Perimeter is a line as opposed to an arc. See "Selected Edge" on page 69.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Line Tab" on page 206.

Selected Arc Tab

The Selected Arc tab is available when the selected segment of the polyline is an arc as opposed to a line. See "Change Line/Arc" on page 90.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Arc Tab" on page 207.

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the program. For information about these settings, see "Line Style Tab" on page 209.

Fill Style Tab

The settings on the Fill Style tab affect the appearance of the Terrain Perimeter in floor plan view. For information about these settings, see "Fill Style Tab" on page 209.

Materials Tab

The settings on the Materials tab let you specify the terrain surface and terrain skirt materials used in 3D views. These materials are not calculated in the Materials List. See

Elevation Point Specification Dialog

To open the **Elevation Point Specification** dialog, select an elevation point and click the **Open Object** edit button, or double-click on an elevation point using the **Select Objects** tool.

Use the **Elevation Point Specification** dialog to define the selected elevation point and control its appearance in floor plan view.

When all changes are made, click **OK** to store the changes or **Cancel** to ignore them.
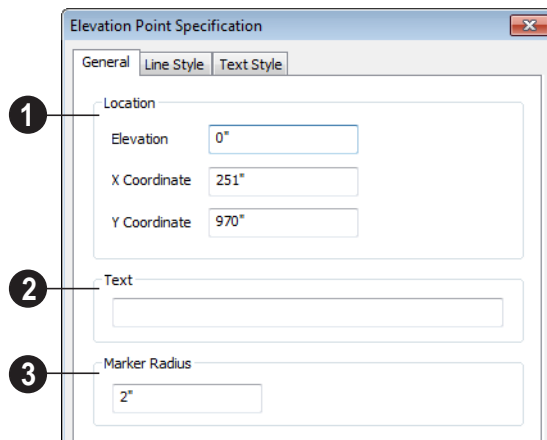
① **Location** - Specify the exact location of the elevation point.

- **Elevation** - Enter the height of the elevation point in inches and/or feet (mm for metric). For example entering 5'6 (with the apostrophe as foot mark) results in an elevation of 66 inches.

- **X Coordinate** - Enter the x coordinate of the elevation point.

- **Y Coordinate** - Enter the y coordinate of the elevation point.

② **Text** - Enter notes, such as elevation, in this box. This text displays beside the elevation point in floor plan view. You can also enter a pound (#) sign to display the elevation value in floor plan view.

③ Enter the **Marker Radius** in inches (or millimeters).

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the program. For information about these settings, see "Line Style Tab" on page 209.

Text Style Tab

The settings on the Text Style tab control the appearance of the selected Elevation Point's

text. For more information, see "Text Style Tab" on page 353.

Elevation Line/Region Specification Dialog

To open the **Elevation Line** or **Elevation Region Specification** dialog, select one or more Elevation Line, or a polyline composed of elevation Lines, or an Elevation Region and click the **Open Object** edit button. You can also double-click an

Elevation Line using the **Select Objects** tool.

The **Elevation Line Specification** dialog is used to define the selected Elevation Line and controls its appearance in floor plan view.

The settings in this dialog are the same as those in the **Elevation Region Specification** dialog. See "Flat Regions" on page 227.

Elevation Tab
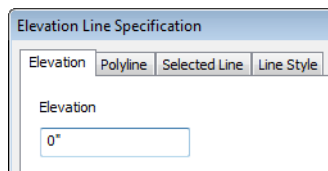
Elevation - Enter the elevation of the Line/Spline in inches and/or feet (mm for metric). For example entering 5'6 (with the apostrophe as foot mark) results in an elevation of 66 inches.

Polyline Tab

The Polyline tab indicates the line or polyline's **Length/Perimeter**. If multiple Elevation Line segments form a closed Elevation Region, its Area will be calculated. Elevation Lines do not have a thickness, so they have no Volume.

Selected Line Tab

The Selected Line tab is available when the selected object or segment is a line as opposed to one that has been converted to an arc. See "Selected Edge" on page 69.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Line Tab" on page 206.

Selected Arc Tab

The Selected Arc tab is available when the selected object or segment is an arc as opposed to a line.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Arc Tab" on page 207.

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the

program. For information about these settings, see "Line Style Tab" on page 209.

Hill / Valley Specification Dialog

The **Hill/Valley Specification** defines the selected Hill or Valley and controls its appearance in floor plan view.

To open the **Hill/Valley Specification** dialog, select a Hill or Valley and click the **Open Object** edit button, or double-click the region(s) using the **Select Objects** tool.

Hill / Valley Tab
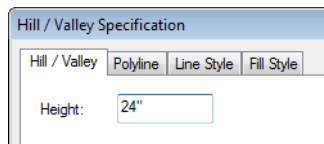
Enter a **Height** for the selected Hill or Valley. This height is relative to the terrain surface that is generated from the Elevation Data in your plan. See "Terrain Modifier Tools" on page 228.

Polyline Tab

The Polyline tab indicates the polyline's **Length/Perimeter** and its enclosed **Area**. Hills and Valleys do not have a volume measurement.

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the program. For information about these settings, see "Line Style Tab" on page 209.

Fill Style Tab

The settings on the Fill Style tab affect the appearance of the selected object in floor plan view. For information about these settings, see "Fill Style Tab" on page 209.

Raised / Lowered Region Specification Dialog

To open the **Raised/Lowered Region Specification** dialog, select a raised or lowered region and click the **Open Object** edit button, or double-click the region(s) using the **Select Objects** tool.

The **Raised / Lowered Region Specification** dialog is similar to the **Hill / Valley Specification** dialog. See "Hill / Valley Specification Dialog" on page 240.

Terrain Feature Specification Dialog

To open the **Terrain Feature Specification** dialog, select a Terrain Feature and click the **Open Object** edit button or double-click the Terrain Feature using the **Select Objects** tool.

The settings in this dialog control the appearance, size, and shape of the selected Terrain Feature.

Most of the tabs in this dialog are similar to those for a variety of other objects in the program.

General Tab
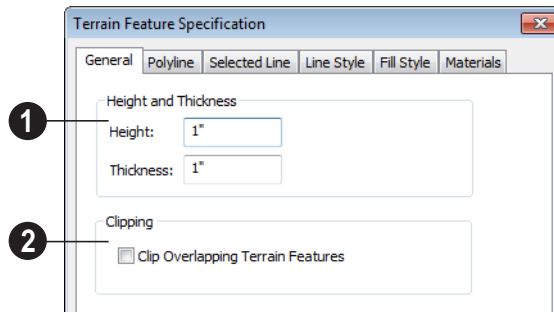
1 Specify the **Height and Thickness** of the terrain feature relative to the terrain surface.

- Specify the top **Height** of the feature using a positive or negative number.
- Specify the feature's **Thickness**.

If a feature's height above the terrain is greater than its thickness, the program will fill in the resulting gap.

2 **Clipping** - Check **Clip Overlapping Terrain Features** to suppress the 3D display of any part of the selected Terrain Feature intersected by other Terrain Features with a lower Height value. Clipping is useful for creating features that contain other features such as planters or swimming pools.

Distributed Plant Tab

This tab is only available when the selected terrain feature is a Garden Bed. See "Garden Bed Tools" on page 230.
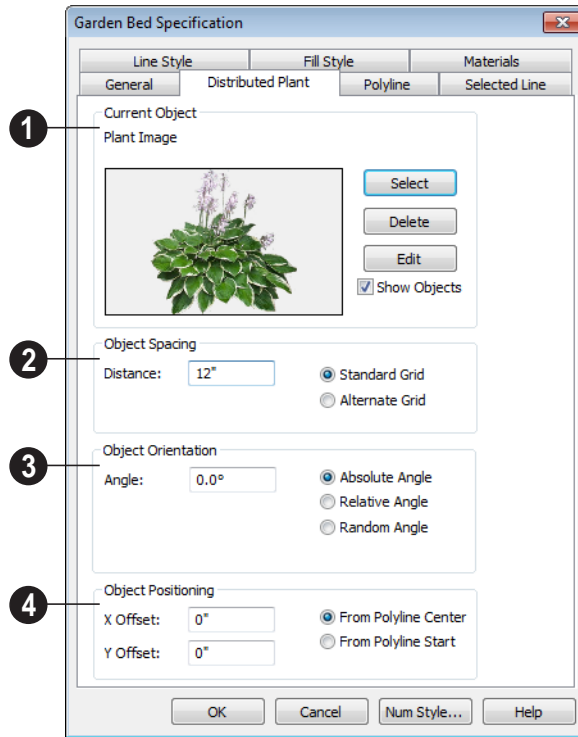
① **Current Object** - Specify the object assigned to the selected region.

• Click the **Select** button to choose an object from the library. See "Select Library Object Dialog" on page 285.

• A preview of the Current Object along with its name display to the left.

• Click the **Delete** button to unassign the Current Object from the selected region.

• Click the **Edit** button to open the Current Object's specification dialog. Changes made here affect all objects generated within the region. See "Specification Dialogs" on page 24.

• Check **Show Objects** to display the distributed objects in floor plan view.

• Check **Show Region** to display the edges of the distribution region in floor plan view.

② **Object Spacing** - Specify how the objects in the region are spaced.

• Specify the **Distance** between the objects in the region, as measured from their center points.

• Select **Standard Grid** to position the objects in rows and columns based on the standard X/Y grid in the program.

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- Select **Alternate Grid** to position the objects in rows and columns based on the shape of the region.

3 **Object Orientation** - Specify how or if the objects in the region are rotated. These settings do not affect the region itself or its edges.

- Specify the **Angle** that the distributed objects should be placed at.

- Select **Absolute Angle** to rotate the objects to the specified Angle as measured from an imaginary horizontal line drawn from the origin towards the right.

- Select **Relative Angle** to rotate the objects relative to the angle of the region's first edge or, if that edge is curved, to the angle of its chord. The first edge is typically located at the top of the region when it is first created; however, this can change as the region is edited.

- Select **Random Angle** to rotate the objects in the region at a variety of random angles.

4 **Object Positioning** - Specify the positioning of the distributed objects relative to a point of origin within the region.

- Specify the **X Offset**, the horizontal distance in floor plan view from the region's specified point of origin.

- Specify the **Y Offset**, the vertical distance in floor plan view from the region's specified point of origin.

- Select **From Polyline Center** to measure the offset from the region's center point.

- Select **Polyline Start** to measure the offset from the region's start point. This start point is typically located at the top left of the region when it is first created; however, this can change as the region is edited.

Polyline Tab

The Polyline tab indicates the polyline's **Length/Perimeter**, its enclosed **Area**, and the **Volume** of a closed polyline.

Selected Line Tab

The Selected Line tab is available when the selected edge of the Terrain Perimeter is a line as opposed to an arc. See "Selected Edge" on page 69.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Line Tab" on page 206.

Selected Arc Tab

The Selected Arc tab is available when the selected segment of the polyline is an arc as opposed to a line. See "Change Line/Arc" on page 90.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Arc Tab" on page 207.

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the program. For information about these settings, see "Line Style Tab" on page 209.

Fill Style Tab

The settings on the Fill Style tab affect the appearance of the selected object in floor

plan view. For information about these settings, see "Fill Style Tab" on page 209.

Materials Tab

The settings on the Materials tab affect the appearance of the selected object in 3D views. See "Materials Tab" on page 294.

Garden Bed Specification Dialog

To open the **Garden Bed Specification** dialog, select a Garden Bed and click the **Open Object** edit button or double-click the Garden Bed using the

Select Objects tool.

Because a Garden Bed is a type of terrain feature, the settings in this dialog are essentially the same as those in the **Terrain Feature Specification** dialog. See "Terrain Feature Specification Dialog" on page 241.

Terrain Path Specification Dialog

To open the **Terrain Path Specification** dialog, select a Sidewalk, Stream, Terrain Wall or Terrain Curb and click the **Open Object** edit button or double-click the terrain path using the

Select Objects tool.

Most of the tabs in this dialog are similar to those for a variety of other objects in the program.

General Tab

Enter the **Width** of the object and the **Height**. If you enter a negative number for the height, the object sinks into the terrain.

Polyline Tab

The Polyline tab indicates the Terrain Path polyline's **Length/Perimeter**, its enclosed **Area**, and the **Volume** of a closed polyline.

Selected Line Tab

The Selected Line tab is available when the selected edge of the Terrain Perimeter is a line as opposed to an arc. See "Selected Edge" on page 69.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Line Tab" on page 206.

Selected Arc Tab

The Selected Arc tab is available when the selected segment of the polyline is an arc as opposed to a line. See "Break Line" on page 89.

The settings on this tab are available for a variety of other objects in the program. For information about these settings, see "Selected Arc Tab" on page 207.

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the program. For information about these settings, see "Line Style Tab" on page 209.

Fill Style Tab

The settings on the Fill Style tab affect the appearance of the selected object in floor plan view. For information about these settings, see "Fill Style Tab" on page 209.

Materials Tab

The settings on the Materials tab affect the appearance of the selected object in 3D views. See "Materials Tab" on page 294.

Importing Elevation Data

Elevation data can be added to a plan using the tools and techniques described in this chapter or it can be imported from a file.

Home Designer Landscape and Deck can import elevation data saved in GPS Exchange (**.gpx**) and a variety of text file formats (**.txt**, **.csv**, **.prn**, **.xyz**, **.auf** and **.nez**). If your terrain data is not saved in one of these file formats, there are third party programs available that can convert to these formats.

Text Files

Elevation data can be saved in text files as x, y, and z coordinates where x and y define the location of a point on a Cartesian grid, and z defines the elevation for that point. Each elevation point must be on a separate line in the text file.

Importable text files can come from surveyors, other software programs, or you can create your own using a GPS system.

Elevation data saved in text files can be imported using the **Import Terrain Wizard**.

GPS Exchange Files

Elevation data in standard format **.gpx** files created using a GPS system can also be imported using the **Import GPS Data Wizard**. See "Import GPS Data Wizard" on page 247.

GPS data may include three types of points - Way, Track, and Route. Home Designer Landscape and Deck can only import a **.gpx** file if it includes one or more Way Points, and cannot use Route Points at all. If a **.gpx** file does not include any Way Points, it will not be imported, and if it includes any Route Points, they will be ignored.

Home Designer Landscape and Deck supports the import of data in standard **.gpx** files that adhere to the GPX 1.1 Schema.

Files that do not follow this standard cannot be imported.

Import Terrain Wizard

The **Import Terrain Wizard** allows you to import elevation data saved in text (**.txt**) file format into your model.

Select **File> Import> Terrain Data** to open the **Import Terrain Wizard**. Click **Next**.

Select File
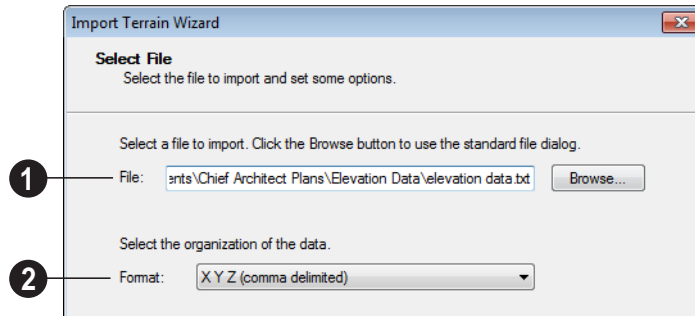
① Select File to Import - Enter the name of a text file, or Browse to locate a file on your computer.

② Select the Organization of the Data - You need to know how the data in your text file is organized. Each data point contains information about its X-axis (East to West location), Y-axis (North to South location), and Z-axis (elevation). It might also contain a brief description.

Elevation information can come in one of six different sequences, and is separated by either a comma (comma delimited) or a space (space delimited).

XYZ - Information in this format begins with the X coordinate, followed by the Y coordinate and the Z coordinate.

#XYZ - Information in this format begins with a number that belongs to each data point followed by the X coordinate, the Y coordinate, and the Z coordinate.

#XYZ Description - Information in this format begins with a number that belongs to each data point followed by the X coordinate, the Y coordinate, the Z coordinate, and a description.

YXZ - Information in this format begins with the Y coordinate followed by the X coordinate and the Z coordinate.

#YXZ - Information in this format begins with a number that belongs to each data point followed by the Y coordinate, the X coordinate, and the Z coordinate.

#YXZ Description - Information in this format begins with a number that belongs to each data point followed by the Y coordinate, the X coordinate, the Z coordinate, and a description.

Scale Data
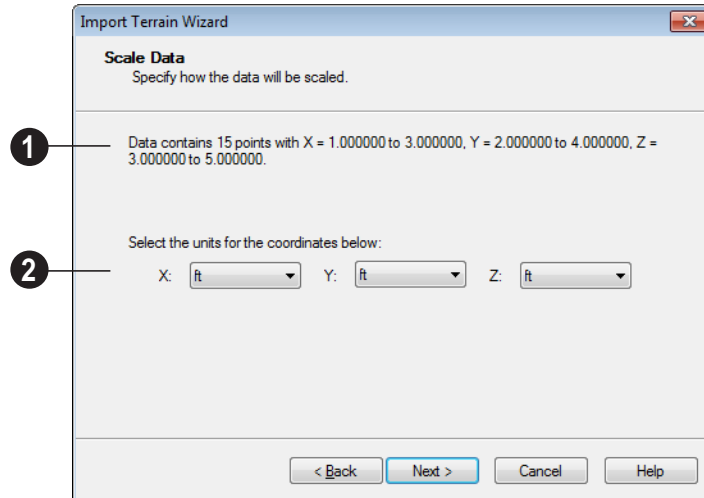
① This describes the total number of data points to be imported and the range of the coordinates of those points.

② **Units -** Select the units of measurement used in your data for each axis. Only linear units are available.

Import GPS Data Wizard

The Import GPS Data Wizard allows you to import terrain data from the standard **.gpx** file format. Select **File> Import> GPS Data** to open the **Import GPS Data Wizard**. See "GPS Exchange Files" on page 245.

Click **Next** to continue.

⚠ Due to the lack of accuracy in some GPS systems, exact distances using the Import GPS Data Wizard are not guaranteed.

Select File
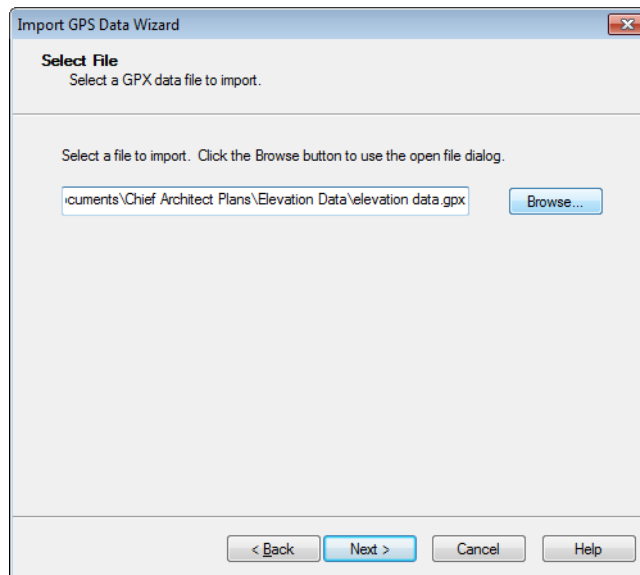
Enter the name and directory of the file you want to import, or click **Browse** to select a **.gpx** file on your computer.

Note: Not all GPS programs use the standard .gpx file format; however, only files using the standard format can be imported.

Click **Next** to continue.

Import Data As
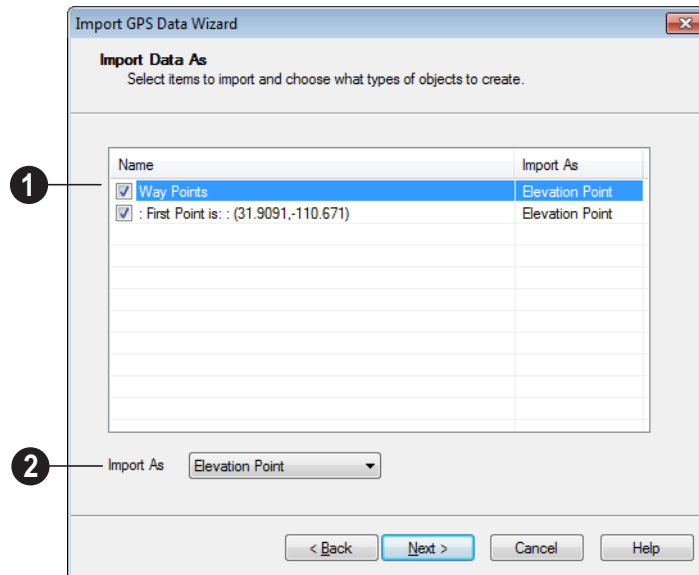
① Specify which items you want to import by checking the box to the left of the **Name**. Items with unchecked boxes are not imported.

② Specify what you would like each item to **Import As** from the drop-down list.

- Only Way Points have elevation data associated with them. To import this data, import them as "Elevation Data".

- Select "Marker" to import either Way Points or Track Points as location markers. Markers have no elevation data associated with them.

- Select "Polyline" to create an open polyline based on the position of Way Points or Track Points. The points themselves are not imported. Polylines have no elevation data associated with them.

- Select "Terrain Perimeter" to create a closed Terrain Perimeter polyline based on the position of either Way Points or Track Points. The points themselves are not imported. A Terrain Perimeter has no elevation data associated with it. See "Terrain Perimeter" on page 223.

> Way Points are typically imported as "Elevation Data", while Track Points are imported as "Markers", "Polylines', or "Terrain Perimeter".

Click **Next** to continue.

Transform Coordinates
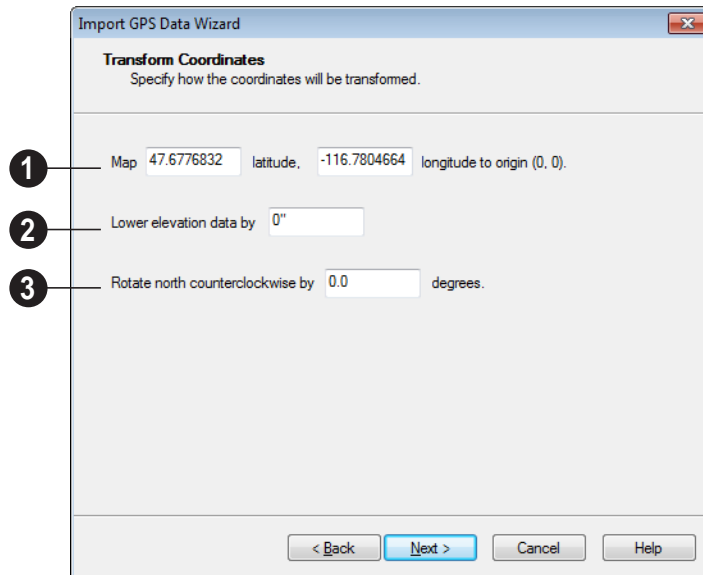
1. **Map** - Specify the point in the imported terrain data, defined by degrees **latitude** and degrees **longitude**, that you would like to locate at the origin in the Home Designer Landscape and Deck plan.

2. **Lower Elevation Data** - Specify the amount that you would like to lower all imported elevation data.

3. **Rotate** - Accurately rotate the position of north in the imported terrain data counterclockwise around the Z axis.

Click **Finish** to close the **Import GPS Data Wizard** and return to floor plan view.

If you do not see the imported terrain, select **Window> Fill Window**.

Plant Tools

Select **Terrain> Plant** to add plants to your landscaping plan. Plants can also be placed in a plan directly from the library. See "Placing Library Objects" on page 284.

Plant objects are actually images, which provide realism while avoiding high 3D surface count. Once created, plant images

can be selected and edited much like other image objects. See "Editing Images" on page 360.

Select **Terrain> Plant> Plant Chooser** to open the **Plant Chooser** dialog. See "Plant Chooser Dialog" on page 254.

Select **Terrain> Plant> Create Plant Image** to create a plant image. Once a plant image is created, it can be added to the library for future use. See "Adding Library Content" on page 280.

Choose **Terrain> Plant> Grow All Plants** to open the **Grow Plants** dialog.
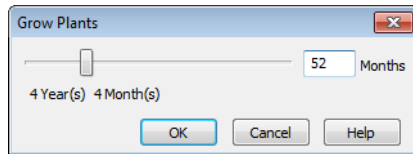
Click and drag the slider bar and select a growth period from zero to twenty years. This only works for plants that have a mature height and mature age specified in the **Plant Image Specification** dialog. See "Plant Information Tab" on page 253.

Select **Terrain> Plant> Show Hardiness Zones** to access regional climate zone maps. See "Hardiness Zones" on page 256.

Plant Schedules

The **Plant Schedule** tool allows you to create customizable plant schedules. See "Plant Schedules" on page 385.

Plant Image Specification Dialog

Select a plant in a floor plan or 3D view and click the **Open Object** edit button to open the **Plant Image Specification** dialog.

This dialog can also be accessed by selecting

Terrain> Plant> Create Plant Image .

The Plant Information and Plant Description tabs are also found in the **Plant Information** dialog, which can be accessed from the **Plant Chooser** dialog. See "Plant Chooser Dialog" on page 254.

Image Tab
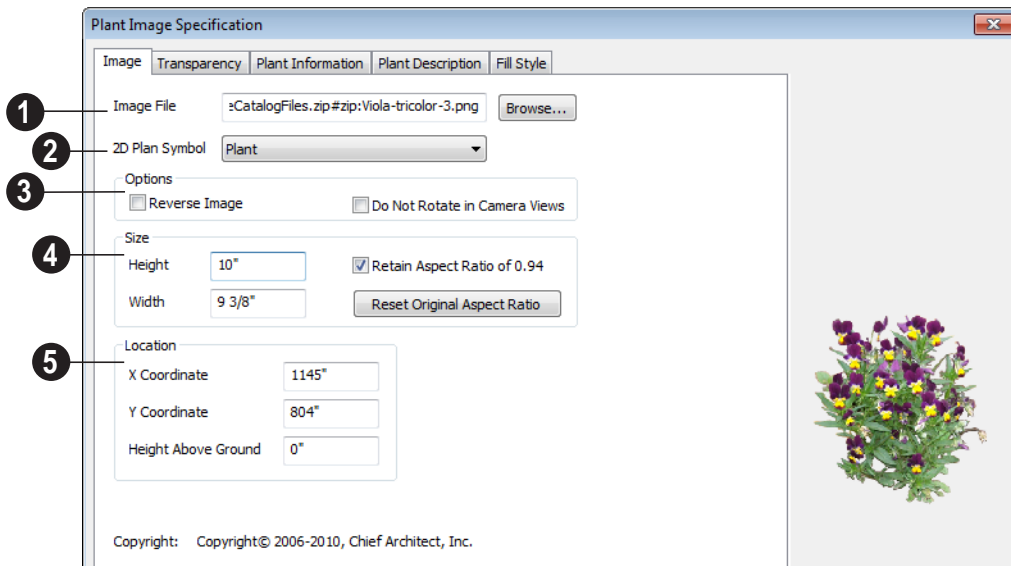
① **Image File** - The path and name of the selected image file displays here. Click **Browse** to specify the saved location on your computer of the image that represents the plant in 3D views.

② A number of **2D Plant Symbols** are available to mark the location of the image in floor plan view. Select one from the drop-down list.

③ **Options**

• Check **Reverse Image** to reflect the appearance of the image about an imaginary vertical line through its center.

• Check **Do not rotate in 3D view** to prevent the plant image from rotating with the camera.

④ Specify the **Size** of the plant image, as seen in 3D views.

• Enter a **Height** for the image.

• Enter a **Width** for the image.

• When **Retain Aspect Ratio of** is checked, if you change either the Height or Width, the other value changes to maintain this ratio. If this is unchecked and you resize the plant image, it may become distorted.

• Click **Reset Original Aspect Ratio of** to reset the image's original aspect ratio and remove any distortion caused by resizing.

⑤ Specify the **Location** of the selected plant image.

• Precisely position the selected plant image in reference to the plan coordinates by specifying its **X Coordinate** and **Y Coordinate**.

• Specify the selected plant image's **Height Above Ground**.

Transparency Tab

The settings on the Transparency tab of this dialog are similar to those on the same tab of the **Image Specification** dialog. For more

Plant Information Tab

The settings on the Plant Information tab correspond to the search parameters in the **Plant Chooser**.

Plant Description Tab
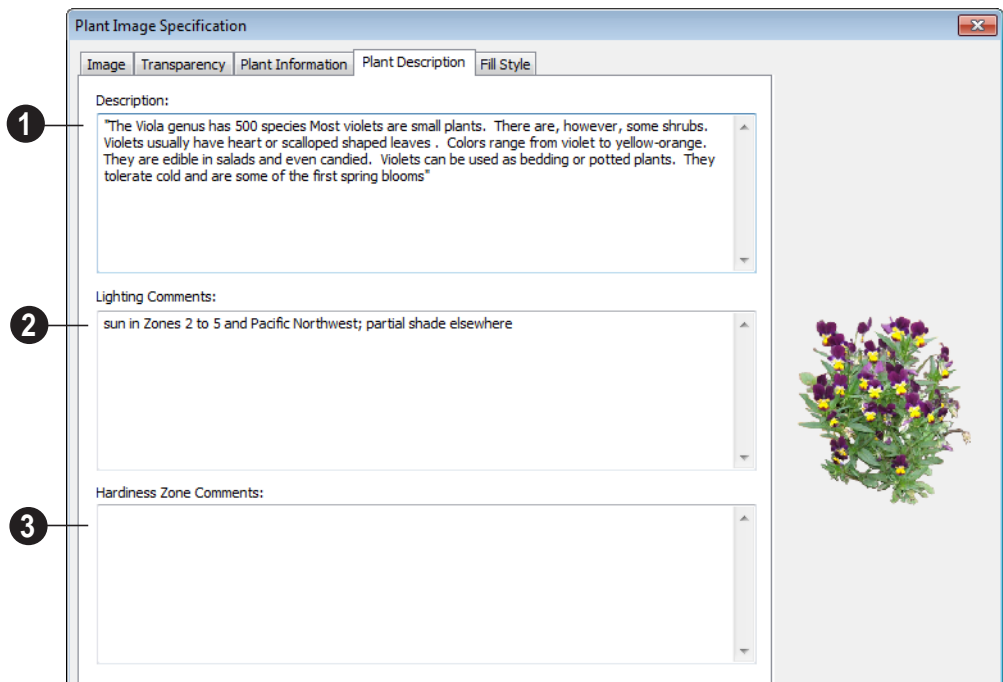
1 A detailed **Description** of the plant displays in this text field.

2 Information in the **Lighting Comments** fields describes the plant's light requirements.

3 **Hardiness Zone Comments** are given here.

Fill Style Tab

The Fill Style tab controls the appearance of the selected plant's 2D Plant Symbol in floor plan view. By default, plant images' fill style is None (Transparent). For information about the settings on this tab, see "Fill Style Tab" on page 17.

If the plant's 2D Plan Symbol does not form a closed shape, the settings on the Fill Style tab will have no effect on the appearance of the plant in floor plan view.

Plant Chooser Dialog

Select **Terrain> Plant> Plant Chooser** to open the **Plant Chooser** dialog or click the button at the bottom of the Library Browser window.

Use the **Plant Chooser** to search the library for plant images and symbols that meet your search parameters. You can search using any or all of the options in this dialog.

The search parameters in the **Plant Chooser** dialog correspond to the settings on the Plant Information tab of the **Plant Image Specification** dialog. See "Plant Information Tab" on page 253.

1   The **Common Name, Scientific Name** or **Variety Name** for the plant. A **Pronunciation** field is also provided.

2   Specify the **Flower Color** to search for here.

3   Specify the **Leaf Color** to search for here.

4   Specify the **Bloom Time** to search for, which is the season when the plant produces flowers.

5   Check one or more boxes to search for plants with **Special Characteristics**.

6   Specify the plant **Height** at maturity to search for. This is used with the Grow Plants feature. See "Plant Tools" on page 250.

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- An average mature height range can be entered using the **From** and **To** drop-down lists.

- A specific **Height at Maturity** to search for can be entered in the text field.

- A specific **Age at Maturity**, in months, can be entered in the text field.

- A specific **Starting Age**, in months, can be entered in the text field.

7 Specify the plant **Needs** to search for. These include the **Sun**, **Water**, **Soil pH**, and **Hardiness Zone** range. See "Hardiness Zones" on page 256.

8 Check one or more boxes to indicate selected plant **Type** to search for.

9 Check one or more boxes to specify the selecte **Sub-Type** to search for.

10 Click the **Search** button at the bottom of the dialog to search for plants that meet your search criteria. The search results display to the right.

11 Specify whether you want the search results to use the **Common Name** or **Scientific Name**.

12 Click on the name of a plant in the list to see its location in the Library Browser.

- If the selected plant has been downloaded, you can click the **View Item** button to see more information about it in the **Plant Information** dialog. See "Plant Image Specification Dialog" on page 251.

Hardiness Zones

Select **Terrain> Plant> Show Hardiness Zones** to view a selection of regional **Hardiness Zone Maps**. Click the drop-down list to select various regions.
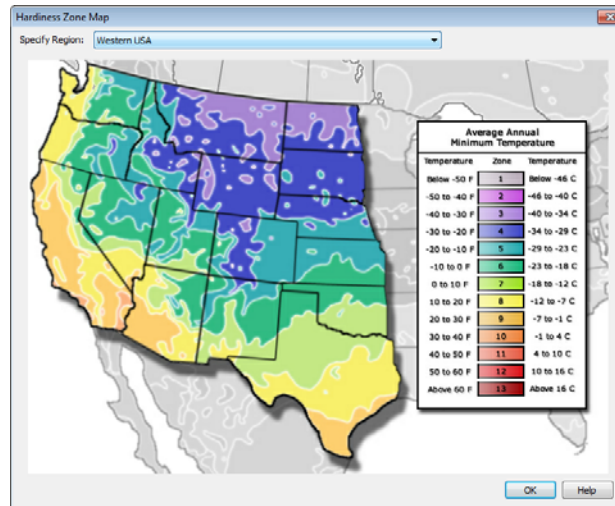
Sprinkler Tools

Use the **Sprinkler Tools** to design a sprinkler system in your plan.

Select **Terrain> Sprinkler> Sprinkler Head** to open the **Select Library Object** dialog. Browse to a sprinkler type in the library, click OK, then click in the drawing area to place as many as you need. Once drawn, sprinkler heads can be selected and edited. See "Sprinkler Specification Dialog" on page 257.

Select **Terrain> Sprinkler> Sprinkler Line** to draw sprinkler lines in your plan. Sprinkler lines are 2D objects and are drawn and edited much like Elevation Lines. See"Elevation Lines" on page 226.

Select **Terrain> Sprinkler> Sprinkler Spline** to draw curved sprinkler lines in your plan. Sprinkler splines are 2D objects and are drawn and edited like Streams. See "Stream" on page 231.

Displaying Sprinklers

The display of Sprinkler Heads, Lines and Splines can be controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

In floor plan view, Sprinkler Head symbols indicate the spray angle.

90°
Spray   *180°*
Spray   *360°*
Spray

Sprinkler Line   *Sprinkler Spline*
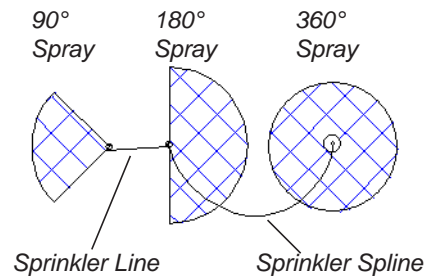
Unlike Sprinkler Heads, Sprinkler Lines and Splines do not display in 3D views. Their total length is calculated in the Materials List, however. See "Materials Lists" on page 389.

Sprinkler Specification Dialog

To open the **Sprinkler Specification** dialog, select a sprinkler and click the **Open Object** edit button. You can also dou-ble-click the sprinkler(s) using the **Select Objects** tool.

General Tab
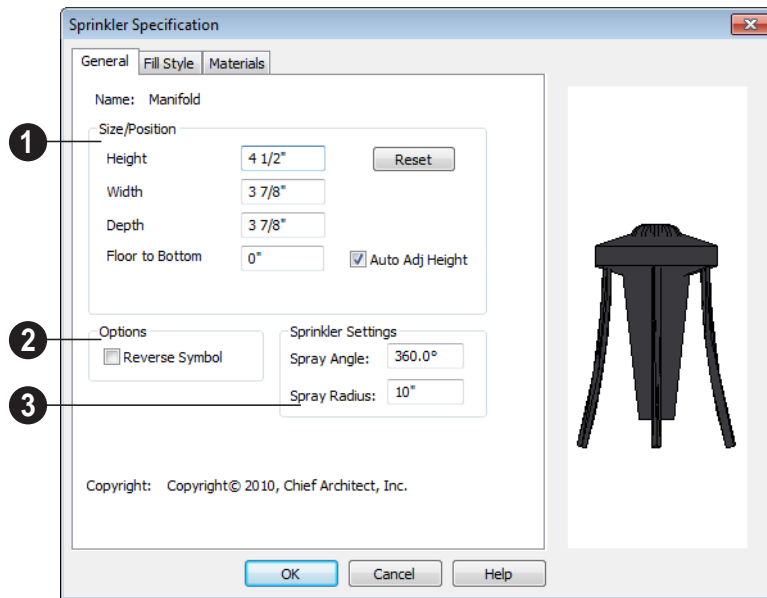
① Specify the selected sprinkler's **Size/ Position**.

- Enter the **Height**, **Width**, and **Depth** of the sprinkler.

- Enter a **Floor to Bottom** value to define the distance from the bottom of the sprinkler to elevation 0 of Floor One.

- Click the **Reset** button to return the sprinkler values to the defaults.

- Uncheck **Auto Adjust Height** if you wish to specify an absolute Floor to Bottom height measured from the default floor height of Floor 1, rather than have the sprinkler follow the surface of the terrain.

Check **Auto Adjust Height** and enter a **Floor to Bottom** value to set sprinkler's elevation relative to the terrain surface. For example, a value of -6" recesses the sprinkler head 6 inches below the surface of the terrain.

② Check **Reverse Symbol** to reverse the sprinkler from left to right.

③ Set the sprinkler **Spray Angle** and **Spray Radius**.

Roads, Driveways & Sidewalks

Roads and sidewalks are modeled in 3D like other terrain objects in Home Designer Landscape and Deck. Because they have much in common with terrain objects and rely upon terrain data to be viewed in 3D, it is helpful to be familiar with terrain modeling before using these tools. See "Terrain" on page 223.

Chapter Contents

- Road, Driveway and Sidewalk Tools
- Displaying Road Objects
- Editing Road Objects
- Road Specification Dialog

Road, Driveway and Sidewalk Tools

Road objects can be drawn in floor plan view, camera views and overviews, but only when a Terrain Perimeter exists in the plan. See "Terrain Perimeter" on page 223.

Road objects created with the Road Tools have a consistent width that can be defined in their specification dialogs. See "Road Specification Dialog" on page 262, "Terrain Feature Specification Dialog" on page 241, and "Terrain Path Specification Dialog" on page 244.

Driveways and Parking Lots are actually Terrain Features. See "Terrain Feature Tools" on page 229. They are drawn as rectangles but can be edited to any shape.

Roads and sidewalks are flat along their widths, which makes it easy to create roads on sloping terrain. Driveways and Parking Lots follow the contours of the terrain rather than cut into them.

Once road objects have been placed, they can be edited individually or as a group. See "Editing Road Objects" on page 261.

Straight Road

To place a road without any curves, select **Terrain> Road> Straight Road** and click and drag to draw a line in floor plan view. The ends of multiple road sections can be connected together.

Spline Road

Use **Terrain> Road> Spline Road** to draw a curved road. Spline roads are drawn and edited like Streams. See "Stream" on page 231.

Straight Sidewalk

To create a sidewalk with no curves, select **Terrain> Road and Sidewalk> Straight Sidewalk**, then click and drag from end to end to draw a line. The ends of multiple sidewalk sections can be connected together.

Sidewalks can be edited in their specification dialog. See "Terrain Path Specification Dialog" on page 244.

Spline Sidewalk

Use the **Spline Sidewalk** tool to create a curved sidewalk. Select **Terrain> Sidewalk> Spline Sidewalk**. Spline roads are drawn and edited like Streams. See "Stream" on page 231.

Driveway Area

A **Driveway Area** is a terrain feature with a concrete material assignment. To create a driveway, select **Terrain> Road and Sidewalk> Driveway Area**, then click and drag from corner to corner to draw a rectangle.

Height, thickness and material information can be specified in a driveway's specification dialog. See "Terrain Feature Specification Dialog" on page 241.

Driveways can be edited like other closed polylines. See "Editing Closed-Polyline Based Objects" on page 78.

Parking Lot

A **Parking Lot** is a terrain feature with an asphalt material assignment. To place a parking lot, select **Terrain> Road and Sidewalk> Parking Lot**, then click and

drag from corner to corner to draw a rectangle.

Height, thickness and material information can be specified in a parking lot's specification dialog. See "Terrain Feature Specification Dialog" on page 241.

Displaying Road Objects

Roads and sidewalks display in floor plan and 3D views based on the settings in the **Display Options** dialog. See "Layers" on page 55.

In 3D Views

Road objects display in 3D views within the Terrain Perimeter. If the display of the Terrain Perimeter is turned off in 3D views,

roads and sidewalks will not display, either: even if their layers are turned on.

By default, terrain rebuilds automatically when road objects are added, removed or edited. If it does not, you can select **Terrain> Build Terrain**. See "Terrain Perimeter" on page 223.

Editing Road Objects

Road objects can be selected in 2D and 3D views and edited using the edit handles, the edit toolbar and their specification dialogs.

Using the Mouse

The edit handles available for a selected road object depend on the type of object selected.

- **Straight Roads** and **Straight Sidewalks** are edited along their centerline like a line or open polyline. See "Editing Line Based Objects" on page 70.

- **Spline Roads** and **Spline Sidewalks** are edited along their centerline like Streams. See "Stream" on page 231.

- **Driveway Areas** and **Parking Lots** are edited like other closed polyline based objects. See "Editing Closed-Polyline Based Objects" on page 78.

In the Specification Dialog

Road objects can be customized in their specification dialogs. See "Road Specification Dialog" on page 262, "Terrain Feature Specification Dialog" on page 241, and "Terrain Path Specification Dialog" on page 244.

Using the Edit Tools

A selected road object can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Road Specification Dialog

To open the **Road Specification** dialog, select a Straight Road or Spline Road and click the **Open Object** edit button.

Many of the settings in this dialog are similar to those in the **Terrain Path Specification** dialog.

General Tab
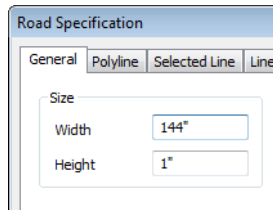
Specify the **Width** and **Height** of the road relative to the terrain.

Polyline Tab

The Polyline tab lists the length of the road's Perimeter, Area and Volume. For more information, see "Polyline Tab" on page 206.

Selected Line/Arc Tab

The Selected Line tab is available when a Straight Road is selected. For more

information, see "Selected Line Tab" on page 206.

The Selected Arc tab is available when the curved segment of a Straight Road is selected. See "Selected Arc Tab" on page 207.

Line Style Tab

This tab is the same as the Line Style tab in many other specification dialogs. See "Line Style Tab" on page 209.

Fill Style Tab

The settings on the Fill Style tab affect the appearance of the selected object in floor plan view. For information about these settings, see "Fill Style Tab" on page 209.

Materials Tab

The settings on the Materials tab affect the appearance of the selected object in 3D views. For information about these settings, see "Materials Tab" on page 294.

The material selected here is not calculated in the Materials List. See "Materials Lists" on page 389.

Other Objects

Home Designer Landscape and Deck has additional objects that can be used to customize your design.

Chapter Contents

General Shapes

Items in the Home Designer Core Catalogs> Shapes library catalog allow you to create a variety of custom objects using basic geometric shapes. These shapes can can be used individually or combined to create a wide variety of custom objects.

General Shape objects are placed and edited much like other library objects. See "Editing Box-Based Objects" on page 80.

Architectural Blocks

A selection of pre-arranged rooms is available in the Library Browser at Home Designer Landscape and Deck Content> Exteriors> Outdoor Rooms. These pre-arranged rooms are a collection of fixtures, furnishings and accessories that are grouped together so that they can be placed and moved as a single object.

3D objects that are grouped together like this are referred to as Architectural Blocks. Although blocked together, these objects retain many of their own attributes, such as materials.

Architectural blocks can also be exploded so that the individual sub-objects become independent of one another.

Chapter Contents

- Displaying Architectural Blocks
- Editing Architectural Blocks
- Architectural Blocks and Sub-Objects

Displaying Architectural Blocks

Architectural blocks are placed on the "Architectural Blocks" layer and can be displayed in all views. The display of architectural blocks, including their bounding box, is controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

Editing Architectural Blocks

Architectural blocks can be selected and edited in 2D and 3D views. See "Selecting Objects" on page 68.

> Note: Moving an architectural block in 3D view regenerates the view. If the architectural block contains terrain objects, the terrain is rebuilt.

Once selected, an architectural block can be edited using its edit handles and edit toolbar buttons.

Using the Edit Handles

A selected architectural block displays a Move handle and a Rotate handle.

Architectural blocks cannot be resized, but the individual objects in the block can be.

Using the Edit Tools

A selected architectural block or blocks can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Editing Sub-Objects

The individual objects included in an architectural block can also be selected and edited. See "To select a sub-object" on page 269.

Explode Architectural Block

You can break an architectural block to make its objects independent. Select the architectural block and click the **Explode Architectural Block** edit button.

> Note: If you open a plan created in another version of Home Designer and an architectural block includes an object that you cannot create in your version of the software, you cannot unblock it or edit its components.

Once exploded, an architectural block cannot be made into a single object again.

Architectural Blocks and Sub-Objects

An architectural block is composed of a group of sub-objects that have been blocked together. For example, a garden bed architectural block may consist of terrain features, plants, outdoor furnishings and fixtures, and othe raccessories.

Sub-Objects

Certain attributes of an architectural block can be edited at the sub-object level. A sub-object can be edited by accessing its specification dialog in either of two ways:

- Explode the architectural block, select the sub-object, and click the **Open Object** ▮ edit button.

- Select the sub-object while it is part of the architectural block and click the **Open Object** ▮ edit button. Some attributes may not be editable while the object is part of a block. See "Editing Architectural Blocks" on page 268.

To select a sub-object

1. Click the **Select Objects** ⧉ button, then click on the sub-object that you would like to edit.

2. With the architectural block selected, click the **Select Next Object** next edit button or press the Tab key.

    The selection switches to the individual object and it can be edited using its edit handles, edit toolbar and specification dialog.

The ability to edit an object as part of a block may be more restricted than if the object were independent. If more extensive editing is required, the architectural block must be exploded.

The Library

Home Designer Landscape and Deck's library offers thousands of symbols, materials, and images that can enhance any plan.

New library catalogs and enhancements are made available by Chief Architect on a continuing basis and are available for download for the current program version.

You can also customize items from the library or import new items from outside the program and then save them in the library for future use.

Chapter Contents

The Library Browser

The Home Designer Landscape and Deck Library Browser allows you to manage the contents of the library as well as add library content to your drawings.

To open the Library Browser:

- Select **Library> Library Browser** .

- Click the **Library Browser** button .

- Press **Ctrl + L** on your keyboard.

By default, the Library Browser is docked to the right side of the program window, but can be undocked or docked to another side. See "Docking the Library Browser" on page 275.

The Library Browser has four sections:

- The search options at the top.
- The Directory and Search Results Pane.
- The Selection Pane.
- The Preview Pane.

To adjust the height or width of a section, place the pointer over the split bar you want to move. When the double-headed arrow ↔ displays, click and drag.

> You can control the configuration of the Library Browser panes in the Preferences dialog. See "Library Browser Panel" on page 46.

You can work on your drawing with the Library Browser open. To close the Browser, click the Close ✕ button or double-click on an object in the Selection Pane.
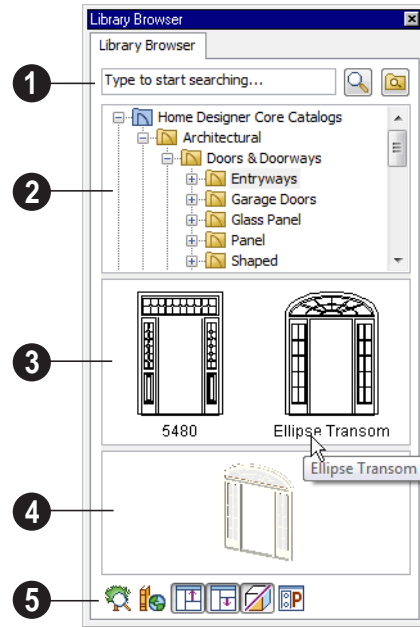
The library has five categories: Home Designer Core Catalogs, Home Designer Bonus Catalogs, Manufacturer Catalogs, User Catalog and Trash. See "Library Content" on page 276.

① Search the library using keywords and optional search filters. See "Searching the Library" on page 275.

- Begin typing in the text field to search for library items. As you type, search results will display in the Directory Pane.

- Right-click on an item in the Search Results list and select **Show in Browser** to view the item's location in the Directory list.

- Click the **Browse** button to stop searching and restore the Directory list.

- Click the **Search** button to display the search results for your search entry.

- Click the **Turn On Search Filtering** button to display the search filtering options and customize your search parameters.

- Click the **Turn Off Search Filtering** button to display the search filtering options and customize your search parameters.

2 The library **Directory** and **Search Results** display here. The basic structure of the directory tree is:
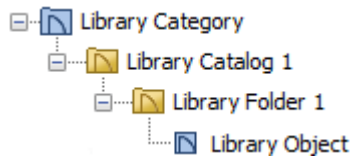
Library items are always placed in alphabetical order within their heirarchy.

The Library Browser includes a Trash bin, where deleted items are moved until you choose to Empty Trash. See "Deleting Library Items" on page 283.

Navigate the Directory Pane using the mouse. Click the ➕ beside a catalog or folder to display its contents. Once expanded, you can click the ➖ beside it to close it again. You can also scroll the list using the arrow keys on your keyboard.

Click on an item to select it. Preview images display in the Selection and Preview Panes and basic information about it also displays

in the program's Status Bar. See "The Status Bar" on page 24.

3 The **Selection Pane** shows a thumbnail image of the item selected in the Directory Pane.

When an item is selected in the Directory Pane, a basic line-based representation of the item displays in the Selection Pane.

- If the selected item is a single object, a preview of that object displays in the Preview Pane. You can move your cursor into the drawing area to place the item. See "Placing Library Objects" on page 284.

- If the selected item is a folder, a thumbnail image displays, representing each item inside. Move your pointer over an item in this pane to see a Tool Tip with the item's name. Click on a folder in the Selection Pane to display its contents here and make it the item selected in the Directory Pane.

- Some folders may have too many items to display useful thumbnails for each; when this is the case, they do not display.

Click the **Show/Hide Selection Pane** button to toggle the Selection Pane on and off.

4 When an individual object is selected in either the Directory or Selection Pane, an image of it displays in the **Preview Pane**.

You can click the **Toggle Display** button at the bottom of the browser window to switch between preview images in high and low detail.

If the selected object is a 3D symbol, you can rotate and zoom in or out on the Preview using the mouse.

If you have rotated a view in the Preview Pane, you can restore the default angle either by clicking in the Selection Pane or by right-clicking on the Preview Pane and selecting **Reset Preview**.

Click the **Show/Hide Preview Pane** ⊞ button to toggle the Preview Pane on and off.

5 The toolbar at the bottom of the browser aids in searching, displaying panes, and managing library content.

Click the **Plant Chooser** button to open the **Plant Chooser** dialog. See "Plant Chooser Dialog" on page 254.

Click the **Get Additional Online Content** button to launch your default web browser to the Home Designer Landscape and Deck web site, where additional library content is available for download.

Click the **Show/Hide Selection Pane** button to toggle the Selection Pane on and off.

Click the **Show/Hide Preview Pane** button to toggle the Preview Pane on and off.

Click the **Toggle Display** button to switch between high and low detail images of a selected library object in the Preview Pane.

Click the **Preferences** button at the bottom of the Library Browser to open the **Preferences** dialog, where display properties for the Library Browser can be controlled. See "Library Browser Panel" on page 46.

Using the Contextual Menus

A number of important library functions can be accessed using the contextual menus. Right-click on an item in the Library Browser to open a contextual menu displaying options related to that item. See Contextual Menus.
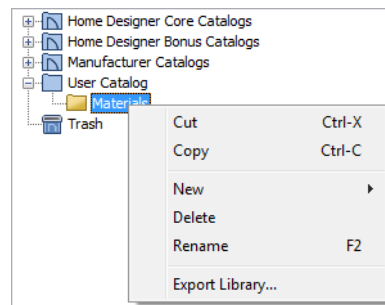
The options in the contextual menu vary depending on the item selected, but may include:

- Cut/Copy/Paste
- Paste Shortcut
- Rename
- Delete
- Export Library
- Open
- Reset Preview
- Expand All/Collapse All
- Show in Browser

Keyboard Commands

The Library Browser can be navigated using the arrow keys on your keyboard.

- The right and left arrow keys expand and collapse folders.
- The up and down keys change which library object is currently selected.
- Select an item and press F2 to rename it.
- Select an item and press the Delete key to delete it.

Expand/Collapse All

When a library category or folder is selected in the Directory Pane, **Expand All** and **Collapse All** are available in the contextual menu, allowing you to expand or contract its contents in the tree view.

Docking the Library Browser

Initially, the Library Browser is docked to the right side of the Home Designer Landscape and Deck program window.

To undock the browser window, double-click the striped grab bar. You can also undock it by clicking on the grab bar and dragging it into the center of the program window.

Once undocked, the Library Browser can be moved by clicking and dragging the title bar.

When moved to the top, bottom, or side of your screen, it automatically docks in a vertical or horizontal orientation, depending on its location.

- Holding down the **Ctrl** key prevents the Library Browser from docking while moving.
- If you close the program with the Library Browser docked, it displays in the same position the next time the program is opened.

To return the browser window to its original position and size, click the **Restore Position/ Size** button on the Library Browser Panel of the **Preferences** dialog. See "Library Browser Panel" on page 46.

Closing the Library Browser

The Library Browser can be closed in either of two ways:

- Click the **Close** ⊠ button at the top right corner of the browser window.
- Select **Library> Close Library Browser** ⊠.

Searching the Library

The Library Browser filtering options let you focus your searches to meet parameters that you define.

To search the Library Browser

1. Select **Library> Library Browser** 📚 and click in the Search field at the top of the Library Browser.
2. Begin typing a keyword to search for.

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3. As you type, the search results will populate in the Directory Pane below.

4. If you move your mouse pointer over the Search field, a Tool Tip will state the number of results of your search.

5. Right-click on an item in the Search Results list and select **Show in Browser** to view the item's location in the Directory list.

Substrings are not included. For example, searching for "windows" will not produce "window" as a search result. On the other hand, searching for "window" will produce "windows" as a search result.

To search using custom filters

1. Click the **Turn on search filtering optons** ▣ button.
   - Check **Match Keyword** to match the entered search keyword with an object's search attributes.
   - Check **Match Entire Word** to match the entire keyword or words with the complete name of the object.
   - Check **Match Folders** to include library folders in your search.

2. Check **Filter by** to enable additional filtering options, which display below.

3. Select a filtering option from the drop-down list on the left, then choose what to include in the filter from the drop-down list on the right:
   - Select **Type**, then select a category of library item to include in your search.
   - Select **Style**, then choose a design style to restrict the search results to objects of that style.
   - Select **Manufacturer**, then choose the name of a manufacturer to include in your search. Manufacturer catalogs that were imported during the current program session will not be listed until you exit out of and restart Home Designer Landscape and Deck.

4. Multiple filters can be created and used at the same time:
   - Click the **Add** ➕ button to the right of a filter to make copy of that filter.
   - Specify a new **Type**, **Style**, and/or **Manufacturer** for the new filter.
   - Click the **Delete** ➖ button to the right of a filter to remove that filter.

> Note: Your custom search settings are not retained when you end the current program session.

Library Content

The Home Designer Landscape and Deck library has five categories: Home Designer Core Catalogs, Home Designer Bonus Catalogs, Manufacturer Catalogs, User Catalog and Trash. See Getting Started Guide, "Deleting Library Items" on page 283.

Home Designer Core Catalogs

The Home Designer Core Catalogs category contains a wide selection of 3D symbols,

program from DVD, this library content will also be installed; if you download the software, you will be able to download the Core Catalogs separately, after the program is installed.

When you launch the program for the first time, it will ask if you want to download the Core Catalogs. Click Yes to begin the download. If you click No, you can download at any time by selecting **Library> Install Core Content** from the menu.

Home Designer Bonus Catalogs

Chief Architect regularly posts new library catalogs available for download. Select **Library> Get Additional Content**

Online from the menu to access the bonus catalogs and content.

Manufacturer Catalogs

A variety of name brand library catalogs are available for download on the Home Designer web site with content ranging from materials to fixtures.

Select **Library> Get Additional Content**

Online to access these Manufacturer Catalogs.

The User Catalog

The User Catalog is the location for items that you add to the library either from a drawing or by importing. See "Adding Library Content" on page 280.

You can create and organize custom library folders and imported images, backdrops, and materials. See "Organizing the Library" on

page 281.

Updating Library Catalogs

The Home Designer Core Catalogs, Bonus Catalogs, and Manufacturer Catalogs are updated periodically to include new and improved content. You can update your installed catalogs to include the latest content by selecting **Library> Update Library Catalogs** at any time.

The program will gather information about the content in each of these three categories, and then download and replace any content that is not up to date, and you may see a progress indicator at the bottom of the Library Browser while it is doing so. See "Download Progress" on page 278.

Backing up Library Content

The Home Designer Landscape and Deck User Catalog File, User_Library.calib, is located in the Home Designer Landscape and Deck 2014 Data folder. See "Home Designer Landscape and Deck Data" on page 31.

The best way to back up your custom library content is to export the items in your User Catalog, as this will ensure that the textures used by custom materials are not lost. See "Backing Up Your Files" on page 34.

Exported libraries use the **.calibz** file format: a zipped file type that can include textures and images along with other library data.

To back up your custom library content

1. Launch Home Designer Landscape and Deck and select **Library> Library Browser** from the menu.

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2. Right-click on a folder or item in the User Catalog.

3. Select **Export Library** fron the contextual menu.

4. The **Export Library Data** dialog is a typical Save dialog. See "Exporting Files" on page 33.

    • Notice that the file type in the Save as type field is "Library File with Textures/Images (*.calibz)".

Downloading Library Content

The Home Designer Core Catalogs, Home Designer Bonus Catalogs, Manufacturer Catalogs are all available for internet download.

Core Catalogs

When you launch Home Designer Landscape and Deck for the first time, you will be asked if you want to download the Core Catalogs. Click Yes to begin the download.

If you click No, you can download at any time by selecting **Library> Install Core Content** from the menu.

Bonus and Manufacturer Catalogs

Bonus and Manufacturer Catalogs can be downloaded from our web site, www.homedesignersoftware.com. Select **Library> Get Additional Content**

Online 🌐 to launch your default internet browser to our Content Resources page.

Download Progress

When library content is downloading, a green progress bar will display at the bottom of the Library Browser. If you choose to download the Core Catalogs while the library

is not open, the Browser will open so the progress indicator can display.

Click on the progress bar to display the name of the current file being downloaded, the total amount of data to be downloaded in KB, and the amount downloaded so far.
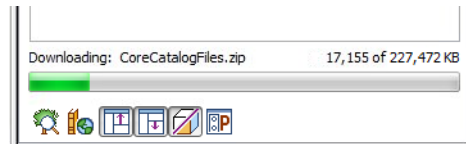
Pausing and Resuming

Library downloads can only take place while Home Designer Landscape and Deck is running. If you close the program while a download is in progress, a dialog will confirm whether you wish to stop the download.

• Click **Stop Download and Close Program** to stop the download and close the program.

• Click **Cancel** to leave the program open and continue downloading.

Most catalogs are composed of a single file. If you stop the download midway, none of the downloaded data will be retained.

The Core Catalogs, on the other hand, contain a large volume of data saved in

multiple files. If you close the program and stop the Core Catalogs download midway, only data associated with the file currently being downloaded will be lost. You can resume the download beginning with that file at a later time by selecting **Library> Install Core Content**.

Download Errors

If any problems occur during the library download process, a dialog box will notify you at the end of the download. Click **Retry Download** to repeat the download and correct any errors or click **Cancel** to discard the downloaded catalog.

Importing Library Catalogs

Home Designer Landscape and Deck library files have two different file extensions: **.calib** and **.calibz**. Both files can include any combination of Home Designer Landscape and Deck library items; in addition, **.calibz** files are able to save data associated with textures and images. Both file types can be imported into the Home Designer Landscape and Deck library.

There are several ways to import a **.calib** or **.calibz** file into the program library:

• Double-click on the file in Windows Explorer.

• Drag the file from a Windows Explorer window and drop it into the Home Designer Landscape and Deck program window.

• Select **Library> Import Library** from the program menu.

To import library files into the library

1. Select **Library> Import Library** to display the **Import Library Data** dialog.

2. Browse to the **.calib** or **.calibz** file that you want to import and select the files so that its name displays in the **File Name** field.

3. Click the **Open** button.

4. A progress bar will display, telling you the progress of each library data file as it is imported. Once imported, each file will be located in the User Catalog.

When a **.calib** or **.calibz** file is imported into the program, its contents are automatically placed in the User Catalog. Any images or textures saved in a **.calibz** file will be copied into the Home Designer Landscape and Deck 2014 Data\Images and Textures folders for backup purposes. The program will only reference these copies if it cannot locate the files in their original locations. See "Home Designer Landscape and Deck Data" on page 31.

Legacy Library Conversion

You can import **.calib** and **.calibz** files created in Home Designer versions 2012, 10, or 9 for use in version 2014 at any time. See "Exporting Library Catalogs" on page 283.

In addition, legacy **.alb** files created in Home Designer versions 8.0 and prior can be converted for use in version 2014.

To convert legacy library files

1. Select **Library> Convert Legacy (.alb) Library Files**.

2. In the **Select a Legacy Library File Folder** dialog, select an .alb file that you want to bring in to Home Designer Landscape and Deck 2014.

3. The selected file's name will display in the **File name:** field.

4. Click the **Open** button to import the prior version third party **.alb** file into the User Catalog.

5. Organize the imported content to suit your needs. See "Organizing the Library" on page 281.

Note: Library content exported from Home Designer Landscape and Deck 2012 will not include catalog names. Any subscribed content that has not been downloaded will not be included, either.

Adding Library Content

In addition to downloading Home Designer Landscape and Deck Content and importing entire catalogs into the library, you can also add a variety of individual objects to the library.

Add to Library

Nearly any object placed from the Library Browser can be added to the User Catalog in the library. Select an object in your plan and click the **Add to Library** edit button.

In addition, some Home Designer Landscape and Deck objects that are not symbols, such as terrain objects,, windows, and doorways can be added to the library.

An object created using a drawing tool in Home Designer Landscape and Deck will automatically be added to the User Catalog using the name of that tool, whereas a symbol imported will automatically use the Symbol Name. These objects can be renamed after adding them to the Library, either before or after moving them to their appro-priate user created folder in the User Catalog. See "Renaming Library Items" on page 282.

Adding Materials and Images

New materials, images, and plant images can be created in the User Catalog. Right-click on the User Catalog or a folder within it, select **New>** from the contextual menu, then select the type of item you wish to create from the submenu.

Home Designer Landscape and Deck can use materials and images in a variety of file formats and provides several means of adding new material and image files to the library. For more information, see "Creating Materials" on page 296 and "To create an image in the Library Browser" on page 359.

Adding New Backdrops

Backdrops are images that display behind the model in 3D views. See "3D Backdrops" on page 313.

To add a backdrop to the library

1. Select **File> Import> Backdrop** to open the **Import Backdrop File** dialog, which is similar to the **Import Picture File** dialog. See "Importing Pictures" on page 363.

2. Browse to an image file on your computer, select it, and click **Open**. This backdrop can now be found in the My Backdrops library.

You can also create a new backdrop by copying and pasting an image into Home Designer Landscape and Deck. See "Copying and Pasting Objects" on page 63.

Adding a Customized Object

You can customize an existing library object and save your changes for future use by first copying the item into an unlocked library.

To customize a library object

1. Right-click on a library item and select **Copy** from the contextual menu.

2. Browse to an unlocked library or library folder and right-click on it.

3. Select **Paste** from the contextual menu to make a copy of the library item in this new location.

4. Right-click on the copied item and select **Open** from the menu.

5. The item's specification dialog opens, and you can make any changes that you wish to the item.

6. Make any needed changes to the item, then click OK. Your changes will be saved with this item for use in any plan.

Organizing the Library

Library folders and objects can be copied, pasted, moved, and deleted: allowing you to organize your User Catalog to best suit your work style and needs.

Adding New Folders

New folders can be added to the User Catalog or to any folder located within it. To add a new folder, right-click on User Catalog or one of its sub-folders and select **New> Folder** from the contextual menu.
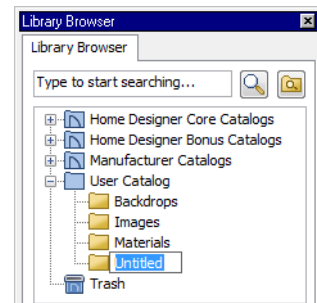
The new folder is created inside the library item you right-clicked on and is initially named "Untitled". Type a short, descriptive name and press Enter.

Selecting Library Items

To select a library object, folder, or category, simply click on it.

When an item is selected, preview images display in the Selection and Preview Panes and basic information about it also displays in the program's Status Bar. See "The Status Bar" on page 24.

A selected library item can be modified in a number of ways to help meet your organizational needs.

Renaming Library Items

Only folders and objects in the User Catalog can be renamed. There are several ways to do this from the tree list:

• Right-click on the item, select **Rename** from the contextual menu, and type a new name.

• Click once on the item, press F2 on your keyboard and type a new name.

• Click once on the item, pause for a moment, then click a second time and type a new name.

Library names are case-sensitive and can contain up to 63 characters. While you can have more than one library item that uses the same name, it is best to use short, descriptive and unique names.

Moving Library Items

Folders and objects in the User Catalog can be moved to new locations within the User Catalog. Folders and library objects are always organized alphabetically within each hierarchy.

To move an item to a different location, select it in the tree list, then click and drag it to the new location in the list. Directories and folders able to accept new content highlight as your ouse pointer moves over them. Release the mouse button to relocate the selected library item in the highlighted location.

Copying Library Items

All library folders and library objects can be copied and pasted to new locations in the User Catalog.

There are two ways to copy a library item to the Windows Clipboard:

• Right-click on it and select **Copy** from the contextual menu.

• Click on the library item and press Ctrl + C on your keyboard.

To **Paste** the item, click on a library catalog or folder in the Library Browser tree view and either:

• Right-click on the new location and select **Paste** from the contextual menu.

• Press Ctrl + V on your keyboard.

When a library item is copied and pasted, the new item that results is independent of the original item. If you make changes to it, the original item is unaffected. Similarly, changes to the original item do not affect the copy.

Library Shortcuts

In addition to copying and pasting to create new, independent library items, you can copy and paste to create Library Shortcuts. Library Shortcuts are not independent items - they

are linked to the original item and are affected if changes are made to the original.

Library Shortcuts are advantageous because you can place a given library item in multiple locations to suit your organizational style without increasing the size of the library database and without having to maintain multiple copies of the same item.

To create a Library Shortcut, copy a library item to the Windows Clipboard. Then, right-click on the location where you would like to create a copy and select **Paste Shortcut** from the contextual menu. Library Shortcuts use the same name as their source item but use the Library Shortcut icon.

To locate a Library Shortcut's source item, right-click on it in the tree list and select **Locate Shortcut Source**

If you move or delete an item from the library, any shortcuts to it will not be updated or removed. If you try to use a "hanging" shortcut, a message about its status will display in the library preview panes.

Deleting Library Items

The five installed library categories: Home Designer Core Catalogs, Home Designer Bonus Catalogs, Manufacturer Catalogs, User Catalog, and Trash cannot be deleted.

Catalog level folders in all categories can be deleted; however, individual subfolders and objects can only be deleted out of the User Catalog.

Items in the library that are eligible for deletion can be deleted in either of two ways:

• Right-click on it and choose **Delete** from the contextual menu.

• Select it and press the **Delete** key on your keyboard.

When items from the User Catalog are deleted, they are moved to the Library Browser Trash . Items in the Trash can be retrieved by clicking and dragging them into any location in the User Catalog.

To empty the Trash , right-click on it and select **Empty Trash** from the contextual menu.

Depending on how much content is in the Trash, emptying it can be time consuming. You can click the **Cancel** button to end the process if you wish.

⚠ The Empty Trash command is both immediate and permanent. It cannot be undone, so use care when using it. You should back up all your library files regularly. See "Backing up Library Content" on page 277.

Exporting Library Catalogs

Exporting library files allows you to:

• Back up your custom library content.

• Transfer library content between computers.

Exporting is often preferable to simply copying library files because it allows you to include images and textures in the exported library.

To export content from the library

1. Locate an object, folder, or catalog that you want to export, right click on it, and select **Library> Export Library**.

2. In the **Export Library Data** dialog.
   - Choose the appropriate **Save in:** location for your exported library file.
   - Type a short, descriptive name for your library file in the **File Name** field.

- Click the **Save as type:** drop down list and select whether or not you want the library to include Textures/Images.

If any of the items being exported are images or use textures, be sure to select the .calibz file type.

- Click **Save**.

3. Your exported library file can now be copied to a network location or storage device in Windows Explorer.

Placing Library Objects

Library objects are subject to placement restrictions based upon typical real-life placement. Most library objects require sufficient free space at the location where they are placed, for example, and some library objects have additional requirements.

Library windows and doors, for example, must be placed in a wall just like standard windows and doors.

If a warning message displays when placing a library object, it will indicate where the object can be placed.

There are three main categories of items available in the Library Browser:

- Stand-alone objects that can be placed directly into a plan. Examples include plants, furnishings and images.

- 3D objects designed to be inserted into another 3D object. Examples include windows and doors. Some items, such as fence panels, can be inserted into another object or placed as stand-alone objects.

- Materials, which cannot stand alone and must be assigned or applied to another object.

Stand-Alone Objects

Most library categories contain objects that can be selected in the Library Browser and placed directly in a 2D or 3D view.

- Most stand-alone objects are designed to rest on the floor or terrain.

- Some objects will rest on top of a furniture or roof plane object if one is located at the point where they are first placed.

- A few objects, notably some light fixtures, will mount on the ceiling.

- In addition, some objects will attach to a wall if one is nearby.

To place a stand alone library object

1. Click on an object in the tree view or Selection Pane of the Library Browser to select it for placement. See "The Library

Browser" on page 272.

2. Move your cursor into the view area and notice that it displays an icon indicating the type of object selected instead of an arrow icon.

3. Click to place the selected object at that location.

4. Continue clicking to place as many instances of the selected object as needed. When you are finished, click the

   Select Objects ⬚ button.

Once a stand-alone object has been placed, it can be edited in a variety of ways. See "Editing Library Objects" on page 287.

Inserted Objects

Some objects cannot stand alone and must be placed into other objects in a plan. For example, doors and windows must be inserted into a wall. See "Doors" on page 131 and "Windows" on page 145.

An inserted object can only display in a 2D or 3D view if the object that contains it is set to display. This is the case even if the inserted object's layer is turned on. See "Displaying Library Objects" on page 287.

To insert a library object

1. Click on an object in the tree view or Selection Pane of the Library Browser to select it for placement. See "The Library Browser" on page 272.

2. Move your cursor into the drawing area.

3. Click on the object into which you wish to insert the selected library item. The library item is inserted into the object.

4. Continue clicking to place as many instances of the selected item as needed. When you are finished, click the **Select**

   Objects ⬚ button.

Assigned Items

Some library items, such as materials, are not objects in themselves but can be applied to objects in a variety of ways.

• Using the specification dialog of the containing object. See "Select Library Object Dialog" on page 285.

• Materials can be assigned to objects directly from the library in 3D views by by selecting the material and then clicking on an object's surface. See "The Material Painter" on page 292.

Select Library Object Dialog

The **Select Library Object** dialog is a modal version of the Library Browser that is accessible from object specification dialogs that display the ⬚Library... button. Click this button to select and apply items from the library to the object currently opened for

specification. See "Specification Dialogs" on page 24.

The **Select Library Object** dialog only displays categories that are related to the opened object. For example, this is how the dialog looks when accessed from the General tab of the **Door Specification** dialog:
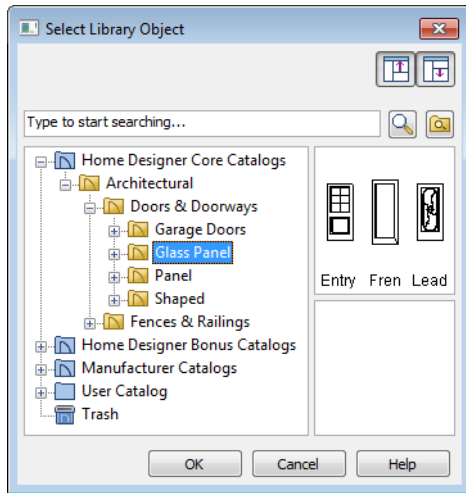
To make your selection, highlight the desired object and click **OK**, or simply double-click on the object in the Selection Pane to close the **Select Library Object** dialog.

The **Select Library Object** dialog includes the search and search filtering options, can be resized ↔, and can display the resizable Preview and Selection Panes.

If the **Select Library Object** dialog is opened by clicking the **Select Material** button on the Materials tab of any specification dialog or using the **Material Painter** , two additional options are available:

• Click the **Add New Material** button to open the **Define Material** dialog and create a new material.

• Check **Use default material** to apply the default material for the selected object, if one exists. See "Material Defaults" on page 299.

See "Materials Tab" on page 294 or "The Material Painter" on page 292.

Replace From Library

The **Replace From Library** edit button is available for most selected objects. Click this button to open the **Replace From Library** dialog and replace the selected object, and others like it if you choose, with an object of the same type from the library.
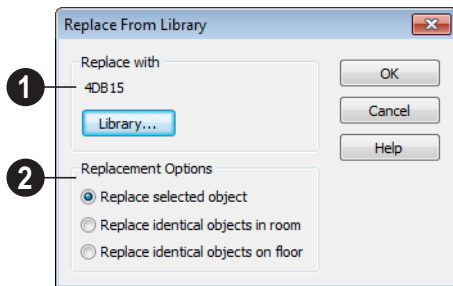
1 Click the **Library** button to open the **Select Library Object** dialog and select an object to use as a replacement. The name of the object that is currently selected as a replacement displays above.

2 Select one of the **Replacement Options**.

Select **Replace Selected Object** to replace only the currently selected object.

Select **Replace Identical Objects in Room** to replace all objects that are in the same room as, and are identical to, the currently selected object.

Select **Replace Identical Objects on Floor** to replace all objects that are on the same

floor as, and are identical to, the currently selected object.

A few things to remember about **Replace From Library** 🔁:

- Works in floor plan and 3D views.
- The replacement option **Replace Identical Objects in Room** is not available for doors and windows.

Replace From Library 🔁 is available for any object that can be stored in the Library Browser and can be selected, including: architectural objects, architectural blocks, electrical objects and image objects.

Objects that cannot be replaced using this feature include materials, backdrops, and items assigned to other objects, such as materials.

Displaying Library Objects

The display options available for library objects depend on the type of object in question, as well as the view.

If the display of an object is turned off in a 2D or 3D view, any objects inserted into it will not display in that view, either - even if the inserted object's layer is turned on. See "Inserted Objects" on page 285.

In Floor Plan View

All library objects except materials and backdrops can display in floor plan view. Library objects are represented in floor plan view by 2D symbols that resemble the size and shape of the object when viewed from above.

As with other architectural objects, the display of library objects is controlled by layer in the **Display Options** dialog. Each library category has its own layer. See "Display Options Dialog" on page 57.

Object Labels

Fixtures, Furnishings, Geometric Shapes, Hardware, Millwork and Plants can display labels in floor plan view when the appropriate layer is set to display in the **Display Options** dialog. For example, fixture labels are placed on the "Fixtures, Labels" layer.

In 3D Views

All library objects can display in 3D views.

By default, images rotate to face the camera in 3D views. For information about turning off image rotation, see "Image Specification Dialog" on page 360.

Editing Library Objects

Like native Home Designer Landscape and Deck objects, library objects can be customized to suit your design needs. There are three approaches to editing library objects:

- Select an object in the User Catalog, edit it using any of the options in its contextual menu, and your changes will be reflected when you next place this library object in a drawing.

- Place an object in a drawing and then edit it using the various edit tools available for it. This will not affect the original object still saved in the library.

- Place an object in a drawing, edit it using the available edit tools, and then add it back to the library for future use. This will not replace the original object still saved in the library. See "Add to Library" on page 280.

Library objects placed in a drawing can be selected individually or as a group, like other objects in Home Designer Landscape and Deck. See "Selecting Objects" on page 68.

Once selected, library objects can be edited in a variety of ways using the edit handles, the edit toolbar buttons and the specification dialog. See "Symbol Object Specification Dialogs" on page 289.

Native Objects vs Symbols

In Home Designer Landscape and Deck, objects created using the program's standard tools, such as the **Door Tools** , are referred to as native objects.

On the other hand, objects placed from the library, such as fixtures and furnishings, are symbols. Symbols are typically more limited than native objects in how they can be edited.

Using Edit Handles

Most library symbols are box-based objects and can be edited as such once placed in a drawing. See "Editing Box-Based Objects" on page 80. Depending on the type of view and the surface selected, the edit handles a symbol displays will vary.

To resize Fixtures and Furniture, you must check **Fixture/Furniture Resize Enabled** in the **Plan Defaults** dialog. When this option is checked, these library objects have edit handles when selected and can be resized like other objects. See "General Plan Defaults Dialog" on page 43.

When a furnishing or fixture symbol is selected in floor plan view or on the top surface in a 3D view, up to ten edit handles display. They are the Move handle at the center, the Rotate handle just outside the front indicator (a V) and a Resize handle on each edge and at each corner.

When a symbol is selected on a side in a 3D view, it displays five edit handles: the Move handle and a Resize handle on each edge.

Fixtures and furniture placed in a plan are subject to bumping/pushing behavior when moved. See "Bumping/Pushing" on page 86.

In the Specification Dialog

The specification dialog for any image, material, or plant image in the library can be edited from the Library Browser Directory Pane. See "Specification Dialogs" on page 24.

Specification dialogs are not available for native objects saved in the library.

Symbol Object Specification Dialogs

The **Fixture**, **Furniture**, and **Millwork Specification** dialogs all feature the same options. The actual name of the dialog is determined by the type of object that is currently selected.

For example, selecting a library object placed from the Exterior Core Catalog and clicking the **Open Object** edit button opens the **Furniture Specification** dialog.

General Tab
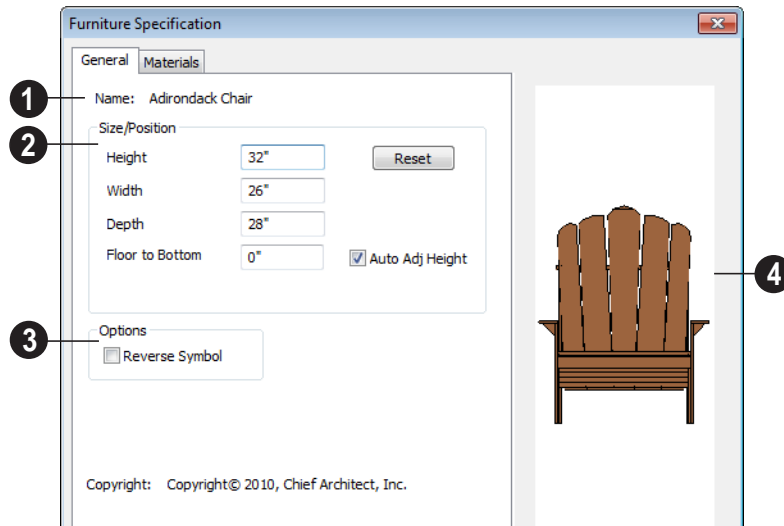
1 The **Name** of the selected object displays here.

2 **Specification -** Define the size and height above the floor of the object.

- Specify the **Height**, **Width**, and **Depth** of the object.

- **Floor to Bottom** - Enter the distance from the floor to the bottom of the object. A value of zero makes the object rest on the floor.

- If the selected symbol is ceiling mounted, **Height Above Ceiling** will be available

instead of Floor to Bottom. Specify the selected object's height above the ceiling. Enter a negative value to offset the symbol below the ceiling, or uncheck **Follow Ceiling** if you prefer to specify the object's Floor to Bottom height instead.

- Click **Reset** to reset the symbol's original, unmodified size. The Floor to Bottom value is not affected by this button.

- When the selected object is outside a room and **Auto Adjust Height** is checked , its Floor to Bottom height is measured relative to the terrain height.

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When this is unchecked, the Floor to Bottom height is measured from the default floor height of Floor 1. See "Terrain Height vs Floor Height" on page 224 of the Reference Manual.

3 Check **Reverse Symbol** to reverse the object's appearance, so that features on its left are positioned on its right, and vice versa. This option has no effect on objects that are symmetrical.

4 A preview of the library object displays here and updates with changes.

Materials Tab

For information about the settings on this tab, see "Materials Tab" on page 294.

Materials

The objects used in Home Designer Landscape and Deck have a variety of 3D properties. These objects - walls, windows, doors, roof planes, lot perimeters, etc. - can have materials assigned to them so that they look realistic in 3D views. These materials can also be used to generate materials lists that can help with cost estimations.

Designing with objects that look correct in 3D and calculate properly in the Materials List requires that you use realistic material definitions and apply them appropriately to objects in your plan.

Home Designer Landscape and Deck comes with many materials that are ready for use. From siding, roofing, flooring, masonry, tile, and paneling, to grass, water, and wood materials, Home Designer Landscape and Deck has materials for every application, inside and out. If you cannot find a material that suits your needs, you can customize the materials provided or create your own.

> ⚠ Redefining only the visual properties of a material may create unexpected results. For example, changing the image of a brick material to represent siding does not cause the material to be considered as siding during material calculations.

Chapter Contents

- About Materials
- The Material Painter
- Materials Tab
- Editing Materials
- Creating Materials
- Define Material Dialog
- Material Defaults
- Color Chooser Dialog

About Materials

The materials that are assigned to objects in Home Designer Landscape and Deck perform two important roles:

- They determine what the surfaces of objects look like in 3D views.
- They influence how objects are calculated in the Materials List. See "Materials Lists" on page 389.

Materials are stored in the Materials library in the Library Browser and can be applied to objects in either of two ways:

- Using the **Material Painter** 🖍.
- In an object's specification dialog. See "Materials Tab" on page 294.

Textures

In Home Designer Landscape and Deck, materials have textures associated with them that determine how they look in 3D views.

Textures are created using special image files that tile seamlessly when applied to surfaces.

In 3D views, you can turn the display of textures on and off by selecting **3D> Render View Options> Toggle Textures** 🔷. When textures are turned off, materials are represented using solid colors.

The Material Painter

Select **3D> Material Painter** to access the **Material Painter Tools**, which are used to apply materials to object surfaces in 3D views.

The **Material Painter** 🖍 tool can also be activated by selecting a material in the library while a 3D view is active.

Material Painter Modes

There are five Material Painter Modes. Each mode specifies how broadly or narrowly the selected material will be applied to surfaces in your plan.

- The **Material Painter Component Mode** 🖍 is the default mode. This applies the selected material to an object component. Using this tool is the same as opening an object for specification and changing the material for one of its components on the Materials tab. See "Materials Tab" on page 294.

- The **Material Painter Object Mode** 🖍 applies a material to all components of an object that share the same material assignment.

- The **Material Painter Room Mode** 🖍 applies a material to all the objects in the room that currently have the same material. For example, if you apply a material to a dining room chair, this mode applies the material to all other objects in the room with the same original material, such as other chairs and the dining table.

- The **Material Painter Floor Mode** 🖍 applies the selected material to all surfaces on the floor that currently have the same material. For example, if you apply a material to the kitchen countertops using this mode, the bathroom countertops on the same floor also have the material applied.

- The **Material Painter Plan Mode** 🖍 applies the selected material to all sur-

faces in the entire plan that currently have the same material. For example, if you have the same carpet on all floors in a plan, applying a selected material while this mode is active will change all carpet on all floors.

When the **Material Painter** tool is active, the Material Painter Mode toolbar buttons display in the edit toolbar, allowing you to quickly change modes.

You can also specify the active mode by selecting **3D> Material Painter** . A check displays next to the active mode in the submenu.

Material Painter...

Material Painter Component Mode

Material Painter Object Mode

Material Painter Room Mode

Material Painter Floor Mode

Material Painter Plan Mode

Blend Colors With Materials
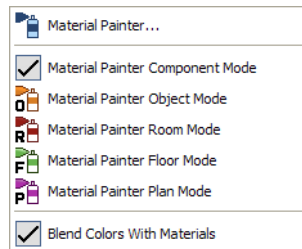
Blend Colors With Materials

In addition to the Material Painter Modes, the **Blend Colors With Materials** option allows you to apply a solid color to a surface displaying a pattern and blend the two.

Blend Colors With Materials works in all five Material Painter Modes. See "Blending Materials" on page 296.

To use the Material Painter tool

1.   Create a 3D view in which the patterned material is visible.

2.   Select **3D> Material Painter> Material Painter** .

3.   Select a solid color material from the **Select Library Object** dialog. See "Select Library Object Dialog" on page 285.

   •   Check **Use Default Material** at the bottom left of the dialog to apply the default material to any object that has a defaults dialog. See "Material Defaults" on page 299.

4.   Select a Material Painter Mode from the edit toolbar, which displays on the left side of the program window when the Material Painter is enabled.

5.   Click the **Blend Colors With Textures** edit button to turn this feature on or off depending on your needs.

6.   Note that the name of the material being painted displays on the left side of the Status Bar at the bottom of the program window. See "The Status Bar" on page 24.

   •   Move your pointer over a surface in the 3D view. The Status Bar now states both the material being painted and the current material on the target surface.

7.   Click on the surface to apply the selected material to that surface. The material is applied to surfaces in the model based on the active Material Painter Mode.

   •   When both the **Material Painter** and **Blend Colors With Textures** are

active, the cursor displays a paint roller icon ⁺🖌.

• When the **Material Painter** 🖌 is active and **Blend Colors With Textures** 🖌 is not, the cursor displays a spray can icon ⁺🖍 .

8. If either the **Component** 🎨 or **Object Mode** 🎨 is active, you can continue to click on surfaces to apply the selected material. When you are finished, select a different tool.

Material Painter & Walls

As a general rule, the **Material Painter** 🖌 cannot be used to apply a material to an individual wall. Rather, it applies the material to an entire room, to all the rooms on the floor, or to all the rooms in the entire plan, depending on which Material Painter Mode is active.

There are a couple of exceptions to this rule that apply when the wall surface being painted faces an exterior room such a porch and/or the Exterior Room. See "Room Types" on page 121.

• If the **Material Painter Room Mode** 🎨 is active, the selected material is applied to the entire exterior room. If any walls defining this room also define other exterior rooms, their entire lengths are also affected.

• If the **Material Painter Component Mode** 🎨 is active, the entire length of the individual wall is painted. Other walls defining the exterior room(s) are unaffected.

Material Eyedropper

The **Material Eyedropper** tool allows you to load the material assigned to an existing object and apply that material to other objects.

In a 3D view, select **3D> Material Painter> Material Eyedropper** 🖊 and then move your mouse pointer over a surface in the view. The name of the material on that surface is stated on the left side of the Status Bar. Click on the surface to load its material assignment. The pointer then changes to indicate that the material is ready to be applied to another object using the **Material Painter** 🖌 tool. Depending on the currently active **Material Painter Mode**, you can continue to apply the material to the surfaces of other objects.

Materials Tab

The specification dialogs for most objects include a Materials tab. Select an object or a group of similar objects and click the **Open Object** 🖼 edit button to open the specification dialog for that selection.

On the Materials tab, you can specify material assignments for the components that make up that object. When a new material is assigned, the appearance of the preview image on the right side of the dialog updates.

The tree list on the left side of the tab lists the components of the selected object that can be assigned materials. Some objects may only have a single component while more complex objects may have many.

Some components contain additional sub-components, which display separately in the components tree list.
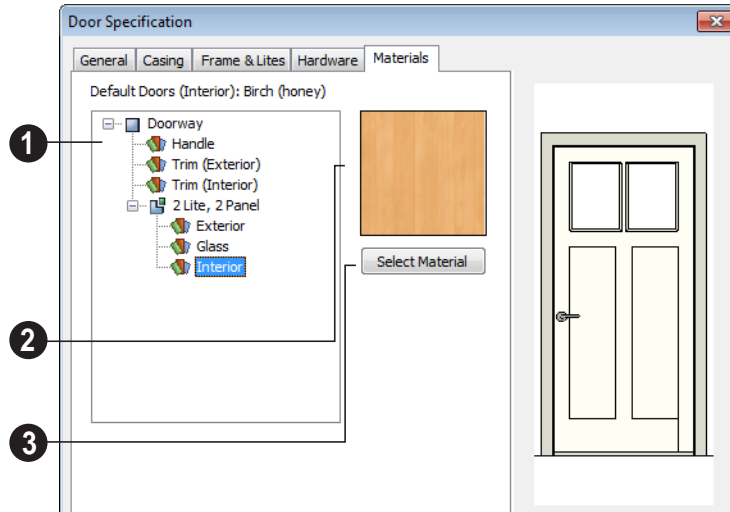
1 Select a component in the tree list to assign a new material to it.

2 The box to the right of the tree list displays a preview of the texture of the material assigned to the selected component. If "No Texture" displays in the preview window, either the material has no texture assigned or the texture file could not be found on the system.

3 Click **Select Material** to open the **Select Library Object** dialog. Select a material and click **OK** to assign that material to the selected component. See "Select Library Object Dialog" on page 285.

Select **OK** to close the dialog and return to the active view.

Editing Materials

Much like objects, materials in Home Designer Landscape and Deck can be edited so that they better suits your design needs. There are two approaches to material editing:

• Select a material in an unlocked library in the Library Browser, edit it, and your changes will be used when you next use the material in any plan. Changes made in this manner do not affect materials already in use in a plan.

- Apply a material to an object in a plan and then edit that applied material using the **Adjust Material Definition** ![icon] tool. Changes made in this way will affect any instances of that material in the current plan only.

Editing the material applied to an object is not the same as applying a different material to that object. See "The Material Painter" on page 292.

Library Browser

Right-click on a material in an unlocked library and select **Open** from the contextual menu to open the **Define Material** dialog for that material. See "Define Material Dialog" on page 297.

Adjust Material Definition

![icon] The **Adjust Material Definition** tool is useful for changing plan materials directly from a 3D view.

Select **3D> Materials> Adjust Material Definition** ![icon] and then click any surface in a 3D view to modify the material currently assigned to that surface in the **Define Material** dialog. See "Define Material Dialog" on page 297.

Changing a material definition with this tool affects all objects in the current plan that are using that material but does not affect any materials saved in the library or materials used in other plans. See "Adding Library Content" on page 280.

Creating Materials

Home Designer Landscape and Deck provides a wide variety of materials - including numerous name brand material catalogs - that are ready to download and use. If you cannot find a suitable material, you can edit an existing material or create a new one. See "Editing Materials" on page 295.

> Note: Adding a material to a plan is not the same as adding it to the library. If you want a new material to be available for use in other plans, create it in the Library Browser.

In the Library Browser

Materials can be created in the Library Browser, making them available for use in

any plan. See "Adding Library Content" on page 280.

In the directory pane of the Library Browser, right-click on an unlocked folder and select **New> Material** from the contextual menu. See "Using the Contextual Menus" on page 274.

In the **Define Material** dialog, you can create a new material in the selected unlocked folder. See "Define Material Dialog" on page 297.

Blending Materials

![icon] In 3D views, you can create a new material by blending a solid color such as a paint color with a textured material. Select **3D> Material Painter> Blend Colors With Materials** to toggle this feature

on or off. See "Blend Colors With Materials" on page 293.

The result is a new material that is saved in the current plan.

Materials created using the **Blend Colors With Materials** [icon] tool are given the name of the patterned/textured material with the extension "--PAINTED:" followed by the name of the solid color material.
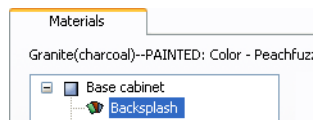
Stretch to Fit

Some special textures, often used for artwork, stretch across any surfaces that they are applied to. Materials that behave this way are specified as **Stretch to Fit** in the **Define Material** dialog.

For more information about creating and using custom materials, see "Materials Tutorial" on page 77 of the User's Guide.

Define Material Dialog

The **Define Material** dialog allows you to adjust how materials look in 3D views and can be accessed in a number of ways:

• Use the **Adjust Material Definition** [icon] tool. See "Adjust Material Definition" on page 296.

• Right-click on a material in an unlocked library in the Library Browser and select **Open** from the contextual menu. See "Using the Contextual Menus" on page 274.

• You can also right-click on an unlocked library and select **New> Material**.
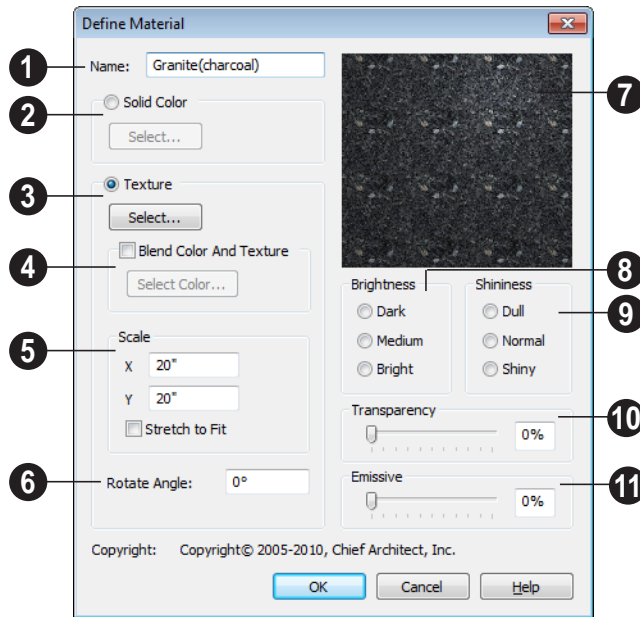
1 The **Name** of the material displays here. In this field, you can type a new name if you wish. Renaming the material does not create a new material: it redefines the existing material.

2 Click the **Solid Color** radio button to specify the material as a solid color, then click the **Select** button to open the **Color Chooser** dialog and select a new color. See "Color Chooser Dialog" on page 300.

3 Click the **Texture** radio button to specify a texture for the material instead of a solid color, then click the **Select** button to open the **Select Texture File** dialog, a standard Open File dialog, and specify an image saved on your computer to serve as the texture.

4 Check **Blend Color and Texture** to blend the selected texture with a solid color, then click the **Select Color** button to specify the color you would like to blend it with.

When a new material is created using the

Blends Color With Materials 🖌 tool, the resulting material has this box checked. See "Blend Colors With Materials" on page 293.

5 Specify the **Scale** for the chosen texture in inches (mm). If you specify **x** and **y** values of 30", the pattern repeats every 30 inches in both directions along a surface.

Check **Stretch to Fit** to stretch the texture image over the entirety of each surface it is applied to. This is useful when you wish to create a painting or photo material to display in a frame. See "Stretch to Fit" on page 297.

Note: Changing the scale or selecting Stretch to Fit can cause textures to appear distorted if they are mapped to a surface using a different aspect ratio than they were originally created with.

6 **Rotate Angle** - Specify how the texture is rotated on the surface.

7 A preview of the current material displays here.

8 **Brightness** controls how bright the material appears relative to other materials.

9 **Shininess** controls the sheen of the material when it is rendered with a

point or spot light source on it. Shiny materials such as metal will reflect light when viewed at the right angle.

10 **Transparency** controls the opacity of the material. A transparency value of 0 results in a completely opaque material, while a value of 100 creates a material that is completely invisible.

11 Use the **Emissive** slider bar or text field to control how bright a material appears independent of the lighting in the scene. It can be used to simulate surfaces that are glowing with their own light, such as the glass on a light fixture.

Material Defaults

Most objects in the program have defaults dialogs which allow you to set up a variety of attributes, including materials, before the objects are created. Default Settings are accessed by selecting **Edit> Default Settings**. See "Preferences & Default Settings" on page 41.

Not all objects, however, have default settings that can be accessed prior to being placed. Garage doors, for example, do not have a defaults dialog. Instead, you can specify the materials for them in the **Material Defaults** dialog. Once a garage door is created, you can change its materials.

Select **Edit> Default Settings** from the menu, select **"**Materials", and click the **Edit** button to open the **Material Defaults** dialog.

Material Defaults Dialog

The settings here are similar to those on the Materials tab found in object specification dialogs throughout the program. See "Materials Tab" on page 294.
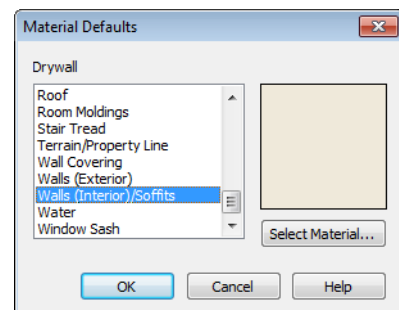
- Select a category from the scrollable list.
- Click the **Select Material** button or preview box to open the **Select Library Object** dialog. See "Select Library Object

Dialog" on page 285.

Color Chooser Dialog

The **Color Chooser** dialog is opened by clicking on the color bar that can be found in many dialogs throughout the program.
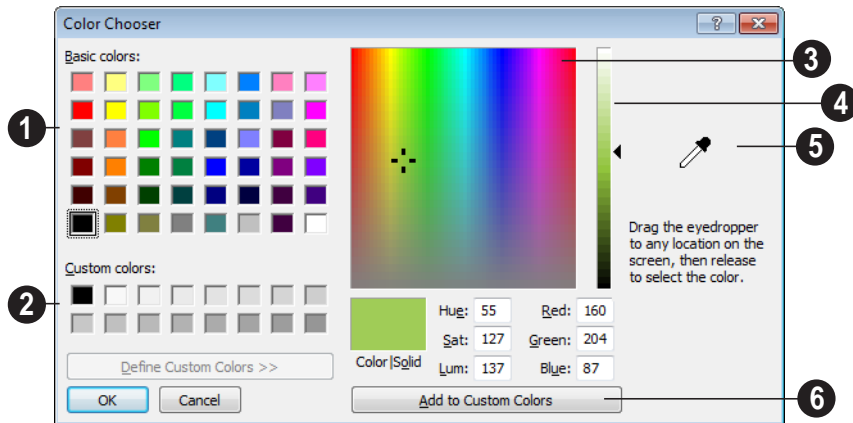
1   Click in any one of the **Base colors** boxes to select it as the new color.

2   Click in one of the **Custom colors** boxes to either select it as the new color or to specify it as the box for a new custom color to be defined.

3   Click anywhere in the color palette area to dynamically choose a color. The location of a selected color is identified by a black crosshairs.

4   Click anywhere in the vertical bar to adjust the selected color's darkness.

5   Drag the **Color Chooser Eyedropper** anywhere on your monitor and release the mouse button to select the color displaying at that location.

> You can select a color from any program window. Before opening the Color Chooser dialog, make sure the desired color can be seen onscreen by tiling Home Designer Landscape and Deck and the other program window.

6   Click **Add to Custom Colors** to add the color to selected Custom Colors box.

Zoom & View Tools

Use the Zoom tools to position the current view. To work on a specific area, you may need to zoom in so that the entire screen is filled by only a single room. At other times you may need to view the entire plan.

There is no limit to the number of plan files that can be open. The name of the file and the type of view displays at the top of each view window in its title bar.

There are a number of ways to pan across the screen, shifting the visible part of the plan slightly while still maintaining the same zoom factor.

Multiple views of one or more open files also can be arranged and managed using the View tools.

Chapter Contents

Zoom Tools

Zoom is used to magnify any given area on the plan or 3D view. Select **Window> Zoom**, then click and drag a marquee around an area on screen. When you release the mouse, the selected area expands to fill the screen.

When the zoom is complete, whatever tool was active prior to selecting the **Zoom** tool automatically becomes active again. If another zoom is needed, click the **Zoom** tool again.

Zoom In - Click to zoom in towards the screen center by a factor of two.

Zoom Out - Click to zoom out from the screen center by a factor of two.

Undo Zoom - Reverse the last zoom operation. See .

Fill Window - Fits all visible items on screen. See .

Fill Window Building Only - Fits all walls and railings on the current floor on screen.

Pan Window - Move the display without changing the zoom factor. See .

Zooming With the Mouse Wheel

Use the mouse wheel to zoom in and out in plan and 3D views. Scrolling the mouse wheel one click up or down zooms in or out, centering on the location of your pointer and changing the zoom by about 10%.

Note: Depending on the configuration of your mouse, it may be necessary to hold down the Ctrl key while turning the mouse wheel. If zooming in and out are not working correctly, contact the manufacturer of your mouse and mouse driver for their assistance.

Zooming in 3D Views

Zooming in 3D views does not change the camera's location or field of view. Instead, the extents of the view are expanded or cropped.

Undo Zoom

Select **Window> Undo Zoom** to reverse the last zoom operation.

Note: Undo and Redo do not affect zoom.

Zoom and **Undo Zoom** are also available through the contextual menu. See "Contextual Menus" on page 23.

Fill Window

In floor plan view, select **Window> Fill Window** or press the **F6** key to view nearly everything on screen that is visible, including the Reference Display. CAD Points are the only objects that are not included when Fill Window is used.

If you are zoomed in so that only a portion of the drawing displays on screen, selecting **Fill Window** zooms out so that the entire view fits on the screen. If you are zoomed out so that the entire drawing is smaller than the screen, selecting **Fill Window** zooms in until the drawing fills the screen.

When the drawing sheet is shown, **Fill Window** zooms to the sheet borders.

Fill Window Building Only

Window> Fill Window Building Only is similar to **Fill Window**, but zooms in or out to so that all walls and railings in the view fill the current window. Other objects are ignored.

In 3D Views

In 3D views, **Fill Window** and **Fill Window Building Only** adjust the camera's Field of View is adjusted so that all surfaces in the 3D view are included.

Panning the Display

There are four ways to pan the display without changing the zoom factor.

Using the Scroll Bars

One method is to use the scroll bars on the right and bottom edges of the window.
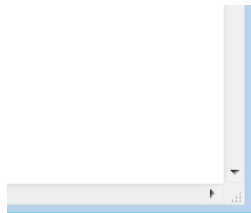
- Drag the square button in the bar itself in order to pan a larger distance.

- Click the end arrow keys on the scroll bars to shift the display in 12" increments.

- The 12" increment is defined in the **Plan Defaults** dialog under **Inches Scrolled by Arrow Key**. See "General Plan Defaults Dialog" on page 43.

Using the Arrow Keys

In floor plan view, the arrow keys on the keyboard work exactly like clicking the arrow buttons on the scroll bar. They shift the display according to the number of inches defined in the **Plan Defaults** dialog.

Using the Mouse

If you have a wheel mouse, you can pan the display by pressing the middle mouse button, or wheel, and moving the mouse in the direction you would like to pan. When the middle mouse button is held down, the

pointer changes to a hand 🖐 icon.

Mouse drivers sometimes have other functions assigned to the wheel and buttons. These override the Home Designer Landscape and Deck setting.

Using the Pan Window Tool

The **Pan Window** tool works much like the mouse wheel method.

Select **Window> Pan Window** 🔲. The

pointer changes to a hand 🖐 icon. Click and drag in floor plan view to pan the window. The command is invoked once and the program reverts to the previously active tool when you release the mouse button.

Swapping Views

There are several ways to switch between open view windows.

- Select **Window> Next Window** 🔲 or **Window> Previous Window** 🔲 to cycle through all open views in the order you prefer.

- Press the Ctrl + Tab (Next Window) or Ctrl + Shift + Tab (Previous Window) keys to cycle through all open views.

- A list of all the views currently open is located at the bottom of the Window menu. Each view is identified by its name and what type of view it is. Select one to go directly to that view.

Window Menu Tools

Select **Window** from the menu to access the Window Menu tools, which help you display multiple view windows of your model at the same time.

Select **Window> Cascade** to cascade all open views. See "Cascade" on page 305.

Select **Window> Tile Horizontally** or **Tile Vertically** to tile all open views. See "Tiling Views" on page 307.

Select **Window> Arrange Icons** to arrange all open views that are currently minimized. See "Arrange Icons" on page 308.

Select **Window> Next Window** to switch to the next open view. See "Swapping Views" on page 304.

Select **Window> Previous Window** to switch to the previous open view. See "Swapping Views" on page 304.

Open View Windows

There is no limit to the number of plan files that can be open. The name of the file and the type of view displays at the top of each view window in its title bar.

There is no limit to the number of 3D view windows that you can have open at a given time; bear in mind, though, that each window demands use of your computer's resources and that you may see poor performance if too many views are open. See "3D Views" on page 309.

A list of all view windows currently open displays at the bottom of the Window menu. Each view is identified by its name and what type of view it is. A checkmark is beside the view that is currently active. Select one to go directly to that view.

The names of up to eight views can display here. If more than eight view windows are open, **More Windows** is the last item in the menu. Select this option to open the **Select Window** dialog.
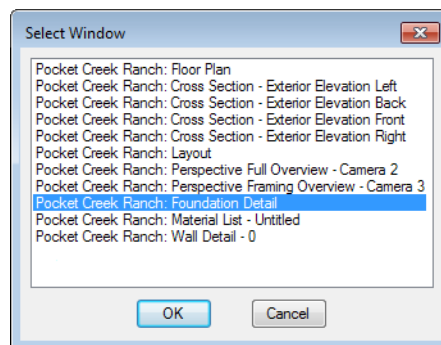
Select the name of a view from the list and click **OK** to make it the active view.

Cascade

Select **Window> Cascade** to cascade all open views. Cascade is a Windows function which allows you to organize open

windows in a cascading pattern. Click on any
visible edge to activate that window.
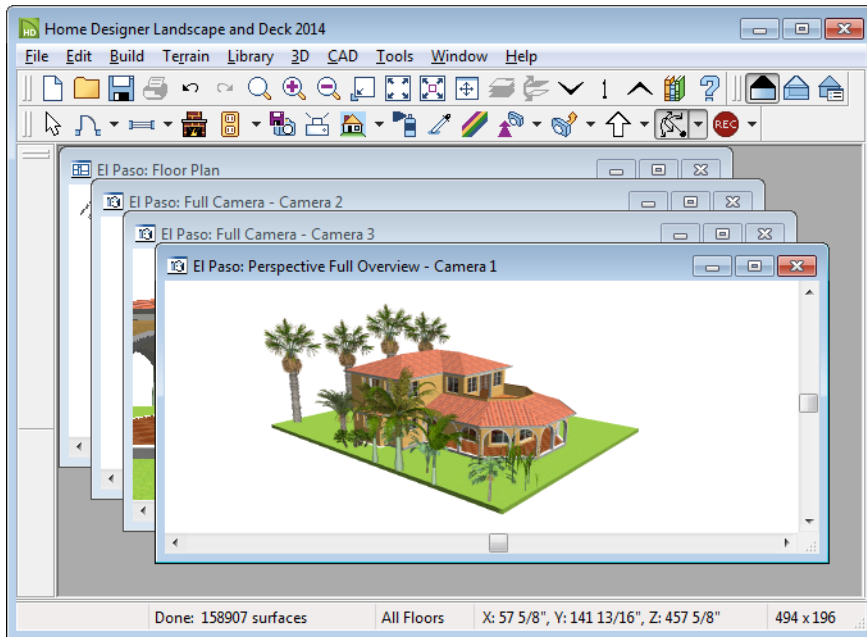
Tiling Views

The window tiling options allow you to display multiple views side by side in the Home Designer Landscape and Deck window.

Select **Window> Tile Horizontally** to display both views in a horizontal orientation.

Select **Window> Tile Vertically** or press Shift + F6 on the keyboard to display both views in a vertical orientation.

To activate a view, click on its title bar or anywhere in the view window. Note that any changes you make are reflected in other views as well.

To end window tiling, click the

Maximize button in the upper right corner of any open view.
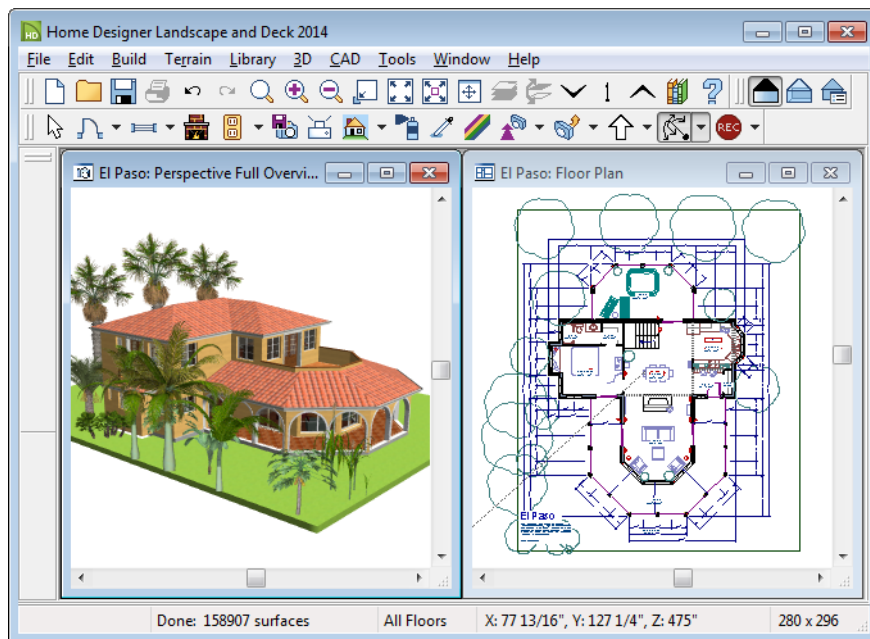
Tiling allows you to see the results of changes in floor plan view in 3D or vice versa, and can also be useful for copying objects from one plan to another.

Arrange Icons

Arrange Icons is a Windows function used when several active windows have been minimized. Select **Window> Arrange Icons** to align the minimized title bars in a row at the bottom of the working desktop. You can then click the minimized title bars to reactivate them or use them for swapping and closing views.
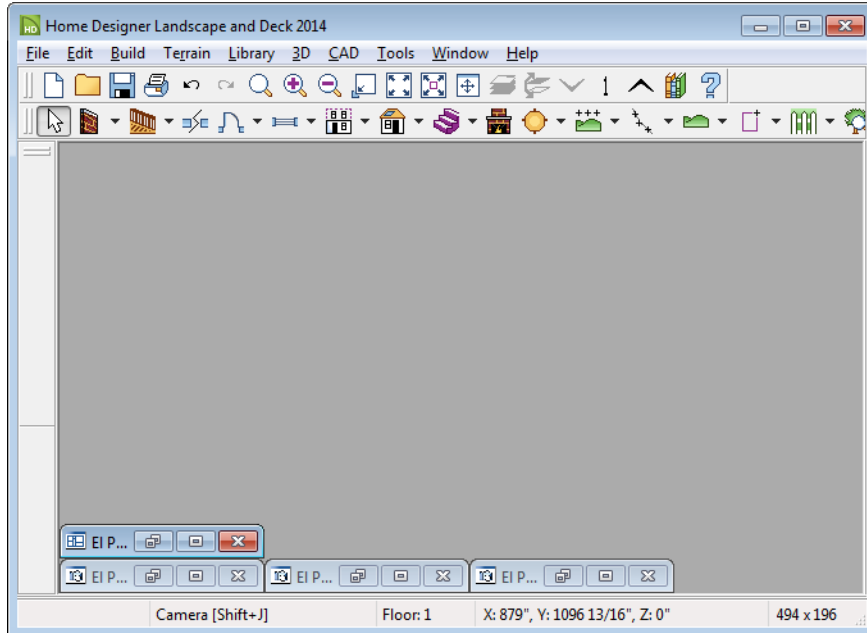
Closing Views

Select **File> Close** or click the ☒ at the top right corner of a window to close it. If the view is still needed, swap to a different view without closing the current views.

3D Views

Little preparation is needed to create a 3D view of a model: simply click a button to create an overview or click and drag to create a camera view.

To improve the quality of the rendering and create a custom look, you can adjust lighting and edit the materials used in the plan. You can create Final views that are even more realistic. See "3D Rendering" on page 325.

Many objects can be placed and edited in 3D views, and any camera view or overview can be saved or even used to record a walkthrough. See "Pictures, Images, & Walkthroughs" on page 357.

Chapter Contents

OpenGL and Hardware

Home Designer Landscape and Deck features a built in, easy to use rendering engine that makes use of OpenGL rendering technology, which has good hardware support on most video cards.

To take full advantage of the rendering capabilities of Home Designer Landscape and Deck, a graphics card that supports OpenGL hardware acceleration and has at least 256 MB of dedicated video memory is highly recommended. For complex models, an accelerated card generates quality renderings in seconds that might otherwise take minutes or even hours with a non-accelerated card or chipset.

3D Backdrop Dialog

Select **3D> 3D Backdrop** from the menu to open the **3D Backdrop** dialog. This dialog allows you to specify a solid color or picture file of your choice to use as a background for 3D views. See "3D Backdrops" on page 313.
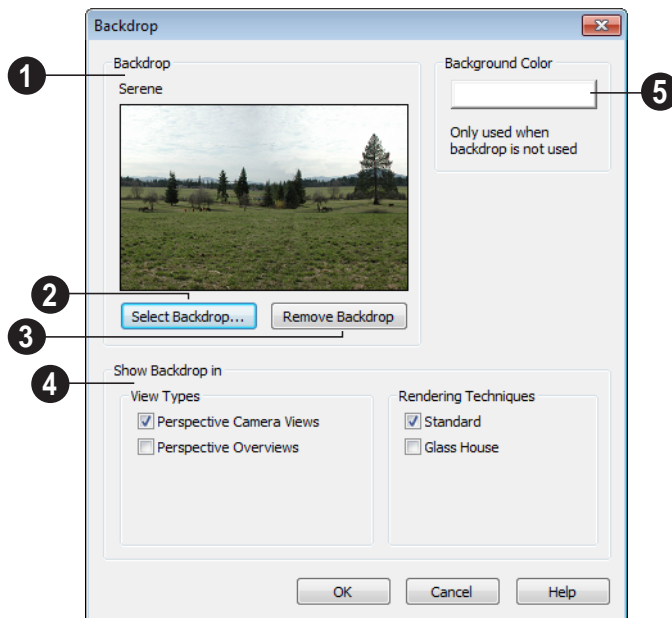
1 A preview of the selected backdrop is shown here, and its name displays for reference. See "3D Backdrops" on page 313.

2 Click **Select Backdrop** to open the **Select Library Object** dialog. Browse the **Backdrops** library, select a backdrop,

and click OK.

3 Click **Remove Backdrop** to change the backdrop to a solid color. The color used is defined in the **Background Color** section of this dialog.

4 **Show Backdrop in** - Specify where the selected backdrop image displays.

• Specify which **View Types** you would like to use the selected backdrop in. By

default, only Perspective Camera Views use a backdrop.

• Specify which **Rendering Techniques** you would like to use the selected backdrop in. By default only Standard uses a backdrop. See "Glass House View" on page 328.

5 Click the color bar to select the **Background Color** that displays when a backdrop image is not being used. See "Color Chooser Dialog" on page 300.

3D View Tools

Select **3D> Create Camera View** to display the Camera View Tools.

Camera Views

The **Full Camera** tool creates multi-floor views of the 3D model. It can be used to create interior and exterior perspectives, and is good for displaying cathedral ceilings, roofs, lofts, stairwell openings, and other variation in floor and ceiling levels.

The **Glass House Camera** tool creates full camera view of the 3D model using the Glass House Rendering Technique. See "Glass House View" on page 328.

Overviews

The **Full Overview** tool creates views of the entire model including all floors, ceilings, and the roof.

Creating Camera Views

To create a camera view

1. In floor plan view, select the Camera tool. The mouse pointer displays the

   camera icon.

2. Click and drag a line to define the view direction.

   • Where your line begins is the camera's position.

• The line that you drag defines the direction the camera is pointed.

• The end of the line is the focal point of the view, the point the camera rotates around.

• By default, the field of view is 45°, which is similar to what the human eye sees or a 50mm camera lens.

1. *Camera (click)*

2. *Line of Sight (drag)*

3. *Focal Point (release)*

Field of View Indicator

3. When you release the mouse button, a view generates in a new window.
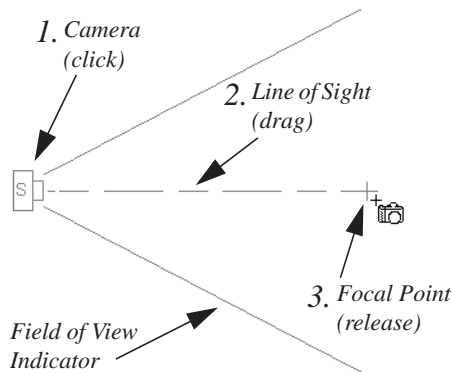
4. Return to the floor plan view. A camera symbol now displays in floor plan view. See "Swapping Views" on page 304.

Creating Overviews

Overviews generate as soon as you select the tool and are always created at the same angle. The focal point is always located at the center of the model; however, the position of the camera will vary depending on the size of the 3D model. The larger or more spread out the model, the further away the camera will be from the focal point so that the entire model can be seen in the view.

Once generated, an overview window's title bar indicates its view type and a camera symbol representing the overview displays in floor plan view, The overview 'camera' can

be edited much like regular camera views can. See "Editing 3D Views" on page 318.

Select **3D> Create Camera View> Full Overview** to generate an exterior view of the entire model.

Displaying 3D Views

A variety of tools and settings allow you to control the appearance of your 3D views. There are also numerous ways to adjust the

position, focal point and field of view of a 3D view. See "Editing 3D Views" on page 318.

The name of the current plan file and the type of view displays at the top of each view window in its title bar.

There is no limit to the number of 3D view windows that you can have open at a given time; bear in mind, though, that each window demands use of your computer's resources and that you may see poor performance if too many views are open. See "Open View Windows" on page 305.

Display Options

Which objects display in a 3D view is controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

Different view types use different layer sets when they are created. See "Layer Sets" on page 56.

In Floor Plan View

3D cameras are represented in floor plan view by symbols that indicate the camera's position, field of view and focal point.
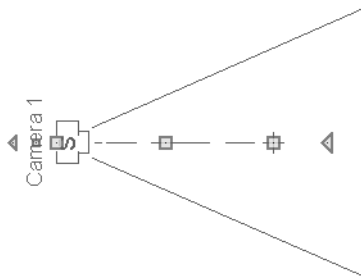
Active cameras can have labels indicating the camera number. Camera labels are located on the "Cameras, Labels" layer. They are numbered sequentially in each plan in the order they were created.

Camera symbols are an on-screen reference: they do not print unless **Print Image** is used.

In Rendered Views

There are a number of factors that contribute to the appearance of rendered 3D views:

*   Select **3D> Toggle Textures** in a 3D view to turn off the display of material textures. See "About Materials" on page 291. Not available in Glass House Views.

*   Select **3D> Lighting> Adjust Sunlight** to open the **Default Sun Light Specification** dialog. See "Default Sun Light Specification Dialog" on page 328.

*   Select **3D> Lighting> Toggle Sunlight** to turn on and off the light source that represents the sun. This feature can be used to simulate day vs. night exterior views. User defined exterior lights are turned off in day views and turned on in night views. See "Default Sun Light" on page 327.

*   Select **3D> Final View** or **Final View with Shadows** to regenerate the 3D view with improved quality and/ or shadows. See "Previews vs Final Views" on page 326

3D Backdrops

A backdrop image is like a large billboard image that displays behind the model in 3D views. Backdrop images often show an outdoor scene to add realism and a sense of perspective to 3D views. You can select a backdrop image for a plan from the library in either of two ways:

- In any view, select **3D> 3D Backdrop** 🔳 to open the **3D Backdrop** dialog. See "3D Backdrop Dialog" on page 310.
- In a 3D view, open the Library Browser. Browse to and select a Backdrop image, then move your cursor into the view window. Click anywhere in the view to apply the selected backdrop.

Regardless of how it is selected, only one backdrop can be used in a plan at any given time.

You can specify which view types and Rendering Techniques use the selected backdrop in the **3D Backdrop** dialog.

You can also create your own backdrop images and import them into the library. See "Adding New Backdrops" on page 280.

Delete 3D Surface

🗙 The individual surface of an object can be temporarily removed from any 3D view by selecting **3D> Delete Surface** and then clicking on a surface. When the

pointer is over a surface, that surface will become highlighted.

Surfaces removed in one view are removed in all 3D views, but are not permanently removed from the model. Continue clicking surfaces to remove them, then select another tool when you are finished.

Surfaces in 3D views are composed of multiple triangles. Hold the Alt key while clicking to delete one triangular face at a time rather than all triangles forming a surface.

Select **3D> Delete Surface** or click the toolbar button to restore the most recently deleted surface. All surfaces can be restored by selecting **Build> Floor> Rebuild Walls/Floors/Ceilings** or by exiting the 3D view and reopening it.

Rebuild 3D

📷 Select **3D> Rebuild 3D** to regenerate all 3D data asociated with the current plan. All open views will remain open.

Repositioning Cameras

Once a 3D view is created, there are many ways to manipulate the camera location and the direction of its line of site using the mouse, the keyboard, and the menus.

When the keyboard or menu commands are used to move or rotate a camera, the adjustments occur in regular increments. The size of these increments is specified in the **Camera Specification** dialog:

- The **Incremental Move Distance** controls Panning movement and forward and backward Dolly movement.
- The **Incremental Rotate Angle** controls Orbit movement, Tilt movement, and side to side Dolly movement.

See "Camera Specification Dialog" on page 323.

Each time you move the camera, the view is updated. If you are using either the toolbar or

keyboard to move the camera, you can hold down the Shift key, suppressing the redraw of the view until the Shift key is released and allowing you to move multiple increments more quickly.

Move Camera with Mouse

An active camera's position can be edited using the mouse. Select **3D>** **Move Camera With Mouse** to access the Move Camera with Mouse modes.

	Hotkey	Description
	Alt + O	**Mouse-Orbit Camera** lets you move the mouse to rotate the camera around its focal point. The camera's position and direction both change. To continuously rotate the camera around its focal point, click in the 3D view, drag the mouse, and release the mouse button to "throw" the view. Click again in the view to stop it from rotating.
	Alt + P	**Mouse-Pan Camera** lets you move the mouse to move the camera up, down, left and right. The camera's position changes, but its direction does not.
	Alt + D	**Mouse-Dolly Camera** lets you move the mouse up and down to move the camera forward and backward. Move the mouse left or right to rotate the camera side to side.
	Alt + T	**Mouse-Tilt Camera** lets you move the mouse to tilt the camera in any direction while staying in the same location.
		3D Center Camera on Point lets you focus the camera at a particular point in the scene. This also sets the camera center so that future use of **Mouse-Orbit Camera** rotates around that point. To use the **3D Center** tool, activate the tool and then click on any object in the scene.

Move Camera with Arrow Keys

An active camera's position can be changed using the arrow keys on your keyboard. **Select 3D> Move Camera with Arrow Keys** to access Move Camera with Arrow Key modes.

These modes use the **Incremental Move Distance** and **Incremental Rotate Angle** set in the active 3D view's **Camera Specification** dialog.

- **Arrow-Orbit Camera** lets you use the arrow keys to rotate the camera around

the current focal point. The camera's position and direction both change.

- **Arrow-Pan Camera** lets you move the camera up, down, right, and left using the arrow keys. The camera's position changes, but its direction does not.

- **Arrow-Dolly Camera** lets you move the camera forward and back using the up

and down arrow keys, and rotate side to side using the left and right arrow keys**.**

- **Arrow-Tilt Camera** lets you use the arrow keys to tilt the camera up, down, or side to side to change the focal point. The camera's direction changes, but its position does not.

Move Camera Tools

Select **3D> Move Camera** in a 3D view to access these tools. These tools change the active camera's position, but not its direction.

These tools use the **Incremental Move Distance** set in the active 3D view's **Camera Specification** dialog.

	Hotkey	Description
	F	**Move Camera Forward** moves the camera and its focal point forward.
	B	**Move Camera Back** moves the camera and the focal point back.
	L	**Move Camera Left** moves the camera and the focal point to the left in a line perpendicular to the line of sight.
	R	**Move Camera Right** moves the camera and the focal point to the right in a line perpendicular to the line of sight.
	U	**Move Camera Up** moves the camera and the focal point up.
	D	**Move Camera Down** moves the camera and the focal point down.

Orbit Camera Tools

Select **3D> Orbit Camera** in a 3D view to access these tools. Orbiting the camera rotates it about the focal point

using the **Incremental Rotate Angle** set in the active view's **Camera Specification** dialog.

	Hotkey	Description
	I	**Move Camera In** moves the camera closer to the focal point along the line of sight. The camera cannot move past the focal point using this tool.
	O	**Move Camera Out** moves the camera away from the focal point along the line of sight.
		Orbit Camera Upward rotates the camera up about the focal point. The camera cannot rotate past a vertical line looking straight down on the focal point.
		Orbit Camera Downward rotates the camera down about the focal point. The camera cannot rotate past a vertical line looking straight up at the focal point.
		Orbit Camera Left rotates the camera to the left about the focal point.
		Orbit Camera Right rotates the camera to the right about the focal point.

Tilt Camera Tools

Select **3D> Tilt Camera** to access these tools. Tilting keeps the camera in one place and pivots the camera about its vertical or horizontal axis. This movement uses the **Incremental Rotate Angle** set in the active view's **Camera Specification** dialog and is similar to tilting your head up and down or turning it side-to-side.

	Hotkey	Description
		Tilt Camera Upward tilts the camera up while keeping it in the same location. The camera cannot tilt beyond the vertical position.
		Tilt Camera Downward tilts the camera down while keeping it in the same location. The camera cannot tilt beyond the vertical position.
		Turn Camera Left turns the camera to the left while staying in the same location.

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	Hotkey	Description
		Turn Camera Right turns the camera to the right while staying in the same location.

Editing 3D Views

In addition to its position and direction, there are other ways to modify a 3D view.

In the Specification Dialog

You can make adjustments to a camera in the **Camera Specification** dialog. This dialog is particularly helpful for making fine adjustments to the camera's position, appearance, and other attributes. See "Camera Specification Dialog" on page 323.

> Tile a 3D view and the floor plan view and use the camera movement tools to see how they affect the camera. See "Tiling Views" on page 307.

Using the Edit Handles

Return to floor plan view without closing the 3D view. See "Swapping Views" on page 304.

Using the **Select Objects** tool, select the camera object. When a camera symbol is selected it displays four edit handles.
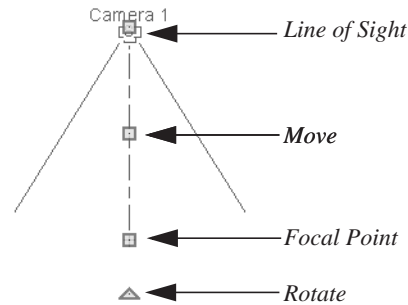
- Drag the **Line of Sight** handle to change the camera angle without moving the focal point.
- Drag the **Move** handle to relocate the camera while maintaining its relative angle.
- Drag the **Focal Point** handle to reposition the focal point and change the line of sight without moving the camera.
- Drag the **Rotate** handle to rotate the camera's line of sight about its center.

The 3D view corresponding to the camera symbol reflects changes made to the symbol in floor plan view.

Multiple camera symbols can be selected; however, their editing options are limited to being moved, rotated, and deleted.

Using the Contextual Menu

In a 3D view, right-click in an empty space in which the backdrop or background color displays to access the contextual menu. See "Contextual Menus" on page 23.
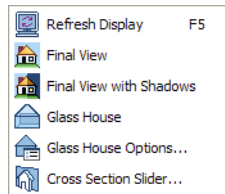
These options are a selection of tools and toggles specific to 3D views.

Up One Floor/Down One Floor

You can move a camera to a different floor. While the camera view is active, select **Tools> Reference Floors> Up One Floor** ⌃ or **Down One Floor** ⌄.

The position and movement of a camera is affected by its location within the model. When the camera is outside a building, its height is relative to the terrain and follows the terrain as it is moved. When inside a building, the camera height is relative to the floor of the room it is drawn in.

If the camera is on an upper floor and you move the camera outside of the building, the camera remains at the same height relative to the floor it was created on.

Zooming

The **Zoom Tools** are available in all 3D views. See "Zoom Tools" on page 302.

Selecting **Window> Zoom In** ⊕, **Zoom Out** ⊖ or **Fill Window** ⛶ does not change the camera's location or field of view. Instead, the extents of the view are expanded or cropped.

Field of View

The **Field of View** refers to a camera's field of vision. A wider field of view makes the focal point appear further away, as more of the image is included in the same view window.

In floor plan view, the angled lines of a camera symbol indicate its field of view.
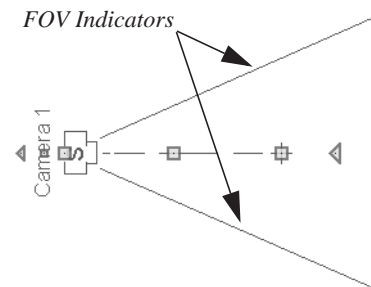
A camera's field of view can be adjusted in the **Camera Specification** dialog. See "Camera Specification Dialog" on page 323.

The field of view can also be adjusted while in a camera view using the keyboard:

• **W** - Increase camera Field of View.

• **N** - Decrease camera Field of View.

Cross Section Slider

Select **3D> Cross Section Slider** when a camera view or overview is active to open the **Cross Section Slider** dialog.
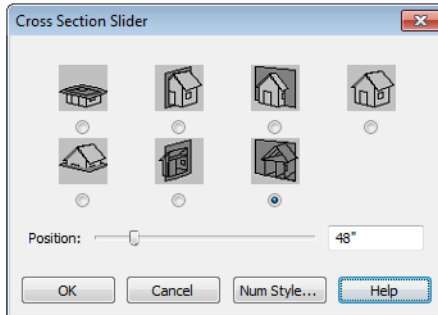
To use the Cross Section Slider

1. Click on the radio button beneath one of the cross section angles to select it.
   • The option at top right turns off the cutting plane, so no cross section is made.

2. Move the **Position** slider to adjust the position of the cutting plane.

3. You can position the cutting plane with accuracy using the text field to the right of the slider.
   • This value is measured from the edge of the model that is cut first by the selected cross section angle.

4. Click **OK** to close the dialog. If the active camera is saved, its Cross Section Slider settings will also be retained. See "Saving 3D Views" on page 322.

Working in 3D

A variety of tools are available in 3D views that allow you to edit your 3D model.

Creating Objects in 3D Views

You can place windows, doors, and most library objects directly into 3D views. To do this, select the appropriate tool and click in

the 3D view. You can then edit the object's size and placement.

When created in 3D, most objects must be placed against a wall, on a floor platform, or within the Terrain Perimeter.

You can also click and drag to draw some objects such as terrain features and road, in 3D views.

Selecting and Editing Objects in 3D Views

Most objects can be selected and edited in

3D views. Select **Edit> Select Objects** and click on the surface of an object to select it. Once selected, objects can be edited using their edit handles, buttons on the edit toolbar, and the object's specification dialog. See "Editing Objects" on page 67.

When you select an object, edit handles and a handle surface display. The handle surface is a rectangle around the perimeter of the object that indicates the overall height and width of the selected surface. The edit handles that display depend on the type of object selected. Walls, for example, display two resize edit handles when selected while a slab displays ten handles, allowing you to move, resize and reshape it.

> Note: If the wall height of the Exterior Room is adjusted in a 3D view, the default Floor or Ceiling Height of the entire floor is changed.

All moving or resizing is in the plane of the handle surface. You cannot move an object directly towards or away from the camera, for example, because that surface plane cannot be seen in the view.

By default, object movement is restricted to one inch or 10 mm increments. See "Grid Snaps" on page 61.

Unrestricted positioning can also be enabled by holding down the Ctrl key while moving or resizing an object. See "Unrestricted Movement" on page 86.

When **Fixtures and Furniture May Be Resized** is unchecked in the **Plan Defaults** dialog, only a single handle displays for furniture and stand-alone fixtures and appliances. In this case, the object can only be moved. See "General Plan Defaults Dialog" on page 43.

Temporary dimension lines display when many objects are selected to help you resize the object and determine its height.

When several 3D views are open, changes made in the plan automatically rebuild the model in all views. Because of this, it is typically faster to make changes to your plan with as few windows open as possible.

Editing Materials in 3D Views

Select **3D> Materials> Adjust Material Definition**, then click on a surface in the 3D view to open the **Define Material** dialog for that material. See "Adjust Material Definition" on page 296.

Select **3D> Material Painter** to apply materials to surfaces in the view using the Material Painter Tools. See "The Material Painter" on page 292.

Select **3D> Material Painter> Material Eyedropper** to apply the material on a surface in the view to other surfaces in the view. See "Material Eyedropper" on page 294.

Rebuild 3D

As changes are made to your plan, a 3D view automatically updates to reflect any changes visible in the view. If you find that a view is not updating as expected, select **3D> Rebuild 3D** to rebuild the entire 3D model.

Saving & Printing 3D Views

3D camera views and overviews can be saved with the plan in which they are created, exported and saved as image files, as well as printed.

Saving 3D Views

Select **3D> Save Active Camera** to save the current camera in the plan. You can also save a camera view by checking the **Saved** box in the **Camera Specification** dialog. See "Camera Specification Dialog" on page 323.

Saved cameras can be closed and re-opened for later use, and retain their Cross Section Slider and Glass House settings. See "Cross Section Slider" on page 320 and "Glass House View" on page 328.

Activating Saved Views

There are three ways to open a saved 3D view:

- Select the camera symbol in floor plan view and click the **Open View** edit button.

- Double-click the camera symbol using the **Select Objects** tool.

- Right-click on it and select **Open View** from the contextual menu.

Unsaved cameras that are open in another view window can also be activated using the **Open View** edit button.

If you open a saved camera view and then modify its location or direction using any of the tools available in that view, the program will confirm whether you want to re-save the camera using these new settings when you close it. See "Repositioning Cameras" on page 314.

Exporting 3D Views

All 3D views can be exported and saved as .bmp, .jpg, .png, or .tif files. Select **File> Export> Picture** to save the current screen image as an image file. See "To export a picture" on page 363.

Once saved, a picture can be opened and converted into many other formats using a graphics program.

When a picture is exported, it is assigned the same size as it displays on screen. You can change the size of the view window to create a smaller or bigger picture.

Printing 3D Views

Since 3D views are created using pixels instead of lines, **File> Print> Print Image** must be used when printing. **Print Image** is a special Home Designer Landscape and Deck function that prints the

screen in picture format. The entire view prints, including images such as plants and textures.

The quality of your print image is affected by your current window size and screen resolution. To maximize the quality of your printed image, generate it in full screen size and use the maximum screen resolution.

Camera Specification Dialog

The **Camera Specification** dialog can be accessed in floor plan view by selecting a camera symbol and clicking the **Open Object** edit button. See "In Floor Plan View" on page 313.

This dialog can also be accessed while a camera view or overview is active by

selecting **3D> Edit Active Camera** .

The selected view's specific type is indicated in the dialog's title bar: the specification

dialog for a **Full Camera** , for example, is named **Full Camera Specification**.
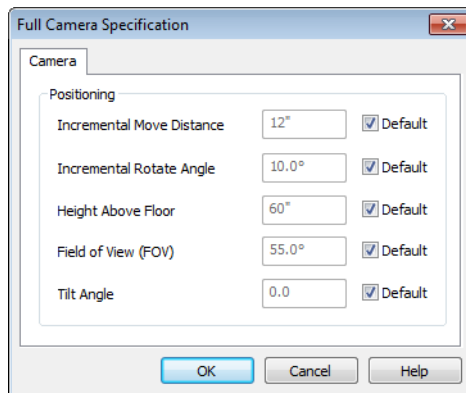
To change a setting, first uncheck **Default**, then type a new value in the text field.

- The **Incremental Move Distance** controls how far the camera moves each time you Pan in any direction or Dolly forwards or backward. For interior views a small number is good, but for exterior you may want a larger increment.

- The **Incremental Rotate Angle** defines how many degrees the camera rotates each time you Tilt, Orbit, or Dolly side to side. A setting of 90° would make one full rotation in four moves.

- The **Height Above Floor** defines the height that the camera is above the floor level for the current floor.

- The **Field of View** defines the camera's field of vision in angular degrees. See "Field of View" on page 319.

> You can increase a camera's Field of View when the view is active by pressing the W key, or decrease the Field of View by pressing the N key.

- The **Tilt Angle** determines the angle the camera is tilted. The camera maintains its focal point and position in floor plan view, but if the camera is tilted, the focal point is above or below the current camera height.

3D Rendering

There are a variety of tools available to create 3D views of a model: simply click a button to create an overview, or click and drag to create a camera view. See "3D Views" on page 309.

To improve the quality of the rendering and create a custom look, you can adjust lighting, edit the materials used in the plan, choose from several rendering techniques and fine-tune 3D view quality settings. From most 3D views, you can create Final views of even higher quality.

Chapter Contents

Rendering Tips

There are a variety of factors which affect the appearance and quality of rendered 3D views. You can use these tools and settings to achieve renderings that meet your needs.

Lighting

Lighting is extremely important in most 3D renderings. Lighting controls the visibility of objects in a view, affects the appearance of surfaces, and influences the appearances of colors and textures on those surfaces. Even small changes to light intensity, direction and color can have a large impact on image quality. See "Lighting" on page 326.

Material Textures

Textures are graphic files that represent contoured surfaces of objects such as bricks, tile, and wood in 3D views. Textures are assigned to materials which in turn are assigned to objects. See "Textures" on page 292.

The display of materials in 3D views is controlled by settings in the **Define Material** dialog. See "Define Material Dialog" on page 297.

Brightness, shininess and transparency control how light sources affect the display of surfaces in 3D views. See "Lighting" on page 326.

If no texture is selected for a material or if the display of textures is turned off, affected surfaces are a solid color instead.

Images

Images are very important for the appearance of 3D views. Images are picture files that represent individual objects such as trees, flowers, cars, and people. See "Placing Images" on page 358.

Backdrops

Backdrops are images that display in the background of 3D views. Only one backdrop can be used at a time. If a backdrop is not applied, Home Designer Landscape and Deck applies a background color.

Backdrops and background colors are selected in the **3D Backdrop** dialog. See "3D Backdrop Dialog" on page 310.

You can also add a backdrop directly into a 3D view from the Library Browser. To do this, select a backdrop in the the Library Browser and move your pointer into the view window. The pointer will display the Backdrop ⟋ icon. Click once in the view to apply the selected backdrop to this and all other 3D views using backdrops in the current plan.

Previews vs Final Views

When a rendered 3D view is first created, it uses quality settings that allow the view to generate quickly but with reasonable quality.

Final Views produce much higher quality images that are more suitable for printing or saving as graphics files. Final Views often take significantly longer to generate than Previews, so the 3D view reverts back to the Preview settings as soon as anything is changed within the view.

When you have finished making adjustments in the 3D view, select **3D> Final View** or **Final View with Shadows** .

Lighting

In 3D views, lighting is calculated on a room-by-room basis; only the light sources in the room containing the camera are used.

When the camera is outside a building, the program normally uses sunlight for lighting calculations and turns off all other light sources. You can turn the sunlight off and use all the other exterior lights to simulate night time views.

The maximum number of light sources that can be turned on in a view at the same time is determined by your video card. If your video card's maximum number of lights is eight,

the program only uses the eight light sources closest to the camera's position.

There are three ways to create light sources for 3Dviews:

- Default Lights
- Light Fixtures
- Sunlight

Default Lights

If you create an interior 3D view of a room and no lights have been placed there, the program creates a Default Light source within that room. The Default interior light acts like a central point light source.

The Default Light cannot be adjusted in any way. If you want to control the light in an interior 3D view, you must add a light to the room that you are rendering by placing a lighting fixture.

Light Fixtures

An electric symbol that represents a **Light Fixture** has a light source associated with it.

Default Sun Light

If you create an exterior 3D view, the program creates a **Default Sun** light source.

The Default Sun can be opened for specification in a 3D view by selecting **3D> Lighting> Adjust Sunlight** 🔆. See "Default Sun Light Specification Dialog" on page 328.

Select **3D> Lighting> Toggle Sunlight** ⬜ turn the Default Sun on or off to simulate either daytime or nighttime exterior lighting.

Displaying Lights

☑ The display of light fixtures in floor plan and 3D views is controlled in the **Display Options** dialog. See "Display Options Dialog" on page 57.

In addition, they can serve as sources of light in rendered 3D views. They can be turned on and off, as well.

Light fixtures are placed on the "Electrical" layer. See "Displaying Objects" on page 56.

In floor plan view, light fixtures can display labels when the "Electrical, Labels"layer is turned on.

To turn a light on or off

There are several ways to turn a light fixtureon or off:

- Select one or more fixtures and click the **Turn Light(s) Off in 3D** 🔘 or **Turn Light(s) On in 3D** 🔘 edit button.

Default Sun Light Specification Dialog

The **Default Sun Light Specification** dialog allows you to control the intensity, direction and color of the Default Sun light source.

While in a 3D view, select **3D> Lighting> Adjust Sunlight** 🔆. See "Default Sun Light" on page 327.
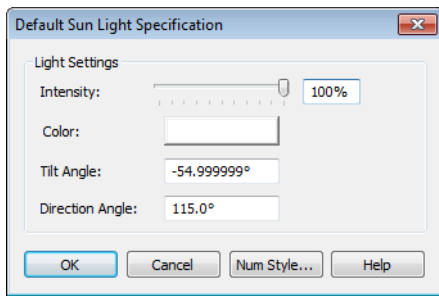
- Use the **Intensity** slider bar or text field to control how bright the default sun light appears in 3D views.

  An intensity of 0% is the same as turning the sun light off. An intensity of 100% is the maximum brightness allowed.

- Click the **Color** bar to define the color of the light being modeled. Colored sun light may be used to achieve special lighting effects, but may alter the appearance of your material colors and textures.

- Specify the **Tilt Angle**, which is the angle of the sun light with respect to the horizon. A value of 90° means that the light points straight up, while a value of -90° means that the light points straight down. 0° is parallel to the horizon.

- Specify the **Direction Angle**, which is the direction that the sun light points toward. Zero degrees is measured horizontally on screen, pointing to the right. Positive values rotate in a counter-clockwise direction from there, while negative values rotate clockwise.

The Default Sun light color is pure white, which has the least effect on the material colors and textures.

Glass House View

Glass House View can be used to display the 3D model using semi-transparent surfaces. Different shades of blue are used to represent surfaces and surface edge lines. Lighting is not modeled, and materials are not represented, so neither pattern lines nor textures are used.

Glass House View is an excellent way to illustrate the spatial relationships between different areas in the plan.

You can display a current camera view or overview as a Glass House View by selecting **3D> Rendering Techniques> Glass House** 🏠. To switch back, select **3D> Rendering Techniques> Standard** 🏠.

Glass House Options

You can modify the appearance of Glass House Views by selecting **3D> Rendering Techniques> Glass House Options**.
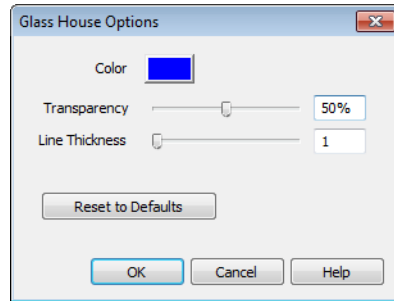
- Click the **Color** bar to select a color for the semi-transparent surfaces and lines in a Glass House view. See "Color Chooser Dialog" on page 300.

- Specify the **Transparency** of the surfaces in Glass House view. For example, to create a wireframe line drawing of your structure, turn transparency to full and minimize line thickness.

- Specify the **Line Thickness** of surface lines in Glass House view.

- Click **Reset to Defaults** to restore the default settings used when the Glass House view was first created.

Speeding up 3D View Generation

Depending on the speed of your processor, how many cores your processor has, and your computer's video memory, a 3D view may generate in a few seconds or less.

When you have a large, complex model with a lot of detail, it may take a few minutes to generate a 3D view of everything in the model. During this process, progress information may display in the Status Bar and in a message window.

There are several ways to speed up the generation time of views.

Turn Off Layers

The display of objects in 3D views can be turned on or off by layer in the **Display Options** dialog. Turning off the display of unneeded objects in 3D views can speed up 3D view generation time. See "Display Options Dialog" on page 57.

Halt Generation with Esc Key

Using the Esc key, you can interrupt the modeling process at any point and display the incomplete model "as is." This is particularly helpful when you just need to reorient a model on the screen for a specific angle or view.

The Esc option allows you to place the view quickly, then press the F5 function key to refresh the display with all 3D faces intact.

Faster Rendering

To increase rendering speed, consider turning off some or all of the following options in the **Preferences** dialog. Bear in mind that render quality may be affected. See "Render Panel" on page 49.

Use **Optimizations** - Many video cards with OpenGL are capable of optimizing 3D views

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for subsequent redraws. Use of this option varies from video card to video card.

In general, you should leave this option turned on unless you are experiencing crashes when rendering.

Surface Backdrop - For some OpenGL-accelerated video cards, this option drastically increases rendering speeds. When turned on, this option creates surfaces that the backdrop is drawn on. When this option is turned off, the backdrop is send directly to the video card. For most modern video cards, Off is the recommended setting.

Dimensions

Home Designer Landscape and Deck provides a variety of dimensioning tools for measuring walls, doors, windows, and many other objects.

Dimensions can be used to accurately position objects relative to other objects. In addition, dimension lines and extensions can be selected and customized.

Chapter Contents

Dimension Unit Defaults

All plan files save measurements in either Imperial or metric units. The type of unit used is determined when the file is first created and cannot be changed later. See "Creating a New Plan" on page 31.

Dimension Defaults Dialog

Select **Edit> Default Settings**, select "Dimension", and click the **Edit** button to open the **Dimension Defaults** dialog.

The settings in this dialog are dynamic defaults, which means that any changes made here may affect existing dimension lines in the drawing that are using default values. See "Dynamic Defaults" on page 43.

Setup Tab
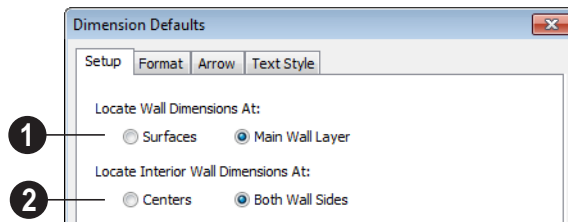
① Specify how Manual and Auto Exterior Dimension lines locate both interior and exterior walls.

• Select **Surfaces** to have dimensions locate the outer surfaces of walls.
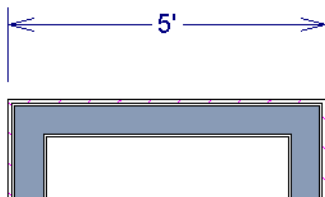
Dimensions locating wall Surfaces

• Select **Main Wall Layer** to have dimensions locate the structural layer of exterior walls.
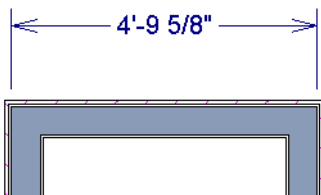
Dimensions locating walls' Main Wall Layers

② Specify how Manual and Auto Exterior Dimension lines locate interior walls.

• Select **Centers** to have exterior dimensions locate the centers of interior walls.
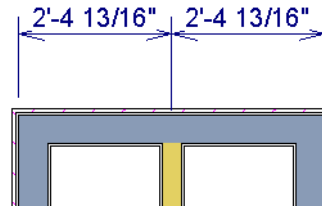
Dimensions locating an intersecting wall's center

• Select **Both Wall Sides** to have dimensions locate both sides of interior walls. Either the wall Surfaces or both sides of the Main Wall Layers will be located, depending on your selection above.
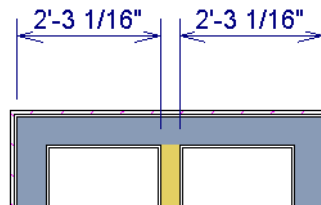
Dimensions locating an interior wall's Main Wall Layer

You can always change the object or surface that a dimension locates after it has been created. See "Editing Extension Lines" on page 338.

Format Tab

The settings on the Format tab allow you to specify the units, degree of accuracy and position of dimension numbers.

The settings on this tab also control the format of numbers indicating object length in the Status Bar. See "The Status Bar" on page 24.
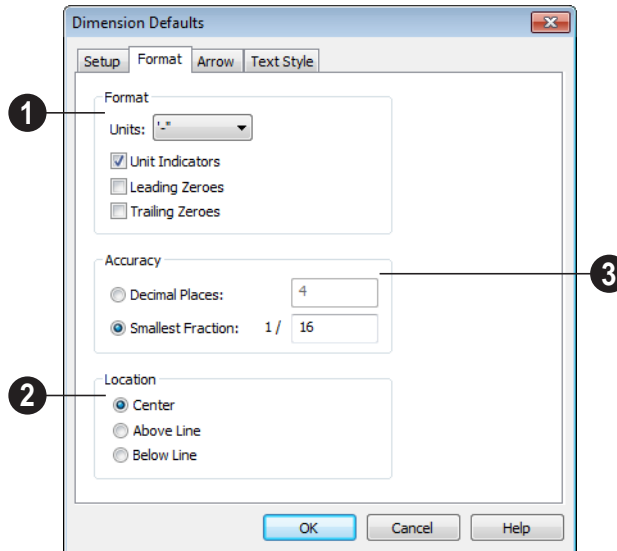
❶ Specify the numbering **Format** for dimension numbers.

- Select the **Units** of measurement to be used by dimensions from the drop-down list.

- Check **Unit Indicators** to display the unit of measurement along with the dimension number.

- Check **Leading Zeros** to include the zero before a decimal less than 1 or to display 0' or 0" when the ft-in or '-" unit formats is used.

- Check **Trailing Zeros** to display trailing zeros at the end of decimal values. When the ft-in or '-" unit formats is used and fractional inches are specified, 0" will be included.

❷ Specify the **Location** of dimension numbers relative to the dimension line.

- **Center** primary dimension numbers on the dimension line. If two formats are used, the primary format is placed above the line and the secondary format, beneath it.

- Position dimension numbers **Above Line**.

- Position dimension numbers **Below Line**.

3 Specify the degree of **Accuracy** used by dimension numbers.

- Select the **Decimal Places** radio button for dimension numbers in decimal format. In the text field, specify the number of decimal places to use, from 0 to 20. If 0 is used, no decimal places are used.

- Select the **Smallest Fraction** radio button for dimension numbers using whole numbers and fractions. In the text field, specify the largest denominator to use, from 1 to 128. If 1 is entered, whole numbers are used.

Arrow Tab

For information about the Arrow tab, see "Arrow Tab" on page 355.

Text StyleTab

The settings on the Text Style tab control the size, font and other attributes of automatic, manually drawn, and temporary dimension line labels. See "Dimension Labels" on page 336.

For information about the settings on this tab, see "Text Style Tab" on page 353.

Temporary dimension labels always use the color assigned to their layer - not the color specified in the **Dimension Defaults** dialog.

The Dimension Tools

Select **CAD> Dimensions** to access the Dimension Tools. Manually drawn dimensions are created by clicking and dragging like other line-based objects and can be drawn in floor plan view.

The zoom factor of the current view affects whether objects drawn close together are dimensioned or not. If you try to dimension an array of objects but the dimension line locates only the first and last objects along its path, **Zoom** in on the objects and try again. Similarly, if you want to dimension between two objects but the dimension locates unwanted objects between them, **Zoom** out. See "Zoom Tools" on page 302.

Once created, both manually drawn and automatically generated dimension lines can be selected and edited. See "Editing Dimension Lines" on page 336.

Manual Dimensions

To display the distance between two objects, select **CAD> Dimensions> Manual Dimension** and drag a dimension line near or through the objects.

Manual Dimensions locate walls as specified in the **Dimension Defaults** dialog. See "Dimension Defaults Dialog" on page 331.

End-to-End Dimensions

Use the **End-to-End Dimension** tool to dimension between any two defined objects in floor plan view.

Select **CAD> Dimensions> End-to-End Dimension** , then click and drag the

dimension from the first object to the second object. The dimension line snaps to each object, ignoring any other objects located between either end.

Auto Exterior Dimensions

The **Auto Exterior Dimension** tool generates dimensions around a plan's exterior in floor plan view.

> Auto Exterior Dimensions do not generate properly if there is a gap in the exterior walls. For example, sometimes angled walls may not connect properly.

Auto Exterior Dimension locate walls as specified in the **Dimension Defaults** dialog. See "Dimension Defaults Dialog" on page 331.

If you edit an **Auto Exterior Dimension** line, it will be converted to a manual dimension, so if Auto Exterior Dimensions are later regenerated, your changes will not be lost.

There are a maximum of three rows of automatically generated dimensions per exterior wall direction. The innermost dimension line locates exterior walls, interior walls, and all openings in exterior walls. The second dimension line locates exterior and interior walls. The outermost dimension line is the overall exterior dimension.

Temporary Dimensions

Temporary Dimensions display when an object is selected and show the distance between the object's selected edge and other objects.

As with other dimension lines, Temporary Dimensions only locate objects that are parallel or nearly parallel to one another. They will also locate the endpoints of the corners of objects located past the end of the selected edge, within 4 feet (1200 mm) of the point where you click to select the object.

A temporary dimension will not display when an object is selected if a manually drawn dimension line is already present that shows the same information.

Tape Measure

Use the **Tape Measure** tool to draw a temporary dimension line between any two points in the drawing area. The tool will place temporary markers at the start and end points of the dimension line. These points and the line both disappear when you release the mouse button. If an object is located by the temporary line, you can snap to it.

Displaying Dimension Lines

The display of dimension lines is controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

Dimension lines created by any of the dimension tools share the same components.

- **Dimension Lines** run parallel with the distance being measured.

- **Extension Lines** are perpendicular to dimension lines, indicating what they locate. If a dimension line locates more

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than two objects, extension lines divide the dimension line into segments.

*   **Arrowheads** display at the intersections of dimension and extension lines.

*   **Dimension Labels** display at the mid-point of dimension line segments and indicate the distance that each segment measures.
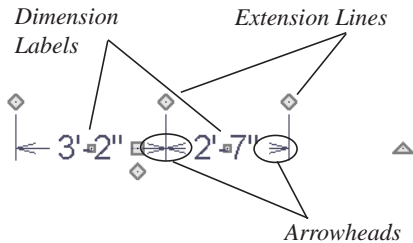
If a manual dimension line is on a layer that is turned off and you select an object located by that dimension line, it will display for reference in grey.

Dimension Labels

Manually drawn, automatic and temporary dimension labels use the Text Style specified in the **Dimension Defaults** dialog. Unlike many objects that use Text Styles, by default dimensions use a Text Style specified in the defaults dialog rather than the Text Style assigned to their layer. See "Text StyleTab" on page 334.

Dimension Arrowheads

You can specify the style, color and size of dimension arrows in the **Dimension Defaults** and **Dimension Line Specification** dialogs. See .

The arrow at the end of a dimension line will not display if it is close enough to to another dimension arrow that the two will overlap. A typical example of this is where two sections of a dimension locate two sides of an interior wall.

Editing Dimension Lines

With the exception of Temporary Dimensions, dimension lines can be selected and edited using the mouse and the edit toolbar buttons.

If an Auto Exterior Dimension line is edited, it will no longer be considered an automatic dimension line and will not be deleted and replaced the next time the **Auto Exterior Dimensions** tool is used.

Dimension line numbers and extension lines can be individually selected, moved and deleted, and new extension lines can be added. See "Editing Extension Lines" on page 338.

Using the Mouse

When a dimension line is selected, its edit handles can be seen. There are four types of dimension line edit handles. More than one of some types display, depending on how many extension lines are present.

Rotate

Extension Line

Move

Add Extension Line
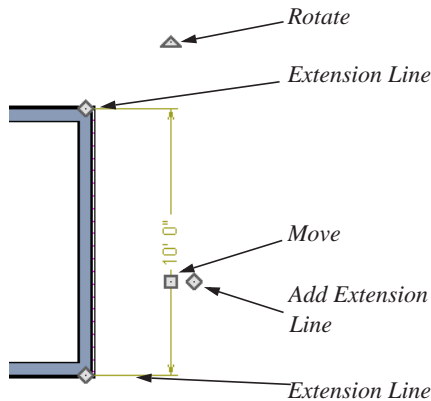
Extension Line

- The **Extension Line** handles mark the location being dimensioned and are used to move or delete extension lines. See "Moving Extension Lines" on page 338.

- The **Add Extension Line** handle displays to the side of the Move handle and is used to add extension lines to the dimension line. Dimension lines do not extend unless an object can be located. See "Adding Extension Lines" on page 338.

- The small, square **Move Dimension Label** handle is located at the center of the selected label. Use this handle to move the dimension number for each dimension line section. The pointer changes to a four-headed arrow ⊕ when moved over this handle.

- The **Move** handle is located where you clicked to select the dimension line and is used to move the entire dimension line, including any subsections, perpendicular to itself. Extension lines are resized as appropriate. The pointer changes to a two-headed arrow ↔ when moved over this handle.

- The **Rotate** handle is located one plan foot past the end of the dimension line and is used to rotate the dimension line.

Using the Edit Tools

Dimension lines can be repositioned, copied, and deleted using the edit toolbar buttons just like other objects in the program can. See "The Edit Toolbar" on page 22.

Dimension Number Size

The initial size of dimension numbers is specified in the **Dimension Defaults** dialog. See "Dimension Defaults Dialog" on page 331.

You can specify number height for individual dimension lines in the **Dimension Line Specification** dialog. See "Dimension Tab" on page 341.

As with text and other objects, dimension number size is subject to scaling when or printed.

Copying and Pasting Dimension Lines

Dimension lines can be copied and pasted into any view type that supports dimensions. If a dimension line is copied independent of the objects it originally locates, the pasted dimension line will locate point markers.

Deleting Dimension Lines

There are several ways to delete dimension lines.

You can select any manual or automatic dimension line or group of dimension lines, then press the Delete key or click the

Delete ☒ edit button. See "Deleting Objects" on page 90.

The **Delete Objects** dialog allows you to delete all manually drawn and/or automatic dimension lines at once. See "Delete Objects Dialog" on page 91.

Individual dimension line segments located between extension lines can also be deleted. If a segment is located between two other segments along the same dimension line, that dimension will be broken in two.

To delete a portion of a dimension line

1. Select any **Dimension Tool** aside from Auto Exterior Dimensions.

2. Click and drag a manual dimension line over the segment that you wish to remove, dragging from extension line to extension line.

Editing Extension Lines

Extension lines can be added, edited, and deleted using the mouse.

Adding Extension Lines

To add an extension line

1. Select the dimension line.
2. Click the diamond-shaped Add Extension Line edit handle which displays near the Move edit handle. The pointer changes to a two-headed arrow ↔.
3. Drag the handle to the object that you want to locate with a new extension handle. This example adds an extension line to the window edge.
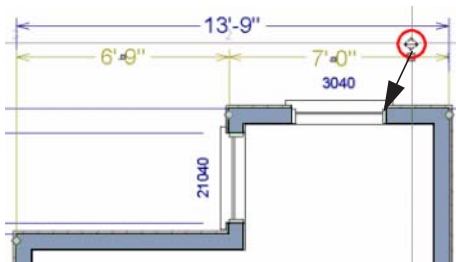
4. Release the mouse button to add an extension line.
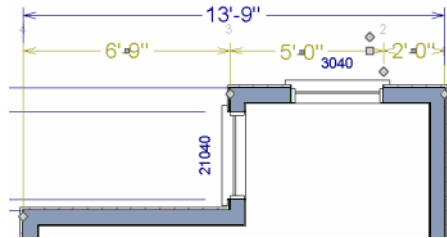
Moving Extension Lines

Extension lines can be moved to locate the centers, sides, or surfaces of most objects. In this example an extension line is moved from the windows edge to the center.

To move an extension line

1. Select the dimension line it is connected to, not the extension line itself.
2. Click the Extension Line edit handle. The pointer changes to a two-headed arrow ↔.
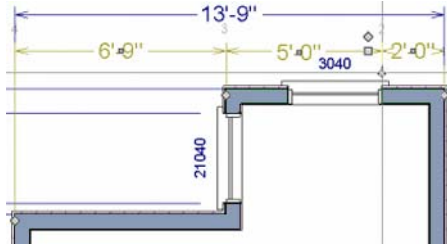
3. Drag the handle to a new location. The extension line snaps to possible marks as the handle is moved.

4. Release the mouse button at the new location.
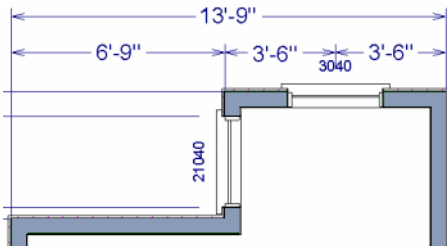
💡 Not all library symbols can be located by a dimension line as it is drawn. Once a dimension is drawn, however, you can move or add an extension line to locate the library object.

Deleting Extension Lines

When an extension line is deleted, the remaining dimensions update. If a dimension line hasonly two extension lines, they cannot be deleted.

To remove an extension line

1. Select the dimension line it is connected to, not the extension line itself.

2. Click the Extension Line edit handle.
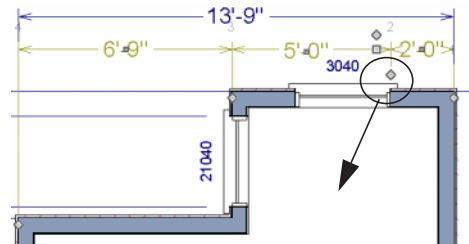
3. Drag it perpendicular to the direction of the arrows, away from any dimension-able object, and release the button when the extension line disappears.

Moving Objects Using Dimensions

Most objects can be moved by changing an automatic, manual or temporary dimension value that locates it. This technique can be applied in nearly any situation where dimensions are present. See "Moving Objects" on page 85.

In addition, some objects can be resized using dimensions. See "Resizing Objects" on page 88.

Your pointer indicates which dimensions can be used to relocate the selected object by changing to a pointing hand icon.

Another way to tell is to select an object and drag it in the desired direction. As you drag,

dimensions are the dimensions that can be used to move that object.

To move an object using dimensions

1. Select the object and click on a dimension line that locates it. An inline text field opens at the location where you clicked.
    *   The actual distance displays in the text field.
    *   If the dimension is locating two different objects, the **Move Edge** and **Move Entire Object** buttons display to the right of the text field.

Move Edge (selected)

Move Entire Object
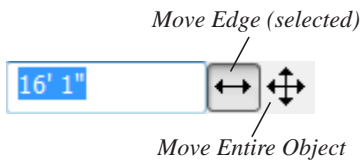
*   If the dimension describes a selected wall's length, the **Move Start**, **Move End** and **Move Both Ends** buttons display to the right instead.

Move Start   *Move End*

Move Both Ends
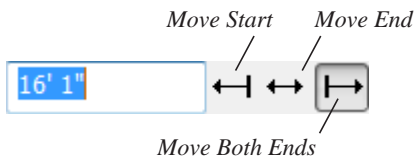
2. Click the **Move** button of your choice.
3. Enter a new value in text field.
    *   To use a different unit, include its indicator after the value.To move the

selected object past a second object, to its opposite side, enter a negative value.

4. The selected object moves or resizes when you press the Enter key or click outside of the text field.

To resize an object using dimensions

1. Select the object along the edge that you would like to move. See "Selected Edge" on page 69.
2. Click on a dimension line that indicates its distance from the object's opposite side.
3. In the inline text field, enter a value.
4. Click **Move edge** to move the selected edge only.
5. The selected edge moves, resizing the object, when you press the Enter key.

> You can cancel a move or resize operation using dimensions at any time by pressing the Esc key.

Resizing a House Using Exterior Dimensions

When resizing a house using dimensions, it is important to work your way around the house in one direction. Relocate one wall at a time in succession so that you do not redefine the same dimension more than once.

For more information, see "Adjusting Wall Positions" on page 30 of the User's Guide.

Dimension Line Specification Dialog

To open the **Dimension Line Specification** dialog, double-click a dimension line using the **Select Objects** or **Manual Dimension** tool, or select a dimension line and click the **Open Object** edit button.

The settings in this dialog are dynamic defaults. See "Dimension Defaults Dialog" on page 331.

Dimension Tab
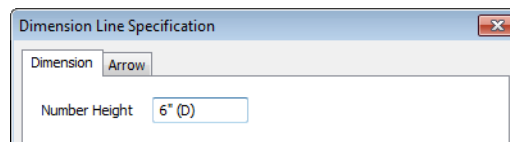
Specify the **Number Height** for the selected dimension. Type "d" in the box to reset the number size to the default.

Arrow Tab

For information about the settings on this tab, see "Arrow Tab" on page 355.

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Text

Text is an ideal way to draw attention to special details of your drawings in floor plan view.

Text lines with arrow can be attached to text objects, allowing you to direct attention to specific plan details.

Chapter Contents

Text Defaults

Text Defaults can be accessed by selecting **Edit> Default Settings** in any view in which text can be created. See "Default Settings vs Preferences" on page 42.

The default settings for Rich Text determine what these objects look like when they are first created. Text Style Defaults determine the appearance of text associated with things like dimensions and object labels.

Text Style Defaults

Select "Text Style" from the list in the **Default Settings** dialog and click the **Edit** button to open the **Saved Text Style Defaults** dialog.

The **Text Style Defaults** dialog allows you to specify the attributes of the various Text Styles in use in the current file. See "Text Styles" on page 352.

Rich Text Defaults

The **Rich Text Defaults** dialog is similar to the **Rich Text Specification** dialog. See "Rich Text Specification Dialog" on page 345.

Text Lines with Arrows ⬀ use the same default layer as Rich Text, so by default they have the same color, line weight and line style. See "Layers" on page 55.

Arrow Defaults

The settings in the **Arrow Defaults** dialog determine the initial settings for arrows drawn using the **Text Line with Arrow** ⬀ and **Line With Arrow** ⬀ tools.

The **Arrow Defaults** dialog looks almost the same as the Arrow tab of the **Line/Polyline Specification** dialog. See "Arrow Tab" on page 355

> Avoid typing any text in the Rich Text Defaults dialog unless you want it to be present in all text objects you create.

Fonts and Alphabets

Home Designer Landscape and Deck allows you to use any font found in your Windows Fonts directory.

International Alphabets

The **Rich Text** ⊤ tool supports unicode alphabets and characters. In order to use a unicode alphabet or characters, the appropriate language support must be installed on your computer.

Special characters can be added to any **Rich Text** ⊤ object by:

- Copying and pasting the character from another application;
- Copying and pasting the character from the Windows Character Map;
- Typing the keystroke associated with the character.

See "Copying & Pasting Text" on page 350.

The Text Tools

⊤ Select **CAD> Text** to access the **Text Tools**. These tools are available in floor plan view only.

⊤ The **Rich Text** tool is used to create text objects.

⬀ The **Text Line with Arrow** tool is used to connect text and another object with an arrow. See "Text Arrows" on page 351.

⊤ **Text with Arrow** tool places a Rich Text object with an arrow attached.

Creating Text

Text can be created in floor plan view only.

Once created, text can be selected and edited in a variety of ways. See "Editing Text" on page 349.

To create Rich Text

1. Select **CAD> Text> Rich Text** .

2. Type or paste the desired text into the Text Field.

3. Use the options to change the font, style and size of any portion of the text.

> Note: If you do not type anything in the Text Field, a text object will not be created when you click outside of it.

You can also create lines with arrows connecting the text that you create to items in the drawing. See "Text Arrows" on page 351.

Displaying Text

As with other types of objects, the display of Text objects is controlled in the **Display Options** dialog. All Text objects, including Text Lines with Arrows, are located on the "Text" layer. See "Display Options Dialog" on page 57.

Text objects can only be displayed in floor plan view.

The display attributes of each individual text object can be controlled independent of the layer it is placed on. See "Rich Text Specification Dialog" on page 345.

Rich Text Specification Dialog

The **Rich Text Specification** dialog opens if you select the **Rich Text** tool and then click once in the drawing area.

You can also open this dialog by selecting a **Rich Text** object, then clicking the **Open Object** edit button.

The **Rich Text Specification** dialog is similar to the **Rich Text Defaults** dialog but affects the selected text rather than all subsequently created text objects. See "Text Defaults" on page 343.

Text Tab

The settings on the Text tab allow you to type the selected Rich Text object's content and control many aspects of its appearance, including its font, size, color and style.

You can specify the appearance of the text before typing, and can also select and change the attributes of all or portions of the text content after it is typed. To change text that already exists, simply highlight it using the

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mouse and/or the Shift + arrow keys and then
make any needed changes to its attributes.
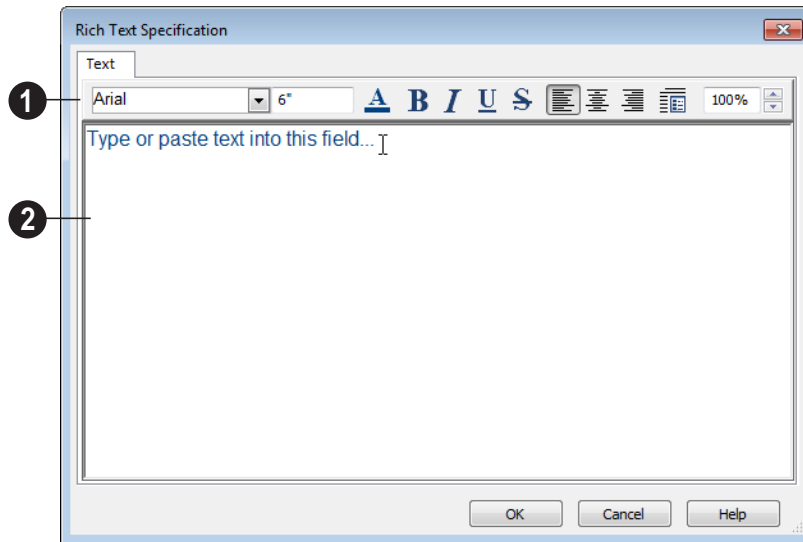
1 Use the options on the Edit Bar, which
displays above the Text Entry field, to
change the font, style and size of the text.

Select the desired options before typing to
affect the text as it is typed, or select some or
all of the text and then specify which options
to apply to it.

• Select a **Font** from the drop-down list.

• Specify the **Text Size** in drawing units.
When imperial Inches or Feet and Inches
are used, accuracy to 1/128" is possible.

• Click the **Color** button to specify the
color of the selected or subsequently
typed text. See "Color Chooser Dialog"
on page 300.

• Click the **Bold** **B** button to specify the
selected or subsequently typed text as
bold.

• Click the **Italic** *I* button to specify the
selected or subsequently typed text as
italic.

• Click the **Underline** **U** button to specify
the selected or subsequently typed text as
underlined.

• Click the **Strikethrough** **S** button to
selected or specify the subsequently
typed text as stricken-through.

• Click the **Align Left** , **Align
Center** , or **Align Right** button to
specify the how the selected or subse-
quently typed text is aligned.

• Click the **Paragraph Options** button
to specify the selected paragraph's align-
ment, spacing and bullets or numbering
in the **Paragraph Options** dialog.

• Specify the **Zoom** factor of the selected text by typing a percentage value in the text field or clicking the up/down arrows. This setting only affects the text as it appears in this dialog.

Note: Some fonts cannot be drawn at certain zoom factors. When this is the case, the appearance of the text will not change.

2 Type or paste text in the Text Entry field. See "Copy, Cut and Paste" on page 350.

Right-click in the Text Entry field to access a contextual menu from which you can select Cut, Copy, Paste and Select All. See "Contextual Menus" on page 23.

To edit text in the entry field, click and drag to highlight any portion of it and then use the tools on the Edit Bar as needed.

Paragraph Options Dialog
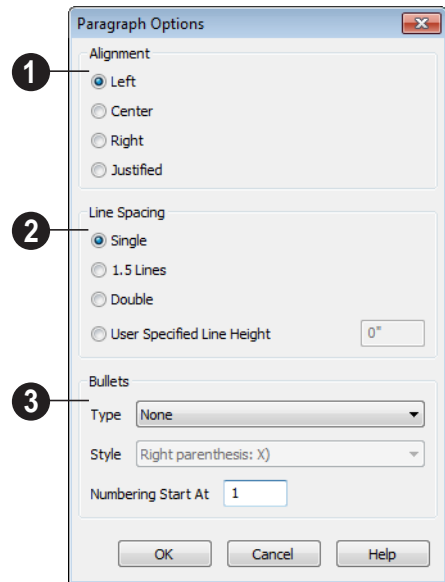
1 Specify the **Alignment** of the selected paragraph(s). See "Aligning Text" on page 350.

2 Specify the **Line Spacing** of the selected paragraph(s).

• Click the radio button beside **Single**, **1.5 Lines**, **Double** or **User Specified**.

• If you select **User Specified Line Height**, type the desired height for each line of text in the selected paragraph(s). For best results, this value should be at least as much as the largest character size used in the selected paragraph(s).

3 Specify the appearance of **Bullets** and numbering in the selected paragraph(s).

• Select the desired bullet, numbered or lettered **Type** from the drop-down list.

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- Select the desired punctuation **Style** for the selected numbered or lettered Type. Only available when a numbered or lettered Type is selected.

- **Numbering Start At** - Specify the number assigned to the first numbered or lettered paragraph in the selected text object. Value must be 1 or greater.

To adjust the size of bullets

1. Click at the end of a bulleted paragraph to position your cursor there.

2. Hold down the Shift key and press the right arrow key once to highlight the end of the paragraph.

3. Specify the desired bullet size in the text size field at the top of the Text tab.

Text Specification Dialog

The **Text Specification** dialog opens if you select a Room Label or a simple **Text** object in a legacy plan file created in Version 8 or prior and click the **Open Object** edit button. See "Compatibility with Other Programs" on page 30.

Settings in the **Text Specification** dialog can also be found in other dialogs in the program, including the **Room Label Specification** and the **Dimension Defaults** dialogs.

Text Tab
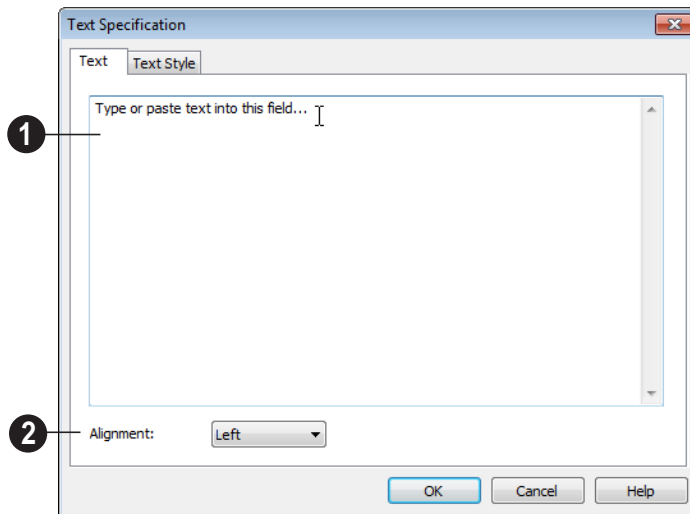
① Enter text in the **Text Entry** field. This field is not available if the selected

object is a Room Label. See "Room Labels" on page 122.

② Select an **Alignment** option from the drop-down list to apply to the text.

Text Style Tab

The Text Style tab is available for a variety of objects in the program and control the appearance of the selected object's text. See "Text Style Tab" on page 353.

Editing Text

Once created, **Rich Text** objects can be selected individually or as a group and edited using the edit handles and the edit toolbar buttons Individual text objects can also be edited in the **Rich Text Specification** dialog. See "Rich Text Specification Dialog" on page 345.

Editing Text Attributes

Most text attributes, including the font, size, style, and the content itself, are edited in the **Rich Text Specification** dialog.

In order to edit the attributes of an existing

Rich Text object, you must select some or all of the text before making changes. See "Text Tab" on page 345.

To edit Rich Text attributes

1. Select a **Rich Text** object and click the **Open Object** edit button.

2. On the Text tab of the **Rich Text Specification** dialog, click and drag to select some or all of the text typed into the Text field.
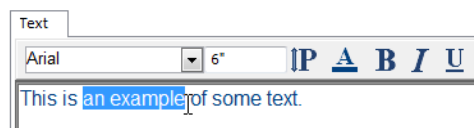
3. With some or all of the text selected, change any of the attributes available along the top of the tab, including the font, size, color, and style.

4. As changes are made, the selected text updates. Only the selected text is modified.
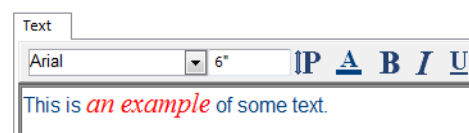
Using the Mouse

A selected **Rich Text** object has the same edit handles as other box-based objects. See "Editing Box-Based Objects" on page 80.

Move

Extend/ Contract

Resize

Rotate
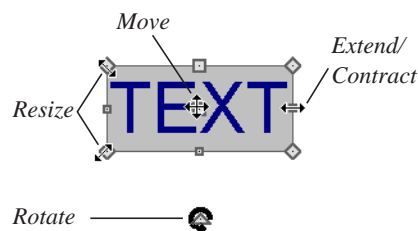
As a **Rich Text** [T] box is made smaller using an edit handle, not all of the text may be visible.

Using the Edit Tools

A selected **Rich Text** [T] or **Text** [T] object can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Resizing Text

The default character height of **Rich Text** [T] objects can be specified as can the character height for individual objects, in their specification dialogs. See "Text Defaults" on page 343.

Scaling Text

As with the size of other objects, text size is subject to the current drawing scale specified in the **Page Setup** dialog. See "Page Setup Dialog" on page 381.

Aligning Text

Text can be aligned in a couple of ways.

- The text content of a text object can be aligned to the left, right, center or justified in the **Rich Text Specification** dialog. See "Text Tab" on page 345.

- The text content of a text object can be also be aligned by clicking the **Align Left** [≡], **Align Right** [≡], **Center** [≡], or **Justify** [≡] edit button.

Copy, Cut and Paste

Copy, Cut and Paste of text into and out of the **Rich Text Specification** dialog can be accomplished using keyboard hotkeys:

- Press Ctrl + X to Cut the selected text and save it to the Windows clipboard.

- Press Ctrl + C to Copy the selected text and copy it to the Windows clipboard.

- Press Ctrl + V to paste your last cut or copied selection in a new text object.

For more, see "Copying and Pasting Objects" on page 63.

Copy, Cut and Paste use the Windows clipboard, making it possible to to transfer text between text objects, between Home Designer Landscape and Deck files, from a plan into another application, or vice versa.

Copying & Pasting Text

The Copy, Cut and Paste commands use the Windows clipboard, making it possible to transfer text between text objects, between Home Designer Landscape and Deck files, from a plan into another application such as a text editor or spreadsheet program, or vice versa. See "Copying and Pasting Objects" on page 63.

All or selected portions of the Materials List can also be copied and pasted into a text object, as well as into a word processing or spreadsheet program. See "Materials Lists" on page 389.

Cut, Copy, and Paste can also be accessed from the Edit menu of many applications, including Home Designer Landscape and

Deck. These menu commands are not available when the text specification dialogs are open, but you can use the associated hotkeys.

To Copy, Cut and Paste text

1. On the Text tab of either text specification dialog or in another program altogether, highlight the text you wish to cut, copy or paste.

2. Press Ctrl + X to **Cut** the selected text out of its original location and save it to the Windows clipboard.

3. Press Ctrl + C to **Copy** the selected text to the Windows clipboard without removing it from its original location.

4. Open the text object or a file in another application and click to place your cursor in the Text field, writing area, or spreadsheet cell.

5. Press Ctrl + V to **Paste** the copied text at the location of your cursor.

Bear in mind that when text is copied and pasted, its formatting is not always retained. The results depend on the program or type of text object in which the content was created as well as the type of text object into which it is pasted.

Pasting into Rich Text

Text pasted into a **Rich Text** object from another source will retain most of its custom formatting.

Text pasted into a **Rich Text** object from a spreadsheet program retains basic column and row information. Column width cannot be adjusted; however, as you add or remove text froma cell, row height will increase or decrease to accomodate your changes.

The background colors of two or more cells copied from a spreadsheet application will be retained if pasted in to **Rich Text**; however, once pasted background color cannot be edited.

Text Arrows

Text arrows can be used to connect text objects to details of interest in your drawing.

Text arrows can be snapped together to form open or closed polylines. If two lines with arrows meet within the bounding box of a text object, however, they will not join. This allows you to attach multiple, separate text arrows to a single text object. See "Editing Line Based Objects" on page 70.

Lines with arrows can be independent or attached to other objects. Arrows attach to closed polyline-based objects along their

edges, but can attach to an architectural object anywhere within its 2D symbol in floor plan view. If an arrow is attached to text or another object, deleting either the text or the object will also delete the arrow.

Text with Arrow

The **Text with Arrow** tool places a text object with an arrow already attached. This arrow can be selected and edited like any other arrow.

Text Line with Arrow

Text Lines with Arrow can be attached to text and architectural objects by selecting **CAD> Text> Text Line with Arrow** and then clicking and dragging to draw a line. There is no limit to the number of text lines with arrows that can be attached to an object.

The endpoints of **Text Lines with Arrows** can be joined to form polylines with corners that can be adjusted using the edit handles.

Auto Positioning Arrows

There are four auto position locations on a text object: one at the midpoint of each side.

The following image illustrates the behavior of auto positioning. When the head of the line with arrow is moved, the tail of the arrow snaps to different auto position locations on the text object, maintaining its connection.
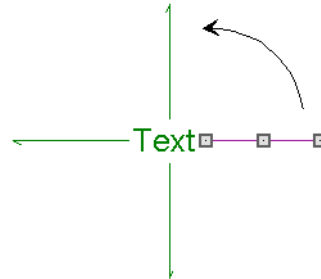
Text Styles

In Home Designer Landscape and Deck, a Text Style is a set of attributes assigned to any object that displays text, such as Dimensions, Plant Schedules, and object labels.

> Note: Because of its ability to use multiple attributes in the same object, Rich Text does not use Text Styles. See "Rich Text Specification Dialog" on page 345.

There are three Text Styles in Home Designer Landscape and Deck. You can edit these Text Styles to suit your needs in the **Text Style Defaults** dialog

- The Default Label Style affects the appearance of labels for objects such as doors and windows;
- The Default Text Style controls the appearance of Plant Schedules, legacy Text objects, and dimension line labels, unless specified otherwise.
- The Default Room Style controls the appearance of room labels.

Text Style Defaults

Select **Edit> Default Settings**, click on "Text Styles" and click **Edit** to open the **Text Style Defaults** dialog. The **Saved Text Style Defaults** dialog will open, allowing you to select which Saved Text Style Defaults you would like to edit.

Saved Text Style Defaults Dialog
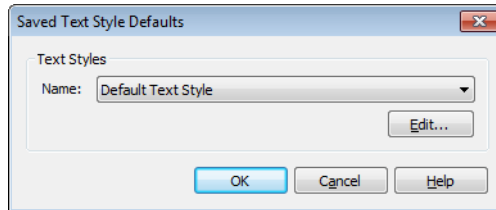
- Select the **Name** of one of them from the drop-down list. This is the currently selected Text Style.

- Click the **Edit** button to open the defaults dialog for the selected Text Style so that you can edit it.

- Click **OK** to close the **Saved Text Style Defaults** dialog and save any changes you made in the defaults dialog.

- Click **Cancel** to close the **Saved Text Style Defaults** dialog without saving any changes that you may have made in the defaults dialog.

The settings in the **Text Style Defaults** dialog are similar to those on the Text Style tab of object specification dialogs in the program but affect all objects using that style rather than an individual selected object.

Text Style Tab
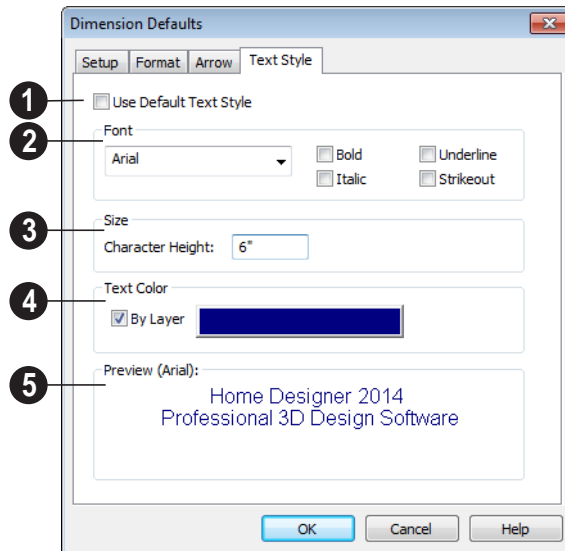
1 Check **Use Default Text Style** to use the default style for the selected object type, or uncheck this box to enable the settings below and define a custom style.

The settings that follow are only editable when **Use Default Text Style** is unchecked. When it is checked, information about the

Text Style that is assigned to the selected object displays for reference.

2 Specify the attributes of the selected Text Style's **Font**.

• Select a font from the drop-down list.

• The text styles **Bold**, **Underline**, **Italic**, and **Strikeout** are available. Check any of the boxes to apply that style.

3 Specify the **Size** of text using the selected Text Style.

• Enter the **Character Height** in drawing units. This height is subject to the current drawing scale. When imperial Inches or Feet and Inches are used, accuracy to 1/128" is possible.

4 Specify the selected Text Style's **Text Color**. When Use Custom Text Style is not selected above, a Text Color does not display here for reference.

• When **By Layer** is checked, text uses the line color assigned to the layer that the object it is assigned to is located on. See "Displaying Objects" on page 56.

• Uncheck **By Layer**, then click the **Color** bar to select a different color. See "Color Chooser Dialog" on page 300.

5 A preview of the Text Style currently assigned to the selected object displays here.

Line/Polyline Specification Dialog

Select a Text Line with Arrow and click the **Open Object** edit button to open the **Line Specification** dialog, **Arc Specification** dialog (if the line has been curved) or the **Polyline Specification** dialog (if the object is composed of multiple line and/or arc segments).

The settings in these dialogs are similar to those available for a variety of other objects in the program.

Polyline Tab

The Polyline tab is available when the selected object is composed or more than one line or arc segment and displays the Length/ Perimeter, Area, and Volume of the selected polyline. The Area and Volume of open polylines are described as "Not closed".

Selected Line Tab

The Selected Line tab is available when the selected edge of the polyline is a line as opposed to an arc. See "Selected Edge" on page 69.

The settings on the Selected Line tab are available for a variety of other objects in the program. For information about these settings, see "Selected Line Tab" on page 206.

Selected Arc Tab

The Selected Arc tab is available when the selected edge of the polyline is a line as opposed to a line. See "Change Line/Arc" on page 90.

The settings on the Selected Line tab are available for a variety of other objects in the program. For information about these

settings, see "Selected Arc Tab" on page 207.

Line Style Tab

The settings on the Line Style tab are available for a variety of other objects in the

program. For information about these settings, see "Line Style Tab" on page 209.

Arrow Tab

The Arrow tab is available for open polylines and splines, but not for closed polylines.
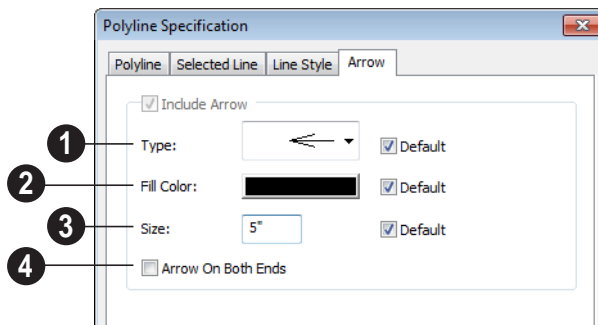
1   Select an arrowhead **Type** from the drop-down list.

Check **Default** to reset the arrow type.

2   Select the **Fill Color** used to fill the arrowheads. See "Color Chooser Dialog" on page 300.

Check **Default** to reset the fill color.

3   Define a **Size** for the arrow(s).

Check **Default** to reset the size.

4   Check **Arrow on Both Ends** to place a head on both ends of the selected arrow(s).

Fill Style Tab

The Fill Style tab is available for closed polylines and splines, but not for open polylines.

The settings on the Fill Style tab are available for a variety of other objects in the program. For information about these settings, see "Fill Style Tab" on page 209

Pictures, Images, & Walkthroughs

Home Designer Landscape and Deck uses picture files in a variety of ways to enhance your drawings.

The Library Browser contains images of real world objects like plants, vehicles, and people that can display in 3D views.

Picture files can also be imported into Home Designer Landscape and Deck and shown in most views.

You can save any view using a variety of picture file formats. In addition, Home Designer Landscape and Deck allows you to create virtual tours that can be saved as .**avi** files, shared with others, and played back later.

Chapter Contents

- Picture Files vs Pictures and Image Objects
- Images
- Displaying Images
- Editing Images
- Image Specification Dialog
- Pictures
- Picture File Box Specification Dialog
- Metafiles
- Metafile Box Specification Dialog
- Displaying Pictures and Metafiles
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- Copy Region as Picture
- Walkthroughs

Picture Files vs Pictures and Image Objects

In common computer language, picture files, pictures and images are more or less synonymous. In the Home Designer Landscape and Deck environment, however, there are some notable differences between these terms.

In Home Designer Landscape and Deck, a two dimensional image file such as a .bmp, .jpg, .gif, or .png is referred to as a picture file or an image file. Examples of these files are saved on most computers and can be opened in a variety of applications.

A Picture, on the other hand, is a file that has been imported into the program. Pictures can be imported into floor plan view. They are two-dimensional only and do not display in camera views or overviews.

An Image object is also based on a picture file, but it does display in both 2D and 3D views. Images have 3D width and height data associated with them, as well as a 2D symbol which displays in floor plan view.

Picture files have additional uses in Home Designer Landscape and Deck, as well:

- Backdrops are picture files that display behind 3D views. See "3D Backdrops" on page 313.

- Textures are picture files that realistically represent materials in 3D views. See "About Materials" on page 291.

Images

Images add realistic detail to 3D views without adding many surfaces to the model. For example, a tree image with a single surface can be used instead of a tree symbol with thousands, dramatically improving realism without compromising drawing time.

There are two types of Images in Home Designer Landscape and Deck:

- **Images** ⬚ rotate so that they always face the camera in 3D views.

- **Billboard Images** ⬚ do not rotate to face the camera. An example of when this may be useful is an image of a trellis, which might look awkward when facing a camera from a side view.

Placing Images

A selection of Images are available in the Library Browser. Select one and click in a floor plan view, camera view or overview to place it. See "Placing Library Objects" on page 284.

Creating Images

Custom Images can be added to the Library Browser, as well as created in plan files. Home Designer Landscape and Deck can use any image with a ***.bmp**, ***.jpg**, ***.png**, ***.gif**, ***.tif**, ***.pcx**, or ***.tga** extension.

Generally, **.png** files work best as Images because this format has good compression and allows for the Image to contain transparency information.

To create an Image in floor plan view

1. In floor plan view, select **Build> Image> Create Image** or **Billboard Image** to open the **Image Specification** dialog. See "Image Specification Dialog" on page 360.

2. On the Image tab:
   - Click the **Browse** button to select a picture file on your computer or enter the path to a valid picture file in the **Image File** field.
   - Select or 2D plan symbol to represent the image in floor plan view. Choose a **2D Plan Symbol** from the list or click the **Library** button and select a symbol from the library. See "Image Tab" on page 361.
   - Enter **Height** and/or **Width** and **Location** information.

3. Specify transparency information on the Transparency tab.

4. Click OK to close the **Image Specification** dialog.

5. Click to place the new Image in floor plan view.

To create an image in the Library Browser

1. In the Library Browser, right-click on an unlocked folder.

2. Select **New> Image** from the contextual menu to open the **Image Specification** dialog.

3. Browse to the image file you want to add and select your other options. See "Image Specification Dialog" on page 360.

4. Once created, the image is listed in the library folder that you right-clicked on. Size and other data is saved.

Using Paste Image

You can also import an image by first copying it to the Windows Clipboard, then navigating to a Home Designer Landscape and Deck window and selecting **Edit> Paste> Paste** from the menu. See "Paste Special" on page 65.

Displaying Images

The display of images in floor plan and 3D views is controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

Images are placed on the"Images" layer.

In Floor Plan View

In floor plan view, most images are typically represented by an Image symbol. You can specify a different symbol to represent an image if you wish. See "Image Specification Dialog" on page 360.

In 3D Views

The actual picture associated with an image object can be seen in 3D views. It is sized according to its Width and Height specifications. Any transparency data associated with the image is also applied. See "Image Specification Dialog" on page 360.

Images can be set to either rotate so that they always face the camera or to remain stationary, like billboards. See "Images" on page 358.

Editing Images

Images can be selected in 2D and 3D views and edited using the edit handles, edit tools and the **Image Specification** dialog.

Using the Mouse

Images can be resized in floor plan view by dragging the circular Resize handle at the top of the 2D symbol.
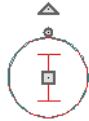
Images can also be resized in 3D views by dragging the circular Resize edit handle at the top.

When an image is resized, the aspect ratio of the image and its 2D symbol are retained, so the image resizes proportionally.

Using the Edit Tools

A selected image or images can be edited in a variety of ways using the buttons on the edit toolbar. As with most objects, images can be copied, replicated, moved, deleted, etc. See "The Edit Toolbar" on page 22.

Image Specification Dialog

Select an image and click the **Open Object** edit button to open the **Image Specification** dialog.

Image Tab
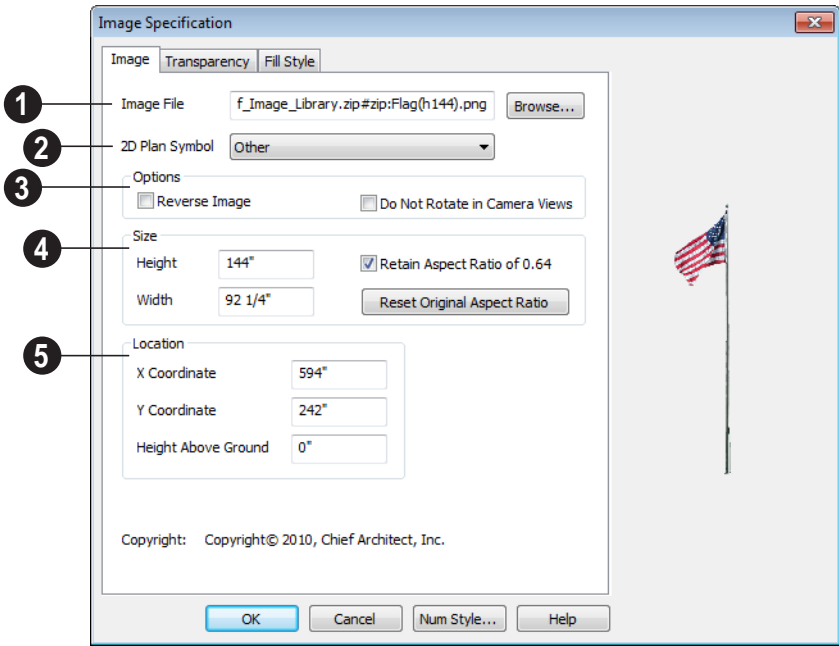
1 **Image File** - The path and name of the selected Image. You can click **Browse** to replace the current image file with a different one saved on your computer.

2 Select a **2D Plan Symbol** from the drop-down list to represent the Image in floor plan view. See "Displaying Images" on page 359.

3 **Options**

• Check **Reverse Image** to reflect the appearance of the image about an imaginary vertical line through its center.

• Check **Do Not Rotate in Camera Views** to prevent the image from rotating to face the camera in 3D views. This box is checked for Billboard Images. See "Images" on page 358.

4 Specify the **Size** of the image as it displays in 3D views.

• Enter a **Height** for the selected image.

• Enter a **Width** for the selected image.

• When **Retain Aspect Ratio of** is checked, if you change either the Height or Width, the other value changes to maintain this ratio. If this is unchecked and you resize the image, it may become distorted.

• Click **Reset Original Aspect Ratio of** to reset the image's original aspect ratio and remove any distortion caused by resizing.

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⑤ Specify the **Location** of the selected image.

• Position the selected image precisely by specifying its **X** and **Y Coordinates**.

• Specify the image's **Height Above Ground**.
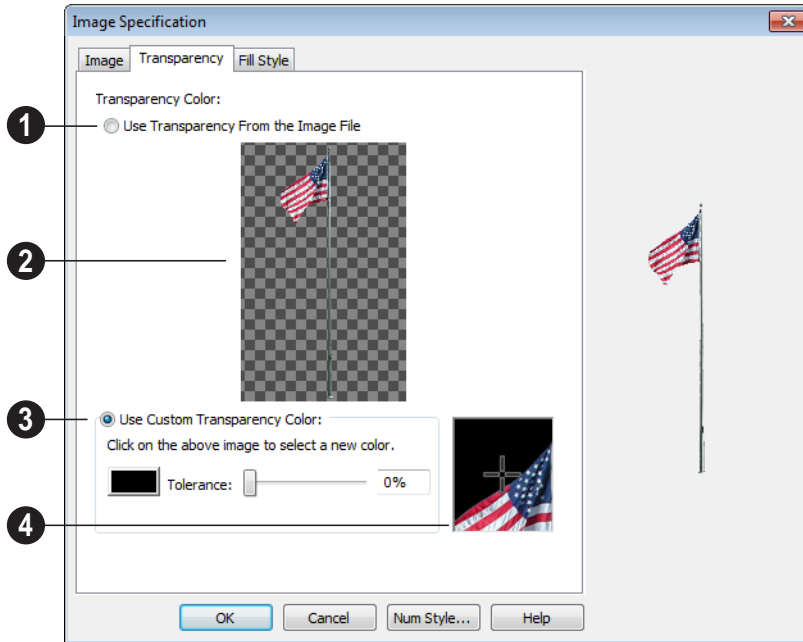
Transparency Tab

① Click the **Use Transparency From The Image File** radio button to use any transparency data included in the image file.

② A preview of the image displays here. If you select Use Custom Transparency Color, below, you can move your mouse pointer over this image to select a specific color to use as the Transparency Color.

③ Click the **Use Custom Transparency Color** radio button to specify another color to represent the transparency.

• Place your pointer over the preview image above. The pointer changes to an eyedropper and a magnified preview displays below. Click to select the color of the pixel your pointer is over as the transparency color. The selected color displays in the Color box, below.

• Click the Color box to select a color in the **Color Chooser** dialog. See "Color Chooser Dialog" on page 300.

• Enter a level of **Tolerance** to be applied to colors that are almost the same color as

the specified transparency color. Use the slide bar or type a number in the edit box.

4 A magnified preview of the area in the preview image above displays here, allowing for accurate pixel selection.

> Note: The image preview will display its original orientation, even if Reverse Image is checked on the Image tab.

The Transparency Color

If the portion of the image file that you wish to use contains the transparency color, that part of the image also becomes transparent. If this happens, the image may appear partially disintegrated.

You may need to experiment to find the best transparency color and tolerance for the image.

Fill Style Tab

For information about the settings on this tab, see "Fill Style Tab" on page 17.

Pictures

A variety of picture file types can be imported into and exported out of Home Designer Landscape and Deck.

Metafiles are also types of picture files that can be imported and exported. See "Metafiles" on page 364.

Exporting Pictures

Using the **Export Picture** tool is similar to creating a screen capture of everything in the current Home Designer Landscape and Deck view window. Pictures can be saved in various file formats and used in other applications.

Export Picture is best suited for 3D views. When exporting a line-based view, best results can be achieved by saving it as a Metafile. See "To export a metafile" on page 364.

To export a picture

1. Open the view that you would like to export as a picture file.

2. Zoom, pan or otherwise adjust the view so that what you see on screen suits your needs. See "Displaying 3D Views" on page 312.

3. Select **File> Export> Picture (BMP, JPG, PNG)** in any view to open the **Export Picture File** dialog. See "Exporting Files" on page 33.

The **Copy Region as Picture** tool also lets you create a picture file based on the current view, but allows you to specify what portion of the view is exported. See "Copy Region as Picture" on page 367.

Importing Pictures

Pictures can be imported into and displayed only in floor plan view.

Pictures do not display in camera views or overviews. See "Displaying Pictures and Metafiles" on page 366.

There are several ways to import a Picture into Home Designer Landscape and Deck:

• Select **File> Import> Picture (BMP, JPG, PNG)** ![icon] to open the **Import Picture File** dialog, which is a typical open file dialog. See "Importing Files" on page 37.

• Click and drag an image file from a Windows Explorer window into the Home Designer Landscape and Deck window.

• In any application, copy an image to the Windows Clipboard, then select **Edit> Paste> Paste** ![icon] from the Home Designer Landscape and Deck menu in an eligible view window. See "Paste Special" on page 65.

> Note: Importing large, or multiple, Pictures into a plan file can result in program slowness.

An imported picture is placed in the center of the current view. Once imported, pictures can be selected and edited. See "Editing Pictures and Metafiles" on page 366.

Picture File Box Specification Dialog

![icon] Select an imported picture file and click the **Open Object** edit button to open the **Picture File Box Specification** dialog.

The settings in this dialog are similar to those on the Line Style tab in numerous other dialogs, with one exception.

Uncheck the **Show Outline** box to turn off the display of the picture's border polyline.
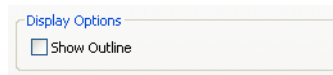
See "Line Style Tab" on page 209.

Metafiles

A metafile (**.emf**, **.wmf**) is a special picture file format made up of vectors (lines) that allow the image to be rescaled without loss of quality.

High resolution pictures of line-based views can be exported as a metafile.

Exporting Metafiles

![icon] An enhanced metafile (**.emf**) can be exported from floor plan view.

Only objects that display on screen are included in an exported metafile.

To export a metafile

1. Accurately position the view on screen.

2. Select **File> Export> Metafile (EMF)** ![icon].

3. Drag a marquee ⊞ from corner to corner, defining the area that will included in the metafile.

4. Release the mouse to open the **Metafile Size** dialog.
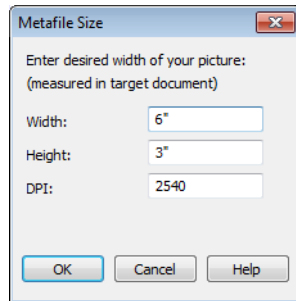
5. Specify the desired **Width** or **Height** of the metafile. When one value is edited, the other changes to maintain its aspect ratio.

    Specify, too, the desired **Dots Per Inch (DPI)** for the metafile. A larger value results in a higher quality metafile, but also a larger file size.

6. Click OK to open the **Export Metafile** dialog, which is a typical Save As dialog. See "Saving, Exporting, and Backing Up Files" on page 32.

7. Enter a name and location on your computer for the metafile, then click **Save**.

Importing Metafiles

Metafiles can be imported into and displayed only in floor plan view. Metafiles do not display in camera views or overviews. See "Displaying Pictures and Metafiles" on page 366.

There are two ways to import a metafile into Home Designer Landscape and Deck:

*   Select **File> Import> Metafile (EMF,WMF)** to open the **Import Metafile** dialog, which is a typical open file dialog. See "Importing Files" on page 37.

*   You can also click and drag a metafile file from a Windows Explorer window into the Home Designer Landscape and Deck window to import it.

An imported metafile is placed in the center of the current view. Once imported, metafiles can be selected and edited. See "Editing Pictures and Metafiles" on page 366.

Metafile Box Specification Dialog

Select an imported metafile and click the **Open Object** edit button to open the **Metafile Box Specification** dialog.

The settings in this dialog are similar to those on the Line Style tab in numerous other dialogs, with one exception.

Uncheck the **Show Outline** box to turn off the display of the picture's border polyline.
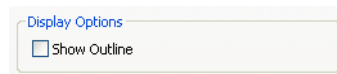
See "Line Style Tab" on page 209.

Displaying Pictures and Metafiles

The display of pictures and metafiles is controlled in the **Display Options** dialog. See "Displaying Objects" on page 56.

Pictures and metafiles are placed on the "CAD, Default" layer.

Pictures and metafiles can be imported into and displayed only in floor plan view. A picture or metafile can only be seen in the view where it was imported and cannot be imported into a camera view or overview.

Drawing Groups

Imported pictures are placed in the Back Drawing Group, and imported metafiles are placed in the Default Drawing Group. See "Drawing Groups" on page 84.

Editing Pictures and Metafiles

Pictures and metafiles can be selected and edited using the edit handles, the edit toolbar, and their specification dialogs.

Using the Mouse

Pictures and metafiles can be edited like CAD boxes. See "Editing Box-Based Objects" on page 80.

In the Specification Dialog

Pictures and metafiles can be customized in their specification dialog. See:

• "Picture File Box Specification Dialog" on page 364

• "Metafile Box Specification Dialog" on page 365

Using the Edit Handles

A selected picture or metafile can be resized, moved, and rotated using the its edit handles.

See "Editing Box-Based Objects" on page 80.

Using Dimensions

Pictures and metafiles can be relocated relative to other objects with precision using dimensions.

To avoid changing the selected object's aspect ratio, make sure you choose to move the entire object rather than the selected edge. See "Moving Objects Using Dimensions" on page 339.

Using the Edit Tools

A selected picture or metafile can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Copy Region as Picture

You can copy any portion of the screen and save it as a picture file using the **Copy Region as Picture** tool. See "Exporting Pictures" on page 363.

To use Copy Region as Picture

1. Open the view that you would like to copy all or part of as a picture.

2. Select **Edit> Copy Region as Picture** . Your pointer displays a marquee icon.

3. Click and drag a rectangular selection marquee around the desired region.

4. The selection is copied to the Windows clipboard.

   • If the current view is vector-based, the **Metafile Size** dialog displays because metafiles are better suited for line-based pictures. See "Metafiles" on page 364.

   • If the current view is a 3D view, the region is sent directly to the Windows clipboard.

5. From there, the picture can be pasted into another view or another program.

Walkthroughs

A 3D Walkthrough is a series of pictures saved as an **.avi** file that can be played like a video by other applications such as Windows Media Player.

To record a walkthrough

1. Create a camera view. This view is the first frame of the walkthrough.

2. From the view, select **3D> Walkthroughs> Record Walkthrough** .

3. Specify a location and name for the walkthrough in the **Save Video As** dialog and click **Save**.

4. In the **Walkthrough Options** dialog:

• Select a **Frame Rate** between 1 and 100. The value entered is the number of frames per second.

• Select a **Compression Percent** between 0 and 100. A value of 0 gives the highest quality images and the largest file size.

• Click OK.

5. Use the camera movement tools to create additional views. Each time the screen redraws, that view is recorded as the next frame in sequence. See "Editing 3D Views" on page 318.

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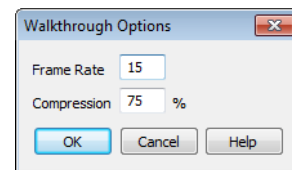
6. When the walkthrough sequence is complete, select **3D> Walkthroughs> Stop Recording** ☐ or close the view.

> Note: Zooming in and out and using the scroll bars does not change the viewpoint and does not produce a frame for the walkthrough.

If you resize the current view window while recording a walkthrough, the program will stop recording.

To play a walkthrough

1. Select **3D> Walkthroughs> Play Walkthrough** ▶ to open the **Select Video File** dialog.

2. Browse to an **.avi** file on saved on your computer. Your default video application plays the walkthrough video.

Importing 3D Symbols

Importing is the process of opening a file that was produced in a different program in Home Designer Landscape and Deck. Exporting, on the other hand, is the process of saving information in a Home Designer Landscape and Deck file to a format that can be read by another program.

Home Designer Landscape and Deck allows you to import and export a variety of information from and to other applications.

This chapter focuses on importing a variety of 3D file formats.

There are numerous other options for importing objects and data in Home Designer Landscape and Deck. They are discussed in the chapters in which those objects or settings are discussed.

Chapter Contents
- 3D Data Import Requirements

3D Data Import Requirements

Importing a symbol that can be used by Home Designer Landscape and Deck is a relatively simple process that begins with previously created 3D data. This 3D data often comes from a program other than Home Designer Landscape and Deck. If you use another 3D modeling program to create the 3D data, be aware of the following

requirements before attempting to create symbols.

⚠ Home Designer Landscape and Deck is not able to provide support for any third party software.

There are a number of requirements that must be met before any 3D data can be used

to create a symbol in Home Designer Landscape and Deck:

- The 3D data must be stored in an, object (**.obj**), 3D Studio Mesh (**.3ds**) or SketchUp version 8 and prior (**.skp**) file format. If you have 3D data in another format, you must convert it into one these formats first.Geometry and material information stored in **.3ds** files are imported; cameras and lights are not.

- The 3D model must be composed of 3DSOLID solid entities, or face data. Faces are typically referred to as 3D faces, polygonal faces, or poly meshes. Other types of entities such as lines, curves, circles, polylines, and free form surfaces can exist in the file but are not imported when the symbol is created. This is true for all (**.obj/.3ds/.skp**) file types.

- The face data should be assigned to different layers so that you can map them to the correct materials when viewing them in 3D. It is helpful to name your layers using a convention that identifies that materials should be assigned to each subcomponent.

- Pay attention to the origin and orientation of the 3D data when designing symbols. Home Designer Landscape and Deck allows some adjustment when creating the symbol, but it is easier to build the 3D data correctly before importing it into Home Designer Landscape and Deck. For more information about defining the origin, see "Symbol Origin" on page 54.

- Home Designer Landscape and Deck does not support grouped objects in symbols imported from **.3ds** files.

Surface Normals

If you use third party software to create an **.obj/.3ds./skp** file that will be imported as a symbol, you should be familiar with the concept of surface normals.

A surface normal is a vector that is perpendicular to the plane of a surface. This vector points in one direction, determined by the way the face is drawn.

If a face is drawn clockwise, the surface normals are directed outward; if a face is drawn counter-clockwise, the surface normals point inward. Home Designer Landscape and Deck assumes that the face on the positive side of the normal vector is the outside face.

Many objects can be drawn using only one side of each face. A cube is a good example: the inside of a cube is not visible, so it is not necessary to create its inside faces. When inside faces are not calculated, 3D views in Home Designer Landscape and Deck can generate more quickly.

Importing 3D Symbols

Home Designer Landscape and Deck supports the import of 3D surface and 3D solid objects saved to **.3ds**, **.obj**, and **.skp** formats.

There are two ways to import a 3D symbol into Home Designer Landscape and Deck:

- By dragging and dropping the file from Windows Explorer into floor plan view.

- Using the **Import 3D Symbol** dialog.

Symbols imported by clicking and dragging are imported for use in the current plan, while those imported using the **Import 3D Symbol** dialog are also saved in the library. See "The Library" on page 271.

To drag and drop a 3D symbol

1. Open the plan in which you would like to import a 3D symbol and remain in floor plan view.

2. Open a Windows Explorer window in front of the Home Designer Landscape and Deck program window.

3. If the Explorer window fills your screen, click the Restore Down button at the top right and resize the window so that the

Home Designer Landscape and Deck program window can be seen behind it.

4. Click on the desired **.3ds**, **.obj** or **.skp** file and drag it into the Home Designer Landscape and Deck program window.

5. When your cursor changes to a +, click in the drawing area to place as many copies of the symbol as desired. When you are finished, select a different tool.

Import 3D Symbol Dialog

Select **File> Import> 3D Symbol** to open the **Import 3D Symbol** dialog.

The **Import 3D Symbol** dialog is a typical **Open File** dialog. See "Importing Files" on page 37

Home Designer Landscape and Deck supports the import of 3D surface and 3D solid objects saved to .3ds, .obj and .skp formats. Home Designer Landscape and Deck treats imported symbols as stand alone fixtures.

Note: SKP files are always imported using inches, regardless of the default units used in the plan file. See "Creating a New Plan" on page 31.

3D Symbols and Materials

When a symbol is imported into Home Designer Landscape and Deck, material definitions may be included with it. How material information is included depends on the symbol's file format. See "About Materials" on page 291.

OBJ Files

Material definitions for most **.obj** files are saved in a separate file with the **.mtl** file extension. If such a file exists, the materials

associated with the **.obj** file display in the list on the left side of the Materials window.

If Home Designer Landscape and Deck does not receive material definition information in an accompanying **.mtl** file, default material properties are assigned.

Material definitions for **.obj** files can also include texture information in the form of image files (**.jpg**, **.png**, etc).

In order to properly import an **.obj** file, Home Designer Landscape and Deck needs the **.obj** file, the **.mtl** file, and any referenced texture files. If a texture file is not available, the material it is associated with is created without a texture.

The material definitions associated with an imported **.obj** symbol are not available for use by other objects in Home Designer Landscape and Deck until that symbol has been placed into a plan. The associated texture files are then copied to the user's Textures folder. See "Home Designer Landscape and Deck Data" on page 31.

3DS Files

Material definitions for **.3ds** files refer to texture information in separate image files.

In order to properly import a .3ds file, Home Designer Landscape and Deck needs these referenced image files. If a texture file is not available, the material it is associated with will be created without it. The associated texture files are copied to the user's Textures folder.

SKP Files

The textures associated with a **.skp** file are saved in the file. After you import a symbol and either place it in a plan or add it to the Library, these textures are saved in the Home Designer Landscape and Deck Textures folder.

Home Designer Landscape and Deck does not support deformed textures. If a texture associated with a **.skp** file is deformed, it will be imported without the deformations.

Texture Filename Conflict

If a texture of the same name already exists in the plan when an **.obj**, **.3ds** or **.skp** file is imported, the **Texture Filename Conflict** dialog displays.
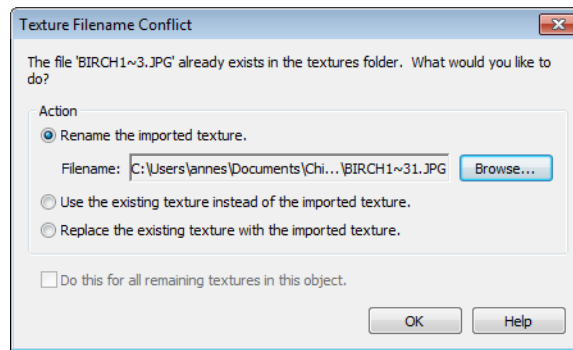
- Select **Rename the imported texture**, then click the **Browse** button to create a copy of the texture's image file with a new name that you specify.

- Select **Use the existing texture instead of the imported texture** to keep the existing texture.

- Select **Replace the existing texture with the imported texture** to replace the texture already present in the plan with the new, imported one.

- Check **Do this for all remaining textures in this object** to use the same selection for all textures with filename conflicts associated with this symbol.

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Printing

Home Designer Landscape and Deck provides a variety of printing options.

Home Designer Landscape and Deck also allows you to save your drawings in pdf file format that can then be sent to a printing service.

⚠ Screen captures are provided for illustrative purposes only and are not an endorsement of any products.

Chapter Contents

Introduction to Printing

Home Designer Landscape and Deck offers printing options to suit a variety of needs. You will benefit from understanding the output options clearly and choosing the one that makes the most sense for the project at hand.

Output Options

Printing a View - You can print any view of your plan. Home Designer Landscape and Deck can print to almost any printer that supports printing graphics from Windows programs. See "The Printing Tools" on page 377.

Printing to a Remote Printer - Plans can be printed to a **.pdf** file and printed remotely. See "Printing to a PDF File" on page 379.

Terminology

There are a couple of terms that you should familiarize yourself with.

Paper Size - The dimensions of the paper to be printed on. Specifying a paper size that is smaller than the scaled drawing allows large drawings to be printed across multiple pages.

Printing Scale - Drawings are often printed to scale for accuracy. ¼" = 1' and 1 m = 50 m are examples of common scales. Home Designer Landscape and Deck prints to a scale of 1/16" = 1' by default, although this scale can be changed in the **Page Setup** dialog. See "Page Setup Dialog" on page 381.

When a particular scale is not important, drawings can also be sized to fill a particular area. See "Printing to Scale" on page 378.

Printing Problems

Home Designer Landscape and Deck can print to almost any printer that supports printing graphics from Windows programs. If you encounter difficulties when trying to print, see "Troubleshooting Common Technical Issues" on page 402.

Printer Drivers

Printer drivers are programs that interpret between software programs and the printer. The drivers are usually created by the manufacturer of the printer and are typically updated regularly. Different drivers are used for different versions of Windows.

It is useful to keep track of the drivers for each printer you use and update them whenever the Windows operating system is updated or replaced.

> Note: You should only update your printer driver if you are having problems printing.

To find the version of your printer driver, select **Start> Control Panel> Printers and Faxes** to view the Printers information for Windows. Select the printer in question, then choose **File> Properties**.

In most **Printer Properties** dialogs is an **About** button which you can click to find the version and creation date of the driver currently in use. If you experience printing problems and yours is not the latest driver, consider replacing it with an updated driver. Visit your printer manufacturer's Web site for more information.

Windows provides information about installing printer drivers. To access Windows Help, select **Start> Help**. If you have problems installing a driver, refer to your printer documentation for technical support.

⚠ Options available with one driver may not be available with another. Printers supported in one version of Windows may not be supported by the manufacturer in another.

Clearing Printer Information

Some information specific to individual printers, such as available paper sizes, is saved with each plan file. You can select **File> Print> Clear Printer Info** to clear the printer-specific information stored with the plan file.

The Printing Tools

Select **File> Print** to view the Print Tools submenu.

Page Setup - Opens the **Page Setup** dialog, where printing options are set. See "Page Setup Dialog" on page 381.

Scale to Fit - Automatically selects a scale that fits your plan to the printer page. See "Printing to Scale" on page 378.

Center Sheet - Automatically centers your drawing on the sheet. See "Center Sheet" on page 378.

Print Preview - Shows how the current view will appear when printed. See "Print Preview" on page 378.

Print - Prints the current floor plan. See "Print Dialog" on page 382.

Print Image - Prints a screen view including images, textures and backdrops. See "Print Image Dialog" on page 383.

Clear Printer Info - Clears the printer information associated with the current page setup.

Display Options and Printing

The display of objects in views can be used to affect the printed output. Some display options allow you to preview the printed output on screen before any paper is used.

Objects must be visible in order for them to print; but not all items that are visible print.

• Camera symbols in floor plan view and the reference grid, for example, do not print.

• The Reference Display does print if it is visible. See "Reference Display" on page 166.

💡 To see how your printed output will appear on paper, select File> Print> Print Preview.

Displaying Objects

You can control the display of objects when printing directly from a view in the **Display Options** dialog. See "Display Options Dialog" on page 57.

Print Preview

Select **File> Print> Print Preview** for an on-screen representation of how the current view will appear when printed. Print Preview is only available in floor plan view. See "Printing to Scale" on page 378.

The printer page displays as a solid white rectangle, and blue lines along the edges of the printer page indicate the edges of the printable area, as defined by the currently selected printer. See "Page Setup Dialog" on page 381.

Objects such as camera symbols that do not print do not display in **Print Preview** . Text and dimension objects appear on-screen as they will on the printed page.

Center Sheet

Select **File> Print> Center Sheet** to center the printer page on the drawing. This moves the printer page relative to the drawing but does not affect the coordinates of objects in the drawing. The location of the printer page is independent for each floor of the model.

Printing Directly from a View

To print directly from any floor plan view, choose **File> Print> Print**. See "Print Dialog" on page 382.

To set up print formatting before printing, select **File> Print> Page Setup** . See "Page Setup Dialog" on page 381.

3D views can be printed using **File> Print> Print Image** . See "Print Image Dialog" on page 383.

Printing to Scale

Several different print scaling options are available. The type of view that you are printing determines which options you may choose from.

Floor plan views can be printed to scale.

The scale set in the **Page Setup** dialog is inherited by the **Print** dialog. This scale can be overridden on an individual basis in the **Print** dialog. See "Print Dialog" on page 382.

Select **File> Print> Scale to Fit** to select a suitable scale and re-center the printer page so that everything fits on the page.

Imperial drawing scales are typically noted in inches per foot. Larger scales, such as 1 inch = 50 feet or 1:200m, are often used for

Perspective Views

Camera views and overviews display the model much the way the eye would see it and cannot be scaled.

- Objects in the view may be at any angle relative to your line of sight.

- Objects seem to decrease in size as their distances from the viewer increase.

Perspective views can only be printed using the **Print Image** 🖨 tool. See "Print Image Dialog" on page 383.

Printing Across Multiple Pages

When printing directly from a floor plan view it is possible to print at a scale that does not fit the drawing on one page.

To see on-screen what the drawing will look like when printed, select **File> Print> Print Preview** 🔍 and then **Window> Fill Window** ⛶. Grey lines across the drawing sheet indicate where the page breaks will occur. See "Print Preview" on page 378.

To print across multiple pages

1. Select **File> Print> Print Preview** 🔍 to display the white rectangle representing the printer paper. See "Print Preview" on page 378.

2. Click the **Select Objects** 🔘 button, then click near an edge of the printer paper rectangle to select it.

   When selected, the printer paper is highlighted in pale grey and a square Move edit handle displays at its center.

3. Click and drag the Move edit handle to position the printer paper so that the portion of your drawing that you would like to print on your first page is located within the printable area of the page.

4. Select **File> Print> Print** 🖨. In the **Print** dialog, make sure **To Scale** is selected, then click OK. See "Print Dialog" on page 382.

5. Select the printer paper rectangle and move it so that the desired contents of your second printed page are within the printable area and print **To Scale**.

6. Continue moving the printer paper and printing as needed.

When printing multiple pages, it is generally a good idea to leave some overlap on the edges of each page to make sure that information near those edges is not left off the printed pages by mistake.

Printing to a PDF File

Portable Document Format, or **.pdf** files, are one of the most universally compatible and efficient file formats and can be viewed and printed on most computer platforms.

Creating a **.pdf** document requires that a **.pdf** printer driver be installed on your computer. This is not a physical print device, but a software program that is recognized as a printer by all other programs and creates a **.pdf** file that can be read and printed using Adobe® Reader®.

When you print to a **.pdf** print driver, you will be asked for a file name and destination automatically.

To print to .pdf

1. Select your **.pdf** printer driver as you would select any other printer in the **Page Setup** dialog. See "Page Setup Dialog" on page 381.

2. Select **File> Print> Print** 🖨 to open the **Print** dialog. Your **.pdf** printer driver will be listed as the selected printer.

3. Select the needed options in the **Print** dialog, then click **OK**.

4. In the **Save As** dialog, select a **File name** and **Save in** location for your **.pdf** file. For information about the settings in the **Save As** dialog, see "Saving, Exporting, and Backing Up Files" on page 32.

Page Setup Dialog

Select **File> Print> Page Setup** to open the **Page Setup** dialog.

The **Page Setup** dialog is only available when an orthogonal view is active. When a perspective view is active, **Page Setup** is not available.

The settings in this dialog, including the selected printer, are specific to the current orthogonal view file, and are saved with the **.plan** file.
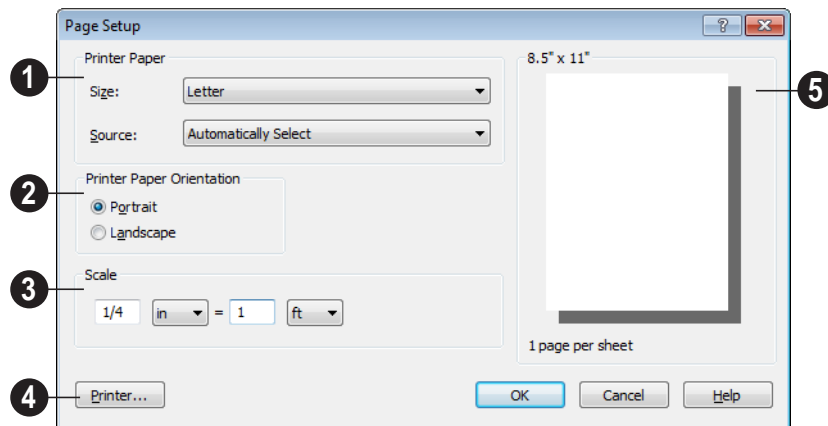
1 Specify the printer paper **Size** and **Source**. The options available in these drop-down lists are controlled by the currently selected printer's driver. See "Printer Drivers" on page 376.

2 Select **Portrait** or **Landscape** paper orientation.

3 Specify a print **Scale**. 1/16 inch = 1 ft (1m = 50 mm) is the default.

4 Click the **Printer** button to select a printer.

5 A preview of the printer paper displays on the right side of the dialog.

Click **OK** to close the dialog and apply any changes.

Clearing Printer Information

Select **File> Print> Clear Printer Info** to clear the printer-specific information stored in the **Page Setup** dialog.

Print Dialog

To print directly from floor plan view and the Materials List, select **File> Print> Print**. The **Print** dialog opens.

> Note: 3D views can be printed using Print Image. See "Print Image Dialog" on page 383.
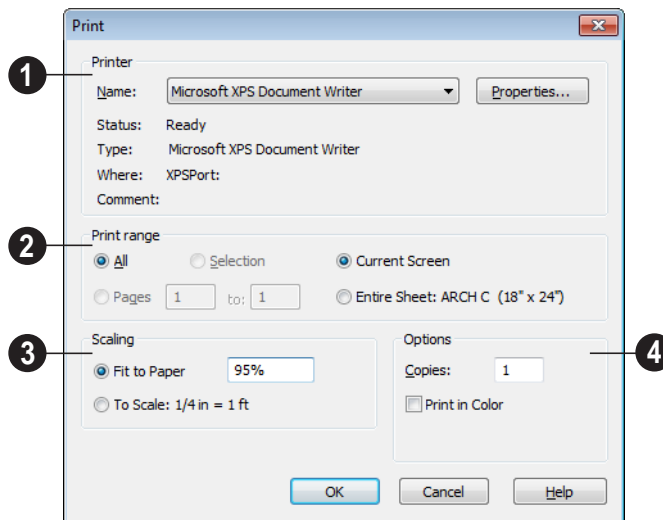
① Specify **Printer** parameters.

- Choose a printer from the **Name** drop-down list.

- Click **Properties** to verify that the printer's paper size, orientation and other settings are configured correctly.

② Specify the **Print Range**.

- **Current Screen** prints only the portion of the entire View showing on screen.

- **Entire Sheet** prints the entire sheet even though you may be zoomed in on a portion of the view.

> Note: If you are zoomed out, and Current Screen is selected, any white space around the plan is calculated for printing.

③ Select from the available **Scaling** options.

- **Fit to Paper** prints the plan on one page. The program will use whatever scale is necessary to fit the plan on one page. If a percentage less than 100 is specified, only that portion of the printable area is used.

- Select **To Scale** to print at the scale specified by settings in the current plan.

Print Image Dialog

4 Select from the available **Options**.

• Specify the number of **Copies** to print.

• Check the **Print in Color** box to print in color or clear the check box to print in grey scale.

Most black and white printers will print a grey scale approximation of the colors if **Print in Color** is selected.

Print Image Dialog

Any view can be printed by selecting **File> Print Image**. This is the only way to print 3D views. See "3D Rendering" on page 325.

The **Print Image** dialog is similar to the **Print** dialog; however, the printing process is different. **Print Image** prints individual pixels as opposed to vectors (lines).
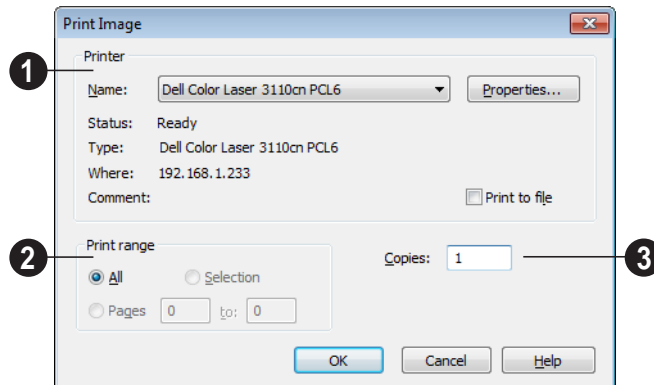
1 Specify the **Printer** parameters.

• Choose a printer from the **Name** drop-down list.

• Click **Properties** to verify that the printer's paper size, orientation and other settings are configured correctly.

2 Specify the **Print Range**.

3 Specify the number of **Copies**.

Plant Schedules

A Plant Schedule is a table that lists all of the plants in your plan and can include a variety of information about them, including quantities, common and scientific names, and growing needs.

Schedules update automatically whenever a plant is created, deleted, moved, or altered.

You should check each schedule carefully to be sure it accurately represents what is in the model. Never assume it includes what you expect or need.

Chapter Contents

Creating and Editing Schedules

In floor plan view, select **Terrain> Plant> Plant Schedule**, then click anywhere in the view to place a schedule at that location. You can continue clicking to place additional copies of the schedule. See "Click-to-Create" on page 62.

Schedules can be edited using the edit handles, the edit toolbar buttons, or the **Schedule Specification** dialog.

Edit Handles

A selected schedule has the same edit handles as a CAD box. See "Editing Box-Based Objects" on page 80.

In addition, schedules have edit handles along the side of each column, in the Schedule heading near the top. Click and drag one of these handles to adjust the width of the columns on either side.

In the Specification Dialog

The appearance and other attributes of schedules can be modified in the **Schedule Specification** dialog.

You can control how objects are listed by specifying which Columns to Include. For example, if you were to uncheck "Common Names" and "Scientific Names" in the **Plant Schedule Specification** dialog, and then check "Flower Color", the resulting schedule would list all red flowers in one line item, regardless of their species.

Using the Edit Tools

A selected schedule or schedules can be edited in a variety of ways using the buttons on the edit toolbar. See "The Edit Toolbar" on page 22.

Schedule Numbering

Schedule numbering is dependent on the order in which objects are placed in the plan, as well as the floor they are on.

- Any objects present in your plan before a schedule is created will be listed first in ascending alphanumeric order, according to their Label information.

- A new, unique objects placed in the plan after the schedule is created will be added to the bottom of the schedule in the order that they are placed, regardless of its Label information.

When an object is edited, its schedule number may or may not change:

- If an object with a Quantity of 1 in the schedule is edited, its position in the schedule will not change.

- If a group of objects listed on the same row in a schedule are edited simultaneously, their position will not change.

- If an object listed on the same row in a schedule with other similar objects is edited so that it is no longer similar enough to share the same row, it will move to the bottom of the schedule. See "Columns and Quantity" on page 388.

Schedule Specification Dialog

Schedules can be edited in the **Schedule Specification** dialog. To open this dialog, either select a schedule and click the **Open Object** edit button or double-click the schedule using the **Select Objects** tool.

Schedule Tab
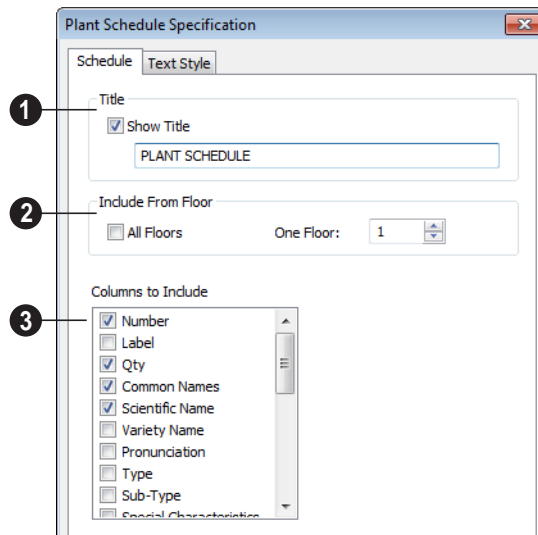
1 Specify a **Title** for the selected schedule. Check **Show Title** to display the title at the top of the schedule.

2 **Include From Floor** - Specify the floor whose objects appear in the schedule. The default is **All Floors**.

• Uncheck **All Floors** to specify a particular floor in the text field.

3 **Columns to Include** - Check the box for each column you want to display in the schedule. At least one column must be checked to create a schedule.

Columns may be added or removed at any time by selecting or clearing check boxes. See "Columns to Include" on page 387.

Text Style Tab

The settings on this tab control the appearance of the selected schedule's text. For more information, see "Text Style Tab" on page 353.

Columns to Include

Every schedule has a selection of **Columns to Include** on the Schedule tab of its **Schedule Specification** dialog. See "Schedule Tab" on page 387.

A complete list of the columns and objects available in the program can be accessed by selecting **Help> Contents and Index** from the program menu and browsing to Schedules> Columns and Objects to Include on the Contents tab of the Home Designer Landscape and Deck 2014 Help.

Columns and Quantity

It is important to remember that the number of columns you choose to include in a schedule influences the number of separate line items that will be listed in the schedule.

For example, if you have three paper birch trees in your plan and do not include columns that refer to the trees' age, such as the Starting Age column, then the three trees will be listed in the same line item - even though one is young, one medium, and one adult.

Materials Lists

Home Designer Landscape and Deck can calculate a Materials List in two ways: **From All Floors** or **From Area**.

Materials Lists can be created, edited, and printed directly from the program. They can also be exported as text files for use in other programs.

> ⚠ The Materials List is based on certain assumptions that may not match your building style. Home Designer Landscape and Deck makes no representation as to the accuracy or reliability of the Materials List generated by Home Designer Landscape and Deck. Always compare the Materials List with a manual take-off before providing a quote or ordering materials for a job.

Chapter Contents

- The Materials List Tools
- Creating an Accurate Materials List
- Organizing Materials Lists
- Materials List Display Options Dialog
- Editing Materials Lists
- Exporting the Materials List
- Conditioned Area Totals
- Structural Member Reporting

The Materials List Tools

Select **Tools> Materials List** to access the Materials List tools.

A Materials List is like a snapshot of the current plan at the time that the list is made. Any changes made to the model after a Materials List is generated are not included in that list. Create a new Materials List if you would like it to include these changes.

It is not necessary to wait until the plan is complete to generate a Materials List. In fact, you can create a series of Materials Lists reflecting costs at various stages of a project.

For comparison, generate Materials Lists with and without a proposed plan modification.

Calculate from All Floors

Select **Tools> Materials List> Calculate From All Floors** to generate a Materials List for the entire model.

Materials lists calculated from all floors can be lengthy, and only a portion of the list may display on your screen at one time. Use the scroll bars to scroll through the complete list. Move the pointer to cells in the list and click to make changes.

Calculate From Area

Select **Tools> Materials List> Calculate from Area** to produce a Materials List for the portion of a plan on a single floor that is included within a rectangular Materials Polyline.

To use Calculate from Area

1. Select **Tools> Materials List> Calculate from Area**.

2. Click and drag a rectangle around the area of the current floor that you would like to produce a Materials List for.

3. When the mouse button is released, a Materials List for the area within the rectangle will display.

Calculate From Area rectangles are temporary and do not display in floor plan view after the list is created.

Creating an Accurate Materials List

In order to take full advantage of Home Designer Landscape and Deck's Materials List capabilities, bear in mind that using generic objects like geometric shapes from the library to represent objects that aren't available in Home Designer Landscape and Deck can result in items being calculated in the Materials List in a manner that you might not expect.

Framing in the Materials List

You can specify whether framing materials are calculated by lineal foot, as a cut list, or as a buy list. See "Structural Member

Reporting" on page 394.

Organizing Materials Lists

You can control what items are calculated in the Materials List by specifying which categories are used.

There are some parts of a model that cannot be excluded from the Materials List. Floor and ceiling platforms are prime examples. If

you need to generate a Materials List for only part of a plan, such as an addition, consider making a copy of the plan file. In the copy, delete the as-built portion of the plan and then generate a Materials List.

Categories

The line items in the Materials List are organized into a set of predefined categories, such as Electrical and Framing, which display in the **ID** column.

To specify a line item's category

1. Create a Materials List.

2. Click in the cell in the ID column for a line item.

3. Select the desired category from the drop-down list that becomes available.

The categories that are available cannot be altered; however, you can specify which categories are included for individual lists in the **Materials List Display Options** dialog.

Materials List Display Options Dialog

When a Materials List is open, select **Tools> Display Options** to open the **Materials List Display Options** dialog for the currently open list.

Check the box beside the name of each category that you want to include in the active Materials List.

These categories appear in the ID column in the order they are presented here.

The Materials List changes automatically to reflect any changes you make as soon as the **OK** button is clicked.
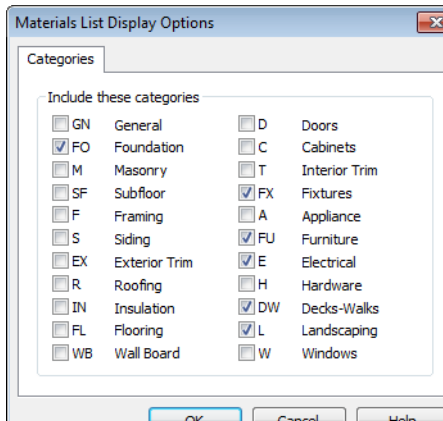
Note: The information in a suppressed category is still part of the Materials List. If the Materials List is exported, suppressed categories are exported, as well.

Editing Materials Lists

Materials lists can be edited in a variety of ways. You can adjust the width of a column by clicking and dragging the bar on the right side of the column name.

Adding Information

You can enter information in the Price and Comment columns for each item.

Adding price or other information for any item is straightforward. Simply click in the cell and type the desired information.

Changing Information

You can change the information in any column in an individual Materials List. As with added information, click in a cell to

select the existing text, then type in the desired text.

To move an item in a Materials List to a new category, select the cell in the **ID** column and choose a new category from the drop-down list that becomes available. See "Categories" on page 391.

Total Cost

Total Cost is calculated using the Count, Unit, Price, %Markup, Labor and Equipment columns to calculate the cost. The formula used is:

(**Count** + **Extra**) * **Price** * (1 + (**% Markup**/100)) + ((**Count** + **Extra**) * **Labor**) + ((**Count** + **Extra**) * **Equipment**)

If a column does not appear, 0 is used for the value of that column with the exception of Count and Price, which are always used in the calculation even if they are not shown.

Copying Information

Portions of a Materials List can be copied

and then pasted into a **Text** T object or into a word processing program or spreadsheet program using the standard Windows Copy (Ctrl + C), Cut (Ctrl + X), and Paste (Ctrl + V) commands. See "Copying & Pasting Text" on page 350.

Exporting the Materials List

Any Materials List can be exported into a text (**.txt**) file that can be opened directly by most spreadsheet programs. In a Materials List window, select **File> Export Materials List**.

The **Write Materials Export File** dialog will open. This is a typical File Save dialog. See "Exporting Files" on page 33.

Estimating Software

You can export a Materials List to a word processor or spreadsheet program to arrange it in your estimating format. You can also export the Materials List to a number of

commercial estimating programs in whose databases you can keep your current pricing and generate reports based on this data.

Before purchasing an estimating software program, be sure that the program supports the direct import of Home Designer Landscape and Deck Materials Lists.

Any questions regarding estimating software packages and how they interact with Home Designer Landscape and Deck should be directed toward the company providing the estimating software. Home Designer Landscape and Deck is unable to provide any technical support for third party programs.

Conditioned Area Totals

The Materials List calculates the total areas of walls, floors, ceilings, doors and windows that separate the conditioned space in a plan from unconditioned space. This information is listed in the General category of the Materials List. See "Categories" on page 391.

Conditioned area totals can be entered into third party programs such as **REScheck** to determine whether the plan meets the energy code in use in your area.

⚠️ Home Designer Landscape and Deck does not check plans for compliance with building or energy codes.
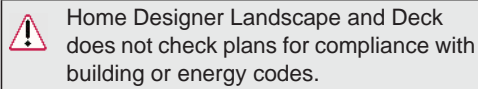
Walls, doors and windows are categorized as north, south, east, or west facing for the purposes of conditioned area totals.

If a wall is oriented at 45° or less to north in a plan, it will be categorized as a "North" wall. Any doors and windows in this wall will also be categorized as "North".

Similarly, south-facing walls, doors and windows are categorized as "South" if they are oriented at 45° or less of south in the plan.

Walls, doors and windows oriented within 45° of either east or west will be classified as "East" or "West", respectively.

The orientation of a curved wall is based on the direction of its chord.

Doors are always categorized as doors rather than as glass (windows). This is the case even when a door is specified as a Glass Door or when it is part of a mulled unit.

Structural Member Reporting

The **Structural Member Reporting** dialog allows you to specify the method used to calculate framing members in the Materials List.

To open the **Structural Member Reporting** dialog, select **Edit> Default Settings** 🔧, then select "Structural Member Reporting" from the tree list and click the **Edit** button.

You can create a list of the framing member sizes that you wish to purchase, and if an item in The Materials List is the same length as or shorter than one of these defined lengths, it will be described using the defined length rather than its actual length.

Structural Member Reporting Dialog
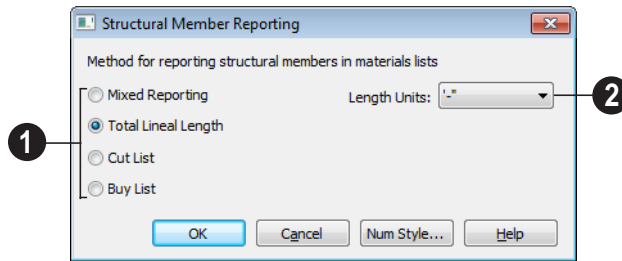
1 Choose a **Method for reporting structural members in Materials Lists**. The selected method will affect subsequently created Materials Lists, but not any that may already exist.

- Select **Mixed Reporting** to calculate framing materials using a combination of lineal lengths and piece counts.

- Select **Total Lineal Length** to calculate the framing materials of the different structural components of the plan in linear feet.

- Select **Cut List** to calculate the framing materials of the different structural com-ponents of the plan by counting the indi-vidual pieces present in the model.

- Select **Buy List** to calculate the framing materials of the different structural com-ponents of the plan by counting individual pieces and matching them to common board lengths.

2 Specify the **Length Units**, from the drop-down list. The unit or units selected are used in the Materials List when either **Cut List** or **Buy List** is selected as the method of reporting.

Additional Resources

Home Designer Landscape and Deck offers a variety of resources to help you become familiar with the many features it offers.

- Reference Manual
- User's Guide
- Home Designer Web Site
- Home Talk Online User Forum
- Technical Support

Reference Manual

The Home Designer Landscape and Deck Reference Manual is a comprehensive source of information for Home Designer Landscape and Deck 2014. Chapters are organized by subject, beginning with the fundamental concepts and progressing to the more advanced features. The Reference Manual is presented in .pdf file format and includes a Table of Contents and Index. This manual is available online by selecting

Help> View Reference Manual [?] from the program menu.

User's Guide

Written for new Home Designer Landscape and Deck users, but a helpful reference for users of all experience levels as well, the User's Guide features a series of tutorials designed to introduce the basics of using the program.

The Home Designer Landscape and Deck User's Guide is organized by topic and walks you through the process of creating a complete model, from the first wall to the interior design and landscaping.

This guide is available online by selecting **Help> View User's Guide** from the program menu.

Online Help Videos

Another resource designed to illustrate Home Designer Landscape and Deck's powerful tools is the set of tutorial videos available on our web site.

To view the online videos, select **Help> View Online Help Videos** from the program menu or visit video.homedesigner.chiefarchitect.com/videos.

Home Designer Web Site

If you have questions that the online Help feature ha not answered, feel free to turn to the our web site.

A database of common technical support questions and answers related to Home

Designer Landscape and Deck is available through a searchable interface.

Select **Help> Visit Home Designer Web Site** 🌐 from the menu to launch your default internet browser to www.HomeDesignerSoftware.com.

Home Talk Online User Forum

The Home Talk Bulletin Board offers several ongoing discussions about a variety of topics related to the use of Home Designer Landscape and Deck. It's rich with useful tips and available free of charge to all registered Home Designer Landscape and Deck users.

- Discussions are initiated and carried out by users.

- Experienced users share knowledge with each other and beginners.
- Home Designer Landscape and Deck Staff members post announcements, advice and technical information.

To visit the Home Talk forum, select **Help> Home Talk** or go to: HomeTalk.HomeDesignerSoftware.com.

Technical Support

Chief Architect takes pride in offering world class technical support services that can be accessed by telephone or on our web site.

Select Help> Technical Support from the program menu to visit: www.HomeDesignerSoftware.com.

Before contacting Technical Support, take a moment to see if the answer to your question is found in the Help resources, tutorial videos, or in our on-line Help Database at www.HomeDesignerSoftware.com.

When you contact us, Technical Support will refer you to these resources if the answer can be found there.

So that our Technical Support specialists can assist you as efficiently as possible, please refer to "Technical Support Services" on page 401 for additional trouble-shooting suggestions and information that will be needed before placing your call.

Upgrade to Chief Architect

Chief Architect is a premium, professional residential drafting and 3D design program that allows builders, architects and other professionals in the building and interior design trades to produce construction documents and high quality 3D renderings of their plans.

Chief Architect can open and edit plans created in Home Designer Landscape and

Deck. In addition, Home Designer Landscape and Deck can open plans created in Chief Architect for viewing, as well.

To learn more, select **Help> Upgrade to Chief Architect**. to launch your default web browser to www.chiefarchitect.com.

Technical Support Services

Chief Architect is committed to providing world-class technical support to complement our products.

The primary function of technical support is to make sure our software is functioning correctly and to help you quickly resolve problems that prevent its normal use. Our technical support professionals are eager to work with you to make certain our software is functioning as designed.

Reference and Training Resources

Chief Architect offers a variety of reference options in addition to the resources that come standard with the program.

Help Database

The Home Designer online Help Database contains a variety of articles describing how to resolve common technical problems and achieve specific design goals.

The Help Database is found in the Technical Support section of the Web site and can be referred to again and again at your convenience at www.HomeDesignerSoftware.com .

Online Help Videos

Chief Architect has developed a collection of training videos that contain in-depth training on a wide range of topics. These videos are available on our Web site, www.HomeDesignerSoftware.com .

User Forum

Our Home Talk User Forum is a great place to discuss and exchange ideas with other Home Designer Landscape and Deck users.

Here you can post questions, read discussions from other users, and post suggestions to improve our product. In addition to our regular users, from time to time our support and engineering teams monitor the forum and provide input and discussion on current topics. This resource is available free of charge at HomeTalk.HomeDesignerSoftware.com.

Troubleshooting Common Technical Issues

Chief Architect strives to make certain our software works correctly; however, from time to time issues arise that prevent its normal operation.

Installation Issues

The following are common reasons for installation failure of Home Designer Landscape and Deck and other software:

- Anti-virus software is enabled and interfering with installation. Anti-virus software is the most common cause of installation failures for any type of software. Refer to your anti-virus software's documentation for details on how to disable the software and re-enable it once installation is complete.

- The recommended minimum system requirements are not met. See "System Requirements" on page 7.

- The computer has a CD drive but not a DVD drive. A standard CD drive will not read DVD discs.

- The DVD has fingerprints, scratches, or other defects. Sometimes a small fingerprint can prevent the program from installing. Clean the disk with soft cotton cloth. Be sure to use soft cotton rather than paper products on disks to avoid scratching.

> ⚠ If you see visible cracking on a CD or DVD, do not insert it in your CD/DVD drive. Cracked disks can fly apart and cause damage to your drive.

- You do not have sufficient rights to install the software. Verify that you have administrative rights and the administrative password during the installation process. If you are on a corporate network, consult your network administrator for assistance.

Refer to the on-line **Help Database** for solutions to common installation problems. If the answer to your question is not found there, contact our Technical Support department for assistance.

Troubleshooting Printing Problems

Printing problems fall into two main categories: those that prevent the printer from working in any program and problems printing from Home Designer Landscape and Deck. To determine if the problem is specific

to Home Designer Landscape and Deck, try the following:

1. Begin by clicking on the Windows **Start** button, and select **Printers**.

2. Right-click the printer that is not functioning properly in the **Printers** folder.

3. Click **Properties** from the menu that appears.

4. On the **General** tab, click the **Print Test Page** button.

If the printer does not produce a test page, the problem is not one that Chief Architect Technical Support can solve. Follow these suggestions:

• Check the connection between the computer and the printer.

• Check your printer documentation for troubleshooting printer problems.

• Contact your printer's manufacturer or check their Web site for support information.

Your printer manufacturer is the best resource for solving problems of this type. Chief Architect Technical Support is not able to help diagnose and solve problems that prevent printing from any program.

> It is a good idea to keep the Owner's Manual for your printer close at hand. Write inside the Owner's Manual the various phone numbers for technical support for that printer – for the original manufacturer and for your local dealer.

Printers vary widely in how they function. Sometimes a faulty cable can be a problem. Often, solving a printing problem is as simple as downloading and installing an updated printer driver. See "Printer Drivers" on page 376.

If you can print from Home Designer Landscape and Deck but are not satisfied with the output, refer to "Printing" on page 375 for information on how to set up and use the printing functions in the program. Legacy users should bear in mind that each release has new features and enhancements, so techniques that were used in prior versions may not work in the current version.

Make sure that you use **Print Preview** before printing. Print Preview displays the printed paper, or drawing sheet, as a white rectangle on screen, and shows how the sheet is scaled and positioned relative to your drawing. If the drawing is not on the drawing sheet on-screen, it will not be on the sheet when you print. See "Print Preview" on page 378.

Make sure that your scaling is correct for the paper size. If the plan is much smaller or much larger than the drawing sheet, you may need to change your Scale. See "Printing to Scale" on page 378.

64 Bit Versions of Windows

Some printers may not function correctly on 64 bit Windows operating systems. If you are experiencing a printing problem while using a 64 bit version of Windows, please contact the printer's manufacturer to verify that you have the correct driver installed.

Printing to a legacy parallel printer port on a Windows 64 bit machine may not work correctly when using a hardware lock. USB printers should not be affected.

Clearing Printer Information

Some information specific to individual printers, such as available printer paper sizes, is saved with each plan file.

If you are encountering problems when printing, or unexpected options in the **Page Setup** dialog, select **File> Print> Clear Printer Info** to clear the printer-specific information stored with the plan file.

After using **Clear Printer Info**, select **File> Print> Page Setup** 🔲. Make sure the settings in the **Page Setup** dialog are correct, and then click OK and **Save** 🖫 the file.

Help Database

For answers to frequently asked questions regarding printing and other topics, select **Help> Visit Home Designer Landscape and Deck Web Site** 🌐 and browse the Technical Support section of our Web site, www.HomeDesignerSoftware.com. Our Technical Support specialists post new articles periodically to help resolve problems you may encounter.

Error Messages

Most common error messages have a known cause and simple resolution. When you encounter an error or warning message in Home Designer Landscape and Deck, you can click the **Check Help Database** button in the message box to launch your default internet browser to the Home Designer Help Database on our Web site, www.HomeDesignerSoftware.com. If an article discussing the message is available it will display, providing information about the message and how best to avoid it.

It is important that abnormal errors be reported to Chief Architect Technical Support so that we can identify and resolve any problems.

The content of an error message is useful in diagnosing its cause. If you encounter an error message, read it carefully and write down the error number and the exact text of the error message.

> 💡 Press the Print Screen key on your keyboard to capture a picture of the error message. Open a new word processing document or e-mail message and choose Edit> Paste to paste a copy of the error message into the document for later reference.

If you encounter the error more than once, make a note of your steps prior to receiving the message.

Before you report an error, check the Help Database to see if the error is already documented by typing the error message or part of the error message into the search form.

Finally, check to see if there are program updates available. These updates are provided free for the current version of Home Designer Landscape and Deck and contain enhancements and other changes that allow the program to perform at an optimum level. Select **Help> Download Program**

Updates from the Home Designer Landscape and Deck menu to visit our Web site,
 www.HomeDesignerSoftware.com, and follow the instructions.

Error Reporting

When and error occurs, you may have the option in the message box to send the report to Chief Architect.

No personal information is sent. When you click **Send**, your default internet browser launches and a Web page appears on screen This message confirms that the report was sent successfully and may give you further instructions on how to proceed.

Contacting Technical Support

Before contacting Technical Support, take a moment to see if the answer to your question is found in the Reference Manual, Help index, or in our on-line Help Database. When you contact us, Technical Support will refer you to these resources if the answer can be found there.

Chief Architect's world-class technical support is available Monday through Friday from 6 AM to 5 PM Pacific Standard Time and can be reached at (208) 292-3375 or via our Web site,
 www.HomeDesignerSoftware.com.

There are several things you can do to ensure a speedy answer to your question when you contact Technical Support.

- Before contacting Technical Support, select **Help> About Home Designer Landscape and Deck** and make a note of the first characters of your Product Key and the exact version of Home Designer Landscape and Deck you are using. Technical support is available to the owners of software licenses. When you contact Technical Support, be prepared to verify

that you are the owner of the software license.

- Before contacting Technical Support, check to see if there are program updates available for download. Our engineering team periodically creates updates to the program to resolve functionality or program issues that were unknown at the time of release. These updates are provided free of charge for the current released version and can be accessed by selecting **Help> Download Program Updates** from the menu.

- When you first encounter a problem or error message, copy the exact wording of the message or a detailed description of the problem. This helps us isolate the problem and provide you with a solution as quickly as possible.

- When placing a call to Technical Support, be at the computer or work station that is experiencing the problem and have Home Designer Landscape and Deck running. If you do not have access to the problem computer at the time of the call, the technician may be unable to reproduce the

issue and/or suggest a remedy that can be implemented and verified immediately.

- Be prepared to reproduce the problem when you contact us. If the problem cannot be reproduced, there is a reduced chance that we will be able to resolve the problem on your first phone call.

Online Information

Home Designer Landscape and Deck has a variety of support resources available on our Web site. These include our **Technical Support Help Database**, the **How do I…? Solution Finder**, downloadable program updates, and ways to contact our Technical Support department. To access these resources, visit: www.HomeDesignerSoftware.com .

Our support team is happy to assist you in finding the best resource to answer your questions, and can resolve most issues in just a few minutes. In order to allow us to quickly answer your calls, we ask that you limit yourself to one question per support call.

Online Support

Questions can be answered online by the Technical Support department. To submit a technical inquiry online, visit the Technical Support section of our Web site and use the Online Support Center .

This route ensures that your question is delivered to the first available support professional. Requesting assistance of an individual specialist is not recommended, since that person may not be available to answer your question in a timely manner.

Telephone Support

Our Technical Support team is committed to answering your questions as quickly as possible and in the order received. Your call is important to us; however, there are times when we get more calls than expected and you may have to wait a few minutes before speaking to a technician.

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