



DATAflor GRÜNSTUDIO 3D®

Welcome

DATAflor GRÜNSTUDIO 3D

Welcome to *GRÜNSTUDIO 3D* by DATAflor. This landscape design software helps you create professional landscape designs and presentations in both 2D and 3D. The software is powerful, yet easy to use so you can get started quickly.



DATAflor GRÜNSTUDIO 3D includes a large suite of tools for creating landscapes, garden designs, swimming pools, water gardens, planting detail, deck designs, detailed plans, and much more.

Create videos using DATAflor GRÜNSTUDIO 3D, and then upload them to YouTube or burn them to a DVD. Alternately, print your designs in full color using any modern printer, or save your designs as detailed digital images before e-mailing them or posting them online. There are many ways to communicate your design ideas to clients and contractors.

System Requirements

DATAflor GRÜNSTUDIO 3D has the following minimum system requirements:

- 1 GHz CPU (2 GHz or more recommended)
- 1 GB System Memory (2 GB or more recommended)
- Windows Vista, Windows 7 oder Windows 8
- 20 GB available hard disk space

- DirectX 9-compatible Video Card with 256 MB Video Memory (512 MB or more recommended)
- Mouse or other pointing device

Important: Modern video cards are becoming progressively more powerful and less expensive. A typical video card that will function well with our software can be purchased for €70 or less if you are using a desktop computer. If your video card does not meet the requirements, then software emulation will be used. Software emulation is not as detailed as what you would see with a compatible video card, and some program features (such as dynamic clouds) will not be available.

The software for video cards is called a *Video Driver*. For the best performance and stability, we highly recommend installing the latest driver for your video card.

Installing the Software

To install the landscape design software, insert the DVD and follow the instructions that appear. If the installation program does not automatically start, follow these steps:

1. Open **My Computer** (Windows XP) or **Computer** (Windows 8, 7, and Vista)
2. Double-click the DVD Drive that contains the DATAflor GRÜNSTUDIO 3D installation disc.
3. Follow the instructions that appear.

Important: DATAflor 2D Studio and the DATAflor Bildbearbeitung will also be installed. You do not need to install them separately.

Installing DirectX

DirectX 9.0c is required to run DATAflor GRÜNSTUDIO 3D. Your computer will probably already have DirectX, but if it doesn't just click **Yes** when asked to install it.

Online Help

A comprehensive help system is included with DATAflor GRÜNSTUDIO 3D. To view information on the currently selected object, press the **F1** key on your keyboard. To learn about other help options, click **Help** and **Contents**. Viewing the user guide does not require an internet connection, but the full user guide is also available online.

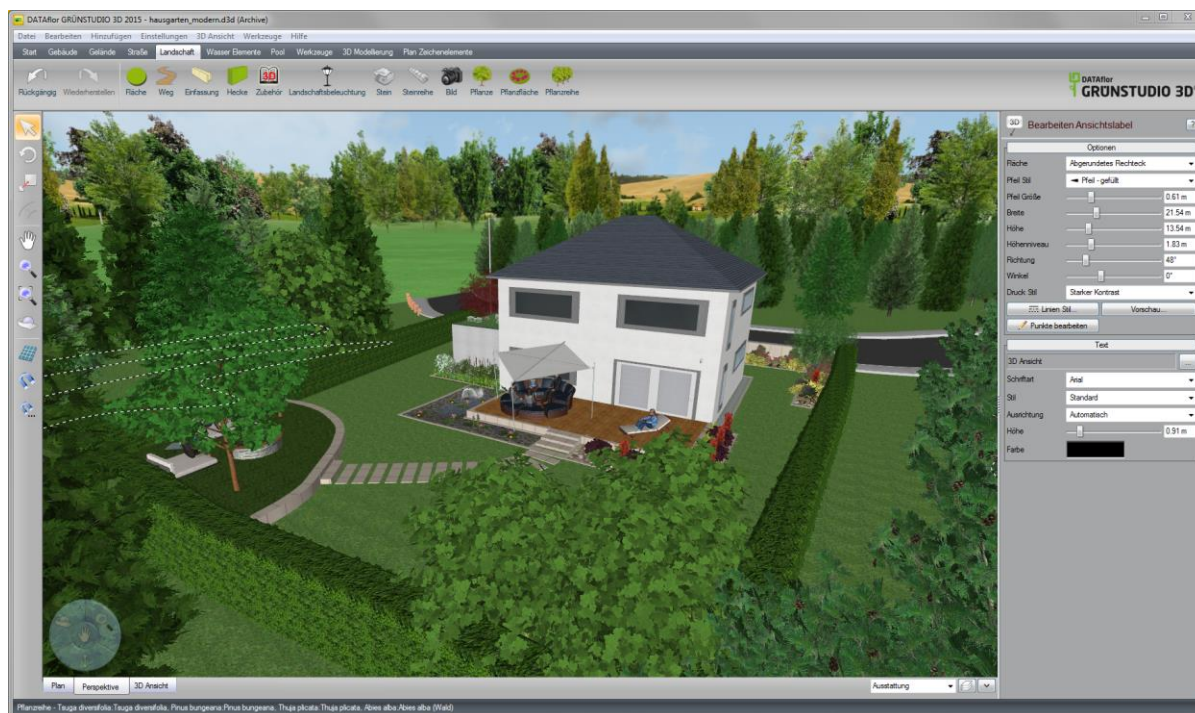
Technical Support

We fully support our landscape design software. To obtain technical support, please email support@dataflor.de. For support hours and other information visit www.dataflor.de.

What's Included in the Software

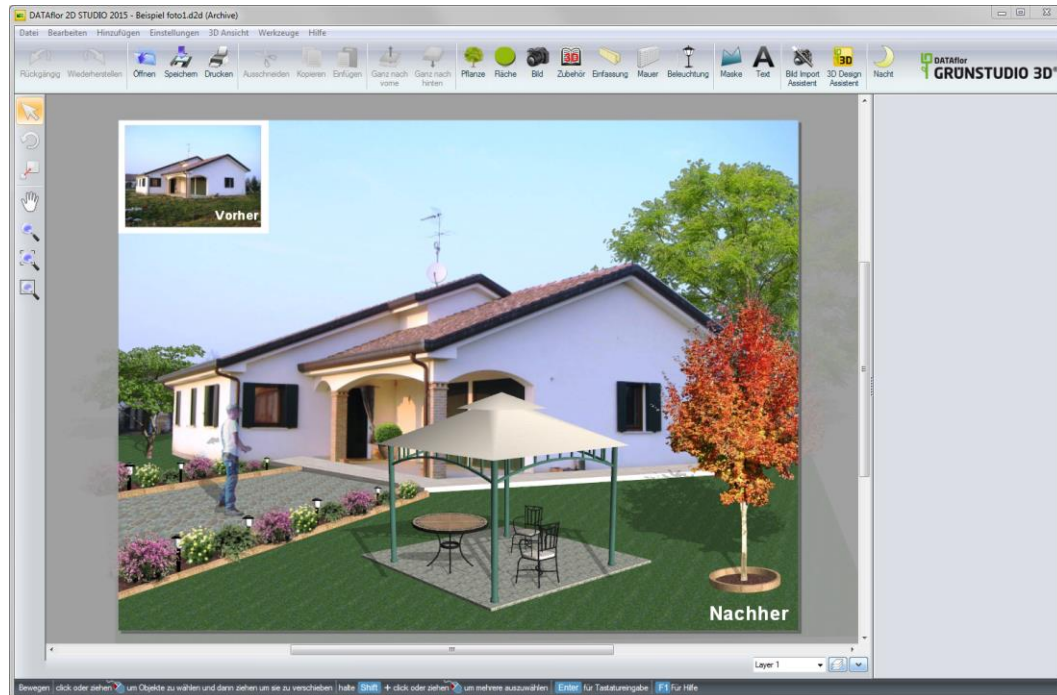
DATAflor GRÜNSTUDIO 3D includes two other applications: DATAflor 2D Studio and the DATAflor Bildbearbeitung.

DATAflor GRÜNSTUDIO 3D helps you create both 2D plans and 3D landscape designs, giving you the tools you need to create impressive landscape designs and presentations for your clients. The intuitive tools allow you to design houses, garden designs, swimming pools, water gardens, deck designs, fences, and more. No prior CAD experience is needed to use DATAflor GRÜNSTUDIO 3D, allowing landscape designers of all experience levels to get started right away. When finished with your designs, you can create videos, high quality images, and detailed printouts to help present your ideas to your clients.



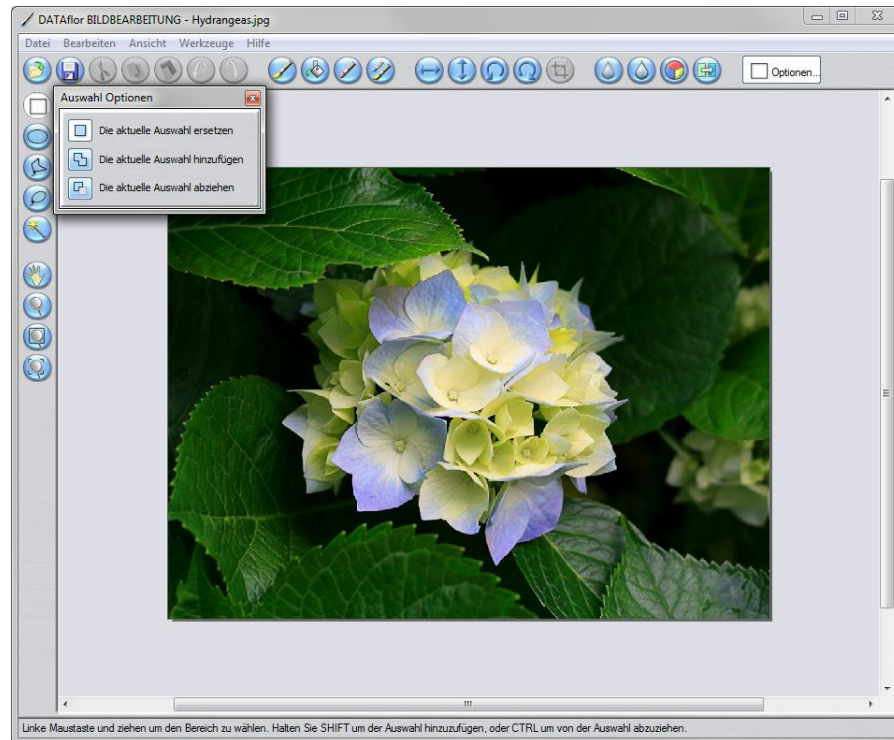
DATAflor GRÜNSTUDIO 3D

DATAflor 2D Studio lets you design directly on top of a photograph of your client's property. Because Photo works in only two dimensions, it is often faster for quick designs and preliminary quotes. The tools included in DATAflor 2D Studio allow you to add plants, mulch, realistic lighting, edging, and more. Switch between night and day to visualize your landscape lighting, or create alternate design ideas using powerful layer support. When finished with your design, either print your landscape or create a high quality JPG or PDF image that can be e-mailed to your client.



DATAflor 2D Studio

Use the **DATAflor Bildbearbeitung** to quickly edit photographs and other digital images. The Picture Editor is integrated in both DATAflor GRÜNSTUDIO 3D and DATAflor 2D Studio, making it easy to seamlessly edit images used in your landscape designs.



DATAflor Bildbearbeitung

Getting Started

Overview

The following programs are included in DATAflor GRÜNSTUDIO 3D:

DATAflor GRÜNSTUDIO 3D is a premium 3D landscape design program that allows you to create realistic 3D walkthroughs as well as stylized 2D plans. Thousands of plants are included, as well as thousands of other landscaping objects. Use DATAflor GRÜNSTUDIO 3D to create comprehensive presentations that will win bids and impress your clients.

DATAflor 2D Studio is a unique and intuitive 2D landscape design program that allows you to design directly on top of a photograph. Take a photo,

import it into DATAflor 2D Studio, and add your changes; Photo is quick and easy to use.

DATAflor Bildbearbeitung is a powerful and user-friendly picture editing program that allows you to modify pictures before or after using them in DATAflor 2D Studio or DATAflor GRÜNSTUDIO 3D.

This help guide describes the features and tools included in DATAflor GRÜNSTUDIO 3D. For information about DATAflor 2D Studio and the DATAflor Bildbearbeitung, see the help documentation that is included with them.

Welcome Menu

When DATAflor GRÜNSTUDIO 3D is opened, you will be greeted with a Welcome Menu as shown in the picture below.

Start a New Design

Start a new landscape design from scratch.

Open a Saved Design

Open a design you have previously created.

Open a Sample Design

Open a sample landscape design. This is a good way to see what the software is capable of and to get ideas for your own designs.

Start a New Design using the Wizard

Start the Landscape Wizard. The wizard walks you step-by-step through the process of creating a basic landscape design. For details, see [Landscape Wizard|topic=Landscape Wizard](#).

Design over a Photo using DATAflor 2D Studio

Close DATAflor GRÜNSTUDIO 3D and open DATAflor 2D Studio. Using Photo, you can design your landscape directly over a photo of your house and property.

Show these options at startup

Uncheck this option if you do not want the welcome menu to appear each time you start the software. To access the welcome menu directly, click File and Welcome Menu.

Exit Button (top right)

Exit the menu and start a new landscape design. This is the same as clicking Start a New Design.

Window Layout

The picture below shows the DATAflor GRÜNSTUDIO 3D interface with each section of the interface labeled.

Menu Bar

The Menu Bar contains drop-down menus such as File, Edit, and so forth. For example, click **File** to show commands for opening and saving files.

Some menu commands can also be accessed by keyboard shortcuts. If a keyboard shortcut is available, the key sequence will appear to the right of the command. For example, the shortcut for Copy is **Ctrl+C**. In this case you would hold down the **Ctrl** key while simultaneously pressing **C**.

Object Category Tabs

Every object that can be added to your landscape design is located under one of the *Object Category Tabs*. For example, click the **Landscape** tab to show buttons for adding plants and other landscaping objects. Each object category tab is summarized below.

- **Main** - Common file and clipboard commands, such as *Save*, *Copy*, and *Print*.
- **Building** - Objects used for construction and hardscaping, such as *House*, *Patio*, and *Retaining Wall*.
- **Terrain** - Objects used for modifying the topology of the landscape, such as *Slope* and *Area Grader*.
- **Road** - Objects used for designing roads, sidewalks, curbing, and street signs.
- **Landscape** - Core landscaping objects, such as *Plant*, *Region*, and *Path*.
- **Water Features** - Objects used for adding ponds, irrigation systems, fountains, and more.
- **Swimming Pool** - Objects related to swimming pools and swimming pool accessories.
- **Utilities** - Miscellaneous objects such as *Text*, *Overlay*, and *Lot Boundary*.
- **Modeling** - Objects and tools for creating your own custom models and accessories.
- **Plan Detail** - 2D objects that only appear in the Plan view, such as *Symbol*, *Arc*, and *Plant Legend*.

Object Creation Tools

To add an object to your landscape design, first click the Object Category Tab that contains the object you are interested in, and then click the button of the object you wish to add. Then follow the instructions that appear at the very bottom of the screen.

If you are uncertain about what a particular object is, just hold your mouse over the object's button and a quick description will appear. For more details, click the object's button and then press the **F1** key.

See [Adding Objects|topic=Adding Objects](#) for more information.

Editing Tools

The Editing Tools are primarily used to select, move, rotate, and scale objects. When editing shapes (such as edging and fill regions), you can also use these tools to edit the points that make up the shapes.

View Tools

The View Tools allow you to adjust your view in both the Plan and Perspective views. For example, the **Orbit** tool allows you to rotate your view around the landscape, and the **Zoom** tool allows you to move your view closer to or farther from your landscape.

For more information, see [Adjusting the View|topic=Adjusting the View](#).

Grid On/Off

The Grid toggle turns grid lines on and off. The grid lines are strictly for your reference and you can turn them on and off as desired. See [Snap Settings|topic=Snap Settings](#) for more information.

Note: Grid lines are independent of the snap settings. That is, grid lines can be turned on while snapping is disabled, and vice-versa.

Snap Tools

The top button, Snap Toggle, turns all snapping on and off at once. The bottom button, Snap Settings, lets you control which snap options are enabled. See [Snap Settings|topic=Snap Settings](#) for more information.

View Tabs

[Plan view|topic=Plan View](#) is a top-down, 2D view of your landscape design. Many objects can be set to appear differently in the Plan view, allowing you to achieve a stylized appearance. Plan Detail objects only appear in this view.

[Perspective view|topic=Perspective View](#) is a 3D view that is useful for sculpting the terrain, setting elevations, and adding doors and windows. In the Perspective view, your landscape design can be seen from any angle.

[Realtime Walkthrough|topic=Realtime Walkthrough](#) is a special viewing mode that allows you to walk through your landscape in 3D. During the walkthrough, special animations and sound effects are available. You cannot edit your design in this view.

Layer Tools

Layers help you organize your landscape design and make it easy to work with groups of related objects. For example, you could put an irrigation design into one layer, planting details into another, and so forth. Another useful technique is to place alternate design ideas into different layers that you can quickly show and hide when presenting to your client. For more information, see [Using Layers|topic=Using Layers](#).

Object Properties

Object Properties appear to the right of the screen when an object is selected. Object properties are used to make important adjustments and modifications to the objects in your landscape designs, such as changing plant types or adjusting the spray angle of a sprinkler head. For more information, see [Setting Object Properties|topic=Setting Object Properties](#).

Dynamic Help

As you design your landscape, help specific to what you are doing appears at the bottom of the screen. This is very useful and can help you work much faster. For example, when adding a plant, the help shows how you can hold down the **Ctrl** key to add as many plants as you'd like.

Print Margins (not shown)

The dashed lines that appears on the border of the Plan view indicate the printable area based on the currently selected printer. Artwork which extends outside this border may not appear in the printed drawing.

Quick Start

Below are some simple steps for quickly creating your first landscape design. These steps should be used to get a feel for how the software operates by automating some of the design process. If you wish to design your own landscape from the ground up, simply close the Welcome Menu that appears when you start DATAflor GRÜNSTUDIO 3D.

1. Start DATAflor GRÜNSTUDIO 3D by clicking the icon on your Windows desktop. When the Welcome Menu appears, click **Start a New Design using the Wizard**. If the Welcome Menu does not appear, click **File** and **Welcome Menu**.
2. Click the **Next** button.
3. Select the desired width and length of your lot, which determines the dimensions of a fence that will be automatically place around your property, and then click the **Next** button.
4. Click the picture of the house that appears, select the sample house that you would like to use, and then click the **Next** button.
5. Click the picture of the pond that appears, select the sample pond you would like to use, and then click the **Next** button. If you do not wish to add a pond, click the **Do not add a pond** checkbox.
6. Click the picture of the fence that appears, select the fence style you would like to use, and then click the **Next** button. If you do not wish to add a fence, click the **Do not add a fence** checkbox.
7. On the graphic that appears, click and drag each landscape element to the desired position. When finished, click the **Next** button.
8. Click the **Finish** button to create your first landscape.

Your first landscape is now ready for editing. You can add new objects and edit existing objects as desired. Switch between the [Plan view|topic=Plan View](#) and the [Perspective view|topic=Perspective View](#) to see your landscape from different viewpoints, or enter the [Realtime Walkthrough|topic=Realtime Walkthrough](#) to walk through your landscape realistically.

Important: These *Quick Start* steps are very basic and allow you to quickly design your first landscape using pre-built objects. While this is a great way to learn how to use the software, you will likely want to create your own

design from scratch. To start a new design, click **File** and **New**. Next, add your objects as needed, designing them exactly as you envision them.

Tips:

- You can switch between English and Metric measurements at any time. To access this option, click **Settings** and **Program Settings**. For more information, see [Using Metric|topic=Using Metric](#).
- When designing your landscape using the *Landscape Wizard*, as in the steps above, your landscape is limited to a maximum lot size of 500' x 500'. However, when the wizard finishes you can increase the lot size by clicking **File** and **Page Setup**.
- The fence that the wizard adds around the perimeter of your lot is rectangular by default, but can be changed to any size and shape after the wizard is completed.
- The prebuilt houses and ponds that are added by the wizard are [grouped|topic=Grouping & Ungrouping Objects](#) by default, but can be ungrouped to become fully editable.

See Also:

Starting a New Design using a Template
 Adjusting the View
 Adding Objects
 Editing Objects
 Editing Points
 Adding Plan Detail
 House Wizard
 Deck Wizard
 Swimming Pool Wizard

Starting a New Design using a Template

Templates are available for drawing sizes of A0 through A4, and include title blocks which you can change as desired.

To start a new design using a template:

1. Start DATAflor GRÜNSTUDIO 3D by clicking the icon on your Windows desktop. When the Welcome Menu appears, click **Open a Sample Landscape**. (If the Welcome Menu does not appear, click **File** and **Open Sample**.)
2. Select one of the landscape files named *Landscape Template*, and then click the **Open** button.
3. Click **File** and **Save As** to save your file using the name of your choice.
4. Edit the template's title block to reflect your project and company. Title blocks are designed using [Plan Detail|topic=Adding Plan Detail](#) objects which you can customize as desired.

Tips:

- The size of your drawing can be changed at any time by clicking **File** and **Page Setup**.
- The **Lot Boundary** object can be used to designate a property line. For details, see [Adding a Lot Boundary|topic=Adding a Lot Boundary](#).

Photo-Based Landscape Design

To design your landscape on top of a photograph of your client's property, use DATAflor 2D Studio. Photo can be launched directly from Windows, or from DATAflor GRÜNSTUDIO 3D.

To start DATAflor 2D Studio from DATAflor GRÜNSTUDIO 3D:

1. Start DATAflor GRÜNSTUDIO 3D by clicking the icon on your Windows desktop. When the Welcome Menu appears, click **Design over a Photo Using DATAflor 2D Studio**. If the Welcome Menu does not appear, click **File** and **Welcome Menu**.
2. DATAflor GRÜNSTUDIO 3D will close and DATAflor 2D Studio will open.

DATAflor 2D Studio can also be started directly from Windows through the desktop icon or the Start Menu.

Using Metric

DATAflor GRÜNSTUDIO 3D uses English measuring units by default, but it is easy to switch to Metric at any time.

To switch to Metric:

1. Click **Settings** and **Program Settings**.
2. Click the **Metric** option and then press the **OK** button.

See [Program Settings|topic=Program Settings](#) for more information.

Tips:

- You can switch between English and Metric at any time.
- Regardless of which measurement system you have selected, when typing in measurements you can enter English or Metric units explicitly. For example, type 10m for ten meters, 3'5" for three feet five inches, and so forth.
- When typing in measurements without units, the default is feet for English, and meters for Metric.

Adding Objects

DATAflor GRÜNSTUDIO 3D includes many powerful objects to help you visualize your landscape design ideas.

To add a new object:

1. Click the *Object Category Tab*, found near the top of the screen, which contains the object you wish to add. For example, if you wish to add a plant, click the *Landscape* tab.
2. Click the button of the object you wish to add to your landscape design.
3. Modify the default [properties|topic=Setting Object Properties](#) if desired.
4. Follow the dynamic help instructions at the bottom of the screen to add the object.

After you add an object to your design, it will remain selected for editing. For details on editing, see [Editing Objects|topic=Editing Objects](#).

For information about object default settings, see [Default Properties|topic=Default Properties](#).

See also:

Editing Objects
Editing Points

Editing Objects

Many intuitive tools are available to select and edit objects in your landscape designs.

[Selecting Objects|topic=Selecting Objects](#) - Before an object can be modified, it must first be selected. A single object can be selected simply by clicking it, while selecting multiple objects at once can be done in several different ways.

[Setting Object Properties|topic=Setting Object Properties](#) - Object settings are called *properties*, which appear to the right of the screen when an object is selected.

[Moving Objects|topic=Moving Objects](#) - Objects can be easily moved from one part of your landscape design to another. To move a selected object, click and hold the left mouse button while moving the mouse.

[Rotating Objects|topic=Rotating Objects](#) - To rotate a selected object, click and drag the green dot at the top of the selection rectangle. This is easiest to do in the Plan view. You can also select and rotate objects using the Rotate tool.

[Scaling Objects|topic=Scaling Objects](#) - To scale a selected object, click and drag the green square at the top-right of the selection rectangle. This is

easiest to do in the Plan view. You can also select and scale objects using the Scale tool.

Offsetting Objects|topic=Offsetting Objects - Using the Offset tool, you can expand or contract an object's shape while keeping its contour intact.

Mirroring Objects|topic=Mirroring Objects - Any object or group of objects can be inverted in any direction using the *Mirror* tool. Additionally, you can also mirror your entire landscape design.

Aligning Objects|topic=Aligning Objects - Using the Align tools, you can orient multiple objects along a line or distributed them across an area.

Cut, Copy, and Paste|topic=Cut\, Copy\, & Paste - The standard Windows clipboard commands are supported, including Cut, Copy, and Paste.

Deleting Objects|topic=Deleting Objects - Any object or group of objects in your landscape design can be easily deleted by pressing the *Del* key on your keyboard or by clicking *Edit* and *Delete*.

Grouping and Ungrouping Objects|topic=Grouping & Ungrouping Objects - Multiple objects can be *grouped* together for organizational purposes. To group several selected objects, click *Edit* and *Group*.

Undoing and Redoing changes|topic=Undoing & Redoing Changes - Undo and Redo are unlimited, meaning you can undo and redo changes as many times as needed, up until the time when you last opened your design. However, changes cannot be undone once you close your design and reopen it.

Showing and Hiding Objects|topic=Showing & Hiding Objects - It can be very useful to hide a certain type of object, or even a whole class of objects. For example, plants could be hidden while designing a swimming pool.

Editing Points|topic=Editing Points - Shape-based objects, such as *Regions*, *Decks*, and *Swimming Pools*, can be changed as needed by editing the points that define the object's shape.

Editing Object Points

Many objects in DATAflor GRÜNSTUDIO 3D are defined by an outline called a *shape*. Some examples of shape-based objects include *Regions*, *Swimming Pools*, *Decks*, *Retaining Walls*, and *Rock Borders*. Shape-based objects can be modified as needed by editing the points that define their shape.

Some shape-based objects have properties associated with each point. For example, a retaining wall can be given a different height at each point, allowing for sloping or stepped walls.

Editing Points|topic=Editing Points - Click the Edit Points button to enable point editing mode, or press the **E** key on your keyboard.

Selecting Points|topic=Selecting Points - One or more points of an object must be selected before they can be moved or deleted.

Moving Points|topic=Moving Points - The points of an object can be freely moved as needed.

[Rotating Points|topic=Rotating Points](#) - Multiple points of an object can be rotated with respect to each other.

[Inserting and Deleting Points|topic=Inserting & Deleting Points](#) - New points can be inserted on an object, and existing points can be deleted.

[Rounding Corners|topic=Rounding Corners](#) - Sharp corners of an object can be rounded (filleted).

[Beveling Corners|topic=Beveling Corners](#) - Sharp corners of an object can be beveled (chamfered).

Adjusting the View

Learning how to adjust the view is an important first step to learning DATAflor GRÜNSTUDIO 3D. Once you become comfortable with adjusting the view in both 2D and 3D modes, your design speed will increase substantially, not to mention your enjoyment of the software.

[Plan view|topic=Plan View](#) - The Plan view provides a top-down, 2D view of your landscape design. The Plan view is most useful for adding and editing objects, adding title blocks, listing planting details, and so forth.

[Perspective view|topic=Perspective View](#) - The Perspective view provides a 3D view of your landscape design, allowing you to view the landscaping elements from any angle. This view is best for viewing a realistic view of your design.

[Realtime Walkthrough|topic=Realtime Walkthrough](#) - The Realtime Walkthrough allows you to walk through your landscape in 3D, providing shadows, accurate lighting, realistic water, and many other effects. You cannot edit your design in this view.

Tips:

- You can design in both Plan and 3D views, and switch back and forth as desired.
- When you add an object to the 3D view, it will automatically appear in the Plan view, and vice-versa. (With the exception of objects on the Plan Detail tab, which only appear in the Plan view.)

Introduction to Layers

Layers are virtual containers for landscaping objects that act as very useful organizational tools, especially when designing complex landscapes. For example, when you are finished designing an irrigation system, you could place the irrigation design into a layer and hide it, allowing you to focus on other areas of your landscape design.

For more information on layers, see [Using Layers|topic=Using Layers](#).

Opening and Saving Files

To open a landscape file:

1. Click **File** and **Open**.
2. Select the file you would like to open and click **Open**.

To save a landscape file:

1. Click **File** and **Save**.
2. Type a file name and click **Save**.

Tips:

- We recommend saving your work often.
- Be sure to save a copy of your designs before and after making major changes, just in case you want to revert to an earlier version.
- **Important:** When copying or saving files to a flash drive or external hard drive, be sure to properly eject the drive before you remove it. Otherwise the files could get corrupted and might not open properly.

Transferring a License

To transfer the license for your software to another computer:

1. Click Help and Transfer License.
2. Record the activation code shown.
3. Click the Transfer License button.

Tips:

- Use the [File Archive|topic=Archiving Files](#) command to save a copy of your designs that you want to edit on another computer. This will ensure any custom pictures or other files are included.
- The other computer must have the same version of DATAflor GRÜNSTUDIO 3D installed. (You can install it using the same DVD or download link you used for the original computer.)

Archiving Files

If you need to move your landscape design to another computer to continue your work, then we recommend using the *Archive* command instead of the *Save* command. The *Archive* command will include any custom data which you have imported and used in the design, such as pictures and SketchUp models.

To archive the current landscape design:

1. Click **File** and **Archive**.

2. Type a name for your archive and then click the **Save** button.

Tips:

- When you open an archived landscape design, the title bar at the top of the screen will display "Archive".
- If you open a landscape design from someone else and you see "Texture not found" or "Model not found" messages, then you'll need to ask the sender to send you a new file saved using the Archive command.
- The file size of an archive can become much larger than a typical landscape file because it contains all custom data used in the design.
- We recommend using the Archive command to save backups of important designs. By saving backups and moving them to another computer, you will be much better protected from data loss if your computer is lost, stolen, or damaged.

Changing the North Direction

DATAflor GRÜNSTUDIO 3D includes a compass which you can rotate to indicate the north direction. The north direction determines the position of the sun, which affects the angle of shadows during Realtime Walkthroughs. The north direction also determines the relative directions of survey bearings.



To change the compass direction:

1. Click the Rotate tool found to the left of the screen.
2. Click the compass to select it.
3. Click the compass again, but this time hold the left mouse button as you move the mouse to rotate the compass.

Note: To find the compass, you may need to zoom your view so that your entire landscape is visible. To view your entire design, select the Plan view and then press the **Z** key on your keyboard.

Adjusting the View

Plan View



The Plan view provides a 2D overhead view of your landscape design, and is typically the best view in which to add or edit objects. To access the Plan view, click the **Plan** tab near the bottom-left of the viewport (see above image). While most objects can be added or edited in either the Plan or Perspective views, Plan Detail objects can only be added while using the Plan view. For more information on Plan Detail objects, such as plant labels, notes, text, and other objects, see [Adding Plan Detail|topic=Adding Plan Detail](#).

Plan Shadows

The Plan view can be enhanced with detailed drop shadows, adding to the professional appearance of your landscape plan by providing a feeling of depth. For more details, see [Plan Shadows|topic=Plan Shadows](#).

Important: Plan shadows can slow down large designs on slower computers. If this is happening to you, simply turn off plan shadows until it is time to print the design or save screen shots.

See also:

- Adding Plan Detail
- Plan Shadows
- Perspective View
- Panning the View
- Zooming the View
- Zooming into the Selection
- Zooming into a Rectangle

Perspective View



The Perspective view can be accessed by clicking the **Perspective** tab, which is located to the bottom-left of the viewport (see above image). Unlike the Plan view, the Perspective view is entirely 3D, and allows you to view any portion of your landscape design from any angle. Some objects are best edited in the Perspective view, such as house doors and windows, because in the Perspective view you are able to view the objects at eye level. The Perspective view is also especially useful for raising or lowering objects, modifying the terrain and grading, or changing the materials of an object.

See also:

- Plan View
- Realtime Walkthrough
- Panning the View
- Orbiting the View
- Zooming the View
- Zooming into the Selection
- Picture Import Wizard

Panning the View



To pan the plan or perspective view:

1. Click the **Pan** button that is found to the left of the screen.
2. Position your mouse cursor inside the landscape design and then move the mouse while holding down the left mouse button. When finished panning, release the mouse button.

Panning will move your view forward and backward, left and right, from one portion of your landscape to another. For example, panning would allow you to move your view from the front yard of a residence to the back yard.

Mouse Shortcut: If you have a mouse wheel, then you can pan by moving the mouse while clicking and holding down the mouse wheel. Using the mouse wheel is much faster than clicking the **Pan** button every time you need to pan the view.

The mouse cursor automatically jumps to the other side of the screen when it reaches the side of the viewport, making it easy to pan across large areas of your design with only one click.

The keyboard arrow keys can also be used to pan the view.

See also:

- Plan View
- Perspective View
- Orbiting the View
- Zooming the View
- Zooming into the Selection
- Zooming into a Rectangle

Zooming the View



To zoom the plan or perspective view:

1. Click the **Zoom** button that is found to the left of the screen.
2. Position your mouse cursor inside the landscape design and then hold down the left mouse button. Move the mouse up to zoom out, or down to zoom in. When finished, release the left mouse button.

Zooming will move your view closer to, or father away from what you are currently looking at. For example, you could zoom in on a single plant, or zoom out to view your entire design.

Mouse Shortcut: Using only your mouse, there are two other ways to zoom that will save you time. If your mouse has a wheel, simply roll the wheel up or down to zoom. The other method is to hold down both the left and right mouse buttons while moving the mouse up or down. Either mouse shortcut is faster and more efficient than selecting the **Zoom** button every time you need to zoom your view.

The mouse cursor automatically jumps to the other side of the screen when it reaches the side of the viewport, making it easy to zoom large distances.

Tips:

- The zoom direction can be reversed by changing the **Reverse mouse zoom** direction option in [Program Settings|topic=Program Settings](#).
- You can optionally zoom into the current mouse position rather than the center of the screen. See [Program Settings|topic=Program Settings](#) for details.

See also:

Plan View
Perspective View
Realtime Walkthrough
Panning the View
Orbiting the View
Zooming into the Selection
Zooming into a Rectangle
[Program Settings|topic=Program Settings](#)

Zooming into the Selection



To zoom the plan or perspective view into the current selection:

1. Click the **Zoom Selection** button that is found to the left of the screen.
2. If one or more objects are selected, the view will zoom to them. If nothing is selected, the view will reset and zoom to show the entire landscape.

The Zoom Selection tool is very convenient, and it is recommended to use it often, especially while using the Perspective view.

To zoom using the keyboard, simply press the **Z** key.

See also:

Plan View
 Perspective View
 Panning the View
 Orbiting the View
 Zooming the View
 Zooming into a Rectangle

Zooming into a Rectangle



To zoom the plan view into a rectangle:

1. Click the **Zoom to Rectangle** button that is found to the left of the screen.
2. Click and hold the left mouse button, and then move the mouse to draw a rectangle. After releasing the mouse button, the view will zoom to fill the size of the rectangle.

Tips:

- Zooming into a rectangle is available only in the Plan view (not the Perspective view).

See also:

Plan View
 Perspective View
 Panning the View
 Orbiting the View
 Zooming into the Selection
 Zooming the View

Orbiting the View



To orbit the perspective view:

1. Click the **Orbit** button that is found to the left of the screen.
2. Move your mouse cursor into the landscape design, and then hold down the left mouse button while moving the mouse in the direction you wish to rotate your view.

To orbit around a specific object:

1. Click the object in your design that you wish to orbit around.
2. Click the **Zoom Selection** button to center the object in your view.
3. Click the **Orbit** button found to the left of the screen.
4. Position your mouse cursor in the landscape design, and then hold down the left mouse button while moving the mouse in the direction you wish to rotate your view.

To orbit around the entire scene:

1. Ensure that no objects are selected. Click **Edit** and **Select None** if needed.
2. Click the **Zoom to Selection** button to center the entire landscape design in the viewport.
3. Click the **Orbit** button found to the left of the screen.
4. Position your mouse cursor in the landscape design, and then hold down the left mouse button while moving the mouse in the direction you wish to rotate your view.

Orbiting is the method of rotating your view while in the 3D Perspective view, and is very useful for viewing all sides of a 3D object such as a house. For example, if your viewpoint was focused on the front yard of a residence, but you need to view the back yard, you could use the **Pan** and **Orbit** tools to move your view into place.

Mouse Shortcut: The fastest way to orbit your view is to simply hold down the right mouse button while moving the mouse in the direction you wish to rotate your view. This shortcut, along with the **Pan** mouse shortcut, can make adjusting your view quick and easy.

Tips:

- Orbiting is only available in the perspective view (not the Plan view).
- The mouse cursor automatically jumps to the other side of the screen when it reaches the side of the viewport, making it easy to orbit large distances with a single mouse click.

See also:

Plan View
Perspective View
Panning the View
Zooming the View

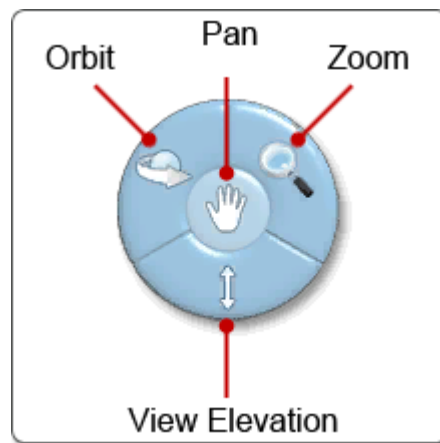
Zooming into the Selection
Zooming into a Rectangle

Using the Perspective Nav Wheel

The Perspective Nav Wheel combines the common tools for adjusting your 3D viewpoint in one convenient place. It can be especially helpful when you are new to DATAflor GRÜNSTUDIO 3D or to 3D design software in general.

The Perspective Nav Wheel is located at the lower-left of the viewport, and is partially transparent when not in use. To use it, click and hold the left mouse button over the tool you wish to use and then move the mouse.

This tool only appears in the Perspective view, not the Plan view.



Tip: If you are an advanced user, you will find that adjusting your view using the mouse shortcuts is even faster than using the Perspective Nav Wheel. To hide this tool, click **View** and **Perspective Nav Wheel**.

Adjusting the View Height

To elevate your view, press and hold the + key on your keyboard. To lower your view, press and hold the - key.

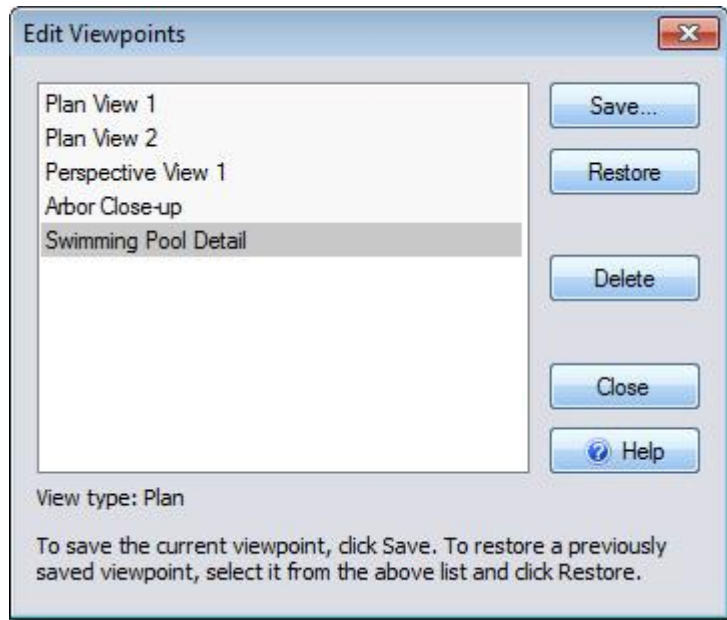
Tip: The height of your view can also be adjusted using the [Perspective Nav Wheel|topic=Using the Perspective Nav Wheel](#).

Saving and Restoring Viewpoints

Specific viewpoints can be easily stored and retrieved through the **Edit Viewpoints** command. Saving and loading viewpoints is very useful when taking pictures of your design or focusing your view quickly for a client.

To save the current viewpoint:

1. Click **View** and **Edit Viewpoints**. The following dialog will appear:



2. Click the **Save** button. The following dialog will appear:



3. Type a name that describes the viewpoint, and then click the **OK** button.
Note: Entering the same name for more than one viewpoint will overwrite the previous viewpoint.
4. Click the **Close** button.

To restore a saved viewpoint:

1. Click **View** and **Edit Viewpoints**.
2. Select the viewpoint you wish to restore and then click the **Restore** button.
3. Click the **Close** button.

Note: Saving and loading viewpoints can also be done within a Realtime Walkthrough by pressing the **F6** key on your keyboard.

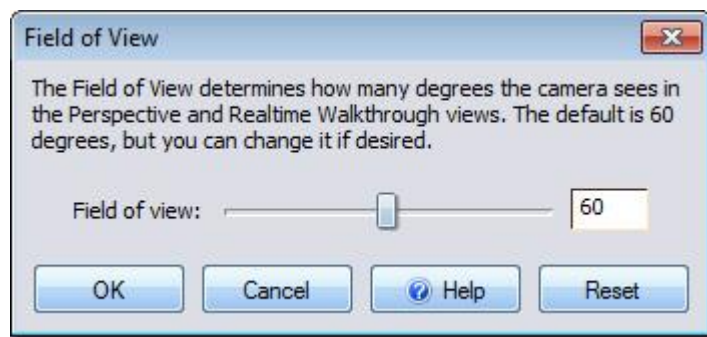
Setting the Field of View

The Field of View determines how wide your angle of vision will be while using the Perspective view and during Realtime Walkthroughs. Typically the

Field of View will not need to be changed because the default value appears natural to most users, but you may find it useful to adjust the Field of View if you are attempting to generate an image that will blend in with a photograph.

To adjust the field of view:

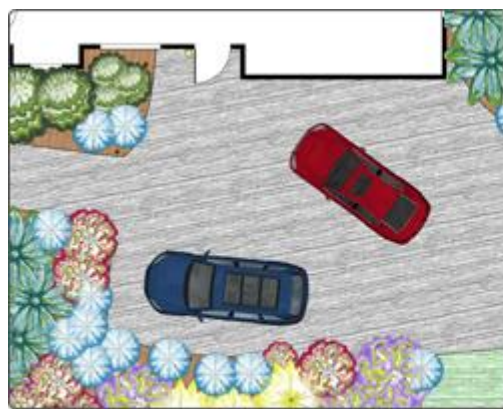
1. Switch to the Perspective view by clicking the Perspective tab, which is located to the lower-left of the screen.
3. Click **View** and **Set Field of View**.
4. On the dialog that appears, adjust the Field of View by moving the slider or entering a value manually with your keyboard. Without exiting the dialog, you will see the view of your design change accordingly.



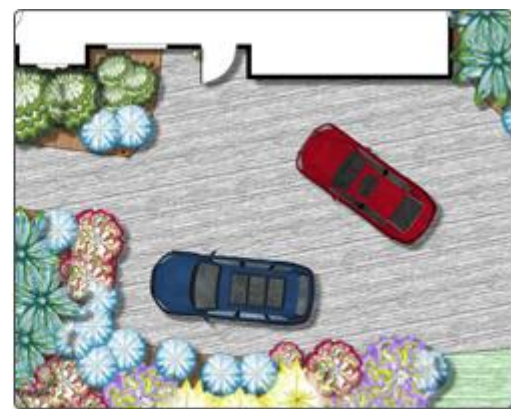
5. To accept your changes click the **OK** button, and to discard your changes click the **Cancel** button.

Plan Shadows

Plan shadows are an effect in the Plan view that adds depth to the design while increasing its visual appeal. Plan Shadows, also known as drop shadows, are separate from the shadows that are shown in the Realtime Walkthrough.



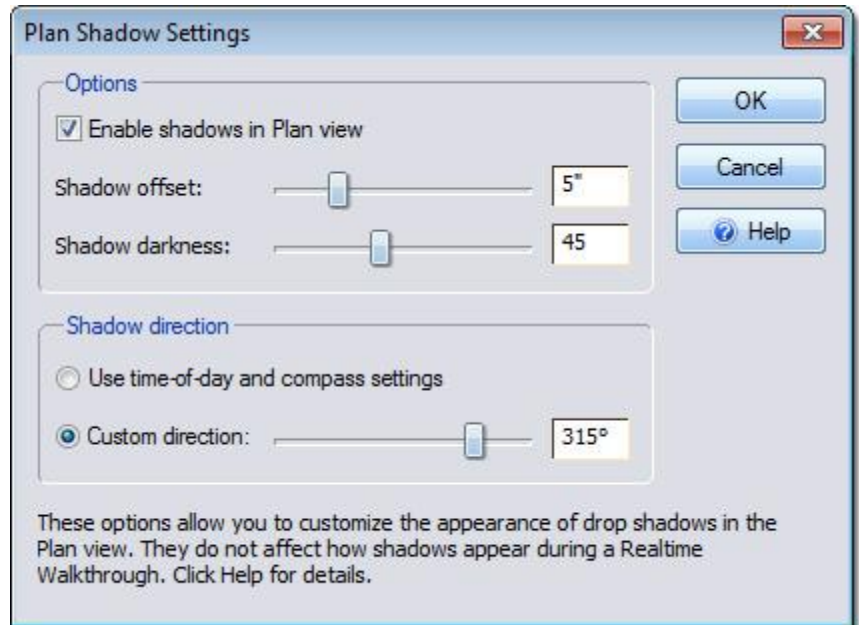
Without Plan Shadows



With Plan Shadows

Important: Plan shadows can slow down large designs on slower computers. If this is happening to you, simply turn off plan shadows until it is time to print the design or save screen shots.

To modify the behavior of plan shadows, click **View** and **Plan Shadows**. The following dialog will appear:



Enable shadows in Plan view

Check this option to show drop shadows in the Plan view. This does not affect the shadows shown during a Realtime Walkthrough.

Shadow offset

The length of each shadow can be modified in feet or meters by moving the Shadow Offset slider or manually entering a value using the keyboard.

Shadow darkness

The intensity of the shadows can be modified by moving the Shadow Darkness slider or manually entering a value using the keyboard. A value of 100 will result in completely black shadows.

Use time-of-day and compass settings

Select this option to tie the shadow direction to the time of day and compass setting, which will cast the shadows based on the calculated angle of the sun. The time of day can be adjusted from the [Environment Settings|topic=Environment Settings](#), and the compass can be rotated within your design. See [Changing the North Direction|topic=Changing the North Direction](#) for more information on rotating the compass.

Custom direction

To manually set a direction for the Plan Shadows, select the Custom Direction option and move the slider to change the shadow angle. Alternately, type a value manually using the keyboard. The shadow

direction is shown in degrees, with 0 degrees being east, 90 degrees being north, 180 degrees being west, and 270 degrees being south.



Shadow Fading

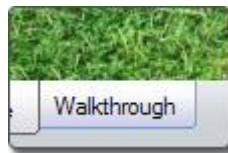
As you zoom out from your landscape, the Plan Shadows will eventually fade and disappear from view. This is done to improve the running speed of the software while you are designing, and will not affect the visibility of the shadows when printing or saving screen shots.

Controlling Shadows Per-Object

Whether or not an individual object casts a shadow can be controlled manually using the [Advanced Object Properties](#) dialog.

Note: Certain flat objects, such as text and fill regions, will not cast Plan Shadows.

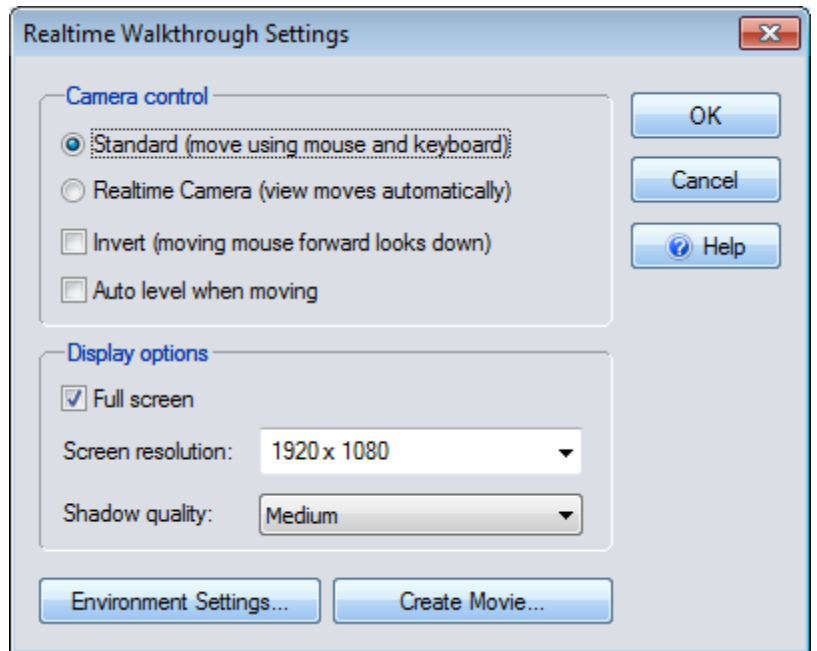
Realtime Walkthrough



The Realtime Walkthrough is a special viewing mode that allows you to walk around your landscape as you would in reality. While in the walkthrough, moving water, realistic lighting, shadows, animated birds and butterflies, and other effects are available.

To start a Realtime Walkthrough:

1. Click the **Realtime Walkthrough** tab that appears to the bottom-left of the viewport (see above image). The following dialog showing walkthrough settings will appear:



Standard

The Standard option should be checked if you wish to walk through your landscape manually. The camera will be controlled using your mouse and keyboard.

Realtime Camera

The Realtime Camera option should be checked if you have added a Realtime Camera object to your design and wish to view the walkthrough through its lens. This option will not be available if no Realtime Camera has been added to your landscape. See [Adding a Realtime Camera](#) for more information.

Invert

The Invert option should be selected if the vertical mouse movements seem reversed to you while in the walkthrough. If Invert is unchecked, then moving the mouse up will move your view up. If Invert is checked, then moving your mouse up will move your view down. This option is mainly used by those who are accustomed to the controls in 3D airplane simulators.

Auto level when moving

The Auto Level option should be checked by users who are new to 3D programs. If Auto Level is checked, then your view will automatically straighten out to eye level while walking.

Full Screen

If you wish for the walkthrough to use the entire area of your computer monitor, then ensure that the Full Screen option is checked. If the Full Screen option is not checked, then the walkthrough will be displayed within a window.

Screen resolution

To select the walkthrough resolution, move the Screen Resolution slider. Resolution affects the clarity of your walkthrough; a high resolution will provide a higher quality. However, higher resolutions will run slower on older systems. If the Full Screen option is not checked, then the Screen Resolution option will not be available because the resolution will be automatically determined by the size of the window.

Shadow quality

To set the clarity of the shadows in the walkthrough, click the Shadow Quality drop-down menu. Following is a description of each quality level:

Quality	Description
No Shadows	Having no shadows will bring you to the walkthrough very quickly, which is great for fast previews. However, enabling shadows will provide higher visual quality.
Low	Low quality shadows will produce soft low resolution shadows. Low quality shadows generate very quickly, making them a good option for fast previews.
Medium	Medium quality shadows are a good compromise between shadow quality and walkthrough speed.
High	High quality shadows are the most realistic shadows available. It is best to set the shadow quality to High after you are finished with your design and ready to see your landscape at its best.

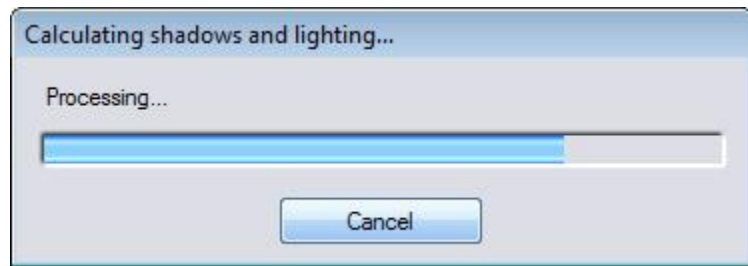
Environment Settings

Click to access options that affect the appearance and sound of your Realtime Walkthrough. For more information, see [Environment Settings|topic=Environment Settings](#).

Create Movie

Click to create a movie rather than walking through your design in realtime. See [Creating a Movie|topic=Creating a Movie](#) for details.

2. Click the **OK** button to accept your walkthrough settings. The following dialog will appear:



Depending on the walkthrough settings you have selected, the walkthrough will take a few moments to generate. The bulk of this process is the generation of shadows and lighting. To stop the walkthrough from generating, and to return to design mode, click the **Cancel** button. After the

calculations finish, your screen will switch to the Realtime Walkthrough. Press the **Esc** key on your keyboard when you are ready to return to design mode.

Tips:

- The Realtime Walkthrough controls are different than the controls used when editing your landscaping. Simply use the arrow keys on the keyboard to move your “feet” while moving your mouse to move your “head”. See Realtime Walkthrough Controls for more details.
- High shadow quality levels only affect the time it takes to initially prepare the walkthrough; they do not have a large impact on how fast the walkthrough operates.
- Gamma correction is enabled by default. If your walkthrough looks too bright and colorful on your computer monitor, see [Program Settings|topic=Program Settings](#) for information on turning gamma correction off.

See also:

Realtime Walkthrough Controls
[Realtime Walkthrough Settings|topic=Realtime Walkthrough Settings](#)
 Taking a Screen Shot

Realtime Walkthrough Controls

The following controls are available during a Realtime Walkthrough:

Control	Description
F1	Toggles the help menu on and off.
F5	Save your current view as an image that can be e-mailed or printed.
F6	Save or load a viewpoint.
Esc	Exit Realtime Walkthrough and return to design mode.
Left arrow	Turn left.
Right arrow	Turn right.
Up arrow or W	Move forward. You can also move forward by pressing and holding the right mouse button.
Down arrow or S	Move backward.
A	Move left.
D	Move right.
Shift	Press and hold to move faster. Used in conjunction with the other movement keys.
+ (plus)	Increase view elevation. Hold down to accelerate.
- (minus)	Decrease view elevation. Hold down to accelerate.
Move mouse	Simply move your mouse to direct your view.

Left-click	Throw fish food. This can be done to feed the fish or to cause directed ripples in ponds and swimming pools. See Feeding the Fish topic=Feeding the Fish for more info.
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Important: The Realtime Walkthrough controls are quite different than the ones used when creating and editing your landscape design. The walkthrough controls are much simpler because the walkthrough is only for viewing your design, not editing it.

See also:

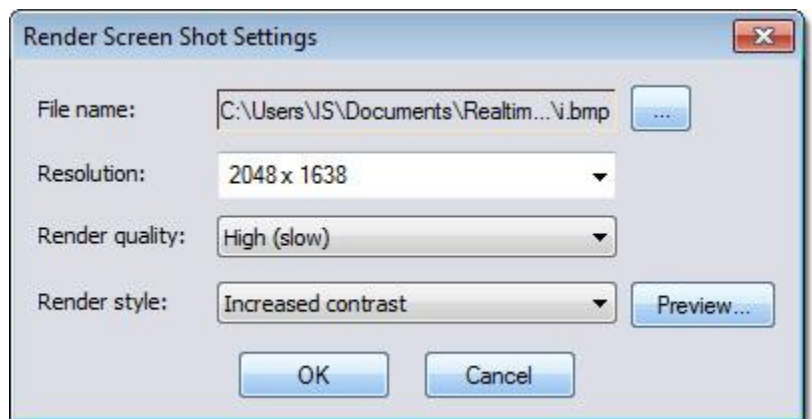
- Realtime Walkthrough
- [Realtime Walkthrough Settings|topic=Realtime Walkthrough Settings](#)
- Saving and Restoring Viewpoints
- Taking a Screen Shot

Taking a Screen Shot

While in a Realtime Walkthrough your view can be saved to a picture file, which can then be e-mailed, printed, or edited using the [DATAflor Bildbearbeitung|topic=Editing using the DATAflor Bildbearbeitung](#) (or any other picture editing software).

To take a screen shot:

1. Press the **F5** key on your keyboard, after which a standard Windows file dialog will appear to prompt you for a file name and location. Type the file name and click the **Save** button.
2. The following dialog will appear:



3. The desired resolution, render quality, and render style can now be selected. The resolution controls the size of the output image; for e-mailing, a resolution width of 1024 is recommended. The render quality determines the level of detail the image will have, and should always be set to High unless creating a quick preview. Render styles are explained below. Click the **Preview** button to view a small sample of how your screen shot will look.
4. To save your image, click the **OK** button. The image will be saved to the name and location you specified earlier.

Impressionistic Render Styles

The **Render Style** option can be changed to give your Realtime Walkthrough image a different look and feel. A variety of render styles are available; each one is explained below.

<i>Render Style</i>	<i>Description</i>
Normal	Set the style to Normal if you do not wish for any special render style to be applied.
Increased contrast	Set the style to Increased Contrast if you wish for a more vibrant and visually engaging picture.
High contrast	Set the style to High Contrast for a much more vibrant and visually engaging picture.
Soft highlights	Set the style to Soft Highlights to slightly exaggerate bright areas on the picture.
Strong highlights	Set the style to Strong Highlights to heavily exaggerate bright areas on the picture, creating a surrealistic look.
Colored pencil	Set the style to Colored Pencil to make the entire picture appear as if it was drawn using colored pencils.
Painting	Set the style to Painting to make the entire picture appear as if it was painted on a canvas.
Watercolor	Set the style to Watercolor to make the entire picture appear as if it were painted using watercolors.

The following image is an example of the Colored Pencil render style:



Tips:

- The [Saving and Restoring Viewpoints](#) feature makes it much easier to reproduce screen shots from exact locations.
- A screen shot can be printed after it is created; see [Printing a Screen Shot](#) for more information.

Feeding the Fish

Fish are automatically added to each pond during a Realtime Walkthrough, unless the **Amount of Wildlife** in the [Environment Settings](#) is set to **None**. The fish can be fed by walking up to the pond and clicking the left mouse button.



Tip: Ripples will be caused where the fish food hits the water, which can be advantageous if you need more turbulent water for a screen shot.

See also:

- Environment Settings
- Realtime Walkthrough
- Realtime Walkthrough Controls

Building Objects

Adding a House

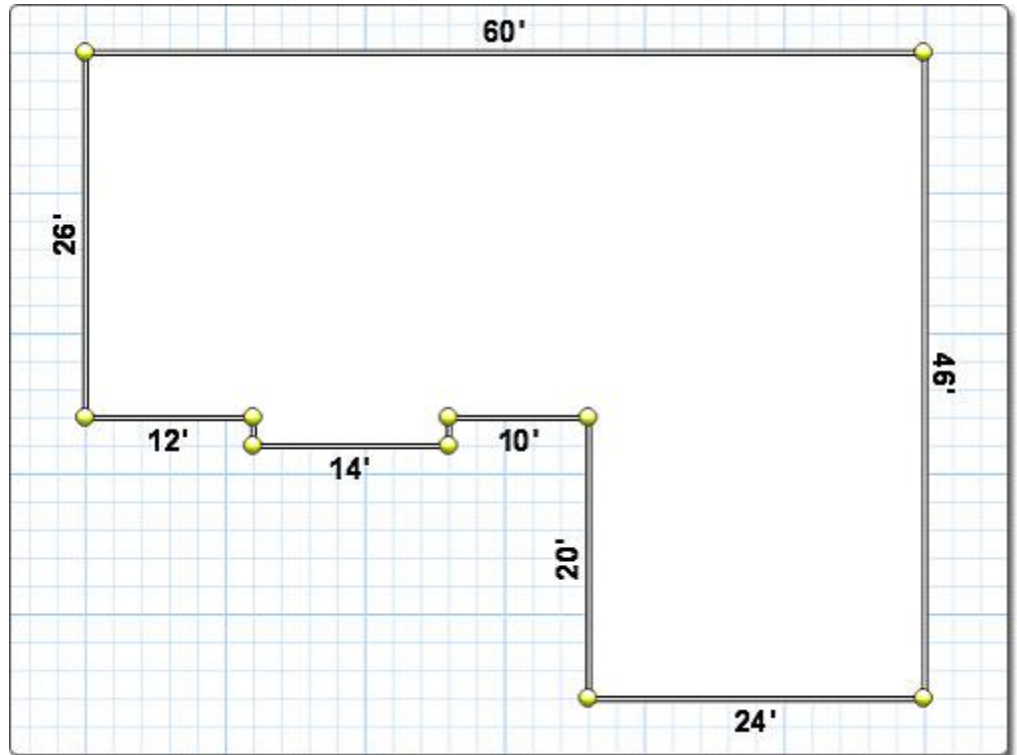


In DATAflor GRÜNSTUDIO 3D you can design a house that approximates the exterior of your client's residence. Designing a house in DATAflor GRÜNSTUDIO 3D is a very simple process, and works very differently than typical home design programs. Houses can be designed from scratch, or a pre-built house can be added to your landscape using the [House Wizard|topic=House Wizard](#).

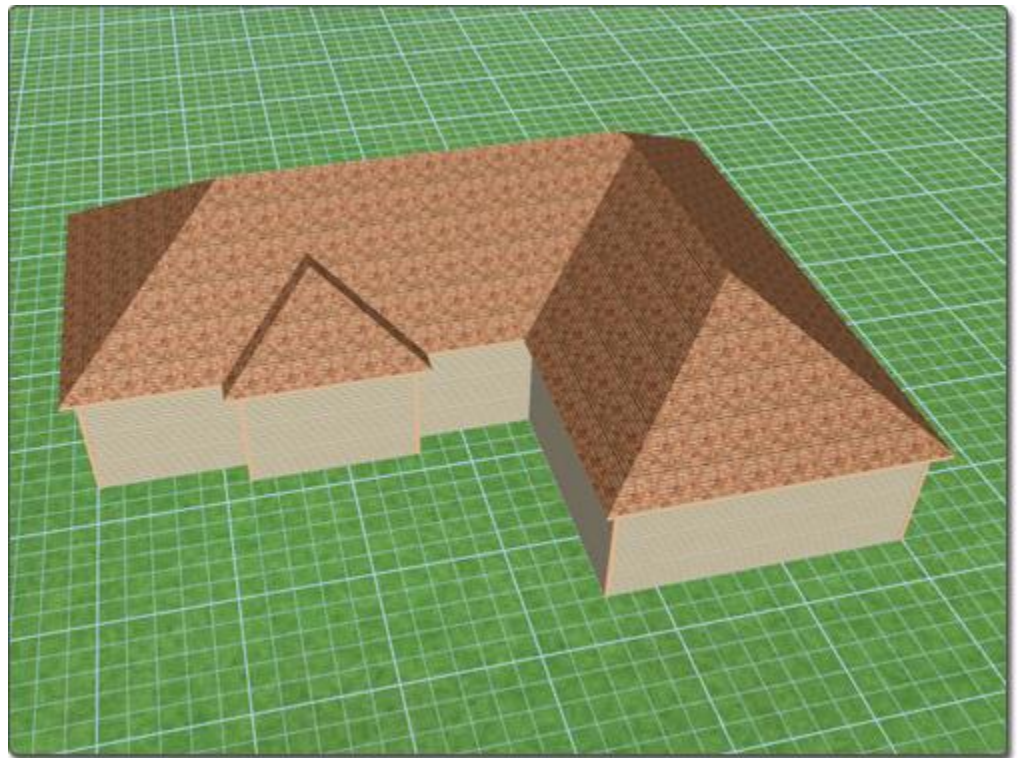
To add a house:

1. Click the **Add House** button found near the top of the screen under the **Building** tab.
2. Draw the outline of the house by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the house, place the last point on top of the first point. Alternately, right-click to place the last point; it will automatically connect to the first point.

The picture below is an example of a simple house created and viewed in the Plan view.



The picture below is the same house viewed during a Realtime Walkthrough. The roof has been automatically added.



Tips:

If your client wishes to have an exact view of their house, use DATAflor 2D Studio (included) to create a 2D design over a photograph of their residence.

It is easier to add a house in the [Plan View|topic=Plan View](#), but houses can also be drawn in the Perspective view.

The snap-grid makes accurate houses easy to draw; see [Snap Settings|topic=Snap Settings](#) for details.

Doors, awnings, shutters, and windows can be added to your house from the appropriate objects under the Building tab. See [Adding a Door|topic=Adding a Door](#) and [Adding a Window|topic=Adding a Window](#) for more information.

Multiple house objects can be used together to create more complex houses. For example, two house objects can be overlapped to achieve unique roof lines.

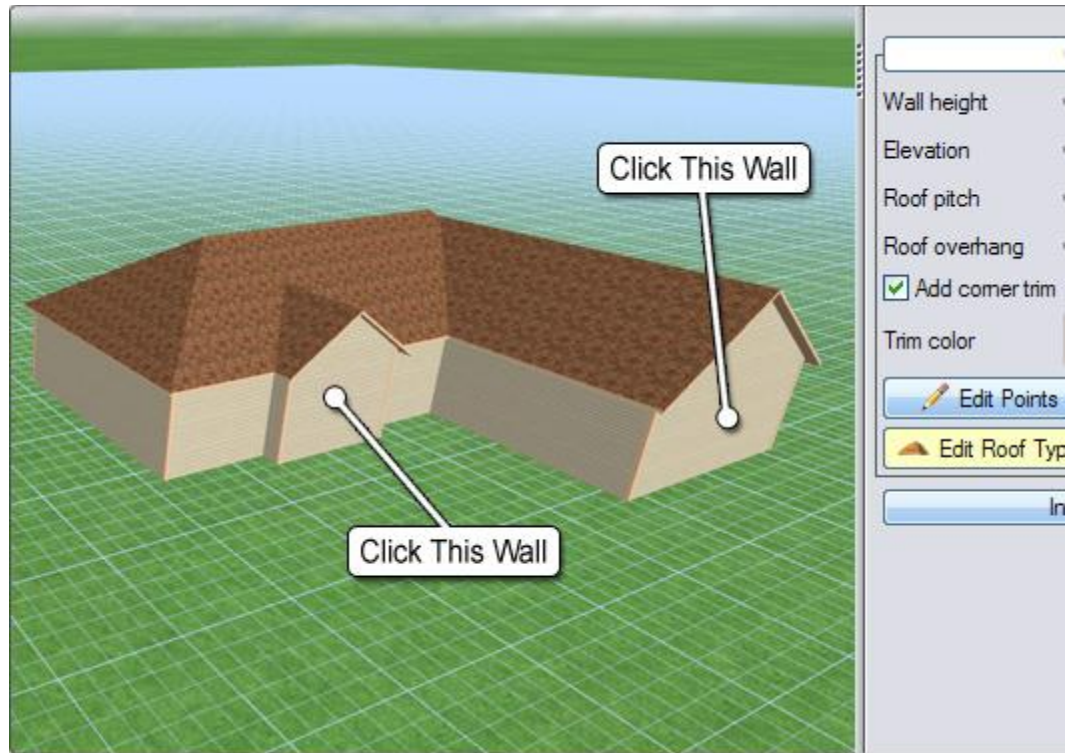
Gable Roofs

The default roof type is "hip", but individual roof lines can be changed to "gable" if needed.

To convert from a hip to gable roof:

1. Click the **Edit Roof Type** button found in the [properties|topic=Setting Object Properties](#) to enable roof editing mode.
2. Click the house wall underneath the part of the roof you want to change. Clicking will toggle between hip and gable styles.
3. After you are finished editing the roof, click the **Edit Roof Type** button to disable roof editing mode.

Below is a picture of a house with two of its rooflines "gabled":



Designing Multistory Houses

Multistory houses can be created by simply stacking a top floor over a bottom floor. To do this, create the bottom story as detailed above, and then use the **Add House** tool to create the upper story. When the upper story is complete, increase the **Elevation** property of the house until the top story sits on the bottom story. For most multistory houses, it is best to set the **Roof Pitch** property of the bottom story to a value of "0". This technique was used to design the house in the image below:



Tip: To better understand how multiple story houses are created, use the [House Wizard|topic=House Wizard](#) to add a pre-built multiple story house. Next, click the **Ungroup** button to break the house into individual pieces. By moving the pieces you should have a good idea of how the house was put together.

In the Plan View, it is usually best for only the bottom story of the house to appear because that will be the house's "footprint". Therefore, the upper stories of the house can be hidden in the Plan View. The steps below can be used to cause any object to appear in only the Plan view or just in the Perspective view.

To prevent an object from appearing in the plan view:

1. Click the desired object to select it. If more than one object needs to be selected, hold the **Shift** while clicking on additional items.
2. Click **Edit** and **Advanced Object Properties**.
3. Click the **Render to Plan view** check-box to uncheck it.
4. Click the **OK** button.

For more information on other options in this dialog, see Advanced Object Properties.

Designing Roofs with a Single Slope

Roofs with a single sloping surface can be designed, which are often used when creating sheds, rectangular bay windows, carports, and more.

To design a roof with a single sloping surface:

1. Click the house you wish to edit to select it.
2. Click the **Edit Roof Type** button found in the [properties|topic=Setting Object Properties](#) to enter roof editing mode.
3. Click each of the house walls below the roof you want to change, except for the wall that will have the lowest roof edge.
4. When you are finished, click the **Edit Roof Type** button again to leave roof editing mode.

The bay window in the picture below was added as a separate house object, and the above steps were used to give it a single slanting roofline.



Designing Carports

A carport can be designed by creating a roof without walls, which is also useful for creating covered patios, overhangs, and more.

To design a roof without walls:

1. Click the **Add House** button and create a house normally.

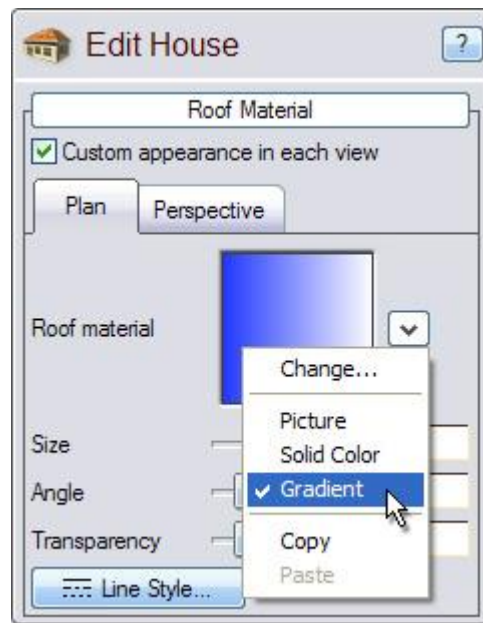
2. Move the **Wall Height** property to 1" or 0".
3. Move the **Elevation** property to the desired roof height.

Customizing the Plan View

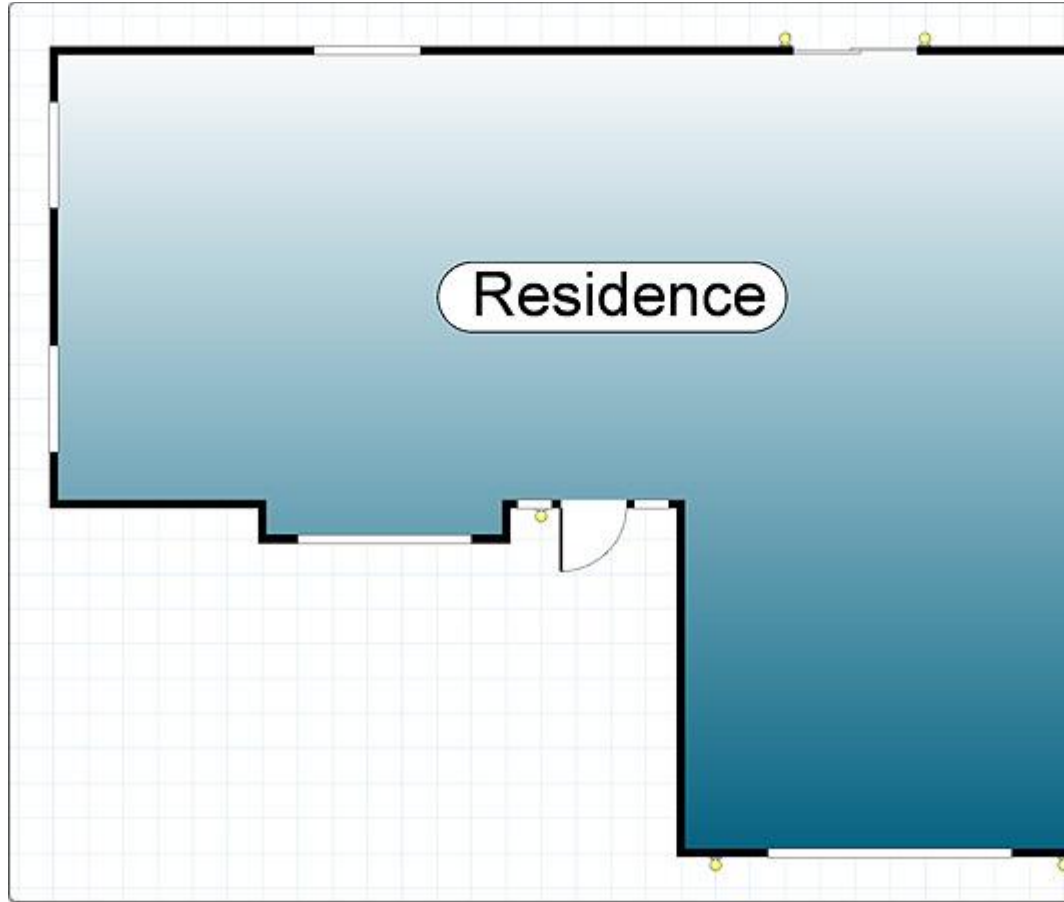
Houses can appear as either a floor plan or a realistic top-down view of the structure in the Plan view. If you wish your house to be displayed as a floor plan, select the house and click on the **Custom appearance in each view** checkbox (found to the right of the screen). You will now see two tabs appear to the right of the screen: Plan and Perspective. The Plan and Perspective tabs allow you to customize how the selected house will appear in each view. For example, you could set a house to look like a floor plan sketched with colored pencils in the Plan view, but to look like a realistic house in the Perspective view. To make the house look realistic in the Perspective view, simply ensure that the **Custom appearance in each view** checkbox is not checked.

Doors, lights, windows, and awnings will appear as symbols in the Plan view when displaying the house as a floor plan.

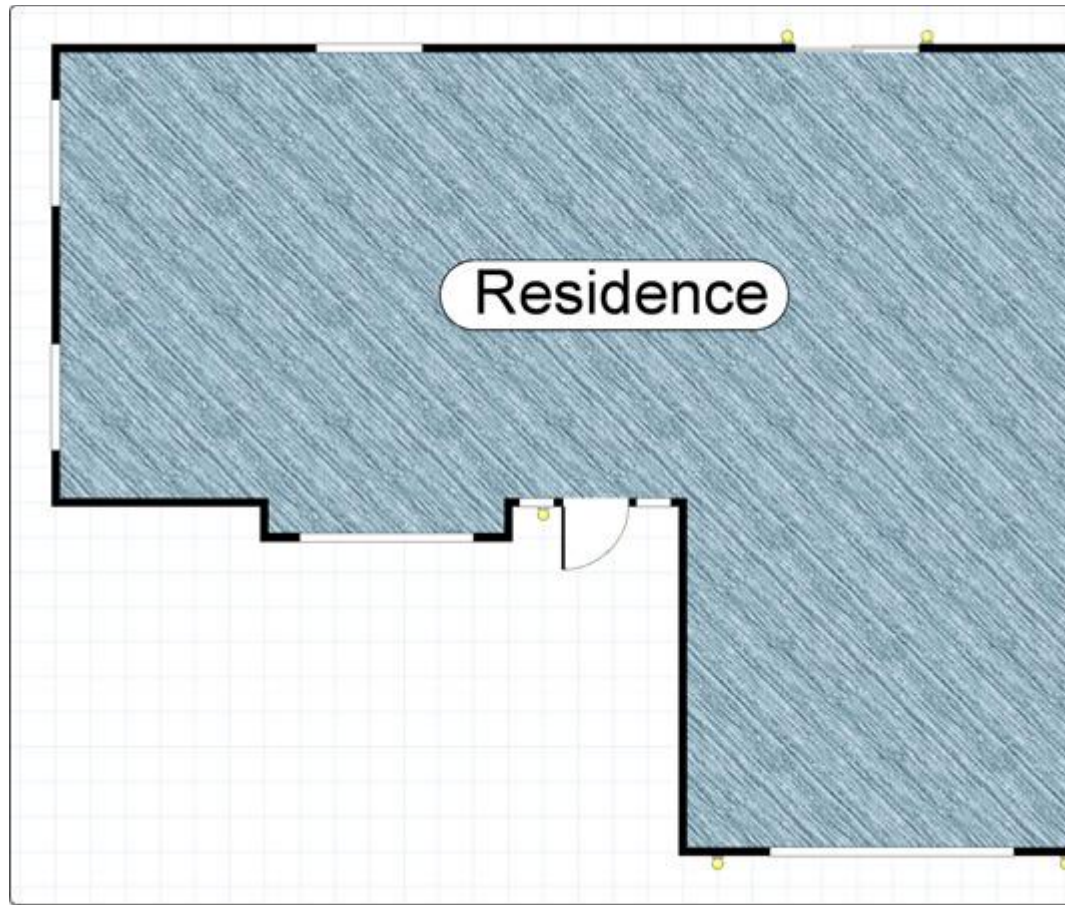
The default style for a floor plan is a white interior with a black outline. The outline can be changed by clicking the **Line Style...** button that appears to the right of the screen when your house is selected. The background of the floor plan can be modified by selecting your house and clicking the right mouse button on the small picture next to Roof material (see image below). There are three available background types for floor plans: pictures, gradients, and solid colors. For example, if you wish your floor plan to look like it was sketched with colored pencils, click the right mouse button on the image next to Roof material, select **Picture**, and then choose the colored pencil style of your choice.



A floor plan's line style, background, and transparency can be modified to provide a large combination of styles. In the image below, a floor plan is shown that uses a gradient background.



A picture background has been selected for the floor plan below, and the picture selected is of a light blue colored pencil sketch. Other hand drawn background styles are also available, such as colored marker.



Building Pads

A building pad can be created when placing a house on uneven terrain by flattening the terrain or using a patio as a building surface. For more information, see [Area Grader|topic=Adding an Area Grader](#) and [Adding a Patio|topic=Adding a Patio](#).

See also:

House Properties
 Selecting Objects
[Editing Points|topic=Editing Points](#)
 Adding a Door
 Adding a Window
 Editing Objects
 Adding an Area Grader
 Adding a Patio

House Properties

The properties used to adjust a house are found to the right of the screen when the house is selected. It is best to first create the house before attempting to change aesthetic options like the type of house walls or the

color of the trim. Below is a description of each available house property in the order that they appear in the software:

Roof Material	Description
Custom appearance in each view	The Custom appearance in each view option can be checked to display the house as a floor plan in the Plan view. If this option is unchecked, the house will appear as a realistic structure in the Plan view.
Plan	The Plan tab contains properties that affect the appearance of the house in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the house in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Roof material	The Roof material property determines the style of the roof in the Perspective view, and the background of the house floor plan in the Plan view (if the Custom appearance in each view option is checked). To change the roof material, click the small image that displays the current material.
Roof material options	The Roof material options can be accessed by clicking the small button that appears to the right of the Roof material image. Clicking this small button provides the same options as clicking the right mouse button on the Roof material image itself.
Size	The Size property determines the scale of the roof material. For example, if the roof has a shingle material, then the Size slider will adjust the size of each shingle.
Angle	The Angle property determines the rotation angle of the roof material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the roof material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the roof material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Transparency	The Transparency property determines the opacity of the roof in the Plan view. To change the roof opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.

Line style	The Line Style... property determines the appearance of the outline of the roof in the Plan view. To change the line style, click the Line Style... button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the wall material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Wall Material	Description
Wall material	The Wall Material property determines what type of surface the house walls will use. To change the material, click the small image that displays the current material.
Wall material options	The appearance of the walls can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the wall material. For example, if the wall has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the wall material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the wall material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the wall material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the wall material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
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Options	Description
Wall height	The Wall height property determines how tall the house walls are. If the height of the walls is set to 0, then only the roof will remain, which is useful for creating carports and overhangs. To change the height of the house walls, move the Wall height slider or enter a value in the text field.
Elevation	The Elevation property determines the distance of the house from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Roof pitch	The Roof pitch property determines the steepness of the roof's incline. For example, a roof pitch of 0 will cause the roof to be flat, while a high roof pitch will cause the roof to be peaked. To change the roof pitch, move the Roof pitch slider or enter a value in the text field.
Roof overhang	The Roof overhang property determines the distance that the roof will project beyond the house walls. To change the roof overhang, move the Roof overhang slider or enter a value in the text field.
Add corner trim	The Add corner trim property determines whether solid trim is added to the corners of the house. To toggle the appearance of trim, click the Add corner trim checkbox.
Trim color	The Trim color property determines the color of the corner trim if corner trim is enabled. To change the color of the corner trim, click the small swatch that displays the current trim color. In addition to affecting the corner trim of the house, the Trim color also affects the trim of any doors and windows that have been added.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the house's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the house, or to load an existing shape. For more

	details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Edit roof type	To toggle portions of the roofline between hip and gable styles, first click the Edit roof type button. Next, click on the wall underneath the edge of the roof you wish to toggle. When finished, click the Edit roof type button again to exit roof editing mode.

Information	Description
Area	The Area property displays the total size of the house in square feet or meters.
Perimeter	The Perimeter property displays the total distance around the house in feet or meters.

See also:

[Adding a House](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Editing Points](#)
[Adding a Door](#)
[Adding a Window](#)
[Editing Objects](#)

Adding a Door



Doors can be added very easily to any house in your design. Because the door will automatically snap to the wall of the nearest house, door placement is fast and easy. Both entrance doors and garage doors can be added through the Door object.

To add a door:

1. Switch to the **Perspective** view (not required but recommended).
2. Adjust your view until you can clearly see the wall of the house you wish to add the door to.
3. Click the **Add Door** button, which is found at the top of the screen under the **Building** tab.
4. Click the picture of the default door that appears to the right of the screen, and then select the door you would like to use from the menu that appears.
5. Click the wall you wish to add the door to.



To move an existing door:

1. Click the door to select it.
2. Click the door again, but this time hold down the left mouse button as you move the mouse to reposition the door. Note that a door cannot be moved to a different house object.

To adjust the elevation of an existing door:

1. Click the door to select it.
2. Hold down the **Ctrl** key on your keyboard, and then click on the door again, but this time hold down the left mouse button as you move the door up or down.
3. Modify the **Elevation** property|topic=Setting Object Properties after your door is selected.

- OR -

Tips:

Doors can be easily duplicated by using the **Copy and Paste**|topic=Cut\, Copy\, & Paste commands.

Doors can be added in both the Plan and Perspective views, but are easier to add in the Perspective view.

If you wish to place multiple doors of the same type, click on the **Add Door** button, hold the **Ctrl** key on your keyboard, and then simply click once for each door you wish to add.

Door placement can be difficult if grid snap is enabled because your door will move to the grid intersections as you attempt to add it. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).

Doors can only be added to houses that have already been created; they cannot be added to other objects.

The trim color of each door on your house will change to match the color of the house trim.

See also:

- Door Properties
- Setting Object Properties
- Selecting Objects
- Adding a House
- Adding a Window
- Editing Objects
- Saving and Loading Shapes

Door Properties

The properties used to modify a door are located to the right of the screen when your door is selected. These door properties can either be adjusted right before adding the door to a house or after it has been added. Below is a description of each available door property in the order that they appear in the software:

Options	Description
Symbol	The Symbol property determines the symbol that represents the door in the Plan view. To change the symbol, click the image of the current symbol.
Model	The Model property determines the type of door. To change the door model, click the picture that shows the current door.
Material options	The appearance of the door can be modified by clicking the small button that appears to the right of the door image.
Width	The Width property determines the size of the door from left to right. To adjust the door's width, move the Width slider or type a value in the text field.
Height	The Height property determines how tall the door is. To adjust the door's height, move the Height slider or type a value in the text field.

Elevation	The Elevation property determines the distance of the door from the ground. To change the door's elevation, move the Elevation slider or type a value in the text field.
Flip model horizontal	To invert the door model from left to right, click on the Flip model horizontal checkbox. Note that this only affects the model shown in the Perspective view.
Flip symbol horizontal	To invert the door symbol from left to right, click on the Flip symbol horizontal checkbox. Note that this only affects the symbol shown in the Plan view.
Flip symbol vertical	To invert the door symbol from top to bottom, click on the Flip symbol vertical checkbox. Note that this only affects the symbol shown in the Plan view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the door material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

[Adding a Door](#)
[Adding a Window](#)
[Adding a House](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Editing Materials](#)

Adding a Window

Windows of many shapes and styles can be added to any house in your landscape design. Because windows snap automatically to houses, they are very easy to place. The Window object can also be used to add awnings, shutters, gable vents, and window boxes.



To add a Window, Awning, Shutter, Gable Vent, or Window Box:

1. Select the **Perspective** view (not required but recommended).
2. Adjust your view until you can clearly see the wall of the house you wish to add the window to.
3. Click the **Add Window** button, which is found near the top of the screen under the **Building** tab.

4. Click the picture of the default window that appears to the right of the screen, and then select the window you would like to use from the menu that appears.
5. Click the wall you wish to add the window to.



To move an existing Window:

1. Click your window to select it.
2. Click the window again, but this time hold down the left mouse button as you move the mouse to reposition the window. Note that a window cannot be moved to a different house object.

To adjust the elevation of an existing window:

1. Click the window to select it.
2. Hold down the **Ctrl** key on your keyboard, and then click the window again, but this time hold down the left mouse button as you move the mouse up or down.

- OR -

3. Modify the **Elevation** property|topic=Setting Object Properties that appears when your window is selected.

Tips:

Windows can be easily duplicated by using the [Copy and Paste](#) (topic=Cut\, Copy\, & Paste) commands.

Windows can be added in both the Plan and Perspective views, but are easier to add in the Perspective view.

If you wish to place multiple windows of the same type, click on the **Add Window** button, hold the **Ctrl** key on your keyboard, and then simply click once for each window you wish to add.

Window placement can be difficult if grid snap is enabled because your window will move to the grid intersections as you attempt to add it. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings](#) (topic=Snap Settings).

Windows can only be added to houses that have already been created; they cannot be added to other objects.

See also:

- Window Properties
- Setting Object Properties
- Selecting Objects
- Adding a House
- Adding a Door
- Editing Objects

Window Properties

The properties used to modify a window are located to the right of the screen when your window is selected. These window properties can either be adjusted right before adding the window to a house or after it has been added. Below is a description of each available window property in the order that they appear in the software:

Options	Description
Symbol	The Symbol property determines the symbol that represents the window in the Plan view. To change the symbol, click the image of the current symbol.
Model	The Model property determines the type of window. To change the window model, click the picture that shows the current window.
Material options	The appearance of the window can be modified by clicking the small button that appears to the right of the window image.
Width	The Width property determines the size of the window from left to right. To adjust the window width, move the Width slider or type a value in the text field.
Height	The Height property determines how tall the window is. To adjust the window height, move the Height slider or type a value in the text field.

Elevation	The Elevation property determines the distance of the window from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the window material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Flip model horizontal	To invert the window model from left to right, click on the Flip model horizontal checkbox. Note that this only affects the model shown in the Perspective view.

See also:

[Adding a Window](#)
[Adding a Door](#)
[Adding a House](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Editing Objects](#)
[Editing Materials](#)

Adding a House Light



Porch and garage lights of many different styles can be added to your house. When viewing your landscaping in a Realtime Walkthrough at sunrise, sunset, and evening, DATAflor GRÜNSTUDIO 3D will automatically illuminate any lights you have added.

To add a house light:

1. Select the **Perspective** view (not required but recommended).
2. Adjust your view until you can clearly see the wall of the house you wish to add the light to.
3. Click the **Add House Light** button, which is found at the top of the screen under the **Building** tab.
4. Click the picture of the default light that appears to the right of the screen, and then select the light you would like to use from the menu that appears.
5. Click the wall you wish to add the light to.



Tips:

House lights can be added in both the Plan and Perspective views, but are easier to add in the Perspective view.

Lights will only illuminate during a Realtime Walkthrough when the time of day has been set to sunrise, sunset, or evening. See [Environment Settings](#) for more information.

House lights are specially designed to attach to houses, and can only be placed on house walls. If you wish to add a landscape light, see [Adding a Landscape Light|topic=Adding a Landscape Light](#) for information on adding lights that can be placed anywhere.

House light placement can be difficult if grid snap is enabled because your light will move to the grid intersections as you attempt to add it. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).

House lights can be scaled and stretched to change their shape; for more information see [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#). Note that changing the size or shape of a light does not affect its brightness.

To modify the brightness of a house light, adjust the light wattage or change the light's color to a darker shade.

See also:

- House Light Properties
- Setting Object Properties
- Selecting Objects
- Editing Objects
- Environment Settings

House Light Properties

The properties used to modify a house light are located to the right of the screen when your light is selected. These house light properties can either be adjusted right before adding the light to a house or after it has been added. Below is a description of each available house light property in the order that they appear in the software:

Options	Description
Symbol	The Symbol property determines the symbol that represents the house light in the Plan view. To change the symbol, click the image of the current symbol.
Model	The Model property determines the type of house light. To change the house light model, click the picture that shows the current light.
Material options	The appearance of the house light can be modified by clicking the small button that appears to the right of the house light image.
Width	The Width property determines the size of the house light from left to right. To adjust the house light width, move the Width slider or enter a value in the text field.
Height	The Height property determines how tall the house light is. To adjust the house light height, move the Height slider or enter a value in the text field.
Elevation	The Elevation property determines the distance of the house light from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Range	The Range property determines the distance that the house light will shine, effectively controlling the strength of the light. To change the light's influence, move the Range slider or type a value in the text field.
Beam angle	The Beam angle property determines the width of the house light's influence. To adjust the light's influence, move the Beam angle slider or type a value in the text field.
Color	The Color property determines the color of illumination. For example, a blue color would cause the light to cast blue light

	during a walkthrough. To change the house light's color, click the small color swatch that displays light's current color.
Add corona	The Add corona property determines whether a bright halo of light will appear around the house light during an evening walkthrough. To enable or disable the light's corona, click the Add corona checkbox.
Show area of influence	The Show area of influence property determines whether or not a helper is added while in the Plan or Perspective views. This helper is used to view the house light's range and angle of influence. To enable or disable the lighting helper, click the Show area of influence checkbox.
Use ray tracing for accurate shadows	The Use ray tracing for accurate shadows property determines the accuracy and quality of shadows that are created by the selected house light in an evening walkthrough. Ray tracing provides higher quality, but causes walkthroughs to generate slower. To toggle ray tracing, click the Use ray tracing for accurate shadows checkbox.

See also:

Adding a House Light
 Selecting Objects
 Setting Object Properties
 Editing Objects
 Environment Settings
 Editing Materials

Adding a Column



A large variety of columns is included with DATAflor GRÜNSTUDIO 3D, and can be easily modified to fit your needs.

To add a column:

1. Click the **Add Column** button, which is found near the top of the screen under the **Building** tab.
2. Click the picture of the default column that appears to the right of the screen, and then select the column you would like to use from the menu that appears.
3. Click on your design where you want the column to be placed. Hold the **Ctrl** key on your keyboard while clicking if you wish to place more than one column.

The following is an example of two columns used in a front porch:



Tips:

Column placement can be difficult if grid snap is enabled because your column will move to the grid intersections as you attempt to add it. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).

Columns can be scaled and stretched to change their shape; for more information see [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#).

The material of your columns can be changed to wood, stone, or any of several hundred other materials. For more information, see [Editing Materials|topic=Editing Materials](#).

See also:

Column Properties
Setting Object Properties
Selecting Objects
Editing Objects
Editing Materials

Column Properties

The properties used to modify a column are located to the right of the screen when your column is selected. These column properties can either be adjusted right before adding the column to your landscape or after it has been added. Below is a description of each available column property in the order that they appear in the software:

Options	Description
Model	The Model property determines the type of column. To change the column model, click the picture that shows the current column.
Material options	The appearance of the column can be modified by clicking the small button that appears to the right of the column image.
Elevation	The Elevation property determines the distance of the column from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

Advanced	Description
Width	The Width property determines the size of the column from left to right. To adjust the column width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the column from front to back. To adjust the column length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the column is. To adjust the column height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the column about its X axis. If your view is facing north, this will rotate the column forward or backward. To rotate the column, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the column about its Y axis. If your view is facing north, this will rotate the column left or right as if it was sitting upon a pottery wheel. To rotate the column, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the column about its Z axis. If your view is facing north, this will rotate the column left or right as if it was sitting upon the face of a clock. To rotate the column, move the Rotate about Z slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the column is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the column, then keep the Scale evenly option

	checked. If you wish to stretch the column in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the column material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

Adding a Column
 Selecting Objects
 Setting Object Properties
 Editing Objects
 Editing Materials

Adding a Fence



Fences are easy to add in DATAflor GRÜNSTUDIO 3D, and a large variety of fence styles are available. Additionally, you can design your own fence styles to achieve the perfect design.

To add a fence:

1. Click the **Add Fence** button, which is found at the top of the screen under the **Building** tab.
2. Draw the outline of the fence by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the fence, right-click to place the last point.



Creating Custom Fence Styles

Custom fence styles can be designed and then saved for use in any landscaping project.

To create a custom fence style:

1. Click an existing fence in your design to select it.
2. Expand the **Advanced** category which is found to the right of the screen.
3. Adjust the fence properties as needed to achieve the desired fence style.
4. Click the **Save Style** button, type a name for your fence style, and then click the **OK** button.

To use a custom fence style:

1. Click an existing fence in your design to select it.
2. Click the picture of the fence style that appears to the right of the screen.
3. Select the desired fence style and click the **OK** button.

Note: When you select a new fence style, the default material for that style will also be set. However, you can change the material at any time if desired.

Tips:

Fences can also be added as stand-alone sections using the [Accessory object|topic=Adding an Accessory](#).

Using the grid snap feature can make adding an accurate fence very easy. See [Snap Settings|topic=Snap Settings](#) for more details.

Once your fence is added, gates can be placed where necessary. See [Adding a Fence Gate|topic=Adding a Fence Gate](#) for more information.

See also:

- Fence Properties
- Adding a Fence Gate
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Fence Properties

The properties used to modify a fence are located to the right of the screen when your fence is selected. Only some of these fence properties can be adjusted right before adding the fence to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available fence property in the order that they appear in the software:

Options	Description
Style	The Style property determines the group of pre-set fence properties that are used. To change the fence style, click the picture that displays the current fence style.
Material	The Material property determines what type of surface the fence will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the fence can be modified by clicking the small button that appears to the right of the fence image.
Stepped	The Stepped property determines how the fence will conform to uneven terrain. If the Stepped option is checked, then the fence will be vertically staggered as it ascends or descends. Note that the Stepped option has no effect on fences that are placed on flat terrain.
Shadow Box	The Shadow box property can be checked to cause the fence boards to alternate fence sides.
Switch sides	The Switch sides property causes the fence boards to change which side of the fence they are attached to. Note that this option is not available when the Shadow box option is checked.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the fence shape. See Editing Points topic=Editing Points for details.

Shape options	Click the Shape Options button to save the shape of the fence, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
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Advanced	Description
Elevation	The Elevation property determines the distance of the fence from the ground. To change the elevation, move the Elevation slider or enter a value in the text field.
Rail style	The Rail style property determines whether or not vertical fence boards are added. If the Rail style is set to Ranch, then no boards will be added. To change the rail style, click the Rail style drop-down menu.
Post height	The Post height property is used to determine how tall the fence posts are. To change the post height, move the Post height slider or enter a value in the text field.
Post spacing	The Post spacing property is used to determine the maximum distance between any two posts. To change the distance between posts, move the Post spacing slider or enter a value in the text field.
Rail offset	The Rail offset property is used to pinch the fence rails together, or spread them apart. If you wish for the rails to be evenly distributed among the height of the fence, leave the Rail offset slider set to 0. To change the rail offset, move the Rail offset slider or enter a value in the text field.
Number of rails	The Number of rails property can be moved to change the amount of horizontal rails are added to the fence. To change the number of rails, move the Number of rails slider or enter a value in the text field.
Cap style	The Cap style property determines the type of post caps that are added to the fence. Different cap styles can give your fence a unique appearance. To change the style of post cap, click the Cap style drop-down menu.
Board style	The Board Style property determines the style of fence boards that are included on your fence. Different fence boards will heavily alter the appearance of your fence.
Board width	The Board width property is used to modify how wide each individual fence board is. To change the width of each board, move the Board width slider or enter a value in the text box.

Board height	The Board height property is used to determine how tall each individual fence board is. To change the fence board height, move the Board height slider or enter a value in the text box.
Board spacing	The Board spacing property is used to determine how far apart any two boards are from each other. To change the spacing of the fence boards, move the Board spacing slider or enter a value in the text field.
Board offset	The Board offset property is used to modify the distance between the bottom of the boards and the bottom of the fence. For example, the Board offset slider could be used to add a six inch gap underneath the fence boards. To change the board offset, move the Board offset slider or enter a value in the text field.
Save style...	Click the Save style... button to open a dialog that will allow you to save your fence properties as a style that can be used in other landscapes.

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the fence to the finish.

See also:

Adding a Fence
 Setting Object Properties
 Selecting Objects
 Editing Points
 Editing Objects

Adding a Fence Gate



The Fence Gate object is used to add a variety of different wooden and vinyl fence gates to fences in your design. Each gate can be up to ten feet wide, and can be displayed in an open or closed position.

To add a new gate:

1. Select the **Perspective** view (not required but recommended).
2. Adjust your view until you can clearly see the fence that you wish to add a gate to.

3. Click the **Add Fence Gate** button, which is found near the top of the screen under the **Building** tab.
4. Click the picture of the default fence gate that appears to the right of the screen, and then select the fence gate you would like to use from the menu that appears.
5. Click on the part of the fence in your design that you wish to add the gate to.



To open a gate:

1. Click the gate in your design to select it.
2. Set the **Open angle** property|topic=Setting Object Properties to any desired gate angle.



To move an existing gate:

1. Click your gate to select it.
2. Click the gate again, but this time hold down the left mouse button as you move the mouse to reposition the gate. Note that a gate cannot be moved to a different fence object

Tips:

If you wish to place multiple gates of the same type, click on the **Add Fence Gate** button, hold the **Ctrl** key on your keyboard, and then simply click once for each gate you wish to add.

Gate placement can be difficult if grid snap is enabled because your gate will move to the grid intersections as you attempt to add it. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).

Fence gates can be added only to fences that are already in your design; gates can not be added to other objects.

The material of the fence gate will automatically match the material of the fence that it is attached to.

The height of the fence gate is automatically set to the board height of the fence it is attached to.

See also:

- Fence Gate Properties
- Adding a Fence
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Fence Gate Properties

The properties used to modify a fence gate are located to the right of the screen when your fence gate is selected. These fence gate properties can either be adjusted right before adding the fence gate to a fence or after it has been added. Below is a description of each available fence gate property in the order that they appear in the software:

Options	Description
Model	The Model property determines the type of fence gate. To change the gate model, click the picture that shows the current fence gate.
Width	The Width property determines the size of the fence gate from left to right. To adjust the gate width, move the Width slider or type a value in the text field. For double gates, the width represents the combined width of both gates.
Open angle	The Open angle property determines how far the gate has been opened. An open angle of 0 degrees will cause the gate to be closed completely. To change the open angle, move the Open angle slider or enter a value in the text field.
Switch hinge side	The Switch hinge side property determines which side of the gate swings open. Check or uncheck the Switch hinge side option to toggle the hinged side of the gate. Note that this option has no effect on double gates because they have hinges on both sides.

See also:

- Adding a Fence Gate
- Adding a Fence
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

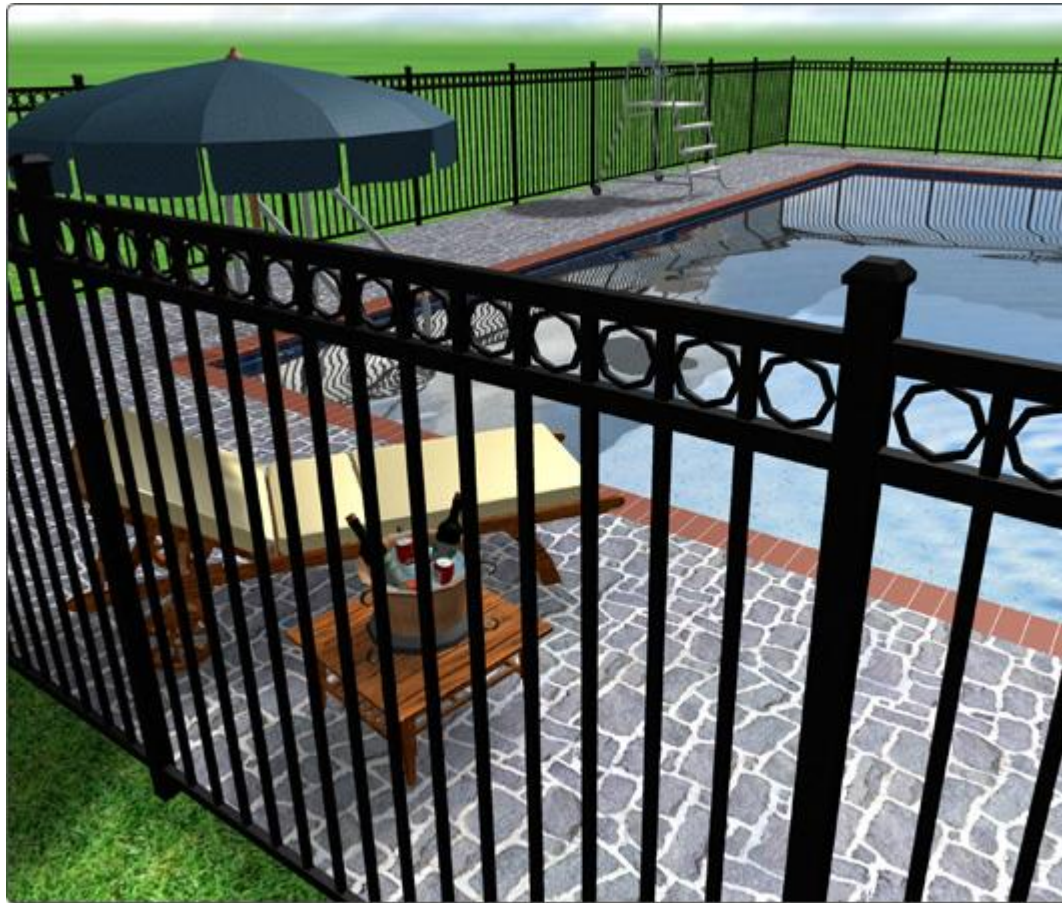
Adding a Panel Fence



Panel fences are similar to regular fences, but they support a wide range of metal styles and complex patterns. For example, if you needed to place a wrought iron or chain link fence, the panel fence tool could be used. For more standard wooden or vinyl fences, the regular fence tool may be used.

To add a fence:

1. Click the **Add Panel Fence** button, which is found near the top of the screen under the **Building** tab.
2. Draw the outline of the panel fence by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the panel fence, right-click to place the last point.



Tips:

Using the grid snap feature can make adding an accurate panel fence very easy. See [Snap Settings|topic=Snap Settings](#) for more details.

Once your panel fence is added, gates can be placed where necessary. See [Adding a Panel Fence Gate|topic=Adding a Panel Fence Gate](#) for more information.

See also:

- [Panel Fence Properties|topic=Panel Fence Properties](#)
- [Adding a Panel Fence Gate|topic=Adding a Panel Fence Gate](#)
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Panel Fence Properties

The properties used to modify a panel fence are located to the right of the screen when your panel fence is selected. Only some of these panel fence properties can be adjusted right before adding the panel fence to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available panel fence property in the order that they appear in the software:

Model	Description
Model	The Model property determines the type of panel fence. To change the panel fence model, click the picture that shows the current fence.
Material options	The appearance of the panel fence can be modified by clicking the small button that appears to the right of the panel fence image.

Options	Description
Width	The Width property determines the size of each panel fence section from left to right. To widen or narrow the sections of the selected panel fence, move the Width slider or type a value in the text field.
Height	The Height property determines how tall the selected panel fence is. To increase or decrease the height of your fence, move the Height slider or type a value in the text field.
Elevation	The Elevation property determines the distance of the panel fence from the ground. To change the elevation, move the Elevation slider or enter a value in the text field.
Edit Points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the

	shape of the panel fence. See Editing Points topic=Editing Points for details.
Shape Options	Click the Shape Options button to save the shape of the panel fence, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

<i>Information</i>	<i>Description</i>
Length	The Length property displays the total distance, in feet or meters, from the start of the panel fence to the finish.

See also:

[Adding a Panel Fence|topic=Adding a Panel Fence](#)
 Setting Object Properties
 Selecting Objects
 Editing Points
 Editing Objects

Adding a Panel Fence Gate



The Panel Gate object is used to add an adjustable opening to any panel fence in your landscape design. Panel gates operate very similarly to regular fence gates, and can be widened or narrowed as needed. Panel gates can be closed or set to any open angle desired.

To add a new gate:

1. Select the **Perspective** view (not required but recommended).
2. Adjust your view until you can clearly see the panel fence that you wish to add a gate to.
3. Click the **Add Panel Gate** button, which is found near the top of the screen under the **Building** tab.
4. Click the picture of the default panel gate that appears to the right of the screen, and then select the panel gate you would like to use from the menu that appears.
5. Click on the part of the panel fence in your design that you wish to add the gate to.



To open a panel gate:

1. Click the panel gate in your design to select it.
2. Set the **Open angle** [property|topic=Setting Object Properties](#) to any desired gate angle.



To move an existing panel gate:

1. Click your panel gate to select it.
2. Click the panel gate again, but this time hold down the left mouse button as you move the mouse to reposition the panel gate. Note that a panel gate cannot be moved to a different panel fence object.

Tips:

Panel gates can only be added to panel fences; they can not be added to regular fences.

If you wish to place multiple panel gates of the same type, click on the **Add Panel Gate** button, hold the **Ctrl** key on your keyboard, and then simply click once for each panel gate you wish to add.

Panel gate placement can be difficult if grid snap is enabled because your panel gate will move to the grid intersections as you attempt to add it. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).

Panel gates can be added only to panel fences that are already in your design; panel gates can not be added to other objects.

The height of the panel gate is automatically set to the height of the panel fence it is attached to.

See also:

- [Panel Fence Gate Properties|topic=Panel Fence Gate Properties](#)
- Adding a Fence
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Panel Fence Gate Properties

The properties used to modify a panel gate are located to the right of the screen when your panel gate is selected. These properties can either be adjusted right before adding the panel gate to a fence or after it has been added. Below is a description of each available panel gate property in the order that they appear in the software:

Options	Description
Model	The Model property determines the type of panel gate. To change the gate model, click the picture that shows the current panel gate.
Material options	The appearance of the panel gate can be modified by clicking the small button that appears to the right of the panel gate image.
Width	The Width property determines the size of the panel gate from left to right. To adjust the gate width, move the Width slider or type a value in the text field. For double gates, the width represents the combined width of both panel gates.
Open angle	The Open angle property determines how far the panel gate has been opened. An open angle of 0 degrees will cause the gate to be closed completely. To change the open angle, move the Open angle slider or enter a value in the text field.
Switch hinge side	The Switch hinge side property determines which side of the panel gate swings open. Check or uncheck the Switch hinge side option to toggle the hinged side of the gate. Note that this option has no effect on double gates because they have hinges on both sides.

See also:

- [Adding a Panel Fence Gate|topic=Adding a Panel Fence Gate](#)
- [Adding a Panel Fence|topic=Adding a Panel Fence](#)
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Adding a Deck



A large variety of deck styles can be created in DATAflor GRÜNSTUDIO 3D, including straight, multilevel, curved, and even decks with holes.

DATAflor GRÜNSTUDIO 3D makes it easy to create intricate deck designs; simply draw an outline for the deck and all the work of adding support posts, framing, railing, balusters, and more, is done automatically. Decks can be designed from scratch, or the [Deck Wizard](#) can be used to add a pre-built deck.

To add a deck:

1. Click the **Add Deck** button, which is found near the top of the screen under the **Building** tab.
2. Draw the outline of the deck by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the deck, place the last point on top of the first point. Alternately, right-click to place the last point; it will automatically connect to the first point.

The landscape in the following design features a deck with glass balusters:



Creating Curved Decking

The curvature of a deck can be edited at any point, allowing you to create accurate bends and rounded corners. For details on how to manipulate the points of a shape, see [Editing Points|topic=Editing Points](#).

If multiple sharp corners need to be rounded, see below for an easy way to round each corner at the same time.

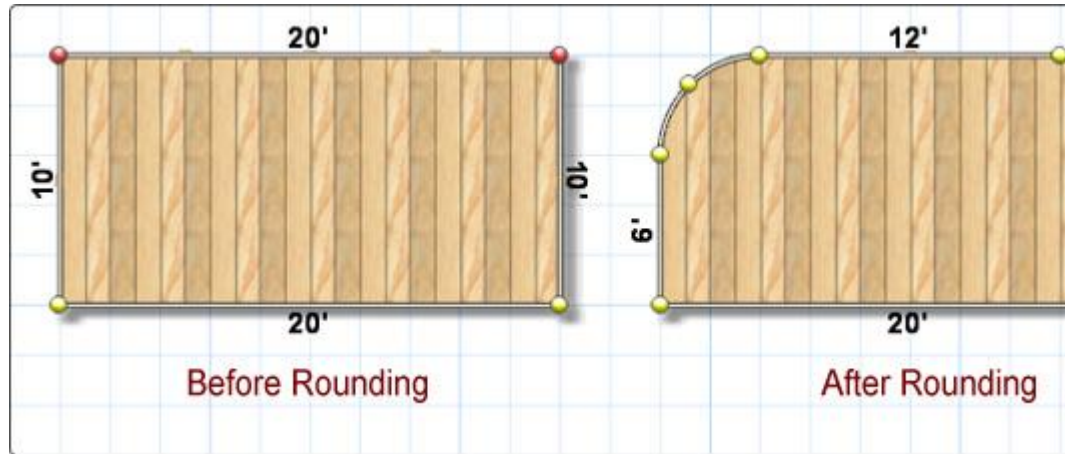
To round one or more corners:

1. Click the deck you wish to modify to select it. If more than one deck needs to be edited, hold the **Shift** key while clicking on additional decks.
2. Click the **Edit points** button found in the [properties|topic=Setting Object Properties](#).
3. Click the corner point(s) that need to be rounded. If more than one point must be rounded, hold the **Shift** key on your keyboard while clicking on additional points.
4. Click the **Round corners** button that is found underneath the Edit points button, or press the **O** key on your keyboard.
5. Move your mouse over one of the selected points, click and hold the left mouse button, and move the mouse to round the corners.

While the corners are being rounded, you will see the radius displayed at the bottom of the screen. When the desired radius is reached, release the left mouse button.

- Click the **Edit points** button again to disable point editing mode.

The following picture displays the same deck before and after two of its corners have been rounded using the steps above:



Cutting Holes

Holes of any shape and size can be cut into decks to make room for hot tubs, gardens, or other features.

To cut a hole in the deck:

- Select the **Plan** view.
- Click the **Ellipse** button that is found near the top of the screen under the **Plan Detail** tab, and draw a circle by holding the **Shift** key, clicking once on your design where the center of the circle should be, and again where the edge of the circle should be.
- Select the new circle by clicking on it, and then click it again, but this time hold down the left mouse button while moving the mouse to relocate the circle over the deck.
- Click your deck to select it.
- Hold the **Shift** key and click the circle to select it as well. Note that the selection order is important for creating holes; the deck must be selected first in this case.
- Click **Edit, Shape, and Boolean Subtract**. Alternately, just click the **Subtract shapes** button that is found near the top of the screen, under the **Main** tab.

The picture below shows a deck after a hole has been subtracted. The **Hide deck boards** option was used to expose the deck framing.



For more information on cutting shapes from one another, see [Using Booleans to Create Complex Shapes](#)[|topic=Using Booleans to Create Complex Shapes](#).

Deck Railing

The entire deck receives railing by default, but railing can be toggled on and off per edge using the **Toggle Railing** button. Note that you do not need to turn off the railing where you plan to add deck stairs; the deck stairs will automatically remove the railing for you.

You can also add standalone railing which can be placed anywhere on the deck. See [Adding Railing](#)[|topic=Adding Railing](#) for details.

To turn railing on or off:

1. Select the deck in your design, and click the **Toggle Railing** button that is found in the [properties](#)[|topic=Setting Object Properties](#) to enable railing editing mode.
2. Click each of the deck edges that need railing removed.
3. When you are finished, click the **Toggle Railing** button to disable railing editing mode.

Customizing the Plan View

Within the Plan view, decks can have a customized appearance. For example, a deck could look realistic in the Perspective view, but have a dark outline with a gradient fill interior when viewed in the Plan view. To customize the way the deck looks in the Plan view, click on the deck to select it, click the **Material** bar that appears to the right of the screen, and then check the **Custom appearance in each view** option. Two tabs will appear: Plan and Perspective. These two tabs allow you to customize how the deck appears in each view. If the Custom appearance in each view option is unchecked, then the deck will simply look like a realistic deck in both views.

Tips:

Decks are usually easiest to add while in the Plan view.

You can also add standalone railing which can be placed anywhere on the deck. See [Adding Railing|topic=Adding Railing](#) for details.

Using the grid snap feature can make adding an accurate deck very easy. See [Snap Settings|topic=Snap Settings](#) for more details.

Multistory decks can be built by adding each of the deck stories as individual decks using the steps above. For the upper level deck stories, set the **Elevation** slider (found to the right of the screen, under the **Options** bar, when a deck is selected) to the desired height.

Stairs can be easily added to any deck in your landscape design. For details, see [Adding Deck Stairs|topic=Adding Deck Stairs](#).

See also:

- Deck Properties
- Setting Object Properties
- Selecting Objects
- Editing Points
- Adding Deck Stairs
- [Adding Railing|topic=Adding Railing](#)
- Editing Objects

Deck Properties

The properties used to modify a deck are located to the right of the screen when your deck is selected. These deck properties can either be adjusted right before adding the deck to your landscape or after it has been added. Below is a description of each available deck property in the order that they appear in the software:

Options	Description
Style	The Style property determines the group of pre-set deck properties that are used. To change the deck style, click the picture that displays the current deck style.
Elevation	The Elevation property determines the distance of the deck from the ground. To change the elevation,

	move the Elevation slider or type a value in the text field.
Board direction	The Board direction property determines the angle of the deck boards. To change the direction of the deck boards, move the Board direction slider or enter a value in the text field.
Toggle railing	To toggle portions of the railing on and off, first click the Toggle railing button. Next, click on the deck edge underneath the railing you wish to toggle. When finished, click the Toggle railing button again to exit railing editing mode.
Save Style	Click the Save Style button to save your current deck configuration as a style that can be used in future designs.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the deck's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the deck, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the deck will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the deck will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the deck in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the deck in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the deck will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the deck can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the deck material. For example, if the deck has a wooden board

	material, then the Size slider will adjust the size of each board.
Offset X	The Offset X property determines the deck material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the deck material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the deck material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the deck in the Plan view. To change the deck opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the deck in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Framing	Description
Use default material	The Use default material property determines whether the deck framing will use the primary deck material or a different material specified by you. To enable selection of a separate framing material, click the Use default material checkbox.
Material	The Material property determines what type of surface the deck framing will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the deck framing can be modified by clicking the small button that appears to the right of the material image.

Add joists	The Add joists property determines whether lateral supports are placed on top of the deck beams. To toggle the appearance of joists, click the Add joists checkbox.
Add posts and beams	The Add posts and beams property determines whether deck posts and large beams are placed underneath the deck. To toggle the appearance of posts and beams, click the Add posts and beams checkbox.
Add cement footings	The Add cement footings property determines whether cement blocks are placed at the base of each deck post. To toggle the appearance of cement footings, click the Add cement footings checkbox. Cement footings will not appear unless the Add posts and beams property is checked.
Hide deck boards	The Hide deck boards property determines whether the deck surface is shown or hidden. To hide the deck boards and expose the deck's frame structure, click the Hide deck boards checkbox.

<i>Railing Posts</i>	<i>Description</i>
Use default railing posts	The Use default railing posts property determines whether the deck railing posts will use the primary deck material and style or a different style specified by you. To enable selection of advanced railing options, click the Use default railing posts checkbox.
Material	The Material property determines what type of surface the deck railing posts will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the deck railing posts can be modified by clicking the small button that appears to the right of the material image.
Placement	The Placement property determines whether the deck railing posts are placed within the perimeter of the deck or are attached to the outside of the deck. To toggle the location of the deck railing posts, click the Placement drop-down menu.
Cap style	The Cap style property determines the style of cap that is added to the top of each deck railing post. To select a new cap style, click the Cap style drop-down menu.
Base trim style	The Base trim style property determines the style of the trim that is placed at the bottom of each deck railing post. To change the trim, click the Base trim

	style drop-down menu. Base trim can only be added when the railing post placement is set to "Inside".
Post size	The Post size property determines the width and length of each deck railing post. To change the width and length of each deck railing post, move the Post size slider or type a value in the text field.
Max spacing	The Max spacing property determines the maximum distance between each deck railing post. To adjust the distance between posts, move the Max spacing slider or type a value in the text field.

Top Railing	Description
Use default top railing	The Use default top railing property determines whether the top railing will use the primary deck material and style or a different style specified by you. To enable selection of advanced top railing options, click the Use default top railing checkbox.
Material	The Material property determines what type of surface the top railing will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the top railing can be modified by clicking the small button that appears to the right of the material image.
Type	The Type property determines the shape of the top railing. To change the top railing's shape, click the Type drop-down menu.
Height	The Height property determines the distance from the top of the top rail to the surface of the deck. To adjust the distance from the top rail to the deck surface, move the Height slider or type a value in the text field.

Bottom Railing	Description
Use default bottom railing	The Use default bottom railing property determines whether the bottom railing will use the primary deck material and style or a different style specified by you. To enable selection of advanced bottom railing options, click the Use default top railing checkbox.
Material	The Material property determines what type of surface the bottom railing will use. To change the material, click the small image that displays the current material.

Material options	The appearance of the bottom railing can be modified by clicking the small button that appears to the right of the material image.
Type	The Type property determines the shape of the bottom railing. To change the bottom railing's shape, click the Type drop-down menu.
Add support blocks	The Add support blocks property determines whether a small wooden support is added between every two deck railing posts. To toggle the appearance of support blocks, click the Add support blocks checkbox.

Balusters	Description
Use default balusters	The Use default balusters property determines whether the balusters will use the primary deck material and style or a different style specified by you. To enable selection of advanced baluster options, click the Use default balusters checkbox.
Model	The Model property determines what type of baluster is used. To change the baluster model, click the small image that displays the current model.
Material options	The appearance of the baluster can be modified by clicking the small button that appears to the right of the baluster model image.
Width	The Width property determines how large each baluster is from left to right. To adjust the size of the balusters, move the Width slider or type a value in the text field.
Spacing	The Spacing property determines the distance between every two balusters. To increase or decrease the distance between balusters, move the Spacing slider or type a value in the text field.

Fascia	Description
Use default fascia	The Use default fascia property determines whether the fascia will use the primary deck material and style or a different style specified by you. To enable selection of advanced fascia options, click the Use default fascia checkbox.
Material	The Material property determines what type of surface is applied to the deck fascia. To change the fascia surface, click the small image that displays the current material.

Material options	The appearance of the fascia can be modified by clicking the small button that appears to the right of the fascia material image.
Size	The Size property determines the scale of the fascia material. For example, if the fascia has a wooden board material, then the Size slider will adjust the size of each board.
Angle	The Angle property determines the rotation angle of the fascia material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the fascia material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the fascia material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the fascia material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Height	The Height property determines the distance between the top of the deck's surface to the bottom of the fascia. To adjust the height of the fascia, move the Height slider or type a value in the text field.

Skirting	Description
Add skirting	The Add skirting property determines whether a lattice is placed below the deck fascia. To enable or disable skirting, click the Add skirting checkbox.
Material	The Material property determines what type of surface is applied to the deck skirting. To change the skirting surface, click the small image that displays the current material.
Material options	The appearance of the skirting can be modified by clicking the small button that appears to the right of the skirting material image.

Size	The Size property determines the scale of the skirting material. For example, if the skirting has a wooden board material, then the Size slider will adjust the size of each board.
Angle	The Angle property determines the rotation angle of the skirting material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the skirting material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the skirting material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the skirting material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Height	The Height property determines the distance between the top of the deck skirting and the bottom. To adjust the skirting height, move the Height slider or type a value in the text field. If the Auto-calculate height property is checked, then the height may not be adjusted manually.
Auto-calculate height	The Auto-calculate height property determines whether the skirting height automatically extends to the ground, or can be adjusted manually. To toggle the deck skirting height calculation, click the Auto-calculate height checkbox.
Add trim	The Add trim property determines whether solid trim is placed on the deck skirting below each deck railing post. To toggle the appearance of the skirting trim, click the Add trim checkbox.
Trim color	The Trim color property determines the color of the deck skirting trim if the Add trim property is checked. To change the color of the trim, click the small swatch that displays the current trim color.

Information	Description
Area	The Area property displays the total size of the deck in square feet or meters.
Perimeter	The Perimeter property displays the total distance around the deck in feet or meters.

See also:

[Adding a Deck](#)
[Adding Deck Stairs](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Editing Points](#)
[Editing Objects](#)
[Saving and Loading Shapes](#)

Adding Deck Stairs



Both straight and curved deck stairs are supported by DATAflor GRÜNSTUDIO 3D. Deck stairs are easy to place and can wrap around multiple deck edges and corners if needed.

To add stairs to an existing deck:

1. Click the **Add Deck Stairs** button that appears near the top of the screen, under the **Building** tab.
2. Move your mouse over the edge of a deck in your design where you would like to place stairs, and click to add the stairs to the deck. A brown line will help you to visualize where the steps will be placed before clicking.



To move existing stairs:

1. Click the stairs to select them.
2. Click the stairs again, but this time hold down the left mouse button as you move the mouse to reposition the stairs. Note that deck stairs cannot be moved to a different deck object.

Tips:

If you wish to place multiple sets of deck stairs, click on the **Add Deck Stairs** button, hold the **Ctrl** key on your keyboard, and then simply click once for each set of deck stairs you wish to add.

Deck stairs placement can be difficult if grid snap is enabled because your deck stairs will move to the grid intersections as you attempt to add them. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).

Deck stairs can be added only to decks that are already in your design; deck stairs can not be added to other objects.

The material of the deck stairs will automatically match the material of the deck that they are attached to.

See also:

Deck Stairs Properties
 Setting Object Properties
 Selecting Objects
 Adding a Deck
 Editing Objects

Deck Stairs Properties

The properties used to modify deck stairs are located to the right of the screen when your deck stairs are selected. These deck stairs properties can either be adjusted right before adding the deck stairs to a deck or after it has been added. Below is a description of each available deck stairs property in the order that they appear in the software:

<i>Options</i>	<i>Description</i>
Total width	The Total width property determines the distance of the deck stairs from one end to the other. To change the stair width, move the Total width slider or enter a value in the text field.
Max rise	The Max rise property determines the vertical distance from one step to the next. To change the rise, move the Max rise slider or enter a value in the text field.
Tread run	The Tread run property determines the length of each step. To change the step length, move the Tread run slider or enter a value in the text field.
Auto-calculate height	The Auto-calculate height property determines whether the deck stairs will automatically continue until they reach the ground. This option should be unchecked when working with multilevel decks. To toggle the state of the deck stairs, click the Auto-calculate height checkbox.
Total height	The Total height property determines the distance from the bottom step to the surface of the deck that the stairs are attached to. To change the height of the deck stairs, move the Total height slider or enter a value in the text field. This option is not available unless the Auto-calculate height option is disabled.
Left railing	The Left railing property determines whether a handrail is added to the left side of the deck stairs. To toggle the left handrail, click the Left railing checkbox.
Right railing	The Right railing property determines whether a handrail is added to the right side of the deck stairs. To toggle the right handrail, click the Right railing checkbox.
Add skirting	The Add skirting property determines whether a lattice is added between the ground and the bottom of

	the deck stairs frame. To toggle the appearance of the skirting, click the Add skirting checkbox. Skirting will not appear on the deck stairs unless it is enabled on deck object they are attached to.
Add round nosing	The Add round nosing property determines whether the front of each stair step is rounded or flat. To toggle the smoothness of the front of each step, click the Add round nosing checkbox.

Tread	Description
Use same material as deck	The Use same material as deck property determines whether the step tread will use the primary deck material or a different material specified by you. To enable selection of a separate tread material, click the Use same material as deck checkbox.
Tread material	The Tread material property determines what type of surface is applied to the stair tread. To change the tread surface, click the small image that displays the current material.
Material options	The appearance of the tread material can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the tread material. For example, if the tread has a wooden board material, then the Size slider will adjust the size of each board.
Angle	The Angle property determines the rotation angle of the tread material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the tread material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the tread material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the tread material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be

	enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Hide gaps between boards	The Hide gaps between boards property determines whether a virtual gap will be shown between the stock wooden materials that are included with the software. If a material outside of the “Deck and Fence” category is chosen, then gaps can not be shown. To toggle the appearance of the gaps, click the Hide gaps between boards checkbox.

Riser	Description
Use same material as deck	The Use same material as deck property determines whether the step riser will use the primary deck material or a different material specified by you. To enable selection of a separate riser material, click the Use same material as deck checkbox.
Riser material	The Riser material property determines what type of surface is applied to the stair riser. To change the riser surface, click the small image that displays the current material.
Material options	The appearance of the riser can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the riser material. For example, if the riser has a wooden board material, then the Size slider will adjust the size of each board.
Angle	The Angle property determines the rotation angle of the riser material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the riser material’s left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the riser material’s forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the material will have simulated depth. For this option to take effect the

	master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
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Stringer	Description
Use same material as deck	The Use same material as deck property determines whether the step stringers will use the primary deck material or a different material specified by you. To enable selection of a separate stringer material, click the Use same material as deck checkbox.
Stringer material	The Stringer material property determines what type of surface is applied to the stair stringers. To change the stringer surface, click the small image that displays the current material.
Material options	The appearance of the stringer material can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the stringer material. For example, if the stringer has a wooden board material, then the Size slider will adjust the size of each board.
Angle	The Angle property determines the rotation angle of the stringer material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the stringer material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the stringer material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the stringer material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

Adding Deck Stairs
Adding a Deck
Setting Object Properties
Selecting Objects
Editing Objects

Adding Railing



Use the Railing tool to add standalone railing to patios, porches, walkways, and other areas of your landscape design. Railing can be straight or curved, stepped or angled, and a wide variety of post, baluster, and cap styles are included. You can use the built-in styles and even save your own custom styles.

To add railing:

1. Click the **Add Railing** button, which is found near the top of the screen under the **Building** tab.
2. Draw the outline of the railing by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the railing, right-click to place the last point.

The railing in the following design was added using the Railing tool:



Creating Curved Railing

The railing curvature can be edited at any point, allowing you to create accurate bends and rounded corners. For details on how to manipulate the points of a shape, see [Editing Points|topic=Editing Points](#).

Tips:

Railing is usually easiest to add while in the Plan view.

Railing posts will automatically appear at each point. You can add and remove posts as needed by simply adding and removing control points.

For stepped railing, click the **Stepped** option. The railing will then be constructed in horizontal sections, with elevation changes occurring only at the control points.

See also:

[Railing Properties|topic=Railing Properties](#)

Setting Object Properties

Selecting Objects

Editing Points

Editing Objects

Railing Properties

The properties used to modify railing are located to the right of the screen when your railing is selected. These properties can either be adjusted right before adding the railing to your landscape or after it has been added. Below is a description of each available railing property in the order that they appear in the software:

Options	Description
Style	The Style property determines the group of pre-set railing properties that are used. To change the railing style, click the picture that displays the current style.
Closed	The Closed property determines whether the railing shape is open or closed. To toggle the state of the railing shape, click the Closed checkbox.
Stepped	When the railing is placed on an uneven surface, the Stepped property determines if the railing is horizontal or angled.
Switch sides	Some balusters are not symmetrical, such as iron balusters which bow outward. Use this option to reverse which side the balusters face.
Elevation	The Elevation property determines the distance of the railing from the underlying railing, patio, or terrain. To change the elevation, move the Elevation slider or type a value in the text field.
Save Style	Click the Save Style button to save your current railing configuration as a style that can be used in future designs.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the railing's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the railing, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Railing Posts	Description
Material	The Material property determines what type of surface the railing posts will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the railing posts can be modified by clicking the small button that appears to the right of the material image.

Cap style	The Cap style property determines the style of cap that is added to the top of each railing post. To select a new cap style, click the Cap style drop-down menu.
Base trim style	The Base trim style property determines the style of the trim that is placed at the bottom of each railing post. To change the trim, click the Base trim style drop-down menu.
Post size	The Post size property determines the width and length of each railing post. To change the width and length of each railing post, move the Post size slider or type a value in the text field.
Max spacing	The Max spacing property determines the maximum distance between each railing post. To adjust the distance between posts, move the Max spacing slider or type a value in the text field.

Top Railing	Description
Material	The Material property determines what type of surface the top railing will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the top railing can be modified by clicking the small button that appears to the right of the material image.
Type	The Type property determines the shape of the top railing. To change the top railing's shape, click the Type drop-down menu.
Height	The Height property determines the distance from the top of the top rail to the surface of the railing. To adjust the distance from the top rail to the railing surface, move the Height slider or type a value in the text field.

Bottom Railing	Description
Material	The Material property determines what type of surface the bottom railing will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the bottom railing can be modified by clicking the small button that appears to the right of the material image.

Type	The Type property determines the shape of the bottom railing. To change the bottom railing's shape, click the Type drop-down menu.
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Balusters	Description
Use default balusters	The Use default balusters property determines whether the balusters will use the primary railing material and style or a different style specified by you. To enable selection of advanced baluster options, click the Use default balusters checkbox.
Model	The Model property determines what type of baluster is used. To change the baluster model, click the small image that displays the current model.
Material options	The appearance of the baluster can be modified by clicking the small button that appears to the right of the baluster model image.
Width	The Width property determines the width of each baluster. To adjust the size of the balusters, move the Width slider or type a value in the text field.
Spacing	The Spacing property determines the distance between every two balusters. To increase or decrease the distance between balusters, move the Spacing slider or type a value in the text field.

Information	Description
Length	The Length property displays the total length of the railing in feet or meters.

See also:

- [Adding Railing|topic=Adding Railing](#)
- Adding a Deck
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects
- Saving and Loading Shapes

Adding a Patio



Patios of any shape and size are easy to construct in DATAflor GRÜNSTUDIO 3D. Because patios are always flat, they are especially useful when working

with sloping and uneven terrain. Patios support a wide variety of materials, including stone, concrete, brick, flagstone, and more.

To add a patio:

1. Click the **Add Patio** button, which is found at the top of the screen under the **Building** tab.
2. Draw the outline of the patio by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the patio, place the last point on top of the first point. Alternately, right-click to place the last point; it will automatically connect to the first point.



Editing the Border

A border is automatically added when you create the patio. You can toggle the border on or off per edge or turn it off entirely.

To edit the border:

1. Select the patio that you want to change.
2. Expand the **Border** menu found to the right of the screen.

3. Click **Border type** and select the desired border type.

To toggle the border on or off per edge:

1. Select the patio that you want to change.
2. Expand the **Border** menu found to the right of the screen.
3. Click the **Edit Border** button to enter border editing mode.
4. Click each edge where you want to toggle the border on or off.
5. Click the **Edit Border** button again to leave border editing mode.

To remove the border:

1. Select the patio that you want to change.
2. Expand the **Border** menu found to the right of the screen.
3. Set the **Border type** to **None**.

Note: The corner type of the patio border can be adjusted at each point. See [Changing Corner Types|topic=Changing Corner Types](#) for details.

The following landscape design uses a patio with a border, as well as a separate Accent Strip for the inset.



Adding Stairs

For instructions on adding stairs to your patio, see [Adding Patio Stairs|topic=Adding Patio Stairs](#).

Adding Patios to Sloping Terrain

Patios can be built on sloping terrain to provide a flat building surface for decks, houses, lawn furniture, rockery, and more.

Customizing the Plan View

Like many other objects, Patios can have a customized appearance in the Plan view. This is useful when the patio needs to look realistic in the Perspective view, but stylized in the Plan view. To achieve this, check the **Custom appearance in each view** option that appears to the right of the screen when a patio is selected. After this option is checked, two tabs will appear: Plan and Perspective. These tabs make it easy to customize how the patio will appear in each view. If you wish the patio to look realistic in both views, simply ensure that the Custom appearance in each view option is not checked.

Tips:

Patios are usually easiest to add while in the Plan view.

Using the grid snap feature can make adding an accurate patio very easy. See [Snap Settings|topic=Snap Settings](#) for more details.

Stairs can be easily added to any patio in your landscape design. For details, see [Adding Patio Stairs|topic=Adding Patio Stairs](#).

See also:

- Patio Properties
- Setting Object Properties
- Selecting Objects
- Editing Points
- [Adding Patio Stairs|topic=Adding Patio Stairs](#)
- Editing Objects

Patio Properties

The properties used to modify a patio are located to the right of the screen when your patio is selected. These patio properties can either be adjusted right before adding the patio to your landscape or after it has been added. Below is a description of each available patio property in the order that they appear in the software:

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the patio will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the patio will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the patio in the Plan view. This tab will

	not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the patio in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the patio will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the patio can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the patio material. For example, if the patio has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the patio material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the patio material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the patio material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the patio material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the patio in the Plan view. To change the patio opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style... property determines the appearance of the outline of the patio in the Plan view. To change the line style, click the Line Style... button and select the style you wish to use from the dialog that appears.

	Note that a line style is only available when the Custom appearance in each view option is checked.
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Options	Description
Elevation	The Elevation property determines the distance of the patio from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Height	The Height property determines how tall the patio is. To adjust the patio height, move the Height slider or type a value in the text field.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the patio's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the patio, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Border	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the patio border will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the patio border will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the patio border in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the patio border in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the patio border will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the patio border can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the patio border material. For example, if the border has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the patio border material. To change the material

	angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the patio border material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the patio border material's top to bottom orientation. To shift the material up or down, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the patio border material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the patio border in the Plan view. To change the border opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line Style	The Line Style property determines the appearance of the outline of the patio border in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.
Border type	The Border type property determines whether the border will be flat, bullnose, seamless, or turned off entirely. To change the style of border, click the Border type drop-down list.
Length	The Length property determines the size of the border. To adjust the border size, drag the Length slider or type a value in the text field.
Height	The Height property determines how far down the side of the patio the border extends. To adjust the border height, move the Height slider or type a value in the text field.
Overhang	The Overhang property determines how far the border extends outside the patio. To adjust the border extension, move the Overhang slider or type a value in the text field.

Edit border	Click the Edit border button to enable or disable border editing mode. When enabled, click an edge of the patio to enable or disable the border at that location.
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Information	Description
Area	The Area property displays the total size of the patio in square feet or meters.
Perimeter	The Perimeter property displays the total distance around the patio in feet or meters.

See also:

[Adding a Patio](#)
[Adding Patio Stairs|topic=Adding Patio Stairs](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Editing Points](#)
[Editing Objects](#)

Adding Patio Stairs



To add Patio Stairs:

1. Click the **Add Patio Stairs** button, which is found near the top of the screen under the **Building** tab.
2. Draw the outline of the top of the Patio Stairs by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the Patio Stairs, right-click to place the last point.

The Patio Stairs shape is controlled by the outline of the top step. Both straight and curved Patio Stairs can be created.

In the picture below, a Patio was used for the top landing and Patio Stairs were used for the steps. The Patio Stairs were simply drawn along the shape of the landing's perimeter.



Creating Complex Shapes

When Patio Stairs are selected, to the right of the screen there will be a **Closed** option. If the Closed option is checked, the shape that defines the Patio Stairs can be closed, which is useful when making hexagonal, circular, and other types of stairs. In the picture below, a Patio Stairs object has been drawn as a closed circle.



Customizing the Plan View

You can customize the way that Patio Stairs appear in the Plan view. This is useful when you need the Patio Stairs to look realistic in the Perspective view, but stylized in the Plan view. To achieve this, check the **Custom appearance in each view** option that appears when Patio Stairs are selected. If you wish for the Patio Stairs to look realistic in both views, ensure that the Custom appearance in each view option is not checked.

Tips:

Unlike the Deck Stairs, Patio Stairs do not need to be attached to a patio. This allows the Patio Stairs tool to be very versatile and useful in a variety of applications.

The shape of Patio Stairs can be matched to a patio easily through the use of the Save and Load Shape commands. To do this, select the patio you wish to add Patio Stairs to and save the shape. Next, add the Patio Stairs using the Load Shape command. See [Saving and Loading Shapes|topic=Saving and Loading Shapes](#) for more details.

When adding Patio Stairs to a Patio landing, it is best to set the **Elevation** property of the Patio Stairs to the height of the Patio minus the step rise.

See also:

- Patio Stairs Properties
- Setting Object Properties
- Selecting Objects
- Adding a Patio
- Editing Objects

Patio Stairs Properties

The properties used to modify Patio Stairs are located to the right of the screen when your Patio Stairs are selected. These Patio Stairs properties can either be adjusted right before adding the stairs to your landscape or after they have been added. Below is a description of each available Patio Stairs property in the order that they appear in the software:

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the patio stairs will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the patio will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the patio stairs in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the patio stairs in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the patio stairs will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the patio stairs can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the stair material. For example, if the stairs have a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the stair material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the stair material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the stair material's forward and backward orientation. To shift the

	material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the stair material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the patio stairs in the Plan view. To change the patio stairs opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the patio stairs in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Type	The Type property determines whether the tread will be flat, bullnose, seamless, or rough cut.
Height	The Height property determines the tread height.
Overhang	The Overhang property determines how far the tread will overhang the step.
Max rise	The Max rise property determines the vertical distance from one step to the next. To change the rise, move the Max rise slider or enter a value in the text field.
Tread run	The Tread run property determines the length of each step. To change the step length, move the Tread run slider or enter a value in the text field.
Elevation	The Elevation property determines the distance of the patio stairs from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

Auto-calculate total rise	The Auto-calculate total rise property determines whether the patio stairs will automatically continue until they reach the ground. To toggle the state of the patio stairs, click the Auto-calculate total rise checkbox.
Total rise	The Total rise property determines the distance from the top step to the bottom step. This option is only available when the Auto-calculate total rise option is not checked. To change the total rise, move the Total rise slider or enter a value in the text field.
Closed	The Closed property determines whether the patio stairs shape is open or closed. To toggle the state of the patio stairs shape, click the Closed checkbox
Switch sides	The Switch sides property can be checked to reverse the direction that the steps run.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the patio stairs shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the patio stairs, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Tread	Description
Use default material	The Use default material property determines whether the step tread will use the primary material or a different material specified by you.
Tread	The Tread property determines what type of surface is applied to the stair tread. To change the tread surface, click the small image that displays the current material.
Material options	The appearance of the tread material can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the tread material.
Angle	The Angle property determines the rotation angle of the tread material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the tread material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.

Offset Y	The Offset Y property determines the tread material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the tread material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Riser	Description
Use default material	The Use default material property determines whether the step riser will use the primary material or a different material specified by you. To enable selection of a separate riser material, click the Use same material as deck checkbox.
Riser material	The Riser material property determines what type of surface is applied to the stair riser. To change the riser surface, click the small image that displays the current material.
Material options	The appearance of the riser can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the riser material.
Angle	The Angle property determines the rotation angle of the riser material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the riser material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the riser material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low,

	Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

[Adding Patio Stairs|topic=Adding Patio Stairs](#)

Adding a Patio

Setting Object Properties

Selecting Objects

Editing Objects

Adding a Retaining Wall



Usually, Retaining walls are used on steeply sloped lots and terraces to provide support and prevent erosion, but landscape retaining walls can also be used as freestanding partitions. Retaining wall designs can be created in many different shapes and styles because in DATAflor GRÜNSTUDIO 3D, retaining walls support curves, variable heights, stepped or curved, terrain cutting, optional caps, and independent cap material selection.

To add a retaining wall:

1. Click the **Add Retaining Wall** button, which is found at the top of the screen under the **Building** tab.
2. Draw the outline of the Retaining Wall by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the Retaining Wall, right-click to place the last point.

The design below shows an example Retaining Wall.



Adjusting the Shape of a Retaining Wall

The height of a Retaining Wall can be modified at each point, which allows you to add Retaining Walls that slope up or taper down.

To modify the wall height:

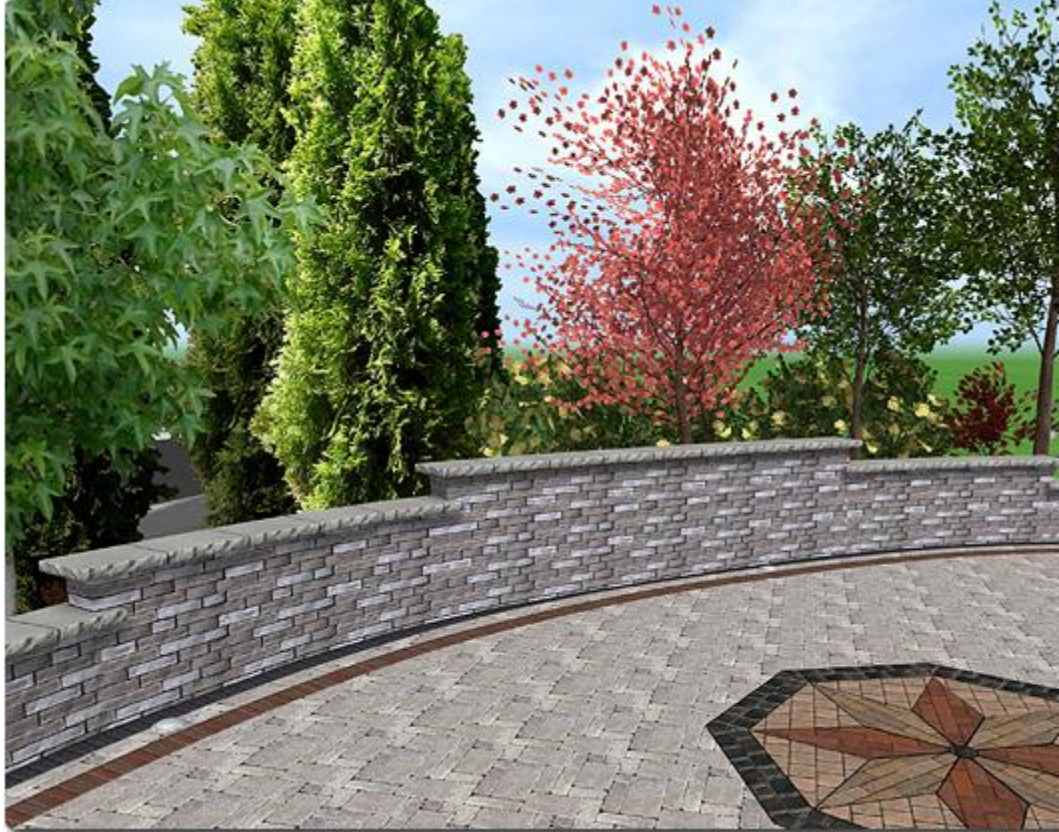
1. Click the Retaining Wall in your design to select it.
2. Click the **Edit points** button found in the [properties|topic=Setting Object Properties](#) to enable point editing mode.
3. Click the point on your Retaining Wall that you would like to adjust. Additional points can be added if needed.
4. Modify the **Height** property to raise or lower the selected portion of the Retaining Wall. Alternately, hold the **Ctrl** key on your keyboard, click and hold the left mouse button over the point you wish to adjust, and then raise or lower the mouse.
5. When finished, click the **Edit points** button to disable point editing mode.

The picture below shows an example of a retaining wall that was tapered at both ends using the steps above.



Creating Stepped Retaining Walls

To create a stepped retaining wall, click the **Stepped** option. You can then adjust the height of each segment using the above instructions.



Using the Cut Terrain Feature

One of DATAflor GRÜNSTUDIO 3D's powerful features is its ability to support retaining walls that cut into the terrain realistically. This feature is useful when creating landscape designs with varying topology.

To cut into the terrain:

1. Click a Retaining Wall that has been added to your design.
2. Select **Edit, Terrain Sculpting Order**, and **Bring to Top** to ensure that the cutting effect of the Retaining Wall is applied on top of any other topology changes.
3. Click the **Cut terrain** property|topic=Setting Object Properties to enable terrain cutting.
4. If you find that the Retaining Wall is cutting the terrain in the wrong direction, click the **Reverse cut direction** property.
5. To change the cut distance, use the **Cut distance** property.
6. To change the cutting angles, click **Edit Cut Angles** and adjust the blue handles at the start and end points. When finished, click **Edit Cut Angles** again to resume normal editing.



Creating Terraces

Retaining walls can be used to create terraces on sloping terrain.

To create terraces:

1. Add a Slope to your landscape design using the **Slope** tool. For details see [Sculpting the Terrain|topic=Sculpting the Terrain](#).
2. Create one Retaining Wall to cut the lowest terrace level, and configure the Retaining Wall to cut the terrain following the steps above.
3. Set the **Height** property|topic=Setting Object Properties of the Retaining Wall to the desired height of the first terrace level. Alternately, use the **Auto wall height** property to calculate the Retaining Wall height automatically based on the surrounding terrain.
4. Add another Retaining Wall for the next terrace level and set the **Elevation** property to approximately a few feet, depending on your needs.
5. Repeat these steps for each terrace level.

The picture below shows an example of two Retaining Walls that have been used to create a flower bed terrace.



Tips:

Use the Auto Wall Height option, which is located to the right of the screen when a Retaining Wall is selected, to automatically calculate the Retaining Wall height based on the surrounding terrain.

Retaining Walls can be added in both the Plan view and the Perspective view, but are usually easiest to add in the [Plan view|topic=Plan View](#).

Using the grid snap feature can make adding an accurate Retaining Wall very easy. See [Snap Settings|topic=Snap Settings](#) for more details.

If you simply need a small wall to use as edging, you should consider using the [Edging object|topic=Adding Edging](#) instead.

If you find that your Retaining Wall is not cutting the terrain like you expected it to, the reason might be that the terrain sculpting objects were added after the Retaining Wall. See [Controlling the Terrain Sculpting Order|topic=Controlling the Terrain Sculpting Order](#) for more information.

See also:

Retaining Wall Properties
 Setting Object Properties
 Selecting Objects
 Editing Points
 Editing Objects
 Sculpting the Terrain

Retaining Wall Properties

The properties used to modify a Retaining Wall are located to the right of the screen when your Retaining Wall is selected. These Retaining Wall properties can either be adjusted right before adding the wall to your landscape or after it has been added. Below is a description of each available Retaining Wall property in the order that they appear in the software:

Cap Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the retaining wall will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the retaining wall will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the retaining wall in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the retaining wall in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the retaining wall cap will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the retaining wall cap can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the retaining wall cap material. For example, if the cap has a brick material, then the Size slider will adjust the size of each brick. Note that the Size slider has no effect on solid color or gradient materials.
Angle	The Angle property determines the rotation angle of the retaining wall material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the retaining wall material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the retaining wall material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the

	Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the retaining wall material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the retaining wall in the Plan view. To change the retaining wall opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the retaining wall in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.
Type	The Type property determines the shape and style of the retaining wall cap. To change the shape of the cap, click the Type drop-down menu and select Bullnose, Seamless, Flat, rough cut, or None.
Height	The Height property determines how tall the retaining wall cap is. To enlarge or decrease the cap's size, move the Height slider or type a value in the text field.
Overhang	The Overhang property determines how far the retaining wall cap extends from the retaining wall. To adjust the cap extension, move the Overhang slider or type a value in the text field.

Wall Material	Description
Wall material	The Wall Material property determines what type of surface the retaining wall will use. To change the material, click the small image that displays the current material.
Wall material options	The appearance of the retaining wall can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the wall material. For example, if the wall has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the wall material. To change the material angle, move the Angle slider or type a value in the text field.

Offset X	The Offset X property determines the wall material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the wall material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the wall material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Elevation	The Elevation property determines the distance of the retaining wall from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Width	The Width property determines how thick the retaining wall is. To change the retaining wall width, move the Width slider or enter a value in the text field.
Closed	The Closed property determines whether the retaining wall's shape is open or closed. To change the state of the retaining wall's shape, click the Closed checkbox to toggle it.
Switch sides	The Switch sides property determines on which side of the defining line the retaining wall is created. To change the placement of the retaining wall, click the Switch sides checkbox.
Stepped	The Stepped property determines if the retaining wall top will be stepped or curved. When Stepped is enabled, the height of each segment can be controlled by editing the height at the adjacent point. When Stepped is disabled, the wall height will curve smoothly between the points.
Auto wall height	The Auto wall height property determines whether the retaining wall's height is automatically set to match the surrounding terrain. To toggle the automatic height of the retaining wall, click the Auto wall height checkbox. If the Stepped property is enabled, the Auto wall height checkbox will not be accessible.

Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the retaining wall's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the retaining wall, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Height	The Height property determines how tall the retaining wall is. To adjust the retaining wall's height, move the Height slider or type a value in the text field.

Cut Terrain	Description
Cut terrain	When the Cut terrain option is checked, the Retaining Wall will cut off the terrain to one side of the wall, effectively leveling the terrain on that side.
Reverse cut direction	When the Cut terrain option is checked, the Reverse cut direction option can be used to switch the direction of the Retaining Wall's cut.
Cut distance	Adjusts how far the terrain is cut relative to the Retaining Wall outline.
Edit Cut Angles	Toggles Cut Angle editing mode. When enabled, you can change the cut angles at the start and end points by dragging the blue handles.

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the retaining wall to the finish.

See also:

- Adding a Retaining Wall
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Adding an Accent Strip



Accent strips are lengths of material that are typically used in brick and patio designs. Accent strips may be placed over bare terrain, regions, patios, pool decking, swimming pool bottoms, and decks. Accent strips have no height or

elevation as they are intended to integrate with the surface they are placed upon.

To add an accent strip:

1. Click the **Add Accent Strip** button, which is found at the top of the screen under the **Building** tab.
2. Draw the outline of the Accent Strip by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the Accent Strip, right-click to place the last point. Alternately, if the accent strip is an enclosed shape, simply place the last point on the first point to complete the shape.

The design in the picture below shows an accent strip used to add gray bricks to a walkway.



Tips:

Accent Strips can be added in both the Plan view and the Perspective view, but are usually easiest to add in the [Plan view|topic=Plan View](#).

Using the grid snap feature can make adding an accurate Accent Strip very easy. See [Snap Settings|topic=Snap Settings](#) for more details.

If you need a length of material that has height, you should consider using the [Edging object|topic=Adding Edging](#) instead.

See also:

- Accent Strip Properties
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects
- Sculpting the Terrain

Accent Strip Properties

The properties used to modify an Accent Strip are located to the right of the screen when your Accent Strip is selected. These properties can either be adjusted right before adding the strip to your landscape or after it has been added. Below is a description of each available Accent Strip property in the order that they appear in the software:

Material	Description
Orientation follows contour	The Orientation follows contour property determines whether the accent strip material will bend to follow the path of the accent strip, or if the material will be applied without regard to the shape of the strip. To toggle the material orientation, click the Orientation follows contour checkbox.
Custom appearance in each view	The Custom appearance in each view option determines whether the accent strip will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the accent strip will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the accent strip in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the accent strip in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the accent strip will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the accent strip can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the accent strip material. For example, if the strip has a brick material, then the Size slider will adjust the size of each brick.

Angle	The Angle property determines the rotation angle of the accent strip material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the accent strip material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the accent strip material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the accent strip material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Max Elevation	<p>The Max elevation property determines the surface that the accent strip is applied to. For example if the accent strip is placed partially or completely on top of a patio, and the Max elevation property is set to a lower elevation than the patio, then the accent strip will apply to the terrain below the patio, and ignore the patio itself. However, if the Max elevation property is set to a higher elevation than the patio, then the accent strip will ignore the terrain and only apply to the patio itself.</p> <p>To change the elevation, move the Max elevation slider or type a value in the text field.</p>
Width	The Width property determines how thick the accent strip is. To change the accent strip width, move the Width slider or enter a value in the text field.
Closed	The Closed property determines whether the accent strip's shape is open or closed. To change the state of the accent strip's shape, click the Closed checkbox to toggle it.
Switch sides	The Switch sides property determines on which side of the defining line the accent strip is created. To change the placement of the accent strip, click the Switch sides checkbox.

Add border	The Add border property determines whether a solid color outline is created around the accent strip. To toggle the outline, click the Add border checkbox.
Border width	The Border width property determines the thickness of the accent strip outline. To change the accent strip border width, move the Width slider or enter a value in the text field. The Border width property will not be functional unless the Add border checkbox is enabled.
Border color	The Border color property determines the color of the accent strip outline if the Add border checkbox is enabled. To change the color of the border, click the small swatch that displays the current border color.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the accent strip's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the accent strip, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Area	The Area property displays the total size of the accent strip in square feet or meters.
Length	The Length property displays the total distance, in feet or meters, from the start of the accent strip to the finish.
Perimeter	The Perimeter property displays the total distance around the border of the accent strip in feet or meters.

See also:

- Adding an Accent Strip
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Adding an Accent Shape



Accent shapes are areas of material that are typically used in brick and patio designs. Accent shapes may be placed over bare terrain, regions, patios, pool decking, swimming pool bottoms, and decks. Accent shapes have no height or elevation as they are intended to integrate with the surface they are placed upon.

To add an accent shape:

1. Click the **Add Accent shape** button, which is found near the top of the screen under the **Building** tab.
2. Draw the outline of the accent shape by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the accent shape, place the last point on top of the first point. Alternately, right-click to place the last point; it will automatically connect to the first point.

The design below uses accent shapes to create a compass of inlaid stone.



Tips:

Accent Shapes can be added in both the Plan view and the Perspective view, but are usually easiest to add in the [Plan view](#)[|topic=Plan View](#).

Using the grid snap feature can make adding an accurate Accent Shape very easy. See [Snap Settings](#)[|topic=Snap Settings](#) for more details.

If you need an area of material that has height, you should consider using the [Patio object|topic=Adding a Patio](#) instead.

See also:

- Accent Shape Properties
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects
- Sculpting the Terrain

Accent Shape Properties

The properties used to modify an Accent Shape are located to the right of the screen when your Accent Shape is selected. These properties can either be adjusted right before adding the shape to your landscape or after it has been added. Below is a description of each available Accent Shape property in the order that they appear in the software:

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the accent shape will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the accent shape will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the accent shape in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the accent shape in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the accent shape will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the accent shape can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the accent shape material. For example, if the shape has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the accent shape material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the accent shape material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the accent shape material's forward and backward orientation. To shift the material

	forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the accent shape material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Max Elevation	<p>The Max elevation property determines the surface that the accent shape is applied to. For example if the accent shape is placed partially or completely on top of a patio, and the Max elevation property is set to a lower elevation than the patio, then the accent strip will apply to the terrain below the patio, and ignore the patio itself. However, if the Max elevation property is set to a higher elevation than the patio, then the accent shape will ignore the terrain and only apply to the patio itself.</p> <p>To change the elevation, move the Max elevation slider or type a value in the text field.</p>
Add border	The Add border property determines whether a solid color outline is created around the accent shape. To toggle the outline, click the Add border checkbox.
Border width	The Border width property determines the thickness of the accent shape outline. To change the accent shape border width, move the Width slider or enter a value in the text field. The Border width property will not be functional unless the Add border checkbox is enabled.
Border color	The Border color property determines the color of the accent shape outline if the Add border checkbox is enabled. To change the color of the border, click the small swatch that displays the current border color.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the accent shape's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the accent shape, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Area	The Area property displays the total size of the accent shape in square feet or meters.
Perimeter	The Perimeter property displays the total distance around the border of the accent shape in feet or meters.

See also:

- Adding an Accent Shape
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Creating a Movie

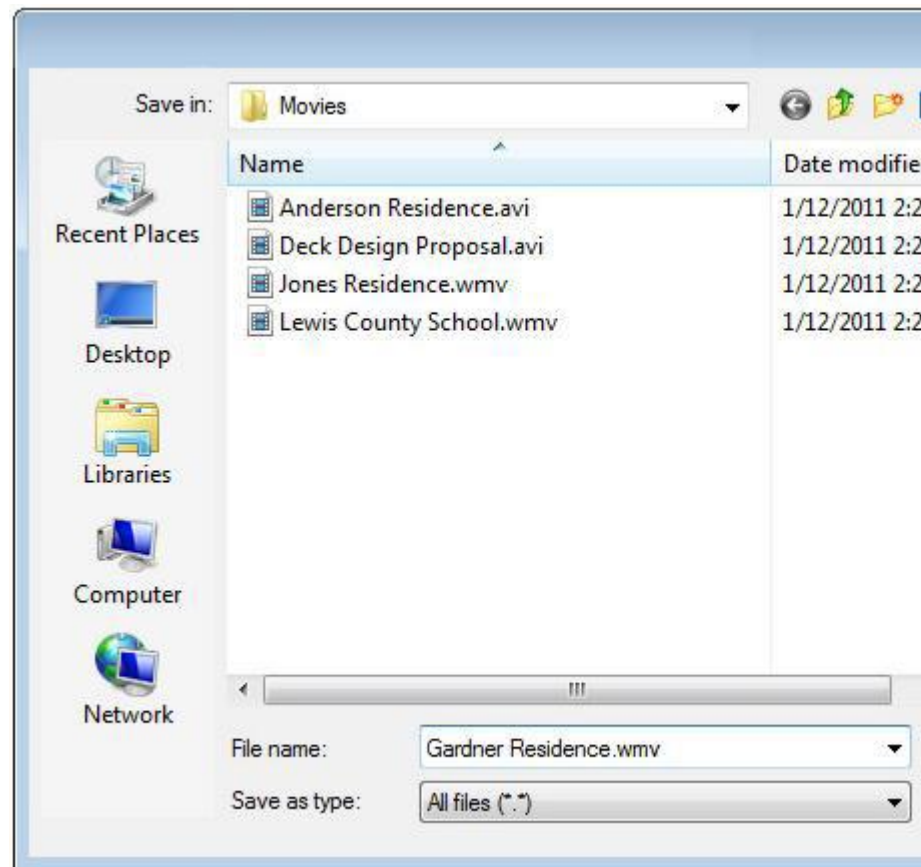
Creating a Movie

One of DATAflor GRÜNSTUDIO 3D's exciting features is the ability to generate videos of your landscape designs. Videos are a great way to present your designs to clients because they provide a guided experience that shows off the design's highlights. Videos can be burned onto a CD or DVD to be played on any computer, or uploaded to YouTube or other website.

Before a movie can be created, a Realtime Camera object must be added to your design and configured to move through your landscape the way you wish the movie to. For details, see [Adding a Realtime Camera](#) | topic=Adding a Realtime Camera.

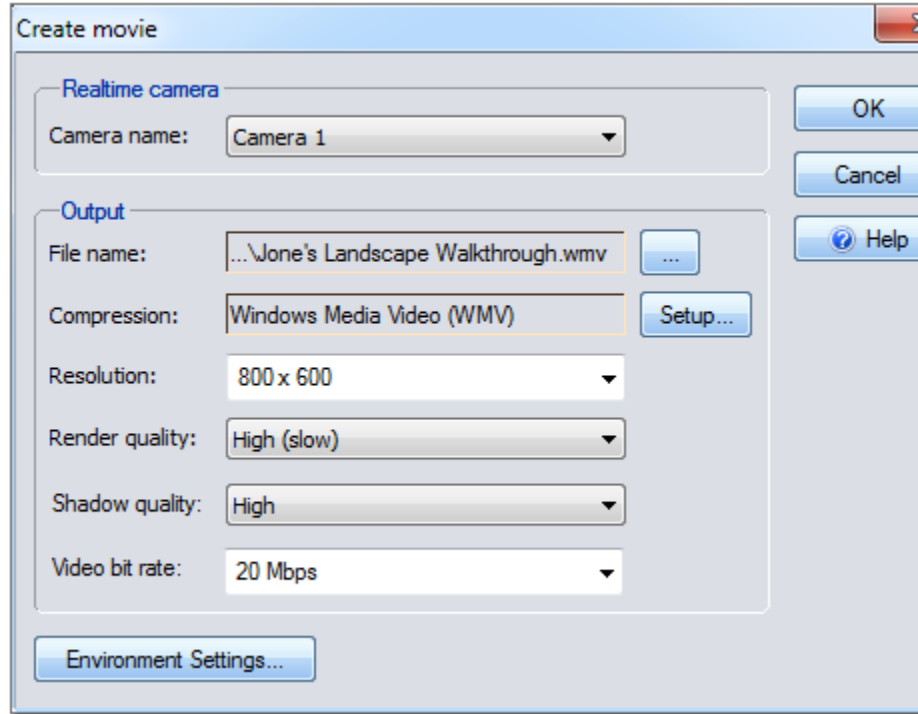
To create a movie:

1. Click **View** and **Create movie** The following dialog will appear:



Note: The dialog shown will depend on the version of Windows you are using.

- In the **File name** text field, type a name for your movie and then click the **Save** button. The following dialog will appear:



Camera name

The Camera name drop-down menu can be used to select which Realtime Camera you would like to use when creating your movie.

File name

The File name box shows what the name and location of your new movie will be. To change the name or location, click the “...” button that appears to the right of your file current name.

Compression

The Compression box shows the currently selected method of “encoding”. An encoding method is called a “codec”, and is used to control how the Avi video file is created. To change the Compression method, click the **Setup...** button. It is recommended to use Intel’s Indeo 5.1 codec, or the Cinepak codec, as they are both very widely used. The number and type of codecs available will depend on your version of Windows and other video applications that are installed on your system.

Resolution

The Resolution drop-down box can be used to select the size and clarity of your video. Higher resolutions take longer to create, and will produce a larger video file, but grant a much higher video quality. By clicking on the Resolution drop-down menu you can choose from several predefined resolutions, or click the **Custom**

resolution option to input your own resolution. Recommended resolutions are 640x480 or 800x600.

Render quality

The Render quality drop-down menu is used to select the level of detail that is generated for each movie frame. The level of render quality will affect the amount of time it takes to create a movie, but will have little effect on the movie's size.

Shadow quality

The Shadow quality drop-down menu is used to select the level of detail for the shadows in your video. It is recommended to select a quality of "low" or "none" for test videos, but to select a quality of "high" for the final movie. Shadow quality has an effect on the time it takes to create a movie, but it will not affect the playback speed once the video is completed.

Video bit rate

The Video bit rate drop-down menu is used to select the quality at which the video is encoded. The bit rate has a large effect on the video's quality and size, but does not have a large effect on the amount of time it takes to create the movie. The video bit rate can only be set if you are using WMV compression.

Environment Settings

Click the Environment Settings button to open the Environment Settings dialog, which contains several different options that may affect how your movies and Realtime Walkthroughs appear. For example, the time of day, amount of wildlife, and sound settings are all controlled through the Environment Settings dialog.

3. Click the **OK** button to begin the movie creation process. A typical video of a completed landscape design can take anywhere from several minutes to over an hour to complete. The time needed to create a video depends on the complexity of your landscape, the length of the movie (determined by the length and speed of your Realtime Camera), the movie resolution, the compression method chosen, and the speed of your computer. If you wish to abort the movie creation process, click the **Cancel** button.

Tips:

- You can use other programs or browse the internet during movie creation, but it is recommended to avoid running additional instances of DATAflor GRÜNSTUDIO 3D or other 3D programs to avoid running low on video memory.
- While a movie is being created you cannot edit the landscape or adjust the view. If you would like to make changes before the video completes, then you can abort the movie creation process by clicking the **Cancel** button.
- The time of day, amount of wildlife (fish, birds, and butterflies), sound volume, and ambient sound that is included in the video is determined by the current Environment Settings. For more

information, see [Environment Settings|topic=Environment Settings](#).

See also:

[Adding a Realtime Camera](#)
[Realtime Walkthrough](#)
[Environment Settings](#)

Editing Objects

Selecting Objects



Before you can move, scale, rotate, or otherwise adjust an object, it must first be selected. Objects can be selected in a few different ways, mainly depending on whether you want to select just one object or several objects at a time.

Selecting

To select objects one at a time

1. Move your mouse over the object in your design that you wish to select. You will notice a dashed line appear around the object to let you know that it will be selected when you click.
2. *Note:* This dashed line is a highlighting feature that can be turned off if needed. See [Program Settings|topic=Program Settings](#) for more information.
3. Click the left mouse button to select the object. Any other objects that may have been selected will now be deselected. If several objects are on top of each other, you can click several times to cycle through them. For example, if a gazebo is sitting on top of a patio, and you want to select the patio, click once to select the gazebo, and then click again to select the patio.
4. If you would like to have multiple objects selected at the same time, repeat the steps above while holding the **Shift** key. Having multiple objects selected is useful when making changes to many items at the same time.

To select objects using a selection rectangle:

1. Adjust your view until you can see all of the objects you intend to select.
2. Click and hold down the left mouse button, and then move the mouse to draw a "selection rectangle". Once the rectangle fully encases the objects you wish to select, release the left mouse button to select them.

To select objects of a certain type:

1. Select **Edit, Select**, and **Select All by Type**, and then choose the desired object type from the list.
2. All objects of the specified type will be selected.

Note: Grouped objects must be ungrouped before they can be selected using this command.

To select objects similar to the current selection:

1. Click the object that you wish to select more of. For example, if you have 50 plants of a certain type in your design, and you want them all selected, then just select one to start with.
2. Click **Edit, Select**, and **Select Similar**, or just press the **L** key on your keyboard.
3. All of the objects in your design that are similar to the object you selected originally will now be selected.

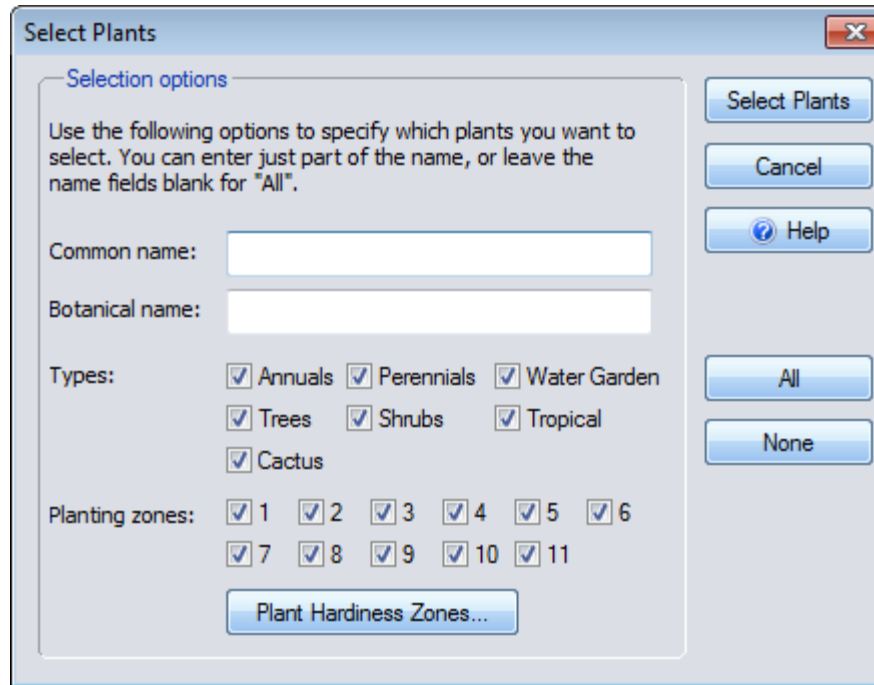
Note: Objects that are grouped must be first ungrouped before they can be individually selected.

To select all objects in the landscape:

1. Click **Edit, Select**, and **Select all**, or just press the **A** key on your keyboard.
2. Every object in your landscape design will now be selected.

To select plants:

1. Click **Edit, Select**, and **Select Plants**. The following dialog will appear:



Common name

Within the Common name field, part or all of the common name of the plant(s) you wish to select can be entered. If you do not wish to search by common name, then leave the Common name field blank. The field is not case sensitive, meaning that searching for "rose" is the same as searching for "Rose".

Botanical name

Within the Botanical name field, part or all of the botanical name of the plant(s) you wish to select can be entered. If you do not wish to search by botanical name, then leave the Botanical name field blank. The field is not case sensitive, meaning that searching for "rosa" is the same as searching for "Rosa".

Types

The Types checkboxes can be selected to indicate which plants should be selected.

Planting zones

The Planting zones checkboxes can be selected to indicate which planting zones should be selected. For example, if you wish to select only plants that thrive in zone 10, then uncheck all Planting zones checkboxes except for "10".

Plant Hardiness Zones

To display a map showing planting zones, click the **Plant Hardiness Zones...** button. This map can help you to determine which plants will grow in your region.

All

Click to check all types and zones.

None

Click to uncheck all types and zones.

2. Input the desired selection options and then click the **Select Plant** button. All plants in your landscape that match the selection criteria will be selected.

Note: Grouped plants must be ungrouped before they can be selected using this command.

Deselecting

To deselect objects one at a time:

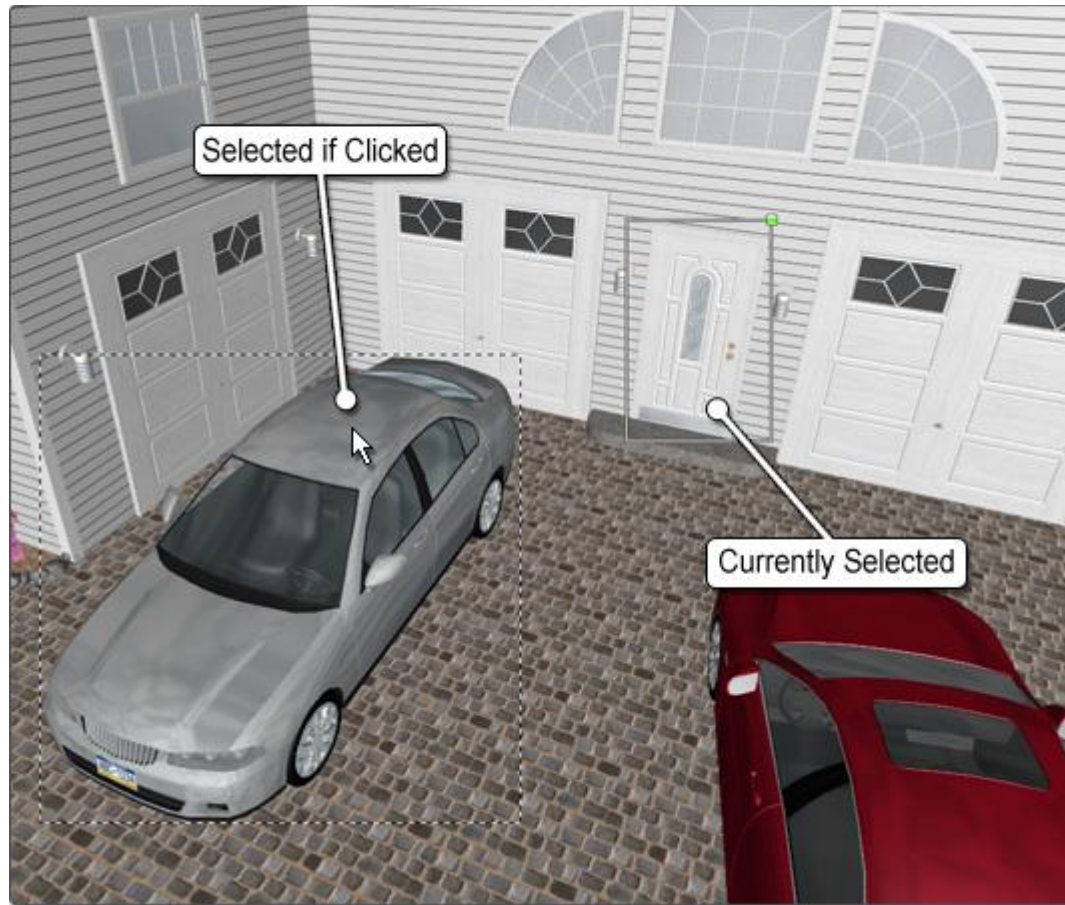
1. Move your mouse over the object you wish to deselect.
2. Hold the **Shift** key.
3. Click the left mouse button to deselect the object.
4. Repeat the above steps for each selected object that you wish to deselect.
5. *Note:* The steps above assume you have multiple objects selected. If you only have one object selected, simply click a different object to change your selection.

To deselect all objects:

1. Click **Edit**, **Select**, and **Select None**, or just press the **N** key on your keyboard.
- OR -
2. Move your mouse over an empty area of the ground or sky in your landscape.
3. Click the left mouse button to deselect all objects.

Any selection change can be undone simply by clicking **Edit** and **Undo**.

To help you see which objects you currently have selected, a special white rectangle is shown around them. In the picture below, the door is currently selected and is displaying the white rectangle. The two green dots that appear on the white rectangle are explained in the [Moving Objects|topic=Moving Objects](#) section. The silver car in the picture below is not selected, but is displaying the highlighted outline which means that clicking the mouse button will select it.



See also:

- Moving Objects
- Rotating Objects
- Scaling Objects
- Deleting Objects
- Cut, Copy, & Paste
- Grouping & Ungrouping Objects
- Setting Object Properties
- Undoing and Redoing Changes

Moving Objects



To move an object that is not currently selected:

1. Click the **Move** tool that is found to the left of the screen, or just press the **T** key on your keyboard.
2. Click the object in your design that you wish to move in order to select it.

3. Click the object again, but this time hold down the left mouse button as you move the mouse. Alternately, press the **Enter** key to move the object manually.

To move one or more selected objects:

1. Move your mouse over one of the objects that you have selected.
2. Click and hold the left mouse button, then move the mouse to relocate all selected objects. Alternately, press the **Enter** key to move the objects manually.

Changing Object Elevation

The Move tool can be used to elevate or lower many types of objects in your landscape, such as plants, accessories, houses, and more.

To change an object's elevation using the mouse:

1. Click the **Move** tool that appears to the left of the screen, or just press the **T** key on your keyboard.
2. Click the object you wish to modify in order to select it.
3. Hold the **Ctrl** key on your keyboard.
4. Move your mouse over the object you wish to modify.
5. Click and hold the left mouse button, and then move the mouse up or down to raise or lower the object.
6. Release the left mouse button and the **Ctrl** key when you are finished.

Quickly Scaling and Rotating using Handles

As an alternative to using the **Scale** and **Rotate** tools, you can also rotate and scale objects using handles. Whenever an object or a group of objects is selected, a green dot will appear above the object, and a green square will appear to the upper-right of the object (see picture below). The green dot is called the "Rotate Handle", and can be used to quickly rotate your object. The green square is called the "Scale Handle", and can be used to quickly enlarge or shrink your object.

To use either of the handles, click on the appropriate handle and hold down the left mouse button, then move the mouse as your object rotates or scales.



See also:

- Selecting Objects
- Rotating Objects
- Scaling Objects
- Cut, Copy, & Paste
- Grouping & Ungrouping Objects
- Setting Object Properties
- Undoing and Redoing Changes

Rotating Objects



To rotate an object that is not currently selected:

1. Click the **Rotate** tool that appears to the left of the screen, or just press the **R** key on your keyboard.
2. Click an object in your design to select it.
3. Click the object again, but this time hold down the left mouse button as you move your mouse in a circular motion to rotate the

object. Alternately, press the **Enter** key to rotate the object manually.

To rotate one or more selected objects:

1. Move your mouse over one of the selected objects that you wish to rotate.
2. Click and hold the left mouse button, then move your mouse in a circular motion to rotate all selected objects. Alternately, press the **Enter** key to rotate the selected objects manually.

When rotating multiple objects at once, they will be rotated about their common center, not their individual centers.

While you are rotating, the number of degrees that the object is revolving will be shown at the very bottom of the screen.

Tip: Objects can also be rotated without using the **Rotate** tool; see [Moving Objects|topic=Moving Objects](#) for more information.

See also:

- Selecting Objects
- Moving Objects
- Scaling Objects
- Cut, Copy, & Paste
- Grouping & Ungrouping Objects
- Setting Object Properties
- Undoing and Redoing Changes

Scaling Objects



To scale an object that is not currently selected:

1. Click the **Scale** tool that appears to the left of the screen, or just press the **S** key on your keyboard.
2. Click an object in your landscape design to select it.
3. Click the object again, but this time hold down the left mouse button as you move the mouse up or down to enlarge or shrink the object. Alternately, press the **Enter** key to scale the object manually.

To scale multiple selected objects:

1. Move your mouse over one of the selected objects you wish to scale.
2. Click and hold the left mouse button, and then move the mouse up or down to enlarge or shrink all selected objects. Alternately, press the **Enter** key to scale the selected objects manually.

Tips:

1. Objects can also be scaled without using the **Scale** tool. For details see [Moving Objects|topic=Moving Objects](#).

See also:

[Selecting Objects](#)
[Moving Objects](#)
[Rotating Objects](#)
[Mirroring Objects](#)
[Cut, Copy, & Paste](#)
[Grouping & Ungrouping Objects](#)
[Setting Object Properties](#)
[Undoing and Redoing Changes](#)

Offsetting Objects



The outline of closed shapes (such as swimming pools, fill regions, and patios) can be expanded or contracted using the **Offset** tool.

To offset an object that is not currently selected:

1. Click the **Offset** tool that appears to the left of the screen, or just press **Ctrl+E** on your keyboard.
2. Click the object you wish to offset to select it. Note that to be offset, the item must be a shape-based object (such as a house or patio) that has already been added to your design.
3. Click the object again, but this time hold down the left mouse button and move the mouse up or down to offset the object. Alternately, press the **Enter** key to offset the object manually.

To offset one or more selected objects:

1. Move your mouse over one of the selected objects that you wish to offset.
2. Click and hold the left mouse button, and then move the mouse up or down to offset all selected objects. Alternately, press the **Enter** key to offset the objects manually.

In the landscape design below, the **Offset** tool was used to create the inset accent.



See also:

- Selecting Objects
- Moving Objects
- Rotating Objects
- Scaling Objects
- Mirroring Objects
- Cut, Copy, & Paste
- Grouping & Ungrouping Objects
- Setting Object Properties
- Undoing and Redoing Changes

Mirroring Objects



One of the powerful new tools available in DATAflor GRÜNSTUDIO 3D is the **Mirror** tool. The Mirror tool is used to flip around an object, a group of objects, or an entire landscape design.

To mirror one or more objects:

1. Click the object you wish to mirror. To select more than one object, hold the **Shift** key while clicking on additional objects.
2. Click the **Mirror** tool that appears near the top of the screen under the **Main** tab.
3. Click an area on your landscape design to add the starting point of the mirroring line.
4. Click again on another part of your design to add the ending point of the mirroring line. Holding the **Shift** key will constrain the line to a vertical, horizontal, or angled line. Alternately, press the **Enter** key to specify the ending point manually. If you wish to cancel the mirror, press the **Esc** key.

Your entire landscape design can also be mirrored if needed.

To mirror the entire design:

1. Click **File** and **Save** to save your landscape design. This is important because mirroring your design cannot be undone.
2. Click **Tools** and **Mirror Design**.

See also:

Selecting Objects
Moving Objects
Rotating Objects
Scaling Objects
Offsetting Objects
Cut, Copy, & Paste
Grouping & Ungrouping Objects
Setting Object Properties
Undoing and Redoing Changes

Deleting Objects

To delete one or more objects:

1. Click the object you wish to delete to select it. To select more than one object, hold the **Shift** key while clicking on additional objects.
2. Press the **Del** key on your keyboard, or click **Edit** and **Delete**.

See also:

Selecting Objects
Cut, Copy, & Paste
Undoing and Redoing Changes

Cut, Copy, & Paste



DATAflor GRÜNSTUDIO 3D includes cut, copy, and paste tools that make it easy to duplicate single objects or entire portions of your landscape design. Objects can also be cut or copied in one landscape and pasted into another. When objects are cut or copied, they are added to the “clipboard”, which is a hidden part of Windows that stores cut and copied items until you are ready to paste them.

To copy objects to the clipboard and delete them from the landscape:

1. Click the object you wish to cut to select it. To select more than one object, hold the **Shift** key while clicking on additional objects.
2. Click **Edit** and **Cut**, or press **Ctrl + X** on your keyboard.

To copy objects to the clipboard:

1. Click the object you wish to copy to select it. To select more than one object, hold the **Shift** key while clicking on additional objects.
2. Click **Edit** and **Copy**, or press **Ctrl + C** on your keyboard.

To paste objects from the clipboard:

1. Click **Edit** and **Paste** to add your previously cut or copied objects to your landscape design. Alternately, press **Ctrl + V** on your keyboard. The pasted objects will be moved slightly away from the originals to make them easier to select, and the **Move** tool will be automatically activated.

To paste objects from the clipboard without offsetting:

1. To paste objects directly on top of the originals, click **Edit** and **Paste in Place**, or press **Ctrl + Shift + V** on your keyboard. The pasted objects will be automatically selected.

See also:

Selecting Objects
Deleting Objects
Undoing and Redoing Changes

Grouping & Ungrouping Objects

It is sometimes useful to group multiple objects together to make them easier to select, move, and duplicate. For example, if you find a particular arrangement of flowers that go well with a certain planting pot, you can group all of the flowers and the pot together to make them easy to move and copy.

To group a set of objects:

1. Click the objects you wish to group while holding the **Shift** key on your keyboard (to allow you to select more than one object).
2. Click **Edit** and **Group**.

To ungroup a set of objects:

1. Click the group you wish to modify to select it.
2. Click **Edit** and Ungroup.

The picture below shows an example of five selected objects before they are grouped together.



In the picture below, the same five objects are combined into one group. They can now be selected and moved as a single object.



Tips:

1. If necessary, groups can be “nested”, meaning that groups can contain other groups.
2. If an object is within a group, it cannot be edited. A group must first be ungrouped before the objects inside can be edited normally.
3. When placing prebuilt structures using the house, deck, or swimming pool wizards, the objects are grouped for easier placement.

See also:

Selecting Objects
Showing & Hiding Objects
Undoing and Redoing Changes

Aligning Objects

The Alignment tools can be used to quickly line up selected objects.

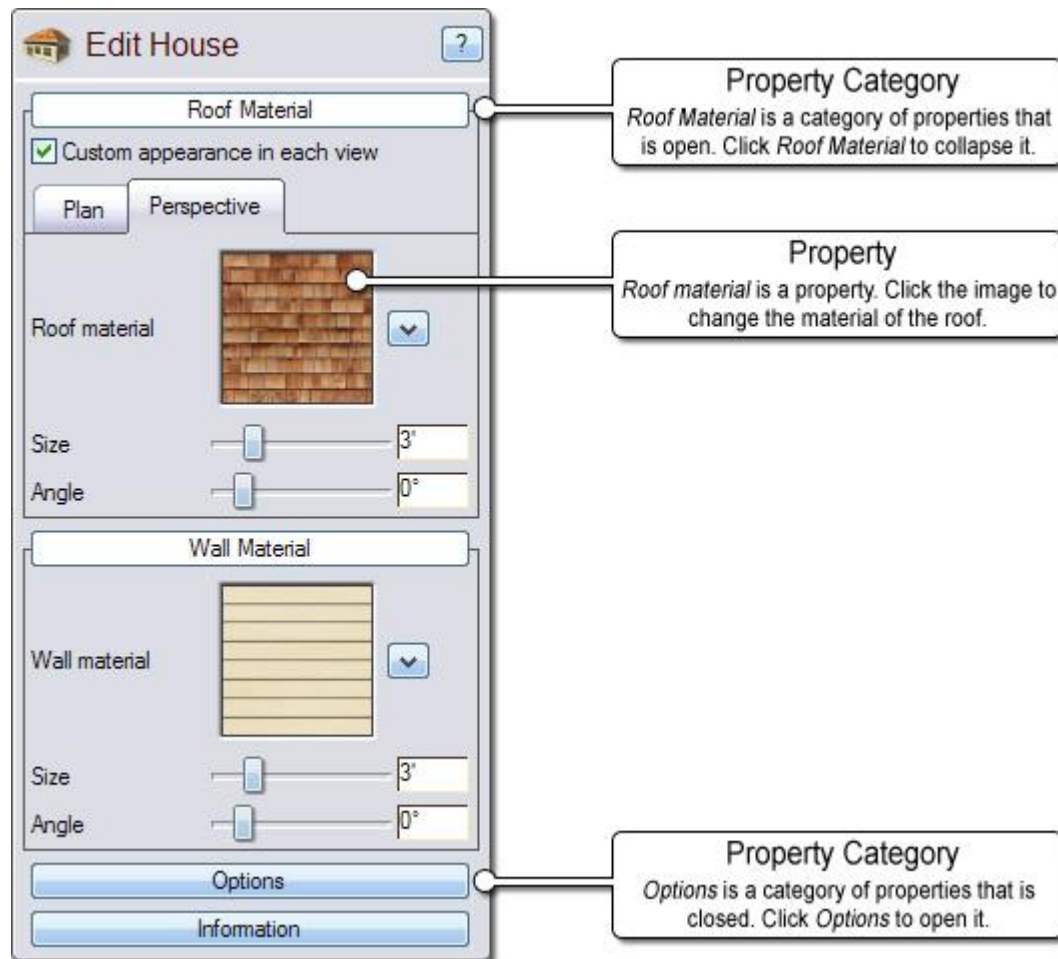
To align objects:

1. Switch to the **Plan** view (not required but recommended).

2. Click the objects you wish to align while holding the **Shift** key on your keyboard (to allow you to select more than one object).
3. Click **Edit, Align**, and then select the alignment method you would like to use. See the chart below for details on each method.

Command	Description
Left Sides	The Left Sides alignment option is used to vertically align all selected objects by their leftmost extents.
Horizontal Centers	The Horizontal Centers alignment option is used to vertically align all selected objects by their averaged positions.
Right Sides	The Right Sides alignment option is used to vertically align all selected objects by their rightmost extents.
Top Sides	The Top Sides alignment option is used to horizontally align all selected objects by their uppermost extents. "Top" in this context means the top of the objects when viewed in the Plan view.
Vertical Centers	The Vertical Centers alignment option is used to horizontally align all selected objects by their averaged positions.
Bottom Sides	The Bottom Sides alignment option is used to horizontally align all selected objects by their bottommost extents. "Bottom" in this context means the bottom of the objects when viewed in the Plan view.
Distribute Horizontally	The Distribute Horizontally alignment option is used to evenly position all selected objects from left to right.
Distribute Vertically	The Distribute Vertically alignment option is used to evenly position all selected objects from top to bottom.

Setting Object Properties



When an object in DATAflor GRÜNSTUDIO 3D is selected, a “property” menu will appear to the right of the screen. Object properties can be modified to change such attributes as size, shape, material, elevation, and more. The types of properties available depend on the object; for example, only a House object will have the “Add Corner Trim” property.



Property changes are easy to make, and they can be quickly undone if needed so feel free to experiment.



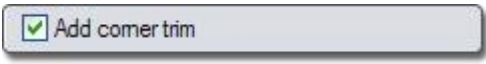
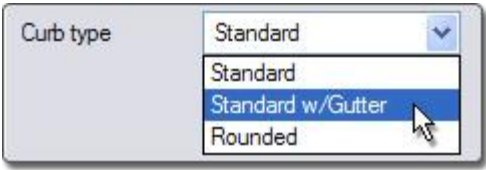
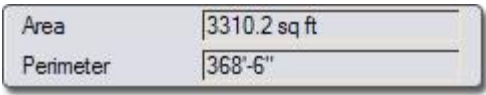
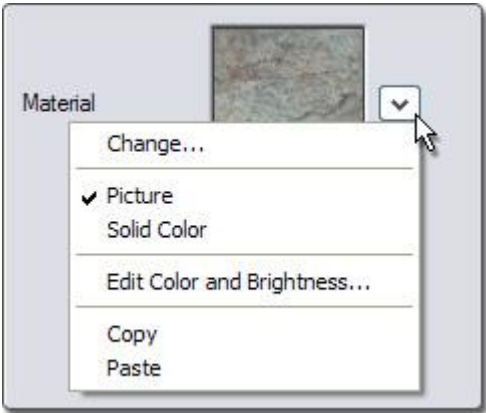

See also:

- Property Types
- Default Properties
- Editing Properties for Multiple Objects
- Selecting Objects
- Editing Objects
- Undoing and Redoing Changes

Property Types

When an object is selected, a property menu will appear to the right of the screen with many adjustable options. Below is a list showing the basic types of properties that you will encounter in DATAflor GRÜNSTUDIO 3D.

Type	Example	Description
Material, model, or style		<p>The material, model, or style properties are used to determine the appearance of an object. To change the material, model, or style, just click on the small image that displays the current property.</p> <p>Some materials and models have additional advanced options that can be edited by clicking the small button that is shown to the right of the property picture.</p>
Numeric		<p>A numeric property is typically composed of a slider and a text box. To change the property you can either move the slider or manually type a value in the text box.</p> <p>For measurements of distance, such as the Wall height slider in the example to the left, feet, inches, or meters can be entered manually. For example, any of the following values would be interpreted as 18 inches:</p> <ul style="list-style-type: none"> 1'-6" 1.5' 1.5 18" <p>The default unit of measurement is the foot when using English units, and the meter when using Metric. For example, when using Metric, entering "1.5" will indicate a meter and a half.</p> <p>Sometimes the range of the slider is more limited than the allowed values, in which case a number can be manually entered. For example, if you drag a plant Elevation slider all the way to the left, it will stop at 0 feet.</p>

		However, a negative elevation can be manually entered if needed.
Color		A Color property is composed of a single color swatch that can be clicked to change the color. In the example to the left, the Trim color for a house is determined by the color property.
Toggle		A Toggle property consists of a button that can be turned on or off. In the example shown to the left, clicking the button will enable point editing mode. To toggle the button off, simply click it again. A blue color indicates that the button is turned off, while a yellow color indicates that the button is turned on.
Checkbox		A Checkbox property is composed of a single box that can be checked or unchecked. In the example shown to the left, corner trim will be added if the box is checked, and removed if the box is not checked.
Listbox		A Listbox property consists of a drop-down menu that lists a number of selectable items. In the example shown to the left, the listbox shows several available font styles.
Info		An Info property box displays information and is not interactive.
Advanced Options		An Advanced Options property includes a small button with a downward-facing arrow that can be clicked to view multiple options. In the example shown to the left, the Advanced Options property allows you to save or load shapes.
Curve Type		A Curve Type property is a very specific property type that is only shown when an Edit Points button is toggled on. There are four different

		<p>curve types that can be selected to define the shape of your object; see Editing Points topic=Editing Points for more information.</p>
--	--	---

Default Properties

Default properties are the standard options for an object that are automatically set. These default properties can be changed immediately before adding an object to your design or after the object has been added.

Note that when the default properties are changed is important. If the changes are made before an object is added to your design, then the software will remember those changes and apply them to any other similar objects you add. For example, if you click the **Add Deck** button, change the default wood material to another color, then add the deck to your landscape, you will find that the change of wood material is remembered when placing another deck. This effectively means that you have changed the default properties for that object in your current landscape.

When you begin a new landscape design, all default properties are reset to their original values.

Editing Properties for Multiple Objects

Multiple objects of the same type can be edited at the same time in DATAflor GRÜNSTUDIO 3D. For example, if you have two different edging objects selected, you can change the material of both edging objects at the same time. When working with large landscape designs, this simple principle can save a lot of time.

When multiple objects of the same type are selected, any properties that are different will appear blank. Notice in the picture below how the Material and Width properties are blank because they are different. Blank properties can be changed normally, and will affect all selected objects.



Tips:

1. Every selected object must be of the same object type in order to edit the properties of all objects at once.
2. If objects are grouped, then they cannot be edited normally. Objects must first be ungrouped to be edited.

Undoing & Redoing Changes



A powerful undo system is integrated into DATAflor GRÜNSTUDIO 3D, providing you with the freedom to experiment. Unlike many applications, the amount of times you can undo is unlimited, meaning that you can undo all the way back to when you last opened your landscape file. If you undo a change that you decide you need, simply “redo” the change.

To undo the last change:

1. Click **Edit** and **Undo**, or press **Ctrl + Z** on your keyboard.
2. Repeat for each change you wish to undo.

To redo the last undone change:

1. Click **Edit** and **Redo**, or press **Ctrl + Shift + Z** on your keyboard.
2. Repeat for each change you wish to redo.

Note that you can only redo a change that has just been undone.

Tips:

1. If you click **Edit**, the **Undo** and **Redo** options will display a description of what is being undone or redone. In the example below, selecting **Undo** will undo a deletion, while selecting **Redo** will redo a selection that was just undone.



2. Undo and redo information is not saved to your landscaping file, meaning that if you save your landscape, close DATAflor GRÜNSTUDIO 3D, and open your landscape again, you will no longer be able to undo previous changes. This means that it is a good practice to save your landscape often by clicking **File** and **Save**. You can also set DATAflor GRÜNSTUDIO 3D to save your landscape designs automatically through the [Program Settings|topic=Program Settings](#).

Showing & Hiding Objects

To show/hide objects:

1. Click View and Show/Hide Objects.
2. Click the objects you wish to show or hide and click the **OK** button when finished.

Large landscape designs with many objects can cause some computers to run slowly. One way to address these slowdowns is to hide objects that you do not currently need to see or edit. For example, if you are finished adding plants to your design, you can hide all of the plants for a performance boost. Hiding objects you do not need to edit will also help to simplify the design process.

Objects can also be locked to ensure that they are not edited in any way. This is useful for when you do not want to accidentally modify a set of objects. For example, if you have completed a deck and no longer need to edit it, you could lock all Deck objects to prevent them from being selected or edited.

Objects can be hidden or locked by type or by category. To hide or lock objects by category, click the hide or lock button that appears next to the category name (shown in bold).



Show all

Click the Show all button to unhide all objects in your design.

Hide all

Click the Hide all button to hide every object in your design.

Lock all

Click the Lock all button to make every object in your design unselectable.

Unlock all

Click the Unlock all button to make every object in your design selectable again.

OK

Click the OK button to accept your changes and return to your landscape.

Cancel

Click the Cancel button to discard your changes and return to your landscape.

Tips:

1. Hiding or locking objects through the method above will affect every object of the type you have chosen to hide or lock. For example, if you hide the Patio object, then all patios in your design will be hidden. If you would rather hide or lock

individual objects, or groups of different objects, see [Using Layers|topic=Using Layers](#) for an alternate method.

2. Objects that have been hidden will not appear in a [Realtime Walkthrough|topic=Realtime Walkthrough](#).
3. Hiding and locking objects will only affect the landscape design you are currently working on. If you hide objects in one design, they will not be hidden in another design.
4. When an object is hidden or locked, it cannot be selected, edited, or deleted.

See also:

Using Layers
 Selecting Objects
 Editing Objects
 Undoing and Redoing Changes

Using Layers

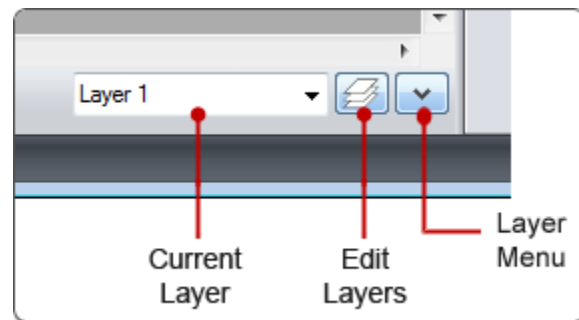
Layers are an organizational feature that allows you to group objects into categories which can then be hidden or locked as needed.

For example, all plants could be placed into a single layer, which could then be hidden to make it easier to adjust other areas of the design.

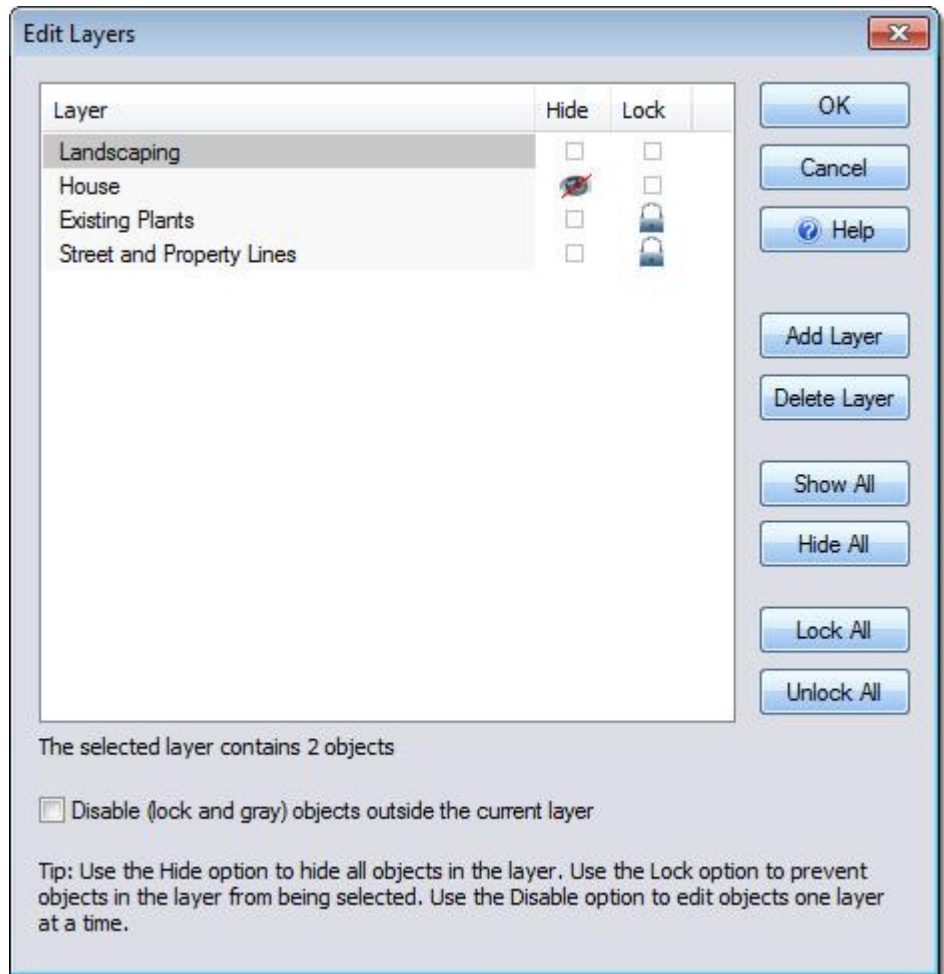
Layers can also help you create and present multiple versions of your design ideas. For example, all objects for one proposed landscape layout could be placed in one layer, while an alternate layout could be placed in another. When presenting to your client, you can simply show and hide the appropriate layers.

When using multiple layers, be mindful of which layer is currently selected, because that is the layer that new objects will be added to. For example, if you have a layer selected called "Plants", and you add a new Patio object to your design, then the patio will be added to the Plants layer, which is probably not what you intended.

The layer tools are shown below:



To edit layers, click the **Edit Layers** button. The following dialog will appear:



Layer

Displays all of the layers currently in your landscape design. Click on the name of any layer to rename it.

Click the Layer header bar to sort by layer name.

Hide

Hides all objects in the layer.

Click the Hide header bar to sort by visibility.

Lock

Locks all objects in the layer.

Click the Lock header bar to sort by locked state.

Add Layer

Adds a new layer to your design. To rename the new layer, click the layer name and enter the desired name.

Delete Layer

Deletes the currently selected layer.

Show All

Shows all of the layers in your design.

Hide All

Hides all of the layers in your design.

Lock All

Disables selection and modification of objects in all layers.

Unlock All

Click the Unlock All button to enable selection and modification of objects in all layers.

Disable (lock and gray) objects outside the current layer

Enables editing only of those objects which are inside the current layer. All other objects will be locked and shown in gray.

OK

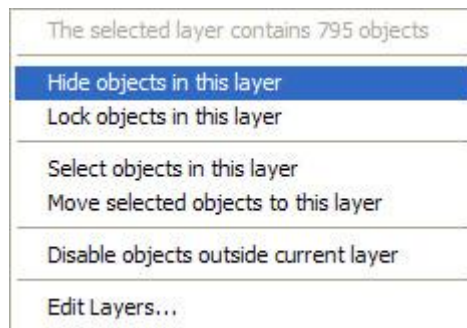
Click to accept your changes.

Cancel

Click to cancel your changes. *Important:* Any changes will be lost.

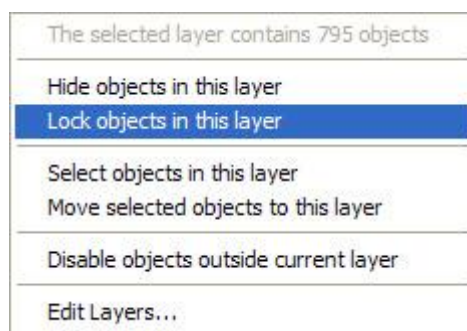
To show or hide objects in a layer:

1. Click the **Current Layer** listbox and select the desired layer.
2. Click the **Layer Menu** button.
3. Click the **Hide objects in this layer** option to turn off or on the visibility of the layer.



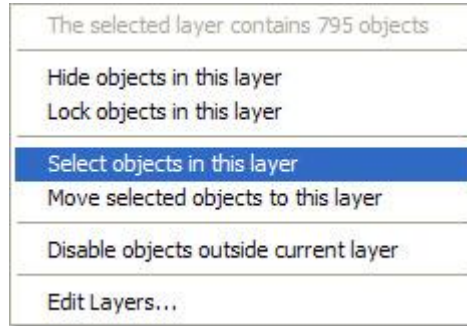
To lock or unlock objects in a layer:

1. Click the **Current Layer** listbox and select the desired layer.
2. Click the **Layer Menu** button.
3. Click the **Lock objects in this layer** option to cause all of the objects within the layer to become selectable or unselectable.



To select the objects in a layer:

1. Click the **Current Layer** listbox and select the desired layer.
2. Click the **Layer Menu** button.
3. Click the **Select objects in this layer** option.



To move objects to the current layer:

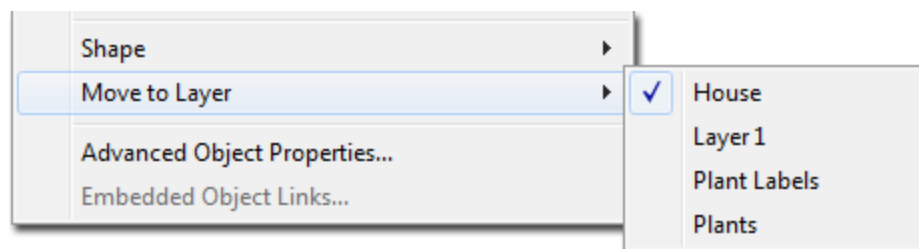
1. Click the object you wish to move to the current layer. To select more than one object, hold the **Shift** key while clicking on additional objects.
2. Click the **Layer Menu** button.
3. Click **Move selected objects to this layer**. **Note:** If the selected objects are already in the current layer, then this option will be disabled.

To move objects to a layer other than the current one:

1. Click the object you wish to move to another layer. To select more than one object, hold the **Shift** key while clicking on additional objects.
2. Click **Edit, Move to Layer**, and click the name of the layer you would like to move the objects to.

To determine which layer an object is in:

1. Select the object by clicking it.
2. Click **Edit** and **Move to Layer**. The object's current layer will have a checkmark next to it.



3. Press **Esc** or click anywhere else to cancel the menu.

Tips:

1. When adding objects using the **Paste** or **Paste in Place** commands, the objects will automatically be added to the layer(s) they originated from. The layers will be created automatically if they do not already exist.
2. Objects can also be hidden or locked by type instead of by layer. For details, see [Showing and Hiding Objects|topic=Showing & Hiding Objects](#).
3. New objects cannot be added to a layer that is locked or hidden.
4. Objects that reside in hidden layers do not appear in the Realtime Walkthrough.
5. Objects that reside in hidden or locked layers cannot be selected, edited, or deleted.

See also:

Showing and Hiding Objects
 Selecting Objects
 Editing Objects
 Undoing and Redoing Changes

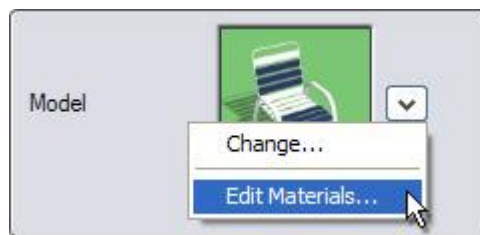
Editing Materials

A large variety of materials are available in DATAflor GRÜNSTUDIO 3D that allow you to customize accessories, houses, patios, and more.

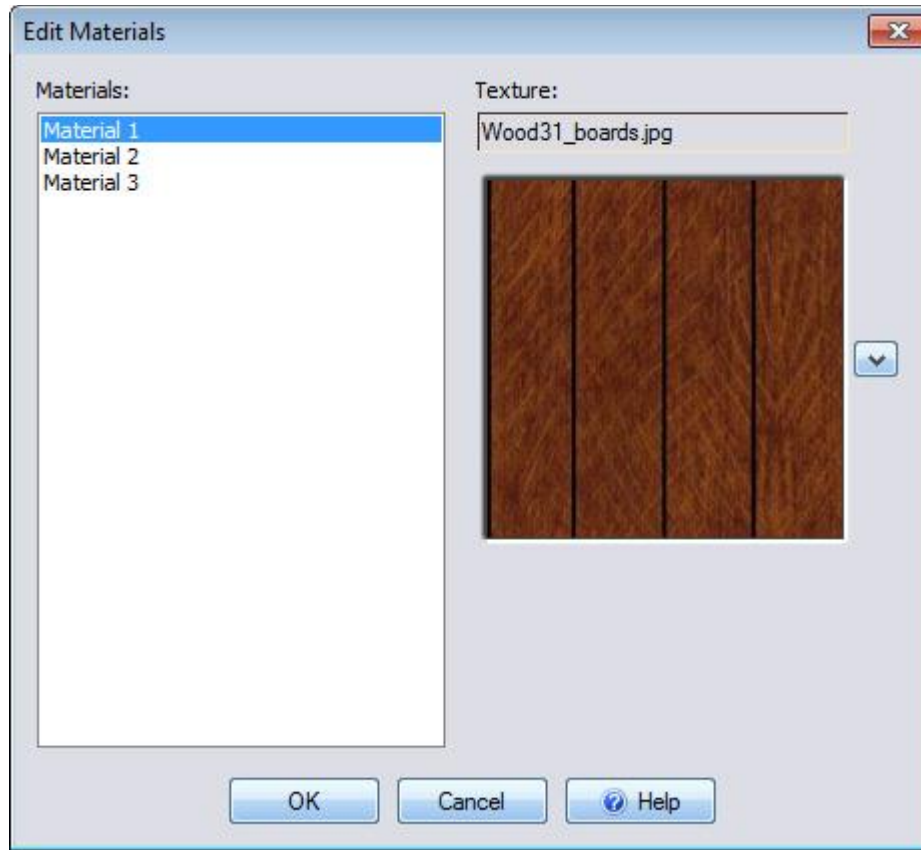
To customize an accessory's materials:

1. Click the accessory you wish to modify to select it. Accessories are added by clicking the **Add Accessory** button that appears near the top of the screen under the **Landscape** tab.
2. Click your right mouse button on the picture of the selected accessory that appears to the right of the screen. From the menu that appears, click the **Edit Materials...** option.

Note: these steps can also apply to other model-based objects such as doors, windows, and lights.

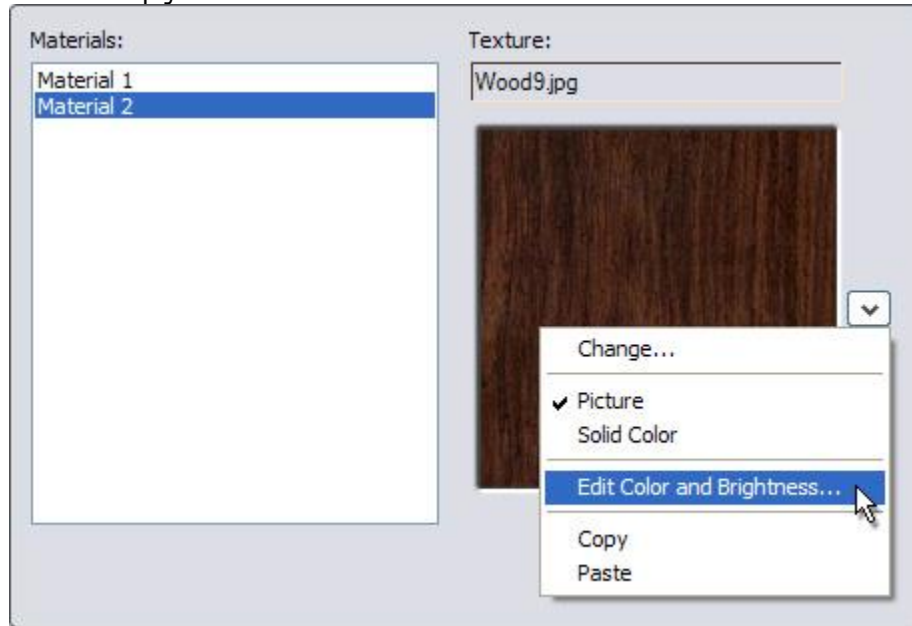


After clicking the **Edit materials...** option, the following dialog will appear:



3. In the Materials column to the left of the dialog, click on the material you wish to change or alter.
4. To the right of the dialog you will see a picture of the currently selected material. Click your left mouse button on this picture to change the material, or click your right mouse button on the picture and select the **Edit Color and Brightness** option if you

wish to simply alter the material.



5. If you would like to change the type of material, click your right mouse button on the picture of the selected material and select **Picture** or **Solid Color**.
6. Repeat the steps above for each of the materials you wish to change.
7. When finished, click the **OK** button to exit the dialog and return to your landscape.

Note: The steps described above will affect only the currently selected object. If you wish to use your modified object again in the future, use the [Model Creation Wizard|topic=Model Creation Wizard](#).

See also:

[Editing Color and Brightness|topic=Editing Color and Brightness](#)

Editing Color and Brightness

The colors of a material can be quickly modified using the **Edit Color and Brightness** feature. When editing the color and brightness of an object's materials, your changes will only affect the selected object. If you modify the materials of an object, and you wish to use your modified object again at a later time, you can use the [Model Creation Wizard|topic=Model Creation Wizard](#) to save your modified object for later use.

To edit the color and brightness of a plant, first select the plant you wish to modify by clicking on it. Next, click your right mouse button on the picture of the plant that appears to the right of the screen, and select the **Edit Color and Brightness** option. The dialog shown below will appear.



The picture below shows an example of two identical plants, one of which has been slightly tinted using the **Edit Color and Brightness** command.



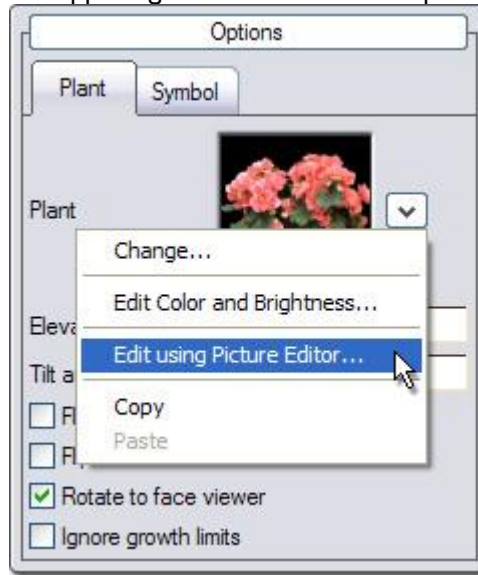
Editing using the DATAflor Bildbearbeitung

The *DATAflor Bildbearbeitung* is a program included with DATAflor GRÜNSTUDIO 3D that can be used to edit pictures of plants, plant symbols, and pictures you have imported or plan to import.

To make changes using the DATAflor Bildbearbeitung:

1. Click a plant that you wish to edit to select it, and then click your right mouse button on the picture of the plant that appears to

the upper-right of the screen. A drop-down menu will appear.



2. Click the **Edit using Picture Editor...** option to start the DATAflor Bildbearbeitung.
3. Edit your picture as needed, and then save your changes by clicking **File** and **Save**.
4. Click **File** and **Exit** to close the DATAflor Bildbearbeitung and return to DATAflor GRÜNSTUDIO 3D. Any changes you made in the editor will now be reflected in your plant.

Note: To view instructions on using the DATAflor Bildbearbeitung, simply open the editor and press the **F1** key on your keyboard.

Tips:

1. Multiple objects can be edited at the same time, as long as they use the same picture. For example, if you have a dozen plants of the same type, you can edit them all at once.

See also:

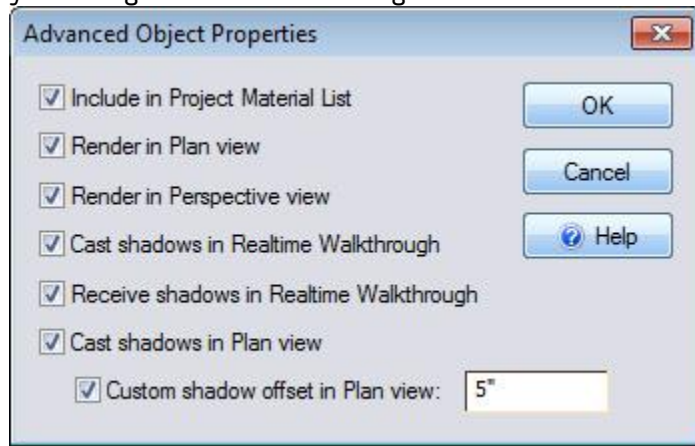
Setting Object Properties
Selecting Objects
Editing Objects

Advanced Object Properties

Additional options for each object are available within the Advanced Object Properties dialog. These options are not usually needed, but can provide important customizations in some situations.

To edit advanced object properties:

1. Click the object you wish to modify. To select more than one object, then hold the **Shift** key while clicking on additional objects. The objects do not need to be of the same type.
2. Click Edit and Advanced Object Properties.
3. Select the desired options and press the **OK** button to accept your changes and close the dialog.



Include in Project Material List

Determines if the selected object will be included in the [Project Material List](#) of your current landscape design. If plants are selected, then this option will also determine whether the plants are added to the [Plant Legend](#).

Render in Plan view

Determines if the selected object will appear in the Plan view.

Render in Perspective view

Determines if the selected object will appear in the Perspective view.

Cast shadows in Realtime Walkthrough

Determines if the selected object casts shadows during a Realtime Walkthrough.

Receive shadows in Realtime Walkthrough

Determines if the selected object can be shadowed by other nearby objects during a Realtime Walkthrough.

Cast shadows in Plan view

Determines if the selected object will create a drop-shadow when [Plan Shadows](#) are enabled.

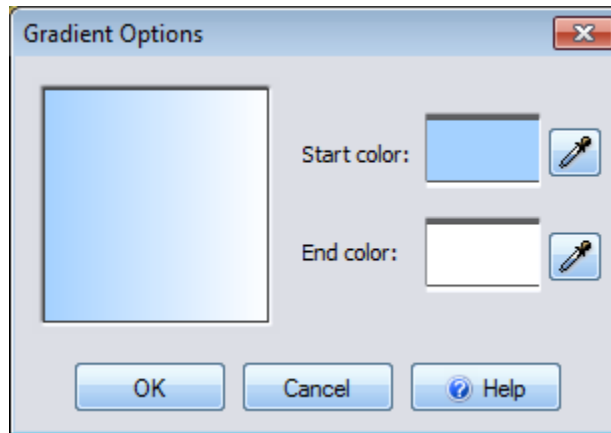
Custom shadow offset in Plan view

Determines if the selected object will be given a drop-shadow based on global or custom settings. If this option is checked, then the selected object can be given a unique shadow length by typing a value in inches within the text field to the right. Note that this option only takes effect if Plan Shadows are enabled.

Note: Not all of the options shown above are supported by all objects. If an object does not support one or more options, then they will be disabled.

Gradient Options

A gradient fill can be customized from the Gradient Options dialog. A gradient is the name of a transition from one color to another, and a “gradient fill” is the name of a gradient that is used as the material for an object (usually in the Plan View). Gradients are much more visually appealing than solid colors; even subtle gradients can greatly enhance your design. Gradients can only be viewed in the Plan view, and are not available for all objects.



Start color

The Start color option determines the color of one end of the gradient, and can be changed by clicking on the small color swatch that indicates the current Start color.

End color

The End color option determines the color of one end of the gradient, and can be changed by clicking on the small color swatch that indicates the current End color.

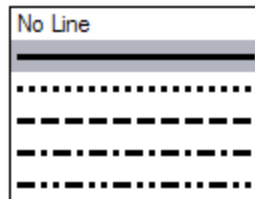
Line Style

The outline of many objects in the Plan view is determined by its “Line Style”, which can be customized using the Line Style dialog.



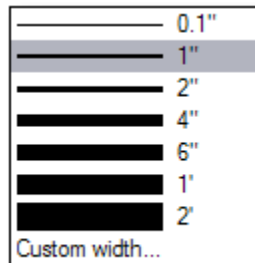
Type

The Type option determines what kind of line is used. To change the line type, click on the drop-down menu and select the type of line you wish to use. Line type options range from a solid line to a line with both dots and dashes.



Width

The Width option determines the thickness of the line. To change the width, click on the drop-down menu and select the line width you wish to use. A preset width can be chosen, or a custom thickness can be set by clicking **Custom width**.



Corner

The Corner option determines how the line displays sharp corners. To change the Corner type, click on the drop-down menu and select the name of the corner type you would like to use. Shown below are close-up pictures of each of the corner options.



Color

The Color option determines what the color the line will be. To change the color, click on the small color swatch that displays the current line color.

Using Booleans to Create Complex Shapes



Boolean commands can be used to subtract, intersect, and add shapes. Booleans are very useful for joining two shapes together, or cutting a hole in a shape to make room for another object. For example, a hole can be cut into a deck to make room for a hot tub.

The Boolean commands can only be used with shape-based objects, such as patios, pool decking, plan detail shapes, regions, and more. Booleans do not function with non-shape based objects such as accessories, or with unclosed shapes such as fencing and hedges.

To use a Boolean, you must first select two objects. The order that the two objects are selected is important, as it will determine the Boolean's effect. The first object selected is the object that will be changed, while the second object selected is the object that will be doing the changing.

Because the second object selected is the "changer", the type of object does not matter. For example, if you need to cut a hole into a deck, the shape used to create the hole can be any object, such as a patio or even a swimming pool. Keep in mind that the second object will be deleted, so it is recommended to [copy and paste](#) (topic=Cut\, Copy\, & Paste) it first.

By default, a new object will be created and the original objects will be deleted. However, if you want to keep the original objects, then press and hold **Ctrl** while clicking the desired Boolean command.

To add shapes:

1. Click the first object to select it. The first object selected should be object type you wish to use.
2. Hold the **Shift** key and click on the second object to select it. (You can then release the Shift key.)
3. *Optional:* If you want to keep the second object, press and hold the **Ctrl** key while performing the next step.
4. Click the **Add Shape** button that appears near the top of the screen under the **Main** tab. Alternately, click **Edit, Shape**, and **Boolean Add**.

To subtract shapes:

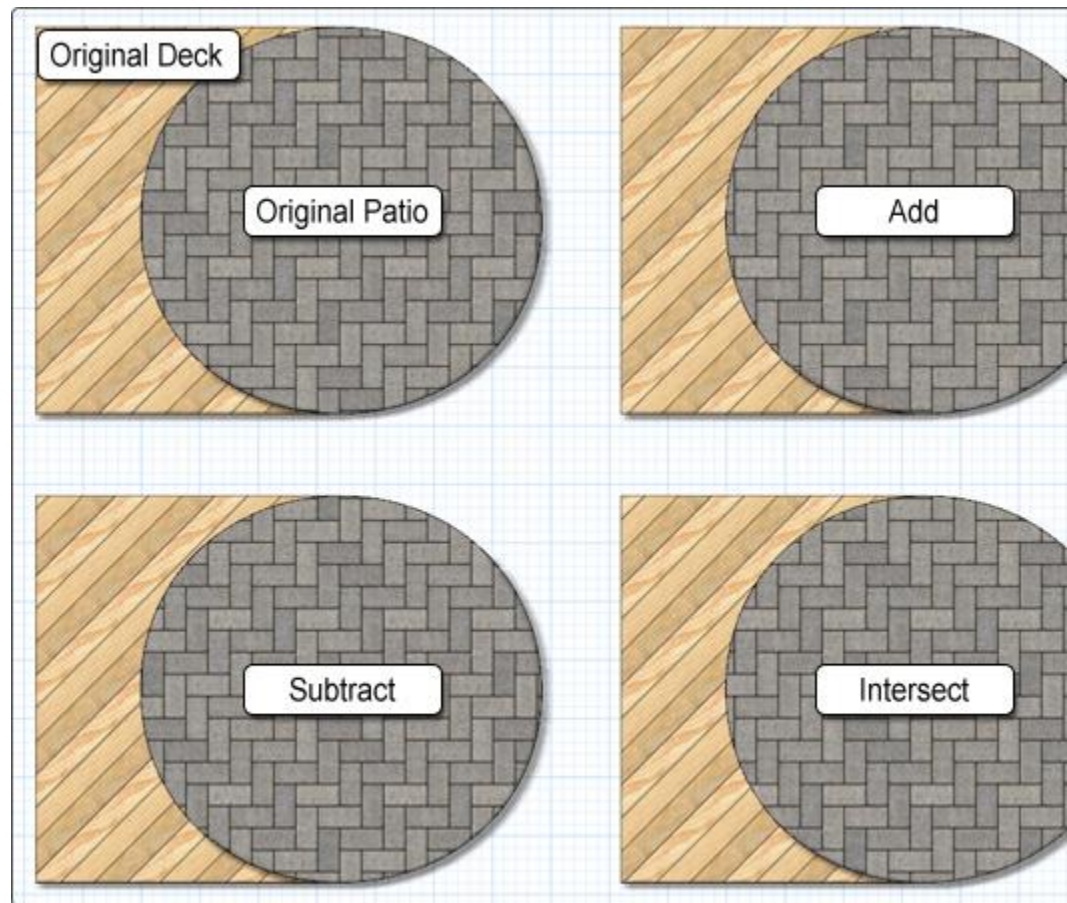
1. Click the first object to select it. The first object should be the object that you want to change.

2. Hold the **Shift** key and click on the second object to select it. The second object should be the shape that you wish to subtract from the first object. (You can then release the Shift key.)
3. *Optional:* If you want to keep the second object, press and hold the **Ctrl** key while performing the next step.
4. Click the **Subtract Shape** button that appears near the top of the screen under the Main tab. Alternately, click **Edit, Shape,** and **Boolean Subtract.**

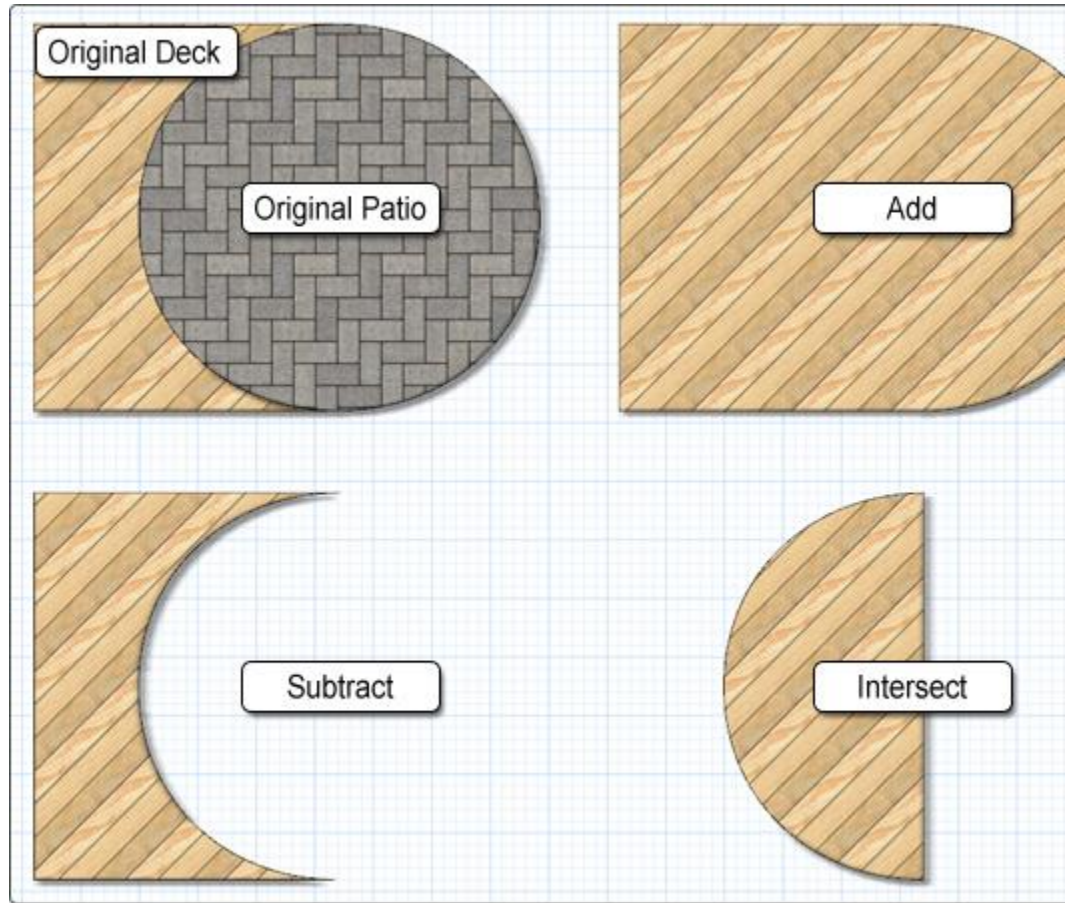
To intersect shapes:

1. Click the first object to select it. The first object should be the object you wish to change.
2. Hold the **Shift** key and click on the second object to select it. (You can then release the Shift key.)
3. *Optional:* If you want to keep the second object, press and hold the **Ctrl** key while performing the next step.
4. Click the Intersect Shape button that appears near the top of the screen under the Main tab. Alternately, click **Edit, Shape,** and **Boolean Intersect.**

The example in the picture below shows four decks and four round patios.



The example in the picture below shows how the Add, Subtract, and Intersect Booleans were used to provide three different results.



Tips:

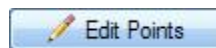
1. Normally, the second shape is deleted. To keep this from happening, hold down the **Ctrl** key while clicking the desired Boolean command.
2. You can save custom shapes for use in other designs. See [Saving and Loading Shapes|topic=Saving and Loading Shapes](#) for details.

See also:

Selecting Objects
Undoing and Redoing Changes
Saving and Loading Shapes

Editing Points

Editing Points



Many objects in DATAflor GRÜNSTUDIO 3D, such as ponds, edging, and houses, use an outline to define their shape. To edit the points that define an object's outline, click the **Edit Points** button.

To enable point editing:

1. Click the object you wish to edit to select it.
2. To enable point editing mode, click the **Edit Points** button, or press the **E** key on your keyboard. When enabled, the points that make up the object's outline will be visible in your design.
3. Modify the points as desired. See the following topics for more details.

To disable point editing:

1. Click the **Edit Points** button, or press the **E** key on your keyboard. This will disable point editing mode and the object's points will no longer be visible.

While you are editing points, you will not be able to modify or select any other objects, and are limited to manipulating the points of the selected object. To select and modify other objects, first disable point editing.

Editing Curve Types

Some objects support only straight lines between points, such as fences and houses. However, objects such as lot boundaries, swimming pools, and ponds allow for straight or curved lines. Whether a line is straight or curved is specified at each point.

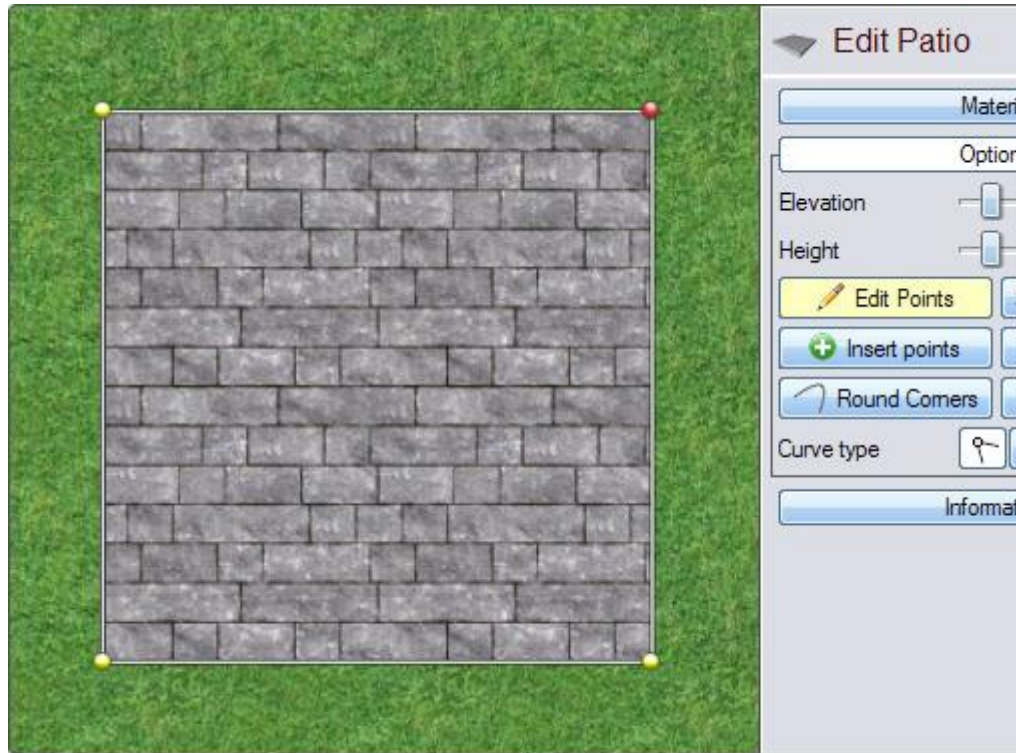
To achieve a maximum level of control, four curve types are available:

Straight, Spline, Bezier, and Bezier Corner. Each type of curve is explained below.

Straight

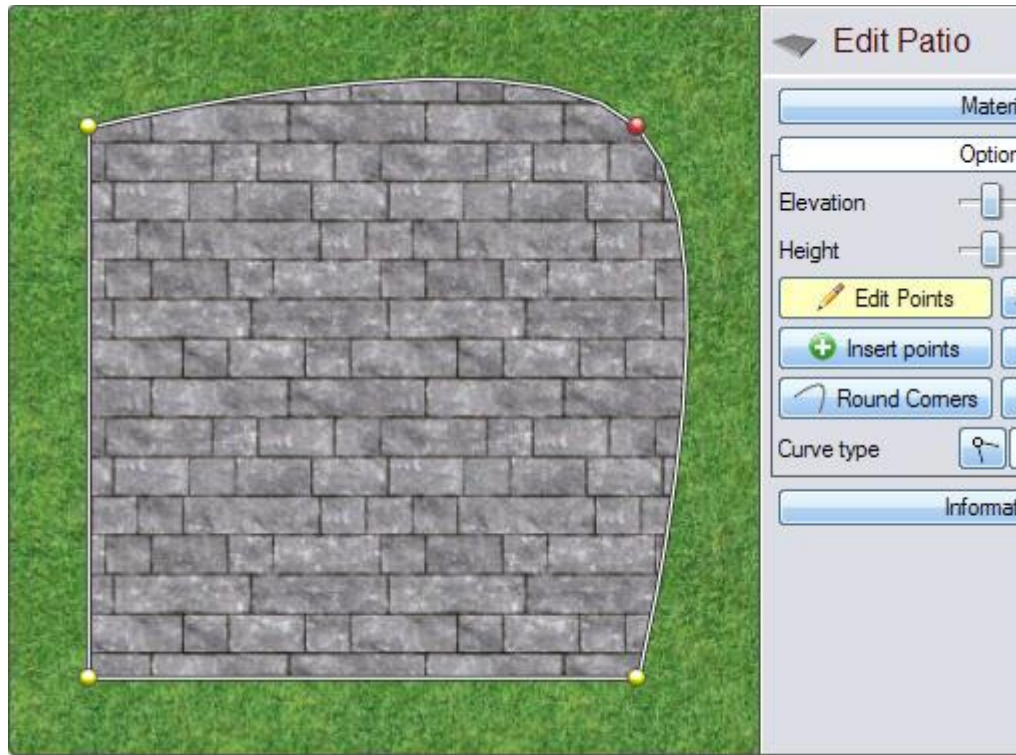
The Straight curve type indicates that the point is not curved, but is a sharp corner. In the picture below, all four corners of the square patio are set to Straight. To set a point to Straight, first click on the point to select it, then click on the first of the Curve type options that appear just below

the **Edit Points** button. Note that before a point can be edited, the **Edit Points** button must be pressed.



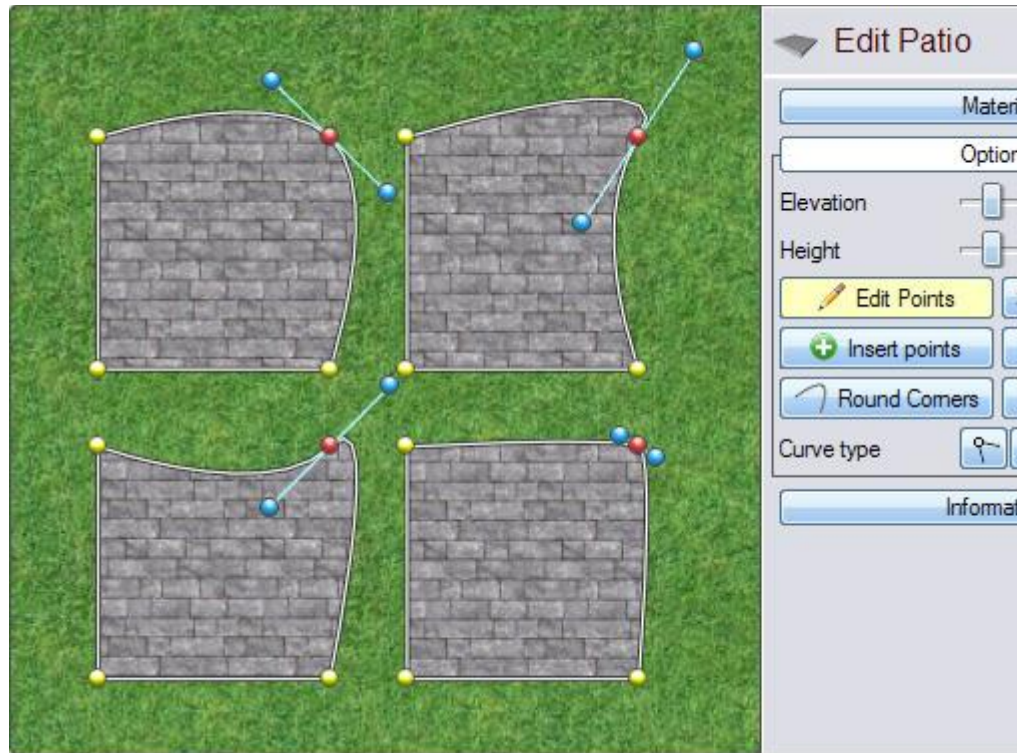
Spline

The Spline curve type indicates that the point is curved in a simple and non-adjustable way. In the picture below, the selected point of the patio shape is set to Spline. To set a point to Spline, first click on the point to select it, then click on the second of the Curve type options that appear just below the **Edit Points** button. Note that before a point can be edited, the **Edit Points** button must be pressed.



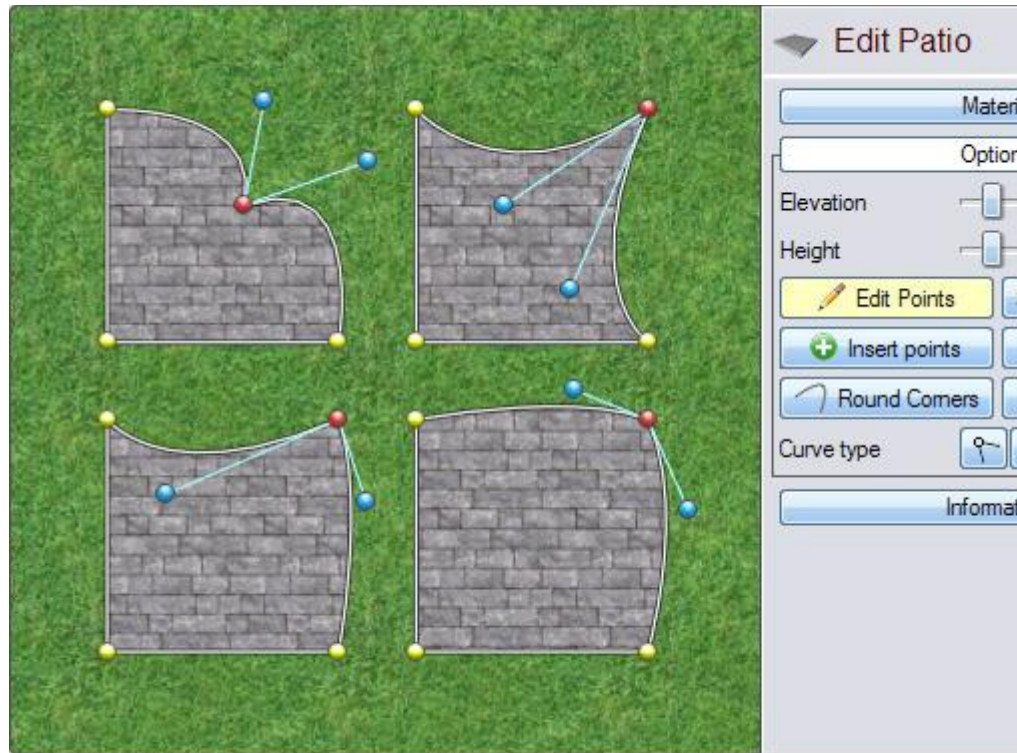
Bezier

The Bezier curve type indicates that the point is curved in an advanced and adjustable way. In the picture below, the selected points on the four patio shapes are set to Bezier, and the blue handles that are used to adjust Bezier curves are moved differently in each shape. To set a point to Bezier, first click on the point to select it, then click on the third of the Curve type options that appear just below the **Edit Points** button. After a point is set to Bezier, it is given two handles that are linked together. These handles can be moved to change the shape of the curve. Note that before a point can be edited, the **Edit Points** button must be pressed.



Bezier Corner

The Bezier Corner curve type indicates that the point is curved in an advanced and very adjustable way. In the picture below, the selected points on the four patio shapes are set to Bezier Corner, and the blue handles that are used to adjust Bezier Corner curves are moved differently in each shape. To set a point to Bezier Corner, first click on the point to select it, then click on the fourth of the Curve type options that appear just below the **Edit Points** button. After a point is set to Bezier Corner, it is given two handles that are not linked together. These handles can be moved independently to change the shape of the curve. Note that before a point can be edited, the **Edit Points** button must be pressed.



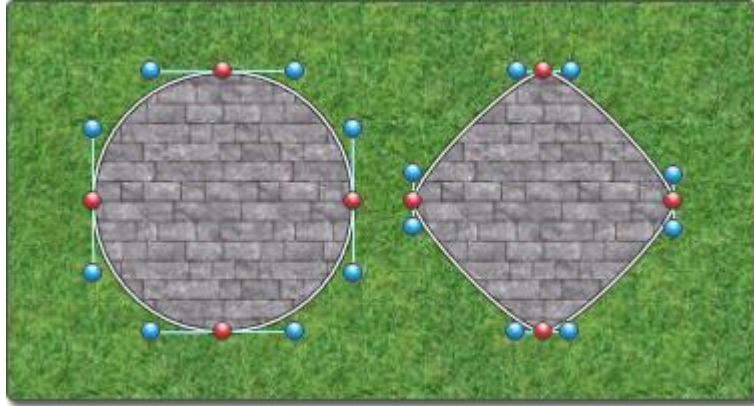
Scaling Bezier Handles

The [Scale tool|topic=Scaling Objects](#) can be used to influence the shapes of Bezier curves, which is especially useful when adjusting the curvature of symmetric shapes.

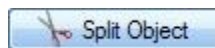
To scale Bezier curve handles:

1. Click the object you wish to adjust to select it.
2. Click the **Edit Points** button that appears to the right of the screen.
3. Click the point you wish to scale. If more than one point needs to be selected, hold the **Shift** key while clicking on additional points.
4. Click the Scale tool that appears to the left of the screen.
5. Move your mouse over one of the blue handles.
6. Click and hold the left mouse button as you move the mouse to scale the Bezier curve.

In the picture below, two shapes are shown with all points selected and set as Bezier curves. The Bezier handles of the shape to the right have been scaled following the steps shown above.



Splitting Objects

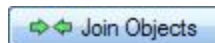


The Split Object tool can be used to separate an object that is not closed, such as edging, rock borders, retaining walls, and so on. This is useful when you want to split one of these objects into two separate objects.

To split an object:

1. Click the object you wish to modify to select it. The object must be an unclosed shape-based object, such as retaining walls, hedges, and fences.
2. Click the **Edit Points** button that appears to the right of the screen.
3. Click the point at which you wish to separate the object into two.
4. Click the **Split Object** button.

Joining Objects



The Join Objects tool is used to combine two separate shape-based objects into a single object. To be joined, two similar unclosed shape-based objects must be selected, such as panel fences, plant rows, and contour lines. Joining objects is useful for combining two shape-based landscaping objects into one.

To join objects together that are closed shapes or different object types see [Using Booleans|topic=Using Booleans to Create Complex Shapes](#).

To join objects:

1. Click one object that you wish to join, hold the **Shift** key on your keyboard, and then click the second object. The objects must be shape-based, the same type, and neither may be closed.
2. Click the **Edit Points** button that appears to the right of the screen.
3. Click the endpoint of one object, hold the **Shift** key on your keyboard, and then click the endpoint of the other object.
4. Click the **Join Objects** button.

Editing Points of Multiple Objects

The points of multiple objects can be editing at the same time, highlighting DATAflor GRUNSTUDIO 3D's powerful nature of allowing the simultaneous editing of several items at once. For example, if you have constructed a multilevel deck out of three different deck objects, you could edit the points of all three deck objects at once by selecting the decks and clicking the **Edit Points** button. For this feature to be available, the objects selected must be of the same type. For example, you could not adjust the points of patio and a house at the same time.

Tips:

1. By clicking an edge of a shape, you can quickly select the two points that form it.
2. Object shapes can be saved and loaded, even if the shapes were created using different objects. For details, see [Saving and Loading Shapes|topic=Saving and Loading Shapes](#).

See also:

[Selecting Points](#)
[Moving Points](#)
[Rotating Points](#)
[Scaling Points](#)
[Inserting & Deleting Points](#)
[Beveling Corners|topic=Beveling Corners](#)
[Rounding Corners|topic=Rounding Corners](#)
[Using Automatic Dimensions](#)
[Undoing and Redoing Changes](#)
[Saving and Loading Shapes](#)

Selecting Points



Points must be selected before they can be moved, scaled, or rotated. Points can be selected in several different ways, depending on what is most convenient for the current situation.

Before points can be selected, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

Selecting Points

To select points one at a time:

1. Move your mouse over the point you wish to select, and click the left mouse button. The point will turn red to indicate it is selected.
2. If you wish to select additional points, hold the **Shift** key on your keyboard while clicking on the other points you want selected.

To select points using a selection rectangle:

1. Adjust your view until all of the points you wish to select are clearly visible.
2. Click and hold the left mouse button, then move your mouse to create a "selection rectangle". Once the rectangle fully encloses the points you want to select, release the left mouse button.

To select all points in the object:

3. Click **Edit** and **Select all**.
4. Every point in the current object will be selected.

Deselecting Points

To deselect points one at a time:

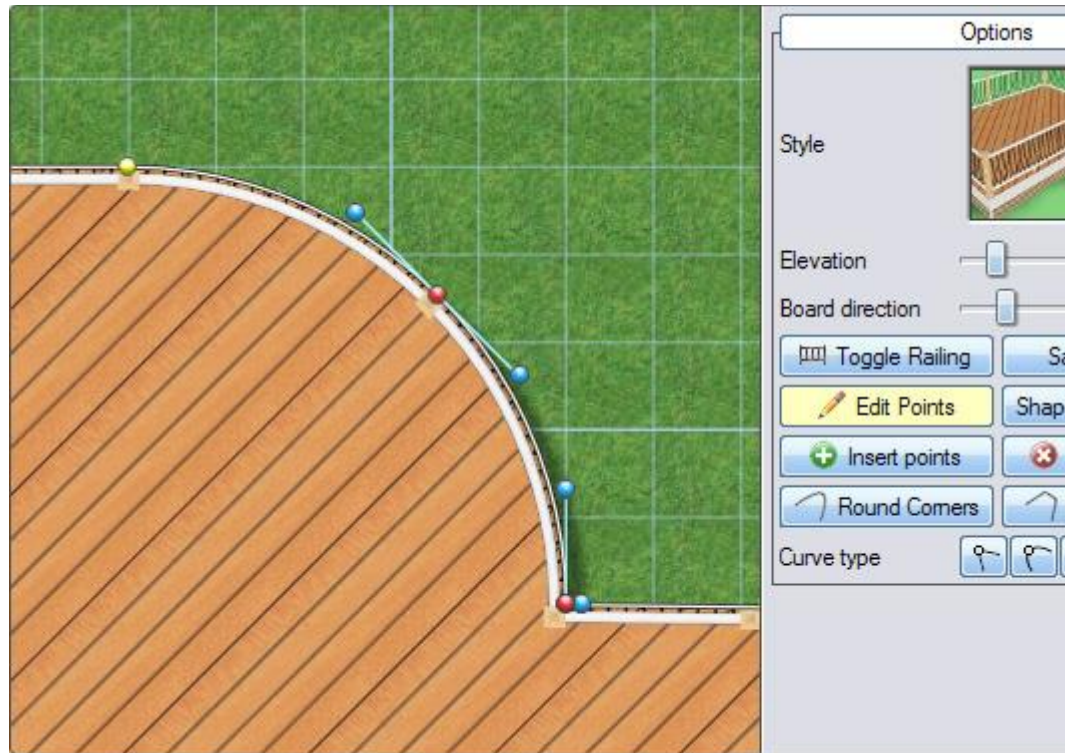
1. Move your mouse over the red point that you wish to deselect, and click the left mouse button. The point will turn yellow to indicate it is not selected.
2. If you wish to deselect additional points, hold the **Shift** key on your keyboard while clicking on the other points you want deselected.

To deselect all points:

1. Click **Edit** and **Select None**.
- OR -
2. Move your mouse over an empty area of your design that does not contain any points.
3. Click the left mouse button to deselect all points.

Any selection change can be undone by clicking **Undo**, or pressing **Ctrl + Z** on your keyboard.

Points that are not selected are yellow, while selected points are red. The picture below shows an example of a deck with two selected points.



See also:

- Editing Points
- Moving Points
- Rotating Points
- Scaling Points
- Inserting & Deleting Points
- [Beveling Corners|topic=Beveling Corners](#)
- [Rounding Corners|topic=Rounding Corners](#)
- Using Automatic Dimensions
- Undoing and Redoing Changes

Moving Points



Because points define the shape of an object, moving the points will change the object's shape.

Before points can be moved, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To move a single point:

1. Click the **Move** tool that is found to the left of the screen, or press the **T** key on your keyboard.

2. Move your mouse over the point you wish to move, and click the left mouse button to select it.
3. Click the point again, but this time hold down the left mouse button as you move your mouse. Alternately, press the **Enter** key to manually move the point.

To move multiple points:

1. Click the **Move** tool that is found to the left of the screen, or press the **T** key on your keyboard.
2. While holding the **Shift** key on your keyboard, click each of the points that you wish to move.
3. Click one of the selected points again, but this time hold down the left mouse button as you move the mouse. Alternately, press the **Enter** key to move the points manually.

Changing Point Elevations

In most cases, points can only be moved horizontally with respect to the ground. However, the points of some objects can also be adjusted vertically. For example, retaining walls can have a different height at each point. This vertical movement can be done using the **Elevation** property of the object, or by using the mouse shortcut detailed below.

Before points can be elevated or lowered, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To change a point's elevation using the mouse:

1. Click the Perspective view and adjust your viewpoint so that you can see the point you wish to elevate.
2. Click the **Move** tool that appears to the left of the screen, or press the **T** key on your keyboard.
3. Press and hold the **Ctrl** key.
4. Move your mouse over a point that you would like to elevate; you will notice the mouse cursor change to an up/down arrow.
5. Click and hold the left mouse button, and then move the mouse up and down to change the point's elevation.

Elevation adjustments are relative, not absolute, when using the mouse shortcut detailed above, which is one large advantage of using the mouse instead of the **Elevation** property of an object. For example, if you create a retaining wall of varying height, you could select all points and adjust the entire height of the wall using the mouse, all without changing the differences in elevation between the points.

Tips:

1. It is sometimes best to move edges instead of individual points. For example, you might need to lengthen the side of a swimming pool or deck. To do this, click and hold the left mouse button on the edge you wish to move while moving the mouse.

- Points will automatically snap to the grid when grid snap is enabled. See [Snap Settings|topic=Snap Settings](#) for details.

See also:

Editing Points
Selecting Points
Rotating Points
Scaling Points
Inserting & Deleting Points
[Beveling Corners|topic=Beveling Corners](#)
[Rounding Corners|topic=Rounding Corners](#)
Using Automatic Dimensions
Undoing and Redoing Changes

Rotating Points



The points of an object can be rotated relative to each other. While this technique is not used often, it can be useful in certain situations.

Before points can be rotated, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To rotate points:

- Click the **Rotate** tool that is found to the left of the screen, or press the **R** key on your keyboard.
- Hold the **Shift** key and click on each of the points you wish to rotate to select them. More than one point should be selected.
- Click and hold the left mouse button on one of the points, then move the mouse to rotate all selected points. Alternately, press the **Enter** key to rotate the points manually.

Tips:

- In most cases it is easier to rotate the entire object instead of rotating points. For more information, see [Rotating Objects|topic=Rotating Objects](#).
- When angle snapping is enabled, rotated points will snap to the Snap angle that has been set in the [Snap Settings|topic=Snap Settings](#) dialog.

See also:

Editing Points
Selecting Points
Moving Points
Scaling Points
Inserting & Deleting Points

[Beveling Corners|topic=Beveling Corners](#)
[Rounding Corners|topic=Rounding Corners](#)
Using Automatic Dimensions
Undoing and Redoing Changes

Scaling Points



The points of an object can be scaled relative to each other. While this technique is not used often, it can be useful in certain situations.

Before points can be scaled, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To scale points:

1. Click the **Scale** tool that is found to the left of the screen, or press the **S** key on your keyboard.
2. Hold the **Shift** key and click each of the points you wish to scale to select them. More than one point should be selected.
3. Click and hold the left mouse button on one of the points, then move the mouse to scale all selected points. Alternately, press the **Enter** key to scale the points manually.

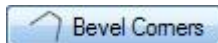
Tips:

1. In most cases it is easier to scale the entire object instead of scaling points. For more information, see [Scaling Objects|topic=Scaling Objects](#).
2. Points will automatically snap to the grid when grid snap is enabled. See [Snap Settings|topic=Snap Settings](#) for details.
3. The Scale tool can also be used to adjust Bezier curves. For more details on Bezier curves, see [Editing Points|topic=Editing Points](#).

See also:

Editing Points
Selecting Points
Moving Points
Rotating Points
Inserting & Deleting Points
[Beveling Corners|topic=Beveling Corners](#)
[Rounding Corners|topic=Rounding Corners](#)
Using Automatic Dimensions
Undoing and Redoing Changes

Beveling Corners



The corners of your objects can be beveled using the Bevel Corners tool.

Before corners can be beveled, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To bevel corners:

1. Click the **Bevel Corners** tool that appears under the **Edit Points** button, or press the **H** key on your keyboard.
2. Click the point you wish to bevel to select it. If more than one point needs to be beveled, hold the **Shift** key while clicking on additional points. Press **Edit**, **Select**, and **Select all** to select all points in the object.
3. Click and hold the left mouse button on one of the points, and then move the mouse to bevel each selected point. Alternately, press the **Enter** key to bevel the points manually.

In the pictures below, a deck is shown before and after one of its corners has been beveled using the steps above.





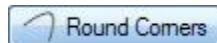
Tips:

1. Hexagonal and octagonal objects can be easily added to your landscape designs using the Bevel Corners tool. To create a hexagon, create a triangular shape and bevel all three of its points. To create an octagon, create a square shape and bevel all four of its corners.
2. Object shapes can be saved and loaded, even if the shapes were created using different objects. For details, see [Saving and Loading Shapes|topic=Saving and Loading Shapes](#).

See also:

[Editing Points](#)
[Selecting Points](#)
[Moving Points](#)
[Rotating Points](#)
[Inserting & Deleting Points](#)
[Rounding Corners|topic=Rounding Corners](#)
[Using Automatic Dimensions](#)
[Undoing and Redoing Changes](#)

Rounding Corners



The **Round Corners** tool can be used to easily round the corners of your shapes.

Before corners can be rounded, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To round corners:

1. Click the **Round Corners** tool that appears under the **Edit Points** button, or press the **O** key on your keyboard.
2. Click the point you wish to round to select it. If more than one point needs to be rounded, hold the **Shift** key while clicking additional points. Press **Edit**, **Select**, and **Select all** to select all points in the object.
3. Click and hold the left mouse button on one of the points, and then move the mouse to round each selected point. Alternately, press the **Enter** key to round the points manually.

In the pictures below, a patio is shown before and after one of its corners has been rounded using the steps above.





Tips:

1. Some objects do not support rounded corners, such as houses and fences.
2. Object shapes can be saved and loaded, even if the shapes were created using different objects. For details, see [Saving and Loading Shapes](#)`|topic=Saving and Loading Shapes`.

See also:

Editing Points
 Selecting Points
 Moving Points
 Rotating Points
 Inserting & Deleting Points
[Beveling Corners](#)`|topic=Beveling Corners`
 Using Automatic Dimensions
 Undoing and Redoing Changes
 Saving and Loading Shapes

Inserting & Deleting Points



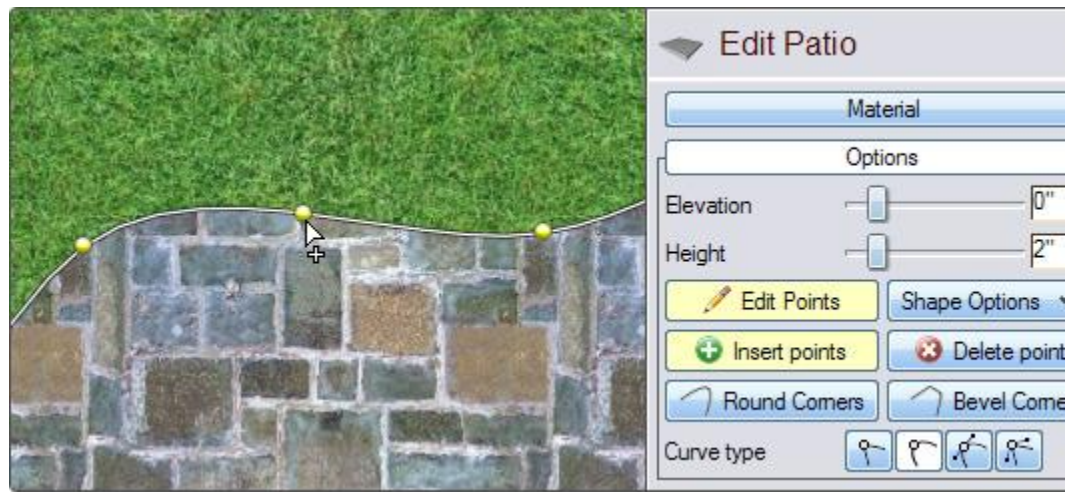
Points can be inserted and deleted as needed to obtain the desired shape.

When editing the points of an object, additional points can easily be added as needed. Points can also be deleted from the object to simplify the shape.

Before points can be added or deleted from an object, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To insert points:

1. Click the **Insert points** button that appears under the **Edit Points** button.
2. Move your mouse over the edge of the shape that you would like to add a point to, and then click the left mouse button.



To delete points:

1. Click the point you wish to delete to select it.
2. Click the **Delete points** button, found to the right of the **Insert points** button.

Tips:

1. If no points are selected and you press the Delete key on your keyboard, the entire object will be removed from your design.
2. It is recommended to use Bezier points whenever possible, as they provide a greater level of control than dozens of other points. It is best to use as few points as possible when creating your shapes simply to keep them easy to edit. See [Editing Points|topic=Editing Points](#) for details on Bezier curves.
3. If you wish to undo the last inserted or deleted point, simply click the **Undo** button, or press **Ctrl + Z** on your keyboard.

See also:

Editing Points
Selecting Points
Moving Points
Rotating Points
Scaling Points
[Beveling Corners|topic=Beveling Corners](#)
[Rounding Corners|topic=Rounding Corners](#)
Using Automatic Dimensions
Undoing and Redoing Changes

Changing Corner Types



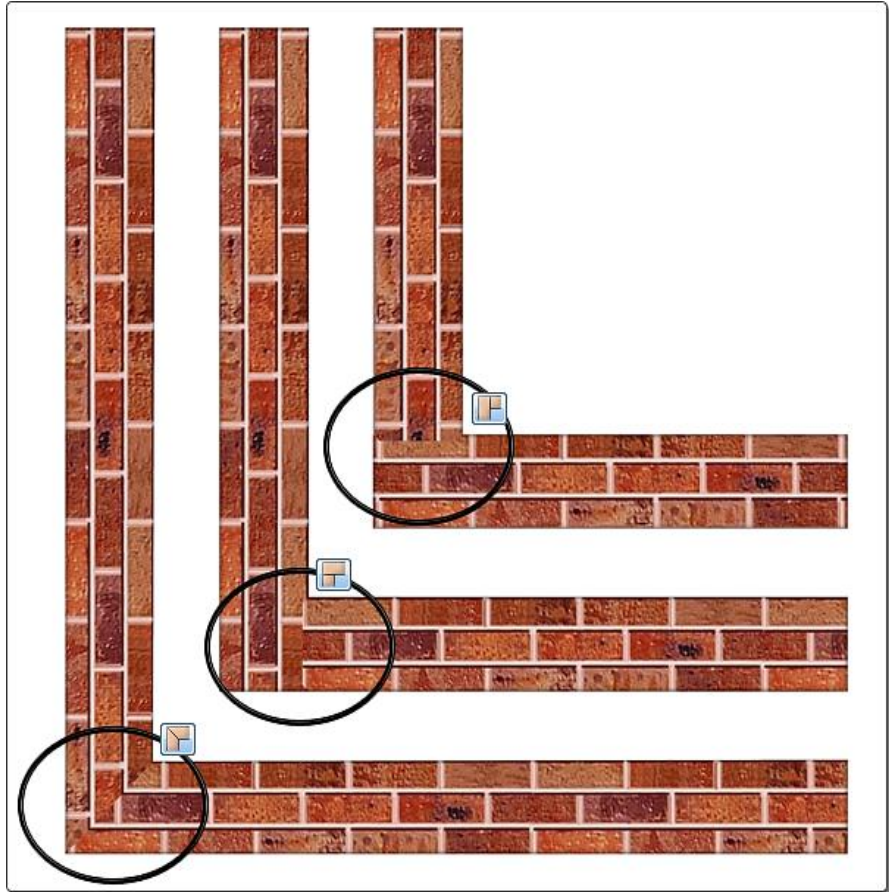
On certain objects, such as retaining walls and patios with borders, the corner join method can be adjusted at each point.

Before corners can be changed, the **Edit Points** button must be pressed to turn on point editing mode. See [Editing Points|topic=Editing Points](#) for more information.

To change corner types:

1. Click an object in your design to select it. Most objects that support borders, coping, or caps will support corner changes.
2. Click the point you wish to change in order to select it. If more than one point needs to be changed, hold the **Shift** key while clicking additional points. Press **Edit**, **Select**, and **Select all** to select all points in the object.
3. Click the corner type that you wish the object's border, coping, or cap to use. Depending on the material, the change can be subtle or distinct.

In the picture below, the top of a retaining wall is shown for each of the three corner types.



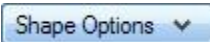
Tips:

1. Some objects do not corner types, such as decks, fences, and swimming pools.

See also:

[Editing Points](#)
[Selecting Points](#)
[Moving Points](#)
[Rotating Points](#)
[Inserting & Deleting Points](#)
[Beveling Corners|topic=Beveling Corners](#)
[Rounding Corners|topic=Rounding Corners](#)
[Using Automatic Dimensions](#)
[Undoing and Redoing Changes](#)
[Saving and Loading Shapes](#)

Saving and Loading Shapes



DATAflor GRÜNSTUDIO 3D includes many objects, such as decks, retaining walls, and fences that are defined using an open or closed shape. This

defining shape can be saved or loaded without regard to the type of object being used. For example, if you create a fill region that needs to be surrounded with brick edging, simply save the shape of the fill region and load the shape with the edging.

To save an object's shape:

1. Click the object whose shape you wish to save to select it.
2. Click the **Shape Options** button that appears to the right of the screen and select **Save Shape**.
3. From the dialog that appears, enter a name for your shape and click the **Save** button. It is recommended to use descriptive names so that shapes are easier to locate when you need them.

To load a shape into an existing object:

1. Click the object whose shape you wish to change to select it.
2. Click the **Shape Options** button that appears to the right of the screen and select **Load Shape**.
3. From the shape library that appears, select the shape you wish to use and click the **OK** button.

To copy an object's shape to the clipboard:

1. Click the object whose shape you wish to save to select it.
2. Click the **Shape Options** button that appears to the right of the screen and select **Copy Shape**.

To load a shape while creating a new object:

1. Click the **Add Patio** button that is located near the top of the screen under the **Building** tab. The Patio object is being used as an example here, but any shape-based object can be used.
2. Click the **Shape Options** button that appears to the right of the screen and select **Load Shape** (or **Paste Shape** if the shape was previously copied to the clipboard).

Example

In the picture below, imagine that it is necessary to border the mulch planting region with small rocks. The rock border could simply be drawn around the perimeter of the area, but it would be quicker and easier to use the steps shown above to save and load a shape.



The picture below shows the same garden design after the rock border was added. This was done by saving the shape of the mulch area and loading that shape using the Rock Border tool.



See also:

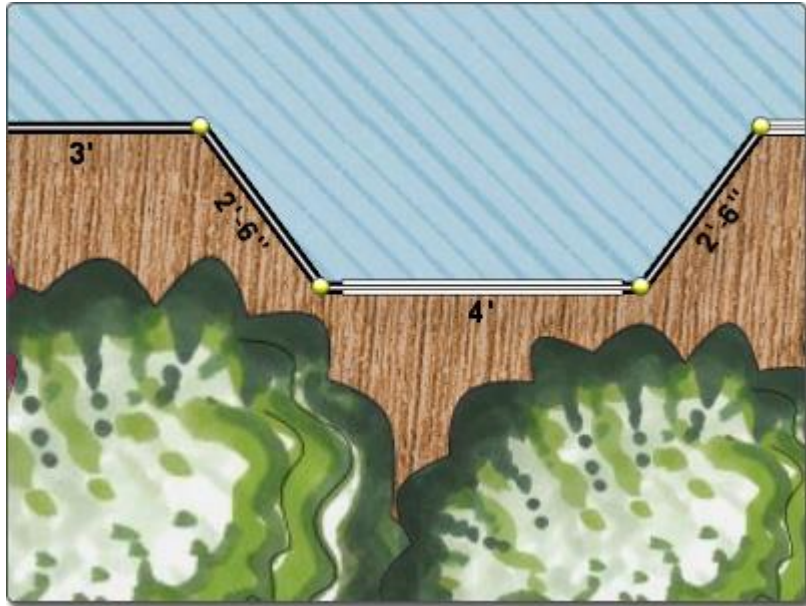
- Editing Points
- Selecting Points
- Moving Points
- Rotating Points
- Scaling Points
- Inserting & Deleting Points
- Beveling Corners
- Rounding Corners
- Using Automatic Dimensions
- Undoing and Redoing Changes

Using Automatic Dimensions

It is important to create accurately sized objects when creating a realistic landscape design. To assist you in creating shapes the exact size needed, Automatic Dimensions can be enabled. When Automatic Dimensions are enabled, the distance between points will be shown whenever you add or edit the points of an object.

To toggle automatic dimensions on or off: Select **Settings** and **Show Auto Dimensions**, or press **Ctrl + D** on your keyboard.

The picture below shows an example of a bay window being edited. Notice how Automatic Dimensions are enabled and the distances between points are displayed.



Tips:

1. When Automatic Dimensions are enabled, they will only appear while editing points. If you wish to add persistent dimensions to your design, see [Adding a Linear Dimension|topic=Adding a Linear Dimension](#).

See also:

Adding a Lot Boundary
Editing Points

Landscape Objects

Adding a Region



A region is an enclosed area that is filled with a material such as grass, dirt, mulch, paving stone, wood, rock, or brick. Regions can be used for driveways, play areas, ground cover, and more. They can be mounded or flat, curved or sharp, and multiple regions can overlap seamlessly. Regions can be created in any shape and size, and can be given any one of hundreds of materials.

To add a region:

1. Click the **Add Region** button that is found near the top of the screen under the **Landscape** tab.
2. Draw the outline of the region by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the region, place the last point on top of the first point. Alternately, right-click to place the last point.

In the picture below, a region was used to create the mulch area around the pond design.



Changing the Shape

A region's shape can be easily modified after it has been added to your landscape design. To change the shape of a region, select the region and click the **Edit Points** button. See [Editing Points|topic=Editing Points](#) for more information.

Setting Region Height

Regions can be a great way of easily adding subtle changes to the topography of a landscape design. By adjusting a region's height, the region can be mounded or depressed to create a berm or a pit.

Use the **Height taper** property to adjust how steep the transition is from the apex of the mound or depression to the surrounding terrain. By setting this property to 100, you can create raised or lowered regions with vertical edges.

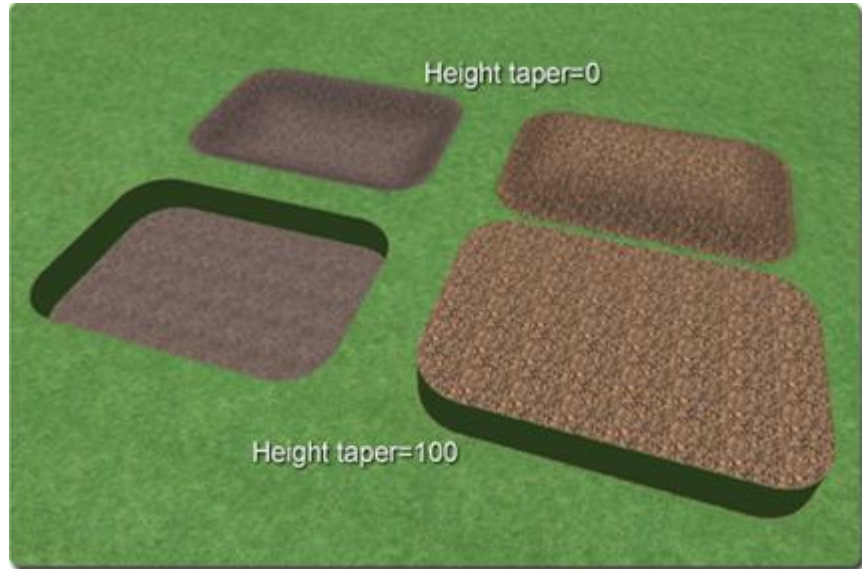
For more fundamental changes, see [Sculpting the Terrain|topic=Sculpting the Terrain](#).

To add a mound or depression:

1. Click the region in your landscape design to select it.
2. Adjust the **Height property|topic=Setting Object Properties** as needed. A positive height will create a mound, while a negative height will produce a depression.

- Adjust the **Height taper** property|topic=Setting Object Properties as needed. Use a lower value for a more rounded edge, or a larger value for a sharper edge. Use 100 for a vertical edge.

The picture below shows regions with various height and taper settings.



See [Sculpting the Terrain|topic=Sculpting the Terrain](#) for more information on changing the topology of your landscape design.

Working with Overlapping Regions

Regions can be seamlessly overlapped to more easily create the shape you need. In the picture below, a large cobblestone driveway is connected to a pathway simply by placing the pathway over the driveway.



The picture below highlights the seamless nature of the two areas because they use the same material. Notice how the 3D edge effect is used to give a realistic appearance to the grass. To learn more about the 3D edge effect, see [Region Properties|topic=Region Properties](#).



Controlling the Render Order

When two regions that have different materials overlap, one region will appear on top of the other in the overlapping areas. Using the Render Order options, you can control which region will appear on top of the other. For example, if a path runs through a grassy region, you could use the Render Order options to ensure that the path is on top of the grassy area and not under it.

Note: When working in the Plan view, Plan Detail objects will always appear on top of the 3D landscape. See [Adding Plan Detail](#) for more information.

To change a region's render order:

1. Select the region in your landscape design that you want to adjust.
2. If you want the selected region to show on top of overlapping objects, click **Edit, Render Order**, and **Bring to Front**. If you want the selected region to appear under overlapping objects, then click **Edit, Render Order**, and **Send to Back**.

If you want to bring the selected region just one step toward the top of a group of overlapping objects, click **Edit, Render Order**, and **Bring Forward**. If

you want to send the region just one step toward the bottom of a group of objects, click **Edit, Render Order,** and **Send Backward.**

Note: The render order of multiple regions can be changed at the same time using the steps above. For example, you can select multiple regions by clicking **Edit, Render Order,** and **Bring to Front** to cause each selected region to appear on top of any overlapping objects.

In the picture below, a pathway region is appearing on top of another path.



The picture below illustrates how the **Bring to Front** command was used to cause the pathway to render on top of the lower region instead of underneath it.



Adding a Border

A border can be added around the region, either to specific edges or the entire shape.

To add a border:

1. Select the region that you want to change.
2. Expand the **Border** menu found to the right of the screen.
3. Click **Add border**.
4. Set the **Inset** and **Width** properties as desired.

To toggle the border on or off per edge:

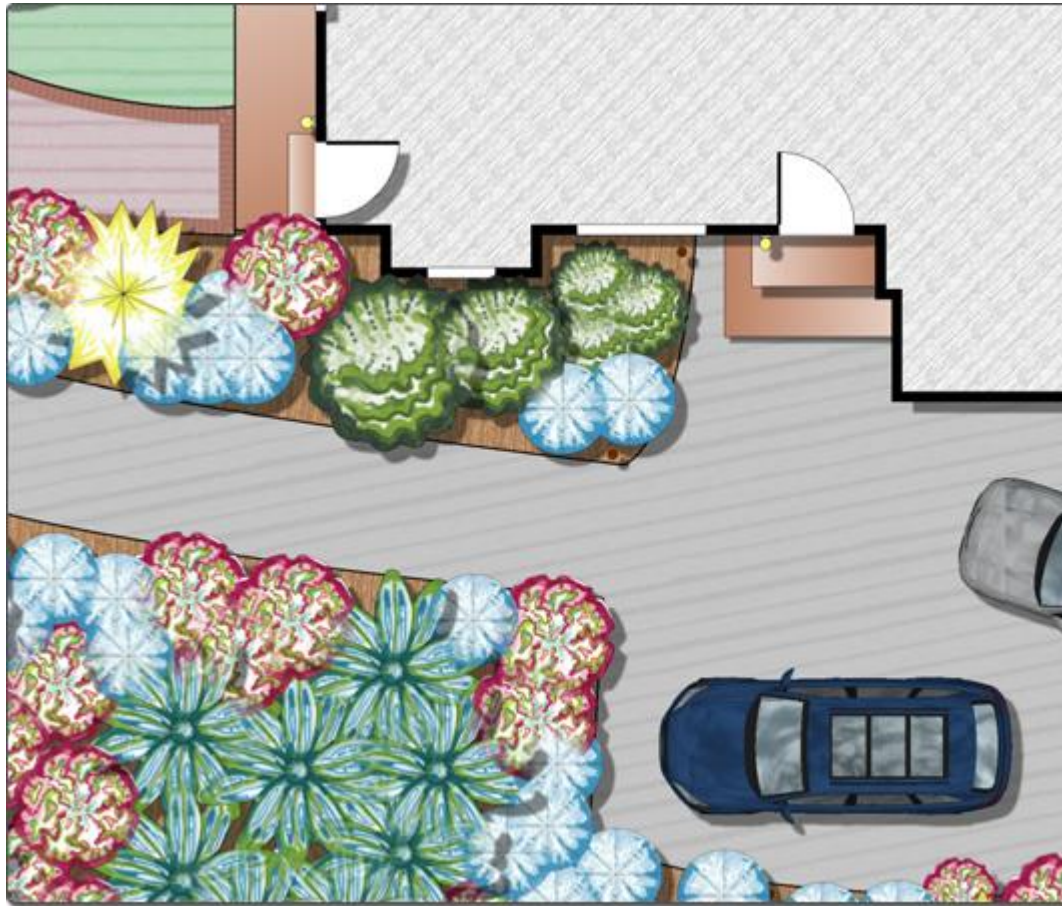
1. Select the region that you want to change.
2. Expand the **Border** menu found to the right of the screen.
3. Click the **Edit Border** button to enter border editing mode.
4. Click each edge where you want to toggle the border on or off.
5. Click the **Edit Border** button again to leave border editing mode.

Note: The corner type of the region border can be adjusted at each point. See [Changing Corner Types|topic=Changing Corner Types](#) for details.

Customizing the Plan View

Regions can appear one way in the Perspective view, and another way in the Plan view. This is useful for when you want your Perspective view to look realistic, but your Plan view to appear stylized like the picture below. To achieve this, click the **Custom appearance in each view** checkbox. Two tabs will appear: Plan and Perspective. These tabs enabled you to modify how the region appears in each view.

The Plan view in the picture below uses brown colored pencil to represent the mulch regions, and gray marker to represent the driveway and pathway regions.



The picture below illustrates a Realtime Walkthrough view of the design shown above.



Tips:

1. Regions can be added in either the Plan or Perspective view, but are easiest to add in the Plan view.
2. When building geometric shapes, such as those used when creating driveways and patios, it is usually best to ensure that grid snap is enabled. See [Snap Settings|topic=Snap Settings](#) for details.
3. Points can be easily added to your region to increase your control over its shape. For more information, see [Inserting and Deleting Points|topic=Inserting & Deleting Points](#).

See also:

Region Properties
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Adding a Path
 Saving and Loading Shapes

Region Properties

The properties used to modify a Region object are located to the right of the screen when your region is selected. These properties can either be adjusted right before adding the region to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the region will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the region will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the region in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the region in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the region will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the region can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the region material. For example, if the region has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the region material. To change the material angle, move the Angle slider or type a value in the text field
Offset X	The Offset X property determines the region material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the region material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the region material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the region in the Plan view. To change the region opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style... property determines the appearance of the outline of the region in the Plan view. To change the line style, click the Line Style... button and select the style you want to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Height	The Height property determines how mounded or depressed the region is. A negative height will cause the region to depress into the ground, while a positive height will produce a mound. To change the region height, move the Height slider or enter a value in the text field.
Height taper	The Height taper property determines how steep the transition is from the apex of the mound or depression to the surrounding terrain. Low height taper values will produce more gradual mounds and depressions, while high values produce sharper mounds and depressions. Use 100 for a vertical edge.
3D edge effect	The 3D edge effect property determines whether the region appears raised or sunken when bordered or intersected by other regions or paths. To change the effect, click the 3D edge effect drop-down menu and select Raised, Sunken, or None.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the region's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the region, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Border	Description
Add border	The Add border property determines whether the region has a customizable border around its perimeter. To enable or disable the border, click the Add border checkbox.

	Additional border options will not be available unless Add border is enabled.
Custom appearance in each view	The Custom appearance in each view option determines whether the region border will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the border will appear the same in both views.
Material	The Material property determines what type of surface the region border will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the region border can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the region border material. For example, if the border has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the region border material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the region border material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset	The Offset Y property determines the region border material's top to bottom orientation. To shift the material up or down, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface material	The Enable enhanced surface detail property determines whether or not the region border material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the region border in the Plan view. To change the border opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line Style	The Line Style property determines the appearance of the outline of the region border in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style

	is only available when the Custom appearance in each view option is checked.
Inset	The Inset property determines how far inward the border will be placed from the perimeter of the region. To adjust the position of the border, move the Inset slider or type a value in the text field.
Width	The Width property determines how thick the border is. To change the thickness, move the Width slider or type a value in the text field.
Edit Border	Click the Edit border button to enable or disable border editing mode. When enabled, click an edge of the region to enable or disable the border at that location.

Information	Description
Area	The Area property displays the total size of the region in square feet or meters.
Perimeter	The Perimeter property displays the total distance around the region in feet or meters.

See also:

- Adding a Region
- Adding a Path
- Setting Object Properties
- Selecting Points
- Selecting Objects
- Editing Objects
- Saving and Loading Shapes

Adding a Path



The Path object is a very versatile tool that can be used for landscape paths and walkways. Similar to the Region object, a path can be curved or straight and created in any shape and size. Paths can overlap Region objects, allowing you to mix regions and paths as needed.

To add a path:

1. Click the **Add Path** button found near the top of the screen under the **Landscape** tab.
2. Modify the **Width** property|topic=Setting Object Properties to set the path's width.
3. Draw the path by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the

distance and angle manually, place at least one point and then press the **Enter** key.

4. To finish drawing the path, right-click to place the last point.

Once a path is added, you can click the Edit Points button to gain complete control over the path's shape. Points can then be moved, added, and deleted as needed for your landscape design.

In the picture below, the Path object was used to create a walkway that curves runs parallel to the house.



Adding a Border

A border can be added around the path, either to specific edges or the entire shape.

To add a border:

1. Select the path that you want to change.
2. Expand the **Border** menu found to the right of the screen.
3. Click **Add border**.
4. Set the **Inset** and **Width** properties as desired.

To toggle the border on or off per edge:

1. Select the path that you want to change.
2. Expand the **Border** menu found to the right of the screen.
3. Click the **Edit Border** button to enter border editing mode.
4. Click each edge where you want to toggle the border on or off.
5. Click the **Edit Border** button again to leave border editing mode.

Note: The corner type of the path border can be adjusted at each point. See [Changing Corner Types|topic=Changing Corner Types](#) for details.

In the picture below, a path is shown with a paver border.



To set a custom material direction:

1. Select the path in your landscape design that you want to edit.
2. Click the **Enable custom material direction** checkbox.

Once the custom material direction is enabled, you can click the Edit Direction button to change the path that material follows.

In the picture below, the lower path is shown with a custom material direction, and the upper path is shown without one.



Controlling the Render Order

When multiple overlapping regions and paths of different materials exist in your design, you can determine which objects will show on top of the others. See [Adding a Region|topic=Adding a Region](#) for more information.

Customizing the Plan View

Like regions, paths can be given a customized appearance in the Plan view. See [Adding a Region|topic=Adding a Region](#) for details and examples.

Tips:

1. Paths can be added in either the Plan view or the Perspective view, but are easiest to add in the Plan view.

See also:

- Path Properties
- Adding a Region
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Editing Points
- Saving and Loading Shapes

Path Properties

The properties used to modify a Path object are located to the right of the screen when your path is selected. These properties can either be adjusted right before adding the path to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the path will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the path will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the path in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the path in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the path will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the region can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the path material. For example, if the path has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the path material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the path material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the path material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the path material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the path in the Plan view. To change the path opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the path in the Plan view. To change the line style, click the Line Style button and select the style you want to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Height	The Height property determines how mounded or depressed the path is. A negative height will cause the path to depress into the ground, while a positive height will produce a mound. To change the path height, move the Height slider or enter a value in the text field.
Height taper	The Height taper property determines how steep the transition is from the apex of the mound or depression to the surrounding terrain. Low height taper values will produce more gradual mounds and depressions, while high values produce sharper mounds and depressions. Use 100 for a vertical edge.
3D edge effect	The 3D edge effect property determines whether the region appears raised or sunken when bordered or intersected by other regions or paths. To change the effect, click the 3D edge effect drop-down menu and select Raised, Sunken, or None.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the path's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the path, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Border	Description
Add border	The Add border property determines whether the path has a customizable border around its perimeter. To enable or disable the border, click the Add border checkbox.

	Additional border options will not be available unless Add border is enabled.
Custom appearance in each view	The Custom appearance in each view option determines whether the path border will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the border will appear the same in both views.
Material	The Material property determines what type of surface the path border will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the path border can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the path border material. For example, if the border has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the path border material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the path border material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset	The Offset Y property determines the path border material's top to bottom orientation. To shift the material up or down, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface material	The Enable enhanced surface detail property determines whether or not the path border material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the path border in the Plan view. To change the border opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line Style	The Line Style property determines the appearance of the outline of the path border in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is

	only available when the Custom appearance in each view option is checked.
Inset	The Inset property determines how far inward the border will be placed from the perimeter of the path. To adjust the position of the border, move the Inset slider or type a value in the text field.
Width	The Width property determines how thick the border is. To change the thickness, move the Width slider or type a value in the text field.
Edit Border	Click the Edit border button to enable or disable border editing mode. When enabled, click an edge of the path to enable or disable the border at that location.

Material Direction	Description
Enable custom material direction	<p>The Enable custom material direction property determines if the path material is oriented in the same direction regardless of path shape, or follows a specific orientation such as a curve. To enable or disable a custom orientation, click the Enable custom material direction checkbox.</p> <p>The Enable custom material direction checkbox must be enabled for other material direction options to be accessible.</p>
Closed	<p>The Closed property determines whether the path material orientation's shape is open or closed. To change the state of the edging's shape, click the Closed checkbox to toggle it.</p> <p>Most paths will not need a "Closed" orientation. Typically, only walkways that complete a full circuit should use the Closed option.</p>
Width	<p>The Width property determines the thickness of the material's orientation path. To change the material orientation's thickness, move the Width slider or type a value in the text field.</p> <p>In most cases, it is a good idea to set the width to be as wide, or slightly wider, than the path itself.</p>
Edit Direction	Click the Edit direction button to enable or disable point editing mode for the material orientation, which will allow you to modify shape of the material's path. See Editing Points topic=Editing Points for details.

Information	Description
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Area	The Area property displays the total size of the path in square feet or meters.
Perimeter	The Perimeter property displays the total distance around the path in feet or meters.

See also:

- Adding a Path
- Adding a Region
- Setting Object Properties
- Selecting Points
- Selecting Objects
- Editing Objects

Adding Edging



The Edging object is used to place borders around paths, flower beds, and other areas in your landscape design. Edging can be given a large variety of materials, such as brick, rock, stone, and cement. Edging can be constructed in virtually any size and shape needed.

To add edging:

1. Click the **Add Edging** button that appears near the top of the screen under the **Landscape** tab.
2. Draw the edging by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the edging, place the last point on top of the first point. Alternately, right-click to place the last point.

In the picture below, concrete edging was used to border the flower bed.

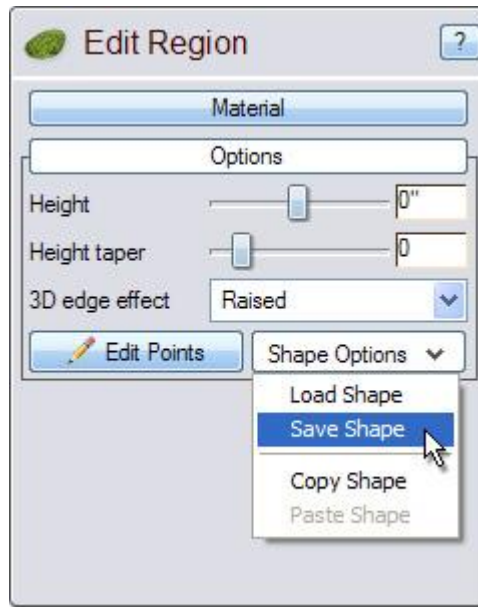


Using Save and Load Shape Commands

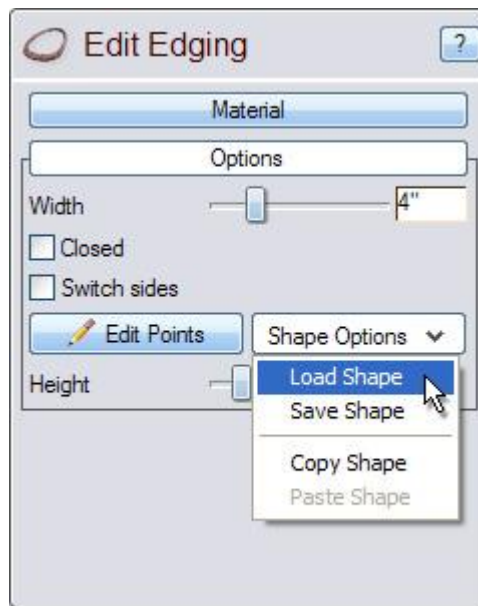
The shape of your edging can be saved, or an existing shape can easily be loaded for your edging. In the landscape design pictured above, the shape of the region was saved and then loaded for the edging.

To add edging using the Save and Load Shape commands:

1. Click the region or other shape-based object to select it. This object should be the shape that you want to use.
2. Click the **Shape options** button that appears to the right of the screen, and click the **Save shape** option from the drop-down menu.



3. Enter a name for the shape in the dialog that appears.
4. Click the **Add Edging** button found near the top of the screen under the **Landscape** tab.
5. Click the **Shape options** button that appears just to the right of the **Edit Points** button, and click the **Load shape** option from the drop-down menu.



6. Your edging will instantly be created around the border of the object whose shape you saved.

Customizing the Plan View

The appearance of edging can be customized in both the Plan view and the Perspective view. For example, the edging could look realistic in the

Perspective view, but stylized in the Plan view. To accomplish this, click the **Custom appearance in each view** checkbox. Two tabs will now be available: Plan and Perspective. These tabs will allow you to modify the appearance of the edging in each view.

Tips:

1. Edging can be added in either the Plan view or the Perspective view, but is typically easiest to add in the Plan view.
2. Points can easily be added or removed for your edging's shape for greater control. For more information, see [Inserting and Deleting Points](#) | topic=Inserting & Deleting Points.

See also:

- Edging Properties
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Saving and Loading Shapes

Edging Properties

The properties used to modify an Edging object are located to the right of the screen when your edging is selected. These properties can either be adjusted right before adding the edging to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the edging will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the edging will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the edging in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the edging in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the edging will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the edging can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the edging material. For example, if the edging has a brick material, then the Size slider will adjust the size of each brick.

Angle	The Angle property determines the rotation angle of the edging material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the edging material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the edging material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the edging material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the edging in the Plan view. To change the edging opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the edging in the Plan view. To change the line style, click the Line Style button and select the style you want to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Width	The Width property determines how thick the edging is. To change the edging width, move the Width slider or enter a value in the text field.
Closed	The Closed property determines whether the edging's shape is open or closed. To change the state of the edging's shape, click the Closed checkbox to toggle it.
Switch sides	The Switch sides property determines which side of the edging's shape the edging is built. To toggle the side that the edging is constructed on, click the Switch sides checkbox.

Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the edging's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the edging, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Height	The Height property determines how tall the entire edging is. Alternately, if one or more points of the edging are selected, the Height slider can be moved to raise or lower individual points.

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the edging to the finish.

See also:

Adding Edging
 Setting Object Properties
 Selecting Points
 Selecting Objects
 Editing Objects
 Saving and Loading Shapes

Adding a Hedge



Box hedges can be added to your landscape design using the Hedge tool. Hedges are easy to add; simply draw a line indicating the path that the box hedge should follow.

To add a hedge:

1. Click the **Add Hedge** button found near the top of the screen under the **Landscape** tab.
2. Draw the hedge by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the hedge, right-click to place the last point.

The picture below shows an example of a landscape design with two box hedges.



Customizing the Plan View

The appearance of a hedge can be customized separately in the Plan view and the Perspective view. For example, you could determine that the hedge should look realistic in the Perspective view, but stylized in the Plan view. To do this, click the **Custom appearance in each view** checkbox. Two tabs will now be available: Plan and Perspective. Using these two tabs, you can customize how your hedge appears in each view.

Tips:

1. Hedges can be added in either the Plan view or the Perspective view, but are easiest to add in the Plan view.
2. If you are adding a hedge to a geometric shape, such as those used in driveways and patios, it is usually best to ensure that grid snap is enabled. See [Snap Settings|topic=Snap Settings](#) for details.
3. Points can be easily added or removed from the shape of your hedge to grant more control. For more information, see [Inserting and Deleting Points|topic=Inserting & Deleting Points](#).

See also:

Hedge Properties
Setting Object Properties

Selecting Objects
Selecting Points

Hedge Properties

The properties used to modify a Hedge object are located to the right of the screen when your hedge is selected. These properties can either be adjusted right before adding the hedge to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the hedge will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the hedge will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the hedge in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the hedge in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the hedge will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the hedge can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the hedge material.
Angle	The Angle property determines the rotation angle of the hedge material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the hedge material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the hedge material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the hedge material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the hedge in the Plan view. To change the hedge opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the hedge in the Plan view. To change the line style, click the Line Style button and select the style you want to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Roundness	The Roundness property determines how sharp the corners of the hedge are. For sharper corners, use a lower roundness value. To change the hedge roundness, move the Roundness slider or enter a value in the text field.
Leaf density	The Leaf density property determines how many small 3D leaves are added to the top and sides of the hedge. To change the leaf density, move the Leaf density slider or enter a value in the text field.
Width	The Width property determines how thick the hedge is. To change the hedge width, move the Width slider or enter a value in the text field.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the hedge's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the hedge, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Height	The Height property determines how tall the entire hedge is. Alternately, if one or more points of the hedge are selected, the Height slider can be moved to raise or lower individual points.

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the hedge to the finish.

See also:

Adding a Hedge
Setting Object Properties
Selecting Points
Selecting Objects
Editing Objects
Saving and Loading Shapes

Adding an Accessory

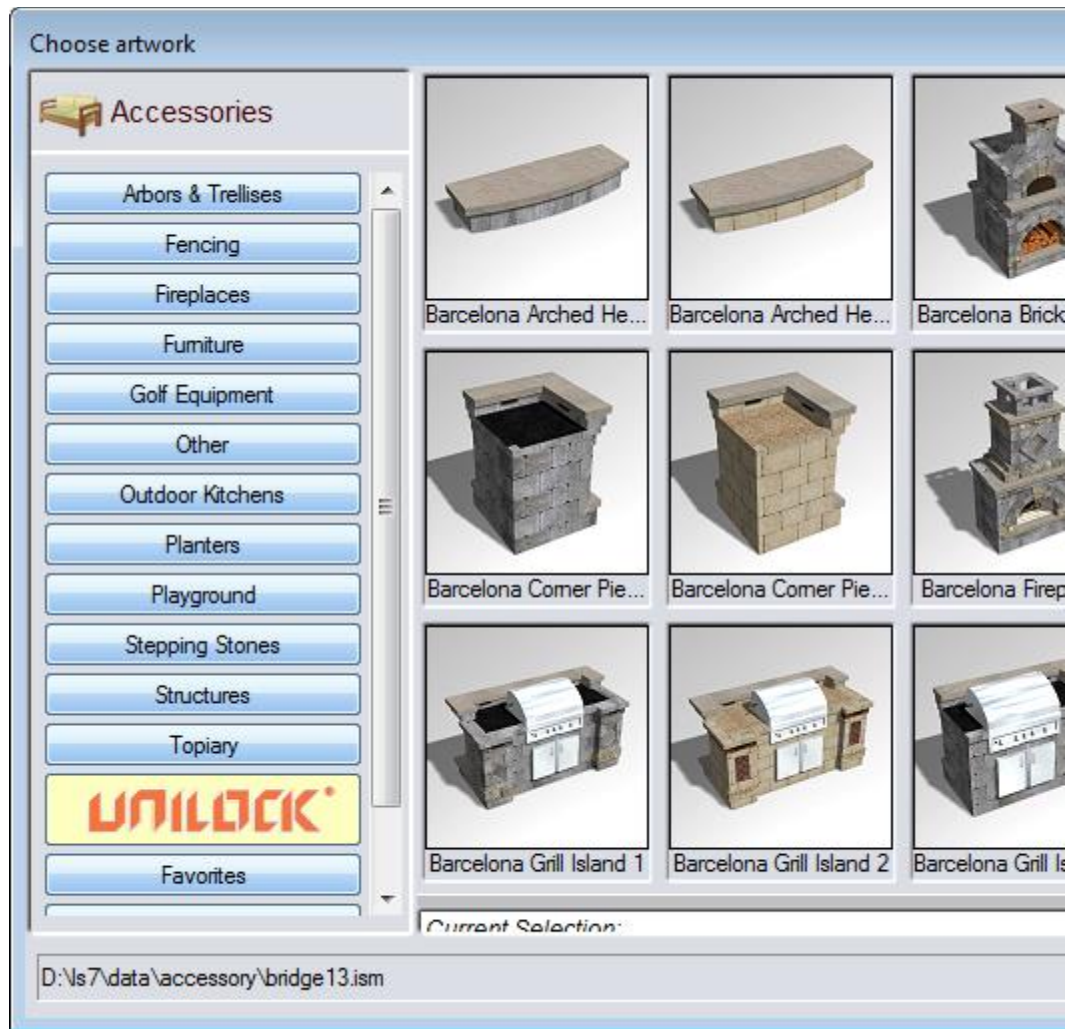


The Accessory tool contains more than a thousand different objects that can be used to decorate your landscape design. Accessories range from outdoor kitchen equipment to greenhouses, containing many objects for each and every landscape. It is recommended to browse the accessory library to get a feel for what objects are available.

To add an accessory:

1. Click the **Add Accessory** button that appears near the top of the screen under the **Landscape** tab.
2. Click the picture of the default accessory that appears to the right of the screen, and then select the accessory you would like to use.
3. Click on your design where you want to place the accessory.

The picture below shows a few of the accessories available.



In the picture below, Accessory objects were used to add the couches, trampoline, barbeque, planter, rabbit statue, footrest, cabinet, and drinks.



Tips:

1. The materials of an accessory can be customized as needed. For details, see [Editing Materials|topic=Editing Materials](#).
2. Accessories can be difficult to place if grid snap is enabled. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).
3. Accessories can be rotated and scaled as necessary. For more information, see [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#).

See also:

Accessory Properties
 Setting Object Properties
 Selecting Objects
 Editing Objects
 Editing Materials

Accessory Properties

The properties used to modify an accessory are located to the right of the screen when your accessory is selected. Only some of these accessory properties can be adjusted right before adding the accessory to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of accessory. To change the accessory model, click the picture that shows the current accessory.
Material options	The appearance of the accessory can be modified by clicking the small button that appears to the right of the accessory image.
Elevation	The Elevation property determines the distance of the accessory from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

Advanced	Description
Width	The Width property determines the size of the accessory from left to right. To adjust the accessory width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the accessory from front to back. To adjust the accessory length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the accessory is. To adjust the accessory height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the accessory about its X axis. If your view is facing north, this will rotate the accessory forward or backward. To rotate the accessory, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the accessory about its Y axis. If your view is facing north, this will rotate the accessory left or right as if it was sitting upon a pottery wheel. To rotate the accessory, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the accessory about its Z axis. If your view is facing north, this will rotate the accessory left or right as if it was sitting upon the face of a clock. To rotate the accessory, move the Rotate about Z slider or type a value in the text field.
Align to terrain	The Align to terrain property determines if the accessory is automatically tilted when it is placed on uneven terrain. If this

	option is disabled, the accessory will remain upright by default. To change the automatic terrain alignment, click the Align to terrain checkbox.
Scale evenly	The Scale evenly property determines if the accessory is stretched or not when you adjust the width, depth, or height. If you want to simply enlarge the accessory, then keep the Scale evenly option checked. If you want to stretch the accessory in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the accessory material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

Adding an Accessory
 Selecting Objects
 Setting Object Properties
 Editing Objects
 Editing Materials

Adding a Landscape Light



Landscape lights can be used to improve your landscape design's appearance at night. When viewing a Realtime Walkthrough at sunset, sunrise, or in the evening, every landscape light in your design will automatically light up.

To add a landscape light:

1. Click the **Add Light** button found near the top of the screen under the **Landscape** tab.
2. Click the picture of the default landscape light that appears to the right of the screen, and then select the light you would like to use.
3. Click on your design where you want to place the landscape light.



DATAflor GRÜNSTUDIO 3D includes many standard landscaping lights as well as specialty lights, such as flaming torches, Japanese lanterns, spotlights, and more. In the picture below, torches were added using the Landscape Light object.



Tips:

1. Lights that have been added to your landscape design will illuminate during Realtime Walkthroughs if the time of day has been set to evening, sunset, or sunrise. For more information, see [Environment Settings|topic=Environment Settings](#).
2. Landscape lights can be difficult to place if grid snap is enabled. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).
3. Lights can also be added to houses, pools, and streets. For details, see [Adding a House Light|topic=Adding a House Light](#), [Adding a Pool Light|topic=Adding a Pool Light](#), and [Adding a Street Light|topic=Adding a Street Light](#).
4. Landscape lights can be rotated and scaled as necessary. For more information, see [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#). Note that changing the size of a light does not change its brightness.

See also:

Light Properties
Setting Object Properties
Selecting Objects

Light Properties

The properties used to modify a landscape light are located to the right of the screen when your light is selected. Only some of these properties can be adjusted right before adding the light to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of landscape light. To change the light model, click the picture that shows the current light.
Material options	The appearance of the landscape light can be modified by clicking the small button that appears to the right of the light image.
Elevation	The Elevation property determines the distance of the landscape light from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Range	The Range property determines the distance that the landscape light will shine, effectively controlling the strength of the light. To change the light's influence, move the Range slider or type a value in the text field.
Beam angle	The Beam angle property determines the width of the landscape light's influence. To adjust the light's influence, move the Beam angle slider or type a value in the text field.
Color	The Color property determines the illumination color and brightness. For example, a blue color would cause the light to cast blue light during a walkthrough. To change the light's color or adjust its brightness, click the small color swatch that displays light's current color.
Add corona	The Add corona property determines if a bright halo of light is added around the bulb of the landscape light during a Realtime Walkthrough. To toggle the halo effect, click the Add corona checkbox.
Show area of influence	The Show area of influence property determines whether or not a helper is added while in the Plan or Perspective views. This helper is used to view the landscape light's range and angle of influence. To enable or disable the lighting helper, click the Show area of influence checkbox.
Use ray tracing for accurate shadows	The Use ray tracing for accurate shadows property determines the accuracy and quality of shadows that are created by the selected landscape light in an evening walkthrough. Ray tracing provides higher quality, but causes walkthroughs to generate slower. To toggle ray tracing, click the Use ray tracing for accurate shadows checkbox.

Advanced	Description
Width	The Width property determines the size of the landscape light from left to right. To adjust the light's width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the landscape light from front to back. To adjust the light's length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the landscape light is. To adjust the light's height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the landscape light about its X axis. If your view is facing north, this will rotate the light forward or backward. To rotate the light, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the landscape light about its Y axis. If your view is facing north, this will rotate the light left or right as if it was sitting upon a pottery wheel. To rotate the light, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the landscape light about its Z axis. If your view is facing north, this will rotate the light left or right as if it was sitting upon the face of a clock. To rotate the light, move the Rotate about Z slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the landscape light is stretched or not when you adjust the width, depth, or height. If you want to simply enlarge the light, then keep the Scale evenly option checked. If you want to stretch the light in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the light material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

[Adding a Landscape Light](#)
[Adding a House Light](#)
[Selecting Objects](#)
[Setting Object Properties](#)
[Editing Objects](#)
[Environment Settings](#)

Adding a Rock



The Rock object is used to place 3D rocks of any shape and size in your landscape designs. Rocks can be used to form spillways, landscape accents, natural borders, and more.

To add a rock:

1. Click the **Add Rock** button found near the top of the screen under the **Landscape** tab.
2. Click the picture of the default rock that appears to the right of the screen, and then select the rock you would like to use.
3. Click the picture of the default rock material, and then select the material you would like to use.
4. Click on your design where you want to place the landscape rock.

The picture below shows a landscape design with rocks used to enhance an entry way.



Rotating and Scaling Rocks

Rocks can be rotated and scaled as necessary. For example, the picture below shows the same rock sized and rotated differently. For more information, see [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#).



Using Rocks with Waterfalls

If a rock is positioned under a waterfall, then the water will realistically flow over the rock during a Realtime Walkthrough. The picture below shows a rock being used as a spillway.



Tips:

1. If you want to border a landscape feature with rocks, you may want to use the [Rock Border object|topic=Adding a Rock Border](#) instead.
2. It is best to select the rock you want to use before changing its size.
3. If you need to fill an area with rocks, consider adding a [Region|topic=Adding a Region](#) instead, and using a rock material.

See also:

- Rock Properties
- Adding a Rock Border
- Selecting Objects
- Setting Object Properties
- Editing Objects
- Adding a Waterfall

Rock Properties

The properties used to modify a rock are located to the right of the screen when your rock is selected. Only some of these properties can be adjusted right before adding the rock to your landscape, but all of the properties can

be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of rock. To change the rock model, click the picture that shows the current rock.
Material	The Material property determines what type of surface the rock will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the rock can be modified by clicking the small button that appears to the right of the rock image.
Elevation	The Elevation property determines the distance of the rock from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

Advanced	Description
Width	The Width property determines the size of the rock from left to right. To adjust the rock's width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the rock from front to back. To adjust the rock's length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the rock is. To adjust the rock's height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the rock about its X axis. If your view is facing north, this will rotate the rock forward or backward. To rotate the rock, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the rock about its Y axis. If your view is facing north, this will rotate the rock left or right as if it was sitting upon a pottery wheel. To rotate the rock, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the rock about its Z axis. If your view is facing north, this will rotate the rock left or right as if it was sitting upon the face of a clock. To rotate the rock, move the Rotate about Z slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the rock is stretched or not when you adjust the width, depth, or height. If you want to simply enlarge the rock, then keep the Scale evenly option checked. If you want to stretch the rock in any direction, then uncheck the Scale evenly option.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
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See also:

Adding a Rock
 Selecting Objects
 Setting Object Properties
 Editing Objects
 Adding a Waterfall

Adding a Rock Border



The Rock Border object is a string of rocks that are added along any path you define. The amount of individual rocks that are automatically added depends on the length of the rock border and the size of the rocks.

To add a rock border:

1. Click the **Add Rock Border** button found near the top of the screen under the Landscape tab.
2. Draw the rock border by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the rock border, right-click to place the last point.

The landscape design in the picture below uses a rock border to line a walkway.



Tips:

1. If you want to border an existing object in your landscape design, use the [Save and Load Shapes](#) feature to automate the process.
2. Rock borders can be added in either the Plan view or the Perspective view, but are easiest to add in the Plan view.
3. Rocks can also be added individually instead of being added as a part of a string. For details, see [Adding a Rock](#).
4. Points can be added or removed from the shape of a rock border to provide additional control. For more information, see [Inserting and Deleting Points](#).

See also:

[Rock Border Properties](#)
[Adding a Rock](#)
[Edging Properties](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)

Rock Border Properties

The properties used to modify a Rock Border object are located to the right of the screen when your border is selected. These properties can either be adjusted right before adding the border to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Material	The Material property determines what type of surface the rock border will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the rock border can be modified by clicking the small button that appears to the right of the rock border material's image.
Size	The Size property determines the scale of the rock material.
Angle	The Angle property determines the rotation angle of the rock material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the rock material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the rock material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the rock material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Closed	The Closed property determines whether the rock border's shape is open or closed. To change the state of the rock border's shape, click the Closed checkbox to toggle it.
Smoother rocks	The Smoother rocks property determines whether the rock border will feature smooth or rough rocks. To toggle the rock smoothness, click the Smoother rocks checkbox.

Rock size	The Rock size property determines the approximate size of each rock. To change the rock size, move the Rock size slider or enter a value in the text field.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the rock border's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the rock border, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the rock border to the finish.

See also:

- Adding a Rock Border
- Adding a Rock
- Selecting Objects
- Setting Object Properties
- Selecting Points
- Editing Objects
- Saving and Loading Shapes

Adding a Picture



The Picture object is used to add photographs to your landscape designs. A number of pictures are included in DATAflor GRÜNSTUDIO 3D, such as animals, cars, and people, but the true power of the Picture Object is the ability to import and add your own photographs.

Important: If you intend to add pictures of plants, use the [Plant object|topic=Adding a Plant](#) instead.

Importing a Custom Picture

Photographs and digital images can be imported into DATAflor GRÜNSTUDIO 3D and used in any of your landscape designs. To do this, first import your photograph into DATAflor GRÜNSTUDIO 3D using the [Picture Import Wizard|topic=Picture Import Wizard](#). Once your image is imported, see below for steps on adding it to your design.

To add a picture that has already been imported:

1. Click the **Add Picture** button found near the top of the screen under the **Landscape** tab.

2. Click the image of the default picture that appears to the right of the screen, and then select the picture you would like to use.
3. Click on your design where you want to place the landscape picture.

The landscape design below uses Picture objects for the blue planters.



Tips:

1. To add multiple pictures of the same type, hold the **Ctrl** key while placing a picture normally, and then keep clicking to add additional pictures.
2. Pictures can be difficult to place if grid snap is enabled because the picture will snap to the grid intersections as you move it. You can toggle the grid snapping by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).

See also:

Picture Import Wizard
Picture Properties
Setting Object Properties
Selecting Objects
Editing Objects

Picture Properties

The properties used to modify a Picture object are located to the right of the screen when your picture is selected. These properties can either be adjusted right before adding the picture to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Picture	The Picture property determines the type of image. To change the image, click the image that shows the current picture.
Picture options	The appearance of the picture can be modified by clicking the small button that appears to the right of the picture's image.
Width	The Width property determines the size of the picture from left to right. To adjust the picture's width, move the Width slider or type a value in the text field.
Height	The Height property determines how tall the picture is. To adjust the picture's height, move the Height slider or type a value in the text field.
Elevation	The Elevation property determines the distance of the picture from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Tilt angle	The Tilt angle property determines the picture's angle to the ground. For example, a tilt angle of 90 degrees will cause the picture to lie flat, while an angle of 0 degrees will cause it to stand straight up. To change the tilt angle, move the Tilt angle slider or enter a value in the text field.
Flip horizontal	The Flip horizontal property determines whether the picture is inverted from left to right. To flip the picture horizontally, click the Flip horizontal checkbox.
Flip vertical	The Flip vertical property determines whether the picture is inverted from top to bottom. To flip the picture vertically, click the Flip vertical checkbox.
Scale evenly	The Scale evenly property determines if the picture is stretched or not when you adjust the width or height. If you want to simply enlarge the picture, then keep the Scale evenly option checked. If you want to stretch the picture in either direction, then uncheck the Scale evenly option.
Rotate to face viewer	The Rotate to face viewer property determines whether the picture automatically turns to face your view, regardless how of you look at it. To toggle automatic picture rotation, click the Rotate to face viewer checkbox.
Cast shadow during walkthrough	The Cast shadow during walkthrough property determines whether the picture will create a shadow. To toggle shadow casting, click the Cast shadow during walkthrough checkbox.

Receive shadows during walkthrough	The Receive shadows during walkthrough property determines whether the picture will be shadowed by other objects. To toggle shadow receiving, click the Receive shadows during walkthrough checkbox.
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See also:

Adding a Picture
Picture Import Wizard
Setting Object Properties
Selecting Objects
Editing Objects

Adding a Plant



One of the key features of DATAflor GRÜNSTUDIO 3D is its immense plant database. Thousands of plants are included that are used in landscape designs across the world.

To add a plant:

1. Click the **Add Plant** button found near the top of the screen under the **Landscape** tab.
2. Click the image of the default plant that appears to the right of the screen, and then select the plant you would like to use.
3. Click on your design where you want to place the plant. Hold the **Ctrl** key to add more than one.

The picture below shows a landscape design using a variety of different plants.



Plant Types: Models, Pictures, and UltraRes Plants®

Three types of plants are available: models, pictures, and UltraRes Plants®.

Plant Models are 3D models used to represent trees, shrubs, and other plants. They are not as realistic as pictures, but can be viewed from any angle.

Plant pictures are 2D photographs of real plants. These look more realistic at a distance and in screen shots, but since they are flat they are not as realistic during a realtime walkthrough or in movies.

UltraRes Plants® are an exciting new technology developed exclusively for our landscape design software. Our artists use a proprietary computer program to design the “seed” for each plant, and the UltraRes Plant® Engine grows the plants dynamically based on the desired age, season, and plant-specific growth characteristics. These plants are much more realistic and can be viewed from any angle. However, they do require a more powerful video card due to the additional level of geometric complexity.

Using the Choose Artwork dialog

The Choose Artwork dialog appears when you want to choose a plant from the plant selection. Plants are organized by categories, such as Shrubs, Tropical, and Trees, and also by planting zones, common names, botanical names, mature ages, and mature heights.



If you want to search for a specific plant, click the **Search** button. For details, see [Searching for Plants|topic=Searching for Plants](#).

Plant Symbols

Plants are displayed in the Plan view as symbols instead of models or pictures. Many professionally drawn plant symbols are included, or you can create your own. For details, see [Plant Symbols|topic=Plant Symbols](#).

Setting a Plant's Starting Age

The starting age of a plant is set to a default value when the plant is first added to your landscape design. The starting age can be changed as needed to modify the height and width of the plant. In the picture below, a *Pyracantha* is shown at 3 and 4 years.



3 Years



4 Years

The actual age of a plant is the sum of the plant's starting age and the Plant Growth setting. For example, if a landscape design has an existing arborvitae that is five years old, the Starting Age property should be set to 5 years.

To see how each plant will grow over time, use the Plant Growth setting. For details, see [Setting Plant Growth|topic=Setting Plant Growth](#).

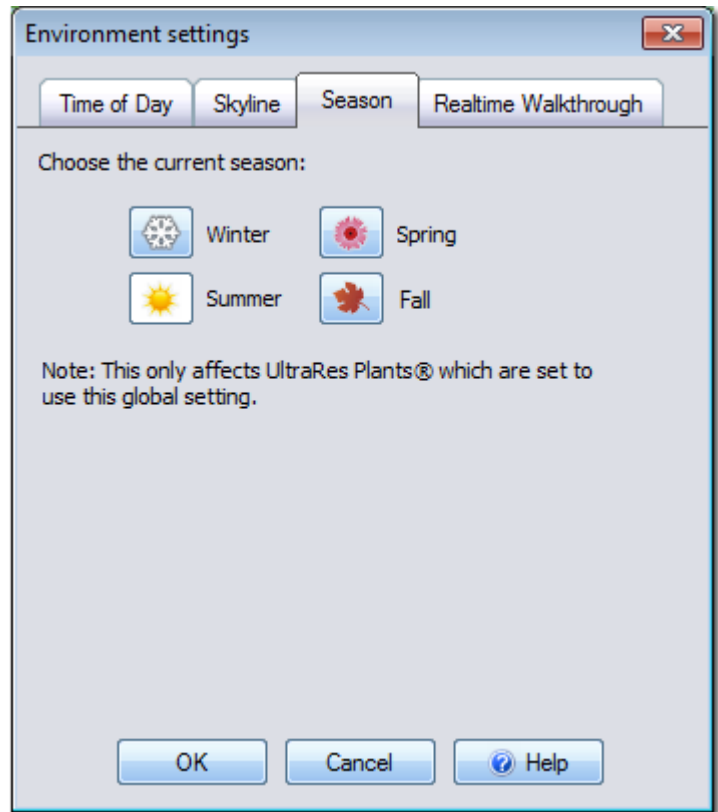
Note: The plant growth is estimated based on plant growth formulas, the plant's mature age, and the plant's mature height. Since other factors influence growth, such as soil conditions and climate, it is recommended to contact your local nursery for more exact sizing information.

Setting the UltraRes Plant® Season

UltraRes Plants® can change their appearance based on the current season. By default, UltraRes Plants® use the global season as defined in the environment settings dialog. However, you can override the season for each plant as needed using the **Season** property.

To set the current season:

1. Click **Setting** and **Environment Settings**.
2. Click the **Season** tab. The following dialog will appear:

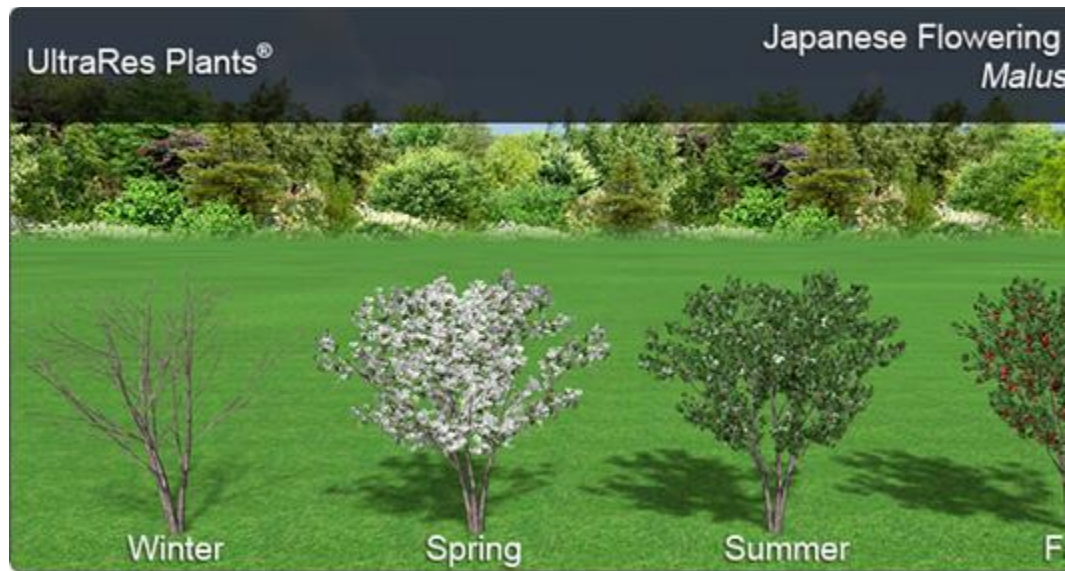


3. Click the button next to the desired season and then click the **OK** button.

Tips:

1. Only UltraRes Plants® with their Season property set to **Use global setting** will be affected.
2. Not all plants have a different appearance in all seasons. For example, most evergreens have the same basic appearance all year.

Below is a Japanese Flowering Crabapple shown in each of the four seasons:



Automatic Level of Detail

When viewing plant models and UltraRes Plants® from a distance, they automatically show less detail the farther away they are. This helps your computer run faster when working with large designs. However when you take a screen shot, create a movie, or print your design, all plants will be drawn at their full resolution regardless of their distance to the viewpoint.

Creating Custom Plants

The library of plant models and pictures can be expanded using the [Picture Import Wizard|topic=Picture Import Wizard](#). To create a custom plant variation based on the currently selected plant, use the [Plant Creation Wizard|topic=Plant Creation Wizard](#). **Note:** Due to their complexity, you cannot currently create custom variations of UltraRes Plants®.

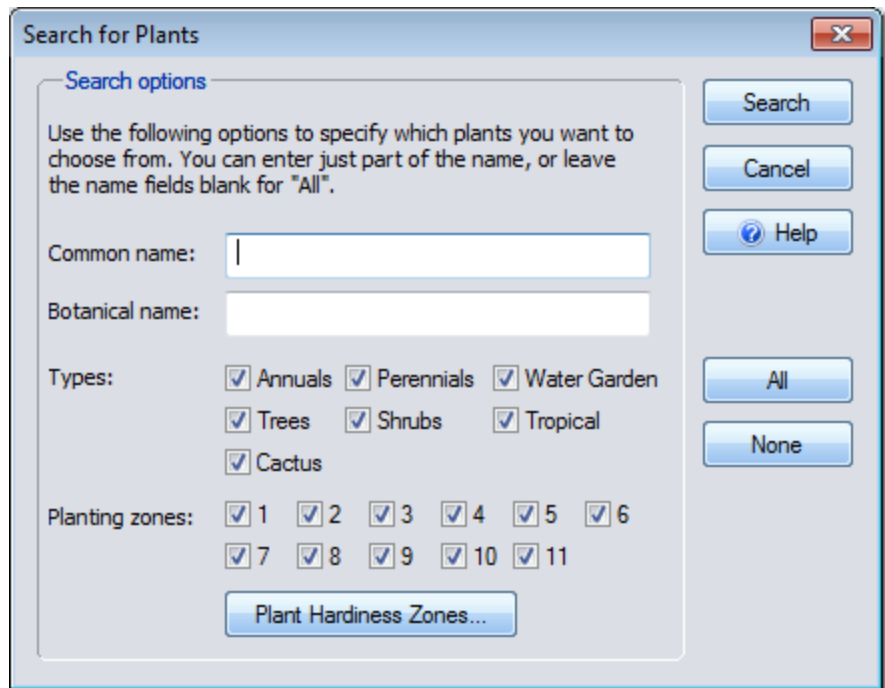
See also:

- Plant Properties
- Plant Symbols
- Searching for Plants
- Picture Import Wizard
- Model Import Wizard
- Plant Creation Wizard
- Model Creation Wizard
- Symbol Creation Wizard
- Editing Materials
- Setting Object Properties
- Selecting Objects
- Editing Objects
- Setting Plant Growth

Searching for Plants

To search for a plant:

1. Click the **Add Plant** button found near the top of the screen under the **Landscape** tab.
2. Click the image of the default plant that appears to the right of the screen.
3. Click the **Search** button. The following dialog will appear.



Common name

Within the Common name field, part or all of the common name of the plant(s) you want to search for can be entered. If you do not want to search by common name, then just leave the Common name field blank. The field is not case sensitive, meaning that searching for "rose" is the same as searching for "Rose".

Botanical name

Within the Botanical name field, part or all of the botanical name of the plant(s) you want to search for can be entered. If you do not want to search by botanical name, then just leave the Botanical name field blank. The field is not case sensitive, meaning that searching for "rosa" is the same as searching for "Rosa".

Types

The Types checkboxes can be selected to indicate which plants should be selected.

Planting zones

The Planting zones checkboxes can be selected to indicate which planting zones should be included in the search. For example, if you want to use only plants that thrive in zone 10, then uncheck all Planting zones checkboxes except for "10".

Plant Hardiness Zones

To display a map showing planting zones, click the **Plant Hardiness Zones** button. This map can help you to determine which plants will grow in your region.

All

Click to check all types and zones.

None

Click to uncheck all types and zones.

4. Click the **OK** button. The plants matching your search will be displayed.

See also:

Adding a Plant
Plant Properties

Plant Symbols

A wide selection of professionally drawn plant symbols is included in DATAflor GRÜNSTUDIO 3D. Symbols of many color themes and styles are available to aid you in creating visually appealing landscape plans that will impress your clients. The variety of the plant symbols is further extended by the ability to adjust the color and brightness of each symbol.

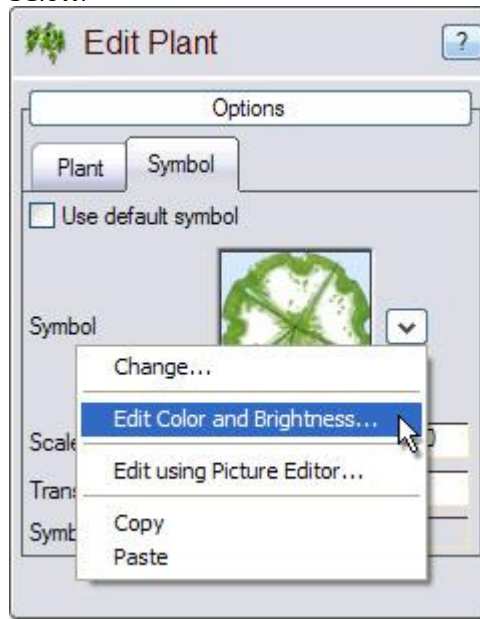
To change a plant's symbol:

1. Click a plant in your landscape design that you want to modify to select it.
2. Ensure that the **Custom appearance in each view** [property/topic=Setting Object Properties](#) is checked.
3. Click the **Symbol** tab.
4. Ensure that the **Use default symbol** property is not checked.
5. Click the picture that displays the current plant symbol.
6. Select the symbol you would like to use and click the **OK** button.

To change the symbol's color and brightness:

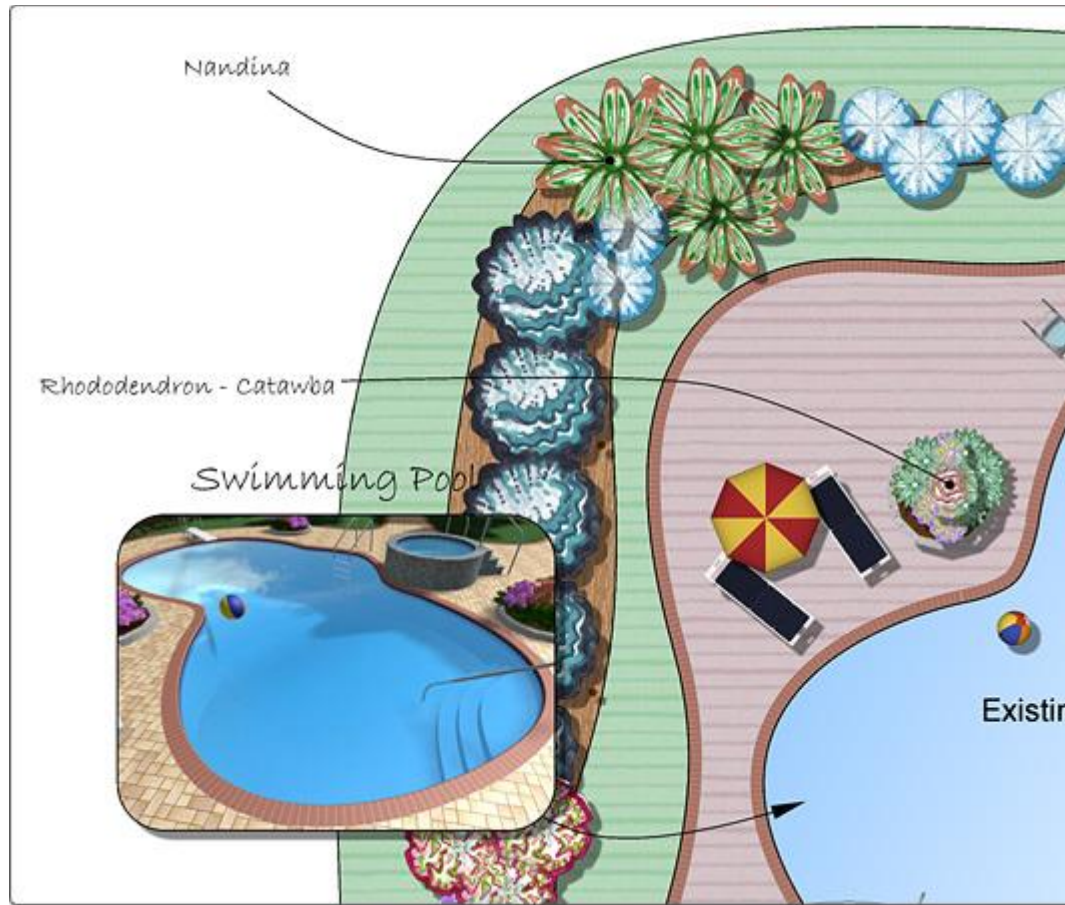
1. Click a plant in your landscape design that you want to modify to select it.
2. Ensure that the **Custom appearance in each view** [property/topic=Setting Object Properties](#) is checked.
3. Click the **Symbol** tab.
4. Ensure that the **Use default symbol** property is not checked.
5. Click the small button that appears just to the right of the symbol picture and click the **Edit Color and Brightness** option as shown

below.



6. Edit the contrast, saturation, tint, and brightness as needed, and then click the **OK** button. For more information, see [Editing Color and Brightness|topic=Editing Color and Brightness](#).

In the picture below, the plant symbols in this landscape design were adjusted using the steps above.

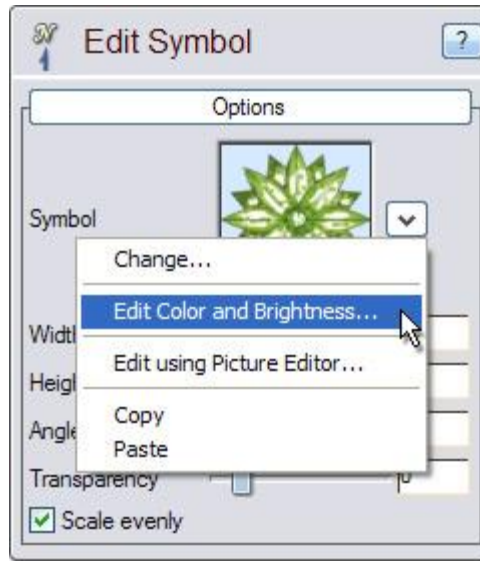


Creating Custom Plant Symbols

The procedure above shows you how to make changes to the color and brightness of a plant symbol, and the procedure below explains how to save your color changes as a custom symbol for use in later designs.

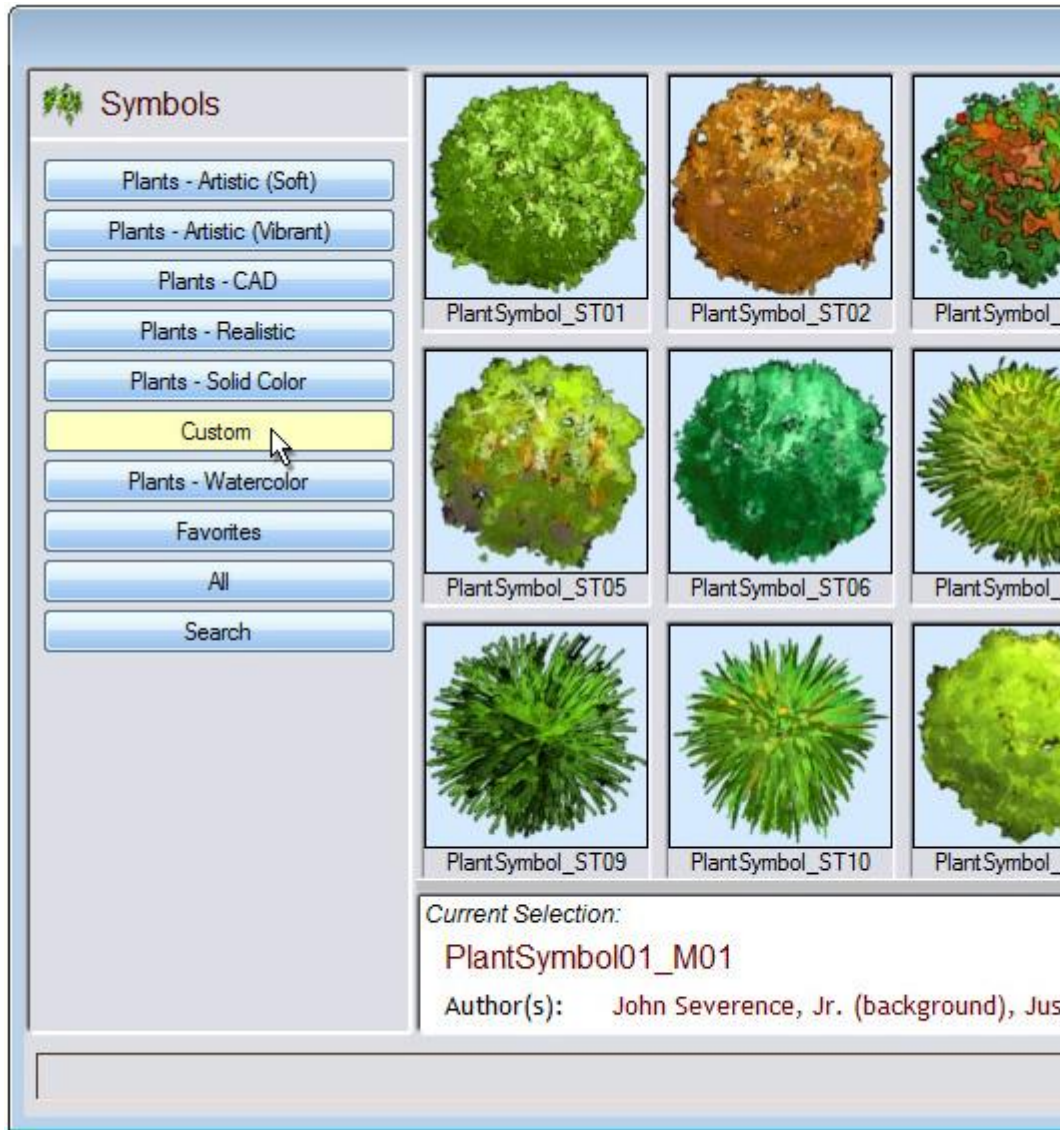
To create a custom plant symbol:

1. Click the **Plan** tab to switch to the Plan view.
2. Click the **Add Symbol** button found near the top of the screen under the **Plan Detail** tab.
3. Click the image of the default symbol that appears to the right of the screen, and then select the symbol you would like to use.
4. Click on your design where you want to temporarily place the symbol.
5. Click the small button that appears just to the right of the symbol picture and click the **Edit Color and Brightness** option as shown below.



6. Edit the contrast, saturation, tint, and brightness as needed, and then click the **OK** button. For more information, see [Editing Color and Brightness|topic=Editing Color and Brightness](#).
7. Click Tools and Symbol Creation Wizard. Follow the wizard's instructions for creating a plant symbol. For details, see [Symbol Creation Wizard|topic=Symbol Creation Wizard](#).

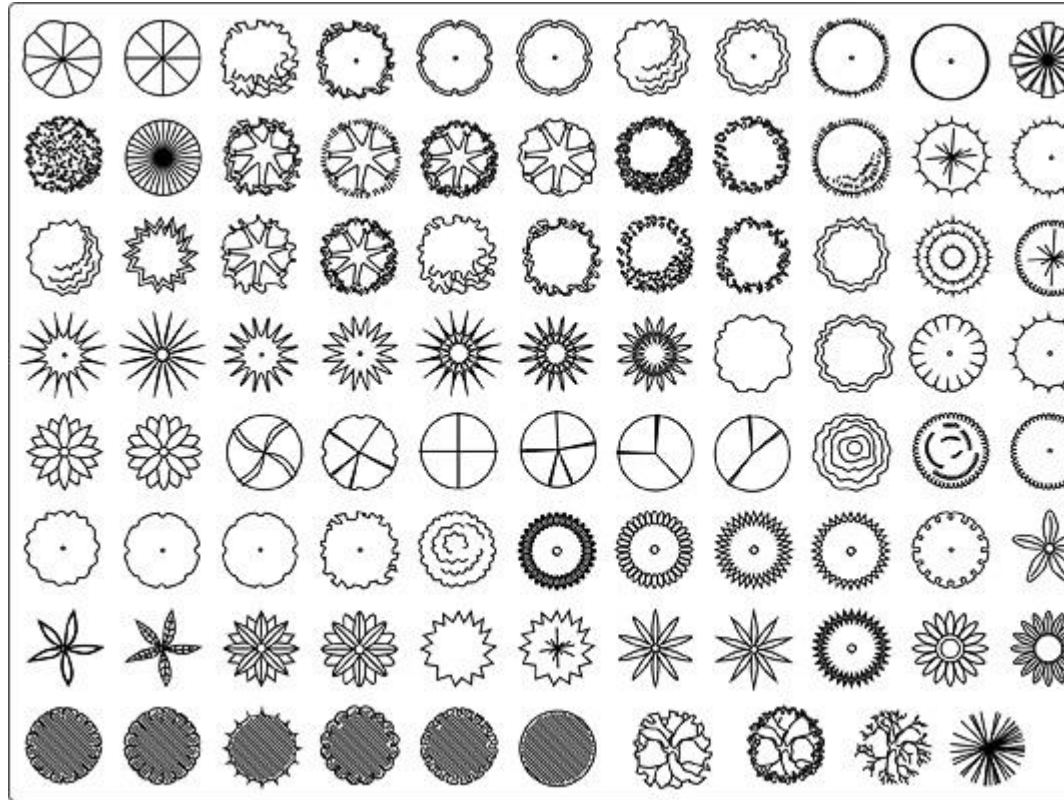
New symbols are added to a special *Custom* category shown in the picture below.



Creating Custom Symbols using Shapes

If you would like to create a symbol using shapes, then you can use one of the provided symbol shapes as a starting point. To access these shapes, click **File, Open Sample**, and select *Plant Symbol Shapes.rla*. Select a symbol that you want to edit and delete the rest. Once you have finished your custom symbol, select all pieces of the symbol at once and click **Tools** and **Symbol Creation Wizard** to save your symbol to the library.

The picture below shows the available symbol shapes that can be used to create your own variations.



See also:

- Adding a Plant
- Plant Properties

Plant Properties

The properties used to modify a plant are located to the right of the screen when your plant is selected. Only some of these properties can be adjusted right before adding the plant to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Plant Properties

Options	Description
Plant	The Plant property determines the type of plant. To change the plant, click the image that shows the current plant.
Plant options	The appearance of the plant can be modified by clicking the small button that appears to the right of the plant's picture.
Elevation	The Elevation property determines the distance of the plant from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Tilt angle	The Tilt angle property can be used to rotate the plant from a vertical to horizontal position. This is useful for rotating

	pictures of plants that were taken from above, such as shrubs and ground cover.
Flip horizontal	The Flip horizontal property determines whether the plant is inverted from left to right. To flip the picture horizontally, click the Flip horizontal checkbox. Only plant pictures can be flipped.
Flip vertical	The Flip vertical property determines whether the plant is inverted from top to bottom. To flip the plant vertically, click the Flip vertical checkbox. Only plant pictures can be flipped.
Rotate to face viewer	The Rotate to face viewer property determines whether the plant automatically turns to face your view, regardless how of you look at it. To toggle automatic plant rotation, click the Rotate to face viewer checkbox.
Ignore growth limits	The Ignore growth limits property determines whether the plant can be enlarged past its maximum size. To toggle this size limitation, click the Ignore growth limits checkbox.

Information	Description
Plant names	<p>The Plant names property displays the common name of the plant on the first line, and the botanical name of the plant on the second line. The botanical plant name is displayed in italics.</p> <p>To change one or both of these names for the currently selected plant, click the options button on the top-right of this property and enter the desired names. Or, to create a new plant which you can use in other landscape designs, To create a new plant based on the selected plant, click the Create a Custom Plant button. For more information, see Plant Creation Wizard topic=Plant Creation Wizard.</p>
Season	The Season property determines which seasonal variation of the plant you want to use. You can pick a specific season, or select Use global season to use the season currently specified in the environment settings topic=Environment Settings . This property only applies to UltraRes Plants®.
Starting age	The Starting age of the plant determines the current size of the plant. Note that the starting age does not include any age added through the Plant Growth topic=Setting Plant Growth setting. To change the plant's starting age, move the Starting age slider or enter a value in the text field.
Plant growth	The Plant growth property displays the current Plant Growth topic=Setting Plant Growth setting.
Current age	The Current age property displays the sum of the plant's starting age and the current Plant Growth setting.

Mature age	The Mature age property displays the age at which the plant will reach its mature height.
Current height	The Current height property displays the height of the plant at its current age.
Mature height	The Mature height property displays the height that the plant will reach when it reaches its mature age.
Planting zones	The Planting zones property displays the zones that the plant will thrive in. To view a map of these zones, click Tools and Plant Hardiness Zones . Note: Plant hardiness zones do not apply to annuals.
Key	The Key property displays an abbreviation of the plant's name. To change the plant key, click the text field.
Size	The Size property displays the size of the plant when it is planted. To change the size, click the text field.
Create a Custom Plant	The Create a Custom Plant property is used to create new plant variations based on the currently selected plant. To create a new plant based on the selected plant, click the Create a Custom Plant button. For more information, see Plant Creation Wizard topic=Plant Creation Wizard . Note: This option is not available for UltraRes Plants®.

Symbol Properties

Options	Description
Use default symbol	The Use default symbol property determines whether the plant should use the standard symbol or allow you to select from the symbol library. To toggle the default symbol, click the Use default symbol checkbox.
Symbol	The Symbol property determines the symbol that is used when displaying the plant in the Plan view. To change the symbol, click the picture that displays the current plant symbol. Note: Before the symbol can be changed, the Use default symbol property must be unchecked.
Symbol options	The appearance of the plant symbol can be modified by clicking the small button that appears to the right of the plant symbol image.
Scale	The Scale property determines the size of the symbol relative to the size of the plant. If the scale is set to 50, then the symbol will be one half of the plant's size. To change the scale, move the Scale slider or enter a value in the text field.

Transparency	The Transparency property determines the opacity of the symbol in the Plan view. To change the symbol opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Symbol width	The Symbol width property displays the size of the plant symbol that is displayed in the Plan view. The symbol size is a factor of the plant's Starting age and Scale.

See also:

- Adding a Plant
- Searching for Plants
- Plant Symbols
- Selecting Objects
- Setting Object Properties
- Editing Objects
- Editing Materials
- Setting Plant Growth
- [Plant Label Wizard|topic=Plant Label Wizard](#)
- [Adding a Plant Legend|topic=Adding a Plant Legend](#)

Adding a Plant Fill



The Plant Fill object allows you to populate an area of your landscape design with plants. Up to 8 different types of plants and 300 total plants can be used in each Plant Fill object. Plant fills can be designed in any shape and size needed, including shapes with holes.

To add a plant fill:

1. Click the **Add Plant Fill** button found near the top of the screen under the **Landscape** tab.
2. Draw the outline of the plant fill by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key. See [Entering Angle and Distance|topic=Entering Angle and Distance](#) for details.
3. To finish drawing the plant fill, place the last point on top of the first point. Alternately, right-click to place the last point.

The plants in the landscape design shown below were automatically added using the Plant Fill object.



See also:

- Plant Fill Properties
- Adding a Plant Row
- Adding a Plant
- Plant Symbols
- Searching for Plants
- Picture Import Wizard
- Model Import Wizard
- Plant Creation Wizard
- Model Creation Wizard
- Symbol Creation Wizard
- Editing Materials
- Setting Object Properties
- Selecting Objects
- Editing Objects
- Setting Plant Growth

Plant Fill Properties

The properties used to modify a plant fill are located to the right of the screen when your plant fill is selected. Only some of these properties can be adjusted right before adding the plant fill to your landscape, but all of the

properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Plant Properties

Options	Description
Max plants	The Max plants property determines the total number of plants that are added to the plant fill. The number of plants added to the plant fill may be less than the maximum amount depending on the size of the plant fill. To change the maximum plant number, move the Max plants slider or type a value in the text field.
Min spacing	This property determines the minimum distance between each plant. This distance is based on the center of each plant, but not the size.
Random seed	The Random seed property determines the way that the plants are organized in the plant fill. To change the automatic plant organization, move the Random seed slider or type a value in the text field.
Total plants	The Total plants property displays the number of plants that have been added to the plant fill. The total amount of plants may be less than the Max plants property if the plant fill is too small to support the max plants amount.
Space evenly	The Space evenly property determines whether the plants in the Plant Fill appear naturally placed or are arranged in precise rows and columns. To toggle the placement of the plants, click the Space evenly checkbox.
Offset alternate rows	When the Space evenly property is enabled, this option offsets every other row by the spacing distance, making a diamond pattern.
Line style	The Line Style property determines the appearance of the outline of the plant fill. To change the line style, click the Line Style button and select the style you want to use from the dialog that appears.
Explode	The Explode property is used to separate each plant in the Plant Fill into plant objects, effectively replacing the Plant Fill with a selection of individual plants. To break the Plant Fill into separate plants, click the Explode button.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the plant fill's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the plant fill, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Plants	Description
Current plant	The Current plant property determines which plant you currently are able to edit. There are slots for 8 different plants; to change the current plant, click the drop-down menu and select the plant slot you would like to adjust.
Enabled	The Enabled property determines whether the current plant is added to the plant fill. To toggle the plant's appearance in the plant fill, click the Enabled checkbox.
Plant	The Plant property determines the type of plant to use in the plant fill. To change the plant, click the picture that displays the current plant used.
Plant options	The appearance of the plant can be modified by clicking the small button that appears to the right of the plant's picture.
Ignore growth limits	The Ignore growth limits property determines whether the plant can be enlarged past its maximum size. To toggle this size limitation, click the Ignore growth limits checkbox.

Information	Description
Plant names	<p>The Plant names property displays the common name of the plant on the first line, and the botanical name of the plant on the second line. The botanical plant name is displayed in italics.</p> <p>To change one or both of these names for the currently selected plant, click the options button on the top-right of this property and enter the desired names.</p>
Season	The Season property determines which seasonal variation of the plant you want to use. You can pick a specific season, or select Use global season to use the season currently specified in the environment settings topic=Environment Settings . This property only applies to UltraRes Plants®.
Starting age	The Starting age of the plant determines the current size of the plant. Note that the starting age does not include any age added through the Plant Growth topic=Setting Plant Growth setting. To change the plant's starting age, move the Starting age slider or enter a value in the text field.
Plant growth	The Plant growth property displays the current Plant Growth topic=Setting Plant Growth setting.
Current age	The Current age property displays the sum of the plant's starting age and the current Plant Growth setting.
Mature age	The Mature age property displays the age at which the plant will reach its mature height.

Current height	The Current height property displays the height of the plant at its current age.
Mature height	The Mature height property displays the height that the plant will reach when it reaches its mature age.
Planting zones	The Planting zones property displays the zones that the plant will thrive in. To view a map of these zones, click Tools and Plant Hardiness Zones . Note: Plant hardiness zones do not apply to annuals.
Key	The Key property displays an abbreviation of the plant's name. To change the plant key, click the text field.
Size	The Size property displays the size of the plant when it is planted. To change the size, click the text field.

Symbol Properties

Plants	Description
Use default symbol	The Use default symbol property determines whether the plant should use the standard symbol or allow you to select from the symbol library. To toggle the default symbol, click the Use default symbol checkbox.
Symbol	The Symbol property determines the symbol that is used when displaying the plant in the Plan view. To change the symbol, click the picture that displays the current plant symbol. <i>Note:</i> Before the symbol can be changed, the Use default symbol property must be unchecked.
Symbol options	The appearance of the plant symbol can be modified by clicking the small button that appears to the right of the plant symbol image.
Scale	The Scale property determines the size of the symbol relative to the size of the plant. If the scale is set to 50, then the symbol will be one half of the plant's size. To change the scale, move the Scale slider or enter a value in the text field.
Transparency	The Transparency property determines the opacity of the symbol in the Plan view. To change the symbol opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Symbol width	The Symbol width property displays the size of the plant symbol that is displayed in the Plan view. The symbol size is a factor of the plant's Starting age and Scale.

See also:

Adding a Plant Fill
Adding a Plant Row
Adding a Plant
Searching for Plants
Plant Symbols
Selecting Objects
Setting Object Properties
Editing Objects
Editing Materials
Setting Plant Growth

Adding a Plant Row



The Plant Row object is used to automatically string plants on a row. Each plant row supports up to 8 different types of plants and up to 200 plants total. Plant rows can be any length and shape needed, including both curved and straight rows. The plant row makes it easy to add a row of trees to the side of a house, or to line a flower bed with annuals.

To add a plant row:

1. Click the **Add Plant Row** button found near the top of the screen under the **Landscape** tab.
2. Draw the plant row by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the plant fill, place the last point on top of the first point. Alternately, right-click to place the last point.

The picture below shows a landscape design using a plant row to create a row of Hostas.



See also:

- Plant Row Properties
- Adding a Plant Fill
- Adding a Plant
- Plant Symbols
- Searching for Plants
- Picture Import Wizard
- Model Import Wizard
- Plant Creation Wizard
- Model Creation Wizard
- Symbol Creation Wizard
- Editing Materials
- Setting Object Properties
- Selecting Objects
- Editing Objects
- Setting Plant Growth

Plant Row Properties

The properties used to modify a plant fill are located to the right of the screen when your plant fill is selected. Only some of these properties can be adjusted right before adding the plant fill to your landscape, but all of the

properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Plant Properties

Options	Description
Plants	The Plants property determines the total number of plants that are added to the plant row. To change the plant number, move the Plants slider or type a value in the text field.
Spacing	The Spacing property displays the average distance between each plant.
Closed	The Closed property determines whether the plant row's shape is open or closed. To change the state of the plant row's shape, click the Closed checkbox to toggle it.
Line style	The Line Style... property determines the appearance of the plant row line. To change the line style, click the Line Style... button and select the style you want to use from the dialog that appears.
Explode	The Explode property is used to separate each plant in the Plant Row into plant objects, effectively replacing the Plant Row with a selection of individual plants. To break the Plant Row into separate plants, click the Explode button.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the plant row's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the plant row, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Plants	Description
Current plant	The Current plant property determines which plant you currently are able to edit. There are slots for 8 different plants; to change the current plant, click the drop-down menu and select the plant slot you would like to adjust.
Enabled	The Enabled property determines whether the current plant is added to the plant row. To toggle the plant's appearance in the plant row, click the Enabled checkbox.
Plant	The Plant property determines the type of plant to use in the plant row. To change the plant, click the picture that displays the current plant used.
Plant options	The appearance of the plant can be modified by clicking the small button that appears to the right of the plant's picture.

Ignore growth limits	The Ignore growth limits property determines whether the plant can be enlarged past its maximum size. To toggle this size limitation, click the Ignore growth limits checkbox.
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Information	Description
Plant names	<p>The Plant names property displays the common name of the plant on the first line, and the botanical name of the plant on the second line. The botanical plant name is displayed in italics.</p> <p>To change one or both of these names for the currently selected plant, click the options button on the top-right of this property and enter the desired names.</p>
Season	The Season property determines which seasonal variation of the plant you want to use. You can pick a specific season, or select Use global season to use the season currently specified in the environment settings topic=Environment Settings . This property only applies to UltraRes Plants®.
Starting age	The Starting age of the plant determines the current size of the plant. Note that the starting age does not include any age added through the Plant Growth topic=Setting Plant Growth setting. To change the plant's starting age, move the Starting age slider or enter a value in the text field.
Plant growth	The Plant growth property displays the current Plant Growth topic=Setting Plant Growth setting.
Current age	The Current age property displays the sum of the plant's starting age and the current Plant Growth setting.
Mature age	The Mature age property displays the age at which the plant will reach its mature height.
Current height	The Current height property displays the height of the plant at its current age.
Mature height	The Mature height property displays the height that the plant will reach when it reaches its mature age.
Planting zones	<p>The Planting zones property displays the zones that the plant will thrive in. To view a map of these zones, click Tools and Plant Hardiness Zones.</p> <p>Note: Plant hardiness zones do not apply to annuals.</p>
Key	The Key property displays an abbreviation of the plant's name. To change the plant key, click the text field.
Size	The Size property displays the size of the plant when it is planted. To change the size, click the text field.

Symbol Properties

Plants	Description
Use default symbol	The Use default symbol property determines whether the plant should use the standard symbol or allow you to select from the symbol library. To toggle the default symbol, click the Use default symbol checkbox.
Symbol	The Symbol property determines the symbol that is used when displaying the plant in the Plan view. To change the symbol, click the picture that displays the current plant symbol. <i>Note:</i> Before the symbol can be changed, the Use default symbol property must be unchecked.
Symbol options	The appearance of the plant symbol can be modified by clicking the small button that appears to the right of the plant symbol image.
Scale	The Scale property determines the size of the symbol relative to the size of the plant. If the scale is set to 50, then the symbol will be one half of the plant's size. To change the scale, move the Scale slider or enter a value in the text field.
Transparency	The Transparency property determines the opacity of the symbol in the Plan view. To change the symbol opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Symbol width	The Symbol width property displays the size of the plant symbol that is displayed in the Plan view. The symbol size is a factor of the plant's Starting age and Scale.

See also:










- Adding a Plant Fill
- Adding a Plant Row
- Adding a Plant
- Searching for Plants
- Plant Symbols
- Selecting Objects
- Setting Object Properties
- Editing Objects
- Editing Materials
- Setting Plant Growth




Modeling Objects

Introduction to Modeling

The term *Modeling* is used to describe the creation of a 3D object. DATAflor GRÜNSTUDIO 3D includes a variety of tools that can be used to create basic 3D objects for use in your landscape designs. For example, using the modeling objects provided, you can create new pergolas, outdoor furniture, greenhouses, and more.

The chart below lists each of the available modeling tools that can be found under the **Modeling** tab.

<i>Tool</i>	<i>Button</i>
Box	
Ramp	
Cylinder	
Extrusion	
Lathe	
Loft topic=Adding a Loft	
Part	
Convert to Custom Model	
Add solid models topic=Using 3D Booleans to Create Complex Models	

<p>Subtract solid models topic=Using 3D Booleans to Create Complex Models</p>	
<p>Intersect solid models topic=Using 3D Booleans to Create Complex Models</p>	
<p>Clip model topic=Using 3D Booleans to Create Complex Models</p>	

The picture below displays a table and benches that were created using the custom modeling tools.



See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion

Adding a Lathe
Adding a Loft
Adding a Part
Converting to a Custom Model
Using 3D Booleans to Create Complex Models

Adding a Box

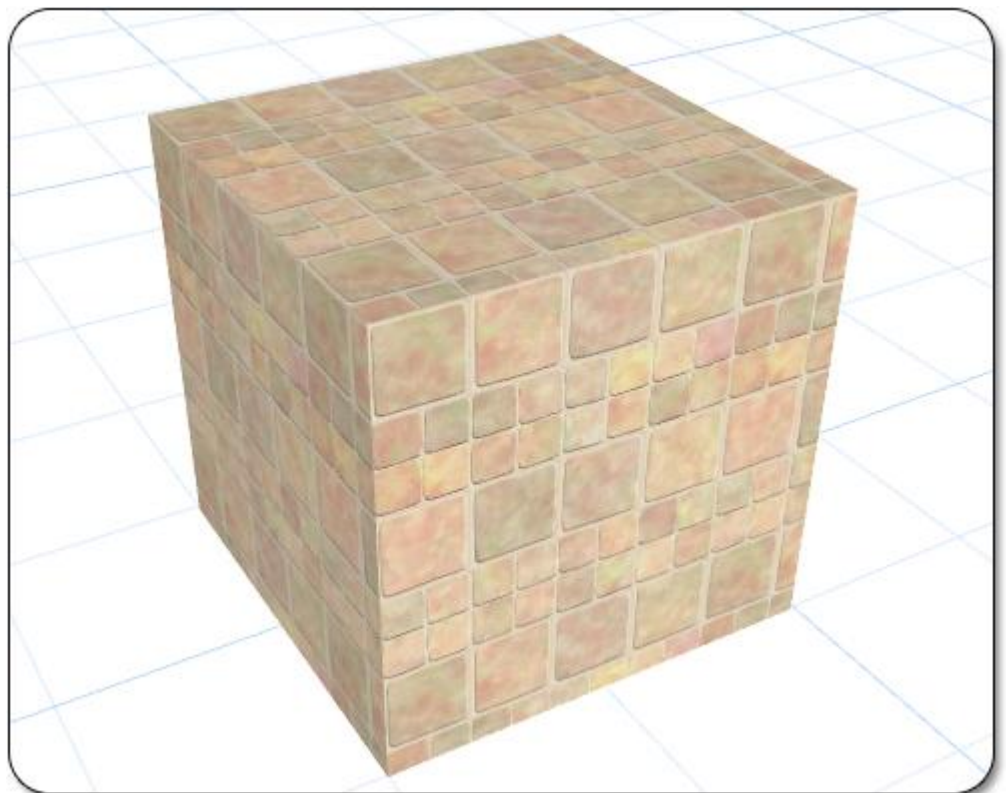


The Box object is very useful in modeling because it is used so much in common objects. For example, many outdoor tables and benches would use a box for each of their legs, and the rafters of a pergola would be boxes as well.

To add a box:

1. Click the **Add Box** button that appears near the top of the screen under the **Modeling** tab.
2. Click an area of your landscape to place one corner of the box. Press the **Esc** key to cancel.
3. Click a different area of your landscape to place the opposite corner of the box. If you would like to input the distance and angle manually, place the first corner and then press the **Enter** key.

The picture below illustrates a box shown in the Perspective view.



See also:

- Box Properties
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- Adding a Loft
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Using 3D Booleans to Create Complex Models

Box Properties

The properties used to modify a box are located to the right of the screen when your box is selected. Only some of these properties can be adjusted right before adding the box to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Material	The Material property determines what type of surface the box will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the box can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the box material. For example, if the region has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the box material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the box material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the box material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the

	material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the box material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Elevation	The Elevation property determines the distance of the box from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the box about its X axis. If your view is facing north, this will rotate the box forward or backward. To rotate the box, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the box about its Y axis. If your view is facing north, this will rotate the box left or right as if it was sitting upon a pottery wheel. To rotate the box, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the box about its Z axis. If your view is facing north, this will rotate the box left or right as if it was sitting upon the face of a clock. To rotate the box, move the Rotate about Z slider or type a value in the text field.
Width	The Width property determines the size of the box from left to right. To adjust the box width, move the Width slider or type a value in the text field.
Length	The Length property determines the depth of the box from front to back. To adjust the box depth, move the Length slider or type a value in the text field.
Height	The Height property determines how tall the box is. To adjust the box height, move the Height slider or type a value in the text field.

Information	Description
Area	The Area property displays the total surface size of the box in square feet or meters.

Volume	The Volume property displays the total displacement of the box in cubic feet or meters.
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See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- [Adding a Loft|topic=Adding a Loft](#)
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- [Using 3D Booleans to Create Complex Models](#)

Adding a Ramp

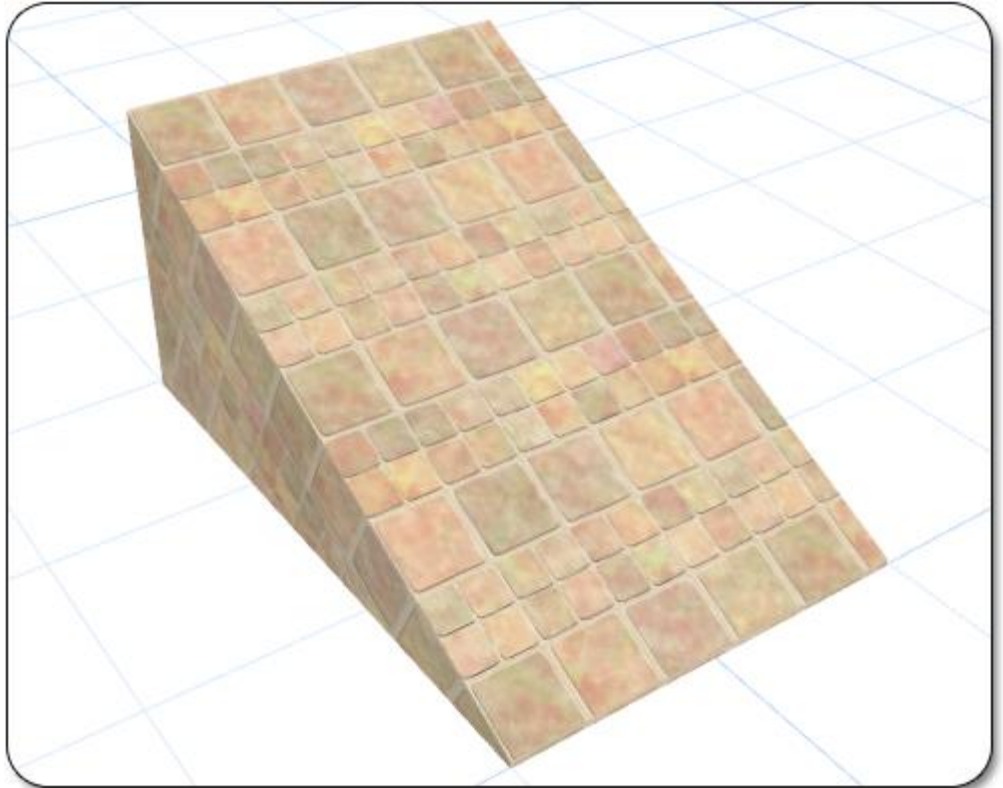


Ramps are not used as often as cylinders or boxes, but are still important modeling pieces. Ramps can be used for designing wheel chair ramps, roofs for storage sheds and dog houses, and more.

To add a Ramp:

1. Click the **Add Ramp** button that is found near the top of the screen under the Modeling tab.
2. Click an area of your landscape to place one corner of the ramp. Press the **Esc** key to cancel.
3. Click a different area of your landscape to place the opposite corner of the ramp. If you would like to input the distance and angle manually, place the first corner and then press the **Enter** key.

The picture below illustrates a ramp shown in the Perspective view.



See also:

- Ramp Properties
- Adding a Box
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- [Adding a Loft](#)
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- [Using 3D Booleans to Create Complex Models](#)

Ramp Properties

The properties used to modify a ramp are located to the right of the screen when your ramp is selected. Only some of these properties can be adjusted right before adding the ramp to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
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Material	The Material property determines what type of surface the ramp will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the ramp can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the ramp material. For example, if the ramp has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the ramp material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the ramp material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the ramp material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the ramp material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Elevation	The Elevation property determines the distance of the ramp from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the ramp about its X axis. If your view is facing north, this will rotate the ramp forward or backward. To rotate the ramp, move the Rotate about X slider or type a value in the text field.

Rotate about Y	The Rotate about Y property determines the angle of the ramp about its Y axis. If your view is facing north, this will rotate the ramp left or right as if it was sitting upon a pottery wheel. To rotate the ramp, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the ramp about its Z axis. If your view is facing north, this will rotate the ramp left or right as if it was sitting upon the face of a clock. To rotate the ramp, move the Rotate about Z slider or type a value in the text field.
Width	The Width property determines the size of the ramp from left to right. To adjust the ramp width, move the Width slider or type a value in the text field.
Length	The Length property determines the depth of the ramp from front to back. To adjust the ramp depth, move the Length slider or type a value in the text field.
Height 1	The Height 1 property determines how tall one end of the ramp is. To adjust the ramp height, move the Height 1 slider or type a value in the text field.
Height 2	The Height 2 property determines how tall one end of the ramp is. To adjust the ramp height, move the Height 2 slider or type a value in the text field.

Information	Description
Angle	The Angle property displays the steepness of the ramp in degrees.
Grade	The Grade property displays the ramp's angle of incline as a percentage.
Area	The Area property displays the total surface size of the ramp in square feet or meters.
Volume	The Volume property displays the total displacement of the ramp in cubic feet or meters.

See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- Adding a Loft
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects

Adding a Cylinder

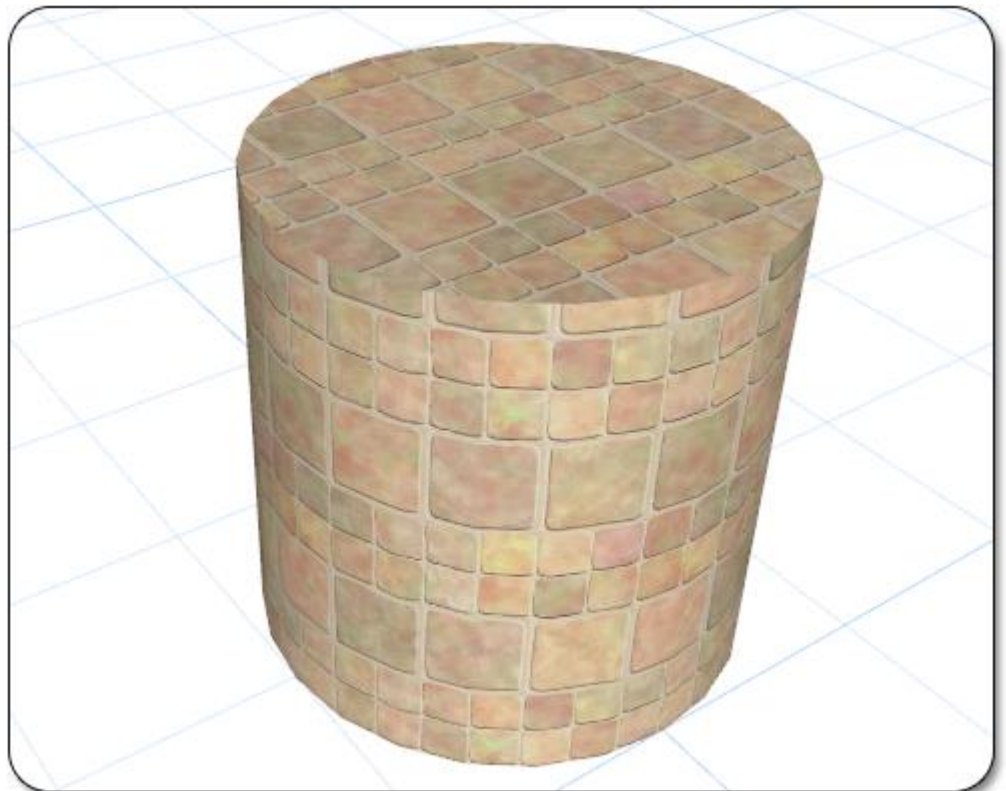


Cylinders are very important modeling pieces, and are used to create chair legs, poles, columns, rails, and more. Cylinders can use as few as 5 sides or as many as 36 sides, depending on the complexity of the object you are creating and the amount of smoothness needed. Cylinders can also be used to create cone-shaped objects.

To add a Cylinder:

1. Click the **Add Cylinder** button that is found near the top of the screen under the **Modeling** tab.
2. Click an area of your landscape to place the center of the cylinder. Press the **Esc** key to cancel.
3. Click a different area of your landscape to place the outer edge of the cylinder. If you would like to input the distance and angle manually, place the cylinder's center and then press the **Enter** key.

The picture below illustrates a cylinder shown in the Perspective view.



See also:

- Cylinder Properties
- Adding a Box
- Adding a Ramp
- Adding an Extrusion
- Adding a Lathe
- [Adding a Loft|topic=Adding a Loft](#)
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- [Using 3D Booleans to Create Complex Models](#)

Cylinder Properties

The properties used to modify a cylinder are located to the right of the screen when your cylinder is selected. Only some of these properties can be adjusted right before adding the cylinder to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Material	The Material property determines what type of surface the cylinder will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the cylinder can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the cylinder material. For example, if the cylinder has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the cylinder material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the cylinder material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the cylinder material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.

Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the cylinder material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Elevation	The Elevation property determines the distance of the cylinder from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the cylinder about its X axis. If your view is facing north, this will rotate the cylinder forward or backward. To rotate the cylinder, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the cylinder about its Y axis. If your view is facing north, this will rotate the cylinder left or right as if it was sitting upon a pottery wheel. To rotate the cylinder, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the cylinder about its Z axis. If your view is facing north, this will rotate the cylinder left or right as if it was sitting upon the face of a clock. To rotate the cylinder, move the Rotate about Z slider or type a value in the text field.
Height	The Height property determines how tall the cylinder is. To adjust the cylinder height, move the Height slider or type a value in the text field.
Radius 1	The Radius 1 property determines the width and length of the bottom cap of the cylinder. To change the cap width and length, move the Radius 1 slider or type a value in the text field.
Radius 2	The Radius 2 property determines the width and length of the top cap of the cylinder. To change the

	cap width and length, move the Radius 2 slider or type a value in the text field.
Sides	The Sides property determines the amount of polygons used to create the perimeter of the cylinder. A higher number of sides will achieve a smoother look. It is recommended to use as few sides as needed when placing many cylinders in your landscape design. To change the amount of sides, move the Sides slider or type a value in the text field.
Smooth	The Smooth property determines whether the sides of the cylinder appear smooth or faceted. To change the apparent smoothness of the cylinder, click the Smooth checkbox.

Information	Description
Area	The Area property displays the total surface size of the cylinder in square feet or meters.
Volume	The Volume property displays the total displacement of the cylinder in cubic feet or meters.

See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- [Adding a Loft](#)
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- [Using 3D Booleans to Create Complex Models](#)

Adding an Extrusion



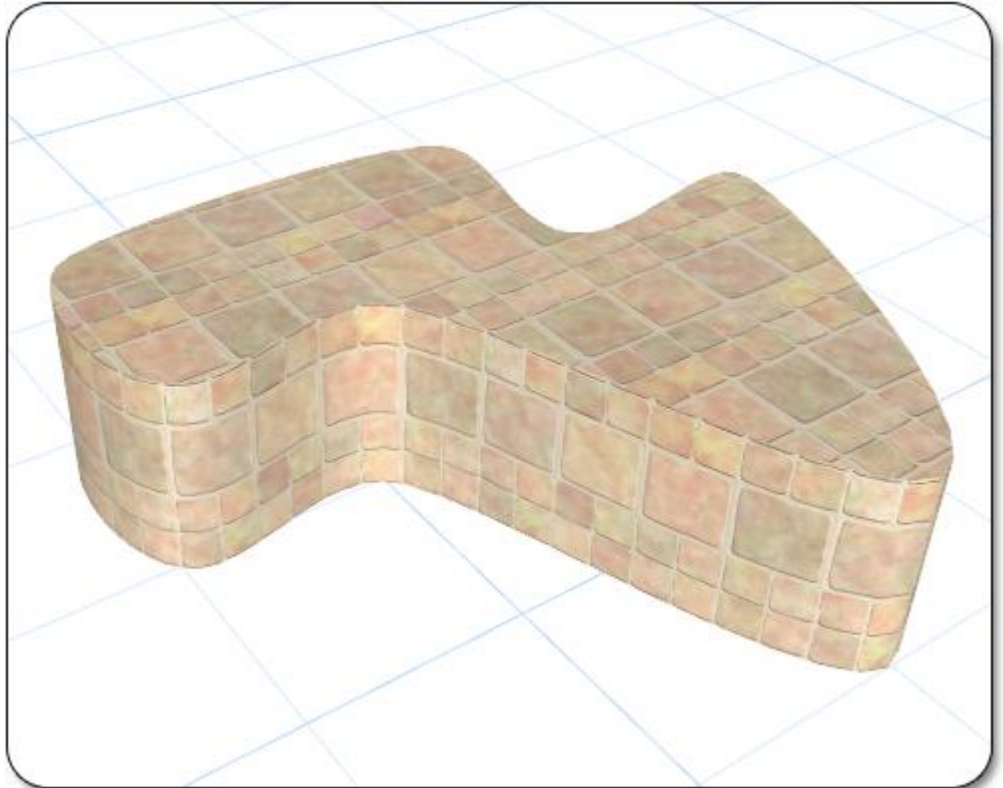
The Extrusion object is a very versatile tool that allows you to project a 3D surface from an open or closed shape. Extrusions are created by simply drawing the object's shape, similar to houses and regions.

To add an Extrusion:

1. Click the **Add Extrusion** button that is found near the top of the screen under the **Modeling** tab.

2. Draw the outline of the extrusion by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the extrusion, place the last point on top of the first point. Alternately, right-click to place the last point.

The picture below shows an extrusion in the Perspective view. Extrusions can be any shape needed.



Tips:

1. The shape of an extrusion can be edited after it is created by clicking the **Edit Points** button. See [Editing Points|topic=Editing Points](#) for details.
2. If an extrusion has a closed shape, then caps will be added to the top and bottom (see picture above). If an extrusion has an open shape, then caps will not be added.

See also:

Extrusion Properties
 Adding a Box
 Adding a Ramp
 Adding a Cylinder
 Adding a Lathe
[Adding a Loft](#)

- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Using 3D Booleans to Create Complex Models

Extrusion Properties

The properties used to modify an extrusion are located to the right of the screen when your extrusion is selected. Only some of these properties can be adjusted right before adding the extrusion to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Material	The Material property determines what type of surface the extrusion will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the extrusion can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the extrusion material. For example, if the extrusion has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the extrusion material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the extrusion material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the extrusion material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the extrusion material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
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Options	Description
Elevation	The Elevation property determines the distance of the extrusion from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Height	The Height property determines how tall the extrusion is. To adjust the extrusion height, move the Height slider or type a value in the text field.
Taper	The Taper property determines the size of the extrusion's top. To change the size of the top of the extrusion, move the Taper slider or type a value in the text field. A value of 0 will cause the top of the extrusion to be the same size as the bottom.
Smooth	The Smooth property determines whether the sides of the extrusion appear smooth or faceted. To change the apparent smoothness of the extrusion, click the Smooth checkbox.
Add caps	The Add caps property determines whether the extrusion is filled in at the top and bottom. To toggle the top and bottom of an extrusion, click the Add caps checkbox. Caps can only be added if the extrusion is a closed shape.
Closed	The Closed property determines whether the extrusion's shape is open or closed. To change the state of the extrusion's shape, click the Closed checkbox.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the extrusion's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the extrusion, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
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Triangles	The Triangles property displays the total number of triangles used to compose the extrusion. When creating many complex extrusions, it is best to keep the number of triangles as low as possible on slower computers.
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See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- Adding a Loft
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Using 3D Booleans to Create Complex Models

Adding a Lathe

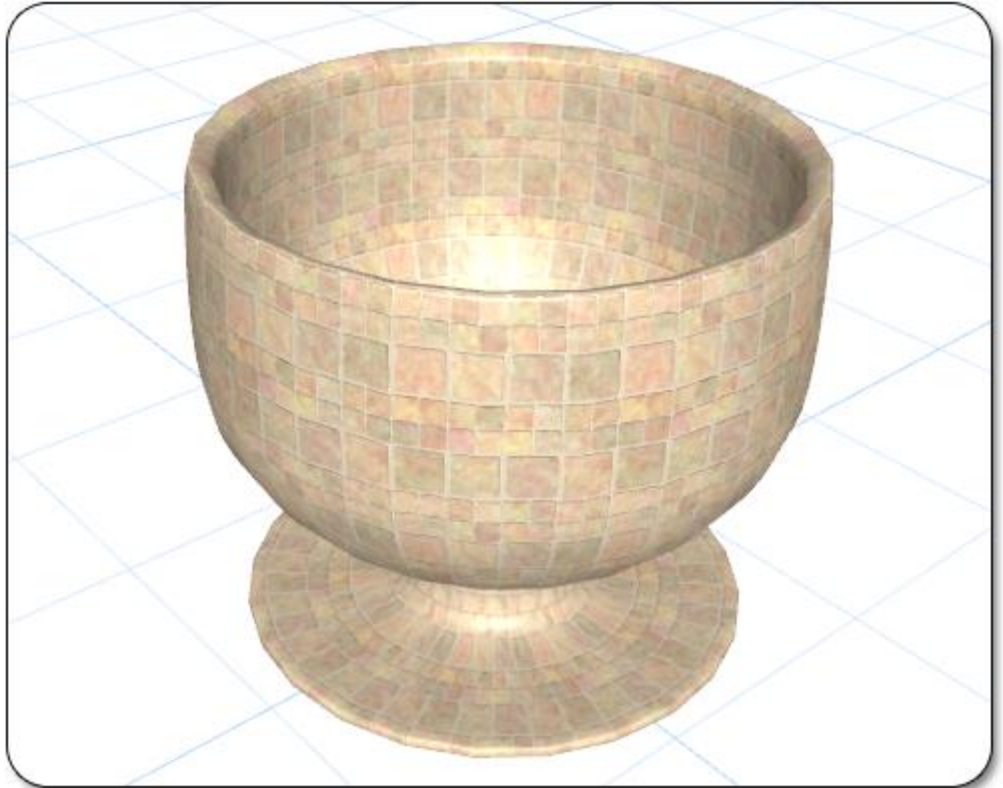


The Lathe object is a useful tool that creates a 3D model by revolving a shape. Lathes are used for creating many different types of intricate shapes, such as those found in drinking glasses, artistic finials, and round columns.

To add a Lathe:

1. Click the **Add Lathe** button that is found near the top of the screen under the **Modeling** tab.
 2. Draw the outline of the lathe by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
- To finish drawing the lathe, place the last point on top of the first point. Alternately, right-click to place the last point.

The picture below shows a lathe in the Perspective view. Lathes can be any shape needed.



Tips:

1. The shape of a lathe can be edited after it is created by clicking the **Edit Points** button. See [Editing Points|topic=Editing Points](#) for details.
2. If a lathe has a closed shape, then caps will be added to the top and bottom. If a lathe has an open shape, then caps will not be added.

See also:

[Lathe Properties](#)
[Adding a Box](#)
[Adding a Ramp](#)
[Adding a Cylinder](#)
[Adding an Extrusion](#)
[Adding a Loft](#)
[Adding a Part](#)
[Converting to a Custom Model](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Using 3D Booleans to Create Complex Models](#)

Lathe Properties

The properties used to modify a lathe are located to the right of the screen when your lathe is selected. Only some of these properties can be adjusted right before adding the lathe to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Material	The Material property determines what type of surface the lathe will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the lathe can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the lathe material. For example, if the lathe has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the lathe material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the lathe material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the lathe material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the lathe material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Elevation	The Elevation property determines the distance of the lathe from the ground. To change the elevation,

	move the Elevation slider or type a value in the text field.
Sides	The Sides property determines the amount of polygons used to create the perimeter of the lathe. A higher number of sides will achieve a smoother look. It is recommended to use as few sides as needed when placing many lathes in your landscape design. To change the amount of sides, move the Sides slider or type a value in the text field.
Sweep angle	The Sweep angle property determines how far the lathe is revolved. If the sweep angle is set to 360 degrees, then the lathe will form a complete circle when viewed from above. To change the amount of revolution, move the Sweep angle property or type a value in the text field.
Axis offset	The Axis offset property determines the distance between the lathe's shape and the center of the lathe. To change the offset, move the Axis offset slider or type a value in the text field.
Closed	The Closed property determines whether the lathe's shape is open or closed. To change the state of the lathe's shape, click the Closed checkbox.
Smooth	The Smooth property determines whether the sides of the lathe appear smooth or faceted. To change the apparent smoothness of the lathe, click the Smooth checkbox.
Add caps	The Add caps property determines whether the lathe is filled in at the top and bottom. To toggle the top and bottom of a lathe, click the Add caps checkbox.
Edit Points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the lathe's shape. See Editing Points topic=Editing Points for details.
Shape Options	Click the Shape Options button to save the shape of the lathe, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Triangles	The Triangles property displays the total number of triangles used to compose the lathe. When creating many complex lathes, it is best to keep the number of triangles as low as possible on slower computers.

See also:

Adding a Box
 Adding a Ramp
 Adding a Cylinder
 Adding an Extrusion
 Adding a Lathe
 Adding a Loft
 Adding a Part
 Converting to a Custom Model
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Using 3D Booleans to Create Complex Models

Adding a Loft



The Loft tool allows you to create a shape which is extruded along a path. You can vary the size of the shape along the path, add bends and curves, and adjust the elevation of each path point.

Use the Loft tool for creating custom slides, custom pipes and tubing, curved boards and arches, and much more.

The object consists of two parts -- the shape, and the path. The shape is always flat on the ground (to make it easier to edit), while the path can be placed anywhere and be any 3-dimensional shape.

To add a Loft:

1. Click the **Add Loft** button that is found near the top of the screen under the **Modeling** tab.
 2. Draw the outline of the desired shape by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel.
- To finish drawing the shape, place the last point on top of the first point. Alternately, right-click to place the last point.

Editing the Loft Path

When you add the loft object, a simple path consisting of two points will be created. You can edit the path as desired, including inserting points, making the corners sharp or curved, and so forth.

To edit the path:

1. Click **Edit Points** in the Path group.
2. Edit the path points as desired. See [Editing Points](#) for details.

3. To adjust the path elevation, select the desired point(s) and type the height into the **Height** property. Or, hold **Ctrl** while dragging the selected point(s) to change their elevation.
4. When you are finished editing the path, click **Edit Points** again to leave point editing mode.

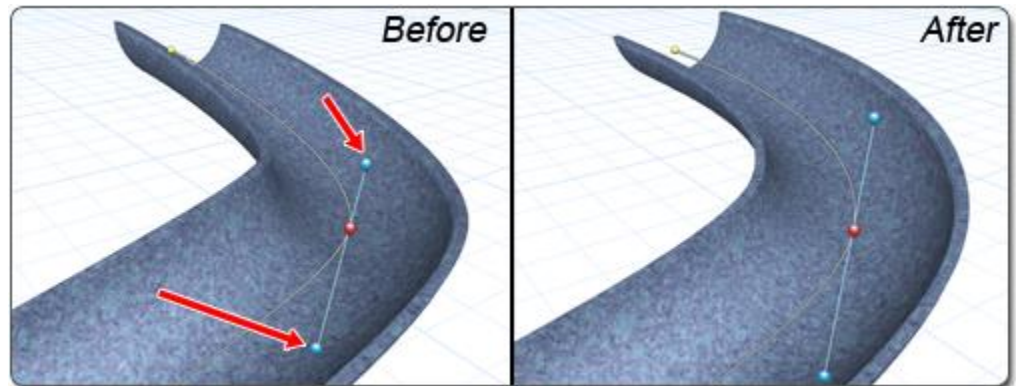
Adjusting the Bank Angle

The bank angle is calculated automatically based on the path curvature. You can adjust this angle by changing the elevation of the Bezier curve handles (the blue points).

To adjust the bank angle:

1. Click **Edit Points** in the Path group.
2. Select the point you want to adjust by clicking on it.
3. If the Curve type is not Bezier or Bezier Corner, choose one of these by clicking the corresponding button in the Path group.
4. Press and hold the **Ctrl** key while using the mouse to click and drag the blue Bezier handles to adjust their elevation (and indirectly the bank angle).
5. When you are finished editing the path, click **Edit Points** again to leave point editing mode.

The example below shows how this technique was used to adjust the bank angle of a pool slide:



Editing the Loft Shape

You can edit the loft's shape at any time. The shape can be open or closed, and even contain holes (see [Using Booleans to create Complex Shapes|topic=Using Booleans to Create Complex Shapes](#)).

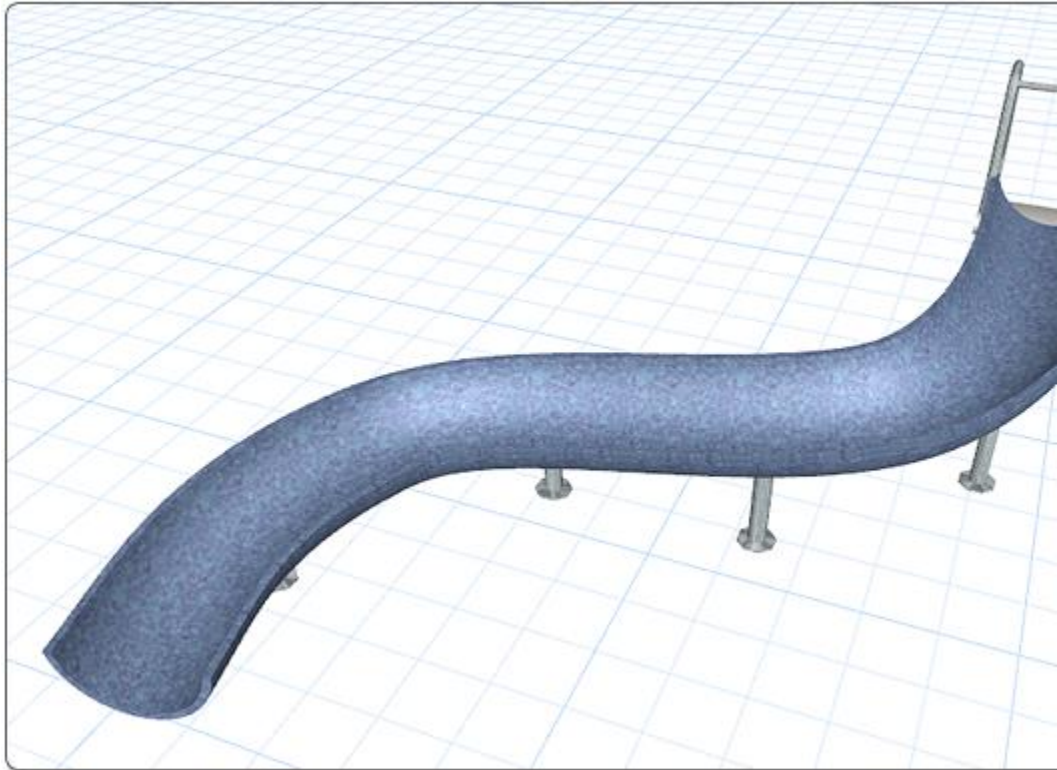
Since the loft position and extrusion direction are determined by the path, the position of the shape itself is irrelevant.

To edit the shape:

1. Click the **Edit Points** button in the Options group.

2. Edit the path points as desired. See [Editing Points](#)|document=editing Objects.docx;topic=Editing Points for details.

The slide in the following example was made using the Loft object.



Tips:

1. The shape of a loft can be edited after it is created by clicking the **Edit Points** button. See [Editing Points](#)|topic=Editing Points for details.
2. If a loft has a closed shape, then caps will be added to the top and bottom (see picture above). If a loft has an open shape, then caps will not be added.

See also:

[Loft Properties](#)
[Adding a Box](#)
[Adding a Ramp](#)
[Adding a Cylinder](#)
[Adding a Lathe](#)
[Adding a Part](#)
[Converting to a Custom Model](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Using 3D Booleans to Create Complex Models](#)

Loft Properties

The properties used to modify a loft are located to the right of the screen when your loft is selected. Only some of these properties can be adjusted right before adding the loft to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Material	The Material property determines what type of surface the loft will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the loft can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the loft material. For example, if the loft has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the loft material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the loft material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the loft material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the loft material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Elevation	The Elevation property determines the distance of the entire loft object from the ground.

Closed	The Closed property determines whether the loft's shape is open or closed.
Add caps	The Add caps property determines whether the loft is filled in at the top and bottom. To toggle the top and bottom of a loft, click the Add caps checkbox. Caps can only be added if the loft is a closed shape.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the loft's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the loft, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Paths	Description
Closed	The Closed property determines whether the loft's path is open or closed.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the loft's path. See Editing Points topic=Editing Points for details.
Height	The Height property determines the distance off the ground for the selected path point(s).
Scale	The Scale property is used to scale the shape's profile at each point along the path.

Information	Description
Triangles	The Triangles property displays the total number of triangles used to compose the loft. When creating many complex lofts, it is best to keep the number of triangles as low as possible on slower computers.

See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding a Lathe
- [Adding a Loft](#)
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points

Adding a Part

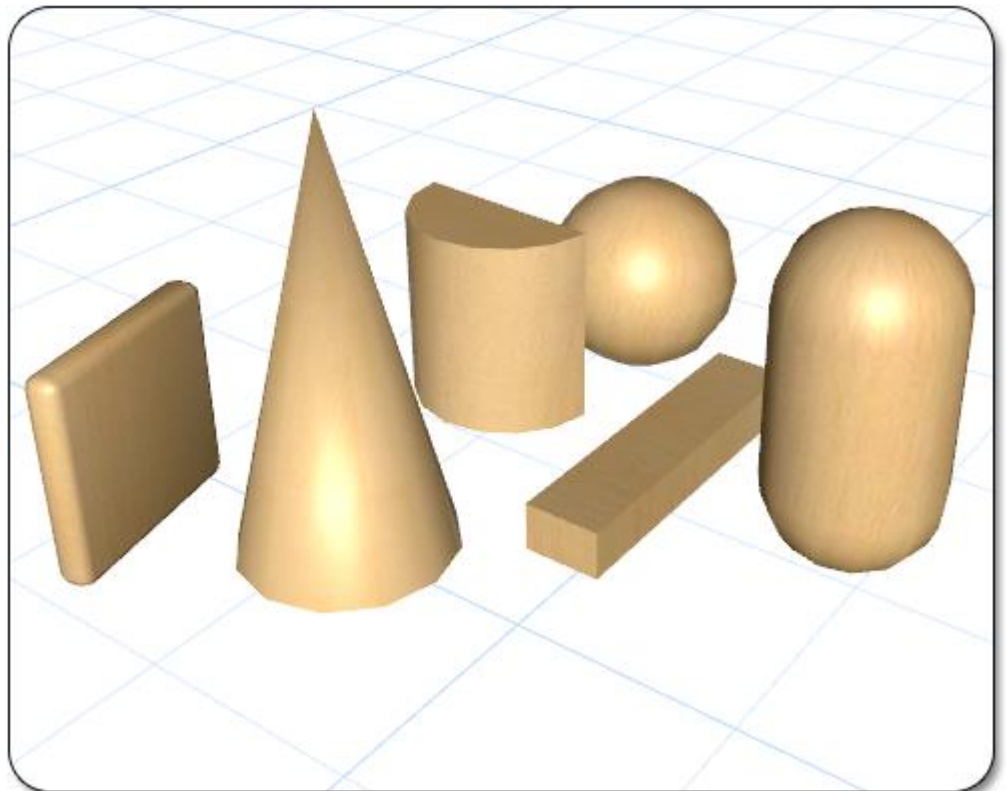


The Part object is used to add various simple 3D pieces that can be used alone or as part of a custom model. Available parts include cones, boards, and spheres. Custom parts can be imported to the part library by using the [Model Creation Wizard|topic=Model Creation Wizard](#).

To add a Part:

1. Click the **Add Part** button that is found near the top of the screen under the **Modeling** tab.
2. Click the picture of the default part that appears to the right of the screen, and then select the part you would like to use.
3. Click on your design where you wish to place the part.

The picture below illustrates several different parts shown in the Perspective view.



Tips:

1. There are many different sizes of boards included in the library of parts. The boards are sized using accurate dimensions, meaning that a “4x4” will measure 3.5 by 3.5 inches.

See also:

- Part Properties
- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- Adding a Loft
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Using 3D Booleans to Create Complex Models

Part Properties

The properties used to modify a part are located to the right of the screen when your part is selected. Only some of these properties can be adjusted right before adding the part to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of part. To change the part model, click the picture that shows the current part.
Material options	The appearance of the part can be modified by clicking the small button that appears to the right of the part image.
Elevation	The Elevation property determines the distance of the part from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

Advanced	Description
Width	The Width property determines the size of the part from left to right. To adjust the part width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the part from front to back. To adjust the part length, move the Depth slider or type a value in the text field.

Height	The Height property determines how tall the part is. To adjust the part height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the part about its X axis. If your view is facing north, this will rotate the part forward or backward. To rotate the part, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the part about its Y axis. If your view is facing north, this will rotate the part left or right as if it was sitting upon a pottery wheel. To rotate the part, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the part about its Z axis. If your view is facing north, this will rotate the part left or right as if it was sitting upon the face of a clock. To rotate the part, move the Rotate about Z slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the part is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the part, then keep the Scale evenly option checked. If you wish to stretch the part in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the part's material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- [Adding a Loft](#)
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- [Using 3D Booleans to Create Complex Models](#)

Converting to a Custom Model



The Custom Model tool is used to convert the currently selected objects into a single model. Once one or more objects have been converted to a custom model, their polygons, smoothness, and material mapping can be freely edited.

To convert to a Custom Model:

1. Select each of the objects you wish to include in the custom model. For help, see [Selecting Objects|topic=Selecting Objects](#).
2. Click the **Convert to Custom Model** button that is found near the top of the screen under the **Modeling** tab.

Tips:

1. Converting to a custom model will change the available editing options. Therefore, it is best to copy and paste your objects before converting them.

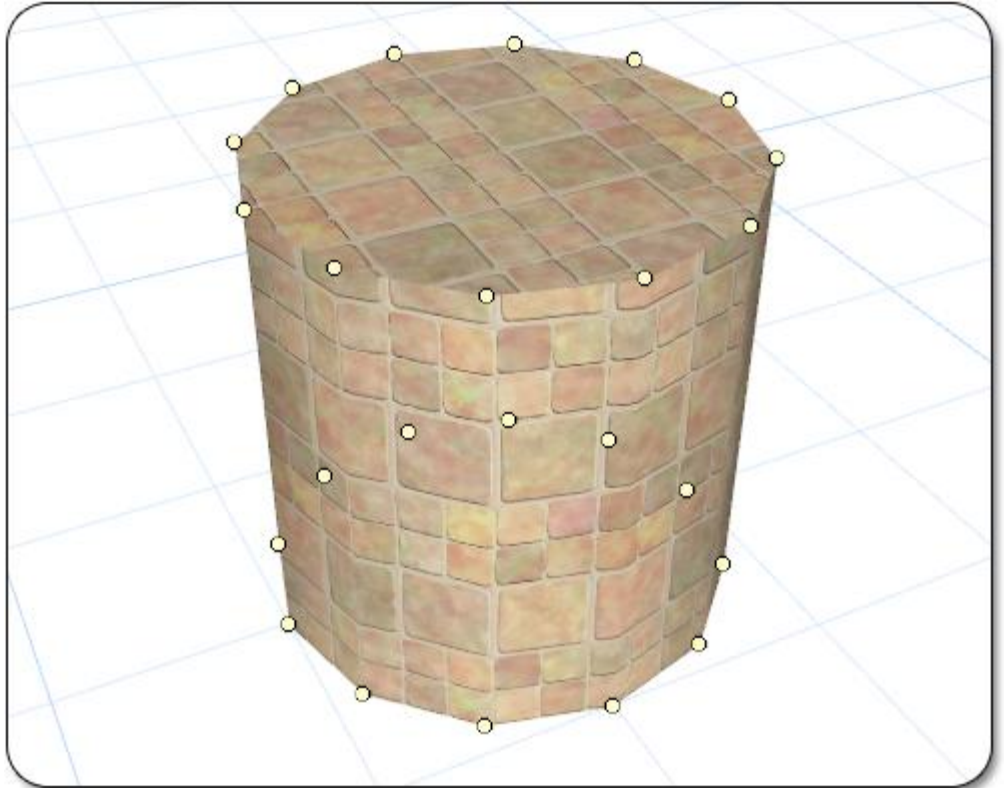
Editing Points

It is sometimes useful to edit the points of a custom model, which is done by clicking the Edit points button and making adjustments. For details, see [Editing Points|topic=Editing Points](#) or view the instructions below.

To edit the points of a custom model:

1. Click the custom model in your Landscape Design in order to select it.
2. Click the **Edit points** button, found in the [Properties|topic=Setting Object Properties](#), to enable point editing mode.
3. Move and delete points as needed. See [Editing Points|topic=Editing Points](#) for details.
4. When finished, click the **Edit Points** button again to disable point editing mode.

The picture below shows a cylinder that was converted into a custom model with point editing mode enabled.



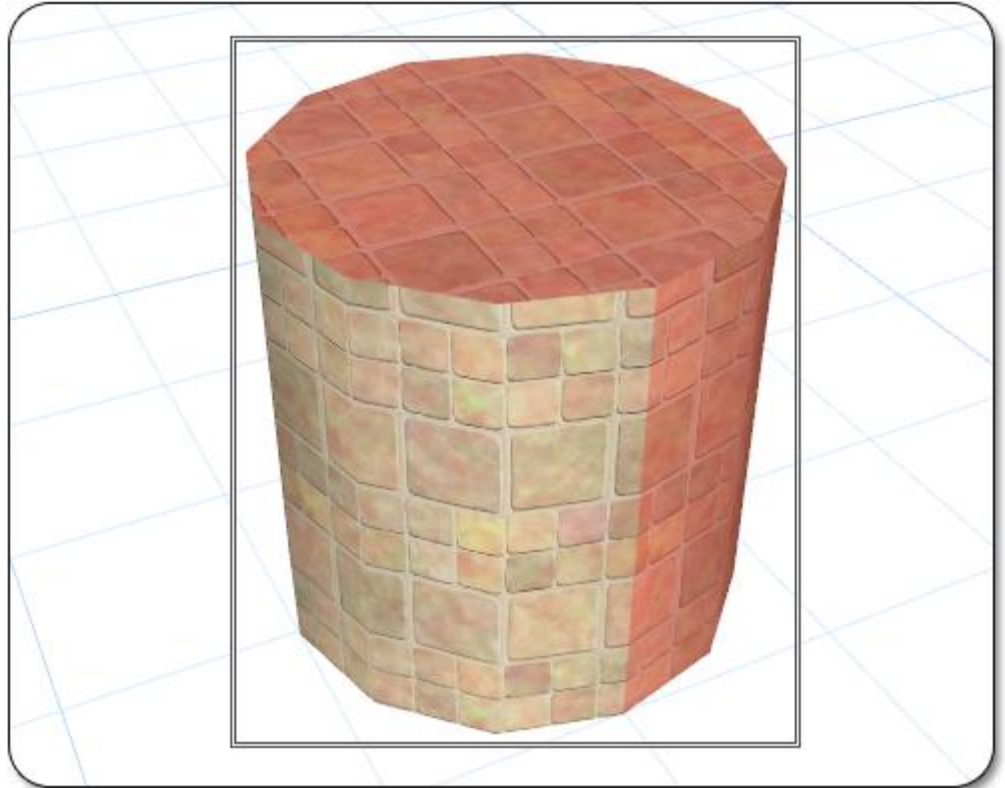
Editing Polygons

It is sometimes useful to edit the individual polygons of a custom model. When editing polygons, you are able to set materials, shaders, material mapping, and smoothness. Polygons can also be moved and deleted as needed.

To edit the polygons of a custom model:

1. Click the custom model in your Landscape Design in order to select it.
2. Click the **Edit polygons** button, found in the [Properties|topic=Setting Object Properties](#), to enable polygon editing mode.
3. Click the polygons you wish to edit in order to select them. See [Selecting objects|topic=Selecting Objects](#) for details.
4. Modify the selected polygons by changing their position, material or material mapping, smoothing, or shader.
5. When finished, click the **Edit polygons** button again to disable polygon editing mode.

The picture below illustrates a custom model that has several polygons selected.



Editing Smoothness

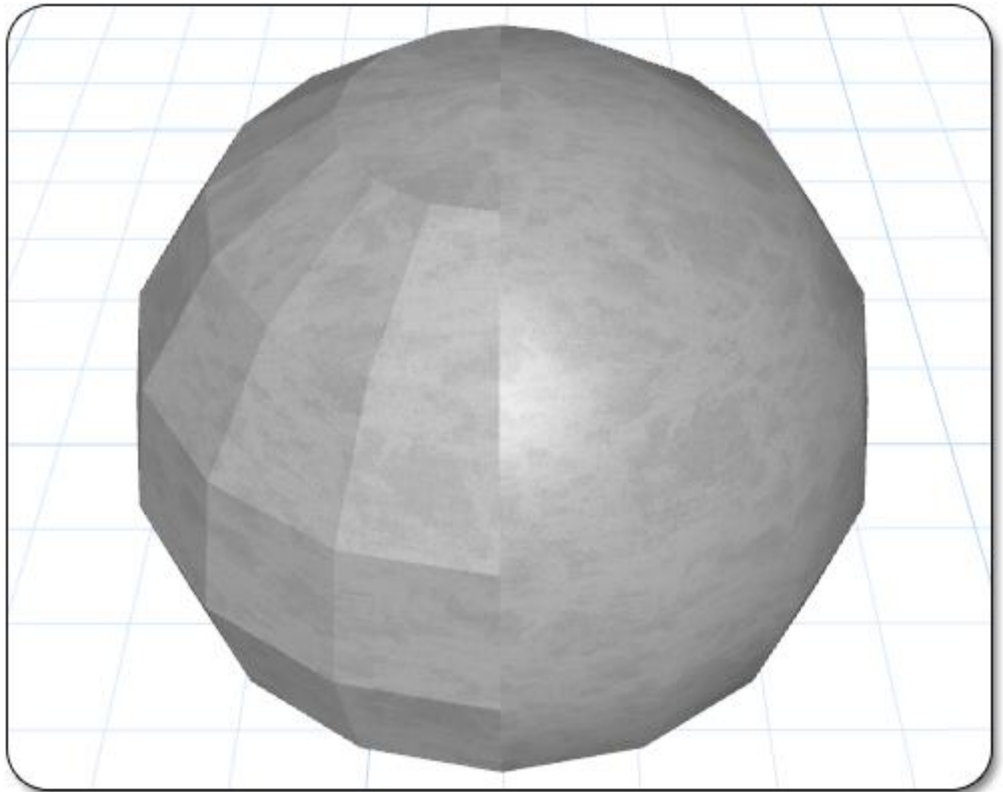
The smoothness of a custom model can be edited for the entire model or just for the selected polygons.

3D models are simply collections of flat polygons that form shapes, meaning that there are no true curved surfaces. However, using this “smoothness” technique, curved 3D models are made to look smooth and natural. Some objects need to be smooth, like the pole of a landscape light or the inside of a round spa. Other objects should not be smooth, such as the walls and corners of a house.

To smooth the polygons of a custom model:

1. Click the custom model in your Landscape Design in order to select it.
2. Click the **Edit polygons** button, found in the [Properties|topic=Setting Object Properties](#), to enable polygon editing mode.
3. Click the polygons you wish to edit in order to select them. See [Selecting objects|topic=Selecting Objects](#) for details.
4. Click the Set smoothness button, found in the properties, and move the slider to the appropriate value.
5. When finished, click the **OK** button and then click the **Edit polygons** button again to disable polygon editing mode.

The picture below illustrates a simple sphere that has one smooth side and one faceted side.



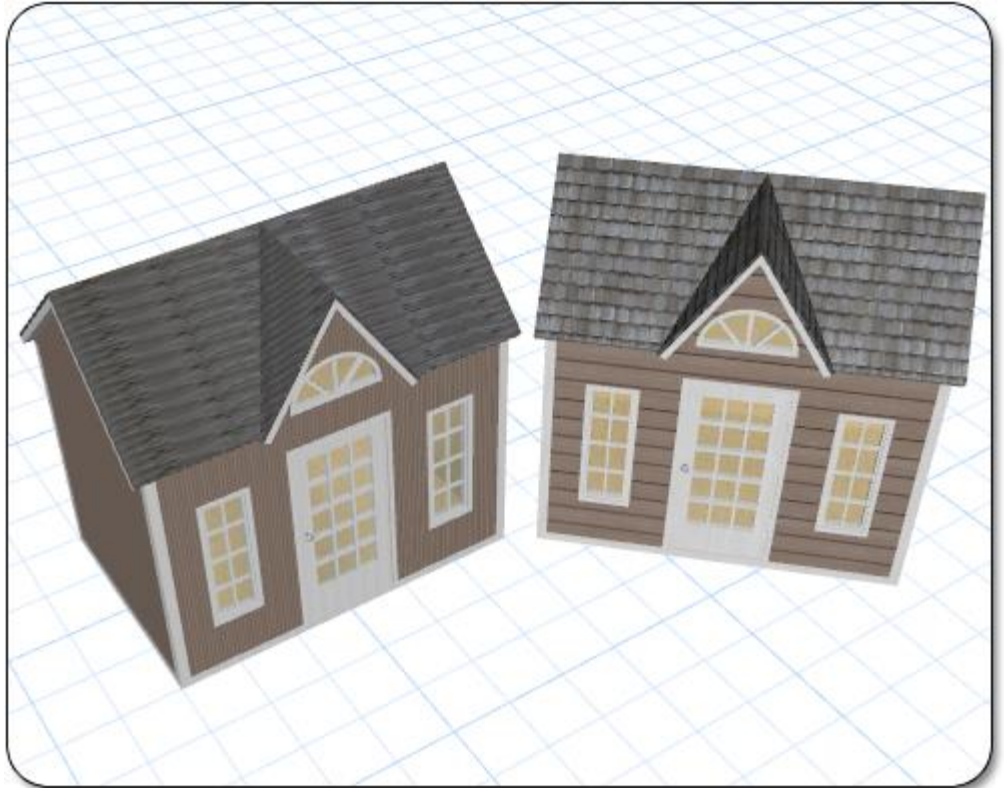
Setting Mapping

The term *Mapping* refers to how a material is applied to a 3D object. When editing a custom model, there is a *Set Mapping* feature that is used to reset and modify a model's mapping.

To set mapping on a custom model:

1. Click the custom model in your Landscape Design in order to select it.
2. Click the **Set mapping** checkbox, found in the [Properties|topic=Setting Object Properties](#), to reset the material mapping and display additional options.
3. Modify the With, Height, Angle, and Offset as needed.

In the picture below, two sheds are shown. Both sheds are identical, but the shed on the right has had its mapping modified using the Set Mapping option.



Setting a Shader

A *Shader* is an effect for a model. Shaders are easy to set and can cause your models to look much more realistic.

To Set a Shader on a custom model:

1. Click the custom model in your Landscape Design in order to select it.
2. Click the **Shader** drop-down menu, which is found in the [Properties|topic=Setting Object Properties](#).
3. Select the effect that you would like your model to use.

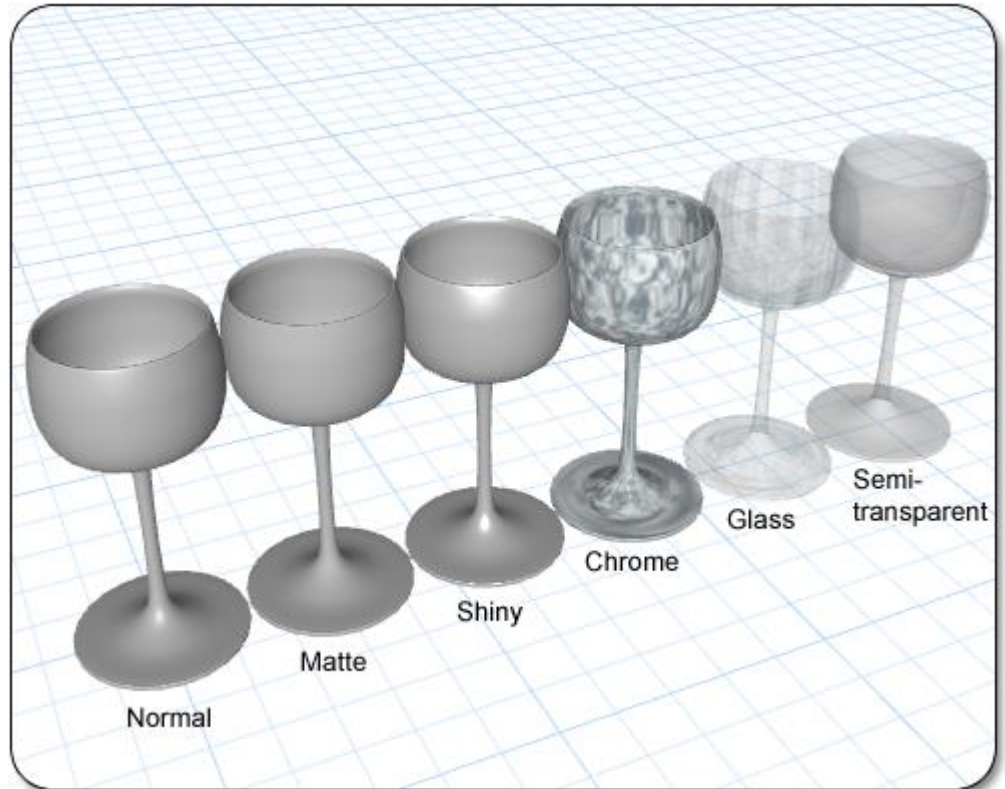
Shader Types

There are six different shaders available in DATAflor GRÜNSTUDIO 3D. When deciding which shader to use, consider the material of the object that you are working with. For example, a glossy planter should have a *Shiny* shader, and a wooden shed should use a *Matte* shader. The most common types are listed below:

1. **Normal:** A Normal shader is moderately shiny.
2. **Matte:** A Matte shader is not at all shiny.
3. **Shiny:** A Shiny shader should be used on very glossy or polished objects.
4. **Chrome:** A Chrome shader causes the material to look like reflective metal.

5. Glass: A Glass shader causes the object to look like transparent glass.
6. Semi-transparent: A Semi-transparent shader enables you to see through the object. The object may be 25%, 50%, or 75% transparent.

The picture below illustrates some of the different types of shaders available.



Polygon Material Mapping

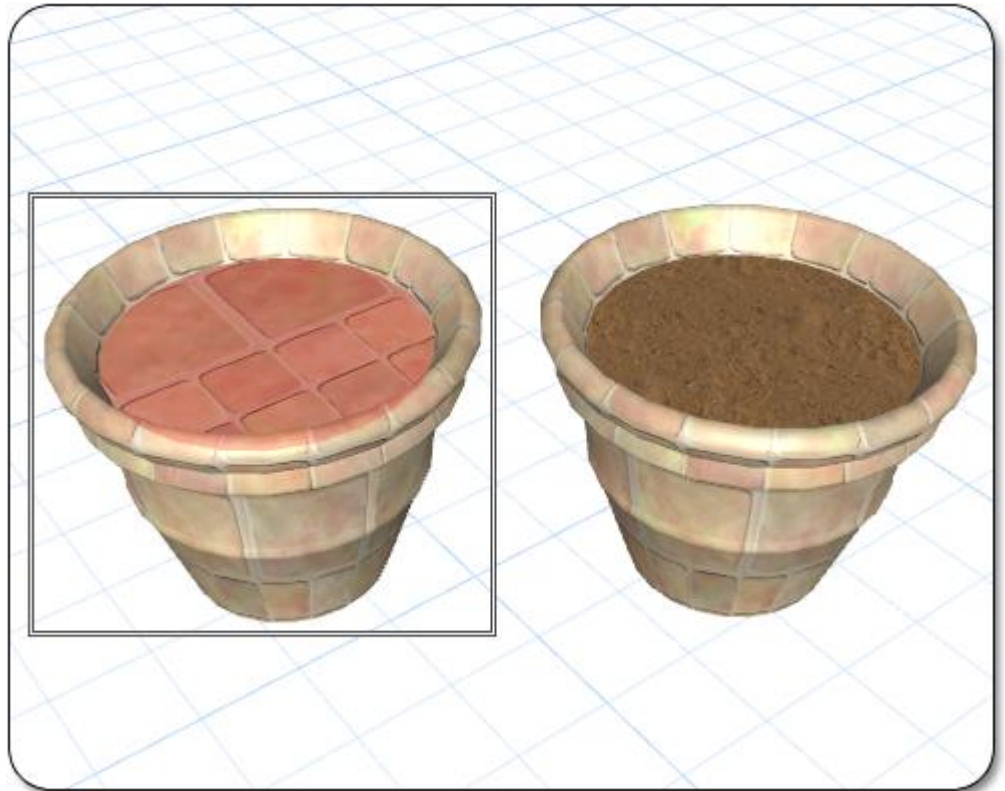
In some cases, it is useful to apply multiple different materials to a single object. For example, if a wooden chair has a cushion, then you can select the polygons of the cushion and change them to the appropriate material.

To set a different material to a selection of polygons:

1. Click the custom model in your Landscape Design in order to select it.
2. Click the **Edit polygons** button, found in the [Properties|topic=Setting Object Properties](#), to enable polygon editing mode.
3. Click the polygons you wish to edit in order to select them. See [Selecting objects|topic=Selecting Objects](#) for details.
4. Click the picture of the material that appears to the right of the screen and then select the new material that you would like to use.

- When finished, click the **Edit polygons** button again to disable polygon editing mode.

The picture below illustrates two planters. The planter to the left is just one material, and the planter to the right uses two materials.



See also:

- Custom Model Properties
- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- Adding a Loft
- Adding a Part
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Using 3D Booleans to Create Complex Models

Custom Model Properties

The properties used to modify a custom model are located to the right of the screen when your custom model is selected. Below is a description of each available property in the order that they appear in the software.

<i>Model</i>	<i>Description</i>
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Elevation	The Elevation property determines the distance of the custom model from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Scale about X	The Scale about X property determines the custom model's width. To change the width of the model, move the Scale about X slider or type a value in the text field. Scale about X will simply shrink or enlarge the object if the Scale evenly property is checked.
Scale about Y	The Scale about Y property determines the custom model's height. To change the height of the model, move the Scale about Y slider or type a value in the text field. Scale about Y will simply shrink or enlarge the object if the Scale evenly property is checked.
Scale about Z	The Scale about Z property determines the custom model's length. To change the length of the model, move the Scale about Z slider or type a value in the text field. Scale about Z will simply shrink or enlarge the object if the Scale evenly property is checked.
Rotate about X	The Rotate about X property determines the angle of the custom model about its X axis. If your view is facing north, this will rotate the model forward or backward. To rotate the model, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the custom model about its Y axis. If your view is facing north, this will rotate the model left or right as if it was sitting upon a pottery wheel. To rotate the model, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the custom model about its Z axis. If your view is facing north, this will rotate the model left or right as if it was sitting upon the face of a clock. To rotate the model, move the Rotate about Z slider or type a value in the text field.
Mirror X	The Mirror X property determines the left to right direction of the model. To invert the model, click the Mirror X checkbox.
Mirror Y	The Mirror Y property determines the top to bottom direction of the model. To invert the model, click the Mirror Y checkbox.
Mirror Z	The Mirror Z property determines the front to back direction of the model. To invert the model, click the Mirror Z checkbox.

Scale evenly	The Scale evenly property determines if the custom model is stretched or not when you use the Scale about X, Y, or Z options. If you wish to simply enlarge the model, then keep the Scale evenly option checked. If you wish to stretch the model in any direction, then uncheck the Scale evenly option.
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Material	Description
Material	The Material property determines what type of surface the custom model will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the custom model can be modified by clicking the small button that appears to the right of the material image.
Shader	The Shader property determines the effect of the model's material. To change the effect, click the Shader drop-down menu.
Set mapping	The Set mapping property determines how the material is applied to the custom model. To reset the model's mapping and to expose additional options, click the Set mapping checkbox.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Width	The Width property determines the size of the material from left to right. To stretch the material from left to right, move the Width slider or enter a value in the text field. This property is only available when Set mapping is checked.
Height	The Height property determines the size of the material from top to bottom. To stretch the material from top to bottom, move the Height slider or enter a value in the text field. This property is only available when Set mapping is checked.
Angle	The Angle property determines the rotation angle of the material. To change the material angle, move the Angle slider or type a value in the text field. This property is only available when Set mapping is checked.
Offset X	The Offset X property determines the material's left and right orientation. To shift the material left or right,

	move the Offset X slider or enter a value in the text field. This property is only available when Set mapping is checked.
Offset Y	The Offset Y property determines the material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field. This property is only available when Set mapping is checked.
Flip horizontal	The Flip horizontal property determines the direction of the material from left to right. To invert the material from left to right, click the Flip horizontal checkbox. This property is only available when Set mapping is checked.
Flip vertical	The Flip vertical property determines the direction of the material from top to bottom. To invert the material from top to bottom, click the Flip horizontal checkbox. This property is only available when Set mapping is checked.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Advanced	Description
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the custom model's shape, and will expose additional options. See Editing Points topic=Editing Points for details.
Edit polygons	Click the Edit polygons button to enable or disable polygon editing mode, which will allow you to modify the individual pieces of the custom model, and will expose additional options.
Select connected	Click the Select connected button to select all polygons that are connected to the currently selected polygon. This property is only available when the Edit polygons button is enabled and one or more polygons are selected.
Select same material	Click the Select same material button to select all polygons that have the same material as the currently selected polygon. This property is only available when the Edit polygons button is enabled and one or more polygons are selected.

Flip front/back	Click the Flip front/back button to invert the selected polygon from the back of the polygon to the face. This property is only available when the Edit polygons button is enabled and one or more polygons are selected.
Set smoothness	Click the Set smoothness button to modify how smooth the selected polygons appear to be. This property is only available when the Edit polygons button is enabled and one or more polygons are selected.
Draw both sides	The Draw both sides property determines whether both the face and the back of the selected polygon are shown. This property is only available when the Edit polygons button is enabled and one or more polygons are selected.
Elevation	The Elevation property determines the distance of the selected point from the ground. To change the elevation, move the Elevation slider or type a value in the text field. This property is only available when the Edit points button is enabled and one or more points are selected.

Information	Description
Width	The Width property displays the size of the custom model from left to right.
Height	The Height property displays the size of the custom model from top to bottom.
Depth	The Depth property displays the size of the custom model from front to back.
Triangles	The Triangles property displays the total number of triangles used to compose the lathe. When creating many complex lathes, it is best to keep the number of triangles as low as possible on slower computers.

See also:

- Adding a Box
- Adding a Ramp
- Adding a Cylinder
- Adding an Extrusion
- Adding a Lathe
- Adding a Loft
- Adding a Part
- Converting to a Custom Model
- Setting Object Properties

Selecting Objects
 Selecting Points
 Editing Objects
 Using 3D Booleans to Create Complex Models

Using 3D Booleans to Create Complex Models



3D Boolean commands can be used to add, subtract, intersect, and clip models. These are useful for making complex models out of simpler ones.

The 3D Boolean commands can only be used with certain types of objects. Due to the complex mathematics involved, the Add, Subtract, and Intersect commands can only be used with "solid" (airtight) objects from the Modeling tab -- boxes, cylinders, extrusions, and so forth. (An exception is the Clip command, which only requires that one of the objects be solid.) However, the result of a 3D Boolean command can in turn be used in subsequent 3D Boolean commands, allowing you to create models of increasing complexity.

To use these commands, you must first select two objects. The order that the two objects are selected is important when one model is subtracted or clipped from another.

Normally, a new object will be created and the original objects will be deleted. However, if you want to keep the original objects, then press and hold **Ctrl** while clicking the desired 3D Boolean command.

To add models:

1. Click the first object to select it.
2. Hold the **Shift** key and click on the second object to select it. (You can then release the Shift key.)
3. *Optional:* If you want to keep the second object, press and hold the **Ctrl** key while performing the next step.
4. Click the **Add Solid Models** button that appears near the top of the screen under the **Modeling** tab.

To subtract models:

1. Click the first object to select it.
2. Hold the **Shift** key and click on the second object to select it. The second object should be the model that you wish to subtract from the first object. (You can then release the Shift key.)
3. *Optional:* If you want to keep the second object, press and hold the **Ctrl** key while performing the next step.
4. Click the **Subtract Solid Models** button that appears near the top of the screen under the **Modeling** tab.

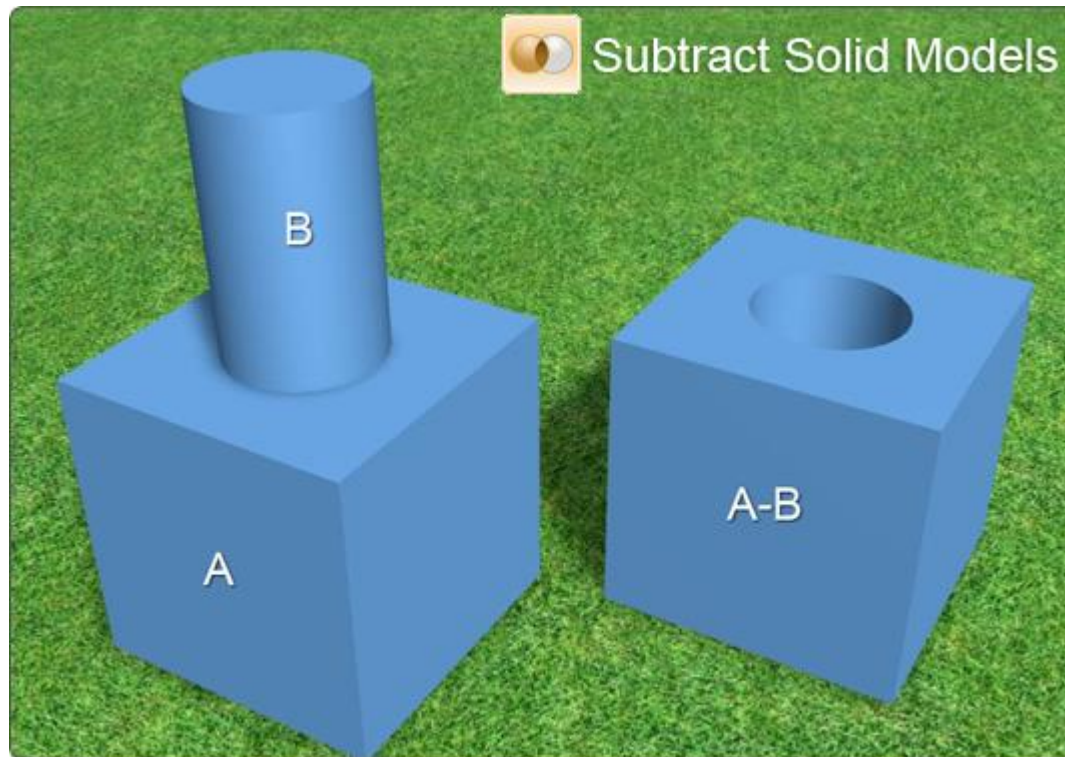
To intersect models:

1. Click the first object to select it.
2. Hold the **Shift** key and click on the second object to select it. (You can then release the Shift key.)
3. *Optional:* If you want to keep the original objects, press and hold the **Ctrl** key while performing the next step.
4. Click the **Intersect Solid Models** button that appears near the top of the screen under the **Modeling** tab.

To clip a model:

1. Click the first object to select it. This is the object you want to be clipped.
2. Hold the **Shift** key and click on the second object to select it. This is the object that will do the clipping. (You can then release the Shift key.)
3. *Optional:* If you want to keep the original objects, press and hold the **Ctrl** key while performing the next step.
4. Click the **Clip Solid Model** button that appears near the top of the screen under the **Modeling** tab.

Below is an example of the Subtract Solid Models command:



The following example shows how the Clip Model command was used to cut a hole for a sink in a custom grill island. (The box used to do the clipping is not shown.)

Grill Island Before Clip Model



Grill Island After Clip



Completed Grill Island



Tips:

1. To use the Clip command with models other than Accessories (such as retaining walls or patios), first convert the object into a [Custom Model|topic=Converting to a Custom Model](#).

2. You can save custom models for use in other designs. See [Model Creation Wizard|topic=Model Creation Wizard](#) for details.
3. Normally, the second object is deleted. To keep this from happening, hold down the **Ctrl** key while clicking the desired 3D Boolean command.

See also:

Selecting Objects

Adding a Box

Adding a Ramp

Adding a Cylinder

Adding an Extrusion

Adding a Lathe

[Adding a Loft](#)

Adding a Part

Converting to a Custom Model











Undoing and Redoing Changes









[Model Creation Wizard|topic=Model Creation Wizard](#)

Plan Detail Objects

Adding Plan Detail

Plan Detail objects are used to add important information to the Plan view of your landscape design, such as title blocks, irrigation system symbols, installation instructions, 3D labels, and more. Plan detail objects are highly customizable, and can be made to appear like traditional CAD or stylized to look as if they were drawn by hand. The following chart shows the included plan detail objects:

Object	Button
Line	
Curve	
Arc	
Circle topic=Adding a Circle	
Ellipse	
Rectangle	
Rounded Rectangle	
Pie	
Shape topic=Adding a Shape	
Symbol	

Linear Dimension topic=Adding a Linear Dimension	
Radial Dimension topic=Adding a Radial Dimension	
Text	
Label	
3D Label	
Plant Label	
Plant Legend	
Embedded Object	

The title block in this landscape design was created using plan detail objects.

Plan Detail Rendering

Plan detail objects appear only in the Plan view and are invisible in the Perspective view and during Realtime Walkthroughs.

Plan detail objects will always appear on top of any other non-plan detail objects. For example, symbols will always appear on top of regions. However, if multiple plan detail objects overlap, then the order of appearance can be changed. For example, if a symbol overlaps a 3D label, then you can control which appears on top of the other.

To change the render order:

1. Click the plan detail object in your landscape design to select it.
2. If you wish for the object to render on top of other plan detail objects, click **Edit, Render Order**, and **Bring to Front**.
If you wish for the object to render underneath all other plan detail objects, click **Edit, Render Order**, and **Send to Back**.

Note: The render order of multiple objects can be adjusted at once. For example, multiple plan detail objects can be selected before using the render order commands.

See also:

[Adding a Line](#)
[Adding a Curve](#)
[Adding an Arc](#)
[Adding an Ellipse](#)
[Adding a Rectangle](#)
[Adding a Rounded Rectangle](#)
[Adding a Pie Shape](#)
[Adding a Shape|topic=Adding a Shape](#)
[Adding a Symbol](#)
[Adding a Linear Dimension|topic=Adding a Linear Dimension](#)
[Adding Text](#)
[Adding a 3D Label|topic=Adding a 3D Label](#)
[Adding a Label](#)
[Adding a Plant Legend](#)
[Adding an Embedded Object](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)

Adding a Line



To add a line to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Line** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click an area of your landscape design to place the starting point of the line.
4. Click another area of your landscape design to place the ending point of the line. If you would like to input the distance and angle manually, place the starting point and then press the **Enter** key.

Tips:

1. The steps above are only used when first adding the line. Once the line is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

[Shape Properties](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)

Editing Objects
Editing Points
Saving and Loading Shapes

Adding a Curve



To add a curve to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Curve** button that is found near the top of the screen under the **Plan Detail** tab.
3. Draw the curve by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
4. To finish drawing the curve, place the last point on top of the first point. Alternately, right-click to place the last point.

Tips:

1. The steps above are only used when first adding the curve. Once the curve is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. If the curve that is added is a closed shape, then the shape will be filled by default. To show just the curve's outline, set the **Transparency** property to 100.
3. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

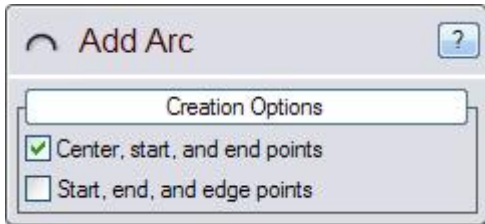
Shape Properties
Adding Plan Detail
Setting Object Properties
Selecting Objects
Selecting Points
Editing Objects
Editing Points
Saving and Loading Shapes

Adding an Arc

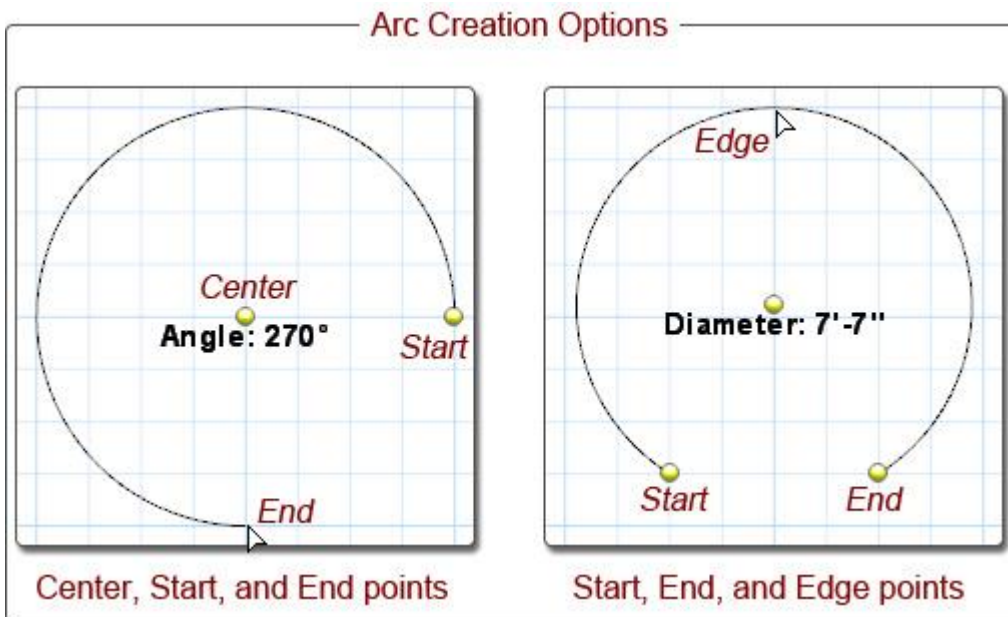


To add an arc to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Arc** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the desired creation method that is found to the right of the screen:



4. Click to place the points of the arc depending on which creation option was chosen.



Tips:

1. The steps above are only used when first adding the arc. Once the arc is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

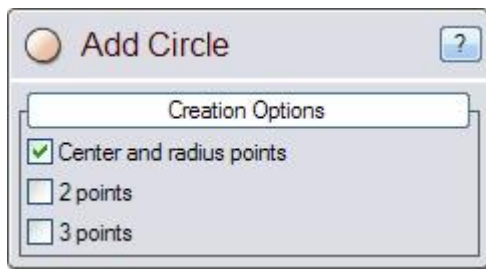
- Shape Properties
- Adding Plan Detail
- Setting Object Properties
- Selecting Objects
- Selecting Points

Adding a Circle



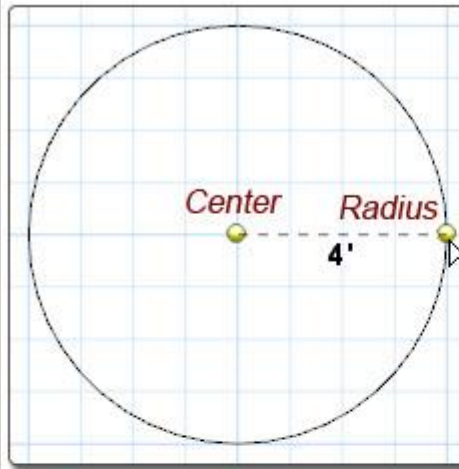
To add a circle to the plan view:

1. Click the **Plan** tab to switch to the [Plan view](#)`|topic=Plan View`.
2. Click the **Add Circle** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the desired creation method that is found to the right of the screen:

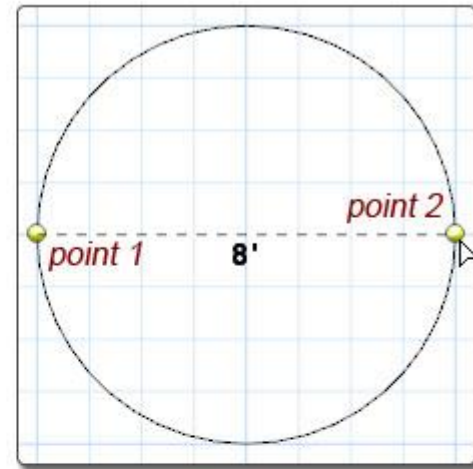


4. Click to place the points of the circle depending on which creation option was chosen.

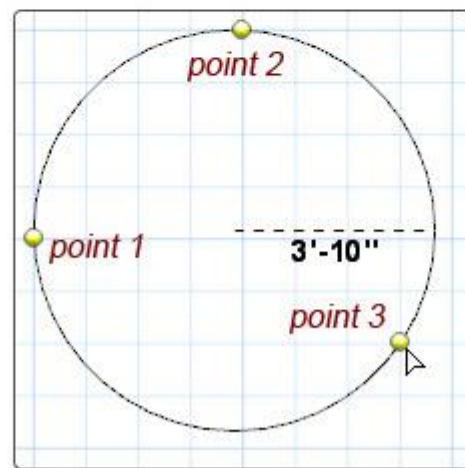
Circle Creation Options



Center and Radius points



2 points



3 points

Tips:

1. The steps above are only used when first adding the circle. Once the circle is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.
3. The shape of the circle will be filled by default. To show just the circle's outline, set the **Transparency** property to 100.

See also:

Shape Properties
Adding Plan Detail
Setting Object Properties

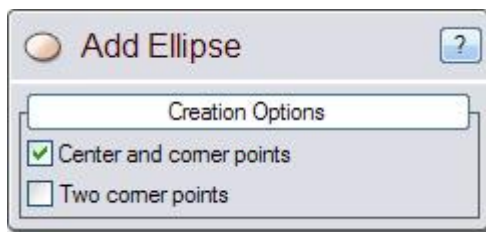
Selecting Objects
 Selecting Points
 Editing Objects
 Editing Points
 Saving and Loading Shapes

Adding an Ellipse

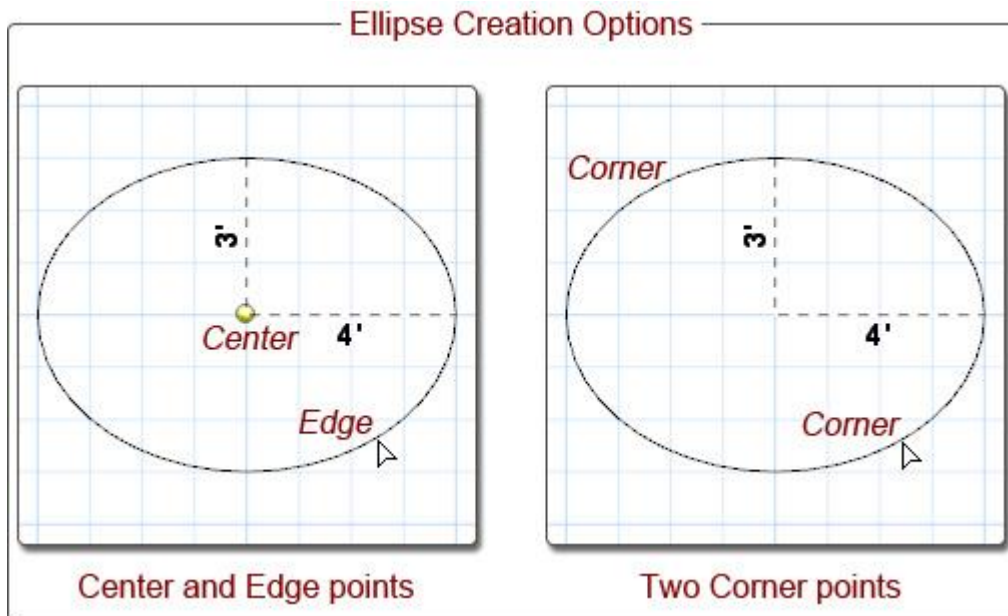


To add an ellipse or circle to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Ellipse** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the desired creation method that is found to the right of the screen:



4. Click to place the points of the ellipse depending on which creation option was chosen.



Tips:

1. The steps above are only used when first adding the ellipse. Once the ellipse is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.
3. The shape of the ellipse will be filled by default. To show just the ellipse's outline, set the **Transparency** property to 100.

See also:

Shape Properties
 Adding Plan Detail
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Editing Points
 Saving and Loading Shapes

Adding a Rectangle



To add a rectangle or square to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Rectangle** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click an area of your landscape design to place the first corner of the rectangle.
4. *Optional:* Hold **Shift** to constrain the shape to a square.
5. Click another area of your landscape design to place the opposite corner of the rectangle. If you would like to input the distance and angle manually, place the starting point and then press the **Enter** key.

Tips:

1. The steps above are only used when first adding the rectangle. Once the rectangle is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. The shape of the rectangle will be filled by default. To show just the rectangle's outline, set the **Transparency** property to 100.
3. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

- Shape Properties
- Adding Plan Detail
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Editing Points
- Saving and Loading Shapes

Adding a Rounded Rectangle



To add a rectangle with rounded corners to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Rounded Rectangle** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click an area of your landscape design to place the first corner of the rounded rectangle.
4. *Optional:* Hold **Shift** to constrain the shape to a square.
5. Click another area of your landscape design to place the opposite corner of the rounded rectangle. If you would like to input the distance and angle manually, place the starting point and then press the **Enter** key.
6. Move your mouse to adjust the radius of the rectangle's corners and click the left mouse button when the desired radius is shown. It is usually best to turn off [grid-snap|topic=Snap Settings](#) for this step.

Tips:

1. The steps above are only used when first adding the rounded rectangle. Once the rectangle is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. The shape of the rounded rectangle will be filled by default. To show just the rectangle's outline, set the **Transparency** property to 100.
3. The corners of any shape can be rounded using the [Round Corners tool|topic=Rounding Corners](#).
4. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

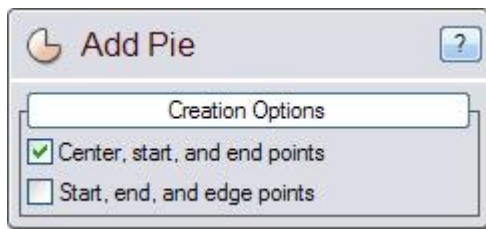
Shape Properties
 Adding Plan Detail
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Editing Points
 Saving and Loading Shapes

Adding a Pie Shape

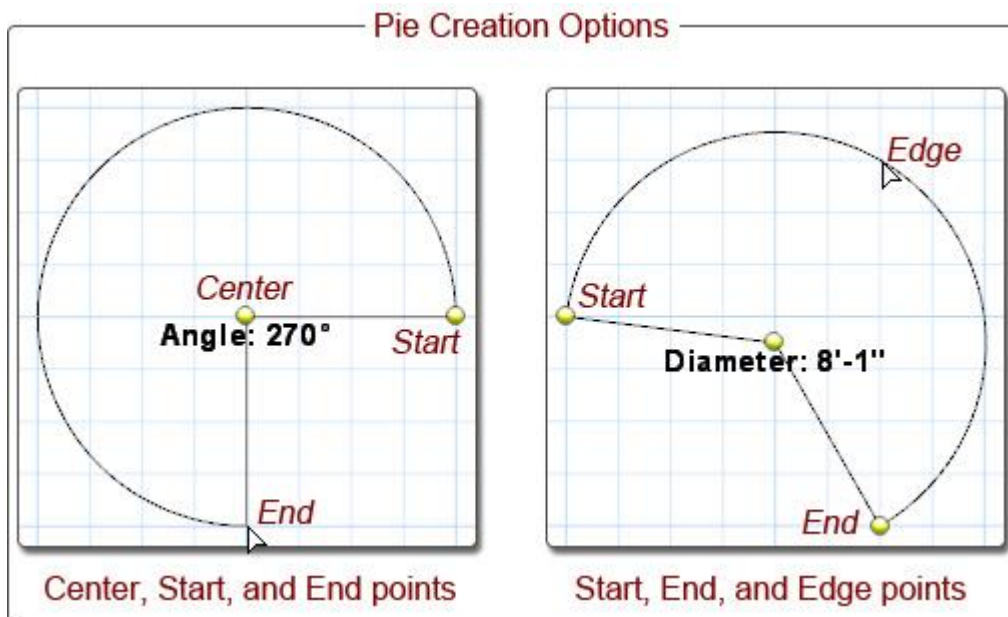


To add a pie shape to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Pie** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the desired creation method that is found to the right of the screen:



4. Click to place the points of the pie depending on which creation option was chosen.



Tips:

1. The steps above are only used when first adding the pie shape. Once the pie is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. The shape of the pie will be filled by default. To show just the pie's outline, set the **Transparency** property to 100.
3. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

Shape Properties
 Adding Plan Detail
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Editing Points
 Saving and Loading Shapes

Adding a Shape



To add a shape to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Shape** button that is found near the top of the screen under the **Plan Detail** tab.
3. Draw the outline of the shape by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
4. To finish drawing the shape, place the last point on top of the first point. Alternately, right-click to place the last point.

Tips:

1. The steps above are only used when first adding the shape. Once the shape is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. If the shape is closed, then it will be filled by default. To show just the shape's outline, set the **Transparency** property to 100.
3. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

- Shape Properties
- Adding Plan Detail
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Editing Points
- Saving and Loading Shapes

Shape Properties

The properties used to modify a shape are located to the right of the screen when your shape is selected. Only some of these properties can be adjusted right before adding the shape to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Material	The Material property determines what type of surface the shape will use. To change the material, click the small image that displays the current material. The Closed property must be checked before the material property is available.
Material options	The appearance of the shape can be modified by clicking the small button that appears to the right of the material image. The Closed property must be checked before the material property is available.
Size	The Size property determines the scale of the shape material. For example, if the shape has a brick material, then the Size slider will adjust the size of each brick.
Angle	The Angle property determines the rotation angle of the shape material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the shape material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the shape material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Transparency	The Transparency property determines the opacity of the shape. To change the shape opacity, move the Transparency slider or type a value in the text field. Set the Transparency to 100 to display only shape's outline. The Closed property must be checked before the material property is available.

Line style	The Line Style property determines the appearance of the outline of the shape. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
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Shape	Description
Closed	The Closed property determines whether the shape is open or closed. To change the state of the shape, click the Closed checkbox to toggle it.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Area	The Area property displays the total size of the shape in square feet or meters. The area is only shown when the Closed property is checked.
Perimeter	The Perimeter property displays the total distance around the shape in feet or meters.

See also:

- Adding a Line
- Adding a Curve
- Adding an Arc
- Adding an Ellipse
- Adding a Rectangle
- Adding a Rounded Rectangle
- Adding a Pie Shape
- [Adding a Shape|topic=Adding a Shape](#)
- Adding Plan Detail
- Setting Object Properties
- Selecting Points
- Selecting Objects
- Editing Objects
- Saving and Loading Shapes

Adding a Symbol

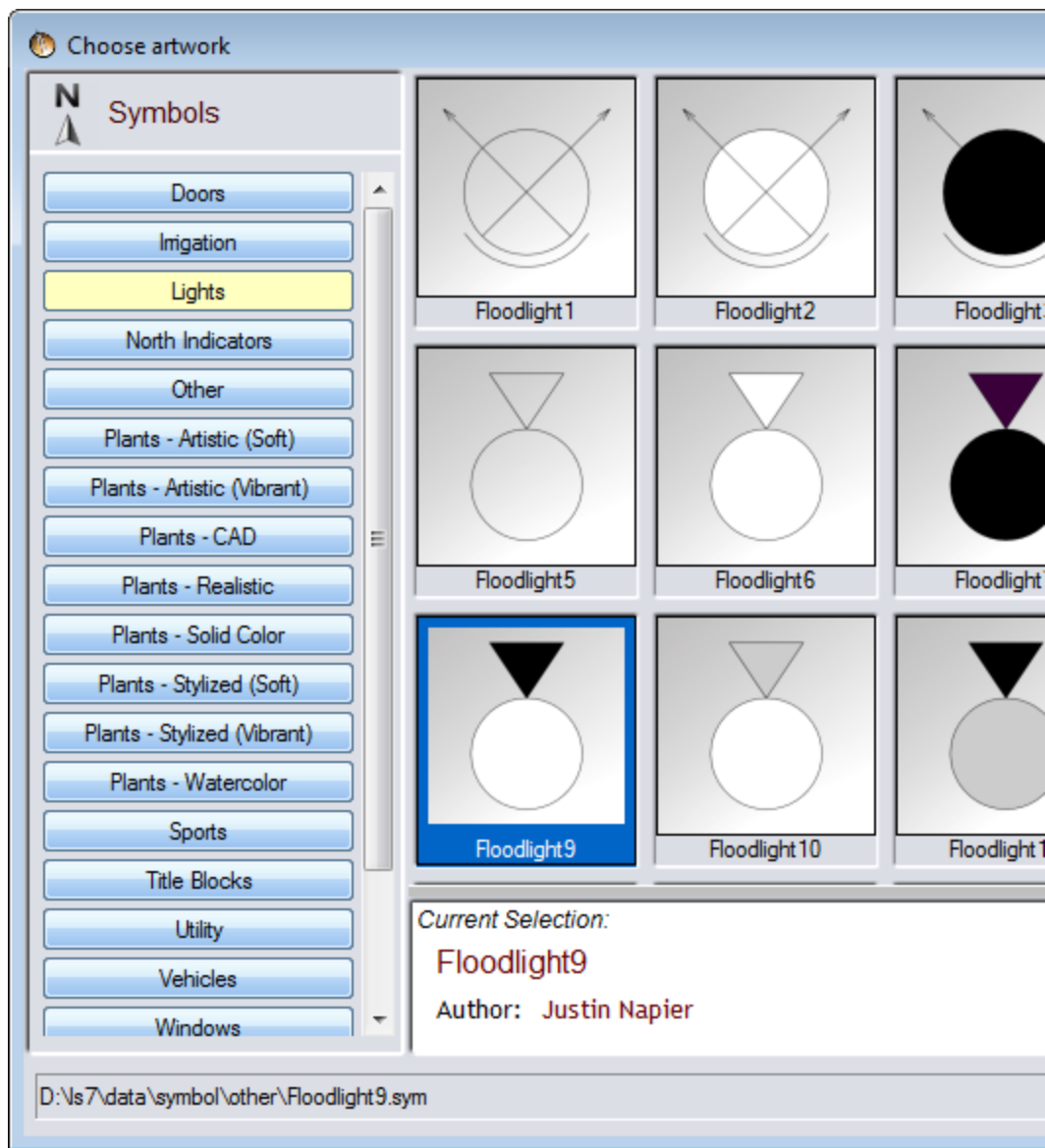


A wide variety of symbols are included with DATAflor GRÜNSTUDIO 3D for use in your landscape plans. Available symbols categories include irrigation, title blocks, north indicators, plant symbols, and more. As with all plan detail objects, symbols can only be added and viewed in the [Plan view|topic=Plan View](#).

To add a symbol to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Symbol** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the picture of the default symbol that appears to the right of the screen, and then select the symbol you would like to use.
4. Click on your landscape design where you wish to place the symbol.

The picture below shows some of the available landscape light symbols.



Adding Plant Symbols to the Plan View

Plant symbols can be added using the Symbol object, but it is recommended that they are added using the [Plant object|topic=Adding a Plant](#) instead. The reason for this is that the Symbol object will only appear in the Plan view, while the Plant object will show a symbol in the Plan view and a realistic plant in the Perspective view. Additionally, the Plant object has additional plant-specific properties such as common and botanical names, container size, age, and plant key information.

Tip: If needed, pictures of plants can be added to the Plan view using the [Plant Label|topic=Adding a Plant Label](#) object.

Creating a Custom Symbol

Symbols are simply groups of plan detail objects. To create your own symbols for use in any of your landscape designs, see the [Symbol Creation Wizard|topic=Symbol Creation Wizard](#).

Importing Symbols using the Picture Import Wizard

One method of importing additional symbols is to import images using the [Picture Import Wizard|topic=Picture Import Wizard](#). For example, a company logo could be imported as a symbol and then used in a title block.

Tip: If a company logo is imported as a symbol, it can be added as a watermark to screen shots, movies, and Realtime Walkthroughs. For details, see [Company Logo Settings|topic=Company Logo Settings](#).

Breaking Symbols

If a symbol is composed of more than one object, it can be separated into its individual components. To separate a symbol, click the **Break Symbol** button that appears in the [Properties|topic=Setting Object Properties](#) when the symbol is placed in your landscape design and selected.

See also:

- Symbol Properties
- Adding Plan Detail
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Editing Points
- Saving and Loading Shapes

Symbol Properties

The properties used to modify a symbol are located to the right of the screen when your symbol is selected. Only some of these properties can be adjusted right before adding the symbol to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Symbol	The Symbol property determines the type of symbol. To change the symbol, click the picture that shows the current symbol.
Width	The Width property determines the size of the symbol from left to right. To adjust the symbol width, move the Width slider or type a value in the text field.
Height	The Height property determines the size of the symbol from top to bottom. To adjust the symbol height, move the Height slider or type a value in the text field.
Angle	The Angle property determines the rotation angle of the symbol. To change the symbol angle, move the Angle slider or type a value in the text field.

Transparency	The Transparency property determines the opacity of the symbol. To change the symbol opacity, move the Transparency slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the symbol is stretched or not when you adjust the width or height. If you wish to simply enlarge the symbol, then keep the Scale evenly option checked. If you wish to stretch the symbol in any direction, then uncheck the Scale evenly option.
Break Symbol	Click the Break Symbol button to separate the symbol into its individual components. This option will not be available if the symbol consists of a single object.

See also:

Adding a Symbol
 Adding Plan Detail
 Setting Object Properties
 Selecting Objects
 Editing Objects

Adding a Linear Dimension

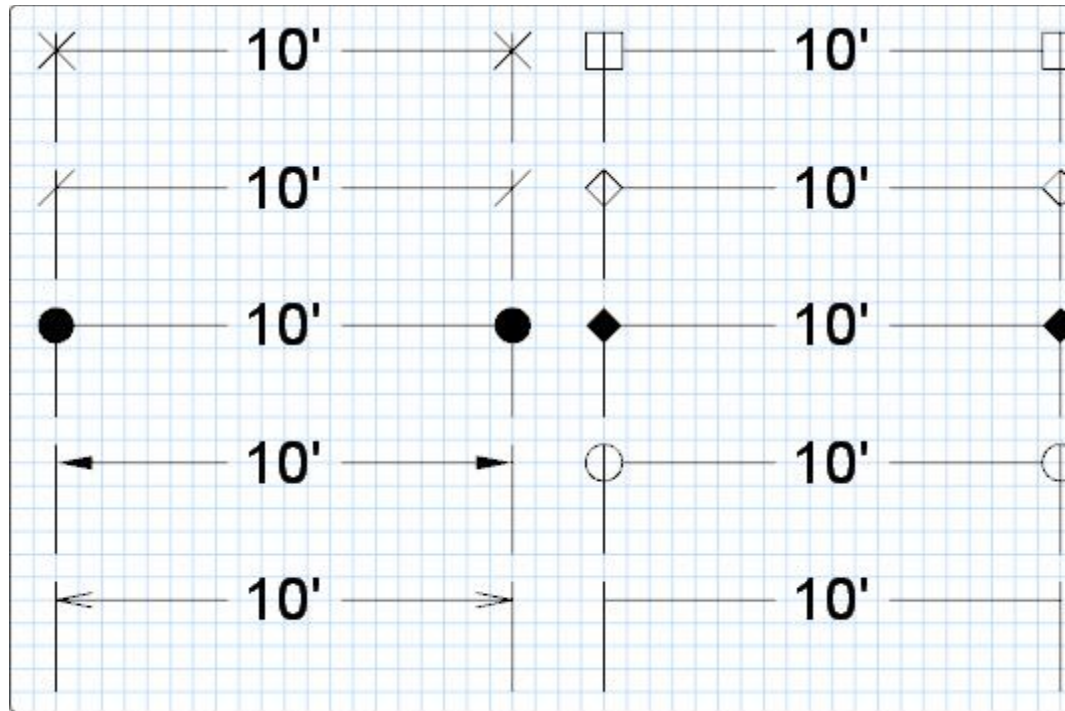


The Linear Dimension object can be used to display measurements on the Plan view. Like other Plan view objects, linear dimensions do not appear in the Perspective view or during Realtime Walkthroughs. If you wish to add dimensions that appear in both the Plan and Perspective views, see [Adding a 3D Dimension|topic=Adding a 3D Dimension](#).

To add a dimension to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Linear Dimension** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click an area of your landscape design to place the starting point of the dimension.
4. Click another area of your landscape design to place the ending point of the dimension. If you would like to input the distance and angle manually, place the starting point and then press the **Enter** key.
5. Move your mouse to raise or lower the dimension line, and then click the left mouse button.

The picture below illustrates some of the dimension styles that can be added to your landscape designs.



Tips:

1. Once the dimension is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail](#) for more information.

See also:

[Linear Dimension Properties|topic=Linear Dimension Properties](#)
[Adding Plan Detail](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Editing Points](#)
[Saving and Loading Shapes](#)

Linear Dimension Properties

The properties used to modify a Dimension object are located to the right of the screen when your dimension is selected. These properties can either be adjusted right before adding the dimension to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
---------	-------------

Arrow style	The Arrow style property determines what shape of arrow to use for the endpoints of the dimension. To change the arrow shape, click the Arrow style drop-down menu.
Arrow size	The Arrow size property determines how large both endpoint arrows are. To change the size of the arrows, move the Arrow size slider or enter a value in the text field.
Line Style	The Line Style property determines the appearance of the dimension line. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the dimension's endpoints. See Editing Points topic=Editing Points for details.

Text	Description
Text	<p>The Text property determines what appears within the dimension. By default, the dimension will only display the measurement, but additional text can be placed if needed. To change the text, click the small button that appears to the right of the current text.</p> <p>The symbols "<>" indicate where the measurement should be displayed. For example, if a 10 foot dimension was added to a landscape design, and the text was "Spa width - <>", then the text displayed in the dimension line would be "Spa width - 10".</p>
Units	Selects which units are used for displaying the measurement.
Font	The Font property determines style of lettering that the dimension will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Alignment	The Alignment property determines where the text is placed in relation to the dimension line. To change the alignment, click on the drop-down menu and select the text alignment you would like to use.
Offset	The Offset property determines the distance of the text from the center of the dimension. For example, an offset value of -100 will slide the text to the left of the line, and an offset value of 0 will center the text. To change the location of the text, move the Offset slider or enter a value in the text field.
Height	The Height property determines the size of each letter of text. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to top. The height will vary slightly based on the Font . To change

	the text height, move the Height slider or enter a value in the text field.
Color	The Color property determines the text color. To change the text color, click the small color swatch that displays the current color.

See also:

[Adding a Linear Dimension|topic=Adding a Linear Dimension](#)
 Adding Plan Detail
 Setting Object Properties
 Selecting Points
 Selecting Objects
 Editing Objects
 Saving and Loading Shapes

Adding a Radial Dimension

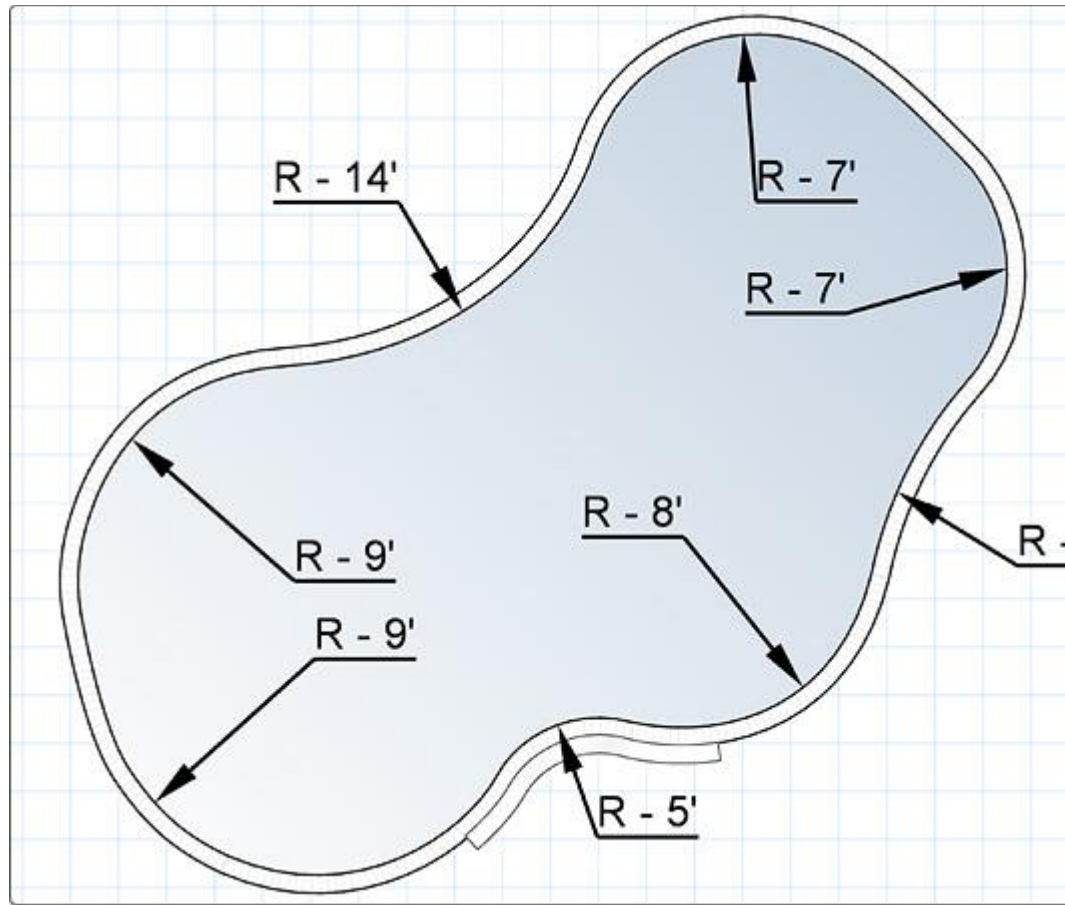


The Radial Dimension object is used to annotate a radius in the Plan view of your landscape design. Radial dimensions will not appear in the Perspective view.

To add a radial dimension to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Radial Dimension** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the outer edge of the radius you wish to annotate.
4. Click the center point of the radius. This step is skipped if you are measuring an existing shape that has a true radius.
5. Click on your landscape design where you wish the length of the radius to be displayed.

In the picture below, a pool plan uses radial dimensions to illustrate its layout.



Tips:

1. Once the radial dimension is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail](#) for more information.

See also:

[Radial Dimension Properties|topic=Radial Dimension Properties](#)
[Adding Plan Detail](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Editing Points](#)
[Saving and Loading Shapes](#)

Radial Dimension Properties

The properties used to modify a Radial Dimension object are located to the right of the screen when your dimension is selected. These properties can

either be adjusted right before adding the radial dimension to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Arrow style	The Arrow style property determines what shape of arrow to use for the endpoint of the radial dimension. To change the arrow shape, click the Arrow style drop-down menu.
Arrow size	The Arrow size property determines how large the endpoint arrow is. To change the size of the arrow, move the Arrow size slider or enter a value in the text field.
Show radius line	Use the Show Radius Line property to show or hide the line which extends from the center point to the radius point.
Show center mark	Use the Show Center Mark property to show or hide a small indicator at the center point.
Line Style	The Line Style property determines the appearance of the radial dimension line. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the radial dimension's endpoints. See Editing Points topic=Editing Points for details.

Text	Description
Text	<p>The Text property determines what appears within the radial dimension. By default, the dimension will only display the measurement, but additional text can be placed if needed. To change the text, click the small button that appears to the right of the current text.</p> <p>The symbols "<>" indicate where the measurement should be displayed. For example, if a 10 foot radial dimension was added to a landscape design, and the text was "Dimension - <>", then the text displayed would be "Dimension - 10".</p>
Units	Selects which units are used for displaying the measurement.
Font	The Font property determines style of lettering that the radial dimension will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Alignment	The Alignment property determines where the text is placed in relation to the radial dimension. To change the alignment, click on the drop-down menu and select the text alignment you would like to use.
Height	The Height property determines the size of each letter of text. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to

	top. The height will vary slightly based on the Font . To change the text height, move the Height slider or enter a value in the text field.
Color	The Color property determines the text color. To change the text color, click the small color swatch that displays the current color.

See also:

[Adding a Radial Dimension|topic=Adding a Radial Dimension](#)
 Adding Plan Detail
 Setting Object Properties
 Selecting Points
 Selecting Objects
 Editing Objects
 Saving and Loading Shapes

Adding Text



The Text object is used to place sections of text in the Plan view. Like other Plan view objects, the Text object does not appear in the Perspective view or during Realtime Walkthroughs. If you wish to add text that appears in both the Plan and Perspective views, see [Adding 3D Text|topic=Adding 3D Text](#).

To add text to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Text** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the area of your landscape design where you wish to place the text.
4. Type the text you would like to display and then click the **OK** button.

Tips:

1. For complex sections of text that include tables, variable fonts, and other detailed formatting, you can create the text in Microsoft Word or Excel and then add the document to your landscape design using the [Embedded Object tool|topic=Adding an Embedded Object](#).
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

Text Properties
 Adding Plan Detail
 Adding 3D Text
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Editing Points
 Saving and Loading Shapes

Text Properties

The properties used to modify a Text object are located to the right of the screen when your text is selected. These properties can either be adjusted right before adding the text to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Text	The Text property determines what text will be displayed. To change the text, click the small button that appears to the right of the current text.
Font	The Font property determines the style of lettering that the text will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Alignment	The Alignment property determines whether the text is centered, aligned left, or aligned right. To change the alignment, click on the drop-down menu and select the text alignment you would like to use. Note that text alignment is only noticeable when there is more than one line of text.
Height	The Height property determines the size of each letter of text. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to top. The height will vary slightly based on the Font . To change the text height, move the Height slider or enter a value in the text field.
Angle	The Angle property determines the rotation of the text in degrees. To change the text angle, move the Angle slider or enter a value in the text field.

Color	The Color property determines the text color. To change the text color, click the small color swatch that displays the current color.
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See also:

Adding Text
 Adding Plan Detail
 Setting Object Properties
 Selecting Objects
 Editing Objects

Adding a Label

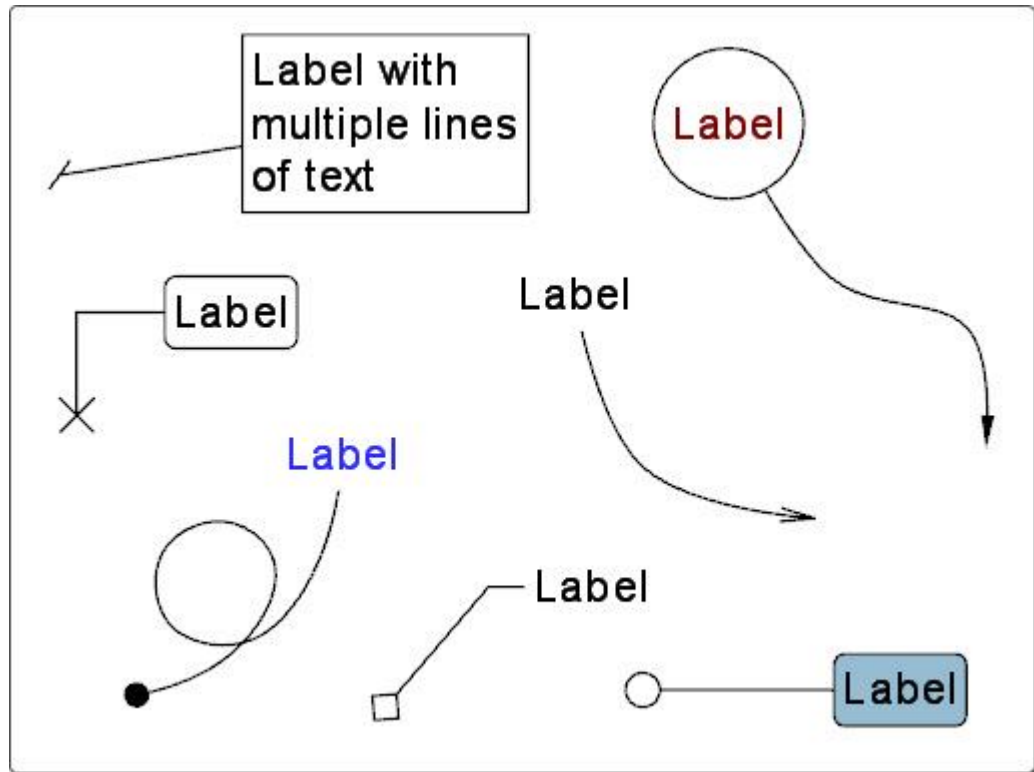


The Label object is used to add many different types of labels to your landscape designs. Labels are useful tools for calling out important information on the Plan view, as well as identifying which major landscaping objects are new or existing.

To add a label to the plan view:

1. Click the **Plan** tab to switch to the [Plan view](#)|topic=Plan View.
2. Click the **Add Label** button that is found near the top of the screen under the **Plan Detail** tab.
3. Draw the line that will connect the label to the object of importance by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
4. When finished drawing the label's line, click the right mouse button to add the final point.
5. Type the text you would like to display and then click the **OK** button.

The picture below illustrates some label styles that can be added to your landscape designs.



Tips:

1. For labels that include a 3D view of the landscape design, see [Adding a 3D Label|topic=Adding a 3D Label](#).
2. For labels that include a picture of a plant, see [Adding a Plant Label|topic=Adding a Plant Label](#).
3. Once the label is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
4. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

[Label Properties](#)
[Adding Plan Detail](#)
[Plant Label Wizard](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Editing Points](#)
[Saving and Loading Shapes](#)

Label Properties

The properties used to modify a Label object are located to the right of the screen when your label is selected. These properties can either be adjusted right before adding the label to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Arrow style	The Arrow style property determines what shape of arrow to use for the endpoint of the label. To change the arrow shape, click the Arrow style drop-down menu.
Arrow size	The Arrow size property determines how large the endpoint arrow is. To change the size of the arrow, move the Arrow size slider or enter a value in the text field.
Line Style	The Line Style property determines the appearance of the label's line. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the label's path. See Editing Points topic=Editing Points for details.

Text	Description
Text	The Text property determines what text will be displayed. To change the text, click the small button that appears to the right of the current text.
Font	The Font property determines style of lettering that the label will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Alignment	The Alignment property determines whether the label text is centered, aligned left, or aligned right. To change the alignment, click on the drop-down menu and select the text alignment you would like to use. Note that text alignment is only noticeable when there is more than one line of text.
Outline	The Outline property determines what type of border is applied to the label's text. To change the text border, click the Outline drop-down menu.
Height	The Height property determines the size of each letter of text. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to top. The height will vary slightly based on the Font . To change

	the text height, move the Height slider or enter a value in the text field.
Angle	The Angle property determines the rotation of the label text in degrees. To change the text angle, move the Angle slider or enter a value in the text field.
Color	The Color property determines the color of the label text. To change the text color, click the small color swatch that displays the current color.

Fill Style	Description
Color	The Color property determines the color of the label's background. To change the background color, click the small color swatch that displays the current color.
Transparency	The Transparency property determines the opacity of the label's background. To modify the visibility of the label's background, move the Transparency slider or type a value in the text field.

See also:

Adding a Label
 Adding Plan Detail
 Setting Object Properties
 Selecting Points
 Selecting Objects
 Editing Objects
 Saving and Loading Shapes

Adding a 3D Label



The 3D Label object is used to show a 3D viewpoint on the Plan view. They are useful when you want to call out aspects of the 3D design which would normally only be visible in the Perspective view.

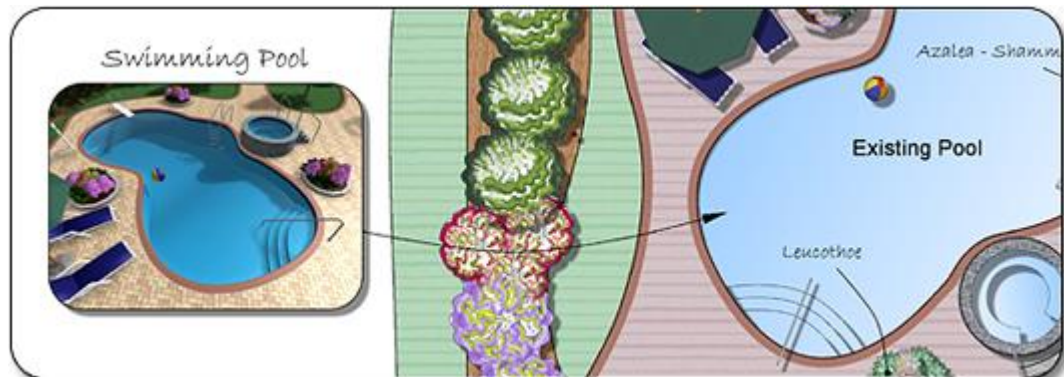
To add a 3D label to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add 3D Label** button that is found near the top of the screen under the **Plan Detail** tab.
3. Draw the line that will connect the 3D image to the viewpoint by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.

4. When finished drawing the label's line, click the right mouse button to add the final point.
5. Type the text you would like to display and then click the **OK** button.
6. Click the **Edit points** button, found in the [Properties|topic=Setting Object Properties](#), to enable point editing mode.
7. Click the point that appears over the small camera image and move it to the desired location. While moving this viewpoint, notice the preview that appears in the 3D label.
8. Adjust the camera angle, direction, and elevation as needed.
9. When finished, click the **Edit Points** button again to disable point editing mode.

Note: The 3D label will only display the viewpoint when the label is selected, and it will be a low quality preview. However, the quality will be much higher when printing the Plan view or saving a screen shot.

The picture below illustrates a 3D label that has been added to a landscape design.



Tips:

1. Once the 3D label is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

See also:

3D Label Properties
 Adding a Label
 Adding a Plant Label
 Adding Plan Detail
 Setting Object Properties
 Selecting Objects
 Selecting Points

3D Label Properties

The properties used to modify a 3D Label object are located to the right of the screen when your label is selected. These properties can either be adjusted right before adding the label to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Shape	The Shape property determines the shape of the 3D image that is displayed at the end of the label. To change the image shape, click the Shape drop-down menu.
Arrow style	The Arrow style property determines what shape of arrow to use for the endpoint of the 3D label. To change the arrow shape, click the Arrow style drop-down menu.
Arrow size	The Arrow size property determines how large the endpoint arrow is. To change the size of the arrow, move the Arrow size slider or enter a value in the text field.
Width	The Width property determines the size of the 3D image from left to right. To change the width, move the Width slider or enter a value in the text field.
Height	The Height property determines the size of the 3D image from top to bottom. To change the height, move the Width slider or enter a value in the text field.
Elevation	The Elevation property determines the distance of the 3D label's camera from the ground. To change the camera elevation, move the Elevation slider or type a value in the text field.
Direction	The Direction property determines the 3D label's camera direction (left/right angle). To change the lateral direction of the camera, move the Direction slider or enter a value in the text field.
Angle	The Angle property determines the 3D label's camera angle (up/down tilt). To change the vertical angle of the camera, move the Angle slider or enter a value in the text field.
Print Style	The Print Style property determines what type of effect is given to the 3D image. To change the 3D effect, click the Print Style drop-down menu. To view a preview of the 3D effect, click the Preview button.
Line Style	The Line Style... property determines the appearance of the 3D label's line. To change the line style, click the Line Style... button and select the style you wish to use from the dialog that appears.

Preview	Click the Preview button to view the 3D image as it will appear when the Plan view is printed or saved as an image.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the 3D label's path. See Editing Points topic=Editing Points for details.

Text	Description
Text	The Text property determines what text will be displayed. To change the text, click the small button that appears to the right of the current text.
Font	The Font property determines style of lettering that the label will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Alignment	The Alignment property determines whether the label text is centered, aligned left, or aligned right. To change the alignment, click on the drop-down menu and select the text alignment you would like to use. Note that text alignment is only noticeable when there is more than one line of text.
Height	The Height property determines the size of each letter of text. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to top. The height will vary slightly based on the Font . To change the text height, move the Height slider or enter a value in the text field.
Color	The Color property determines the color of the label text. To change the text color, click the small color swatch that displays the current color.

See also:

- Adding a 3D Label
- Adding Plan Detail
- Setting Object Properties
- Selecting Points
- Selecting Objects
- Editing Objects

Adding a Plant Label

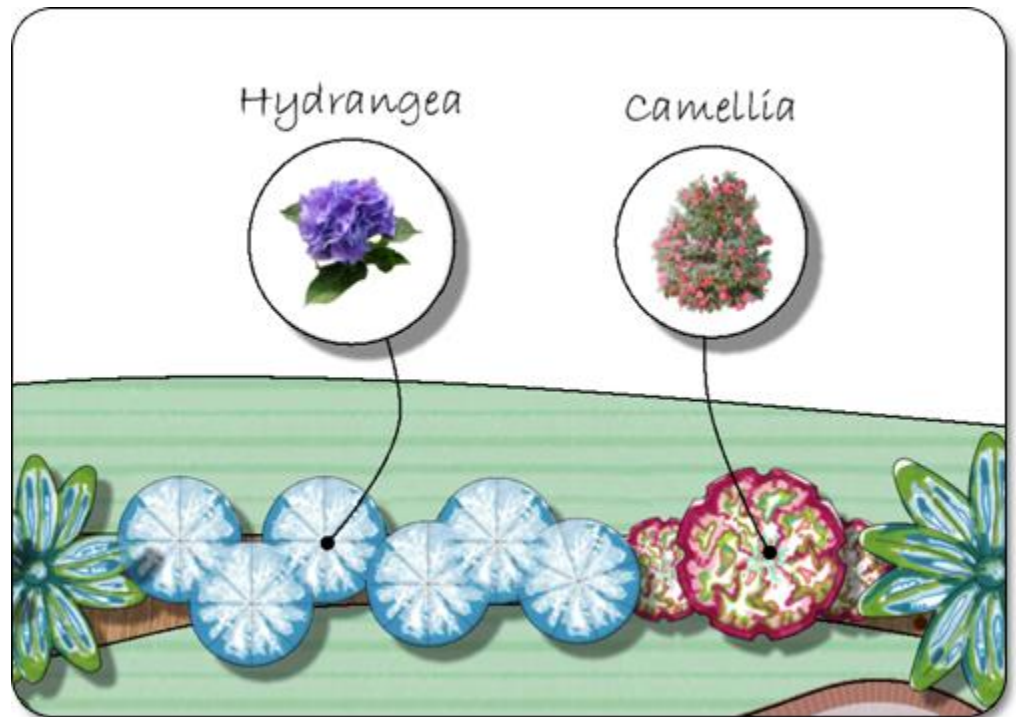


The Plant Label object functions similarly to the 3D Label object, but displays a plant image instead of a 3D image.

To add a Plant label to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Plant Label** button that is found near the top of the screen under the **Plan Detail** tab.
3. Draw the line that will connect the plant image to the plant by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
4. When finished drawing the label's line, click the right mouse button to add the final point.
5. Type the text you would like to display and then click the **OK** button.

The picture below illustrates a landscape design using two plant labels.



Tips:

1. To automatically label each plant or group of plants in your landscape design, use the [Plant Label Wizard|topic=Plant Label Wizard](#).
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.

- Once the plant label is added to your design it can be edited as needed. See [Editing Points|topic=Editing Points](#) for more information.

See also:

- Plant Label Properties
- Adding a Label
- Adding a 3D Label
- Adding Plan Detail
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Editing Points

Plant Label Properties

The properties used to modify a Plant Label object are located to the right of the screen when your label is selected. These properties can either be adjusted right before adding the label to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Plant	Description
Plant	The Plant property determines the type of plant that is shown. To change the plant, click the image that shows the current plant.
Plant options	The appearance of the plant can be modified by clicking the small button that appears to the right of the plants picture.
Size	The Size property determines how large the plant image is. To change the size of the plant image, move the Size slider or enter a value in the text field.
Angle	The Angle property determines the rotation of the plant image. To rotate the plant image, move the Angle slider or enter a value in the text field.

Options	Description
Outline	The Outline property determines the shape of the plant image background. To change the background shape, click the Outline drop-down menu.
Arrow style	The Arrow style property determines what shape of arrow to use for the endpoint of the plant label. To change the arrow shape, click the Arrow style drop-down menu.
Arrow size	The Arrow size property determines how large the endpoint arrow is. To change the size of the arrow, move the Arrow size slider or enter a value in the text field.

Line Style	The Line Style property determines the appearance of the plant label's line. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the plant label's path. See Editing Points topic=Editing Points for details.

Text	Description
Text	The Text property determines what text will be displayed. To change the text, click the small button that appears to the right of the current text.
Font	The Font property determines style of lettering that the label will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Alignment	The Alignment property determines where the text is placed relative to the plant image. To change the alignment, click on the drop-down menu and select the text alignment you would like to use.
Height	The Height property determines the size of each letter of text. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to top. The height will vary slightly based on the Font . To change the text height, move the Height slider or enter a value in the text field.
Color	The Color property determines the color of the label text. To change the text color, click the small color swatch that displays the current color.

Fill Style	Description
Color	The Fill Color property determines the color of the plant image background. To change the background color, click the small color swatch that displays the current color.
Transparency	The Transparency property determines the opacity of the plant image background. To change the background opacity, move the Transparency slider or type a value in the text field.

See also:

Adding a Plant Label
 Adding Plan Detail

Setting Object Properties
 Selecting Points
 Selecting Objects
 Editing Objects

Adding a Plant Legend



The Plant Legend object is used to add an automatic plant legend to the Plan view of your landscape design. Plant legends add important plant information to plans, and can save hours of work on complex designs.

Plant legends automatically update as plants are added or removed from your landscape design.












The plant legend will only reflect plants that have been added to your landscape design using the [Add Plant tool|topic=Adding a Plant](#), the [Plant Row tool|topic=Adding a Plant Row](#), and the [Plant Fill tool|topic=Adding a Plant Fill](#). If a plant symbol is added using the Symbol object, then the plant will not appear on the plant legend; the Plant object should be used instead.

Plants will appear on the plant legend even if they are hidden or reside within a hidden layer.

To add a plant legend to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Plant Legend** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click on your landscape design where you wish to place the plant legend.

The picture below illustrates a sample plant legend.

Plant Legend			
Symbol	Qty	Common	Botanical
	19	Azalea - Yellow Flame	Rhododendron 'Yellow Flame'
	36	Leucothoe	Leucothoe Fontanesiana
	29	Nandina	Nandina Domestica
	6	Rhododendron - Catawba	Rhododendron Catawbiense
	18	Azalea - Shammarello	Rhododendron 'Shammarello'
	14	Azalea - Shammarello	Rhododendron 'Shammarello'
	7	Atlas Cedar	Cedrus libani atlantica
	25	Sugar Maple	Acer Saccharum
	1	Tropical Hibiscus	Hibiscus rosa-sinensis
	66	Azalea - Balzac	Rhododendron 'Balzac'
	95	Azalea - Knap Hill Exbury	Rhododendron 'Knap Hill Exbu

Customizing the Plant Legend

You can customize which columns appear in the plant legend and also the order in which they appear. You can also override the default names of the column headers.

To show, hide, and rearrange columns:

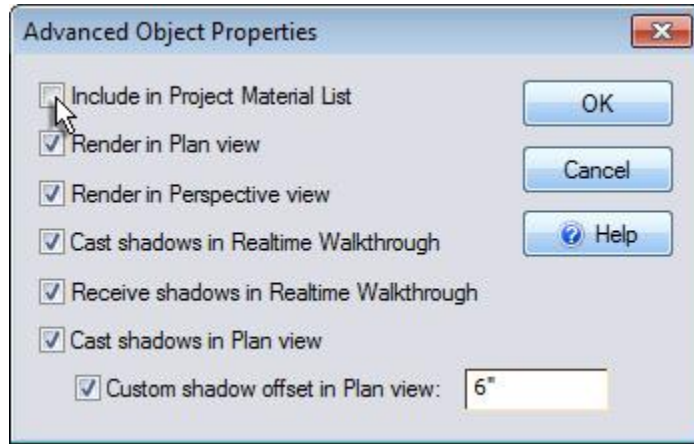
1. Click the plant legend to select it.
2. Using the **Current Column** property, select which the column you want to change.
3. To show or hide the column, click the **Enabled** property.
4. To customize the column label, type a new label in the **Label** property.
5. To adjust the position of the column within the plant legend, click the **Move Up** and **Move Down** buttons.

Preventing Plants from Appearing in the Plant Legend

Certain plants can be prevented from appearing in the plant legend by using the *Advanced Object Properties*, explained below. For example, if you only want new plants to appear on the plant legend, then the existing plants could be excluded.

To prevent plants from appearing in the plant legend:

1. Select the plants in the landscape design that should not be included in the plant legend. See [Selecting Objects|topic=Selecting Objects](#) for details.
2. Click **Edit** and **Advanced Object Properties**.
3. Click the **Include in Project Material List** option to uncheck it, and then click the **OK** button.



Important: Excluding plants from the project material list will cause them to be excluded from both the plant legend and the [Project Material List|topic=Creating a Project Material List](#).

Tips:

1. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.
2. To automatically label each plant or group of plants in your landscape design, use the [Plant Label Wizard|topic=Plant Label Wizard](#).
3. Because the plant legend is dynamic and automatic, it can not be fully customized. However, you can export it to Excel, make the desired changes, and add the resulting spreadsheet to your landscape design using the [Embedded Object tool|topic=Adding an Embedded Object](#). Of course, using this method you will need to manually update the spreadsheet with any future plant changes. To save time, we recommend postponing this step until after your plant selections have been finalized.

See also:

Plant Legend Properties
 Adding Plan Detail
 Setting Object Properties
 Selecting Objects
 Editing Objects

Plant Legend Properties

The properties used to modify a Plant Legend object are located to the right of the screen when your legend is selected. These properties can either be adjusted right before adding the plant legend to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Columns	Description
Current column	The Current column property determines which column will be affected when you change the other properties in the Columns group.
Enabled	The Enabled property determines if the current column is enabled.
Label	The Label property is the column's label. You can override the default label by typing in a new one if desired.
Move Up, Move Down	The Move Up and Move Down buttons adjust the position of the current column.

Options	Description
Columns	The Columns property determines how many vertical columns the plant legend should display. To change the amount of columns, move the Columns slider or enter a value in the text field.
Symbol scale	The Symbol scale property determines the size of the symbols that are added to the plant legend. To change the symbol size, move the Symbol scale slider or enter a value in the text field. This property will not be available unless the Add symbol property is checked.
Sort by	The Sort by property determines the order in which the plants in the plant legend are listed. To change the ordering priority of the plant legend, click the Sort by drop-down menu.
Line Style	The Line Style property determines the appearance of the plant legend's outer edges and divider lines. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Export to Excel	The Export to Excel property is used to save the currently selected plant legend as an "XLS" spreadsheet

	<p>file. To export the plant legend, click the Export to Excel button.</p> <p>Note: You can edit the plant legend in Excel and add the resulting spreadsheet to your landscape design using the Embedded Object tool topic=Adding an Embedded Object. However, any future plant changes will not be automatically updated, so you will need to update the spreadsheet manually from that point on.</p>
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Title	Description
Text	The Text property determines the text that appears in the top bar of the plant legend. To change the text, click the small button that appears to the right of the current text. To eliminate the top bar of the plant legend, simply delete the title text.
Font	The Font property determines the style of lettering that the title text will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Text color	The Text color property determines the color of the title text. To change the text color, click the small color swatch that displays the current color.
Background color	The Background color property determines the color of the top bar of the plant legend. To change the background color, click the small color swatch that displays the current color.

Header	Description
Font	The Font property determines the style of lettering that each column header will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the column header text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Text color	The Text color property determines the color of the column header text. To change the text color, click the small color swatch that displays the current color.

Background color	The Background color property determines the color of the column headers. To change the background color, click the small color swatch that displays the current color.
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Body	Description
Font	The Font property determines the style of lettering that the plant legend body will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Text color	The Text color property determines the color of the plant legend body text. To change the text color, click the small color swatch that displays the current color.
Background color	The Background color property determines the color of the plant legend body text. To change the background color, click the small color swatch that displays the current color.

See also:

- Adding a Plant Legend
- Adding Plan Detail
- Setting Object Properties
- Selecting Objects
- Editing Objects

Adding an Embedded Object



The Embedded Object tool is used to add external files from other programs directly into the Plan view of your landscape designs. Some supported documents include Visio drawings, Excel spreadsheets, Microsoft Word documents, and even AutoCAD drawings.

To add a new embedded object to the plan view:

1. Click the **Plan** tab to switch to the [Plan view](#)|topic=Plan View.
2. Click the **Add Embedded Object** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the **Create New** button and then select the desired object type from the list.

4. Click the **OK** button.
5. The program associated with the chosen object type will now open. Create the object within this program, and click **File** to return to your landscape design.
6. Click on your landscape design where you wish to place the embedded object.

To add an existing embedded object to the plan view:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Click the **Add Embedded Object** button that is found near the top of the screen under the **Plan Detail** tab.
3. Click the **Create from File** button, click the **Browse** button, and then open the file you would like to add. To connect the file to the embedded version, click the **Link** checkbox. Leave the Link option unchecked to copy the file to the landscape design without maintaining a connection to the original file.
4. Click the **OK** button.
5. Click on your landscape design where you wish to place the embedded object.

The picture below illustrates a spreadsheet created and seen in Microsoft Excel.

Project Proposal		
Item	Cost	Date
<i>New patio (installed)</i>	<i>\$2,400</i>	<i>20-Apr</i>
<i>Remove old grass</i>	<i>\$600</i>	<i>20-Apr</i>
<i>New grass (installed)</i>	<i>\$1,800</i>	<i>24-Apr</i>
<i>New side edging</i>	<i>\$600</i>	<i>26-Apr</i>
<i>Refinish swimming pool (Pebble Tec)</i>	<i>\$3,600</i>	<i>5-May</i>
<i>Front landscaping (installed)</i>	<i>\$1,600</i>	<i>12-May</i>
<i>Back landscaping (installed)</i>	<i>\$2,700</i>	<i>22-May</i>
<i>New Deck (installed)</i>	<i>\$6,800</i>	<i>10-May</i>
Total Estimated Cost	\$20,100	

The picture below illustrates the spreadsheet shown above after being added to a landscape design using the Embedded Object tool.

Project Proposal		
Item	Cost	Date
<i>New patio (installed)</i>	\$2,400	20-Apr
<i>Remove old grass</i>	\$600	20-Apr
<i>New grass (installed)</i>	\$1,800	24-Apr
<i>New side edging</i>	\$600	26-Apr
<i>Refinish swimming pool (Pebble Tec)</i>	\$3,600	5-May
<i>Front landscaping (installed)</i>	\$1,600	12-May
<i>Back landscaping (installed)</i>	\$2,700	22-May
<i>New Deck (installed)</i>	\$6,800	10-May
Total Estimated Cost	\$20,100	

Edit vs. Open

Two buttons are available for editing embedded objects: **Edit** and **Open**.

Clicking the **Edit** button will enable you to edit the embedded object directly within DATAflor GRÜNSTUDIO 3D. This in-place editing is only available if supported by the program that originally created the embedded object. For example, clicking the Edit button would enable you to edit an embedded Excel spreadsheet without leaving DATAflor GRÜNSTUDIO 3D.

Clicking the **Open** button will open the embedded object within the program used to create it. For example, clicking Open to edit an embedded Word document will open Microsoft Word in a separate window.

To edit an embedded object in-place:

1. Click the embedded object in your landscape design to select it.
2. Click the **Edit** button, found in the [Properties|topic=Setting Object Properties](#).
3. Edit the embedded object as desired. The editing options are determined by the type of object and the program that was used to create it.
4. When finished, press the **Esc** key or click a different area of your landscape design.

To open an embedded object:

1. Click the embedded object in your landscape design to select it.
2. Click the **Open** button, found in the [Properties|topic=Setting Object Properties](#).
3. Edit the embedded object as desired. The editing options are determined by the type of object and the program that was used to create it.
4. When finished, click the **File** menu and choose the option to close the document and return to DATAflor GRÜNSTUDIO 3D.

Tips:

1. Embedded objects may appear blurry at times within the Plan view because a lower detail preview is used for better performance. When printing or creating screen shots, the embedded objects will be shown in full detail.
2. All plan detail objects can only be added and viewed in the Plan view, unlike other objects that are compatible with all views. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.
3. Click **Edit** and **Embedded Object Links** to edit objects that have been added using the Link option.

See also:

[Embedded Object Properties](#)
[Adding Plan Detail](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Editing Objects](#)

Embedded Object Properties

The properties used to modify an embedded object are located to the right of the screen when your object is selected. Only some of these properties can be adjusted right before adding the embedded object to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Width	The Width property determines the size of the embedded object from left to right. To adjust the object width, move the Width slider or type a value in the text field.
Height	The Height property determines the size of the embedded object from top to bottom. To adjust the object height, move the Height slider or type a value in the text field.

Angle	The Angle property determines the rotation of the embedded object in degrees. To change the object angle, move the Angle slider or enter a value in the text field.
Transparency	The Transparency property determines the opacity of the embedded object. To change the object opacity, move the Transparency slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the embedded object is stretched or not when you adjust the width or height. If you wish to simply enlarge the object, then keep the Scale evenly option checked. If you wish to stretch the object in any direction, then uncheck the Scale evenly option.
Transparent background	The Transparent background property determines if the white portions of the embedded object are made transparent. For example, the background of a text document is typically white, and could be eliminated entirely. To delete the white background of an embedded object, click the Transparent background checkbox.
Line Style	The Line Style property determines the appearance of the embedded object's boundary box. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit...	Click the Edit button to edit the embedded object in place. Note: If the program used to originally create the embedded object does not support in-place editing, then the program will be opened in a separate window.
Open...	Click the Open button to edit the embedded object in a separate window using the program that the object is associated with.

See also:

- Adding an Embedded Object
- Adding Plan Detail
- Setting Object Properties
- Selecting Objects
- Editing Objects

Swimming Pool Objects

Adding a Swimming Pool



Powerful support for swimming pools is included in DATAflor GRÜNSTUDIO 3D. Both above-ground and below-ground swimming pools of any shape and size can be designed. Water features, such as waterfalls, fountains, and jumping jets, can be seamlessly integrated with any swimming pool design. Swimming pools can be designed from the ground up, or a pre-built pool can be added to your landscape design and used as a starting point.

Spas are also strongly supported in DATAflor GRÜNSTUDIO 3D. Spas may be added in or around a swimming pool, attached to the pool or added as a standalone object. Spas may be above-ground or below-ground, and can be given spillways to flow into swimming pools or other spas. The Swimming Pool object is used to create both swimming pools and spas.

Pool decking can be added to provide a flat foundation for swimming pools and spas, and to extend the poolside area. Diving boards, waterslides, and more can be added to the pool decking to enhance your swimming pool design.

To add a swimming pool:

1. Click the **Add Swimming Pool** button that is found near the top of the screen under the **Swimming Pool** tab.
2. Draw the outline of the swimming pool by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the swimming pool, place the last point on top of the first point. Alternately, right-click to place the last point.

The picture below illustrates a swimming pool that was added to a backyard landscape design.



Editing Coping

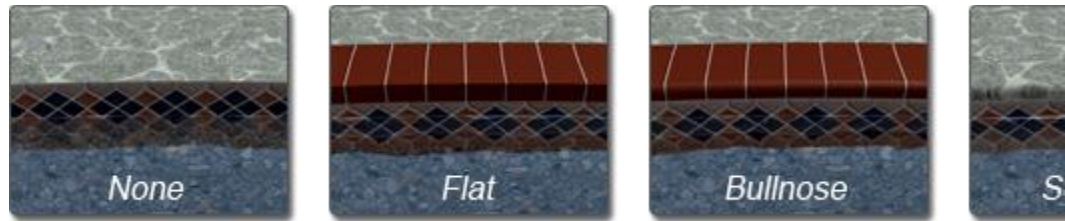
Swimming pools and spas both support realistic coping. Coping is added to every swimming pool and spa by default, but can be turned off per edge or disabled entirely.

To turn the coping on or off per-edge:

1. Click the swimming pool or spa you would like to edit in order to select it.
2. Click the **Edit coping** button, found in the [properties|topic=Setting Object Properties](#), to enable edit coping mode.
3. Click the pool or spa edges where you wish to toggle the coping.
4. When finished, click the **Edit Coping** button again to disable edit coping mode.

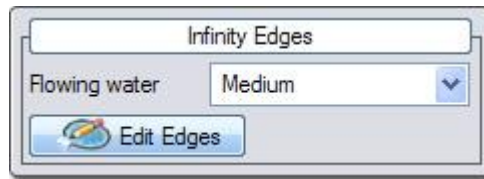
Coping Styles

Many different coping materials are available, and four different coping styles can be chosen from.

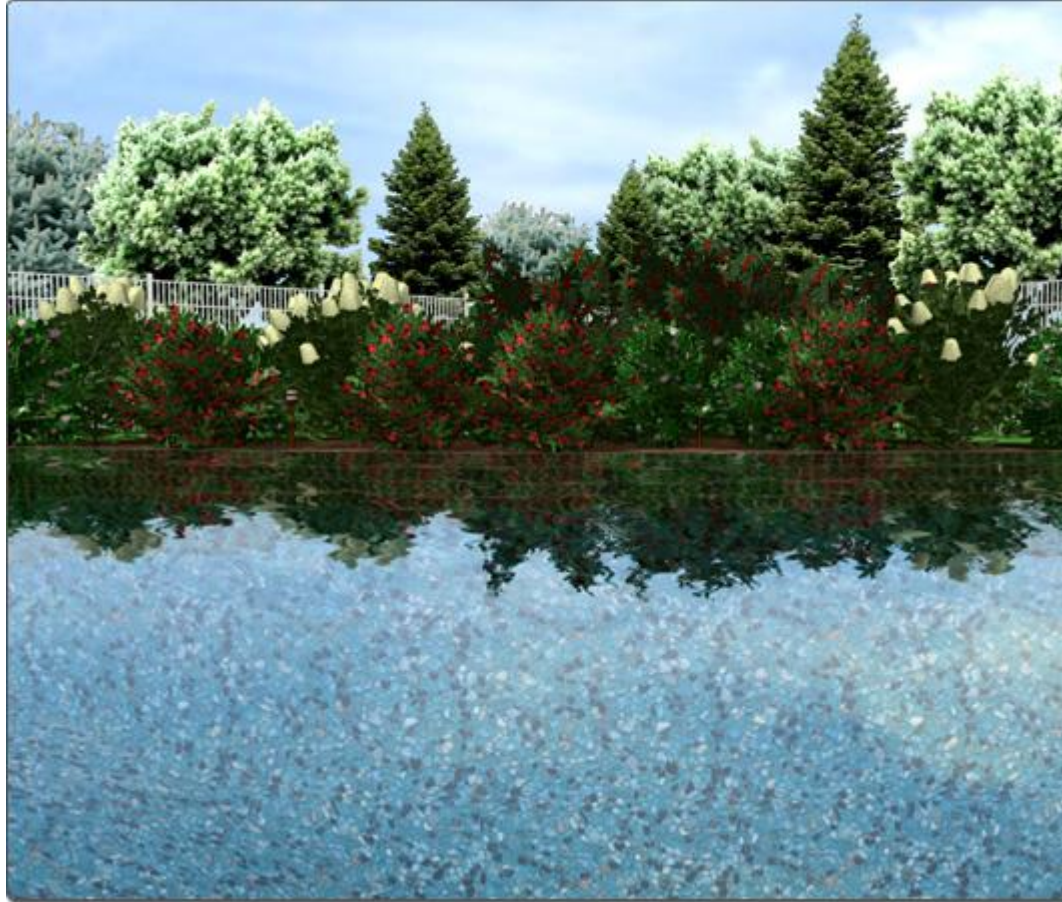


1. **None:** A coping style of *None* will produce a sharp edge between the pool decking and the swimming pool wall.
2. **Flat:** A coping style of *Flat* provides flat coping tiles.
3. **Bullnose:** A coping style of *Bullnose* provides rounded coping. Bullnose is the default style for swimming pools and spas.
4. **Seamless:** A coping style of *Seamless* will produce a rounded transition between the pool decking and the swimming pool wall.

Creating Infinity Edges



Infinity edges, also called “invisible edges” or “negative edges”, are areas in which the water freely flows over the pool wall into a basin, spa, or another pool. Infinity edges can add a dramatic and visually appealing effect to your pool designs.

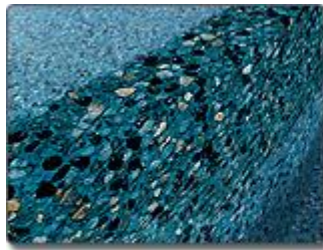


To create infinity edges:

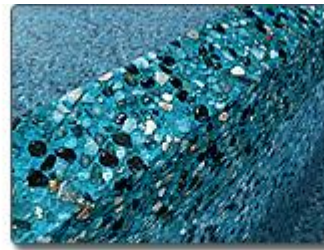
1. Click a swimming pool in your landscape design to select it.
2. If needed, insert points surrounding the section where you want the infinity edge to appear.
3. Expand the **Infinity Edges** property that is found to the right of the screen and then click the **Edit Edges** button.
4. Click an edge of your swimming pool that you would like to transform to an infinity edge. Click the same edge multiple times to cycle through the available types of edges.
5. Click the **Edit Edges** button again when finished.

Infinity Edge Styles

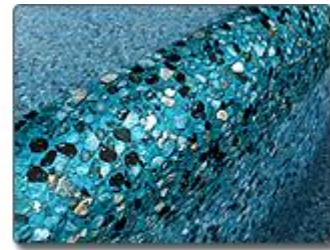
Three different infinity edge styles can be chosen from.



Flat



Slanted



Curved

1. **Flat:** An infinity edge style of *Flat* will create a flat surface for water to flow over.
2. **Slanted:** An infinity edge style of *Slanted* will create a downward tilted surface for flowing water.
3. **Curved:** An infinity edge style of *Curved* will create a smooth rounded surface for water to flow over.

Creating Spas and Hot Tubs

Spas and hot tubs are also created using the *Swimming Pool* object, and can be designed in any shape and size needed. Hot tubs can be added inside or outside swimming pools, and can even intersect swimming pools if needed.

To create a spa:

1. Click the **Add Swimming Pool** button that is found near the top of the screen under the **Swimming Pool** tab.
2. Draw the outline of the spa by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the spa, place the last point on top of the first point. Alternately, right-click to place the last point.
4. If needed, move the spa into position; it can be placed in anywhere in your landscape design. For details, see [Moving Objects|topic=Moving Objects](#).
5. Optionally set the **Water effects** property to the desired effect, including ripples, turbulent water, and steam.

One popular spa design includes a spa that flows into a swimming pool from an infinity edge.

To add an infinity edge spillway to your spa:

1. Click a spa in your landscape design to select it.
2. If needed, insert points surrounding the section where you want the spillway to appear.
3. Expand the **Infinity Edges** property that is found to the right of the screen and then click the **Edit Edges** button.

4. Click an edge of your spa that you would like to transform to an infinity edge. Click the same edge multiple times to cycle through the available types of edges.
5. Click the **Edit Edges** button again when finished.

During Realtime Walkthroughs, realistic flowing water will cascade over the infinity edges depending on the **Flowing Water** setting.

The picture below illustrates a swimming pool design that uses infinity edges to allow water to flow from the spa into the swimming pool.



Setting Depths

Swimming pools can be set to one consistent depth or to multiple different depths.

To set the depth for the entire swimming pool:

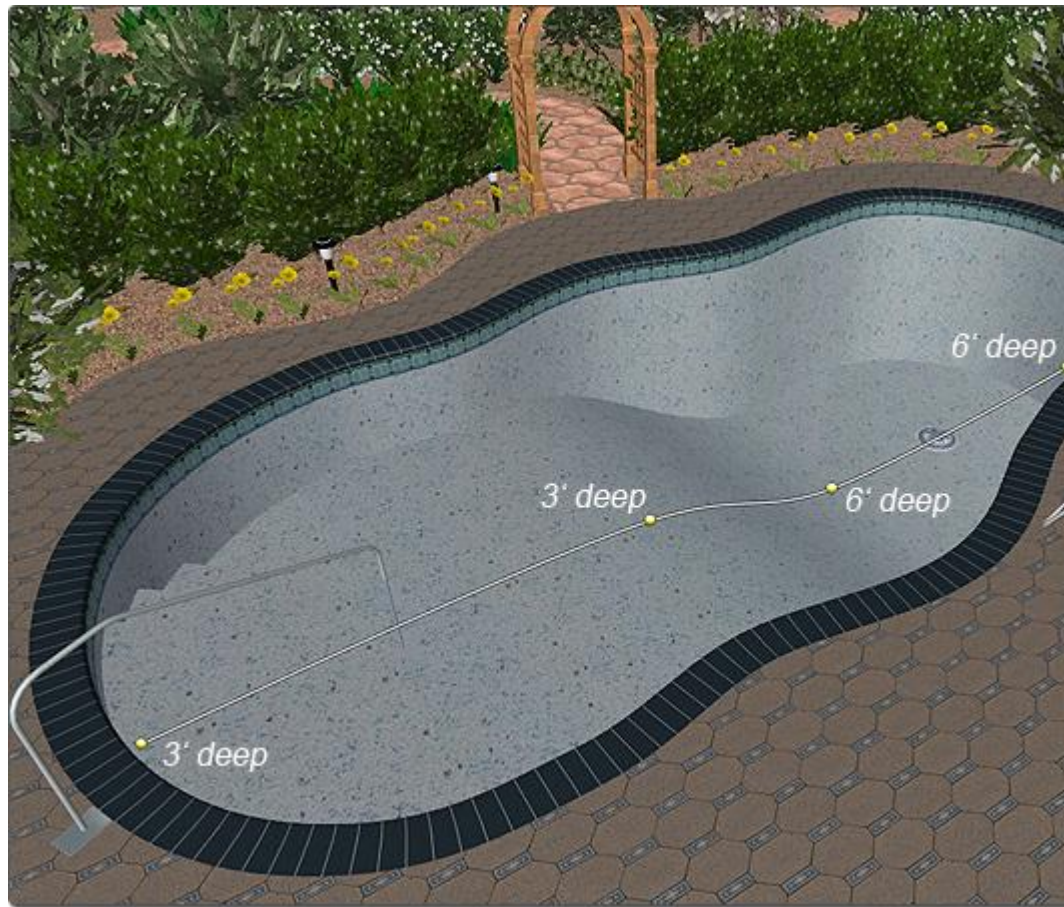
1. Click the swimming pool or spa you wish to modify in order to select it.
4. Adjust the **Depth** property as needed. See [Property Types|topic=Property Types](#) for details.

The depth of a swimming pool can vary along the length of the pool by adjusting the *depth line*. This line can consist of two or more points, and can be curved or straight.

To set the depth at different points:

1. Click the swimming pool or spa you wish to modify in order to select it.
2. Click the **Edit Depth** button, found in the object's [properties|topic=Setting Object Properties](#), to enable depth editing mode.
3. Click the point you wish to change in order to select it.
4. Adjust the **Depth** property to raise or lower the water depth at the selected point.
5. When finished, click the **Edit Depth** button again to disable depth editing mode.

The picture below illustrates a swimming pool design with variable depths.



Adding Water Features

Several of the water features found in DATAflor GRÜNSTUDIO 3D can integrate with swimming pools and spas. Available water features include waterfalls, fountains, and jumping jets.

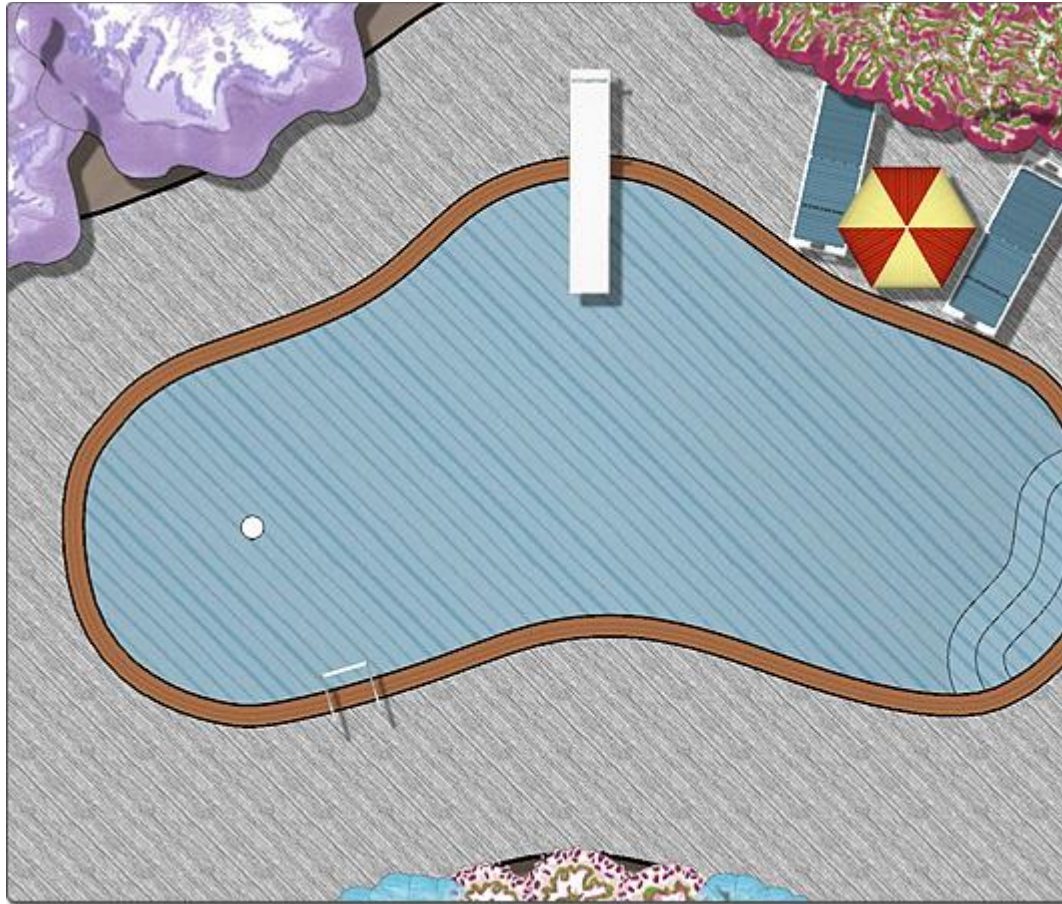
The picture below illustrates a swimming pool design that includes a natural waterfall.



Customizing the Plan View

Swimming pools and spas support a customized appearance in each view. For example, the swimming pool could be modified to look stylized in the Plan view (as shown below), and realistic in the Perspective view. To achieve this, check the **Custom appearance in each view** option. Two tabs will appear: Plan and Perspective. These tabs allow you to customize the appearance of the swimming pool or spa in each view.

The picture below displays a swimming pool design shown in the Plan view. A variety of colored pencil and marker materials are used to enhance the swimming pool plan.



Tips:

1. *Important:* Swimming pools can represent a safety hazard if proper care is not taken. Please check your local building codes and recommended safety standards before constructing a swimming pool or spa.
2. Swimming pools can be added in the [Plan view|topic=Plan View](#) or the [Perspective view|topic=Perspective View](#), but are easiest to add in the Plan view.
3. For details on adding water features to your swimming pool design, see [Adding a Waterfall|topic=Adding a Waterfall](#) and [Adding a Fountain|topic=Adding a Fountain](#).
4. To add a pre-built swimming pool design to your landscape, see [Swimming Pool Wizard|topic=Swimming Pool Wizard](#).
5. The shapes of your swimming pools and spas can be easily customized by moving, adding, and deleting the points that compose a pool or a spa's shape. For details, see [Editing Points|topic=Editing Points](#).
6. Using the grid snap feature can make adding an accurate swimming pool or spa very easy. See [Snap Settings|topic=Snap Settings](#) for more details.

See also:

- Swimming Pool Properties
- Swimming Pool Wizard
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Adding Pool Decking
- Adding Pool Stairs
- Adding a Pool Seat
- Adding a Pool Wall
- Adding a Pool Light
- Adding a Pool Accessory
- Adding a Fountain
- Adding a Waterfall
- Realtime Walkthrough
- Saving and Loading Shapes

Swimming Pool Properties

The properties used to modify a Swimming Pool object are located to the right of the screen when your pool is selected. These properties can either be adjusted right before adding the pool to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Finish	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the swimming pool will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the pool will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the swimming pool finish in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the swimming pool finish in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of finish the swimming pool will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the swimming pool can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the finish material.

Angle	The Angle property determines the rotation angle of the finish material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the finish material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the finish material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the finish material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the swimming pool in the Plan view. To change the pool opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the swimming pool in the Plan view. To change the line style, click the Line Style... button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Height	<p>The Height property determines how tall the swimming pool will be. To adjust the swimming pool height, move the Height slider or type a value into the text field.</p> <p>If the swimming pool is completely surrounded by a Pool Decking object, then it is recommended to raise both the pool and the decking at once by adjusting the Height value of the pool decking.</p>
Wall width	The Wall width property determines the thickness of the swimming pool walls. The width of the walls also affects the length of the coping. To adjust the swimming pool wall

	thickness, move the Wall width slider or type a value in the text field.
Transparency	<p>The Transparency property determines the opacity of the water. To change the water opacity, move the Transparency slider or enter a value in the text field. Set the transparency to 100 to remove the water, and set it to 100 for highly reflective water.</p> <p><i>Note: Water does not appear in the Plan view.</i></p>
Water tint	<p>The Water tint property determines the color of the water. To adjust the water tint, click the small color swatch that displays the current color. To disable water tinting, set the color to white. To darken the water without tinting, set the color to gray or black.</p>
Water effect	<p>The Water effect property determines how the water will appear during a Realtime Walkthrough. Water can be calm, have small ripples, or even include foam and steam (useful for creating spas and hot tubs).</p> <p>For water effects to be enabled, the Improved water quality property must be checked, and you must have a 3D video card which is capable of these effects.</p> <p>Water ripples will also occur automatically when water flows into the pool from another source such as a waterfall.</p>
Brighten water at night	<p>The Brighten water at night property determines if the water should be artificially lightened during Realtime Walkthroughs when the Time of day topic=Setting the Time of Day is set to Sunrise, Sunset, or Evening. To toggle swimming pool lightening, click the Brighten water at night checkbox.</p> <p>The Improved water quality property must be checked before the water can be brightened at night.</p>
Improved water quality	<p>The Improved water quality property determines if standard or improved water should be used during Realtime Walkthroughs. Improved water generates realistic reflections and refractions, but can cause older computers to run slower. To toggle the water quality, click the Improved water quality checkbox.</p>
Edit points	<p>Click the Edit points button to enable or disable point editing mode, which will allow you to modify the swimming pool's shape. See Editing Points topic=Editing Points for details.</p>
Shape options	<p>Click the Shape Options button to save the shape of the swimming pool, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes.</p>

Wall Material	Description
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Material	The Material property determines what type of surface the swimming pool walls will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the swimming pool wall material can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the wall material.
Angle	The Angle property determines the rotation angle of the wall material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the wall material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the wall material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the wall material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

<i>Coping</i>	<i>Description</i>
Custom appearance in each view	The Custom appearance in each view option determines whether the swimming pool coping will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the pool coping will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the swimming pool coping in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the swimming pool coping in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.

Material	The Material property determines what type of surface the swimming pool coping will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the swimming pool coping can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the coping material.
Angle	The Angle property determines the rotation angle of the coping material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the coping material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the coping material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the coping material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the swimming pool coping in the Plan view. To change the coping opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line Style	The Line Style property determines the appearance of the outline of the swimming pool coping in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.
Coping type	The Coping type property determines which style of coping is placed around the perimeter of the swimming pool. To change the style of coping, click the Coping type drop-down menu and select the style you would like to use.

Height	The Height property determines how tall the coping is. To adjust the coping height, move the Height slider or type a value in the text field.
Overhang	The Overhang property determines how far into the pool the coping extends. To adjust the coping extension, move the Overhang slider or type a value in the text field.
Edit coping	Click the Edit coping button to enable or disable coping editing mode, which will allow you to modify the visibility of coping at each swimming pool edge. When coping editing mode is enabled, click the edges of your swimming pool that you wish to toggle. Note that the Edit coping property will be disabled if the Style property is set to <i>None</i> or <i>Seamless</i> .

Infinity Edges	Description
Use same material as wall	The Use same material as wall property determines whether the wall below the infinity edge and the material of the edge itself will use the same material as the pool's walls. To toggle the infinity edge wall material, click the Use same material as wall checkbox.
Use material for entire surface	The Use material for entire surface property determines whether the separate material for the infinity edge applies only to the edge itself, or to the wall below the infinity edge as well. To toggle the material of the infinity edge, click the Use material for entire surface checkbox.
Material	The Material property determines the type of surface that is applied to the infinity edge. To change the material, click the small image that displays the current material.
Material options	The appearance of the infinity edge material can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the edge material.
Angle	The Angle property determines the rotation angle of the edge material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the edge material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the edge material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following

	options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the edge material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Flowing water	The Flowing water property determines the rate of water that cascades over all infinity edges on the currently selected swimming pool. To change the rate of flow, click the Flowing water drop-down menu.
Edit Edges	The Edit Edges property is used to enable infinity edge editing mode. While this mode is active, click an edge of the swimming pool to toggle the infinity edge style. Click the same edge multiple times to toggle through the available infinity edge styles topic=Adding a Swimming Pool . To enable or disable edge editing mode, click the Edit Edges button.

Tile	Description
Add tile	The Add Tile property determines whether or not tile is added to the swimming pool walls. To toggle the tile, click the Add Tile checkbox.
Material	The Material property determines what type of swimming pool tile is used. To change the material, click the small image that displays the current tile.
Material options	The appearance of the swimming pool tile can be modified by clicking the small button that appears to the right of the material image.
Angle	The Angle property determines the rotation angle of the tile material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the tile material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the tile material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the tile material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Tile size	The Tile size property determines the size of each tile. Note that the Tile size slider has no effect on solid color materials. To change the size of the swimming pool tile, move the Tile size slider or type a value in the text field.

Depth	Description
Edit depths	Click the Edit depths button to enable or disable depth editing mode, which will allow you to modify the pool's depth along a line. See Editing Points topic=Editing Points for details.
Depth	The Depth property determines how deep the entire swimming pool is. Alternately, if depth editing mode is enabled and one or more depth points are selected, then the Depth slider can be moved to raise or lower individual points.

Information	Description
Water area	The Water area property displays the water surface area in square feet or meters. Overlapping pool decking and swimming pools are excluded. When this value is calculated, a blue shape appears to help you visualize how the area is determined.
Water perimeter	The Water perimeter property displays the total distance around the swimming pool water in feet or meters. Overlapping pool decking and swimming pools are excluded. When this value is calculated, a yellow line appears to help you visualize how the perimeter is determined.
Water volume	The Water volume property displays the amount of water in cubic feet and gallons, or in cubic meters and liters.
Finish	The Finish property displays the area of the swimming pool interior in square feet or meters.
Coping	The Coping property displays the area of the swimming pool coping in square feet or meters.
Tile	The Tile property displays the area of the swimming pool tile in square feet or meters.
Calculate	Click the Calculate button to calculate the above values.

See also:

- Adding a Swimming Pool
- Setting Object Properties
- Selecting Objects
- Selecting Points

Editing Objects
Realtime Walkthrough
Saving and Loading Shapes

Adding Pool Decking



Pool decking is used to create a flat foundation for swimming pools and spas. Pool decking is similar to the Patio object, but supports coping along its perimeter.

To add pool decking:

1. Click the **Add Pool Decking** button that is found near the top of the screen under the **Swimming Pool** tab.
2. Draw the outline of the pool decking by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the pool decking, place the last point on top of the first point. Alternately, right-click to place the last point.

The landscape design in the picture below uses pool decking for the swimming pool and spa.



Editing Coping

Coping is automatically added by default to the perimeter of pool decking, but can be turned off or toggled per edge if needed.

To turn the coping on or off per-edge:

1. Click the pool decking in your landscape design to select it.
 2. Click the **Edit coping** button, found in the [properties|topic=Setting Object Properties](#), to enable edit coping mode.
 3. Click the pool decking edges where you wish to toggle the coping.
5. When finished, click the **Edit Coping** button again to disable edit coping mode.

Designing Multilevel Pool Decking

Multilevel pool decking can be designed using the **Height** and **Elevation** properties. To create a multilevel pool deck, first add a separate Pool Decking object for each level. Next, set the **Height** and **Elevation** properties of each Pool Decking object so that a tiered design is produced, as shown below.

In the landscape design illustrated below, three pool decking objects were used.



Working with Uneven and Sloping Terrain

Pool decking can be placed on sloping and uneven terrain, and will always retain its flat surface. Modify the **Height** property of the pool decking as needed to produce the necessary foundation for your swimming pool design.

Tips:

1. Pool decking can be added in either the [Plan view|topic=Plan View](#) or the [Perspective view|topic=Perspective View](#), but is easiest to add in the Plan view.

See also:

- Pool Decking Properties
- Swimming Pool Wizard
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Adding a Swimming Pool
- Adding Pool Stairs
- Adding a Pool Seat
- Adding a Pool Wall
- Adding a Pool Light
- Adding a Pool Accessory

Adding a Fountain
 Adding a Waterfall
 Realtime Walkthrough
 Saving and Loading Shapes

Pool Decking Properties

The properties used to modify a Pool Decking object are located to the right of the screen when your decking is selected. These properties can either be adjusted right before adding the pool decking to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Decking Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the pool decking will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the decking will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the pool decking in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the pool decking in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the pool decking will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool decking can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the decking material.
Angle	The Angle property determines the rotation angle of the decking material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the decking material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the decking material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.

Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the decking material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the pool decking in the Plan view. To change the opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the pool decking in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Elevation	The Elevation property determines the distance of the pool decking from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Height	The Height property determines how tall the pool decking is. To adjust the decking's height, move the Height slider or type a value in the text field.
Auto trim to pools	The Auto trim to pools property is used to automatically trim the pool decking in areas where it overlaps with a swimming pool. To toggle the overlap trimming, click the Auto trim to pools checkbox.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the pool decking's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the pool decking, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Coping	Description
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Custom appearance in each view	The Custom appearance in each view option determines whether the pool decking will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the decking will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the coping in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the coping in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of coping the pool decking will use. To change the material, click the small image that displays the current coping.
Material options	The appearance of the coping can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the coping material.
Angle	The Angle property determines the rotation angle of the coping material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the coping material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the coping material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the coping material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the coping in the Plan view. To change the opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.

Line Style	The Line Style property determines the appearance of the outline of the coping in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.
Coping type	The Coping type property determines which style of coping is placed around the perimeter of the pool decking. To change the style of coping, click the Coping type drop-down menu and select the style you would like to use.
Length	The Length property determines the size of the coping from front to back. To adjust the coping's length, move the Length slider or type a value in the text field.
Height	The Height property determines how tall the coping is. To change the coping height, move the Height slider or type a value in the text field.
Overhang	The Overhang property determines how far the coping extends away from the pool decking. To adjust the amount of extension, move the Overhang slider or type a value in the text field.
Edit coping	Click the Edit coping button to enable or disable coping editing mode, which will allow you to modify the visibility of coping at each pool decking edge. When coping editing mode is enabled, click the edges of your pool decking that you wish to toggle. Note that the Edit coping property will be disabled if the Style property is set to <i>None</i> or <i>Seamless</i> .

Tile	Description
Add tile	The Add tile property determines whether a strip of tile is added to the top of the pool decking sides. To toggle the appearance of the tile, click the Add tile checkbox.
Material	The Material property determines what type of tile is added to the pool decking. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool decking tile can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the tile material.
Angle	The Angle property determines the rotation angle of the tile material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the tile material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.

Offset Y	The Offset Y property determines the tile material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the finish material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Tile size	The Tile size property determines the size of each tile.

Information	Description
Area	The Area property displays the surface area in square feet or meters. Overlapping swimming pools are excluded. When this value is calculated, a blue shape appears to help you visualize how the area is determined.
Perimeter	The Perimeter property displays the total distance around the pool decking in feet or meters. Overlapping swimming pools are excluded. When this value is calculated, a yellow line appears to help you visualize how the perimeter is determined.
Calculate	Click the Calculate button to calculate the above values.

See also:

- Adding Pool Decking
- Setting Object Properties
- Selecting Objects
- Editing Points
- Editing Objects

Adding Pool Stairs



The Pool Stairs object is used to add entry steps to your swimming pool or spa. Pool stairs can be designed in any shape or size, supporting both smooth curves and sharp edges.

To add pool stairs:

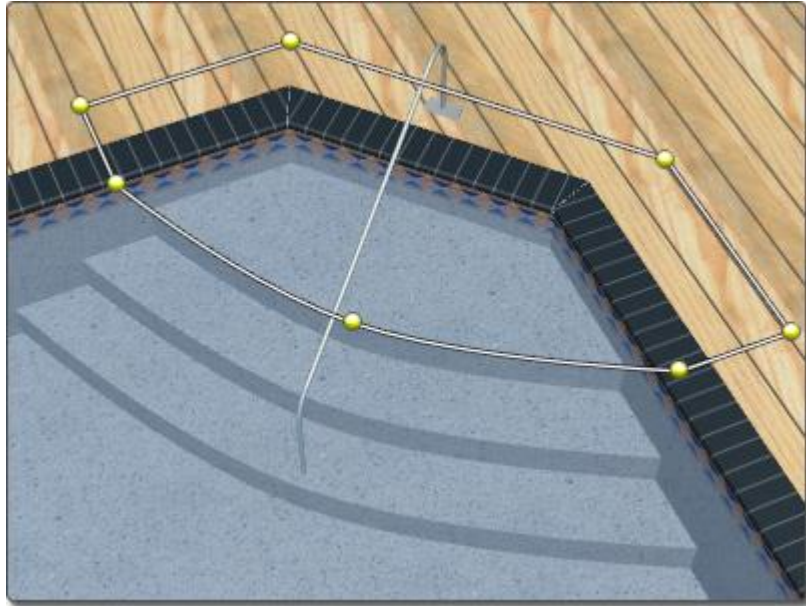
1. Click the **Add Pool Stairs** button that is found near the top of the screen under the **Swimming Pool** tab.
2. Draw the outline of the pool stairs by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the pool stairs, place the last point on top of the first point. Alternately, right-click to place the last point.



Pool stairs are drawn simply by creating the outline of the top step; the following steps are automatically added and are controlled using the **Rise**, **Run**, and **Number of steps** properties.

Pool stairs are designed to only function inside swimming pools; they cannot be used as standalone objects. By default, pool stairs automatically assume the material of the swimming pool they are added to.

As shown in the picture below, it is not a problem for part of the pool stair's outline to extend beyond the pool's perimeter. Only the portion of the pool stairs that are within a swimming pool will be shown.



Tips:

1. The **Depth** property can be used to set the depth of the first step based on the top of the swimming pool or spa. For example, if the depth is set to 2 feet, then the top step of the pool stairs will be exactly 2 feet below the top of the swimming pool.

See also:

Pool Stairs Properties
 Swimming Pool Wizard
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Adding a Swimming Pool
 Adding Pool Decking
 Adding a Pool Seat
 Adding a Pool Wall
 Adding a Pool Light
 Adding a Pool Accessory
 Adding a Fountain
 Adding a Waterfall
 Realtime Walkthrough
 Saving and Loading Shapes

Pool Stairs Properties

The properties used to modify a Pool Stairs object are located to the right of the screen when your pool stairs are selected. These properties can either be adjusted right before adding the pool stairs to your landscape or after they have been added. Below is a description of each available property in the order that they appear in the software.

Finish Material	Description
Use same material as pool	The Use same material as pool property determines whether the stair finish will use the primary pool material or a different material specified by you. To enable selection of a separate stair material, click the Use same material as pool checkbox.
Material	The Material property determines what type of surface the pool stairs will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the stairs can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the stair material.
Angle	The Angle property determines the rotation angle of the stair material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the stair material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the stair material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the stair material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Step rise	The Step rise property determines the height of each step. To change the rise, move the Step rise slider or enter a value in the text field.

Step run	The Step run property determines the length of each step. To change the run, move the Step run slider or enter a value in the text field.
Depth	The Depth property determines the distance from the top step to the top of the swimming pool or spa. To change the depth, move the Depth slider or type a value in the text field.
Number of steps	The Number of steps property determines the amount of steps created. To change the amount of steps, move the Number of steps slider or enter a value in the text field.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the pool stair's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the pool stairs, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Nosing	Description
Add nosing tile	The Add nosing tile property determines whether a separate material is added to the edge of each stair step. To toggle the appearance of the nosing, click the Add nosing tile checkbox.
Material	The Material property determines what type of surface the pool stair nosing will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool stair nosing can be modified by clicking the small button that appears to the right of the material image.
Angle	The Angle property determines the rotation angle of the nosing material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the nosing material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the nosing material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.

Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the nosing material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Tile size	The Tile size property determines the size of each tile.

Tile	Description
Add tile	The Add tile property determines whether a strip of tile is added to the top of the pool stair sides. To toggle the appearance of the tile, click the Add tile checkbox.
Material	The Material property determines what type of tile is added to the pool stairs. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool stair tile can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the tile material.
Angle	The Angle property determines the rotation angle of the tile material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the tile material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the tile material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low,

	Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the tile material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Tile size	The Tile size property determines the size of each tile.

See also:

Adding Pool Stairs
Setting Object Properties
Selecting Objects
Editing Points
Editing Objects

Adding a Pool Seat



The Pool Seat object is used to create benches, platforms, and tanning ledges. Pool seats can be placed underwater at any depth required, or can rise slightly above the water line to provide a dry surface.

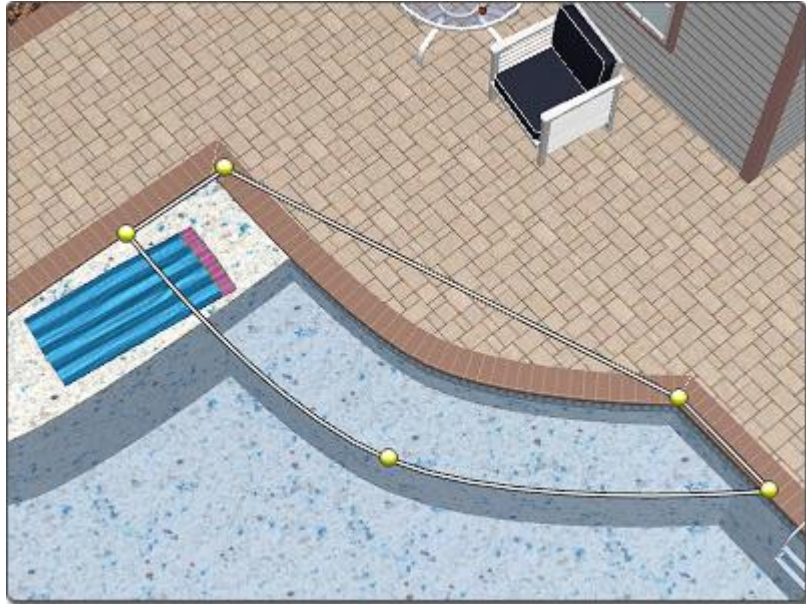
To add a pool seat:

1. Click the **Add Pool Seat** button that is found near the top of the screen under the **Swimming Pool** tab.
2. Draw the outline of the pool seat by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the pool seat, place the last point on top of the first point. Alternately, right-click to place the last point.



Pool seats are drawn by simply creating the outline of the seat and assigning it a depth. Pool seats are designed to only function inside swimming pools; they cannot be used as standalone objects. Pool seats automatically assume the material of the swimming pool they are added to.

As shown in the picture below, it is not a problem for part of the pool seat's outline to extend beyond the pool's perimeter. Only the portion of the pool seat that is within a swimming pool will be shown.



Tips:

1. The height of the pool seat is determined by its **Depth** property. A pool seat's depth determines the distance from the top of the seat to the top of the swimming pool or spa.

See also:

Pool Seat Properties
 Swimming Pool Wizard
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Adding a Swimming Pool
 Adding Pool Decking
 Adding Pool Stairs
 Adding a Pool Wall
 Adding a Pool Light
 Adding a Pool Accessory
 Adding a Fountain
 Adding a Waterfall
 Realtime Walkthrough
 Saving and Loading Shapes

Pool Seat Properties

The properties used to modify a Pool Seat object are located to the right of the screen when your pool seat is selected. These properties can either be adjusted right before adding the pool seat to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Finish Material	Description
Use same material as pool	The Use same material as pool property determines whether the seat finish will use the primary pool material or a different material specified by you. To enable selection of a separate seat material, click the Use same material as pool checkbox.
Material	The Material property determines what type of surface the pool seat will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the finish can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the finish material.
Angle	The Angle property determines the rotation angle of the finish material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the finish material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the finish material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the finish material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Depth	The Depth property determines the distance from the top of the seat to the top of the swimming pool or spa.

	To change the depth, move the Depth slider or type a value in the text field.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the pool seat's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the pool seat, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Nosing	Description
Add nosing tile	The Add nosing tile property determines whether a separate material is added to the edge of the pool seat. To toggle the appearance of the nosing, click the Add nosing tile checkbox.
Material	The Material property determines what type of surface the pool seat nosing will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool seat nosing can be modified by clicking the small button that appears to the right of the material image.
Angle	The Angle property determines the rotation angle of the nosing material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the nosing material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the nosing material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the nosing material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be

	enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Tile size	The Tile size property determines the size of each tile.

Tile	Description
Add tile	The Add tile property determines whether a strip of tile is added to the top of the pool seat sides. To toggle the appearance of the tile, click the Add tile checkbox.
Material	The Material property determines what type of tile is added to the pool seat. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool seat tile can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the tile material.
Angle	The Angle property determines the rotation angle of the tile material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the tile material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the tile material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the tile material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Tile size	The Tile size property determines the size of each tile.

See also:

Adding a Pool Seat
Setting Object Properties
Selecting Objects
Editing Points
Editing Objects

Adding a Pool Wall



The Pool Wall object is used to add walls inside and around your swimming pool or spa. Curved, straight, and even variable height pool walls are all supported in DATAflor GRÜNSTUDIO 3D. Pool walls are typically used as partitions or decorations.

To add a pool wall:

1. Click the **Add Pool Wall** button that is found near the top of the screen under the **Swimming Pool** tab.
2. Draw the pool wall line by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the pool wall, right-click to place the last point.
4. The pool wall will project to one side of the outline; click the **Switch sides** property if needed.

The picture below illustrates a swimming pool design that uses a variable height pool wall as a decorative piece. The pool wall is emitting water through the use of a *Spillway* waterfall object (described below).



Adding a Spillway

One popular design is to create a spillway that causes water to flow from a pool wall into a swimming pool or a spa. This is done very easily in DATAflor GRÜNSTUDIO 3D using the *Spillway* object.

To add a spillway to your pool wall:

1. Click the **Add Waterfall** button found near the top of the screen under the **Water Features** tab.
2. Click the picture of the default waterfall that appears to the right of the screen, and then select the *Spillway*.



3. Click on your design where you wish to place the spillway.

4. Adjust the location and the **Elevation** property of the spillway to place it against your pool wall. During a Realtime Walkthrough, the blue arrow of the spillway will be replaced with realistic flowing water.

Adjusting the Pool Wall Height

Pool walls support variable heights, meaning the height of the wall can be adjusted at each point. Alternately, the height of the entire wall can be adjusted at once. Adding pool walls with variable heights and styles can add much variety and elegance to your swimming pool designs.

To modify the wall height:

1. Click a pool wall that has been added to your landscape design in order to select it.
2. Click the **Edit points** button, found in the [properties|topic=Setting Object Properties](#), to enable point editing mode.
3. Click the point on the pool wall where you would like to adjust the wall height. Additional points can be added for additional height control.
4. Adjust the **Height** property to raise or lower the wall at the selected point.
5. Click the **Edit points** button when finished to disable point editing mode.

Editing Coping

Pool walls support coping along the top of the wall. Coping is added to the entire pool wall by default, but can be toggled on or off per edge if needed.

To turn the coping on or off per-edge:

1. Click a pool wall that has been added to your landscape design in order to select it.
2. Click the **Edit coping** button, found in the [properties|topic=Setting Object Properties](#), to enable coping editing mode.
3. Click each edge where you wish to toggle the coping.
4. When finished, click the **Edit coping** button to disable coping editing mode.

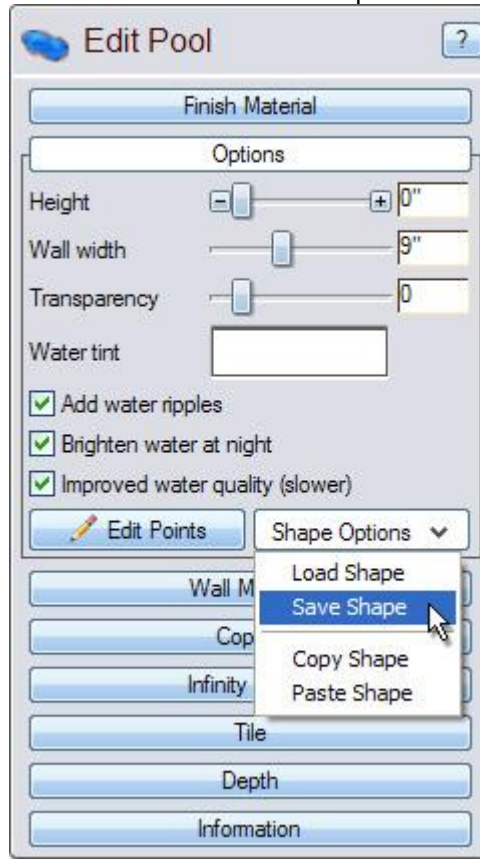
Matching the Outline of an Existing Swimming Pool

Pool walls can be easily created to match the outline of swimming pools by using the [Save and Load shape|topic=Saving and Loading Shapes](#) commands.

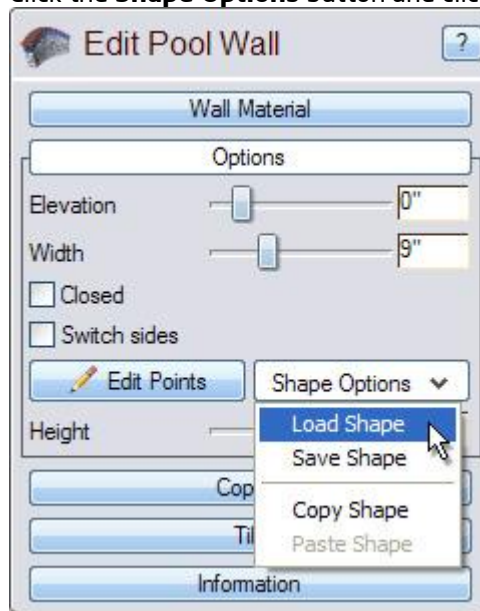
To add a pool wall that matches the outline of an existing swimming pool:

1. Click on a swimming pool in your landscape design in order to select it.

2. Click the **Shape Options** button and click **Save shape**.
3. Enter a name for the new shape and then click the **Save** button.



4. Click the **Add Pool Wall** button that is found near the top of the screen under the **Swimming Pool** tab.
5. Click the **Shape Options** button and click **Load shape**.



6. Select the shape that was previously saved and then click the **OK** button.

Tips:

1. Pool walls are projected to one side of the line that defines their path; use the **Switch sides** property to change the side that the wall is projected from.
2. Pool walls can be added in either the [Plan view|topic=Plan View](#) or the [Perspective view|topic=Perspective View](#), but are easiest to add in the Plan view.

See also:

[Pool Wall Properties](#)
[Swimming Pool Wizard](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Adding a Swimming Pool](#)
[Adding Pool Decking](#)
[Adding Pool Stairs](#)
[Adding a Pool Seat](#)
[Adding a Pool Light](#)
[Adding a Pool Accessory](#)
[Adding a Fountain](#)
[Adding a Waterfall](#)
[Realtime Walkthrough](#)
[Saving and Loading Shapes](#)

Pool Wall Properties

The properties used to modify a pool wall are located to the right of the screen when your wall is selected. Only some of these properties can be adjusted right before adding the pool wall to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Wall Material	Description
Wall Material	The Wall Material property determines what type of wall surface the pool wall will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool wall can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the wall material.
Angle	The Angle property determines the rotation angle of the wall material. To change the material angle, move the Angle slider or type a value in the text field.

Offset X	The Offset X property determines the wall material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the wall material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the wall material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Elevation	The Elevation property determines the distance of the pool wall from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Width	The Width property determines the thickness of the pool wall. To change the pool wall thickness, move the Width slider or enter a value in the text field.
Closed	The Closed property determines whether the pool wall's shape is open or closed. To change the state of the pool wall's shape, click the Closed checkbox.
Switch sides	The Switch sides property determines which side of the line the pool wall is projected from. To switch the pool wall's side, click the Switch sides checkbox.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the pool wall's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the pool wall, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Height	The Height property determines how tall the entire pool wall is. Alternately, if one or more points of the wall are selected, the Height slider can be moved to raise or lower individual points.

Coping	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the pool wall's coping will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the pool wall's coping will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the pool wall's coping in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the pool wall's coping in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the pool wall's coping will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the pool wall's coping can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the coping material.
Angle	The Angle property determines the rotation angle of the coping material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the coping material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the coping material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the coping material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the coping in the Plan view. To change the opacity, move the

	Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Coping type	The Coping type property determines which style of coping is placed on the top of the pool wall. To change the style of coping, click the Coping type drop-down menu and select the style you would like to use.
Height	The Height property determines how tall the coping is. To change the coping height, move the Height slider or type a value in the text field.
Overhang	The Overhang property determines how far the coping extends from the pool wall. To adjust the amount of extension, move the Overhang slider or type a value in the text field.
Edit Coping	Click the Edit coping button to enable or disable coping editing mode, which will allow you to modify the visibility of coping at each edge of the pool wall. When coping editing mode is enabled, click the edges of your pool wall that you wish to toggle. Note that the Edit coping property will be disabled if the Style property is set to <i>None</i> or <i>Seamless</i> .

Tile	Description
Add tile	The Add Tile property determines whether or not tile is added to the upper edge of the pool wall. To toggle the tile, click the Add Tile checkbox.
Material	The Material property determines what type of tile is used. To change the material, click the small image that displays the current tile.
Material options	The appearance of the tile can be modified by clicking the small button that appears to the right of the material image.
Angle	The Angle property determines the rotation angle of the tile material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the tile material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the tile material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess

	property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the tile material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Tile size	The Tile size property determines the size of each tile.

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the pool wall to the finish.

See also:

Adding a Pool Wall
Setting Object Properties
Selecting Objects
Editing Points
Editing Objects

Adding a Pool Light



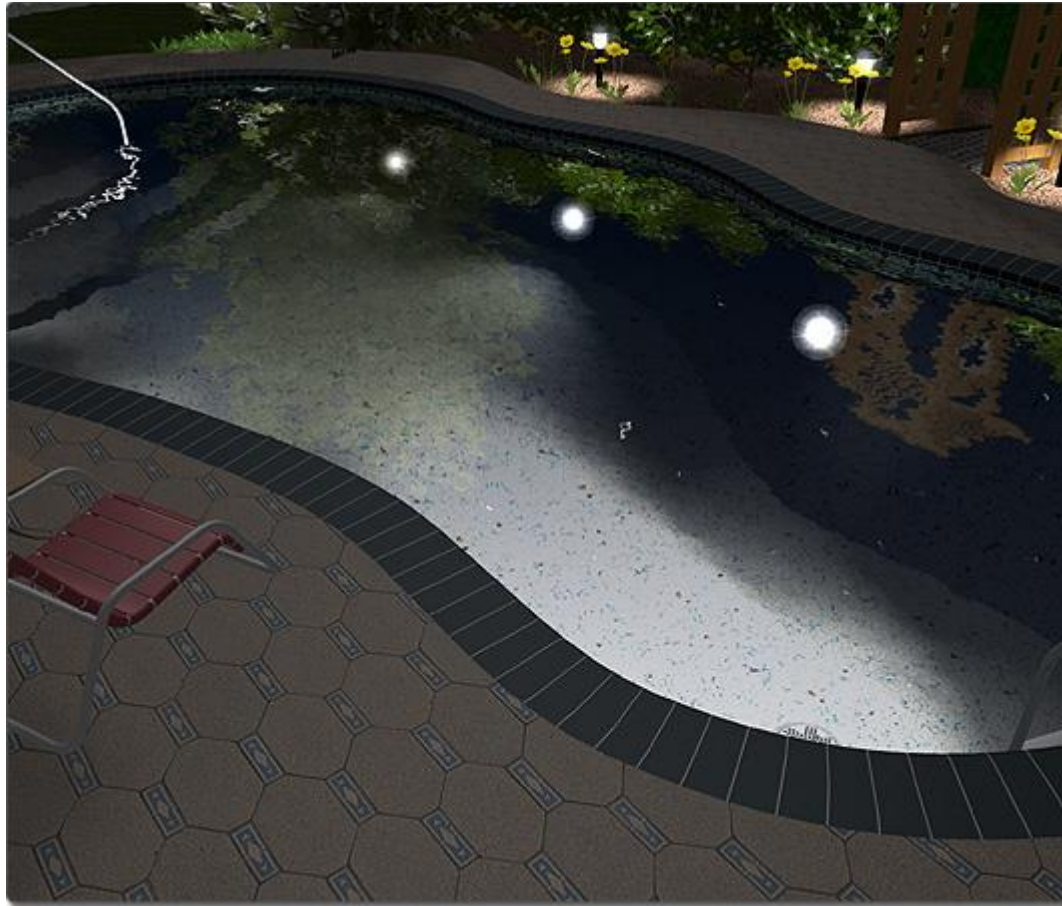
Pool lights can be placed in and around swimming pools and spas to enhance your pool design during the evening. During Realtime Walkthroughs, each pool light will illuminate during sunset, evening, and sunrise.

Pool lights and [Landscape lights](#) are very similar, and can be used interchangeably when needed.

To add a pool light:

1. Click the **Add Pool Light** button that is found near the top of the screen under the **Swimming Pool** tab.
2. Click the picture of the default pool light that appears to the right of the screen, and then select the light you would like to use.
3. Click on your design where you wish to place the pool light.

The picture below illustrates a landscape design that uses pool lights in and around the swimming pool.



Tips:

1. Pool lights will illuminate during Realtime Walkthroughs when the time of day has been set to evening, sunset, or sunrise. For more information, see [Environment Settings|topic=Environment Settings](#).
2. The color of a pool light's illumination can be changed as needed.
3. Pool lights can be difficult to place if grid snap is enabled. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).
4. The brightness of a pool light can be adjusted by modifying the **Color** property|topic=Setting Object Properties.

See also:

Pool Light Properties
Swimming Pool Wizard
Setting Object Properties
Selecting Objects
Selecting Points
Editing Objects
Adding a Swimming Pool

- Adding Pool Decking
- Adding Pool Stairs
- Adding a Pool Wall
- Adding a Pool Seat
- Adding a Pool Accessory
- Adding a Fountain
- Adding a Waterfall
- Realtime Walkthrough

Pool Light Properties

The properties used to modify a pool light are located to the right of the screen when your light is selected. Only some of these properties can be adjusted right before adding the light to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of pool light. To change the light model, click the picture that shows the current light.
Model options	The appearance of the pool light can be modified by clicking the small button that appears to the right of the light image.
Elevation	The Elevation property determines the distance of the pool light from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Range	The Range property determines the distance that the pool light will shine, effectively controlling the strength of the light. To change the light's influence, move the Range slider or type a value in the text field.
Beam angle	The Beam angle property determines the width of the pool light's influence. To adjust the light's influence, move the Beam angle slider or type a value in the text field.
Color	The Color property determines the illumination color and brightness. For example, a blue color would cause the light to cast blue light during a walkthrough. To change the light's color, click the small color swatch that displays light's current color.
Add corona	The Add corona property determines if a bright halo of light is added around the bulb of the pool light during a Realtime Walkthrough. To toggle the halo effect, click the Add corona checkbox.
Show area of influence	The Show area of influence property determines whether or not a helper is added while in the Plan or Perspective views. This helper is used to view the pool light's range and angle of influence. To enable or disable the lighting helper, click the Show area of influence checkbox.
Use ray tracing for	The Use ray tracing for accurate shadows property determines the accuracy and quality of shadows that are created by the

accurate shadows	selected pool light in an evening walkthrough. Ray tracing provides higher quality, but causes walkthroughs to generate slower. To toggle ray tracing, click the Use ray tracing for accurate shadows checkbox.
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Advanced	Description
Width	The Width property determines the size of the pool light from left to right. To adjust the light's width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the pool light from front to back. To adjust the light's length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the pool light is. To adjust the light's height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the pool light about its X axis. If your view is facing north, this will rotate the light forward or backward. To rotate the light, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the pool light about its Y axis. If your view is facing north, this will rotate the light left or right as if it was sitting upon a pottery wheel. To rotate the light, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the pool light about its Z axis. If your view is facing north, this will rotate the light left or right as if it was sitting upon the face of a clock. To rotate the light, move the Rotate about Z slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the pool light is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the light, then keep the Scale evenly option checked. If you wish to stretch the light in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the light material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

- Adding a Pool Light
- Adding a Landscape Light
- Adding a House Light
- Selecting Objects
- Setting Object Properties

Adding a Pool Accessory



A large variety of pool accessories are included in DATAflor GRÜNSTUDIO 3D that can be used to add objects to your pool design such as waterslides, pool toys, ladders, diving boards, handrails, and more.

To add a pool accessory:

1. Click the **Add Pool Accessory** button that appears near the top of the screen under the **Swimming Pool** tab.
2. Click the picture of the default pool accessory that appears to the right of the screen, and then select the accessory you would like to use.
3. Click on your design where you wish to place the pool accessory.

In the picture below the swimming pool design uses a pair of handrails and a diving board which were added using the Pool Accessory object.



Tips:

1. The Pool Accessory object is similar to the [Accessory object|topic=Adding an Accessory](#) that is found under the *Landscape* tab. These two types of accessories can be used interchangeably.
2. Pool accessories can be difficult to place if grid snap is enabled. You can toggle the grid snapping off by pressing **Ctrl + G** on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).
3. Pool accessories can be rotated and scaled as necessary. For more information, see [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#).
4. The materials of a pool accessory can be customized as needed. For details, see [Editing Materials|topic=Editing Materials](#).

See also:

Pool Accessory Properties
Swimming Pool Wizard
Setting Object Properties
Selecting Objects
Selecting Points
Editing Objects
Adding a Swimming Pool
Adding Pool Decking
Adding Pool Stairs
Adding a Pool Wall
Adding a Pool Seat
Adding a Pool Light
Adding a Fountain
Adding a Waterfall
Realtime Walkthrough

Pool Accessory Properties

The properties used to modify a pool accessory are located to the right of the screen when your accessory is selected. Only some of these pool accessory properties can be adjusted right before adding the accessory to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of pool accessory. To change the accessory model, click the picture that shows the current accessory.
Material options	The appearance of the pool accessory can be modified by clicking the small button that appears to the right of the accessory image.

Elevation	The Elevation property determines the distance of the pool accessory from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
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Advanced	Description
Width	The Width property determines the size of the pool accessory from left to right. To adjust the accessory width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the pool accessory from front to back. To adjust the accessory length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the pool accessory is. To adjust the accessory height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the pool accessory about its X axis. If your view is facing north, this will rotate the accessory forward or backward. To rotate the accessory, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the pool accessory about its Y axis. If your view is facing north, this will rotate the accessory left or right as if it was sitting upon a pottery wheel. To rotate the accessory, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the pool accessory about its Z axis. If your view is facing north, this will rotate the accessory left or right as if it was sitting upon the face of a clock. To rotate the accessory, move the Rotate about Z slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the pool accessory is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the accessory, then keep the Scale evenly option checked. If you wish to stretch the accessory in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the accessory material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

- Adding a Pool Accessory
- Selecting Objects
- Setting Object Properties

Editing Objects
Editing Materials

Printing

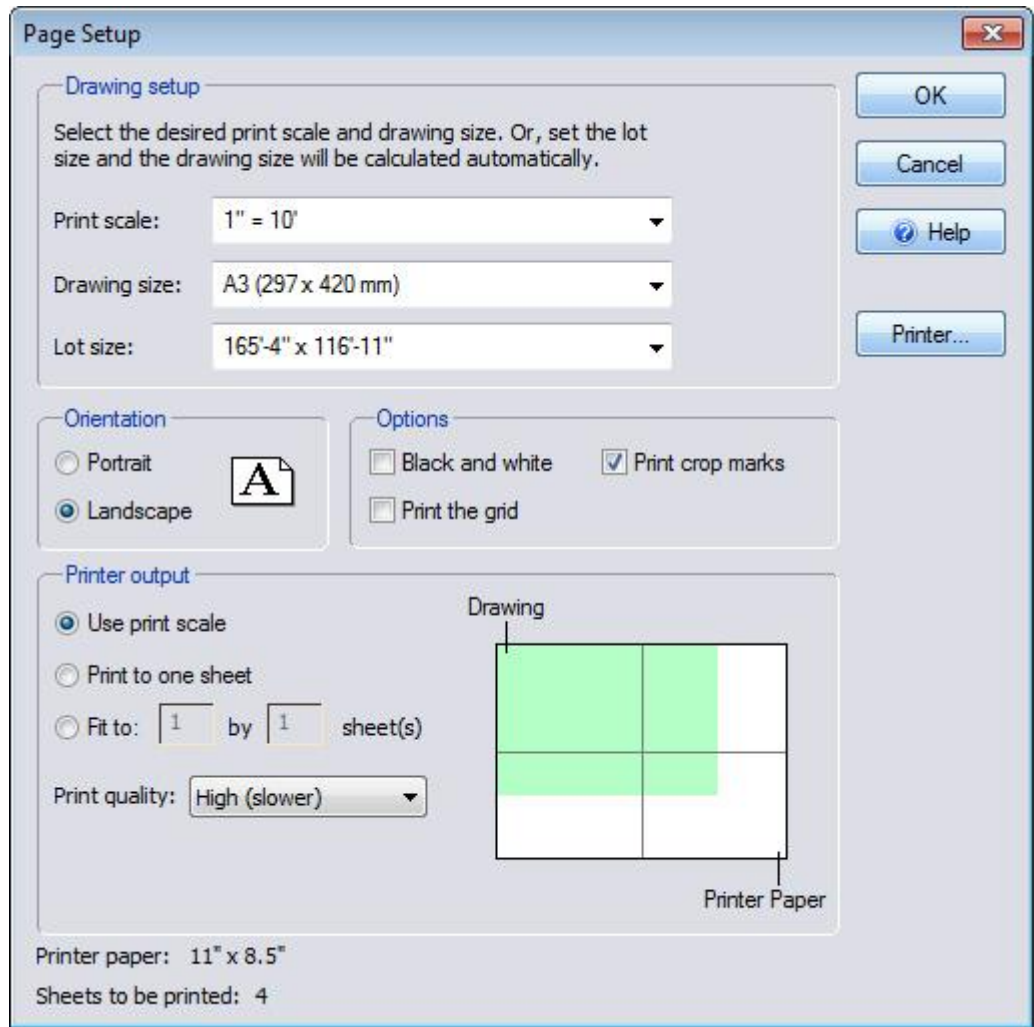
Page Setup

To edit the page settings:

1. Click **File** and **Page Setup**.
2. Modify the settings as needed and then click the **OK** button.

The Page Setup dialog contains many options for setting the drawing size, print scale, and the lot size of your landscape design.

Important: These settings are only used by the Print Plan command, not the Print Viewport or Export Viewport to File commands.



Print scale

The Print scale option determines how your landscape design will be scaled when printing the Plan view. For example, the print scale is set to 1" = 10', then when printing the Plan view with the Use print scale option enabled, your landscape design will be sized so that 10 feet in the design appears as one inch on paper.

Drawing size

The drawing size determines how large your landscape is in terms of paper size. If the drawing size is larger than a single sheet of paper, then multiple sheets of paper can be printed to. Crop marks will be printed where the separate pieces of paper should be joined together.

Lot size

The Lot size determines how large your landscape is in terms of feet or meters. A predefined lot size can be selected or you can set your own. The length and width of the lot size can extend to 1500 feet (457 meters), which is approximately 51 acres. It is usually best to use the smallest lot size that will fit your landscape design.

Orientation

The Orientation determines whether your design is printed as a Portrait or a Landscape.

Black and white

The Black and white option determines whether your landscape design is printed in full color or completely desaturated.

Print crop marks

The Print crop marks option determines whether crop marks are added to each piece of paper to designate where the papers should be joined together. Crop marks are only added if multiple sheets of paper are needed to print the design.

Print the grid

The Print the grid option determines whether the grid is added when printing. To modify the grid, see [Snap Settings|topic=Snap Settings](#).

Use print scale

The Use print scale option determines if the Print scale is taken into account when printing. If the Print to one sheet option is selected instead, then the print scale will be ignored.

Print to one sheet

The Print to one sheet option determines if the landscape design is sized to fit a single piece of paper, ignoring the print scale settings.

Fit to x by y sheets

The Fit to x by y sheets option is used to ignore the print scale and size the design to fit the number of sheets of paper designated.

Print quality

The Print quality option can be set to Low, Medium, or High to determine the clarity of the printout. It is recommended to always set the print quality to High unless creating quick test prints.

Print preview

The Print preview diagram displays to the lower-right of the Page Setup dialog, and visually explains how the drawing will be sized on the paper.

See also:

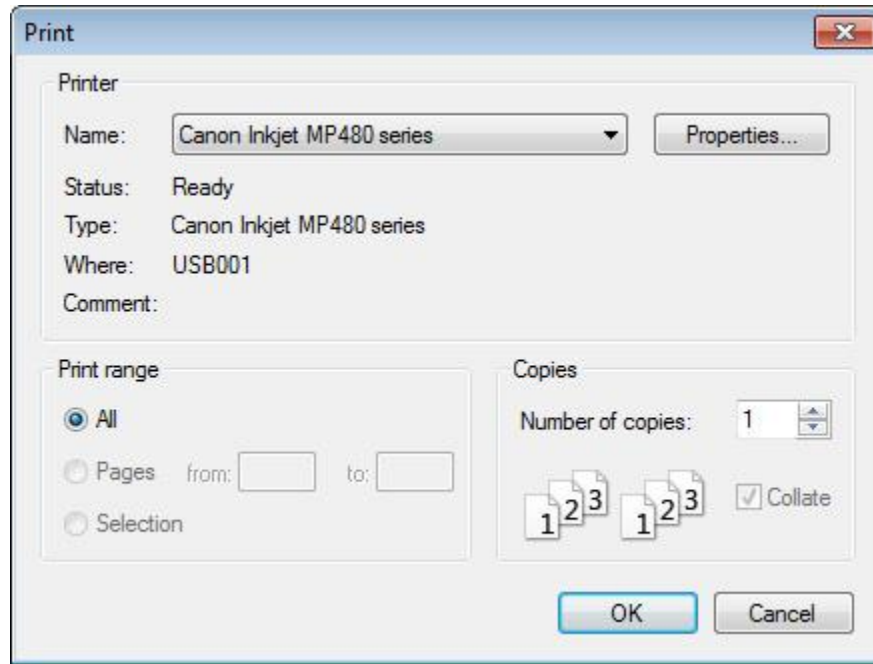
- [Printing the Plan View](#)
- [Exporting the Plan View to a File](#)
- [Printing the Viewport](#)
- [Exporting the Viewport to a File](#)
- [Printing a Screen Shot](#)

Printing the Plan View

This command will print your entire Plan view to paper based on your current [Page Setup|topic=Page Setup](#) settings. If you wish to print just a section of the Plan view, see [Printing the Viewport|topic=Printing the Viewport](#). If you wish to save your Plan view as a JPG or other picture, see [Exporting the Plan View to a File|topic=Exporting the Plan View to a File](#).

To print the plan view:

1. Click **File** and **Print Plan**. A dialog similar to the following will appear:



2. Select the printer you would like to use and the number of copies, then click the **OK** button.

The Plan view of your entire landscape design will be printed. If multiple sheets of paper are needed, then crop marks will appear to designate where the pages should be joined together.

See also:

- [Page Setup](#)
- [Exporting the Plan View to a File](#)
- [Printing the Viewport](#)
- [Exporting the Viewport to a File](#)
- [Printing a Screen Shot](#)

Exporting the Plan View to a File

The Export Plan to File command is used to save the Plan view of your entire landscape design as a JPG, PDF, BMP, TGA, or PNG file. After the Plan view is saved in a common image format, it can be e-mailed, edited in a paint program, added to a website, or sent to a print shop.

Note: If you want to send the file to someone in an email, then the JPG format will produce the smallest file. However, if you want to send the file to a print shop, then use the PDF format since it has the highest quality and resolution.

To print the plan view to file:

1. Click **File** and **Export Plan to File**.

2. Select the location for your new image and type a file name.
3. Click the **Save as type:** drop-down menu and select a file type.
4. Click the **Save** button.

A picture of your Plan view will now be saved to the file name and location specified.

See also:

- [Page Setup](#)
- [Printing the Plan View](#)
- [Printing the Viewport](#)
- [Exporting the Viewport to a File](#)
- [Printing a Screen Shot](#)

Printing the Viewport

The Print Viewport command is used to print the contents of your view to paper when your view is set to Plan or Perspective.

Note: The Page Setup settings are not used when printing the viewport, because the viewport is printed as it is seen on the screen.

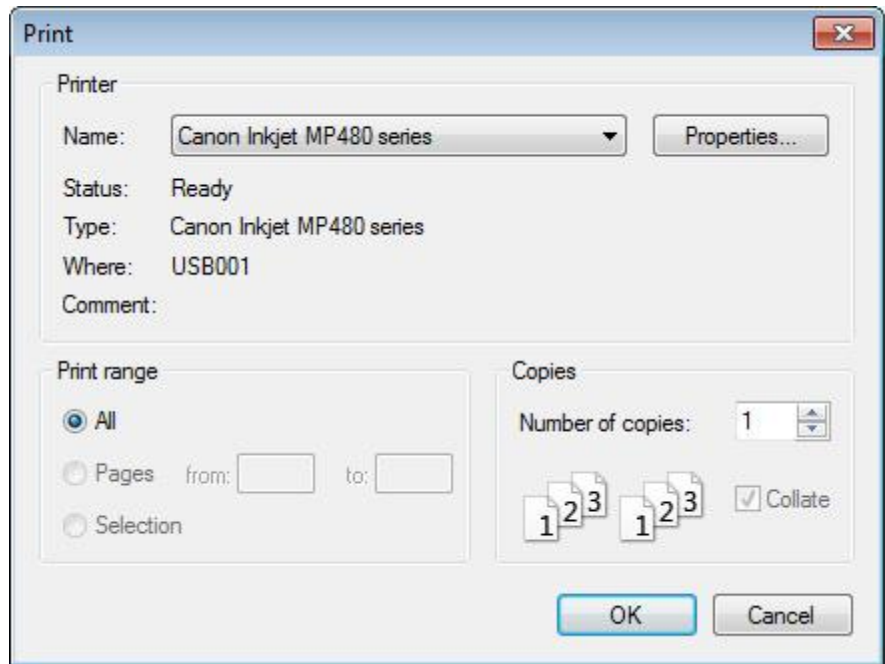
To print the viewport:

1. Adjust the view as needed so that what you wish to print is displayed on your screen. For instructions, see [Adjusting the View|topic=Adjusting the View](#).
2. Click **File** and **Print Viewport**. A progress bar will appear while the



printout is prepared.

3. A dialog similar to the following will appear:



4. Select the printer you would like to use and the number of copies, then click the **OK** button.

See also:

- [Page Setup](#)
- [Printing the Plan View](#)
- [Exporting the Plan View to a File](#)
- [Exporting the Viewport to a File](#)
- [Printing a Screen Shot](#)

Exporting the Viewport to a File

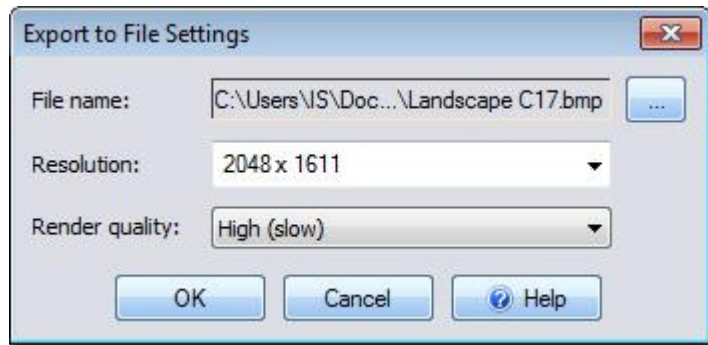
The Export Viewport to File command is used to save the contents of your current view as a JPG, PDF, BMP, TGA, or PNG. After the view is saved in a common image format, it can be e-mailed, edited in a paint program, added to a website, or sent to a print shop.

Note: For e-mailing an image of your view, it is best to use the JPG format. The Page Setup settings are not used when saving the viewport to a file, because the viewport is saved as it is seen on the screen.

To export the viewport to a file:

1. Adjust the view as needed so that what you wish to save is displayed on your screen. For instructions, see [Adjusting the View|topic=Adjusting the View](#).
2. Click **File** and **Export Viewport to File**.
3. Select the location for your new image and type a file name.
4. Click the **Save as type:** drop-down menu and select a file type.

- Click the **Save** button. The following dialog will appear:



File name

The File name option determines the name and location of the new image. To change the file name or location, click the small button that appears to the right of the current file name.

Resolution

The Resolution option determines the size of the new image. Higher resolutions will produce larger and higher quality files.

Render quality

The Render quality option determines how clear the saved image will appear. It is recommended to always use a *High* render quality unless creating quick test images.

- Select the desired render quality and resolution, then click the **OK** button.

A picture of your viewport will now be saved to the file name and location specified.

See also:

[Page Setup](#)
[Printing the Plan View](#)
[Exporting the Plan View to a File](#)
[Printing the Viewport](#)
[Printing a Screen Shot](#)

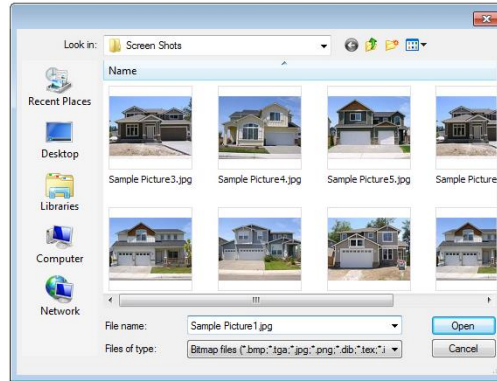
Printing a Screen Shot

The Print Screen Shot command is used to print a previously saved Realtime Walkthrough screen shot. Images saved using the *Export Plan to File* and *Export Viewport to File* commands can also be printed.

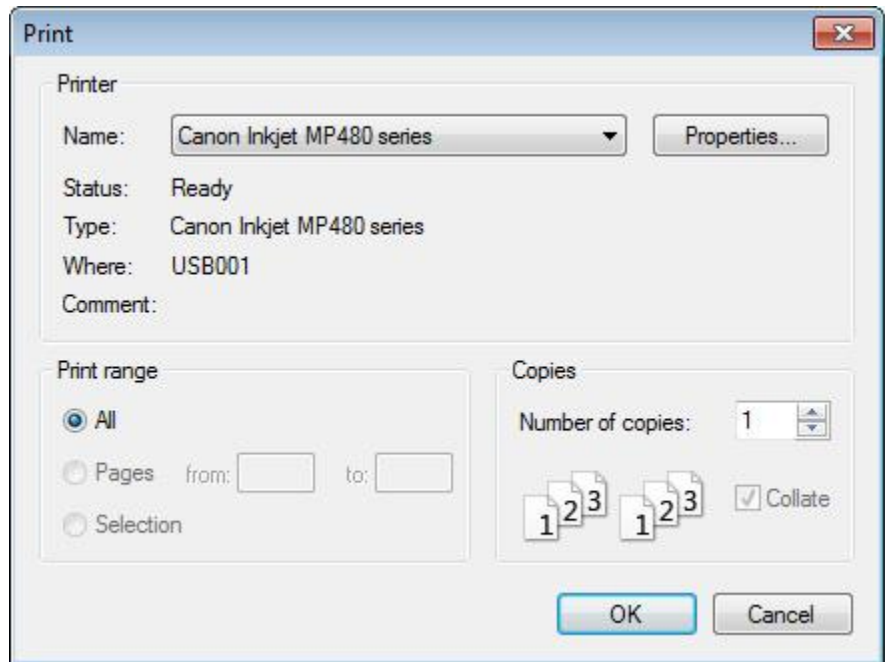
If you have not yet saved a screen shot, see [Realtime Walkthrough|topic=Realtime Walkthrough](#) and [Taking a Screen Shot|topic=Taking a Screen Shot](#).

To print a screen shot:

- Click **File** and **Print screen shot**. A dialog similar to the following will appear:



2. Select the file you would like to print and then click the **OK** button.



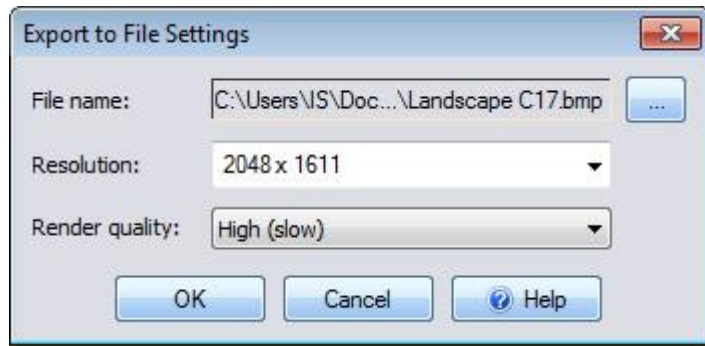
3. Select the printer you would like to use and the number of copies, then click the **OK** button.

See also:

- [Page Setup](#)
- [Printing the Plan View](#)
- [Exporting the Plan View to a File](#)
- [Printing the Viewport](#)
- [Exporting the Viewport to a File](#)

Export to File Settings

When using the *Export Plan to File* or the *Export Viewport to File* commands, the following dialog will appear:



File name

The File name option determines the name and location of the new image. To change the file name or location, click the small button that appears to the right of the current file name.

Resolution

The Resolution option determines the size of the new image. Higher resolutions will produce larger and higher quality files.

Render quality

The Render quality option determines how clear the saved image will appear. It is recommended to always use a *High* render quality unless creating quick test images.

Project Material List

Creating a Project Material List

One of the powerful features of DATAflor GRÜNSTUDIO 3D is the ability to automatically generate a list of objects used in your landscape design. This Project Material List can aid in determining what needs to be purchased in order to construct your design, as well as helping to determine the total cost.

Important: All quantities and measurements are approximate. Always double check calculations for accuracy.

To view the Project Material List, click **Tools** and **Project Material List**. The picture below shows an example of a Project Material List.

Project Material List			
Window (Window23)	10	\$0.00	\$0.00
Window (Window26)	5	\$0.00	\$0.00
Window (Window41)	2	\$0.00	\$0.00
Subtotal			\$0.00
Landscaping - Plants	Quantity	Unit Price	Cost
Plant (American Arborvitae2)	6	\$0.00	\$0.00
Plant (Anacacho Orchid Tree)	2	\$0.00	\$0.00
Plant (Bigleaf Hydrangea)	11	\$0.00	\$0.00
Plant (Bigleaf Hydrangea, Lacecap)	1	\$0.00	\$0.00
Plant (Bigleaf Hydrangea2)	4	\$0.00	\$0.00
Plant (Bigleaf Hydrangea7)	5	\$0.00	\$0.00
Plant (Black Eyed Susan9)	46	\$0.00	\$0.00
Plant (Boxwood8)	1	\$0.00	\$0.00
Plant (Calendiva Double3)	19	\$0.00	\$0.00
Plant (Christmas Pepper)	9	\$0.00	\$0.00
Plant (Coleus Green And Gold)	8	\$0.00	\$0.00
Plant (Coleus4)	5	\$0.00	\$0.00
Plant (Coleus6)	4	\$0.00	\$0.00
Plant (Compact Korean Azalea)	3	\$0.00	\$0.00
Plant (Crabapple - Liset)	1	\$0.00	\$0.00
Plant (Crepe Myrtle5)	1	\$0.00	\$0.00
Plant (Dark Lavendar Snapdragon)	14	\$0.00	\$0.00

Objects you have added to your landscape design will appear on the list. To change the name of an item, simply click the name and enter a new one.

The unit price for each object is set to zero by default. To set the price for a particular object, click the unit price and enter the desired amount.

If you make changes to item names or prices, the changes will be saved when you save your landscape design. However, if you would like to use your price and name changes in other landscapes, the price list will need to be saved separately. To save the price list, click the **Save Price List** button and enter a name for your list. To load the price list in another landscape design, open the Project Material List and click the **Load Price List** button. This can be done at any time.

Creating a Comprehensive Cost Estimate of your Project

The Project Material List only includes objects in your landscape design, not additional items such as labor and excavation. To create a more comprehensive cost estimate of your project, you can export the material list to Excel or other spreadsheet program and add the additional items as needed.

To export the project material list:

1. Within the Project Material List, click the **Export** button.
4. In the dialog that appears, type a name for your material list and then click the **Save** button.

If you have Microsoft Excel installed on your computer, then DATAflor GRÜNSTUDIO 3D will automatically detect it and ask you if you would like to run it after the material list has been successfully exported. In the picture below, an example is shown of a Project Material List that was exported into Excel.

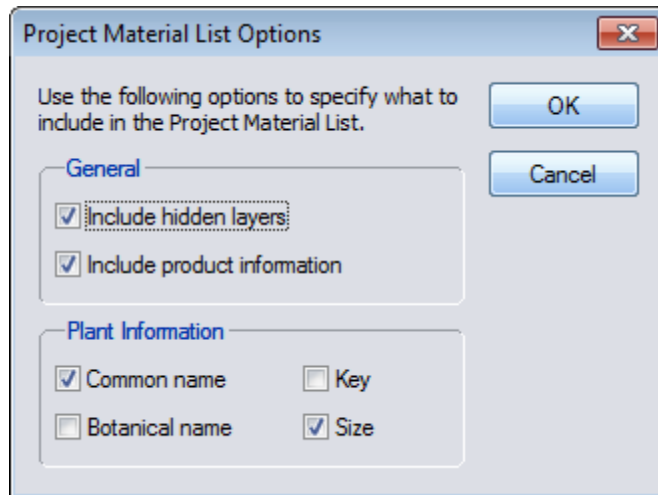
Project Proposal		
Item	Cost	Date
<i>New patio (installed)</i>	\$2,400	20-Apr
<i>Remove old grass</i>	\$600	20-Apr
<i>New grass (installed)</i>	\$1,800	24-Apr
<i>New side edging</i>	\$600	26-Apr
<i>Refinish swimming pool (Pebble Tec)</i>	\$3,600	5-May
<i>Front landscaping (installed)</i>	\$1,600	12-May
<i>Back landscaping (installed)</i>	\$2,700	22-May
<i>New Deck (installed)</i>	\$6,800	10-May
Total Estimated Cost	\$20,100	

Important: The unit quantities shown on the Project Material List, such as area, volume, and length, are estimates based on the sizes of the objects that have been added to your landscape design. You should always have an experienced contractor inspect your jobsite and double check your measurements before purchasing materials.

Adding a Spreadsheet to the Plan View

Excel spreadsheets, Visio drawings, Word documents, and more can be added directly to the Plan view using the [Embedded Object tool|topic=Adding an Embedded Object](#). For example, a custom material list could be displayed within your landscape design when viewing or printing the Plan view.

Options



Include hidden layers

By default, objects in hidden layers are included in the Project Material List. If you want to exclude them instead, then uncheck the **Include hidden layers** option

Include product information

Check this option to include additional product information for branded products.

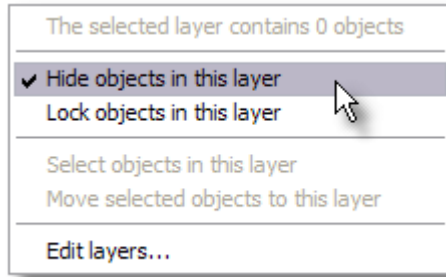
Plant Information

Use these options to determine how plant names are displayed (common, botanical, or both). You can also determine whether or not to include the key and size of each plant.

To create a project material list that only includes certain objects:

1. Move the objects you wish to be excluded from the Project Material List to a hidden layer. See [Using Layers|topic=Using Layers](#) for details.
2. Open the material list by clicking Tools and Project Material List.
5. Click Options.
6. Uncheck the **Include hidden layers** option and click **OK**. The objects in all hidden layers will now be removed from the material list.

To hide a layer, click the layer to the lower-right of the screen that you wish to hide. Next, click the right mouse button on the layer and select **Hide objects in this layer**.



For more information about layers, see [Using Layers|topic=Using Layers](#).

Road Objects

Adding a Road



DATAflor GRÜNSTUDIO 3D includes powerful support for roads and sidewalks, allowing your designs to extend beyond your client's property line for increased realism and attention to detail. The Road object is used to create a road of any shape and size that may contain sidewalks and curbing.

To add a road:

7. Click the **Add Road** button that is found near the top of the screen under the **Road** tab.
8. Modify the **Width** [property|topic=Setting Object Properties](#) under the Options bar to set the road's width.
9. Draw the road by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
10. To finish drawing the road, right-click to place the last point.

In the picture below, a street and sidewalk was added to a landscape design using the Road object.



Changing the Shape

A road's shape can be easily modified after it has been added to your landscape design. To change the shape of a road, select the road and click the **Edit Points** button. By adding points, road bends, sharp turns, and even intersections can be accomplished. See [Editing Points|topic=Editing Points](#) for more information.

Tips:

1. Roads can be added in either the Plan or Perspective view, but are easiest to add in the Plan view.
2. Once a road is placed, full control can be gained over the shape of the road by clicking the [Edit Points|topic=Editing Points](#) button.
3. Alternately, pre-built road pieces can be instantly placed in your landscape design using the [Road Accessory|topic=Adding a Road Accessory](#) tool.
4. Sidewalks and curbing can also be added separately. See [Adding a Sidewalk|topic=Adding a Sidewalk](#) and [Adding a Curb|topic=Adding a Curb](#) for details.

See also:

[Road Properties|topic=Road Properties](#)
[Editing Objects|topic=Editing Objects](#)

[Adding a Sidewalk|topic=Adding a Sidewalk](#)
[Adding a Curb|topic=Adding a Curb](#)
[Adding a Road Accessory|topic=Adding a Road Accessory](#)

Road Properties

The properties used to modify a Road object are located to the right of the screen when your road is selected. These properties can either be adjusted right before adding the road to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the road will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the road will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the road in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the road in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the road will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the road can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the road material.
Angle	The Angle property determines the rotation angle of the road material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the road material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the road material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.

Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the road material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	<p>The Transparency property determines the opacity of the road in the Plan view. To change the road opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.</p> <p>The Transparency slider will affect only the street portion of the Road object; the sidewalk and curb portions may be adjusted separately.</p>
Line style	The Line Style property determines the appearance of the outline of the road in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
3D edge effect	<p>The 3D edge effect property determines whether the road appears raised or sunken when bordered or intersected by regions or paths. To change the effect, click the 3D edge effect drop-down menu and select Raised, Sunken, or None.</p> <p>The 3D edge effect is not typically used on roads unless there are no bordering curbs and sidewalks.</p>
Edit Points	Click the Edit Points button to enable or disable point editing mode, which will allow you to modify the roads shape. See Editing Points topic=Editing Points for details.
Shape Options	Click the Shape options button to save the shape of the road or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Sidewalk Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the sidewalk will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the sidewalk will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the sidewalk in the Plan view. This tab will not be available

	unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the sidewalk in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the sidewalk will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the sidewalk can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the sidewalk material.
Angle	The Angle property determines the rotation angle of the sidewalk material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the sidewalk material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the sidewalk material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the sidewalk material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the sidewalk in the Plan view. To change the decal opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Outline Style	The Outline Style property determines the type of outline that is created around the sidewalk in the Plan view. To change the style of outline, click the Outline Style button. Note that the Outline Style property is only available when the Custom appearance in each view option is checked.

Joint Style	The Joint Style property determines the type of line that is created for sidewalk joints in the Plan view. To change the style of joint, click the Joint Style button. Note that the Joint Style property is only available when the Custom appearance in each view option is checked.
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Curb Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the curb will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the curb will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the curb in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the curb in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the curb will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the curb can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the curb material.
Angle	The Angle property determines the rotation angle of the curb material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the curb material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the curb material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the curb material will have simulated depth. For this option to take effect the master Enhanced surface detail

	option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the curb in the Plan view. To change the curb opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the curb in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Sidewalk Options	Description
Add sidewalk	The Add sidewalk property determines whether or not sidewalks are added to both sides of the selected road. To toggle sidewalks, click the Add sidewalk checkbox.
Width	The Width property determines the thickness of the sidewalk. To change the sidewalk width, move the Width slider or type a value in the text field.
Height	The Height property determines how tall the sidewalk is. To change the height of the sidewalk, move the Height slider or type a value in the text field.
Slab length	<p>The Slab length property determines the distance between each expansion joint. To change the length of each sidewalk slab, move the Slab length slider or type a value in the text field.</p> <p>The Slab length property will have no effect if the Joint type property is set to "None".</p>
Joint type	The Joint type property determines whether the sidewalk is composed of slabs, slabs with false joints, or solid cement. To change the sidewalk type, click the Joint type drop-down menu.
Curb type	<p>The Curb type property determines the type of curb that is placed between the sidewalk and the road. To change the curb style, click the Curb type drop-down menu.</p> <p>If you wish to create a road with a curb but without a sidewalk, then add the curb separately using the Curb tool. See Adding a Curb topic=Adding a Curb for details.</p>

Curb width	<p>The Curb width property determines the thickness of the curb. To change the width of the curb, move the Curb width slider or type a value in the text field.</p> <p>The Curb width property will not be accessible if the Curb type property is set to "None".</p>
Edit Sidewalk	<p>The Edit Sidewalk property is used to add or remove a sidewalk per road edge. To toggle sidewalks, click the Edit Sidewalk button and then click the edges of the road that you wish to add a sidewalk to or remove a sidewalk from.</p>

Information	Description
Area	The Area property displays the surface area of the road in square feet or meters, excluding the curb and sidewalk.
Perimeter	The Perimeter property displays the total distance around the road surface in feet or meters, excluding the curb and sidewalk.

See also:

- [Adding a Road|topic=Adding a Road](#)
- [Editing Objects|topic=Editing Objects](#)
- [Adding a Sidewalk|topic=Adding a Sidewalk](#)
- [Adding a Curb|topic=Adding a Curb](#)
- [Adding a Road Accessory|topic=Adding a Road Accessory](#)

Adding a Sidewalk



Realistic sidewalks are fully supported in DATAflor GRÜNSTUDIO 3D. By default, sidewalks are constructed using standard dimensions and standard white poured cement. However, both the size and the material of a sidewalk can be changed to support your design.

To add a sidewalk:

1. Click the **Add Sidewalk** button found near the top of the screen under the **Road** tab.
2. Modify the **Width** [property|topic=Setting Object Properties](#) to set the sidewalk width.
3. Draw the sidewalk by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
4. To finish drawing the sidewalk, right-click to place the last point. Your sidewalk will be created to the left side of the line you have drawn.



Changing the Shape

A sidewalk's shape can be easily modified after it has been added to your landscape design. To change the shape of a sidewalk, select the sidewalk and click the **Edit Points** button. See [Editing Points|topic=Editing Points](#) for more information.

Tips:

1. Sidewalks support automatic curbing, but curbing can be disabled if needed.
2. Sidewalks can also be automatically added using the [Road object|topic=Adding a Road](#).
3. Sidewalks are highly customizable; any material can be used, expansion joints can be included or removed, and the length, width, and height can be changed as needed.
4. Sidewalks can be added in either the Plan view or the Perspective view, but are easiest to add in the Plan view.

See also:

[Sidewalk Properties|topic=Sidewalk Properties](#)
[Adding a Road|topic=Adding a Road](#)
[Editing Points|topic=Editing Points](#)
[Editing Objects|topic=Editing Objects](#)

Adding a Curb|topic=Adding a Curb
 Adding a Curb Ramp|topic=Adding a Curb Ramp

Sidewalk Properties

The properties used to modify a Sidewalk object are located to the right of the screen when your sidewalk is selected. These properties can either be adjusted right before adding the sidewalk to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Sidewalk Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the sidewalk will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the sidewalk will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the sidewalk in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the sidewalk in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the sidewalk will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the sidewalk can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the sidewalk material.
Angle	The Angle property determines the rotation angle of the sidewalk material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the sidewalk material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the sidewalk material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess

	property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the sidewalk material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the sidewalk in the Plan view. To change the sidewalk opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Outline Style	The Outline Style property determines the appearance of the outline of the sidewalk in the Plan view. To change the line style, click the Outline Style button and select the style you wish to use from the dialog that appears. Note that an outline style is only available when the Custom appearance in each view option is checked.
Joint Style	The Joint Style property determines the appearance of the sidewalk joint lines in the Plan view. To change the line style of the joints, click the Joint Style button and select the style you wish to use from the dialog that appears. Note that a joint style is only available when the Custom appearance in each view option is checked.

<i>Curb Material</i>	<i>Description</i>
Custom appearance in each view	The Custom appearance in each view option determines whether the curb will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the curb will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the curb in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the curb in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the curb will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the curb can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the curb material.

Angle	The Angle property determines the rotation angle of the curb material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the curb material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the curb material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the curb material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Line Style	The Line Style property determines the appearance of the outline of the curb in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Width	The Width property determines the thickness of the sidewalk. To change the sidewalk width, move the Width slider or type a value in the text field.
Height	The Height property determines how tall the sidewalk is. To change the height of the sidewalk, move the Height slider or type a value in the text field.
Slab length	<p>The Slab length property determines the distance between each expansion joint. To change the length of each sidewalk slab, move the Slab length slider or type a value in the text field.</p> <p>The Slab length property will have no effect if the Joint type property is set to "None".</p>

Joint type	The Joint type property determines whether the sidewalk is composed of slabs, slabs with false joints, or solid cement. To change the sidewalk type, click the Joint type drop-down menu.
Curb type	The Curb type property determines the type of curb that is placed next to the sidewalk. To change the curb style, click the Curb type drop-down menu. Curbing can also be added separately using the Curb tool. See Adding a Curb topic=Adding a Curb for details.
Curb width	The Curb width property determines the thickness of the curb. To change the width of the curb, move the Curb width slider or type a value in the text field. The Curb width property will not be accessible if the Curb type property is set to "None".
Closed	The Closed property determines whether the sidewalk's shape is open or closed. To change the state of the sidewalk's shape, click the Closed checkbox.
Switch sides	The Switch sides property determines on which side of the sidewalk's shape the sidewalk is built. To toggle the side that the sidewalk is constructed on, click the Switch sides checkbox.
Edit Points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the sidewalk's shape. See Editing Points topic=Editing Points for details.
Shape Options	Click the Shape Options button to save the shape of the sidewalk or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the sidewalk to the finish.

See also:

- [Adding a Sidewalk|topic=Adding a Sidewalk](#)
- [Adding a Road|topic=Adding a Road](#)
- [Editing Points|topic=Editing Points](#)
- [Editing Objects|topic=Editing Objects](#)
- [Adding a Curb|topic=Adding a Curb](#)
- [Adding a Curb Ramp|topic=Adding a Curb Ramp](#)

Adding a Curb

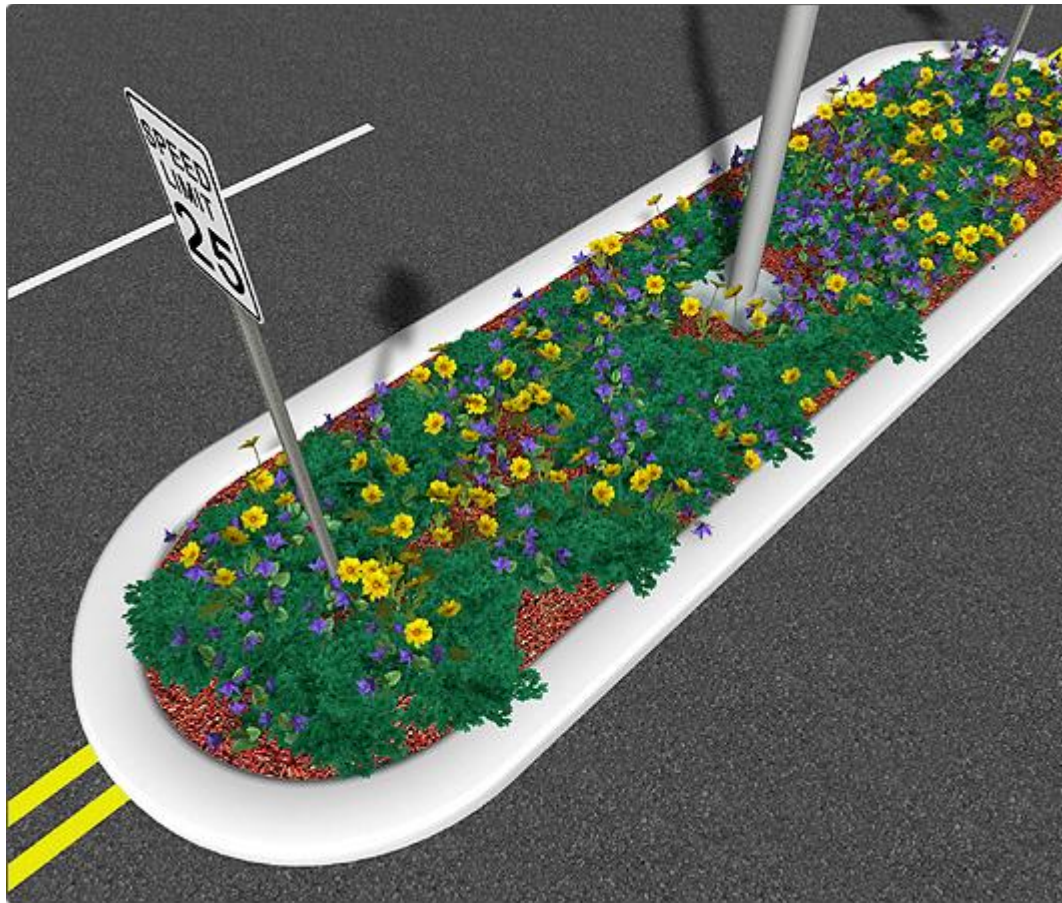


The Curb object is used to place curbing of various shapes and sizes in your landscape design. Curbs are painted cement by default, but can be set to any material desired. Three styles of curbing are available, including standard, rounded, and standard with gutter. Curbs also support optional expansion joints for a realistic appearance.

To add a Curb:

1. Click the **Add Curb** button that appears near the top of the screen under the **Road** tab.
2. Draw the curb by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the curb, place the last point on top of the first point. Alternately, right-click to place the last point. The curb will be created to the left of the line that was drawn.

In the picture below, cement curbing was used to design a street median.



Changing the Shape

A curb's shape can be easily modified after it has been added to your landscape design. To change the shape of a curb, select the curb and click the **Edit Points** button. See [Editing Points|topic=Editing Points](#) for more information.

Tips:

1. Curbing can be added in either the Plan view or the Perspective view, but is typically easiest to add in the Plan view.
2. Curbs can also be added automatically using the [Sidewalk object|topic=Adding a Sidewalk](#) or the [Road object|topic=Adding a Road](#).
3. Points can easily be added to or removed from your curb's shape for greater control. For more information, see [Inserting and Deleting Points|topic=Inserting & Deleting Points](#).

See also:

[Curb Properties|topic=Curb Properties](#)
[Editing Objects|topic=Editing Objects](#)
[Editing Points|topic=Editing Points](#)
[Adding a Curb Ramp|topic=Adding a Curb Ramp](#)
[Saving and Loading Shapes|topic=Saving and Loading Shapes](#)

Curb Properties

The properties used to modify a Curb object are located to the right of the screen when your curb is selected. These properties can either be adjusted right before adding the curb to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Curb Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the curb will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the curb will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the curb in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the curb in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines what type of surface the curb will use. To change the material, click the small image that displays the current material.

Material options	The appearance of the curb can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the curb material.
Angle	The Angle property determines the rotation angle of the curb material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the curb material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the curb material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the curb material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the curb in the Plan view. To change the sidewalk opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line Style	The Line Style property determines the appearance of the outline of the curb in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Width	The Width property determines the thickness of the curb. To change the curb width, move the Width slider or type a value in the text field.
Height	The Height property determines how tall the curb is. To change the height of the curb, move the Height slider or type a value in the text field.

Slab length	<p>The Slab length property determines the distance between each expansion joint. To change the length of each curb slab, move the Slab length slider or type a value in the text field.</p> <p>The Slab length property will have no effect if the Joint type property is set to "None".</p>
Joint type	The Joint type property determines whether the curb is composed of slabs, slabs with false joints, or solid cement. To change the curb type, click the Joint type drop-down menu.
Curb type	The Curb type property determines the shape and style of curbing. To change the curb style, click the Curb type drop-down menu.
Curb width	The Curb width property determines the thickness of the curb. To change the width of the curb, move the Curb width slider or type a value in the text field.
Closed	The Closed property determines whether the curb's shape is open or closed. To change the state of the curb's shape, click the Closed checkbox.
Switch sides	The Switch sides property determines on which side of the curb's shape the curb is built. To toggle the side that the curb is constructed on, click the Switch sides checkbox.
Edit Points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the curb's shape. See Editing Points topic=Editing Points for details.
Shape Options	Click the Shape Options button to save the shape of the curb or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the curb to the finish.

See also:

- [Adding a Curb|topic=Adding a Curb](#)
- [Editing Objects|topic=Editing Objects](#)
- [Editing Points|topic=Editing Points](#)
- [Adding a Curb Ramp|topic=Adding a Curb Ramp](#)
- [Saving and Loading Shapes|topic=Saving and Loading Shapes](#)

Adding a Curb Ramp

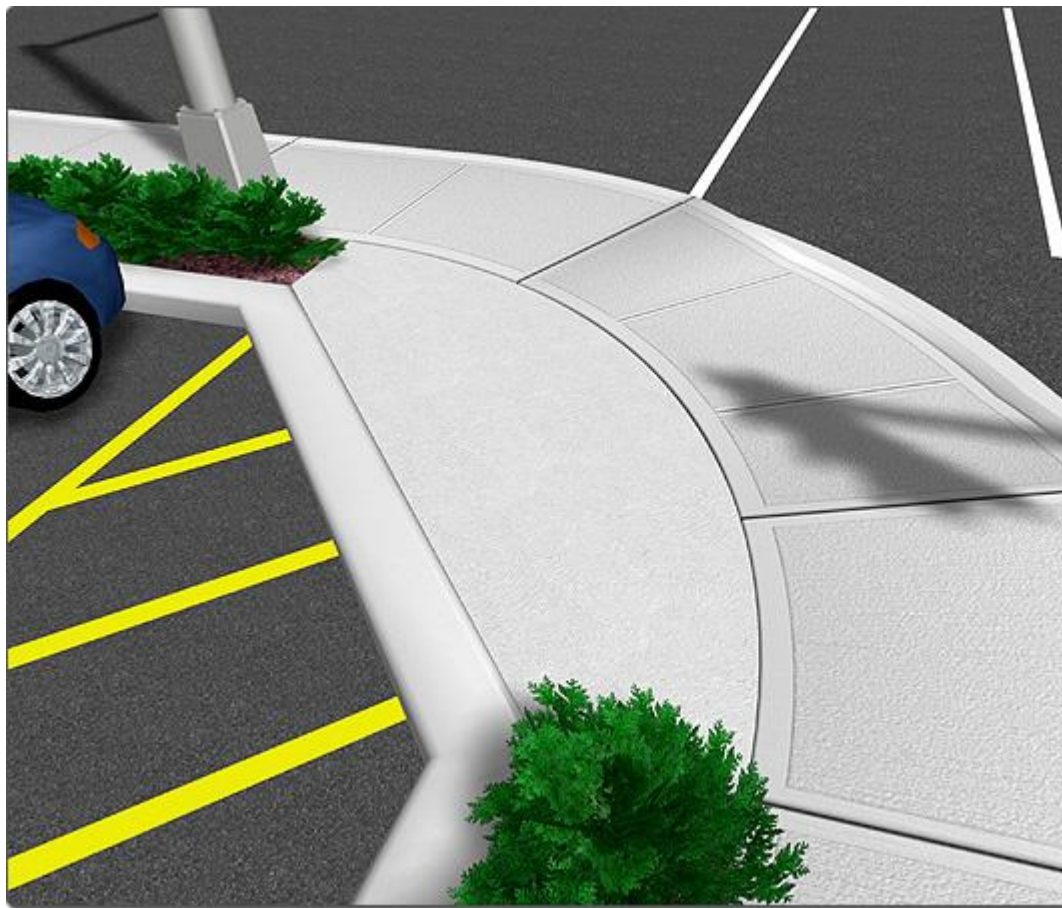


The Curb Ramp object is used to add a ramp to both curbs and sidewalks. Ramps can be sized to the necessary width, making them ideal for both driveway and sidewalk ramps.

To add a curb ramp:

1. Ensure that your landscape design contains a curb or sidewalk.
2. Click the **Add Curb Ramp** button that appears near the top of the screen under the **Road** tab.
3. Hover your mouse cursor over the curb or sidewalk you wish to add a ramp to and you will notice a blue line indicating where the ramp will be positioned. Click the left mouse button to add the ramp.

The picture below shows an example of a street design with a ramped sidewalk.



Tips:

1. Curb ramps can be added to [Road objects|topic=Adding a Road](#), [Sidewalk objects|topic=Adding a Sidewalk](#), and [Curb objects|topic=Adding a Curb](#).
2. Once a curb ramp has been added, it can be moved and widened as needed.
3. If no curbs or sidewalks are currently in your landscape design, then a curb ramp cannot be added.

See also:

- [Curb Ramp Properties|topic=Curb Ramp Properties](#)
- [Adding a Curb|topic=Adding a Curb](#)
- [Adding a Sidewalk|topic=Adding a Sidewalk](#)
- [Adding a Road|topic=Adding a Road](#)

Curb Ramp Properties

The properties used to modify a Curb Ramp are located to the right of the screen when your ramp is selected. These properties can either be adjusted right before adding the ramp to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Width	The Width property determines the length of sidewalk or curbing that the curb ramp will span. To change the ramp width, move the Width slider or type a value in the text field.

See also:

- [Adding a Curb Ramp|topic=Adding a Curb Ramp](#)
- [Adding a Curb|topic=Adding a Curb](#)
- [Adding a Sidewalk|topic=Adding a Sidewalk](#)
- [Adding a Road|topic=Adding a Road](#)

Adding a Road Stripe



The Road Stripe object makes it easy to add parking lot markings, road stripes, crosswalk indicators, and more. Road stripes support both solid lines and dashed stripes, and can be set to any width, length, shape, and transparency.

To add a road stripe:

1. Click the **Add Road Stripe** button that appears near the top of the screen under the **Road** tab.
2. Draw the road stripe by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the road stripe, right-click to place the last point.

The picture below illustrates how the road stripe can be used to create parking lot layouts.



Tips:

1. The spacing between stripes can be adjusted using the Spacing [property|topic=Setting Object Properties](#). If the spacing is set to "0", then the road stripe will become a solid line.

See also:

- [Road Stripe Properties|topic=Road Stripe Properties](#)
- [Adding a Road|topic=Adding a Road](#)
- [Adding a Curb|topic=Adding a Curb](#)
- [Adding a Road Decal|topic=Adding a Road Decal](#)
- [Adding a Road Accessory|topic=Adding a Road Accessory](#)

Road Stripe Properties

The properties used to modify a Road Stripe are located to the right of the screen when your road stripe is selected. These properties can either be adjusted right before adding the stripe to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
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Color	The Color property determines the color of the road stripe. To change the road stripe's color, click the small color swatch that displays stripe's current color.
Transparency	The Transparency property determines the opacity of the road stripe. To change the stripe's opacity, move the Transparency slider or type a value in the text field.
Width	The Width property determines the thickness of the road stripe. To change the stripe's width, move the Width slider or type a value in the text field.
Length	The Length property determines the size of each individual road stripe. To change the stripe length, move the Length slider or type a value in the text field. If the Spacing property is set to "0", then the road stripe will become a solid line and the Length property will have no effect.
Spacing	The Spacing property determines the distance between each road stripe. To alter the spacing, move the Spacing slider or type a value in the text field. If the Spacing property is set to "0", then the road stripe will become a solid line.
Closed	The Closed property determines whether the road stripe's shape is open or closed. To change the state of the stripe's shape, click the Closed checkbox.
Edit Points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the road stripe's shape. See Editing Points topic=Editing Points for details.
Shape Options	Click the Shape Options button to save the shape of the road stripe or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the road stripe to the finish.

See also:

- [Adding a Road Stripe|topic=Adding a Road Stripe](#)
- [Adding a Road|topic=Adding a Road](#)
- [Adding a Curb|topic=Adding a Curb](#)
- [Adding a Road Decal|topic=Adding a Road Decal](#)
- [Adding a Road Accessory|topic=Adding a Road Accessory](#)

Adding a Road Decal



The Road Decal object is used to add flat detail to road surfaces, such as painted symbols, drains, manhole covers, and more. The Road Decal object is very similar to the [Overlay object|topic=Adding an Overlay](#).

To add a road decal:

1. Click the **Add Road Decal** button that appears near the top of the screen under the **Road** tab.
2. Click the picture of the default road decal that appears to the right of the screen, and then select the decal you would like to use.
3. Click on your design where you wish to place the road decal.

In the design below, the Road Decal object was used to designate the handicapped parking space.



Importing Custom Road Decals

Custom road decals can be imported from images taken with a digital camera or downloaded online. To import custom road decals or other image-based objects, use the [Picture Import Wizard|topic=Picture Import Wizard](#).

Tips:

1. Road Decals will only display over roads that were added using the [Road tool|topic=Adding a Road](#), and will not display over roads added through the Road Accessory tool.
2. Road Decals are compatible with sloping and slanted roadways.

See also:

- [Road Decal Properties|topic=Road Decal Properties](#)
- [Adding an Overlay|topic=Adding an Overlay](#)
- [Selecting Objects|topic=Selecting Objects](#)
- [Editing Objects|topic=Editing Objects](#)
- [Adding a Road|topic=Adding a Road](#)

Road Decal Properties

The properties used to modify a road decal are located to the right of the screen when your decal is selected. Only some of these properties can be adjusted right before adding the decal to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the road decal will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the decal will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the road decal in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the Overlay in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Picture	The Picture property determines which image is used for the road decal. To change the picture, click the small image that displays the current picture being used.
Picture options	The appearance of the road decal can be adjusted by clicking on the small button that appears to the right of the small image of the current decal.
Transparency	The Transparency property determines the opacity of the road decal in the Plan view. To change the decal opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.

Line Style	The Line Style property determines the appearance of the outline of the road decal in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.
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Options	Description
Width	The Width property determines the size of the road decal from left to right. To adjust the decal width, move the Width slider or type a value in the text field.
Length	The Length property determines the size of the road decal from top to bottom. To adjust the decal length, move the Length slider or type a value in the text field.
Angle	The Angle property determines the rotation angle of the road decal in degrees. To change the decal angle, move the Angle slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the road decal is stretched or not when you adjust the width or length. If you wish to simply enlarge the decal, then keep the Scale evenly option checked. If you wish to stretch the decal in any direction, then uncheck the Scale evenly option.
Show in Realtime Walkthrough	The Show in Realtime Walkthrough property determines if the road decal is displayed during a Realtime Walkthrough. To change whether the decal is shown during a walkthrough, click the Show in Realtime Walkthrough checkbox to toggle it.
Resize using Known Distance	The Resize using Known Distance property is used to size the road decal based on a real world dimension. For example, if the decal was of a manhole cover, and you knew the length of the cover, then the length would be the known dimension that you would input. To size the road decal, click the Resize using Known Distance button.

See also:

- [Adding a Road Decal|topic=Adding a Road Decal](#)
- [Adding an Overlay|topic=Adding an Overlay](#)
- [Selecting Objects|topic=Selecting Objects](#)
- [Editing Objects|topic=Editing Objects](#)
- [Adding a Road|topic=Adding a Road](#)

Adding a Road Accessory



The Road Accessory object is used to add detailed stand-alone objects to your landscape design, such as cars, street signs, bicycles, fire hydrants, speed bumps, and more.

To add a road accessory:

1. Click the **Add Road Accessory** button that appears near the top of the screen under the **Road** tab.
2. Click the picture of the default road accessory that appears to the right of the screen, and then select the accessory you would like to use.
3. Click on your design where you wish to place the road accessory.

In the landscape design below, the Road Accessory object was used to add the cars, bike, and fire hydrant.



Using Pre-built Road Pieces

A variety of pre-built road pieces are available in the Road Accessories library. These pieces may be used instead of the freeform [Road object|topic=Adding a Road](#), but they cannot be freely modified, do not conform to uneven terrain, or given a [Curb Ramp|topic=Adding a Curb Ramp](#). The advantage of using pre-built pieces is the ability to instantly drop in complex road sections, such as bends, intersections, and even cul-de-sacs.

Tips:

1. Additional accessories are available under the Landscape tab. See [Adding an Accessory|topic=Adding an Accessory](#) for details.
2. The materials of each road accessory can be modified as needed by right-clicking the thumbnail image of the selected accessory.

See also:

[Road Accessory Properties|topic=Road Accessory Properties](#)
[Adding an Accessory|topic=Adding an Accessory](#)
[Selecting Objects|topic=Selecting Objects](#)
[Editing Objects|topic=Editing Objects](#)
[Adding a Road|topic=Adding a Road](#)

Road Accessory Properties

The properties used to modify a road accessory are located to the right of the screen when your accessory is selected. Only some of these properties can be adjusted right before adding the accessory to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of road accessory. To change the accessory model, click the picture that shows the current road accessory.
Material options	The appearance of the road accessory can be modified by clicking the small button that appears to the right of the accessory image.
Elevation	The Elevation property determines the distance of the road accessory from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

Advanced	Description
Width	The Width property determines the size of the road accessory from left to right. To adjust the accessory width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the road accessory from front to back. To adjust the accessory length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the road accessory is. To adjust the accessory height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the road accessory about its X axis. If your view is facing north, this will rotate the accessory forward or backward. To rotate the road accessory, move the Rotate about X slider or type a value in the text field.

Rotate about Y	The Rotate about Y property determines the angle of the road accessory about its Y axis. If your view is facing north, this will rotate the accessory left or right as if it was sitting upon a pottery wheel. To rotate the road accessory, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the road accessory about its Z axis. If your view is facing north, this will rotate the accessory left or right as if it was sitting upon the face of a clock. To rotate the road accessory, move the Rotate about Z slider or type a value in the text field.
Align to terrain	The Align to terrain property determines if the road accessory is automatically tilted when it is placed on uneven terrain. If this option is disabled, the accessory will remain upright by default. To change the automatic terrain alignment, click the Align to terrain checkbox.
Scale evenly	The Scale evenly property determines if the road accessory is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the accessory, then keep the Scale evenly option checked. If you wish to stretch the road accessory in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the accessory material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

[Adding a Road Accessory|topic=Adding a Road Accessory](#)
[Adding an Accessory|topic=Adding an Accessory](#)
[Selecting Objects|topic=Selecting Objects](#)
[Editing Objects|topic=Editing Objects](#)
[Adding a Road|topic=Adding a Road](#)

Adding a Street Light



The Street Light object is used to add both residential and commercial street lights to your landscape design. Many styles and sizes of street lights are available, from standard gooseneck road lights to fancy sidewalk lights. Street lights will illuminate during evening Realtime Walkthroughs.

To add a street light:

1. Click the **Add Street Light** button found near the top of the screen under the **Road** tab.

2. Click the picture of the default street light that appears to the right of the screen, and then select the light you would like to use.
3. Click on your design where you wish to place the street light.

In the landscape design below, some small street lights are used to illuminate the sidewalk for pedestrians.



Tips:

1. Street lights will illuminate during Realtime Walkthroughs when the [Time of Day|topic=Setting the Time of Day](#) is set to Evening, Sunrise, or Sunset.
2. The color, angle, and range of the illumination that a street light casts can be adjusted freely.
3. For path lights, spot lights, hanging lights, and more, see [Adding a Landscape Light|topic=Adding a Landscape Light](#).

See also:

[Street Light Properties](#)
[Adding a Landscape Light](#)
[Adding a House Light](#)
[Adding a Road](#)
[Adding a Road Accessory](#)

Street Light Properties

The properties used to modify a street light are located to the right of the screen when your street light is selected. Only some of these properties can be adjusted right before adding the street light to your landscape, but all of the properties can be adjusted after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Model	The Model property determines the type of street light. To change the light model, click the picture that shows the current light.
Material options	The appearance of the street light can be modified by clicking the small button that appears to the right of the light image.
Elevation	The Elevation property determines the distance of the street light from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Range	The Range property determines the distance that the street light will shine, effectively controlling the strength of the light. To change the street light's influence, move the Range slider or type a value in the text field.
Beam angle	The Beam angle property determines the width of the street light's influence. To adjust the light's influence, move the Beam angle slider or type a value in the text field.
Color	The Color property determines the color of illumination. For example, a blue color would cause the street light to cast blue light during a walkthrough. To change the light's color, click the small color swatch that displays light's current color.
Add corona	The Add corona property determines if a bright halo of light is added around the bulb of the street light during a Realtime Walkthrough. To toggle the halo effect, click the Add corona checkbox.
Show area of influence	The Show area of influence property determines whether or not a helper is added while in the Plan or Perspective views. This helper is used to view the street light's range and angle of influence. To enable or disable the lighting helper, click the Show area of influence checkbox.
Use ray tracing for accurate shadows	The Use ray tracing for accurate shadows property determines the accuracy and quality of shadows that are created by the selected street light in an evening walkthrough. Ray tracing provides higher quality, but causes walkthroughs to generate slower. To toggle ray tracing, click the Use ray tracing for accurate shadows checkbox.

Advanced	Description
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Width	The Width property determines the size of the street light from left to right. To adjust the light's width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the street light from front to back. To adjust the light's length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the street light is. To adjust the light's height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the street light about its X axis. If your view is facing north, this will rotate the light forward or backward. To rotate the light, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the street light about its Y axis. If your view is facing north, this will rotate the light left or right as if it was sitting upon a pottery wheel. To rotate the light, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the street light about its Z axis. If your view is facing north, this will rotate the light left or right as if it was sitting upon the face of a clock. To rotate the light, move the Rotate about Z slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the street light is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the light, then keep the Scale evenly option checked. If you wish to stretch the light in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the light material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

- [Adding a Street Light|topic=Adding a Street Light](#)
- [Adding a Landscape Light|topic=Adding a Landscape Light](#)
- [Adding a House Light|topic=Adding a House Light](#)
- [Adding a Road|topic=Adding a Road](#)
- [Adding a Road Accessory|topic=Adding a Road Accessory](#)

Adding a Guardrail

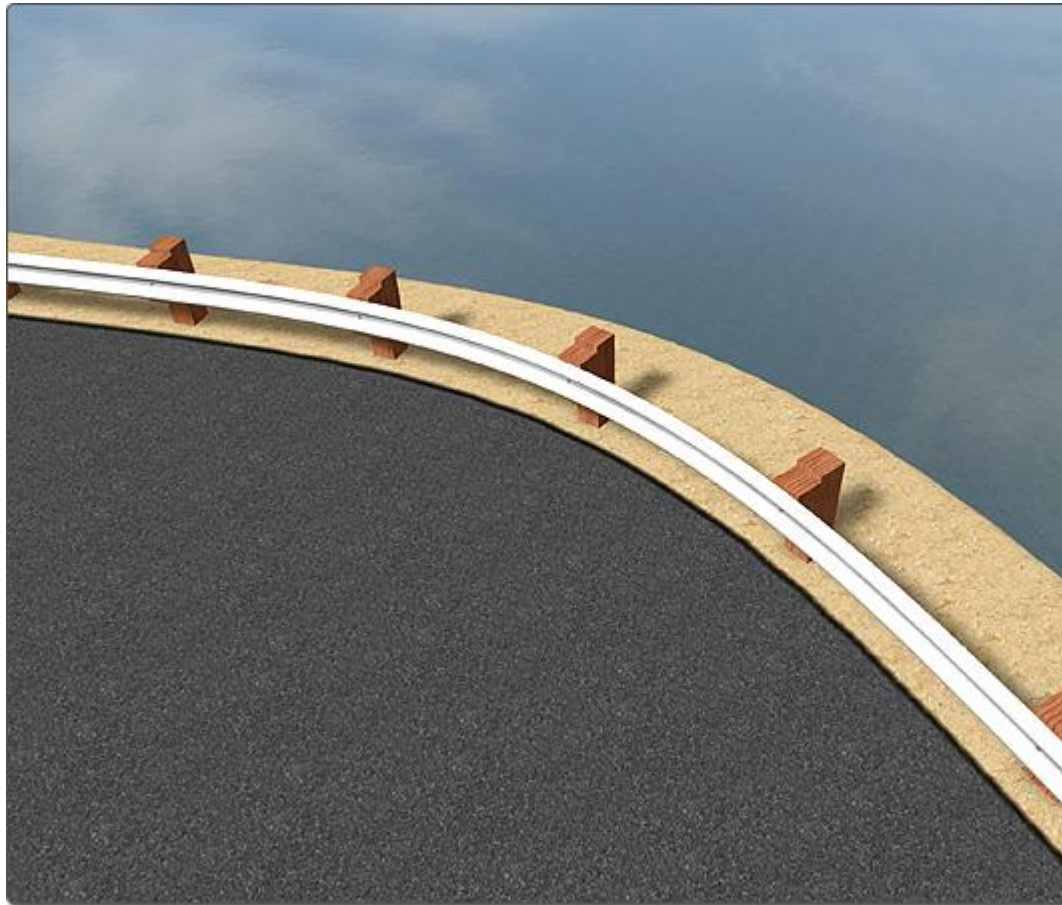


The Guardrail object is used to create a freeform protective rail that is found on many busy or dangerous roads. The guardrail uses standard measurements and can be modified in height and in post spacing.

To add a guardrail:

1. Click the **Add Guardrail** button found near the top of the screen under the **Road** tab.
2. Draw the guardrail by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the guardrail, right-click to place the last point. The guardrail will be constructed to the left of the line that was drawn.

In the picture below, a guardrail is used to line a ridge that borders a lake.



Tips:

1. Guardrails can be added in either the Plan view or the Perspective view, but are easiest to add in the Plan view.

See also:

[Guardrail Properties|topic=Guardrail Properties](#)
[Adding a Road|topic=Adding a Road](#)

[Road Properties|topic=Road Properties](#)
[Editing Points|topic=Editing Points](#)
[Editing Objects|topic=Editing Objects](#)

Guardrail Properties

The properties used to modify a guardrail object are located to the right of the screen when your guardrail is selected. These properties can either be adjusted right before adding the guardrail to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Rail material	Description
Rail material	The Rail material property determines the type of surface of the metal railing that is placed at the top of the guardrail. To change the material, click the small image that displays the current material.
Material options	The appearance of the rail can be modified by clicking the small button that appears to the right of the rail material's image.
Size	The Size property determines the scale of the rail material.
Angle	The Angle property determines the rotation angle of the rail material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the rail material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the rail material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the rail material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Post material	Description
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Material	The Material property determines what type of surface the guardrail posts will use. To change the material, click the small image that displays the current material.
Material options	The appearance of the guardrail posts can be modified by clicking the small button that appears to the right of the post material's image.
Size	The Size property determines the scale of the post material. To adjust the post material size, move the Size slider or type a value in the text field.
Angle	The Angle property determines the rotation angle of the post material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the post material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the post material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the post material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

Options	Description
Switch sides	The Switch sides property determines on which side of the guardrail's shape the guardrail is built. To toggle the side that the guardrail is constructed on, click the Switch sides checkbox.
Height	The Height property determines how tall the guardrail posts are. To modify the height of the posts, move the Height slider or type a value in the text field.
Post spacing	The Post spacing property determines the distance between each guardrail post. To modify the post distance, move the Post spacing slider or type a value in the text field.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the guardrail's shape. See Editing Points topic=Editing Points for details.

Shape options	Click the Shape Options button to save the shape of the guardrail or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes.
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Information	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the guardrail to the finish.

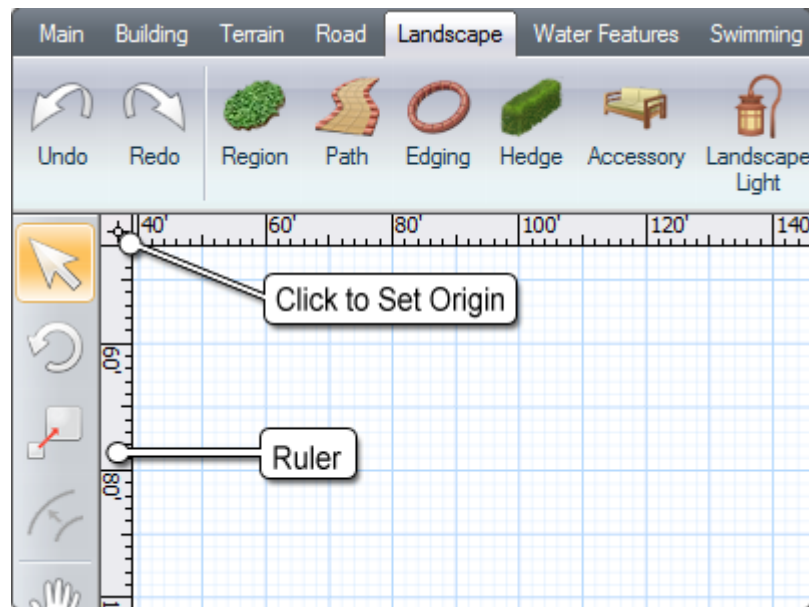
See also:

- [Adding a Guardrail|topic=Adding a Guardrail](#)
- [Adding a Road|topic=Adding a Road](#)
- [Road Properties|topic=Road Properties](#)
- [Editing Points|topic=Editing Points](#)
- [Editing Objects|topic=Editing Objects](#)

Setting Preferences

Using Rulers

Rulers can be enabled in the Plan view to aid in more precise measurements. The rulers allow you to move and size objects relative to a point on your landscape design called the *origin*. When you move the mouse in the Plan view, the rulers will display the exact location of your mouse cursor. When you move an object in the Plan view, the rulers will display the distance that the object has been moved in each direction.



To turn rulers on or off: Click **Settings, Rulers,** and **Show Rulers.** Alternately, press **Ctrl + R** on your keyboard.

To set the ruler origin:

1. Click **Settings, Rulers,** and **Set Ruler Origin.** Alternately, click the origin symbol that appears in the top-left corner of the rulers as shown above.
2. Position your mouse at the desired origin position and click to set the origin. Press the **Esc** if you wish to cancel.

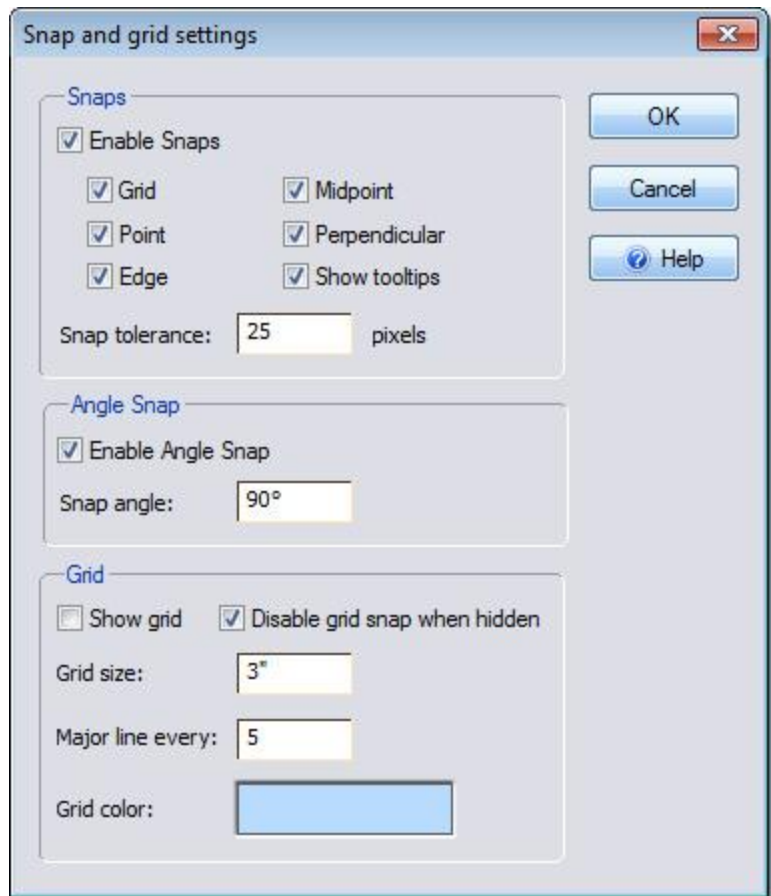
If you wish to reset the ruler origin to its default position at the top-left of your landscape design, click **Settings, Rulers,** and **Reset Ruler Origin.** Alternately, click the origin symbol as shown in the image above and click **Reset Ruler Origin** from the menu that appears.

Snap Settings

Position snapping and angle snapping are powerful helpers that allow you to achieve greater accuracy when designing and editing objects. When an object or a point “snaps”, it is positioning itself at a point of interest, such as a grid intersection or the edge of another shape on your design. Within the *Snap Settings* menu, each method of snapping can be adjusted.

To edit snap settings:

1. Click Settings and Snap Settings.
2. Modify the settings as needed and then click the OK button.



Enable snaps

Click the *Enable snaps* checkbox to enable or disable all position-based snapping.

Grid

Click the *Grid* checkbox to enable or disable grid snapping. When grid snapping is enabled, objects and points will snap to the grid intersections.

Point

Click the *Point* checkbox to enable or disable point snapping.

When point snapping is enabled, objects and points will snap to the points of nearby shapes.

Edge

Click the *Edge* checkbox to enable or disable edge snapping.

When edge snapping is enabled, objects and points will snap to the edges of nearby shapes.

Midpoint

Click the *Midpoint* checkbox to enable or disable midpoint snapping.

When midpoint snapping is enabled, objects and points will snap to the midpoints of nearby shape edges.

Perpendicular

Click the *Perpendicular* checkbox to enable or disable perpendicular snapping.

When adding a new shape, if the first point is placed on the edge of an existing shape, then the second point will snap to the perpendicular direction to that edge.

Show tooltips

Click the *Show tooltips* checkbox to enable or disable the appearance of snap tooltips. When tooltips are enabled, then a small information box will explain what is currently being snapped to.

Snap tolerance

The Snap tolerance value determines the distance, in pixels, at which your mouse cursor will snap to the target. Because distance is measured in pixels, the snapping tolerance will intuitively adjust to your zoom level and monitor size.

Enable Angle Snap

Click the *Enable Angle Snap* checkbox to enable or disable angle snaps. When angle snaps are enabled, objects will snap to the defined *Snap angle* when they are rotated.

Snap angle

Enter the desired rotation angle in the *Snap angle* field. The snap angle determines what angles objects will snap to when they are rotated.

Show grid

Click the *Show grid* checkbox to enable or disable the visibility of the grid. The grid does not need to be visible for objects to snap to it.

Disable grid snap when hidden

Click the *Disable grid snap when hidden* checkbox to enable or disable the grid snapping when *Show grid* is disabled. This option is more intuitive for new users.

Grid size

Enter the desired size of each grid square in the *Grid size* field. The grid size is measured in feet or meters.

Major line every

Enter the desired rate at which darker grid lines appear in the

Major line every field. For example, if the *Grid size* is set to 1 foot, and the *Major line every* setting is set to 10, then a dark grid line will appear every 10 feet.

Grid color

To change the color of the grid, click the small color swatch that displays the current grid color.

Tips:

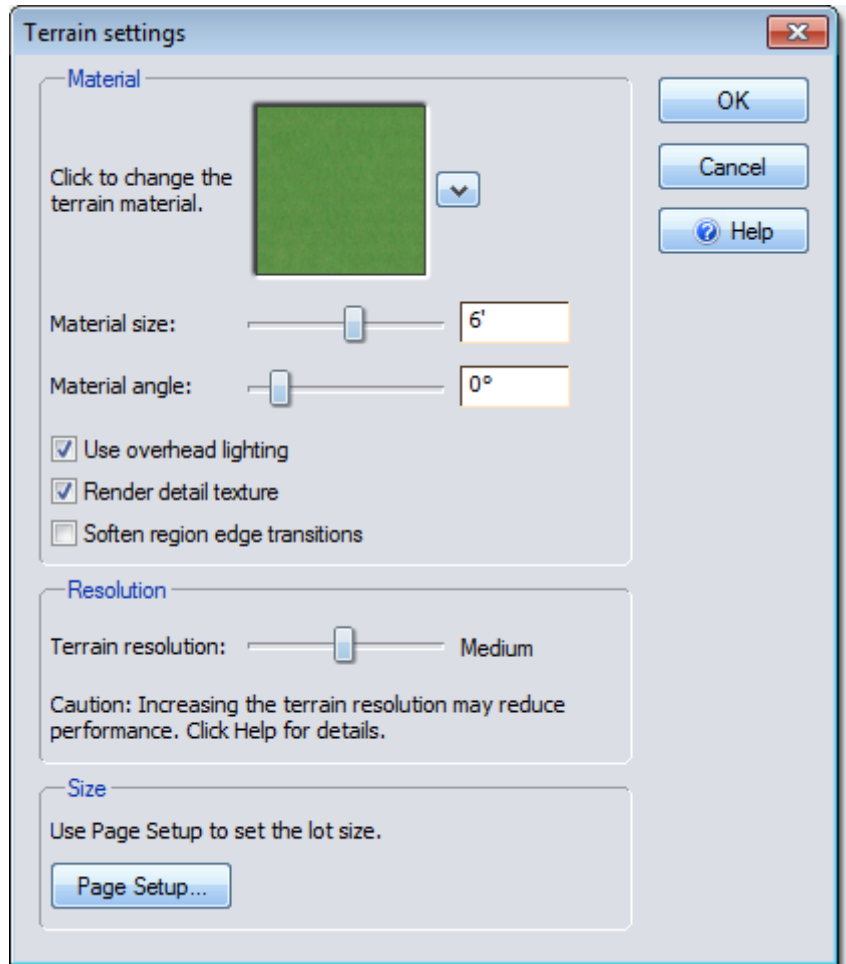
1. All position snapping can be quickly enabled or disabled by clicking the **Toggle Snaps** button found to the left of the screen, or by pressing **Ctrl + G** on your keyboard.
2. The visibility of the grid can be quickly enabled or disabled by clicking the **Toggle Grid** button found to the left of the screen, or by pressing **Ctrl + I** on your keyboard.
3. Angle snapping can be quickly enabled or disabled by pressing **Ctrl + A** on your keyboard.

Terrain Settings

The *Terrain Settings* menu allows you to adjust the terrain material as well as the definition of the terrain on uneven topology.

To edit terrain settings:

1. Click Settings and Terrain Settings.
2. Modify the terrain settings as needed and then click the OK button.



Material

The *Material* setting determines the type of material used for the terrain in the Perspective view. To change the terrain material, click the image that displays the current material.

Material Options

The *Material Options* setting is used to change the color and brightness of the terrain material, or to set the terrain as a solid color. To access the material options, click the small button that appears to the right of the material image.

Material size

The *Material size* setting determines how large the terrain material appears. To adjust the Material size of the material, move the Material size slider or enter a value in the text field.

Material angle

The *Material angle* setting determines the rotation angle of the terrain material. To adjust the angle of the terrain material, move the Material angle slider or enter a value in the text field.

Use overhead lighting

The *Use overhead lighting* setting determines whether the terrain is lit from above at all angles, or from the viewpoint. To

adjust the lighting method of the terrain material, click the Use overhead lighting checkbox.

Render detail texture

The *Render detail texture* setting is used to enable or disable a “level of detail” texture that dynamically replaces the default terrain texture at certain view distances. If you wish for the terrain texture to remain static at all viewing distances, then uncheck this option.

Soften region edge transitions

The *Soften region edge transitions* setting is used to enable or disable a much more gradual blending method for all regions and paths in the landscape design. When this option is enabled, the separation between any two regions will be less apparent.

Terrain resolution

The *Terrain resolution* setting determines the level of detail for terrain modifying objects, such as slopes. To change the topology detail, move the Terrain resolution slider or enter a value in the text field. For landscape designs with flat or slightly sloping terrain, use a *Low* terrain resolution. For landscapes with moderate topology changes, use a *Medium* terrain resolution. For designs with extensive topology changes, use a *High* terrain resolution. The terrain resolution can be changed at any time.

Page Setup

Click *Page Setup* to access a dialog for changing the lot size, print scale, and other settings. The Page Setup dialog can also be accessed by clicking **File** and **Page Setup**. For more information, see [Page Setup|topic=Page Setup](#).

Tips:

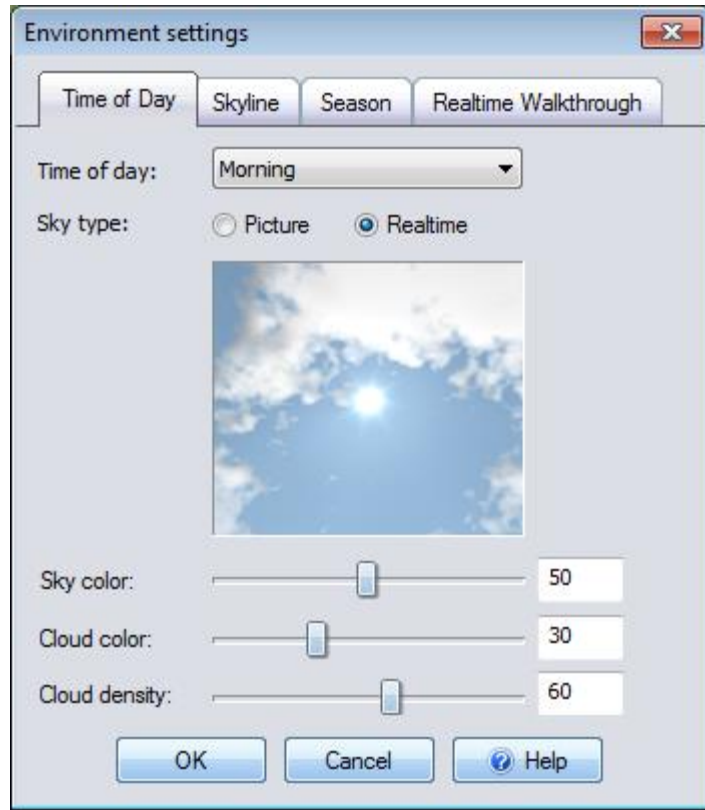
1. In the Plan view, the terrain always appears as solid white. If you would like to use a different color or a material in the Plan view, then create a large region that is set to the desired color or material. For details, see [Adding a Region|topic=Adding a Region](#).

Environment Settings

The Environment Settings dialog provides options to adjust the [time of day|topic=Setting the Time of Day](#), [skyline|topic=Adding a Skyline](#), [plant season|topic=Setting the Current Season](#), and [Realtime Walkthrough|topic=Realtime Walkthrough Settings](#) settings.

Setting the Time of Day

Use the Time of Day settings to determine the sun position and appearance of the sky. You can choose between a pre-rendered picture of the sky, or one that is dynamically created with clouds that move and change during a Realtime Walkthrough.



Time of Day

Selects the time of day. This is used to determine the position of the sun, direct and ambient lighting, and sky and cloud color options. If the time of day is set to Sunrise, Sunset, or Evening, then lights in your landscape design will illuminate during a Realtime Walkthrough.

Sky type

Choose Picture for a photograph of an actual sky, or Realtime for a dynamically generated sky with moving clouds and adjustable lighting. When using the Realtime setting, you can also adjust the sky color, cloud color, and cloud density.

Note: A modern 3D video card is required in order to use the Realtime sky setting.

Sky color

Adjusts the sky color when using the Realtime sky type. The range of colors available depends on the selected time of day. For example, when the time of day is set to Morning, you can choose between various shades of blue.

Cloud color

Adjusts the cloud color when using the Realtime sky type. The range of colors available depends on the selected time of day. For example, when the time of day is set to Sunset, you can choose between various shades of orange and purple.

Cloud density

Adjusts the amount of cloud cover when using the Realtime sky type.
Set the cloud cover to 0 to remove the clouds altogether.

The following landscape design uses the Realtime sky setting for realistic clouds which move and change in the wind:



Adding a Skyline

Skylines help your landscape designs look more realistic by surrounding them with scenery.



Add skyline

Check this option to add a skyline.

Skyline picture

Click the picture of the skyline to select a new one.

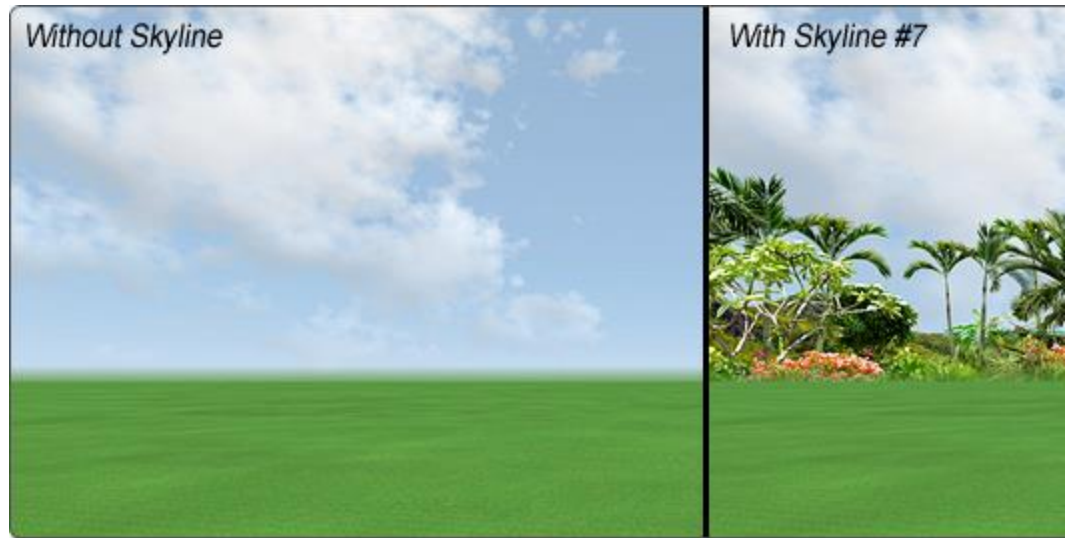
Size

Adjusts the size of the skyline, making it appear closer or farther away. Adjust the size as needed to best compliment your particular design.

Angle

Rotates the skyline, so you can align the desired features with your landscape design.

The following shows a landscape design with and without a skyline.



Adding a Custom Skyline (advanced)

You can create and import your own custom skylines using the following steps.

1. Using Photoshop (or similar program), create two images, each 2048x512 pixels in size. The first image will be the main skyline image (which will appear in the skyline only once), and the second will be automatically repeated by the software as needed to surround the entire landscape.
2. Remove the sky from both images.
3. Create an alpha channel with white for areas that are opaque, and black for areas that are transparent.
4. Save both images in 32-bit TGA format. Name the first image anything you'd like, such as "My Custom Skyline.tga". Name the second image the same as the first, except append "_b" to the file name, such as "My Custom Skyline_b.tga". Save the images to the following locations (create the folders as needed):

Image 1: c:\Program Files (x86)\DATAflor GRÜNSTUDIO 3D\data\sky\skyline\My Custom Skyline.tga

Image 2: c:\Program Files (x86)\DATAflor GRÜNSTUDIO 3D\data\sky\skyline\panels\My Custom Skyline_b.tga

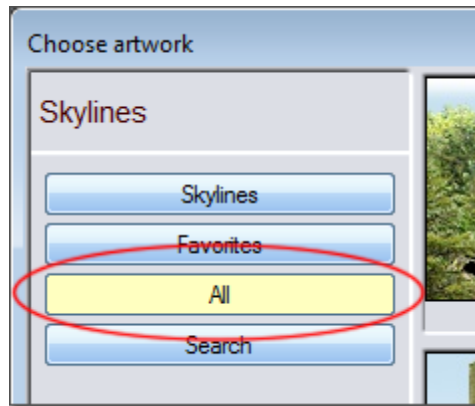
Where "c:\Program Files (x86)\DATAflor GRÜNSTUDIO 3D" is your program installation directory. On 32-bit systems, replace "Program Files (x86)" with "Program Files".

5. *Optional:* If you want to create a custom thumbnail for your skyline, create a 112x112 image and save it in BMP format to the following location (creating the folder if needed):

c:\Program Files (x86)\DATAflor GRÜNSTUDIO 3D\data\sky\skyline\preview\preview_My Custom Skyline.bmp

6. Stop and restart DATAflor GRÜNSTUDIO 3D.

- When browsing for skylines, click the **All** button to view your custom skylines

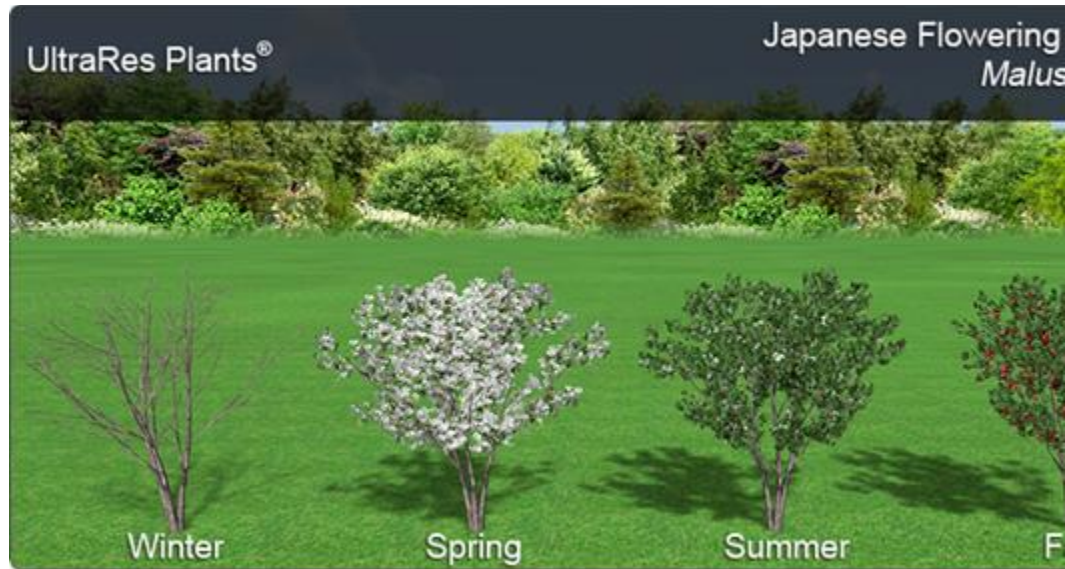


Setting the Current Season

UltraRes Plants® can change their appearance based on the current season. By default, UltraRes Plants® use the global season as defined in the environment settings dialog. However, you can override the season for each plant as needed using the **Season** property, in which case the following setting will not apply.



Below is a Japanese Flowering Crabapple shown in each of the four seasons:



Tips:

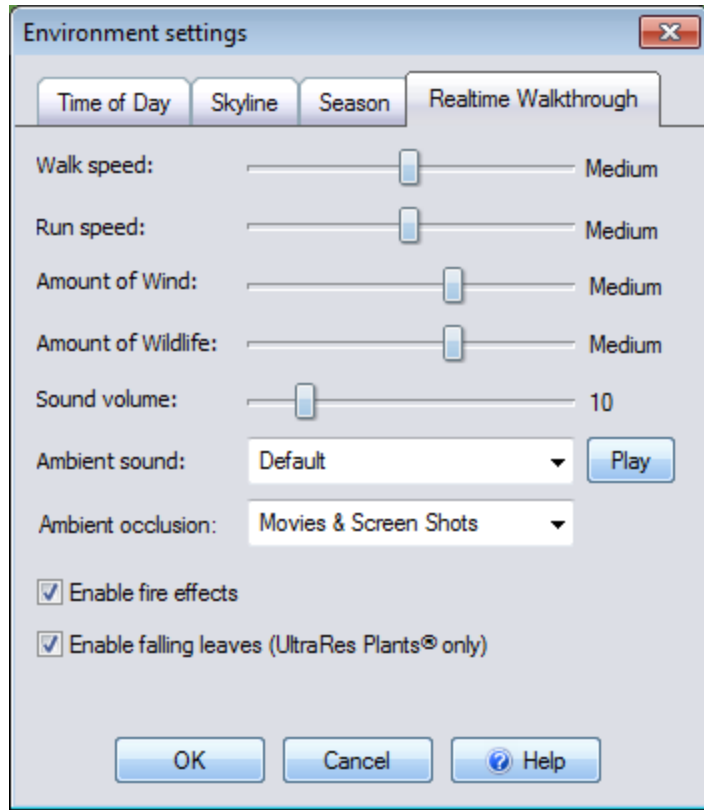
1. Only UltraRes Plants® with their Season property set to **Use global setting** will be affected.
2. Not all plants have a different appearance in all seasons. For example, most evergreens have the same basic appearance all year.

See also:

[Adding a Plant|topic=Adding a Plant](#)
[Plant Properties|topic=Plant Properties](#)

Realtime Walkthrough Settings

These settings let you customize certain aspects of the Realtime Walkthrough, such as wind, movement speed, ambient sound, and more.



Walk Speed

Adjusts how fast you will move when pressing a movement key (arrow, W,S,A,D, or right mouse button).

Run Speed

Adjusts how fast you will move when pressing a movement key while simultaneously holding down the **Shift** key.

Amount of Wind

Adjusts how hard the wind will blow during a Realtime Walkthrough. The higher the wind level, the more plant models and UltraRes Plants® will sway in the breeze. This also influences how fast clouds will move and change when using the Realtime sky type.

Notes:

- Plant pictures do not move in the wind and will not be affected.
- Wind is available only if your computer is equipped with a supported video card. For details, see [Program Settings|topic=Program Settings](#).

Amount of Wildlife

Determines the amount of birds, fish, and butterflies that appear during a Realtime Walkthrough. To adjust the wildlife, move the Amount of Wildlife slider to the desired setting.

Sound volume

Adjusts the volume of sounds played during a Realtime Walkthrough.

To mute all sound during a Realtime Walkthrough, set the volume to zero.

Ambient sound

Selects which background sound or music is played during Realtime Walkthroughs. If this setting is set to Default, then the sound will be determined automatically based on the time of day.

Ambient occlusion

Increases the graphics realism, especially in areas not directly illuminated by the sun. This option is very performance intensive and is normally only enabled for movies and screen shots.

Play

Click to preview the currently selected ambient sound.

Enable fire effects

Enables the visibility of fire during a Realtime Walkthrough. Fire effects apply to torches, fire pits, and fireplaces.

Adding a Custom Ambient Sound

You can import your own custom songs or sound clips for use when creating a movie or during a Realtime Walkthrough. Imported sounds must be in the 16-bit PCM format (the standard Windows format) and have the ".wav" extension.

To add a custom ambient sound:

1. Create the following directory within Windows, and then copy your sound files to it:

```
c:\Program Files\DATAflor GRÜNSTUDIO
3D2014\data\sound\ambient\
```

Where "c:\Program Files\DATAflor GRÜNSTUDIO 3D2014" is your program installation directory. On 64-bit systems, replace "Program Files" with "Program Files (x86)".

2. If DATAflor GRÜNSTUDIO 3Dis running, then save your work and exit the program.
3. Open DATAflor GRÜNSTUDIO 3Dagain, and your ambient sound should appear in the **Ambient sound** list.

Tips:

1. The wildlife, sound, and wind settings only apply to Realtime Walkthroughs.
2. To see the effects of wind on 3D plants, your computer must have a supported video card.
3. If Realtime Walkthroughs are running slowly on large landscape designs, then disabling the wind may improve your experience.
4. When the time of day is set to sunset, sunrise, or evening, all lights in your landscape design will illuminate during Realtime Walkthroughs.

See also:

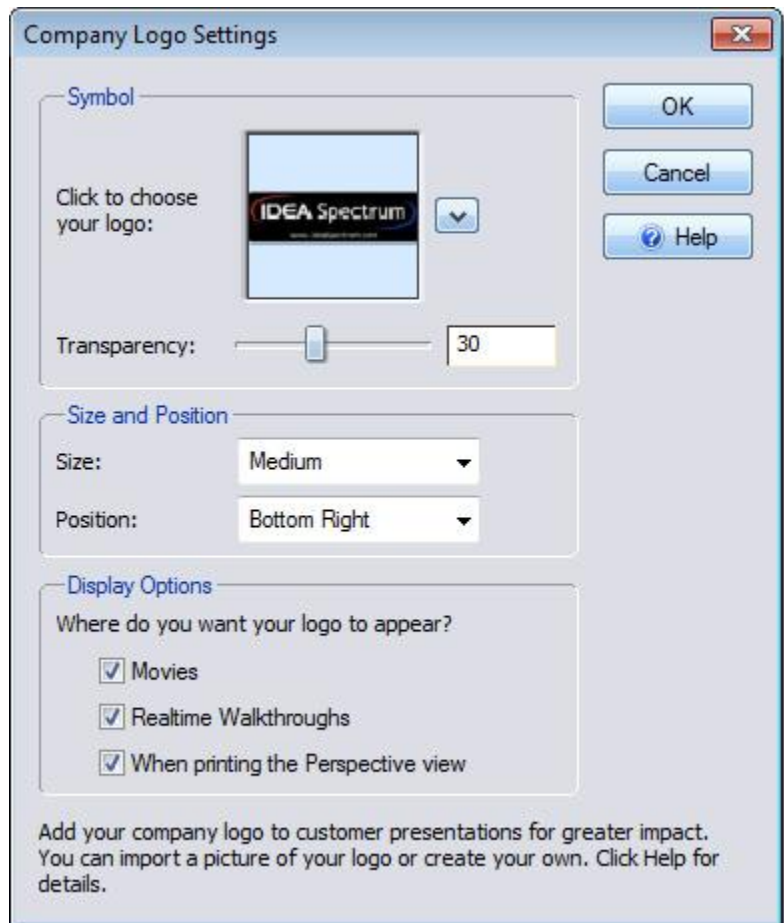
Realtime Walkthrough
Adding a Landscape Light
Adding a House Light
Program Settings

Company Logo Settings

The *Company Logo Settings* dialog is used to add your watermark to movies, Realtime Walkthroughs, and when printing the Perspective view. Adding a company logo can help to customize your client presentations and promote your business.

To edit company logo settings:

1. Click Settings and Company Logo Settings.
2. Modify the settings as needed and then click the OK button.



Symbol

The *Symbol* setting determines which company logo image is used. To change the logo that will be displayed, click the picture that displays the default company logo. For instructions on creating or importing a company logo, see below.

Symbol Options

To edit the color and brightness of the company logo, or to edit the logo using the DATAflor Bildbearbeitung, click the small button that appears to the right of the logo image.

Note: The Symbol Options button will only appear if the currently selected company logo is composed of a single image, as opposed to being composed of multiple Plan Detail objects.

Transparency

The *Transparency* setting determines the opacity of your company logo. To change the logo opacity, move the Transparency slider or enter a value in the text field.

Size

The *Size* setting determines how large the company logo appears. To change the size, click the Size drop-down menu and select an option between *Very Small* and *Very Large*.

Position

The *Position* setting determines where the company logo will be placed. To change the positioning, click the Position drop-down menu and select a location.

Movies, Realtime Walkthroughs, When printing the Perspective View

Click the *Movies*, *Realtime Walkthroughs*, and *When printing the Perspective View* checkboxes to enable or disable the visibility of the company logo for each output method.

Note: There is no option to cause your company logo to appear when printing the Plan view, because the logo should be manually added and positioned in the Plan view for best results.

Creating or Importing your Logo

If you have a company logo image, then see below for instructions on importing it into DATAflor GRÜNSTUDIO 3D. If you do not have a company logo, then one can be created using *Plan Detail* objects.

To create your company logo using plan detail objects:

1. Click **File** and **New** to start a new landscape design.
2. Create your new logo using objects found under the [Plan Detail](#) tab. These objects include symbols, shapes, lines, and text.
3. Select all of the objects that compose your new logo. See [Selecting Objects](#) for details.
4. Click **Tools**, **Symbol Creation Wizard**, and follow the prompts. See [Symbol Creation Wizard](#) for details.
5. Save your landscape design so that you can make changes to your logo at a later time if needed.
6. Click **Settings** and **Company Logo Settings** to enable your company logo.

To import a picture of your company logo:

1. Click **Settings** and **Picture Import Wizard**.
2. Follow the steps of the wizard, and select *Symbol* when prompted for the picture type.
3. Finish the wizard to complete the import process.
4. Click **Settings** and **Company Logo Settings** to enable your company logo.

The picture below displays a landscape design viewed during a Realtime Walkthrough. The company logo that appears to the lower-right was created in Photoshop and imported using the steps above.

Tips:

1. Once your company logo has been imported, it can easily be added to your title block in the Plan view. For details, see [Adding a Symbol|topic=Adding a Symbol](#).
2. When creating a logo using a separate paint program such as Photoshop, best results are achieved by creating the logo as a 32-bit Targa (.tga) file with an alpha channel.
3. The company logo settings are saved with each landscape design, meaning you can use a custom logo for each different client if needed.

See also:

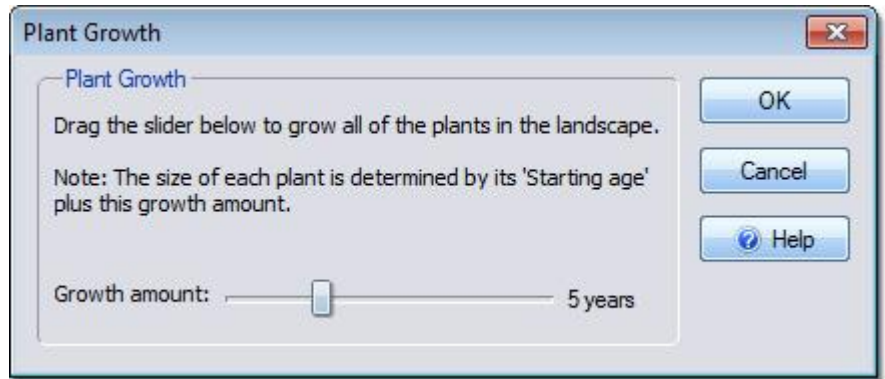
[Symbol Creation Wizard](#)
[Picture Import Wizard](#)
[Adding Plan Detail](#)
[Creating a Movie](#)
[Realtime Walkthrough](#)
[Printing the Viewport](#)
[Exporting the Viewport to a File|topic=Exporting the Viewport to a File](#)
[Taking a Screen Shot](#)

Setting Plant Growth

The *Plant Growth* dialog is used to age the plants in your landscape design in order to predict how the plants will grow over time. The plant growth can be set to any value between 0 and 20 years.

To set plant growth:

1. Click Settings and Set Plant Growth.
2. Move the Growth Amount slider to the desired age and then click the OK button.



The picture below shows a landscape design with the plant growth set to 2 years and 3 years.



2 Years



3 Years

The total age of each plant is the sum of the plant growth setting and the plant's starting age. For example, if your landscape design has an existing Maple tree that is already 6 years old, and the plant growth is set to 4 years, then the Maple tree will be displayed at its approximate 10 year old size.

Note: The plant size is estimated based on plant growth formulas, the plant's mature age, and the plant's mature height. Since other factors influence growth, such as soil conditions and climate, it is recommended to contact your local nursery for more exact sizing information.

Program Settings

The Program Settings dialog provides options to adjust the [drawing units](#)[|topic=Setting English or Metric Drawing Units](#), [graphics options](#)[|topic=Graphics Settings](#), [automatic backup](#)[|topic=Automatic Backup Settings](#), and [user interface](#)[|topic=User Interface Settings](#) settings. These settings apply to the program in general and are not specific to a particular landscape design.

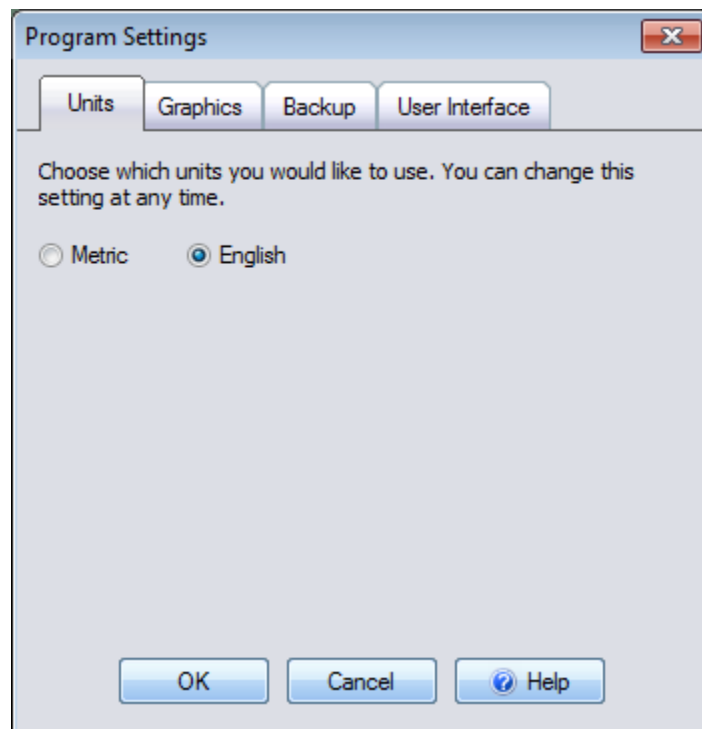
Setting English or Metric Drawing Units

The Units setting determines whether Metric or English measurements are used.

You can change the unit of measurement setting at any time, not just when starting a new landscape design.

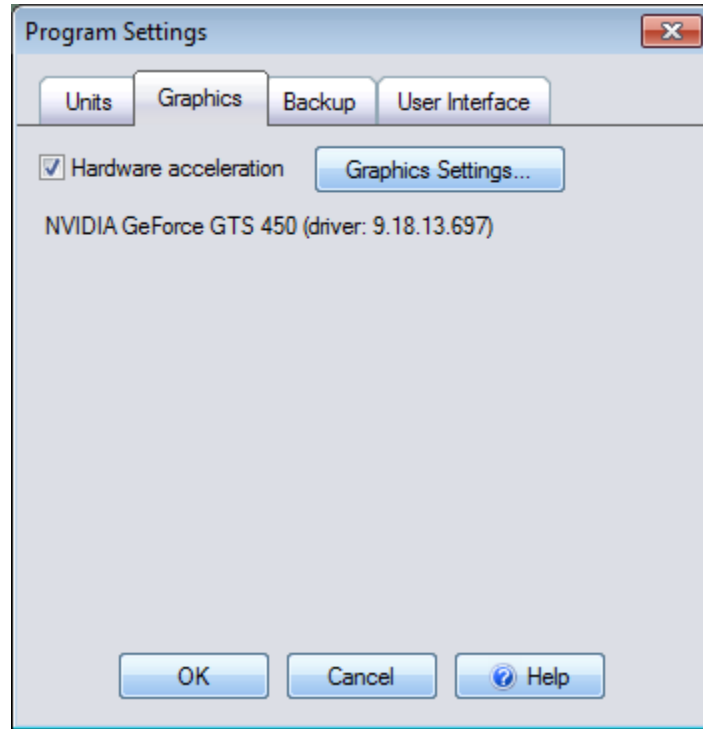
When typing a distance measurement, the default for English is feet, and meters for Metric. However, units can also be entered explicitly. For example, **3m** can be used for 3 meters, **2'6"** can be used for 2.5 feet, and **12cm** can be used for 12 centimeters.

DATAflor GRÜNSTUDIO 3D automatically converts the units entered. For example, if the measurement system is set to English and a distance of **1m** is entered, the measurement will be converted to **3'3"**.



Graphics Settings

3D video cards can vary greatly in terms of features and performance. Use these settings to enable or disable features as needed for the best visual quality and performance for your particular video card.



Hardware Acceleration

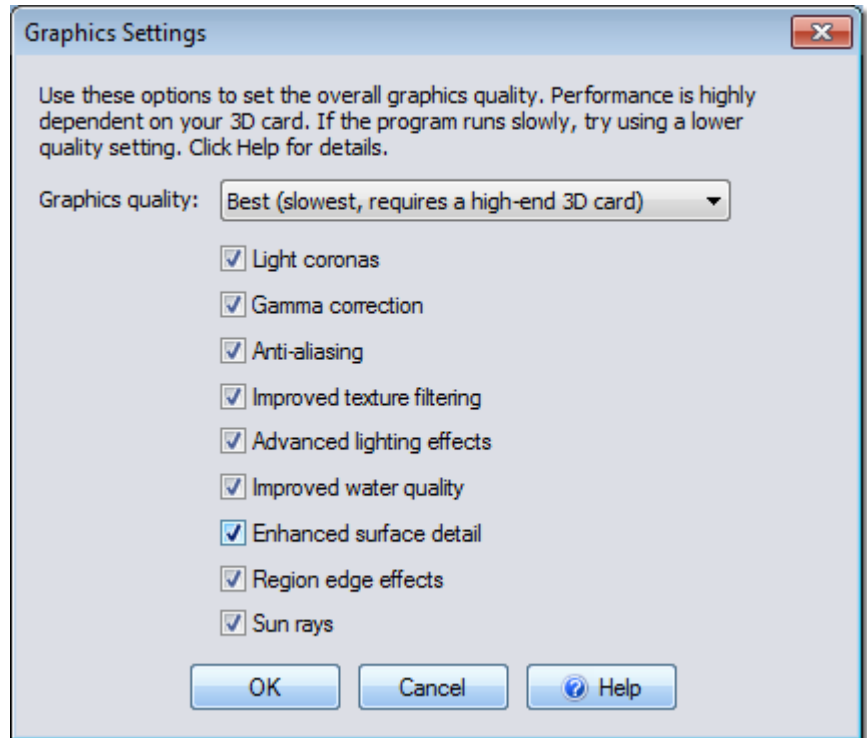
Click the **Hardware acceleration** checkbox to enable or disable full use of your computer's video card. If your computer meets the minimum requirements, then hardware acceleration will be enabled by default. If your computer does not meet the minimum requirements, then the hardware acceleration option will not be available.

If you are experiencing artifacts, such as black squares or flickering materials, then it is likely that your computer needs an update to its video drivers. Contact support@dataflor.de if you would like help finding an update. In the meantime, disabling hardware acceleration should eliminate most issues.

Important: Enabling or disabling *Hardware Acceleration* requires a restart of DATAflor GRÜNSTUDIO 3D in order to take effect.

Graphics settings button

The *Graphics settings* dialog contains many different options that adjust the graphical quality of DATAflor GRÜNSTUDIO 3D. To access the Graphic settings dialog, click the **Graphics settings** button from the Program Settings dialog.



Graphics quality

The *Graphics quality* drop-down menu is used to select the level of graphical detail that is best suited to your computer's capabilities. If you experience slow performance on medium sized landscapes, then it is recommended to choose a lower quality setting.

Light coronas

Click the *Light coronas* checkbox to enable or disable a halo of light around each illuminated light in your landscape design during Realtime Walkthroughs.

Gamma correction

Click the *Gamma correction* checkbox to enable or disable gamma adjustment. Gamma correction helps the display to appear more crisp and vivid.

Anti-aliasing

Click the *Anti-aliasing* checkbox to enable or disable edge smoothing. Anti-aliasing has a large effect on the quality of the Plan view, Perspective view, and Realtime Walkthroughs. However, Anti-aliasing can be taxing on older computers, and should be disabled if you are experiencing slow performance.

Improved texture filtering

Click the *Improved texture filtering* checkbox to enable or disable anisotropic filtering if it is supported by your video card. Improved texture filtering causes large flat surfaces to appear less blurry when viewed at a sharp angle.

Advanced lighting effects

Click the *Advanced lighting effects* checkbox to enable or disable

specular lighting and other advanced effects if supported by your video card.

Improved water quality

Click the *Improved water quality* checkbox to enable reflections and refractions for ponds and swimming pools in your landscape design. Even with this option checked, you will still need to enable “Improved water quality” on the swimming pools and ponds that you wish to enhance. Note that reflections only appear during a Realtime Walkthrough, not when designing.

Enhanced surface detail

Click the *Enhanced surface detail* checkbox to enable normal mapping for objects that support it. Normal mapping increases the realism of 3D surfaces by simulating 3D depth on a geometrically flat surface. Enhanced surface detail can also be enabled or disabled per object.

Region edge effects

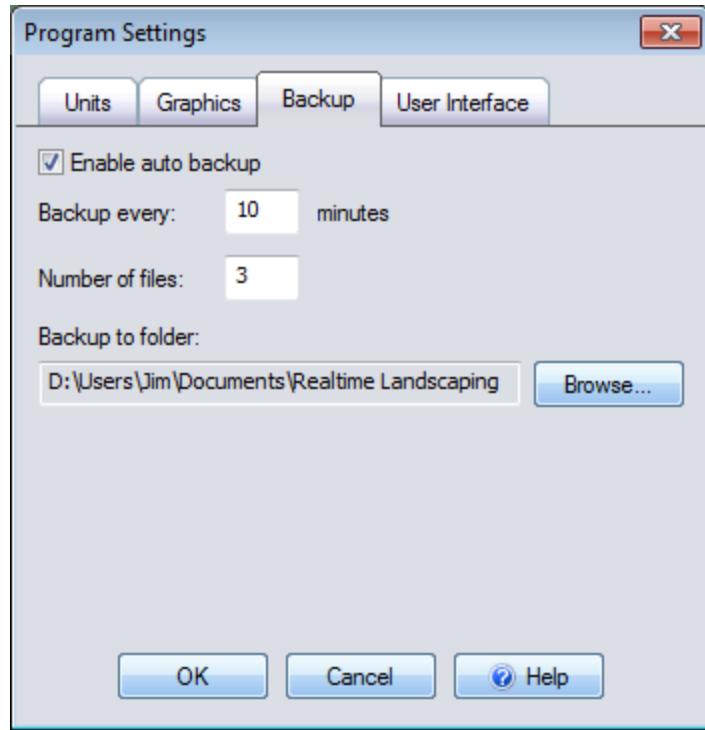
The *Region edge effects* checkbox is used to enable or disable 3D raised or sunken edges on select objects, such as regions and paths. Note that even with this option checked, you will still need to adjust the “3D edge effect” on the objects you wish to enhance.

Sun rays

The *Sun rays* checkbox is used to enable or disable rays of sunlight shining through the clouds during a Realtime Walkthrough. Note that sun rays only appear when using the Realtime Sky environment setting.

Automatic Backup Settings

By default, DATAflor GRÜNSTUDIO 3D periodically saves a copy of your landscape design as you work. You can configure how frequently the backup is made, where it is saved, and how many versions you want to create.



Enable auto backup

Enables automatic backup. Uncheck this option if you want to disable automatic backups.

Backup every

The number of minutes between each automatic backup.

Number of files

The number of backup files that will be created for each design.

Backup to folder

The folder where the automatic backups will be saved.

How Automatic Backup Works

Automatic backup files are named *your-filename_AutoBackup_nn*, where *your-filename* is the name of the file you are working on, and *nn* is a sequential number starting with 0.

When determining the filename for the next backup, DATAflor GRÜNSTUDIO 3D will use the next number in the sequence; or 0 when the maximum number of files has been reached.

For example, suppose you are working on a file called "My Design," **Number of files** is set to 3, and **Backup every** is set to 10 minutes. The following backup files would be created:

At 10 minutes: My Design_AutoBackup_0

At 20 minutes: My Design_AutoBackup_1

At 30 minutes: My Design_AutoBackup_2

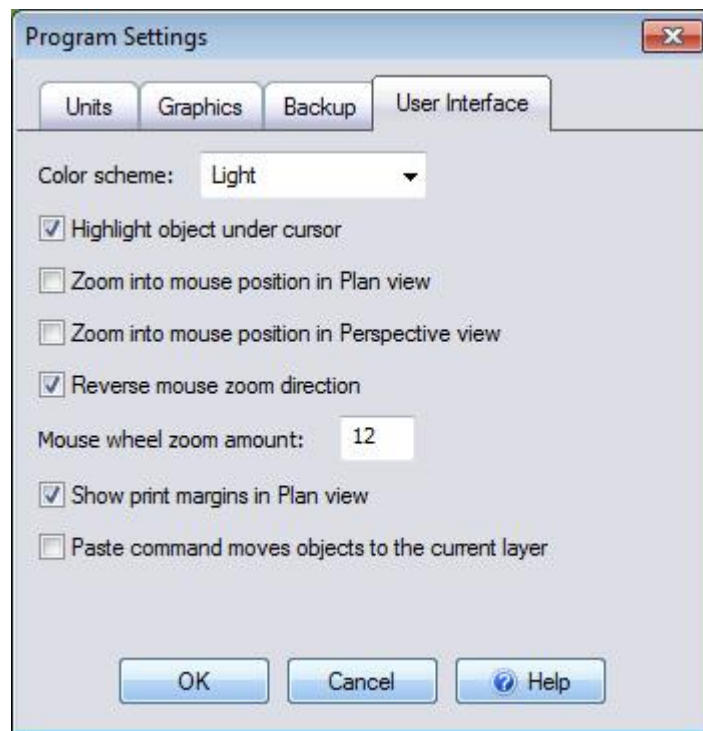
At 40 minutes: My Design_AutoBackup_0 (overwriting the one created at 10 minutes)

(etc..)

Important: The automatic backup feature is no substitute for periodically saving your work to a flash drive, Internet, or other storage device. This helps protect you from losing data if your computer is lost or stolen, the hard drive fails, you unintentionally overwrite an important file, or other problem.

User Interface Settings

The User Interface settings allow you to customize miscellaneous behaviors based on your preferences.



Color scheme

Change the user interface to use a light or dark color scheme.

Highlight object under cursor

Enable or disable the highlighted outline of an object that appears when your mouse hovers over it.

Zoom into mouse position in Plan view

When this option is checked, using the Zoom tool in the Plan view will zoom into the point on the screen where you first click the mouse button. Otherwise the zoom will be relative to the center of the screen.

Zoom into mouse position in Perspective view

When this option is checked, using the Zoom tool in the Perspective view will zoom into the point on the screen where you first click the mouse button. Otherwise the zoom will be relative to the center of the screen.

Reverse mouse zoom direction

Reverses the zoom direction when using the Zoom tool or mouse wheel.

Mouse wheel zoom amount

Controls how far to zoom when using the mouse wheel.

Show print margins in Plan view

When this option is checked, dashed lines will appear around the workspace in the Plan view. These represent the printable area based on the currently selected printer. Anything outside the dashed lines might get cut off when the design is printed to paper.

Paste command moves objects to the current layer

When this option is checked, pasted objects will be moved to the current layer. When this option is unchecked, pasted objects will be moved to the same layers they originated from. New layers will be automatically added if needed.

Terrain Objects

Sculpting the Terrain

A wide variety of terrain sculpting tools are included in DATAflor GRÜNSTUDIO 3D. Whether you have the challenge of designing around a steeply sloping property, or simply need to add a raised flower bed, these terrain sculpting objects will help you to simulate the topology of your client's property.

The following objects are available for sculpting the terrain:

Slope - Slopes add a steady grade to your landscape design.

Height Grid - Height grids can be used to raise or lower the terrain at specific points.

Height Map - Height maps are used to raise or lower terrain based on an image.

Area Grader - Area Graders are used to raise or lower the terrain based on a shape.

Path Grader - Path Graders are used to raise or lower the terrain based on a path.

[Contour Line|topic=Adding a Contour Line](#) - Contour Lines are used to modify the terrain based on curved lines.

The following objects are not specific to terrain sculpting, but have the ability to sculpt the terrain:

Region
Pond
Stream
Retaining Wall

Controlling the Terrain Sculpting Order

The *Terrain Sculpting Order* refers to the order that terrain sculpting objects are applied. For example, if one area grader is added to another, the Terrain Sculpting Order determines which area grader will be dominant. The default sculpting order is determined based on order that the terrain sculpting objects were added.

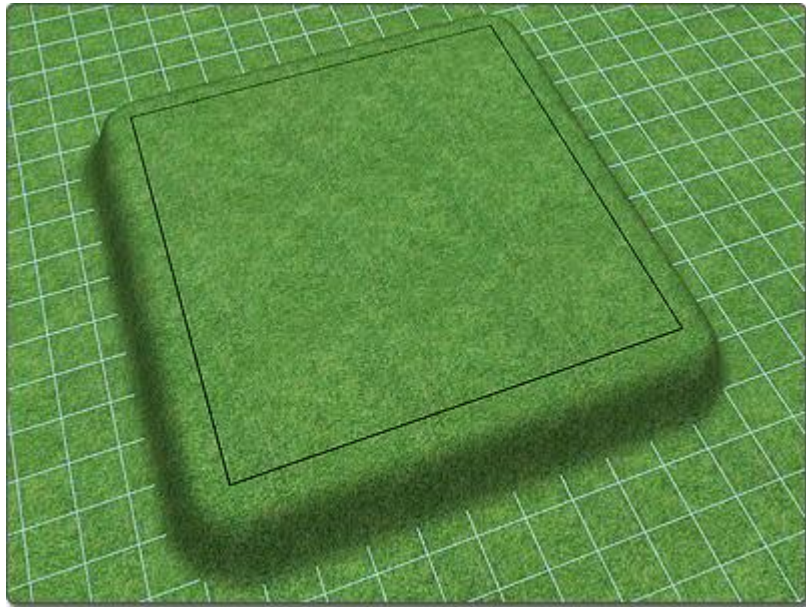
To bring one or more objects to the top of the Terrain Sculpting Order:

1. Click the terrain sculpting objects in your landscape design to select them. See [Selecting Objects|topic=Selecting Objects](#) for details.
2. Click **Edit, Terrain sculpting order**, and **Bring to front**.

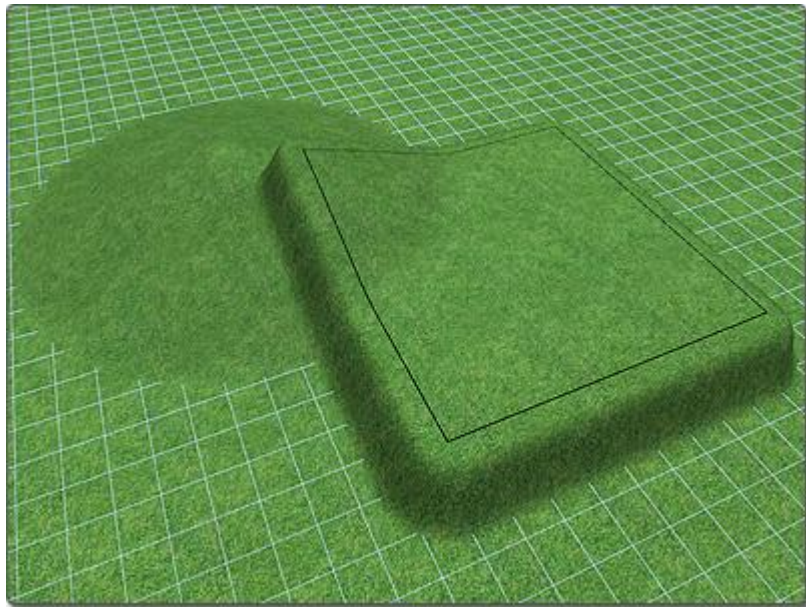
To send one or more objects to the bottom of the Terrain Sculpting Order:

1. Click the terrain sculpting objects in your landscape design to select them. See [Selecting Objects](#) for details.
2. Click **Edit, Terrain sculpting order**, and **Send to back**.

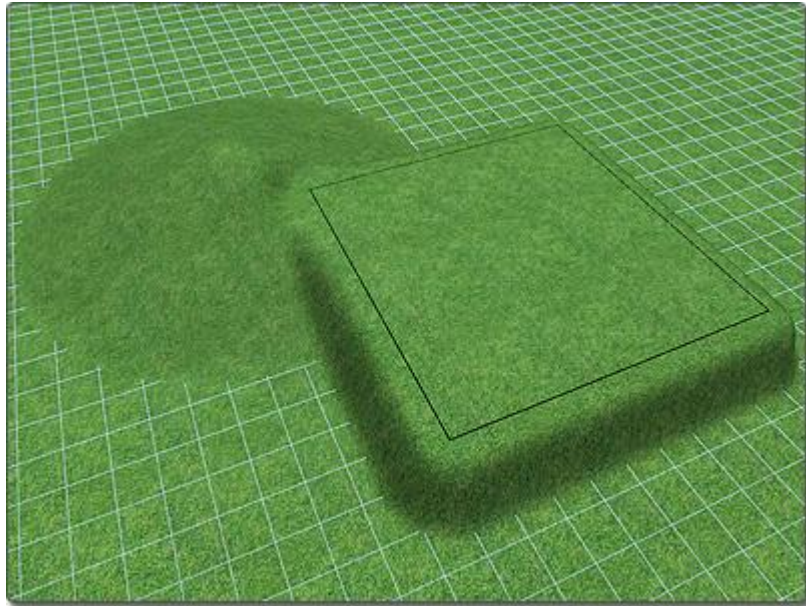
In the picture below, an area grader has been added to an empty landscape design.



In the picture below, a height map was added to create a mound. Because the height map was added after the area grader, it is determined to be dominant (top of the terrain sculpting order) and lifts the area grader instead of being flattened by it.



In the picture below, the area grader was sent to the top of the terrain sculpting order using the steps shown above; this caused the area grader to flatten part of the height map instead of being raised by it.



Adding a Slope



Both simple and complex grading can be added using the Slope object. A simple slope is essentially a ramp, and is added by defining a start point, direction, and an end point. After the slope has been added, the rise and run can be adjusted to determine the grade. If needed, the slope can be moved and rotated after it is created.

To add a simple slope:

1. Click the **Add Slope** button that is found near the top of the screen under the **Terrain** tab.
2. Click an area of your landscape design to place the starting point of the slope.
3. Click another area of your landscape design to place the ending point of the slope.

The picture below illustrates a simple slope that was added to an empty landscape.



Complex curved slopes are also supported in DATAflor GRÜNSTUDIO 3D. Points can be inserted and moved to change the shape of the slope as needed. Additionally, the rise and run can be adjusted for each point on the slope.

To make a complex slope:

1. Add a simple slope to your landscape design as described above.
2. Click the slope to select it.
3. Click the **Edit Points** button, found in the [Properties|topic=Setting Object Properties](#), to enable point editing mode.
4. Add additional points as needed for more control over the slope's shape. See [Inserting and Deleting Points|topic=Inserting & Deleting Points](#) for details.
5. Click a point to select it, and then move the point and adjust its rise and run as needed.
6. When finished, click the **Edit Points** button again to disable point editing mode.

The picture below illustrates a complex slope that was added to an empty landscape design.



The picture below shows a landscape that uses a complex slope to form its topography.



Tips:

1. Like all terrain sculpting objects, slopes are constrained to the lot size. To change the lot size, see [Page Setup|topic=Page Setup](#).
2. When you are finished creating your slope, it is usually helpful to lock it in order to avoid accidentally selecting or moving it. For details, see [Showing and Hiding Objects|topic=Showing & Hiding Objects](#).

See also:

- Slope Properties
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Adding Height Grid
- Adding a Height Map

Slope Properties

The properties used to modify a Slope object are located to the right of the screen when your slope is selected. These properties can either be adjusted right before adding the slope to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Line style	The Line Style property determines the appearance of the slope's outline. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the slope's shape. See Editing Points topic=Editing Points for details.
Rise	The Rise property determines the height of the slope. To change the slope height, move the Rise slider or enter a value in the text field. If point editing mode is enabled and a point is selected, then changing the rise will affect only the selected point.
Run	The Run property determines the length of the slope. To change the slope length, move the Run slider or enter a value in the text field. If point editing mode is enabled and a point is selected, then changing the run will affect only the selected point.
Angle	The Angle property displays the calculated incline of the slope in degrees. If point editing mode is enabled and a point is selected, then the angle displayed will be the angle of the slope at the selected point.
Grade	The Grade property displays the calculated incline of the slope as a percentage of the run. If point editing mode is enabled and a point is selected, then the grade displayed will be the angle of the slope at the selected point.

See also:

- Adding a Slope
- Adding Height Grid
- Adding a Height Map
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects

Adding a Height Grid



The Height Grid object is used to place a terrain sculpting patch that can be raised or lowered at individual points. Height grids have a variety of uses, one of them being to add slight variations to the topology of a landscape design to provide more realism.

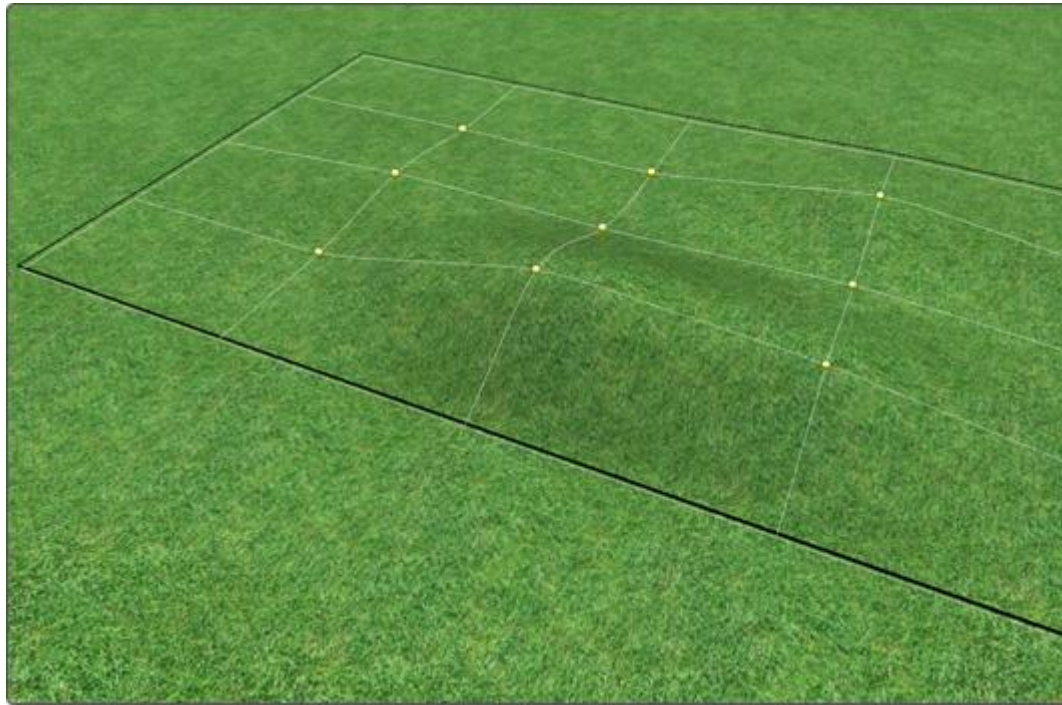
To add a height grid:

1. Click the **Add Height Grid** button that is found near the top of the screen under the **Terrain** tab.
2. Click an area of your landscape design to place the first corner of the height grid.
3. Click another area of your landscape design to place the opposite corner of the height grid.

To raise and lower points:

1. Click the height grid in your landscape to select it.
2. Click the **Edit Points** button, found in the [Properties|topic=Setting Object Properties](#).
3. Click a point to select it. Multiple points can also be selected at once.
4. Adjust the **Height** property to raise or lower the selected points. *Note:* In Perspective view, press and hold the **Ctrl** key while dragging the mouse up and down to adjust the heights while maintaining the relative height difference between them.

The picture below illustrates a simple height grid that has been added to an empty landscape design.



The picture below shows a completed landscape design that uses the height grid shown above.



Tips:

1. Multiple height grids can be used if needed, and may be layered on top of each other to achieve stacking effects.
2. When editing a height grid, multiple points can be selected and edited at once. For details, see [Editing Points|topic=Editing Points](#).
3. The number of grid points can be increased or decreased to achieve the level of precision needed.
4. The **Height** slider is limited to 25 feet, but by typing a value in the text field, it can be increased to 50 feet.
5. If a height grid overlaps other terrain sculpting objects, it may be necessary to modify the [Terrain Sculpting Order|topic=Controlling the Terrain Sculpting Order](#).

See also:

Height Grid Properties
 Setting Object Properties
 Selecting Objects
 Selecting Points
 Editing Objects
 Adding Slope
 Adding a Height Map

Height Grid Properties

The properties used to modify a Height Grid object are located to the right of the screen when your height grid is selected. These properties can either be adjusted right before adding the height grid to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Width	The Width property determines the size of the height grid from left to right. To adjust the height grid width, move the Width slider or type a value in the text field.
Length	The Length property determines the size of the height grid from top to bottom. To adjust the height grid length, move the Length slider or type a value in the text field.
Width points	The Width points property determines the amount of points added from left to right. To change the amount of points, move the Width points slider or enter a value in the text field. The minimum amount of width points is 5, and the maximum amount is 17.
Length points	The Length points property determines the amount of points added from top to bottom. To change the amount of points, move the Length points slider or enter a value in the text field. The minimum amount of length points is 5, and the maximum amount is 17.
Smooth	The Smooth property determines whether the transition from one point to another is gradual or sharp. To toggle the height grid smoothness, click the Smooth checkbox.
Line style	The Line Style property determines the appearance of the height grid's outline. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to raise or lower the points of the height grid.
Height	The Height property determines the distance of the currently selected point from the ground. To change the height of a point, click the Edit Points button, click the point you wish to adjust, and then move the Height slider.

See also:

- Adding Height Grid
- Adding a Slope
- Adding a Height Map
- Setting Object Properties
- Selecting Objects

Adding a Height Map



The Height Map object is used to sculpt the terrain using an image. Using a height map, you are able to draw your terrain elevations using a paint program such as Photoshop or Paint Shop Pro. Once your image is imported into DATAflor GRÜNSTUDIO 3D, it can be added to your landscape designs where the drawing will be converted into height information.

To create and import a custom height map:

1. Open the paint program you would like to use and create a new document sized 512x512 or 1024x1024.
2. Draw the terrain using shades of gray. Brighter shades should be used for areas of the terrain that are raised more, and darker shades should be used for areas raised less. Black may be used where the terrain should not be raised at all.
3. Save the image in 24-bit BMP format.
4. Import the image as a height map using the [Picture Import Wizard|topic=Picture Import Wizard](#).
5. When browsing available height maps, your imported image will appear within the Custom category.

To add a height map that you have already imported:

1. Click the **Add Height Map** button that is found near the top of the screen under the **Terrain** tab.
2. Click the picture of the default height map that appears to the right of the screen, and then select the height map you would like to use.
3. Click an area of your landscape design to place the first corner of the height map.
4. Click another area of your landscape design to place the opposite corner of the height map.

How it Works

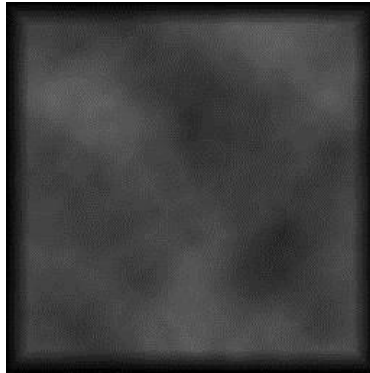
The brightness of each pixel of the height map drawing determines how much the terrain should be raised or lowered. Areas of the drawing that are black will remain flat, while areas that are white will match the height map's **Height** property.

For example, if the height property of the height map is set to 10 feet, then wherever the height map is white, the terrain will raise to 10 feet. Where the map is gray, the terrain will raise to 5 feet. The height property can also be set to negative values in order to lower the terrain.

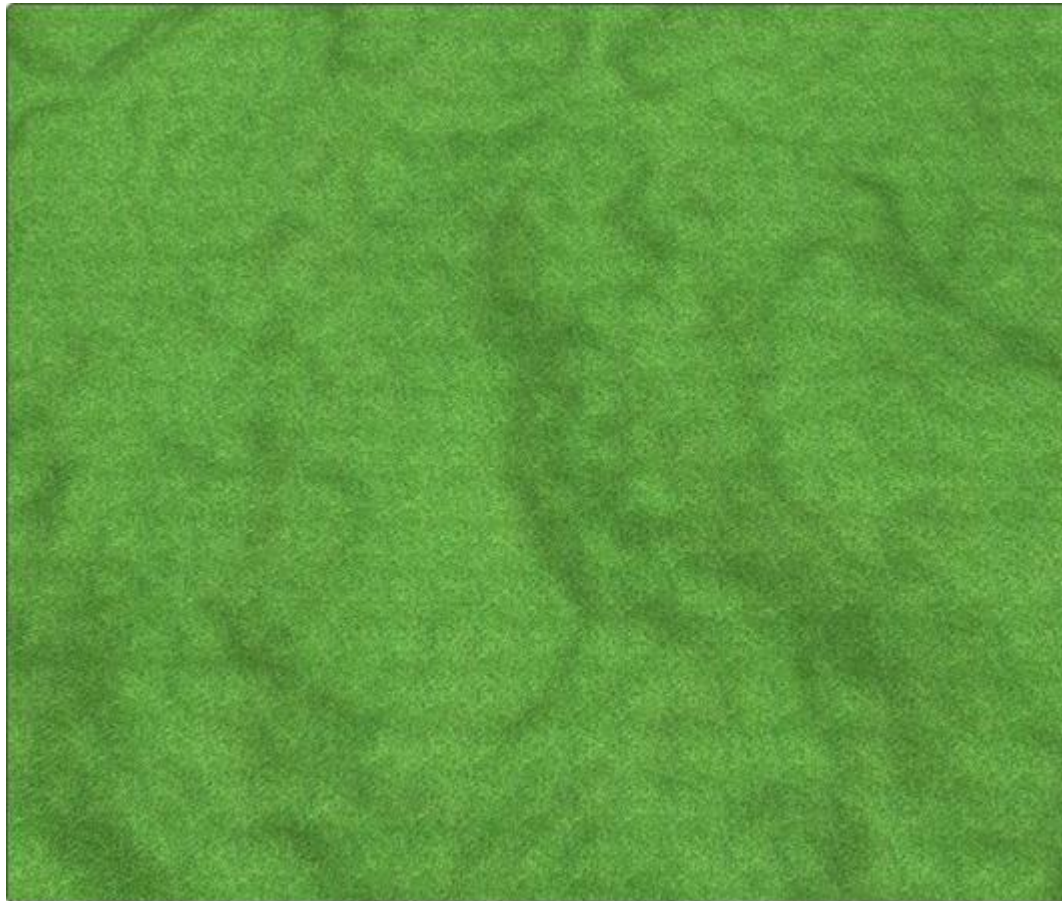
Surrounding your height map image with a black border will prevent edge seams. For an example, see the sample height map below.

When using detailed height maps, it is recommended to set the terrain resolution to *High*. For details, see [Terrain Settings|topic=Terrain Settings](#).

The picture below is a sample height map included with DATAflor GRÜNSTUDIO 3D.



The empty landscape design in the picture below uses the height map shown above to form its topology.



The picture below illustrates a completed landscape that uses the height map shown above.



In the picture below, the name of our landscape design software was imported as a height map.

Tips:

3. Height maps can be any size needed.
4. Multiple height maps can be used in a single design.
5. Adding a black border to the height map image can improve results by eliminating potential edge seams.
6. When working with complex height maps such as in the picture shown above, it is recommended to use a *High* terrain resolution. See [Terrain Settings|topic=Terrain Settings](#) for more information.
7. If a height map overlaps other terrain sculpting objects, it may be necessary to modify the [Terrain Sculpting Order|topic=Controlling the Terrain Sculpting Order](#).

See also:

Height Map Properties
Setting Object Properties
Selecting Objects
Selecting Points
Editing Objects

Adding Slope
Adding a Height Grid

Height Map Properties

The properties used to modify a Height Map object are located to the right of the screen when your height map is selected. These properties can either be adjusted right before adding the height map to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Material	The Material property determines the image that is used for the height map. To change the height map image, click the picture that shows the current material.
Material options	The appearance of the height map can be modified by clicking the small button that appears to the right of the height map image.
Line style	The Line Style property determines the appearance of the height map's outline. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Width	The Width property determines the size of the height map from left to right. To adjust the height map width, move the Width slider or type a value in the text field.
Length	The Length property determines the size of the height map from top to bottom. To adjust the height map length, move the Length slider or type a value in the text field.
Height	The Height property determines the height of white areas on the height map. To raise or lower the height map, move the Height slider or enter a value in the text field.

See also:

Adding Height Map
Adding a Slope
Adding a Height Grid
Setting Object Properties
Selecting Objects
Editing Objects

Adding an Area Grader



The Area Grader object is used to raise or lower the terrain based on a shape. Some uses for area graders include building pads, driveways, and tennis courts.

To add an Area Grader:

1. Click the **Add Area Grader** button that is found near the top of the screen under the **Terrain** tab.
2. Draw the outline of the area grader by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the area grader, place the last point on top of the first point. Alternately, right-click to place the last point.
4. Use the **Height taper** property to set the desired edge steepness. Use a lower value for a more rounded edge, or a higher value for a steeper edge. Use 100 for a vertical edge.

The picture below illustrates a landscape design with uneven topology.



The picture below shows the same design as the image above, but after an area grader has been added to flatten the pathway and the area surrounding the house.



Tips:

1. As many area graders as needed can be used in a landscape design.
2. Area graders can be any size required.
3. For flattening paths or for creating ramps, it is often better to use the [Path Grader|topic=Adding a Path Grader](#).
4. If an area grader overlaps other terrain sculpting objects, it may be necessary to modify the [Terrain Sculpting Order|topic=Controlling the Terrain Sculpting Order](#).

See also:

[Area Grader Properties](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Adding Slope](#)
[Adding a Height Map](#)
[Adding a Path Grader](#)
[Saving and Loading Shapes](#)

Area Grader Properties

The properties used to modify an Area Grader object are located to the right of the screen when your area grader is selected. These properties can either be adjusted right before adding the area grader to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Level	The Level property determines whether the top of the area grader will be flat or follow the slope of the underlying terrain. To toggle the nature of the area grader, click the Level checkbox.
Amount	The Amount property determines the area grader's influence. If the amount is set to 0, then the area grader has no effect, while an amount setting of 100 causes the area grader to take full effect. To change the influence of the area grader, move the Amount slider or enter a value in the text box.
Height	The Height property determines how tall the area grader is. To raise or lower the area grader, move the Height slider or enter a value in the text field.
Height taper	The Height taper property determines the smoothness of the transition between the top of the area grader and the base. Use a lower value for a more rounded edge, or a higher value for a steeper edge. Use 100 for a vertical edge.
Line style	The Line Style property determines the appearance of the area grader's outline. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the area grader's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape options button to save the shape of the area grader, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

See also:

- Adding a Path Grader
- Adding a Slope
- Adding a Height Map
- Adding a Height Grid
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Saving and Loading Shapes

Adding a Path Grader



The Path Grader object is used to flatten, raise, or lower the terrain. Some uses for the path grader include roads, sloping driveways, pathways, and other complex shapes.

To add a Path Grader:

1. Click the **Add Path Grader** button that is found near the top of the screen under the **Terrain** tab.
2. Modify the **Width** property as needed.
3. Draw the path grader by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
4. To finish drawing the path grader, right-click to place the last point.
5. Use the **Height taper** property to set the desired edge steepness. Use a lower value for a more rounded edge, or a higher value for a steeper edge. Use 100 for a vertical edge.

Unlike the Area Grader, the height of the Path Grader can be adjusted at any point.

To raise and lower points:

1. Click the path grader in your landscape design to select it.
2. Click the **Edit Heights** button, found in the [Properties|topic=Setting Object Properties](#), to enable height editing mode.
3. Click the point you wish to modify to select it.
4. Adjust the **Height** property to raise or lower the path grader at the selected point.
5. When finished, click the **Edit points** button again to disable point editing mode.

The picture below illustrates how a path grader can be used in a landscape design to flatten a driveway.



Tips:

1. Multiple path graders can be used in a single landscape design.
2. Path graders can be any size needed.
3. If a path grader overlaps other terrain sculpting objects, it may be necessary to modify the [Terrain Sculpting Order|topic=Controlling the Terrain Sculpting Order](#).

See also:

[Path Grader Properties](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Adding Slope](#)
[Adding a Height Map](#)
[Adding a Height Grid](#)
[Adding an Area Grader](#)

Path Grader Properties

The properties used to modify a Path Grader object are located to the right of the screen when your path grader is selected. These properties can either be adjusted right before adding the path grader to your landscape or after it has

been added. Below is a description of each available property in the order that they appear in the software.

Property	Description
Line style	The Line Style property determines the appearance of the path grader's outline. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the path grader's shape. See Editing Points topic=Editing Points for details.
Height	The Height property determines how tall the path grader is at each point. To raise or lower the path grader, move the Height slider or enter a value in the text field.
Height taper	The Height taper property determines the smoothness of the transition between the top of the path grader and the base. Use a lower value for a more rounded edge, or a higher value for a steeper edge. Use 100 for a vertical edge.
Shape options	Click the Shape options button to save the shape of the path grader, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Edit Heights	The Edit Heights property is used to change the height of the Path Grader at any point. To edit the heights of a Path Grader, click the Edit Heights button.

See also:

- Adding a Path Grader
- Adding an Area Grader
- Adding a Slope
- Adding a Height Map
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Saving and Loading Shapes

Adding a Contour Line

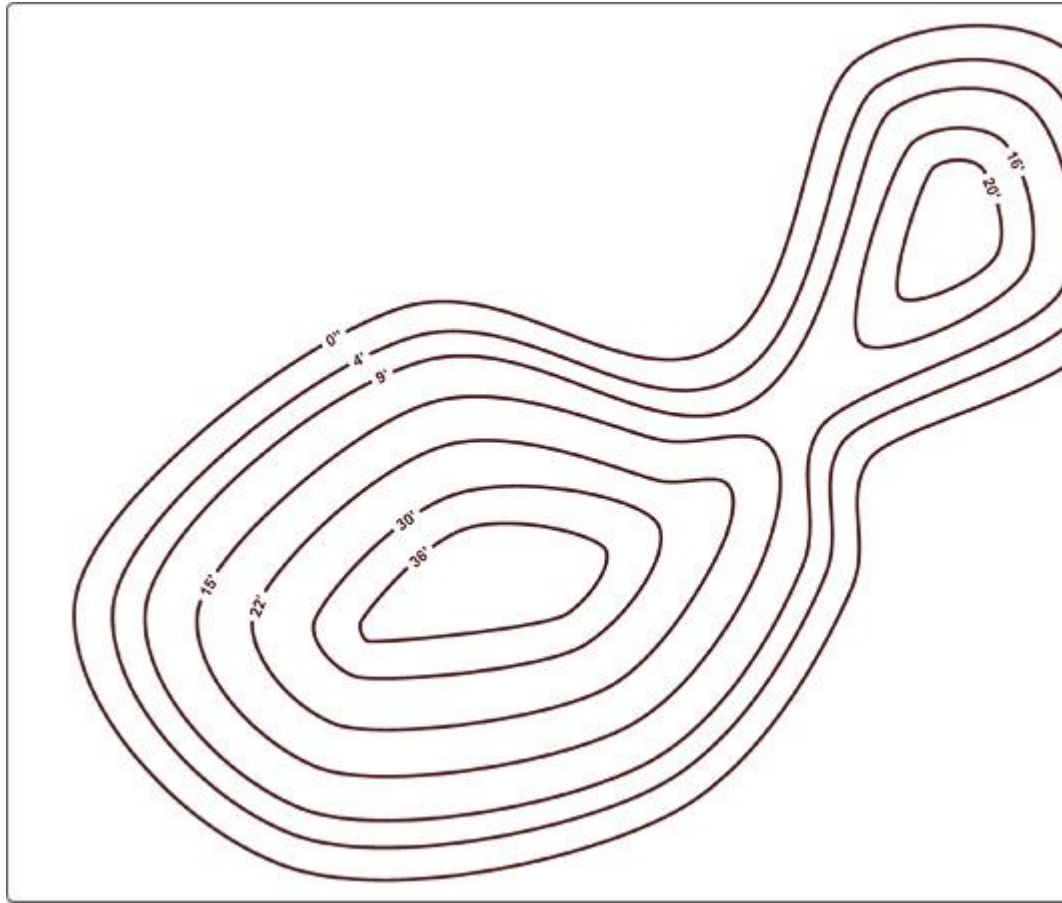


The Contour Line object is used to create free-form lines that represent a fixed height. Using contour lines is an efficient way to control the topography of your landscape design. Both open and closed contour lines are supported.

To add a Contour Line:

1. Click the **Add Contour Line** button that is found near the top of the screen under the **Terrain** tab.
2. Draw the contour line by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
3. To finish drawing the contour line, connect the last point to the first point or right-click to place the last point.

The picture below displays a set of contour lines in the Plan view.



The picture below displays the same set of contour lines in the Perspective view.



Tips:

1. You can import contour lines from DWG and DXF files. See [CAD Import Wizard|topic=CAD Import Wizard](#) for details.
2. Contour lines should not overlap. (If they do, a dimple will appear in the terrain.)
3. Closed contour lines can be used to quickly create terraces.
4. Multiple contour lines can be used in a single landscape design.
5. Contour lines can be any shape and size.

See also:

[Path Grader Properties](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Adding Slope](#)
[Adding a Height Map](#)
[Adding a Height Grid](#)
[Adding an Area Grader](#)
[CAD Import Wizard|topic=CAD Import Wizard](#)

Contour Line Properties

The properties used to modify a Contour Line object are located to the right of the screen when your contour line is selected. These properties can either be adjusted right before adding the contour line to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Elevation	The Elevation property determines the height of the entire contour line. To raise or lower the contour line, move the Elevation slider or enter a value in the text field.
Create a terrace	The Create a terrace property is used to project a near-vertical wall in front of or behind the contour line. To toggle the terracing feature and associated options, click the Create a terrace checkbox. Important: The contour line must be closed for proper operation.
Terrace height	The Terrace height property determines how tall the terrace is. To adjust the terrace size, move the Terrace height slider or type a value in the text field. The Terrace height property must be a positive value and is only available when the Create a terrace property is checked.
Reverse terrace direction	The Reverse terrace direction property determines whether the terrace will be created in front of or behind the contour line. To toggle the terrace direction, click the Reverse terrace direction checkbox. The Reverse terrace direction property will not be available unless the Create a terrace property is checked.
Closed	The Closed property determines whether the contour line is open or closed. To change the state of the contour line's shape, click the Closed checkbox.
Line Style	The Line Style property determines the appearance of the contour line's outline. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit Points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the contour line's shape. See Editing Points topic=Editing Points for details.
Shape Options	Click the Shape options button to save the shape of the contour line, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Label Options	Description
Add label to Plan view	The Add label to Plan view property determines whether a custom label or the contour line's length is added to the

	contour line in the Plan view. To toggle contour line labeling, click the Add label to Plan view checkbox.
Show units	<p>The Show units property determines whether the English or Metric measurement symbols will appear next to the contour line labels. To toggle the display of contour line measurement units, click the Show units checkbox.</p> <p>This property is only available when the Add label to Plan view property is checked, and only takes effect if the "<>" symbols are left in the Label Name property field.</p>
Label Name	<p>The Label Name property determines the text that is displayed in the contour line when the Add label to Plan view property is checked. To change the text that is displayed, click the small button that appears to the right of the text field.</p> <p>If the Label Name property contains the "<>" symbols, then the length of the contour line will be shown.</p>
Font	The Font property determines style of lettering that the contour line label will use. To change the font, click the drop-down menu and select the font of your choice. Any TrueType font that is installed on your computer can be used.
Style	The Style property determines whether the contour line label text style is italic, bold, bold and italic, or regular. To change the style, click the drop-down menu and select the style you wish to use.
Height	The Height property determines the size of each letter of text on the contour line label. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to top. The height will vary slightly based on the Font . To change the text height, move the Height slider or enter a value in the text field.
Offset	The Offset property determines where the label is placed along the contour line. To change the label placement, move the Offset slider or type a value in the text field.
Color	The Color property determines the color of the contour line label. To change the text color, click the small color swatch that displays the current color.

See also:

- Adding a Path Grader
- Adding an Area Grader
- Adding a Slope
- Adding a Height Map
- Setting Object Properties

Selecting Objects
Selecting Points
Editing Objects
Saving and Loading Shapes

Using the Wizards

Pond Wizard

The Pond Wizard is an easy way to quickly add a pre-built water garden to your landscape design. Each pond includes a variety of objects, such as rockery, plants, waterfalls, fountains, and more.

Important: The Pond Wizard is a great way to get ideas for water gardens, but when designing a landscape for a client you will likely find it more effective to design the pond from the ground up. For information, see [Adding a Pond|topic=Adding a Pond](#).



To add a pond using the pond wizard:

1. Click **Tools** and **Pond Wizard**.
2. Click the **Next** button.
3. Click the picture of the default pond, select the pond you would like to use, and then click the **Next** button.
4. Click the **Finish** button to add the pond to your landscape design.

After completing the Pond Wizard, DATAflor GRÜNSTUDIO 3D will switch to the Plan view and place your new pond in the center of your design. You can now move the pond into the desired position, and rotate it into the ideal orientation. See [Moving Objects|topic=Moving Objects](#) and [Rotating Objects|topic=Rotating Objects](#) for details.

The pond and other objects that compose the water garden will be grouped by default, making it easy to move the entire pond design at once. However, in order to edit the pond you will first need to ungroup it by clicking the **Ungroup** button that appears to the right of the screen when the pond is selected. For more details, see [Grouping and Ungrouping Objects|topic=Grouping & Ungrouping Objects](#).

The picture below illustrates a pre-built pond that was added using the Pond Wizard.



Tips:

1. Using the Pond Wizard will not delete any existing ponds in your landscape design; your design can have as many ponds as needed.

2. To create your own pond, instead of using the wizard to add a pre-built water garden, use the [Add Pond tool|topic=Adding a Pond](#).
3. If you wish to add a pre-built pond, house, and fence all at once, use the [Landscape Wizard|topic=Landscape Wizard](#).

See also:

Adding a Pond
Landscape Wizard
Selecting Objects
Editing Objects
Grouping and Ungrouping Objects

Accent Wizard

The Accent Wizard is used to add pre-built designs of accent strips and accent shapes. It is a great way to get new ideas for designs, or to see the capabilities of the accent tools.



To add an accent using the Accent Wizard:

1. Click **Tools** and **Accent Wizard**.
2. Click the **Next** button.

3. Click the picture of the default accent design, select the design you would like to use, and then click the **Next** button.
4. Click the **Finish** button to add the accent to your landscape design.

After completing the Accent Wizard, DATAflor GRÜNSTUDIO 3D will switch to the Plan view and place your new accent in the center of your design. You can now move the accent into the desired position, and rotate it into the ideal orientation. See [Moving Objects|topic=Moving Objects](#) and [Rotating Objects|topic=Rotating Objects](#) for details.

The accent shapes and strips that compose the design will be grouped by default, making it easy to move the entire accent design at once. However, in order to edit the individual accent pieces, you will first need to ungroup it by clicking the **Ungroup** button that appears to the right of the screen when the accent design is selected. For more details, see [Grouping and Ungrouping Objects|topic=Grouping & Ungrouping Objects](#).

Tips:

1. Using the Accent Wizard will not delete any existing accents in your landscape design; your design can have as many accents as needed.
2. To create your own accents, instead of using the wizard to add a pre-built accent design, use the [Add Accent strip tool|topic=Adding an Accent strip](#) or [Add Accent shape tool|topic=Adding an Accent shape](#).

See also:

Landscape Wizard
 Selecting Objects
 Editing Objects
 Grouping and Ungrouping Objects

House Wizard

The House Wizard is a simple way to add a pre-built house to your landscape design. Every house includes doors and windows, and many houses also include decks, house lights, and driveways.

Important: The House Wizard is a great way to get ideas for house designs and for understanding how the *House* tool works. However, when actually designing your landscape you will probably find it's easier to design the house from the ground up. For information, see [Adding a House|topic=Adding a House](#).



To add a house using the house wizard:

1. Click **Tools** and **House Wizard**.
2. Click the **Next** button.
3. Click the picture of the default house, select the house you would like to use, and then click the **Next** button.
4. Click the **Finish** button to add the house to your landscape design.

After completing the House Wizard, DATAflor GRÜNSTUDIO 3D will switch to the Plan view and place your new house in the center of your design. You can now move the house into the desired position, and rotate it into the ideal orientation. See [Moving Objects|topic=Moving Objects](#) and [Rotating Objects|topic=Rotating Objects](#) for details.

The house and other objects added by the wizard will be grouped by default, making it easy to move the entire group at once. However, in order to edit the house you will first need to ungroup it by clicking the **Ungroup** button that appears to the right of the screen when the house is selected. For more details, see [Grouping and Ungrouping Objects|topic=Grouping & Ungrouping Objects](#).

The picture below shows a landscape design with a house that was initially added using the House Wizard and then customized.



Tips:

1. Using the House Wizard will not delete any existing houses in your landscape design; your design can have as many house objects as needed.
2. To create a custom house design instead of using the wizard, use the [Add House tool|topic=Adding a House](#).
3. If you wish to add a pre-built house, pond, and fence all at once, use the [Landscape Wizard|topic=Landscape Wizard](#).
4. Pre-built decks can be added separately using the [Deck Wizard|topic=Deck Wizard](#).

See also:

[Adding a House](#)
[Landscape Wizard](#)
[Deck Wizard](#)
[Selecting Objects](#)
[Editing Objects](#)
[Grouping and Ungrouping Objects](#)

Deck Wizard

The Deck Wizard is a fast and easy way to include a pre-built deck in your landscape design. The decks available in the Deck Wizard come in a variety of shapes, sizes, and styles

Important: The Deck Wizard is a great way to get ideas for deck designs, and for understanding how the *Deck* tool works. However, when designing your landscape you will probably find it easier to design the deck from the ground up. For information, see [Adding a Deck](#) | [topic=Adding a Deck](#).



To add a deck using the deck wizard:

1. Click **Tools** and **Deck Wizard**.
2. Click the **Next** button.
3. Click the picture of the default deck, select the deck you would like to use, and then click the **Next** button.
4. Click the **Finish** button to add the deck to your landscape design.

After completing the Deck Wizard, DATAflor GRÜNSTUDIO 3D will switch to the Plan view and place your new deck in the center of your design. You can now move the deck into the desired position, and rotate it into the ideal

orientation. See [Moving Objects|topic=Moving Objects](#) and [Rotating Objects|topic=Rotating Objects](#) for details.

The deck and deck stairs that are added by the wizard will be grouped together by default. In order to edit the deck you must first ungroup it by clicking the **Ungroup** button that appears to the right of the screen when the deck is selected. For more details, see [Grouping and Ungrouping Objects|topic=Grouping & Ungrouping Objects](#).



Tips:

1. Using the Deck Wizard will not delete any existing decks in your landscape design; your design can have as many deck objects as needed.
2. To create your own deck instead of using the wizard, use the [Add Deck|topic=Adding a Deck](#) and [Deck Stairs|topic=Adding Deck Stairs](#) tools.
3. Pre-built houses (which also include decks) can be added separately using the [House Wizard|topic=House Wizard](#).
4. If you wish to add a pre-built deck, house, pond, and fence all at once, use the [Landscape Wizard|topic=Landscape Wizard](#).

See also:

Adding a Deck
Adding Deck Stairs

Landscape Wizard
House Wizard
Selecting Objects
Editing Objects
Grouping and Ungrouping Objects

Landscape Wizard

The Landscape Wizard is an easy way to create a basic landscape design using pre-built objects. The objects added through the landscape wizard include a pond, fence, and a house with a deck. The pond and fence are optional.

Important: The Landscape Wizard is a great way to get ideas for landscape designs and for understanding how the different object tools work. However, when designing your landscape you will probably find it easier to design each major object from the ground up. For information, see [Adding Objects|topic=Adding Objects](#).



To use the landscape wizard:

1. Unlike the other wizards, the Landscape Wizard will delete your existing landscape in order to generate a new design. Because of this, be sure to save your landscape by clicking **File** and **Save**.
2. Click **Tools** and **Landscape Wizard**.
3. Click the **Next** button.
4. Select the desired width and length of your lot, which determines the dimensions of a fence that will be automatically placed around your property, and then click the **Next** button.
5. Click the picture of the house that appears, select the sample house that you would like to use, and then click the **Next** button.
6. Click the picture of the pond that appears, select the sample pond you would like to use, and then click the **Next** button. If you do not wish to add a pond, click the **Do not add a pond** checkbox.
7. Click the picture of the fence that appears, select the fence style you would like to use, and then click the **Next** button. If you do not wish to add a fence, click the **Do not add a fence** checkbox.
8. On the graphic that appears, move each landscape element to the desired position by clicking and holding the left mouse button and moving the mouse. When finished, click the **Next** button.
9. Click the **Finish** button to create your landscape.

Your landscape is now ready for editing. New landscaping objects can be added, and existing objects can be edited. Switch between the [Plan view|topic=Plan View](#) and the [Perspective view|topic=Perspective View](#) to see your landscape from different viewpoints, or enter the [Realtime Walkthrough|topic=Realtime Walkthrough](#) to walk through your landscape realistically.

Important: The above steps walked you through creating a landscape using the *Landscape Wizard*, the purpose of which is to allow you to quickly design a landscape using pre-built objects. The landscape that is created using the wizard can be a great learning tool, but is not meant to closely match your design ideas. For a custom design, click File and New, or select Start a New Landscape from the Welcome Menu when DATAflor GRÜNSTUDIO 3D first starts. Next, add your objects as needed, designing them exactly as you envision them.

After using the Landscape Wizard, we recommend you review the following topics to become more familiar with DATAflor GRÜNSTUDIO 3D's features:

- Adjusting the View
- Adding Objects
- Editing Objects
- Editing Points
- Adding a Lot Boundary

The picture below shows a landscape design that was added using the Landscape Wizard and then improved using a wide variety of landscaping tools.



Tips:

1. The pre-built house and pond added by the wizard are [grouped|topic=Grouping & Ungrouping Objects](#) by default, but can be ungrouped to become fully editable.
2. Pre-built houses can be added separately using the [House Wizard|topic=House Wizard](#).
3. Pre-built ponds can be added separately using the [Pond Wizard|topic=Pond Wizard](#).
4. The fence that the wizard adds around the perimeter of your lot is rectangular by default, but can be changed to any size and shape after the wizard is completed.
5. To create a new fence, use the [Fence|topic=Adding a Fence](#) and [Gate|topic=Adding a Fence Gate](#) tools. Individual fence sections can also be added using the [Accessory|topic=Adding an Accessory](#) tool.

See also:

House Wizard
 Deck Wizard
 Swimming Pool Wizard
 Pond Wizard
 Selecting Objects
 Editing Objects
 Grouping and Ungrouping Objects

Swimming Pool Wizard

The Swimming Pool Wizard is an easy way to quickly add a pre-built swimming pool to your landscape design. Each swimming pool added using the wizard includes the pool, pool decking, pool accessories, and more. Some of the pre-built swimming pool designs also include spas.

Important: The Swimming Pool Wizard is a great way to get ideas for swimming pool designs and for understanding how the *Swimming Pool* tool works. However, you will probably find it is easier to design your own custom swimming pools from the ground up. For information, see [Adding a Swimming Pool|topic=Adding a Swimming Pool](#).



To add a swimming pool using the wizard:

1. Click **Tools** and **Swimming Pool Wizard**.
2. Click the **Next** button.
3. Click the picture of the default swimming pool, select the pool you would like to use, and then click the **Next** button.
4. Click the **Finish** button to add the swimming pool to your landscape design.

After completing the Swimming Pool Wizard, DATAflor GRÜNSTUDIO 3D will switch to the Plan view and place your new swimming pool at the center of your design. You can now move the swimming pool design to the desired position, and rotate it into the ideal orientation. See [Moving Objects|topic=Moving Objects](#) and [Rotating Objects|topic=Rotating Objects](#) for details.

The swimming pool and other objects added by the wizard will be grouped by default, making it easy to move the entire group at once. However, in order to edit the swimming pool you will first need to ungroup it by clicking the **Ungroup** button that appears to the right of the screen when the pool is selected. For more details, see [Grouping and Ungrouping Objects|topic=Grouping & Ungrouping Objects](#).



Tips:

1. To create your own swimming pool, instead of using the wizard to add a pre-built pool design, use the [Swimming Pool tool|topic=Adding a Swimming Pool](#).
2. Using the Swimming Pool Wizard will not delete any existing pools in your landscape design; your design can have as many swimming pool objects as needed.

See also:

- Adding a Swimming Pool
- Adding Pool Decking
- Adding Pool Stairs
- Adding a Pool Seat
- Adding a Pool Wall
- Adding a Pool Light
- Adding a Pool Accessory
- Adding a Fountain
- Adding a Waterfall
- Selecting Objects
- Editing Objects
- Grouping and Ungrouping Objects

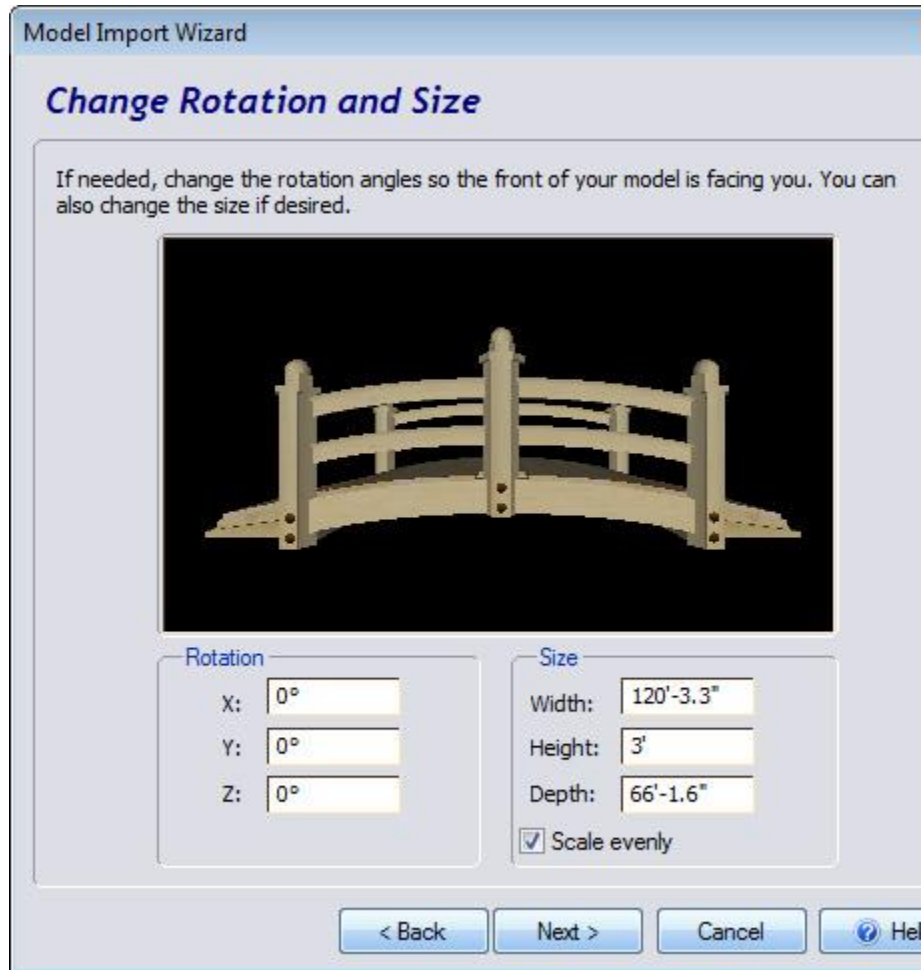
Model Import Wizard

The Model Import Wizards is used to import 3D models of objects that you have downloaded online or created yourself in another program. To import, the model must be in *SketchUp* (skp) or *3D Studio* (3ds) format. Both of these formats are popular for sharing general 3D objects online.



To import a model:

1. Click Tools and Model Import Wizard.
2. Click the **Next** button.
3. Select the type of model you wish to import and then click the **Next** button.
4. Select the model you wish to import and then click the **Open** button.
5. A preview of your model will be displayed. Click the **Next** button; the following dialog will appear:



6. If necessary, modify the size and orientation of the model by entering values in the appropriate fields. Click the **Next** button when finished.
7. Click the **Set File Name** button to enter a different name for your model, or just click the **Next** button.
8. Click the **Finish** button to import the model and complete the wizard.

When the wizard completes, click an area on your landscape design to add the newly imported model. If you need to add the model again in the future, it can be found within the appropriate object library. For example, if a pond bridge has been imported as an accessory, then it can be found within the *Custom* category of the *Accessory* library.

Modeling Guidelines

General guidelines are listed below for creating 3D models for use in DATAflor GRÜNSTUDIO 3D.

1. Each 3D mesh in the model must be polygonal.
2. The bottom of the model should rest on the origin. Think of the origin as the terrain surface.
3. Size the model so that 1 unit = 1 inch, even if using metric in DATAflor GRÜNSTUDIO 3D.
4. 3DS files that reference texture maps must use texture file names that are 8 characters or less. (This is a limitation of the 3DS file format).
5. Ensure that the no single 3D mesh exceeds 32,000 triangles. Multiple meshes can be used for extremely complex objects that require more than 32,000 triangles.

Advanced Instructions for 3DS Models

The instructions below are available to assist advanced users in designing objects that make use of special features such as lighting, waterfalls, and fountains.

Note: The instructions below do not apply to SketchUp (Skp) files because SketchUp does not currently support the ability to name individual model pieces.

All models

1. Bird landing points can be added by placing a small polygon at the intended landing point and naming it **fx_bird**.
2. Pools of water can be created by designing a low-density planar mesh and naming it **fx_pool**. The planar mesh will be replaced with water during Realtime Walkthroughs. To cause your pools of water to ripple automatically, place a small polygon slightly above the water and name it **fx_rip**.

Doors & Windows

1. Rotate the door or window so that the front of the object is facing the negative Z axis.
2. Doors and windows support reflective areas. To make part of a door or window reflective, add a texture to the model in 32-bit Targa format, and specify the alpha channel for the reflective areas based on the values below:
3. 0 = fully transparent
4. 128 = reflective (blend between color channel and environment map)
5. 192 = blend trim color with luminance of color channel
6. 255 = opaque (use color channel)

House and Landscape Lights

1. Ensure that the glass in the light model is a separate mesh, and name it **fx_glass** to prevent the glass portions from being darkened due to shadows.
2. To create a spotlight, add a small polygon and aim it in the direction you wish the light to shine. For wide-angle spotlights, name the small

polygon **fx_lt_sw**. For narrow spotlights, name the small polygon **fx_lt_sn**.

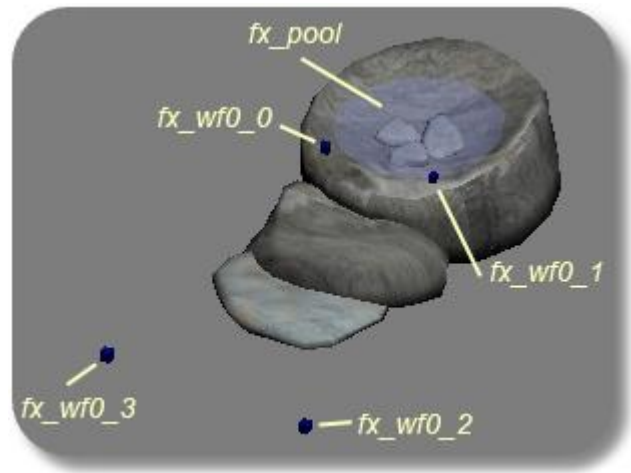
- For lights that shine in every direction, create a small polygon and name it **fx_lt_sm**. The light will emanate from the position of the polygon.

Fountains

- To create flowing water, add a small polygon just above the nozzle and name it **fx_wfall**.

Waterfalls

- To add a flowing stream of water to your model, create four small polygons and position them as shown in the picture below. Place two of the polygons where the water should begin to flow, and name them **fx_wf0_0** and **fx_wf0_1**. Place the bottom two polygons where the water should end and name them **fx_wf0_2** and **fx_wf0_3**.



- If multiple streams of water need to be added, then repeat the steps shown above but increase the first number of the polygons. For example, the first polygon of stream 1 is named **fx_wf0_0**, but the first polygon of stream 2 should be named **fx_wf1_0**. The number after "fx_wf" indicates the number of the stream.
- The picture below shows the above model during a Realtime Walkthrough.



Tips:

1. When you import a model, a copy of both the model and textures is made and stored in a separate location. This means that if you delete the original model your designs will not be affected. It also means that if you make changes to the original model you will need to run the Model Import Wizard again.
2. Once you have imported a model into DATAflor GRÜNSTUDIO 3D, it can be added using the appropriate tool. For example, if you imported a model as a window, then it can be added by clicking the **Add Window** button.

See also:

Editing Materials
Model Creation Wizard
Selecting Objects
Grouping and Ungrouping Objects

Picture Import Wizard

The Picture Import Wizard is used to import photographs of plants, animals, and other objects. Photographs of materials such as grass, mulch, and brick can also be imported.



To begin, first download a picture online or take a picture using a digital camera. If you use a digital camera, be sure to transfer the image from the camera to the computer before attempting to import the image. Scanned images can also be imported

If necessary, edit the image using the included DATAflor Bildbearbeitung application or any other photo editing program, such as Photoshop, Paint Shop Pro, or GIMP.

Follow the steps below to import a picture into DATAflor GRÜNSTUDIO 3D.

To import a picture:

1. Click Tools and Picture Import Wizard.
2. Click the **Next** button.
3. Select the type of picture you would like to import and then click the **Next** button. Select *Region* for general purpose regions, such as color washes, mulch, or grass.
4. Select the picture you would like to import and then click the **Open** button.
5. A preview of your picture will appear. Click the **Next** button.

6. Click the **Set File Name** button to enter a different name for your picture, or just click the **Next** button. If you are importing a plant, the file name becomes the plant's common name.
7. If you are importing a plant, the screen pictured below will appear. Enter the desired information for your plant and then click the **Next** button. This information is optional, but it is recommended to accurately enter the *Mature age* and *Mature height* as they affect how the plant is sized when it is added to your landscape design.

8. Click the **Next** button, and then click the **Finish** button to complete the wizard.
9. The wizard will copy your picture to the following directory:

Windows XP: \Documents and Settings\user\My Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\type\Custom\

Windows 7 and Vista: \Users\user\Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\type\Custom\

In the above file paths, "user" refers to your Windows user name, and "type" refers to the type of picture you are importing (such as *Plant* or *Region*).

The picture below shows a photograph of a dog that was imported and added to a landscape design.



Tips:

1. When you import a picture, a copy of the picture is made and stored in a separate location. This means that if you delete the original picture your designs will not be affected. It also means that if you make changes to the original picture you will need to run the Picture Import Wizard again.
2. Once a picture has been imported, it can be edited using the DATAflor Bildbearbeitung. For example, the Picture Editor could be used to remove the background from a plant. For more information, see [Editing using the DATAflor Bildbearbeitung](#)topic=Editing using the DATAflor Bildbearbeitung.
3. When importing materials, such as pavers, color washes, bricks, grass, or mulch, the picture should be square if possible. For best results, it is recommended to size your material images to 256x256 or 512x512 pixels.

See also:

Adding a Picture
[DATAflor Bildbearbeitung](#)topic=Editing using the DATAflor Bildbearbeitung
 Model Import Wizard

Google Maps Import Wizard

Use the Google Maps Import Wizard to import a satellite picture of your client's property. You can then use it as a template for creating your design.

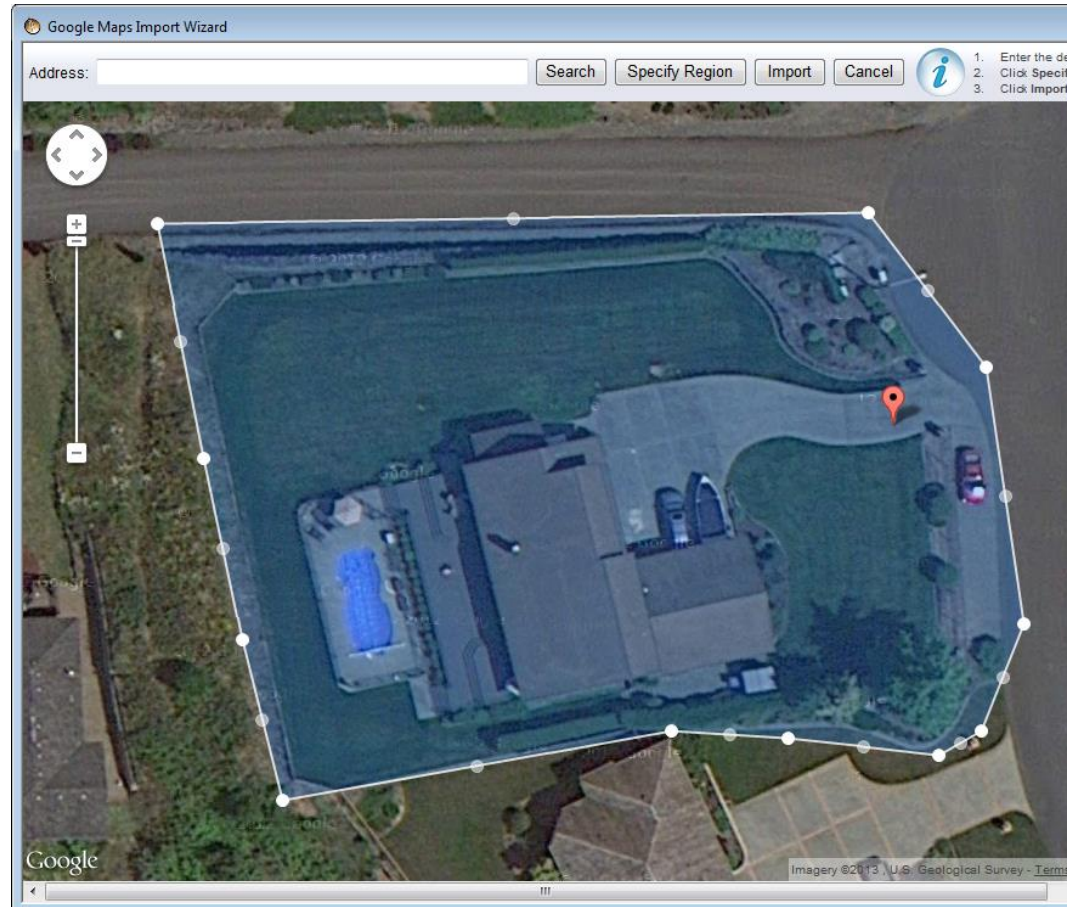


To import a picture from Google Maps:

1. Click **Tools** and **Google Maps Import Wizard**.
2. Click the **Next** button.
3. Click **Start Google Maps**.
4. Type the address of the property you want to import and click the **Search** button.
5. Adjust the viewpoint using the mouse until the property fills the window. Click and drag to pan, and use the mouse wheel to zoom.
6. Click the **Specify Region** button. A rectangle will appear surrounding the property.
7. Click and drag the white circles and adjust the region to surround the area you want to import. (You can insert points by clicking and dragging the gray circles in between the white ones.)
8. Click the **Import** button. The satellite picture will be downloaded to your computer.

9. Click the **Set File Name** button and enter a file name for your picture.
10. Click the **Next** button, and then click the **Finish** button to complete the wizard.

The map picture will be saved as an Overlay and automatically added to the center of your design.



Position, Size, and North Direction

The map overlay size is based on map data received from Google; however the size is approximate so be sure to verify all dimensions for accuracy. You can move and resize the overlay as desired.

By default, the overlay orientation is linked to the current angle of the [Compass|topic=Changing the North Direction](#); where 0 coincides with true north. To use a different angle, uncheck **Use compass angle** and then rotate the overlay as desired.

Tips:

1. If you want to adjust the region and import the map again, select the overlay and re-run the wizard. The wizard will restore the old region as a starting point.
2. The wizard will copy your picture to the following directory:

Windows XP: \Documents and Settings\user\My Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\overlay\Custom\

Windows Vista/7/8: \Users\user\Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\overlay\Custom\

In the above file paths, "user" refers to your Windows user name.

3. Once the picture has been imported, it can be edited using the DATAflor Bildbearbeitung. For more information, see [Editing using the DATAflor Bildbearbeitung](#) | topic=Editing using the DATAflor Bildbearbeitung.

See also:

[Adding an Overlay](#)

[Overlay Properties](#)

[Changing the North Direction](#)

[Adding a Picture](#)

[DATAflor Bildbearbeitung](#) | topic=Editing using the DATAflor Bildbearbeitung

[Picture Import Wizard](#)

CAD Import Wizard

The CAD Import Wizard imports 2D drawings created in software such as AutoCAD, DraftSight, ProgeCAD, and other programs that write files in DWG, DXF, or PDF format. This is useful for importing site plans, terrain contours, planting details, and other 2D drawings.

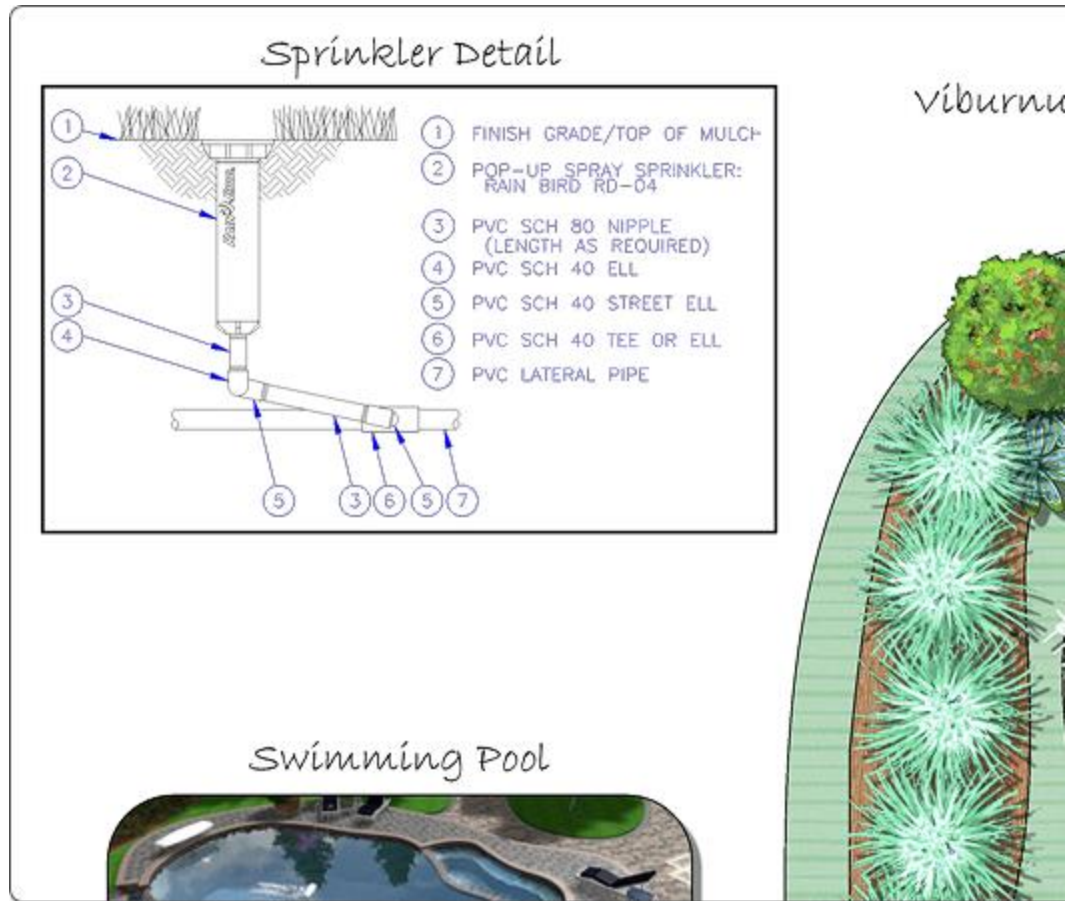


To import a CAD drawing:

1. Click **Tools** and **CAD Drawing Import Wizard**.
2. Click the **Next** button.
3. Browse to the file you want to import and click **Open**.
4. DWG/DXF only: Specify which layers you want to import and click **Next**.
5. DWG/DXF only: Select the desired drawing units. You can also enter a scale factor if you want to resize the drawing during import. Then click **Next**.
6. Click the **Set File Name** button and enter a file name for the imported drawing.
7. Click the **Next** button, and then click the **Finish** button to complete the wizard.

The CAD drawing will be saved as an Overlay and automatically added to the center of your design.

In the drawing below, the sprinkler detail was imported from a DWG file provided by Rain Bird®.



Linking to the North Direction

When importing site plans and other drawings where the direction is important, you can align the plan with true north in your landscape design.

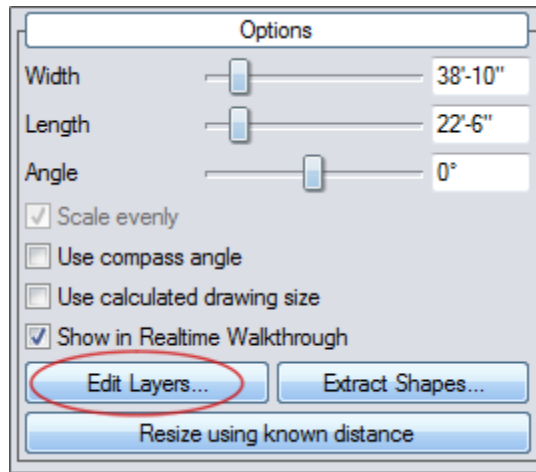
1. First, ensure the drawing is oriented so true north is straight up before exporting it from your CAD software.
2. Import the drawing using the CAD Drawing Import Wizard.
3. Check the **Use compass angle** property.

When you change the [compass angle|topic=Changing the North Direction](#), the overlay will then rotate along with it.

Editing Layers

You can show and hide layers in the imported DWG/DXF drawings to isolate the drawing detail you are interested in. Note that these layers are completely independent of the layers used in DATAflor GRÜNSTUDIO 3D.

1. Click the **Edit Layers** button in the Overlay property window.



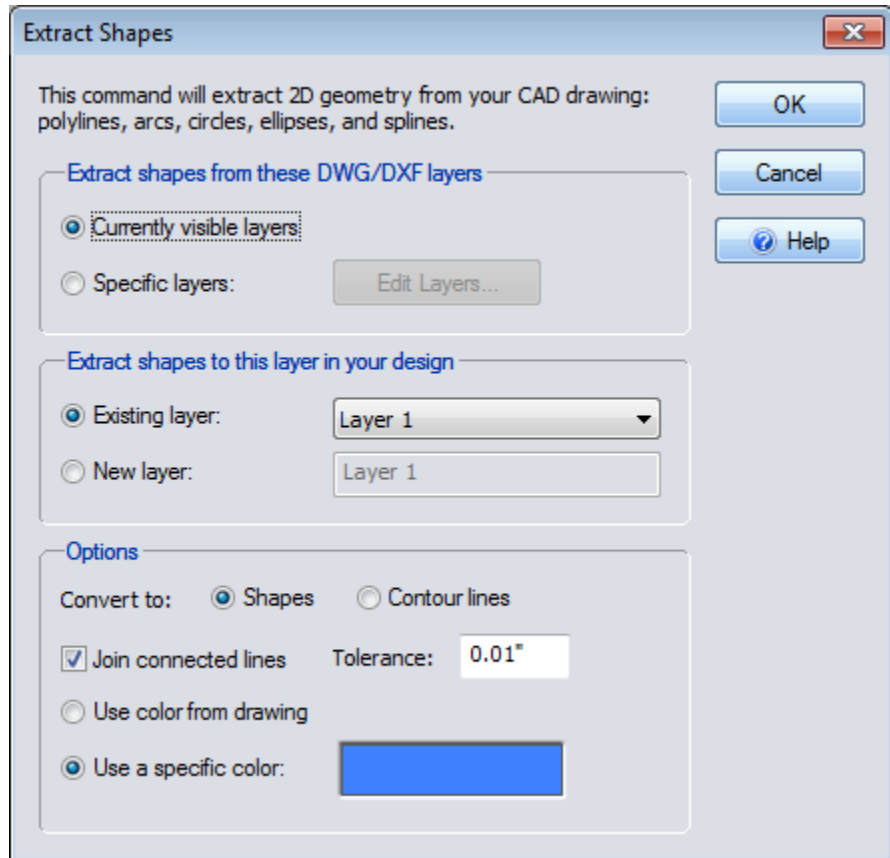
2. Click the layers to show or hide them as desired, and then click the **OK** button.

Extracting Shapes

You can extract line and curve entities from your DWG and DXF files and convert them to either [Shapes|topic=Adding a Shape](#) or [Contour Lines|topic=Adding a Contour Line](#). This is useful when the CAD drawing contains fill regions, property lines, or other 2D shapes that you want to use to create new objects in your landscape design.

To extract shapes from the CAD drawing:

1. Click the **Extract Shapes** button. The following dialog will appear:



Currently visible layers

Extract shapes from the DWG/DXF layers which are currently visible.

Specific layers

Extract shapes from certain layers. Click the **Edit Layers** button to select which layers you want to extract shapes from.

Existing layer

Extract the shapes to an existing DATAflor GRÜNSTUDIO 3D layer.

New layer

Extract shapes to a new DATAflor GRÜNSTUDIO 3D layer. This is useful when extracting large numbers of shapes because it will make them easier to select as a group later on.

Convert to: Shapes

Convert the extracted entities to DATAflor GRÜNSTUDIO 3D's [Shape](#) objects.

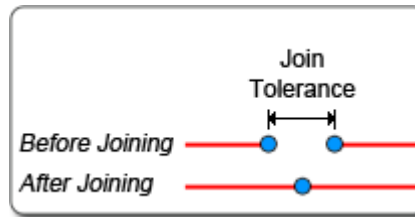
Convert to: Contour Lines

Convert the extracted entities to DATAflor GRÜNSTUDIO 3D's [Contour Line](#) objects. The DWG/DXF contour line elevation will be extracted from the entity's Elevation property.

Join connected lines and Tolerance

Automatically joins connected line segments into single shapes, which makes them much easier to edit. For example, a rectangle in a DWG file could consist of four separate line segments. Using this option, a single rectangle would be imported instead.

Depending on how the CAD file was created, the end of one line may not exactly match the start of the next. In this case, **Tolerance** specifies the maximum distance between the two points in order for them to be joined, as shown below:



Use color from drawing

Use the entity colors defined in the DWG/DXF file. Due to differences in color palettes used by CAD software, the colors of the extracted shapes may not exactly match the original drawing.

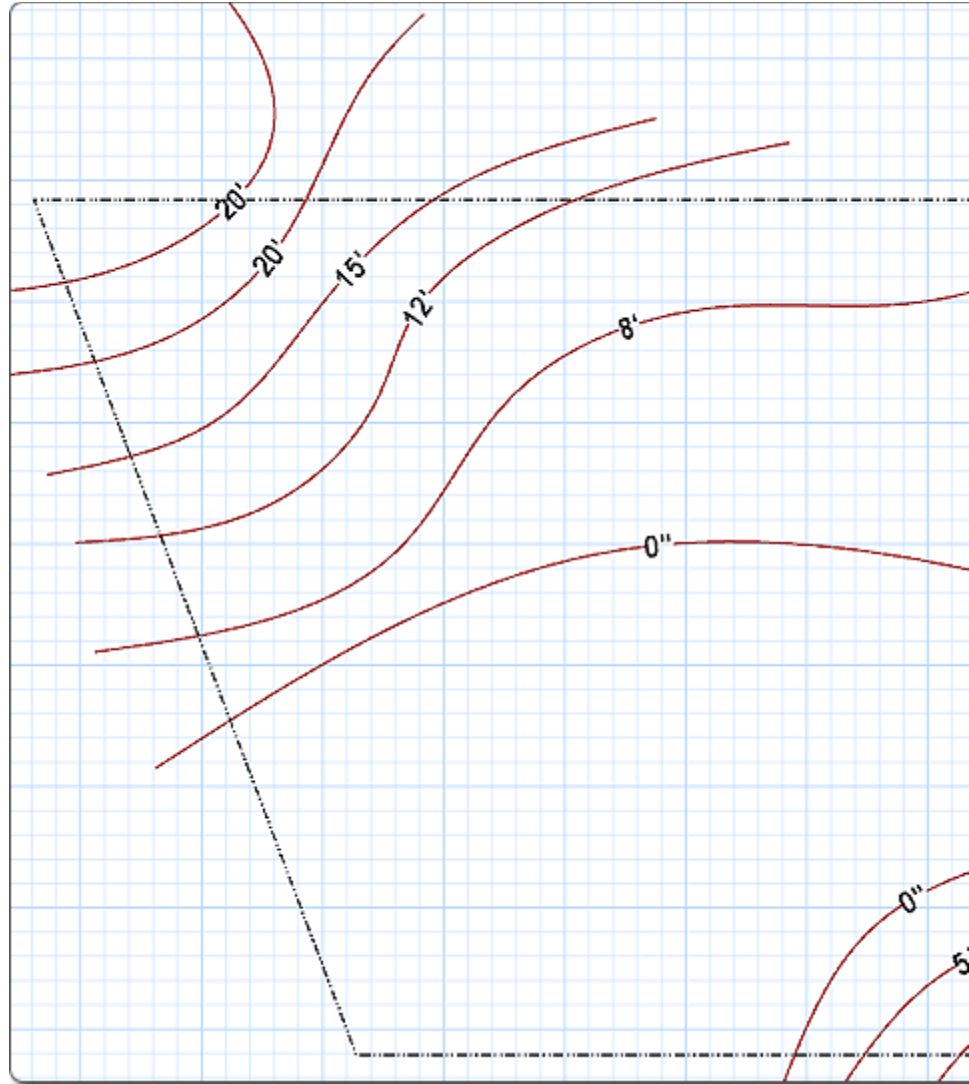
Use specific color

Use the specified color for the extracted shapes.

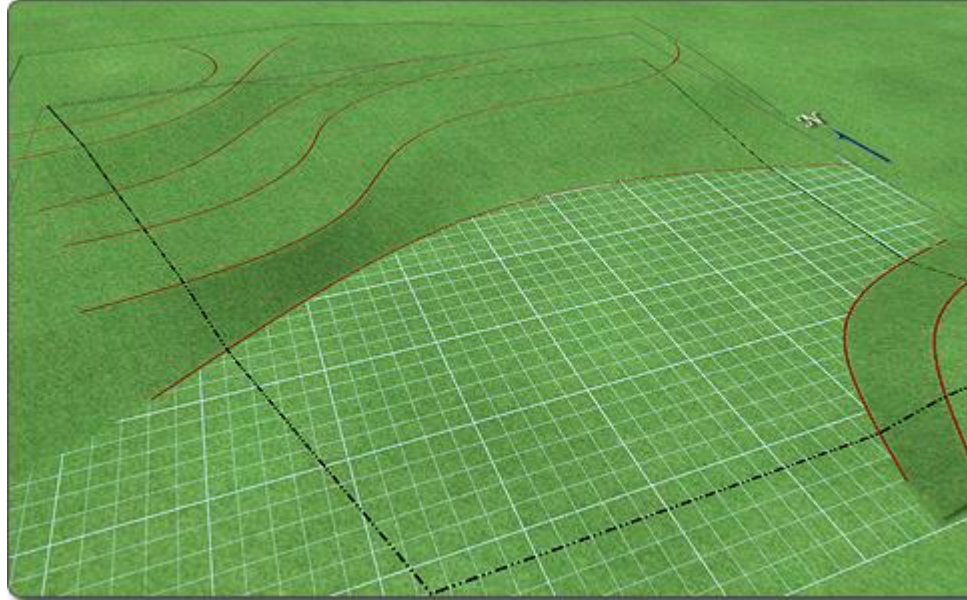
2. Click the **OK** button.

The shapes or contour lines will then be created and added to the specified layer as a single group. To edit them individually, click the [Ungroup|topic=Grouping & Ungrouping Objects](#) button.

The contour lines in the following design were extracted from an imported DWG file using the above steps.



The same design is shown below in the Perspective view:



Tips:

1. When using Spline entities for contour lines in AutoCAD™ or other CAD software, be sure all fit/control points use the same elevation (Z coordinate).
2. The wizard will copy the imported drawing to the following directory:

Windows XP: \Documents and Settings\user\My Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\overlay\Custom\

Windows Vista/7/8: \Users\user\Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\overlay\Custom\

In the above file paths, “user” refers to your Windows user name.

3. If you change the original DWG/DXF/PDF file, then you will need to re-run this wizard if you want the changes to appear in DATAflor GRÜNSTUDIO 3D.

See also:

1. [Adding an Overlay|topic=Adding an Overlay](#)
2. [Overlay Properties|topic=Overlay Properties](#)
3. [Changing the North Direction|topic=Changing the North Direction](#)
4. [Picture Import Wizard](#)

Terrain Elevation Import Wizard

The Terrain Elevation Import Wizard imports terrain elevation points from CAD files in DWG and DXF format, as well as elevation points in XLS, XLSX, and CSV format. This is useful for importing elevation data from other CAD software or from files generated by GPS survey equipment.

Once the elevation data has been imported, the wizard will automatically create contour lines which can be edited normally.



To import terrain elevations:

1. Before using the wizard, we recommend you either start with a new design, or first delete all contour lines and other terrain-modifying objects. This will make it easier to verify the newly imported elevation data.
2. Click **Tools** and **Terrain Elevation Import Wizard**.
3. Click the **Next** button.
4. Browse to the file you want to import and click **Open**.
5. DWG/DXF only: Specify which layers you want to import and click **Next**.
 XLS/XLSX/CSV only: Specify which columns contain the XYZ elevation data (where Z is the elevation). The wizard can usually do this automatically, but you can override the default settings if needed. Then click **Next**.
6. Select the desired drawing units. You can also enter a scale factor if you want to resize the drawing during import. Then click **Next**.
7. Click the **Finish** button to complete the wizard.

The resulting contour lines will be created and automatically grouped.

Tips:

1. When importing DWG or DXF files, be sure to first use your CAD software to explode any proxy entities that contain elevation data.
2. If you change the imported file, then you will need to re-run this wizard if you want the changes to appear in DATAflor GRÜNSTUDIO 3D.

See also:

1. [Adding a Contour Line](#)
2. [CAD Import Wizard](#)

Plant Creation Wizard

The Plant Creation Wizard can be used to create a new plant using the appearance of the currently selected plant. This is useful for when you wish to use an existing plant as a starting point for your own variations.

Note: Due to their complexity, you cannot currently create custom variations of UltraRes Plants®.



To create a custom plant:

1. Add the plant that you would like to use to your landscape design. For instructions, see [Adding a Plant|topic=Adding a Plant](#).
2. Modify the color and brightness of the plant as needed. Either adjust the [Color and Brightness|topic=Editing Color and Brightness](#) of the plant, or edit it using the [DATAflor Bildbearbeitung|topic=Editing using the DATAflor Bildbearbeitung](#).
3. Ensure that the plant is selected.
4. Click **Tools** and **Plant Creation Wizard**.
5. Click the **Next** button.
6. Click the **Set File Name** button, enter the desired *Common Name* for the new plant, and then click the **Next** button.
7. Enter the desired information for your plant and then click the **Next** button. This information is optional, but it is recommended to accurately enter the *Mature age* and *Mature height* as they affect how the plant is sized when it is added to your landscape design.
8. Click the **Finish** button to complete the wizard.
9. Your new plant will appear in the *Custom* category of the plant library.

Tips:

1. If you wish to import a 3D plant in *3ds* or *skp* format, use the [Model Import Wizard|topic=Model Import Wizard](#).
2. Variations of 3D plants can also be added using the [Model Creation Wizard|topic=Model Creation Wizard](#).
3. To import a picture of a plant, use the [Picture Import Wizard|topic=Picture Import Wizard](#).
4. Custom plants are saved to the following directory:

Windows XP: My Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\type\Custom\

Windows 7 and Vista: Documents\DATAflor GRÜNSTUDIO 3D \Custom Data\type\Custom\

Where "user" refers to your Windows user name, and "type" is "plant" for 3D plant models, or "plant_picture" for 2D plant pictures.

See also:

Picture Import Wizard
 Model Import Wizard
 Model Creation Wizard
 Selecting Objects
 Editing Materials

Model Creation Wizard

The Model Creation Wizard is used to create new models using existing objects. For example, a plant could be placed on a trellis, and then the Model Creation Wizard could be used to permanently add the plant/trellis

combination to DATAflor GRÜNSTUDIO 3D. Once an object is created using the Model Creation Wizard, it can be added to any of your landscape designs.



To create a new model:

1. Select each of the objects you wish to include in the new model. For help, see [Selecting Objects|topic=Selecting Objects](#).
2. Click **Tools** and **Model Creation Wizard**.
3. Click the **Next** button.
4. Select the type of model you would like to create and then click the **Next** button. Select *Accessory* for general purpose models, such as arbors, mailboxes, and tables.
5. Click the Set File Name button and type a name for your new model.
6. Click the **Next** button and then click the **Finish** button to complete the wizard.
7. Click on your landscape design to add the new model.

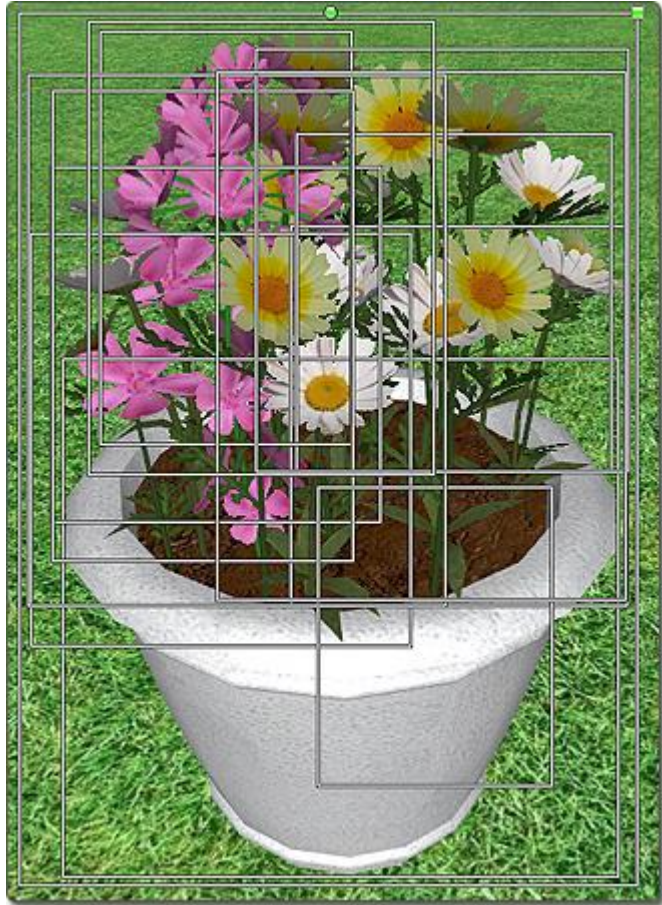
Your new model can be added to any of your landscape designs from within the appropriate object library. For example, if a container garden has been imported as an accessory, then it can be found within the *Custom* category of the *Accessory* library.

Examples

A variety of different types of models can be created using the Model Creation Wizard, several of which are shown below.

To create a container garden:

1. Add a planter using the [Accessory|topic=Adding an Accessory](#) object.
2. Add flowers to the planter using the [Plant object|topic=Adding a Plant](#).
3. Select each of the flowers and the planter; your design should look similar to the image below. For details on selecting objects in your landscape design, see [Selecting Objects|topic=Selecting Objects](#).



4. Click **Tools, Model Creation Wizard**, and then follow the steps shown near the beginning of this topic. When asked which type of object you wish to create, select *Accessory*.

You can now add your new container garden as you would any other accessory. See [Adding an Accessory|topic=Adding an Accessory](#) for more information.

The picture below shows how the plants and the planter have been combined into a single object.

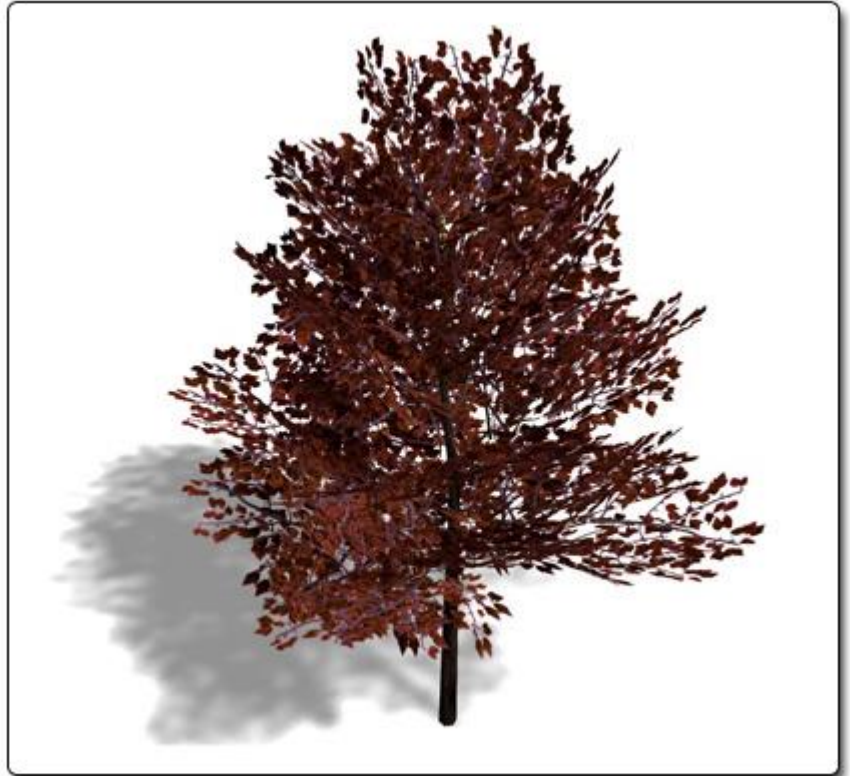


Creating a Custom Plant

The following guide explains how to create a fall version of the *Red Maple* 3D tree.

To create a new 3D plant:

1. Use the [Plant object|topic=Adding a Plant](#) to add a Red Maple to your landscape design. Ensure that you are adding a 3D model and not a 2D Picture.
2. Click the tree to select it.
3. Click the small button that appears next to the picture of the plant to the right of the screen and then click the **Edit Materials** button.
4. Click *Material 3*, which in this case is the material for the plant foliage.
5. Click the small button to the right of the foliage picture and click **Color and Brightness**.
6. Set the Tint to -50 (to set the foliage color to red) and the Brightness to 20 (to brighten it up a bit). Then click the **OK** button.
7. Click the **OK** button again. Your plant should appear similar to the picture below.



8. With the tree still selected, click **Tools, Model Creation Wizard**, and follow the prompts. When you are asked to select the type of object you wish to create, select *Plant*, and when asked for the File Name, enter "Red Maple - Fall" for the common name for the new plant.
9. Before the wizard completes, you will be prompted to enter additional plant information, including botanical name, mature age, mature height, and planting zones. This information is optional, but it is recommended to accurately enter the *Mature age* and *Mature height* as they affect how the plant is sized when it is added to your landscape design.

10. Click the **Next** button and then click the **Finish** button to complete the wizard. Your new plant will now be available for use in any of your landscape designs.

Creating a Custom Waterfall

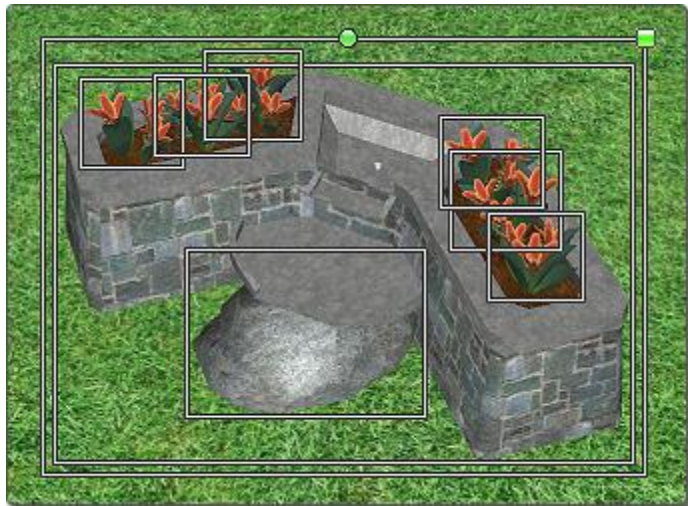
The following guide explains how to modify an existing waterfall, and then save the modified waterfall as a custom model.

To create a waterfall:

1. Add a waterfall to your landscape design using the [Waterfall object](#)[|topic=Adding a Waterfall](#).



2. Add rocks in and around the waterfall using the [Rock object|topic=Adding a Rock](#) and add plants to the waterfall using the [Plant object|topic=Adding a Plant](#). In the example below, Tulips have been added to the pond basin.
3. Select the waterfall, each rock, and each plant; your design should look similar to the image below. For details on selecting objects in your landscape design, see [Selecting Objects|topic=Selecting Objects](#).



4. Click Tools, Model Creation Wizard, and then follow the steps shown near the beginning of this topic. When asked which type of object you wish to create, select *Waterfall*.

You can now add your new waterfall as you would any other waterfall. See [Adding a Waterfall|topic=Adding a Waterfall](#) for more information.

The picture below illustrates the new waterfall during a Realtime Walkthrough.



Tips:

1. If you wish to import custom pictures or photographs, use the [Picture Import Wizard](#)[|topic=Picture Import Wizard](#).
2. For more information on editing the appearance of an object, see [Editing Materials](#)[|topic=Editing Materials](#).
3. If you wish to create a custom plant from an existing one, the [Plant Creation Wizard](#)[|topic=Plant Creation Wizard](#) can also be used. Note that the Plant Creation Wizard handles both 2D and 3D plants, while the Model Creation Wizard only supports 3D plants.

See also:

Picture Import Wizard
 Model Import Wizard
 Selecting Objects
 Grouping and Ungrouping Objects

Symbol Creation Wizard

The Symbol Creation Wizard is used to create 2D symbols out of one or more [Plan Detail](#)[|topic=Adding Plan Detail](#) objects. The newly created symbols can then be used in any of your landscape designs.

Symbols only appear in the Plan view and can be composed of text, dimensions, lines, filled shapes, and even other symbols. DATAflor GRÜNSTUDIO 3D includes a large library of symbols that can be used to create new symbols, or you can create your own symbols from scratch.



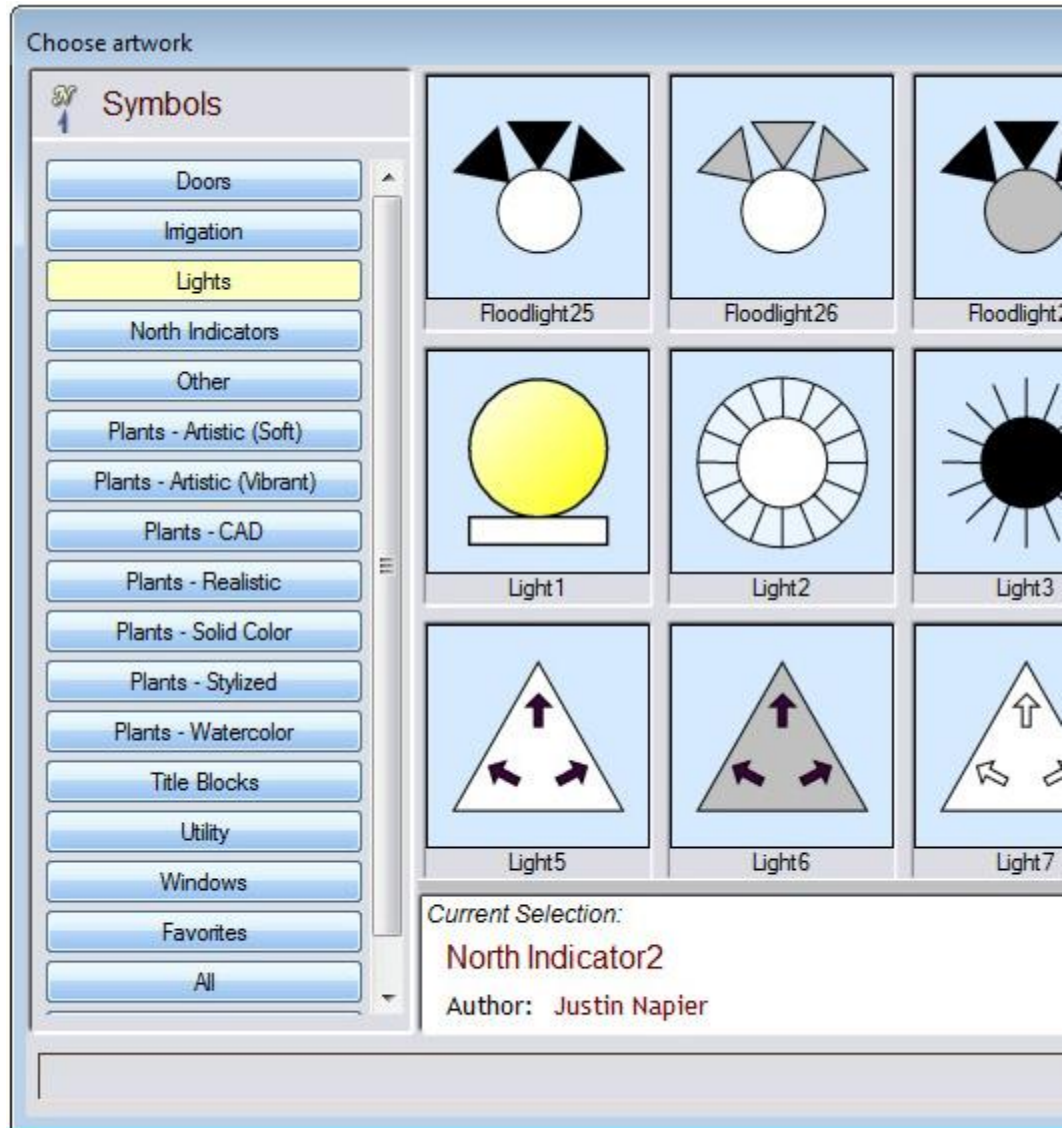
To create a new symbol:

1. Click the **Plan** tab to switch to the [Plan view|topic=Plan View](#).
2. Create or add the Plan Detail objects that you wish to include in your new symbol. Any of the objects under the **Plan Detail** tab can be used with the exception of the *Plant Legend* and *Embedded Object* tools. See [Adding Plan Detail|topic=Adding Plan Detail](#) for more information.
3. Select each of the objects that should be included in the new symbol. See [Selecting Objects|topic=Selecting Objects](#) for details. Ensure that only the Plan Detail objects listed above are selected.
4. Click **Tools** and **Symbol Creation Wizard**.
5. Click the **Next** button.
6. Select **Plant Symbol** or **Other Symbol** and then click the **Next** button.
7. Click the **Set File Name** button, type a name for your new symbol, and then click the **Next** button.

8. Click the **Finish** button to complete the wizard.

Your new symbol can be added to any of your landscape designs using the [Symbol object|topic=Adding a Symbol](#).

The picture below shows some of the available symbols that are included in DATAflor GRÜNSTUDIO 3D. These symbols can be modified as needed and used to create your own variations.



Using your New Symbol

To add a non-plant symbol, click the Add Symbol button found under the Plan Detail tab.

To add a plant symbol, first add a plant using the **Plant** button found under the **Landscape** tab. Next, set the symbol of the plant to the symbol of your choice. For more information, see [Plant Symbols|topic=Plant Symbols](#) and [Adding a Plant|topic=Adding a Plant](#).

Tips:

1. When creating a new symbol, avoid using the color *solid magenta* (red=255, green=0, blue=255) because this color will be made transparent.
2. After a symbol is placed in your landscape design and selected, a **Break Symbol** button will allow you to split the symbol into its original pieces. For more information, see [Adding a Symbol|topic=Adding a Symbol](#).

See also:

Adding a Symbol
Adding Plan Detail
Selecting Objects
Editing Objects

Plant Label Wizard

The Plant Label Wizard is used to automatically label every plant in a landscape design. These labels appear only in the Plan view, and can be adjusted as needed after they are added. The Plant Label Wizard is a valuable timesaver, especially when working with large and complex landscape designs.

The wizard allows you to determine how the plant labels appear by modifying the label placement, the font size and style, and the information that is included with the labels.

The Plant Label Wizard can be used as many times as is necessary; running the wizard a second time will simply replace all of the previous labels with new labels. The wizard adds labels into a layer named *Auto Plant Labels*; this layer is created automatically if needed. We recommend only using this layer for labels which are added using the wizard.



To add plant labels using the Plant Label Wizard:

1. Click Tools and Plant Label Wizard.
2. Click the **Next** button; the dialog shown below will appear.

Plant Label Wizard

Plant Label Options

Use the following options to specify how you want the plant labels to appear. When the wizard is finished, you can customize the plant labels as desired.

Label

Common name

Botanical name

Plant key Options...

Label Options

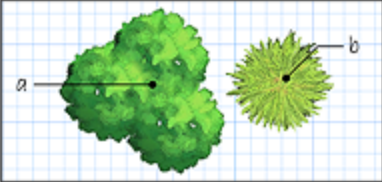
Add quantity

Add plant picture

Label Style

Leader lines from edge

Centered over plants



Maximum distance between identical plants:

Add to left side Distance from left edge:

Add to right side Distance from right edge:

< Back
Next >
Cancel
Help

Common Name

Include the common name in the label.

Botanical Name

Include the botanical name in the label.

Plant key

Include the plant key in the label. Click **Options** to customize how the plant keys are generated. See *Generating Plant Keys*, below, for details.

Add quantity

Include the plant quantity in the label.

Add plant picture

Use a label which includes a picture of each plant type.

Picture size

If the *Add plant picture* option is checked, then you can customize how large each plant picture is.

Label Style

Select which label style you would like to use: either placed at the edge of your design with leader lines, or centered over the plants.

Maximum distance between identical plants

Determines how far apart plants of the same type need to be in order to avoid being grouped. See below for more details.

Add to left/right side

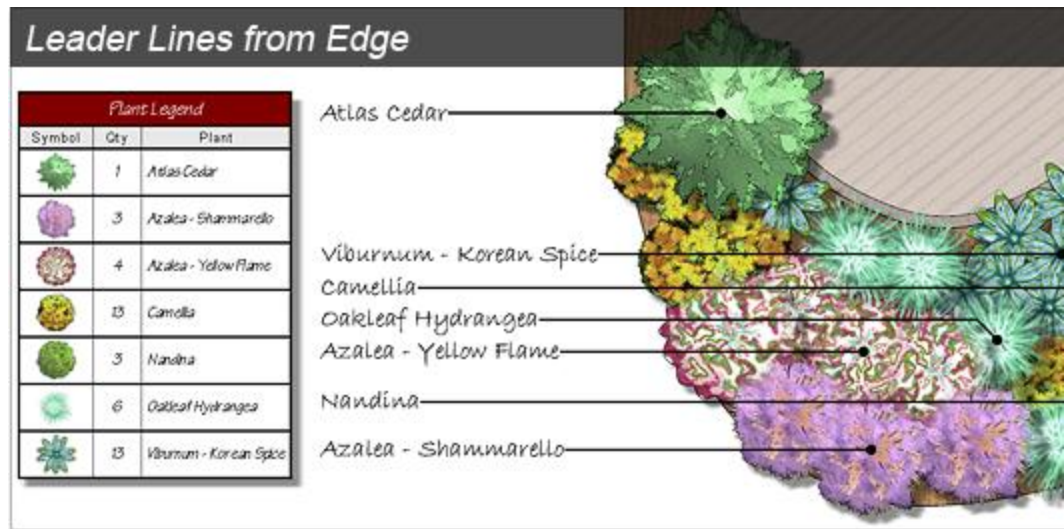
Determine whether the plant labels are added to the left of your landscape design, to the right, or to both sides. This option is only used when adding labels to the edge of your design.

Distance from left/right edge

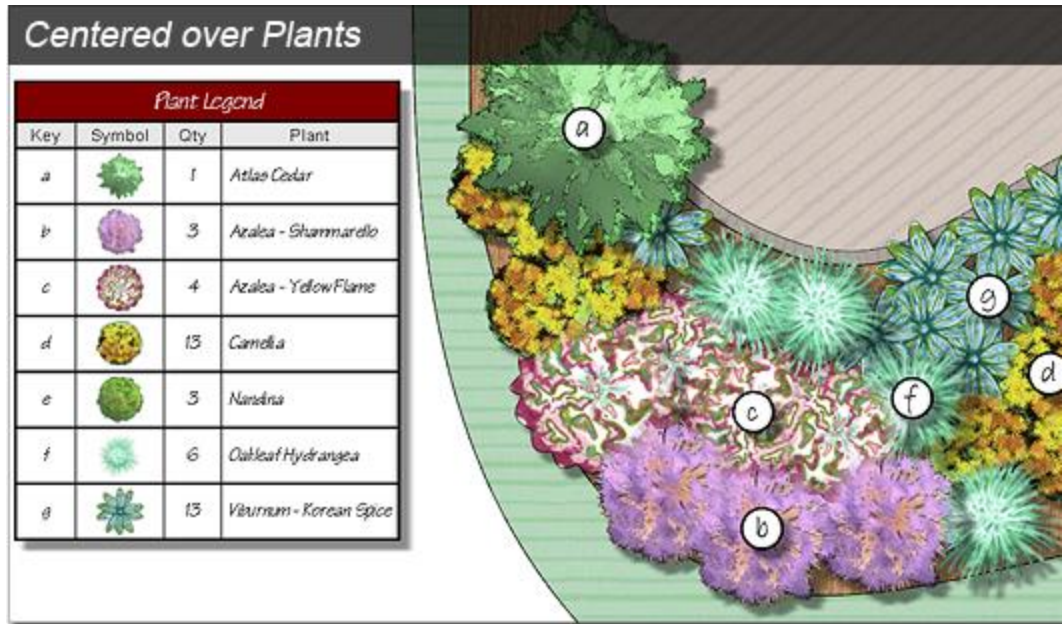
Determine the margin between the edge of your landscape design and the plant labels. This option is only used when adding labels to the edge of your design.

3. Set the desired plant label options and click the **Next** button.
4. Click the **Finish** button to complete the wizard.

The following is an example of the **Leader lines from edge** option:

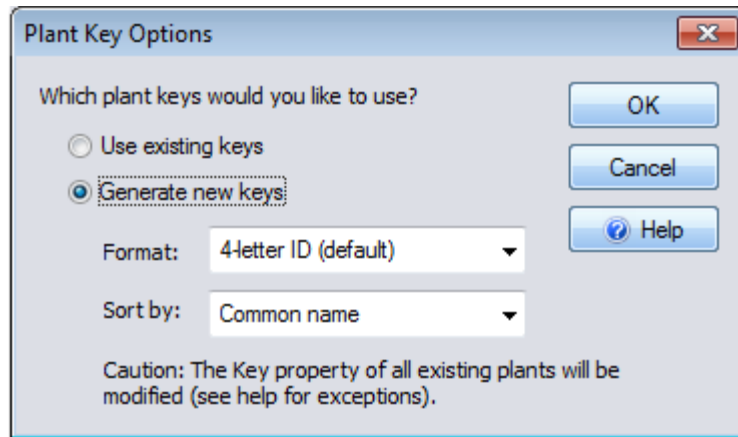


The following is an example of the **Centered over plants** option. The plant key options were set to the format "a,b,a1,b1" and the [Plant Legend|topic=Adding a Plant Legend](#) was customized to show the plant key in the first column.



Generating Plant Keys

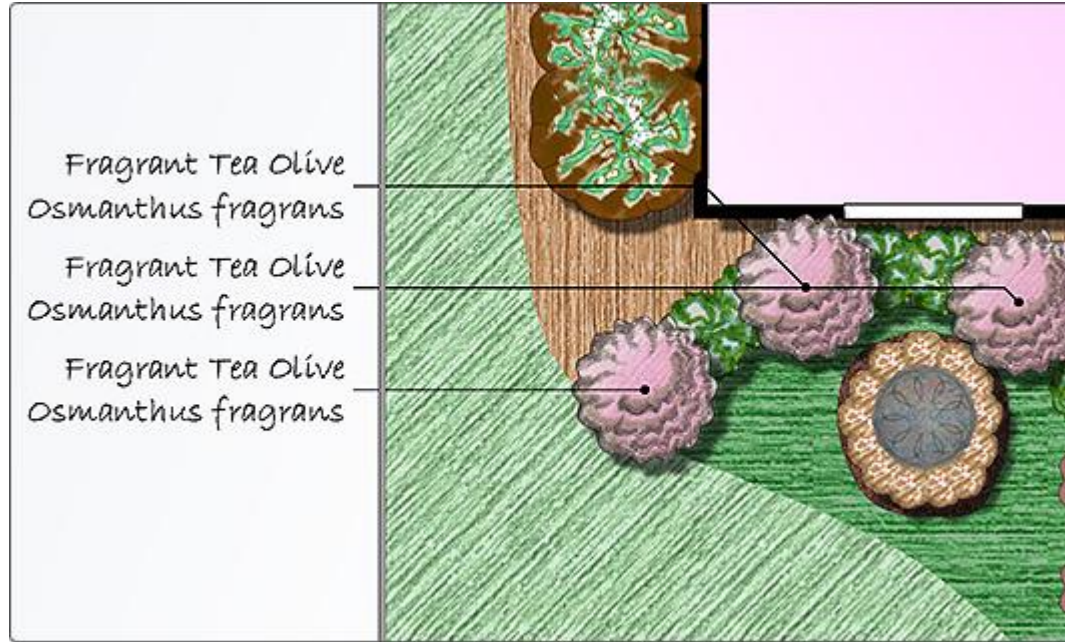
You can choose to use the existing plant keys, or generate new keys automatically. Generating new keys is especially useful when using placing labels over the plants using the **Centered over plants** option.



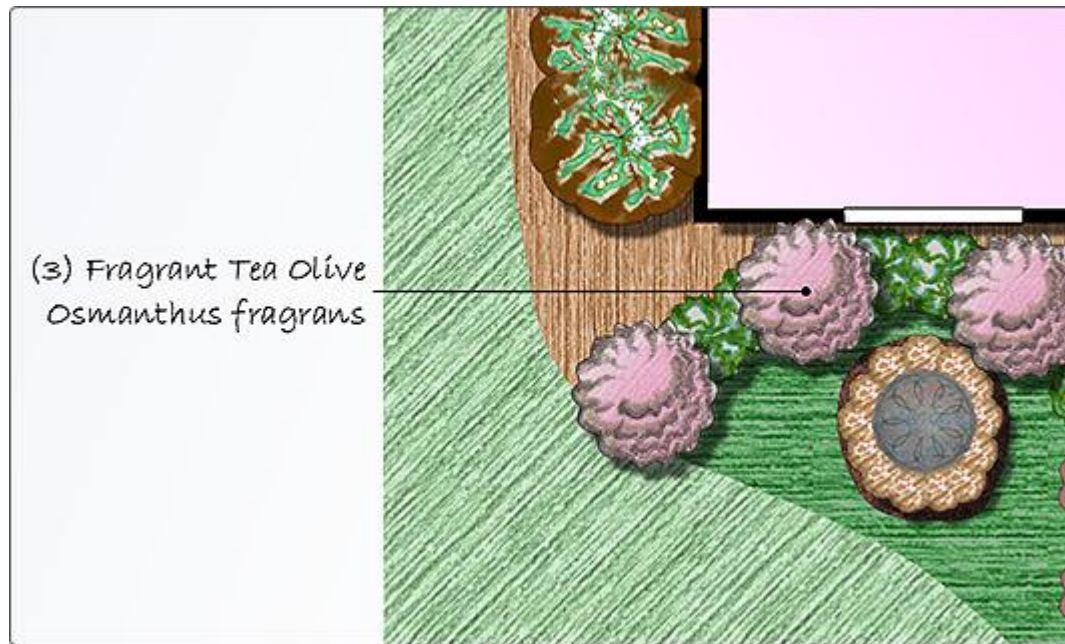
Caution: When generating new plant keys, the existing keys will be overwritten. This is only a concern if you have entered custom values for the Key property in one or more plants.

Using the “Maximum distance between identical plants” option

The *Maximum distance between identical plants* option helps you control how many plant labels are added. For example, the landscape in the picture below includes three Tea Olive plants that are approximately 6 feet apart. During the Plant Label Wizard, the *Maximum distance between identical plants* option was set to 5 feet. Notice how each plant has a plant label.



The picture below shows the same landscape design but with the *Maximum distance between identical plants* option set to 10 feet, resulting in the three Tea Olives being given a grouped label.



Customizing the Plant Labels

The first time you use the wizard in a particular landscape design, the plant labels will be created using the default font, line style, and other properties. You can then edit the labels and change their appearance as desired.

To customize the appearance of the plant labels after using the wizard for the first time:

1. Use the wizard to add plant labels.
2. Click one of the labels to select it.
3. Click **Edit, Select**, and then **Select Similar**. Or, press the **L** key. This will select all of the plant labels.
4. Change the font, line style, and other properties as desired.

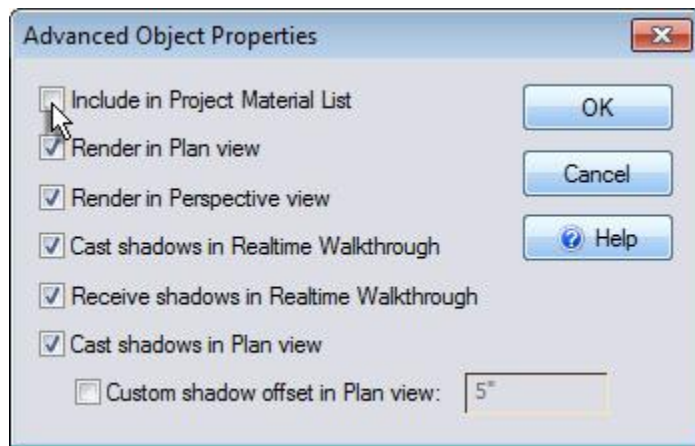
When you make changes to your design, you can re-run the wizard and update the plant labels. When you do this, don't delete the old plant labels -- let the wizard do it. The wizard will use the font, line style, and other properties from the first label in the Auto Plant Labels layer, and automatically apply these to the new labels. The old labels in the Auto Plant Labels layer will then be replaced with the new ones.

Preventing Labels for Certain Plants

If you wish to prevent certain plants from receiving labels from the Plant Label Wizard, then adjust the *Advanced Object Properties* as explained below. Alternately, after using the Plant Label Wizard, simply delete the unwanted plant labels. This is useful for when you wish to display plant labels for new plants, but not for plants that already exist on your client's property.

To prevent the wizard from adding labels for certain plants:

1. Select each of the plants that you do not wish to receive automatic plant labels. See [Selecting objects|topic=Selecting Objects](#) for details.
2. Click Edit and Advanced Object Properties.
3. Click the **Include in Project Material List** option to uncheck it and then click the **OK** button.



Important: This will also prevent the selected plants from appearing in the [Project Material List|topic=Creating a Project Material List](#) and the [Plant Legend|topic=Adding a Plant Legend](#).

Tips:

1. If you want every plant in your landscape design to have its own label, then set the *Maximum distance between identical plants* value to a very high number. See above for more details.
2. The automatic plant labels that are added using the Plant Label Wizard can be edited normally. The labels are not strictly connected

to the corresponding plants, meaning you can delete a label without affecting the plant.

3. The labels that are added using the Plant Label Wizard can be undone normally, meaning that if you wish to undo the wizard's changes, just click **Edit** and **Undo**.

See also:

Adding a Label

Adding a Plant Label

[Adding a Plant Legend|topic=Adding a Plant Legend](#)

Adding a Plant

Adding Plan Detail

Using Layers

Selecting Objects

Editing Objects

Utility Objects

Adding a Realtime Camera

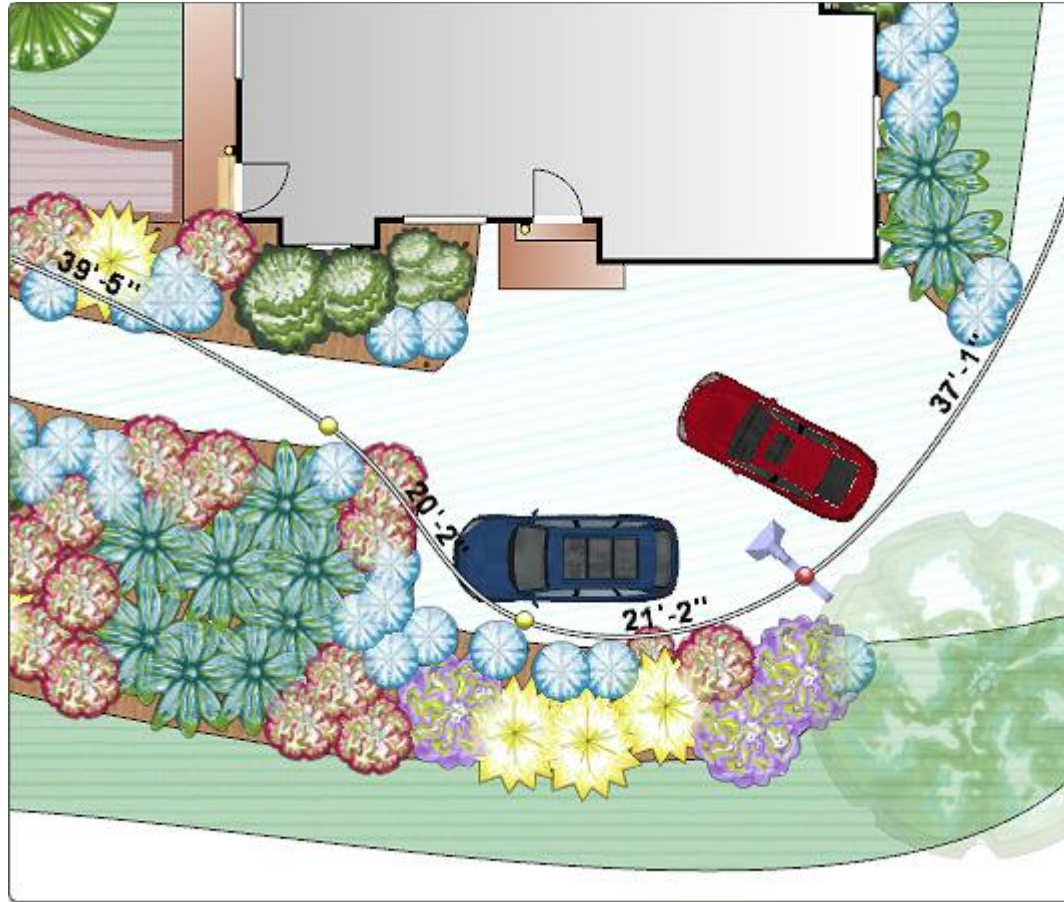


Realtime Cameras are used to create the path the camera follows when creating movies and automatic walkthroughs. Multiple Realtime Cameras can be added to your landscape design; simply choose which one you would like to use when it is time to start a walkthrough or create a movie.

To add a Realtime Camera:

11. Click the **Add Realtime Camera** button that appears near the top of the screen under the **Utilities** tab.
12. Draw the path that you want the camera to follow by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel.
13. To finish drawing the Realtime Camera path, right-click to place the last point or left click the first point (depending on whether you want an open or closed path).

In the picture below, a Realtime Camera borders a driveway design. Notice how a 3D camera appears on the selected point to give you an idea of what the Realtime Camera will view as it passes through that point.



In the picture below, a screenshot was taken during an automatic Realtime Walkthrough. Notice how the view of the picture below is seen through the eyes of the Realtime Camera at the point selected in the picture above.



Adjusting the Camera

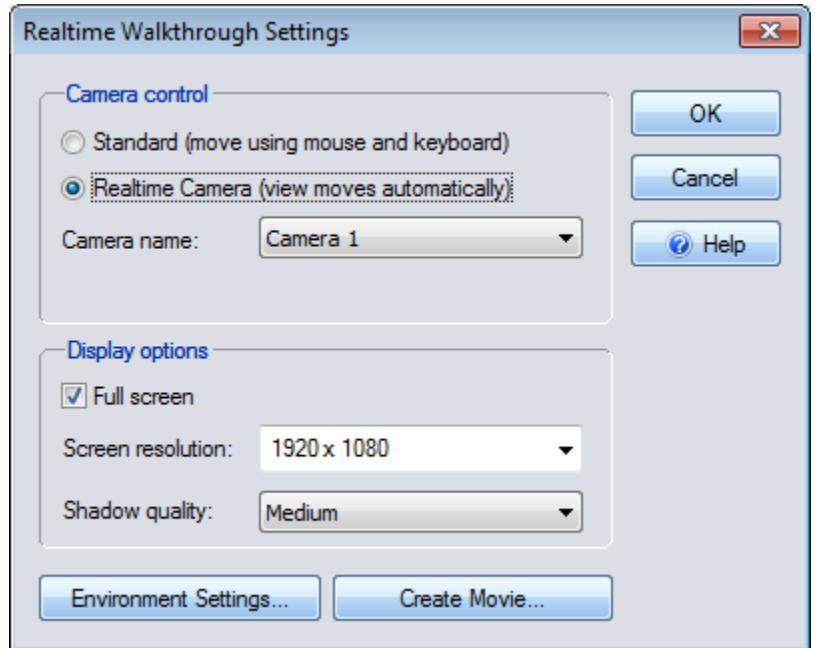
After a Realtime Camera has been added to your landscape design, it will need to be adjusted so that it focuses on the most important parts of your landscape. This is done by adjusting the view of the camera at each point on the path.

To adjust the camera positions and angles:

14. Click the Realtime Camera to select it.
15. Click the **Edit Points** button found in the [Properties|topic=Setting Object Properties](#).
16. Click one of the points to select it. A small movie camera will appear showing the angle and direction the camera is facing at that particular point. A small window will also appear on the right side of the screen showing the landscape through the lens of the camera.
17. To move the camera at the selected point, click and drag it to the desired position.
18. To modify the height of the camera at the selected point, adjust the **Elevation** [property|topic=Setting Object Properties](#).
19. To modify the pitch (up/down angle) of the camera at the selected point, adjust the **Angle** property.
20. To modify the direction (left/right angle) of the camera at the selected point, adjust the **Direction** property.
21. Repeat the above steps for each point that you wish to adjust.

To use a Realtime Camera during a Realtime Walkthrough:




22. Click the **Walkthrough** tab that is located to the lower-left of the screen. The dialog below will appear.
23. Click the **Realtime Camera (view moves automatically)** option, and then select the camera you wish to use from the drop-down menu.



24. Click the **OK** button to begin the Realtime Walkthrough.
25. When you are finished viewing the walkthrough of your landscape design, press the **Esc** key on your keyboard.

Icons in the Plan View

The following icons appear in the plan view to help visualize the actions you have set for the camera along each segment of the path.

Symbol	Description
	A green arrow will appear where the camera will smoothly transition from one point to the next without cutting or holding.
	An orange arrow will appear where the camera will hold (pause) for a period of time. The orange arrow will appear between the previous point and the point at which the pause will occur.
	A scissors icon will appear where the camera will cut from one point to the next. The scissors icon will be placed between the previous point and the point that the camera will cut to.

Tips:

6. It is easiest to add and modify a Realtime Camera in the [Plan view|topic=Plan View](#).
7. The Hold time [property|topic=Setting Object Properties](#) of a point on the camera path can be used to temporarily stop the camera at that point for a specified time.

8. The Camera speed property can be used to control the speed of camera as it passes through the selected point.
9. To modify the properties of multiple points at once, simply select all of the points you wish to adjust and then enter the desired property values. For example, to set the camera speed for several points at once, select the desired points and enter a value for the Camera speed property. For more information see [Editing Points|topic=Editing Points](#).
10. Multiple Realtime Cameras can be added to your landscape design. You can choose which of the cameras you would like to use when creating movies or entering a Realtime Walkthrough.
11. Your company logo can be automatically added to walkthroughs, screen shots, and movies. For details, see [Company Logo Settings|topic=Company Logo Settings](#).

See also:

- Realtime Camera Properties
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Creating a Movie
- Realtime Walkthrough

Realtime Camera Properties

The properties used to modify a Realtime Camera are located to the right of the screen when your Realtime Camera is selected. These properties can either be adjusted right before adding the Realtime Camera to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Note: Most of the following properties are specific to points on the camera path. They will not be enabled until you press the **Edit Points** button and select the point(s) you want to change.

Camera Path	Description
Name	The Name property lets you give the Realtime Camera a descriptive name to help you identify it when creating a movie or starting an automatic Realtime Walkthrough. To change the name, click the text field and type any name you would like to use. Using descriptive names is useful if you plan to add many Realtime Cameras to your landscape design.
Closed	Check the Closed option to connect the end of the path to the start, creating a closed circuit. When unchecked, the camera path is an open line.
Reverse	Check the Reverse option to switch the direction of the camera.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the camera path. See Editing Points topic=Editing Points for details.

Shape options	Click the Shape options button to save the shape of the Realtime Camera, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Elevation	Elevation determines the distance of the camera from the ground at the selected point.
Direction	Direction determines the camera's direction (left/right angle) at the selected point.
Angle	Angle determines the camera's angle (up/down tilt) at the selected point.
Hold time	Hold time determines the amount of time (in seconds) that the camera will pause once it reaches the selected point.
Cut to next point	Cut to next point determines if the camera will transition from the currently selected point to the next point normally, or if it will jump to the next point instantly.
Camera speed	Camera speed determines the camera speed (in feet or meters per second) as it moves from the selected point to the next.
View from selected viewpoint	<p>View from selected viewpoint shows your landscape design from the view of the Realtime Camera at the currently selected point.</p> <p>This preview helps a great deal when adjusting the elevation, angle, and direction of the camera at a specific point.</p>
Decelerate smoothly when approaching	<p>When checked, the Decelerate smoothly when approaching option causes the camera to gradually come to the target speed as it reaches the selected point.</p> <p>When unchecked, the camera will immediately switch to the new speed.</p>
Accelerate smoothly when leaving	<p>When checked, the Accelerate smoothly when leaving option causes the camera to gradually come to the target speed as it leaves the selected point.</p> <p>When unchecked, the camera will immediately switch to the new speed.</p>

See also:

Adding a Realtime Camera
 Setting Object Properties
 Selecting Objects
 Selecting Points

Editing Objects
 Creating a Movie
 Realtime Walkthrough
 Saving and Loading Shapes

Adding 3D Text



3D text can be added to your landscape using the 3D Text object. Since 3D text appears in the Plan and Perspective views, as well as during a Realtime Walkthrough, it is very versatile and can be used for labels, signs, and more.

If you wish to add flat text that only appears in the Plan view, use the [Text object|topic=Adding Text](#) instead.

To add 3D text:

26. Click the **Add 3D Text** button, which is found near the top of the screen under the **Utilities** tab.
27. Click on your landscape design where you wish to place the text.
28. From the dialog that appears, type the desired text and click the **OK** button.
29. Modify the style of the text as needed. See below for a list of available text properties.

The picture below shows an example of 3D text being used to display a client's name during a Realtime Walkthrough.



Tips:

12. You can toggle the appearance of 3D text by clicking **View, Show/Hide Objects**, and selecting the **3D Text** option. For more details, see [Showing and Hiding Objects|topic=Showing & Hiding Objects](#).
13. 3D text can be scaled and rotated as needed.

See also:

- 3D Text Properties
- Setting Object Properties
- Selecting Objects
- Editing Objects

3D Text Properties

The properties used to modify a 3D Text object are located to the right of the screen when your text is selected. These properties can either be adjusted right before adding the 3D text to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

<i>Options</i>	<i>Description</i>
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Text	The Text property determines what text will be displayed. To change the text, click the small "..." button that appears to the right of the Text property.
Font	Font determines the style of lettering that the 3D text will use. Any TrueType font that is installed on your computer can be used.
Style	Style determines whether the text style is italic, bold, bold and italic, or regular.
Alignment	Alignment determines whether the text is centered, aligned left, or aligned right. Note that text alignment is only noticeable when there is more than one line of text.
Height	Height determines the size of each letter of text. For example, if the Height is set to four feet, then a capital letter will be approximately four feet from bottom to top. The height will vary slightly based on the Font .
Depth	Depth determines the text thickness in feet or meters.
Angle	Angle determines the rotation of the text in degrees.
Tilt angle	Tilt angle determines the up/down rotation of the text.
Elevation	Elevation determines the distance of the 3D text from the ground.
Color	Color determines the text color. To change the text color, click the small color swatch that displays the current color.
Show in Realtime Walkthrough	The Show in Realtime Walkthrough option determines whether the selected 3D Text object will appear during Realtime Walkthroughs.

See also:

Adding 3D Text
Setting Object Properties
Selecting Objects
Editing Objects

Adding a 3D Dimension



The 3D Dimension object is a very useful tool that allows you to display distances on your landscape design. 3D dimensions can be used as temporary measuring tape, or used to permanently display important dimensions. For example, the 3D Dimension tool could be used to mark off an area for a new deck that you plan to build, or it could be used to quickly determine the distance between two trees. 3D dimensions will appear in the Plan and Perspective views, but will not appear during Realtime Walkthroughs.

If you wish to add flat dimensions that appear only in the Plan view, use the [Linear Dimension object|topic=Adding a Linear Dimension](#) instead.

To add a 3D Dimension:

30. Click the **Add 3D Dimension** button, which is found near the top of the screen under the **Building** tab.
31. Draw the dimension by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
32. To finish drawing the 3D Dimension, right-click to place the last point.

In the picture of the landscape design below, two 3D Dimension objects are used to show the distances from the house to the edge of the deck, and from one side of the deck stairs to the other.



3D dimensions do not appear when dimensions are disabled. To toggle the visibility of dimensions, click **Edit** and **Dimensions**, or press **Ctrl + D** on your keyboard.

Tips:

14. To add dimensions quickly around the entire border of an existing object, save the shape of the object you wish to border, and then load that shape as a 3D Dimension. For details, see [Saving and Loading Shapes|topic=Saving and Loading Shapes](#).

15. 3D Dimensions can be added in either view, but it is easier to add them to the [Plan view|topic=Plan View](#) than the [Perspective view|topic=Perspective View](#).
16. The 3D Dimension tool is similar to the [Lot Boundary tool|topic=Adding a Lot Boundary](#), but 3D Dimensions always display distances while Lot Boundaries only display distances when they are selected and Edit Points is enabled.

See also:

- [3D Dimension Properties|topic=3D Dimension Properties](#)
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Adding a Lot Boundary
- Saving and Loading Shapes

3D Dimension Properties

The properties used to modify a 3D Dimension object are located to the right of the screen when your dimension is selected. These properties can either be adjusted right before adding the 3D Dimension to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Property	Description
Line color	The Line color property determines the color of the dimension line. To change the line color, click the small color swatch that displays the current line color.
Text color	The Text color property determines the color of the text that displays the length between each point of the 3D dimension. To change the text color, click the small color swatch that displays the current text color.
Elevation	The Elevation property determines the distance of the 3D dimension from the ground. To change the dimension elevation, move the Elevation slider or enter a value in the text field.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the camera path. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape options button to save the shape of the 3D dimension, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

See also:

- [Adding a Linear Dimension|topic=Adding a Linear Dimension](#)
- Adding a Lot Boundary
- Setting Object Properties
- Selecting Objects

Adding an Overlay

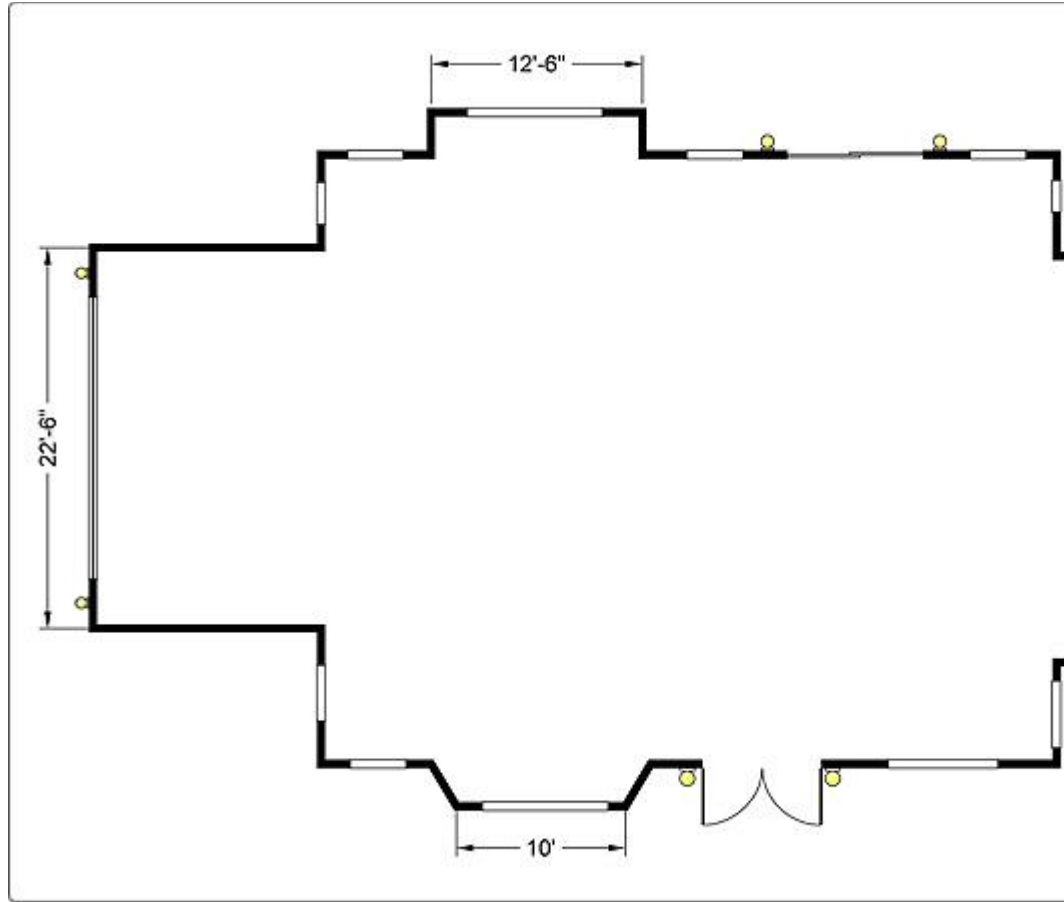


An Overlay object is a picture that is draped over the terrain. For example, you could import a blueprint of your client's house and trace over the exterior using the House tool. This can help you design more quickly and with a greater degree of accuracy.

To add an overlay:

33. Import the picture you want to use as an overlay using the [Picture Import Wizard](#) | [topic=Picture Import Wizard](#).
34. Click the **Add Overlay** button, which is found near the top of the screen under the **Utilities** tab.
35. Click the picture of the default overlay that appears to the right of the screen, and then select the overlay that you recently imported from the menu that appears.
36. Click on your landscape design where you wish to place the overlay.
37. Position and resize the overlay as needed. To size the overlay accurately, use the **Resize using Known Distance** property that appears to the right of the screen.

The picture below shows an example of a simple house blueprint that has been added to the landscape design using the overlay object.



In the picture below, a house has been drawn on top of an overlay using the [House tool|topic=Adding a House](#).



Tips:

17. You can also import overlays in DWG, DXF, and PDF format using the [CAD Import Wizard|topic=CAD Import Wizard](#).
18. You can import a satellite image of your client's property as an overlay using the [Google Maps Import Wizard|topic=Google Maps Import Wizard](#).
19. An Overlay must first be imported before it can be added to your landscape design. Pictures can be imported using the [Picture Import Wizard|topic=Picture Import Wizard](#).
20. Overlays appear in the Plan and Perspective views as well as during Realtime Walkthroughs. If you wish to hide an Overlay during a Walkthrough, uncheck the Show in Realtime Walkthrough option. See below for more information.
21. When you have finished tracing over your Overlay, you can either delete it or hide it. All Overlays in your landscape design can be hidden using the [Show/Hide Objects dialog|topic=Showing & Hiding Objects](#). Alternately, the Overlay could be placed in a hidden layer; see [Using Layers|topic=Using Layers](#) for more information.

See also:

[Overlay Properties](#)
[Setting Object Properties](#)
[CAD Import Wizard|topic=CAD Import Wizard](#)
[Google Maps Import Wizard|topic= Google Maps Import Wizard](#)
[Snap Settings](#)

- Selecting Objects
- Selecting Points
- Editing Objects
- Picture Import Wizard
- Adding a Linear Dimension|topic=Adding a Linear Dimension

Overlay Properties

The properties used to modify an Overlay object are located to the right of the screen when your Overlay is selected. These properties can either be adjusted right before adding the Overlay to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the Overlay will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the Overlay will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the Overlay in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the Overlay in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Picture	The Picture property determines which image is used in the Overlay. To change the picture, click the small image that displays the current picture being used.
Picture options	The appearance of the Overlay can be adjusted by clicking on the small button that appears to the right of the small image of the current Overlay.
Transparency	The Transparency property determines the opacity of the Overlay. To change the Overlay opacity, move the Transparency slider or type a value in the text field.
Line style	The Line Style property determines the appearance of the outline of the Overlay in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
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Width	The Width property determines the size of the Overlay from left to right. To adjust the Overlay width, move the Width slider or type a value in the text field.
Length	The Length property determines the size of the Overlay from top to bottom. To adjust the Overlay length, move the Length slider or type a value in the text field.
Angle	The Angle property determines the rotation angle of the Overlay in degrees. To change the Overlay angle, move the Angle slider or type a value in the text field.
Scale evenly	The Scale evenly property determines if the Overlay is stretched or not when you adjust the width or length. If you wish to simply enlarge the Overlay, then keep the Scale evenly option checked. If you wish to stretch the Overlay in any direction, then uncheck the Scale evenly option.
Use compass angle	When enabled, this option causes the Overlay rotation angle to automatically match the compass angle. For example, this is useful if you have imported a map and want it to always match the current North direction .
Show in Realtime Walkthrough	The Show in Realtime Walkthrough property determines if the Overlay is displayed during a Realtime Walkthrough. To change whether the Overlay is shown during a walkthrough, click the Show in Realtime Walkthrough checkbox to toggle it.
Resize using Known Distance	The Resize using Known Distance property is used to size the overlay based on a real world dimension. For example, if the overlay was of a pond design, and you knew the length of the pond, then the pond length would be the known dimension that you would input. To size the overlay, click the Resize using Known Distance button.

See also:

[Adding an Overlay](#)
[CAD Import Wizard|topic=CAD Import Wizard](#)
[Google Maps Import Wizard|topic= Google Maps Import Wizard](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Editing Objects](#)
[Editing Points](#)
[Picture Import Wizard](#)

Adding a Lot Boundary



The Lot Boundary tool can be used as a property line as well as a tool to section off specific areas of your landscape design. For example, one Lot

Boundary could be used to section off a pond, another for a swimming pool, and yet another for the property line. Lot boundaries serve as guides and do not restrict your design in any way.

To add a property line or other lot boundary:

- 38. Click the **Add Lot Boundary** button, which is found near the top of the screen under the **Utilities** tab.
- 39. Draw the lot boundary by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. To enter a survey bearing, place at least one point and then press the **Enter** key. See [Entering Angle and Distance|topic=Entering Angle and Distance](#) for details.
- 40. To finish drawing the lot boundary, place the last point on top of the first point. Alternately, right-click to place the last point.

Tips:

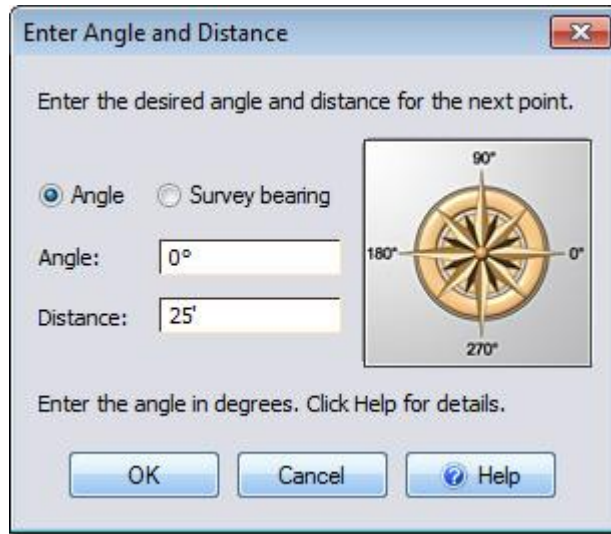
- 22. Lot boundaries can be added in either the Plan view or the Perspective view, but are easiest to create in the [Plan view|topic=Plan View](#).
- 23. The Lot Boundary tool is similar to the [Linear Dimension|topic=Adding a Linear Dimension](#) and [3D Dimension|topic=Adding a 3D Dimension](#) tools.
- 24. The default style for a lot boundary is a dashed brown line, but this can be changed if desired. For example, a blue lot boundary could be used for water features, and a green lot boundary for garden designs.
- 25. Lot boundaries do not appear during Realtime Walkthroughs.

See also:

- Lot Boundary Properties
- Entering Angle and Distance
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- [Adding a Linear Dimension|topic=Adding a Linear Dimension](#)
- Saving and Loading Shapes

Entering Angle and Distance

When adding the points to draw a new shape-based object, the **Enter** key can be pressed to manually enter the angle and distance relative to the last point placed. The angle can be input either as degrees or as a survey bearing. Survey bearings are useful when adding property lines.



Entering Angles

Click the Angle option to enter the angle of the next point in degrees. Refer to the picture to the right of the dialog when entering degrees. Degrees do not depend on the [compass|topic=Changing the North Direction](#) angle.

Entering Survey Bearings

Click the Survey bearing option to enter the bearing of the next point in the following format: *Direction Degrees Minutes Seconds Direction*. The minutes and seconds are optional. When entering survey bearings, the angle of the compass is relevant. Following are some survey bearing examples:

<i>Bearing</i>	<i>Angle</i>
N 45 30 E	45.5 degrees
N 90 E	0 degrees
S 45 E	315 degrees
N 45 W	135 degrees
N 90 W	180 degrees
S 45 W	225 degrees

Distance

The Distance field determines the space between the previous point and the next in feet or meters.

Lot Boundary Properties

The properties used to modify a Lot Boundary object are located to the right of the screen when your lot boundary is selected. These properties can either be adjusted right before adding the lot boundary to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

<i>Options</i>	<i>Description</i>
Area	The Area property displays the total size of the lot boundary in square feet or meters. The Area property will remain blank unless the Closed option is checked.

Acres	The Acres property displays the total size of the lot boundary in acres. The Acres property will remain blank unless the Closed option is checked.
Perimeter	The Perimeter property displays the total distance from one end of the lot boundary to the other, following the lot boundary's border. The Perimeter property is displayed in feet or meters, and appears regardless of whether the Closed option is checked.
Closed	The Closed property determines whether the lot boundary's shape is open or closed. To change the state of the lot boundary's shape, click the Closed checkbox to toggle it.
Line style	The Line Style... property determines the appearance of the outline of the lot boundary in the Plan view. To change the line style, click the Line Style... button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the lot boundary's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape options button to save the shape of the lot boundary, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

See also:

Adding Lot Boundary
 Setting Object Properties
 Selecting Objects
 Editing Objects
 Saving and Loading Shapes

Adding a Character



Bring your landscape designs to life with 3D animated characters who stand, walk, run, and more. A variety of ages, clothing styles, and ethnicities is included. You can add as many characters as desired.

To add a character:

41. Click the **Add Character** button, which is found near the top of the screen under the **Utilities** tab.

42. Click the picture of the default character that appears to the right of the screen, and then select the one you would like to add.
43. Click on your design where you want to place the character.
44. Click the **Animation** property and select the desired animation.
45. If the animation involves movement (such as walking or jogging), click **Edit Points** and set the path you want the character to follow. See [Editing Points|tag=Editing_Points](#) for details.

The following shows just a few of the characters included with DATAflor GRÜNSTUDIO 3D.



Previewing Animations

Animations will normally only play when creating a movie or during a Realtime Walkthrough. To preview a character's animation, click the **Preview animation** checkbox. The animation will only play when the character is selected.

Adding Pedestrians

You can easily add people walking or jogging around your landscape design. Their start time can be delayed, making their appearance seem more natural. This is especially useful when designing parks, housing developments, and other large designs.

To add pedestrians:

1. Add one or more characters to the design.
2. Set each character's path. (If you want them to all use the same path, use the [Copy/Paste Shape|topic=Saving and Loading Shapes](#) commands to quickly copy the path from one character to another.)
3. Set each character's **Start delay** to a different value. For example, suppose you want multiple characters to appear to walk through your design at 10 second intervals. Set the first character's start delay to 0, the second to 10, the third to 20, and so forth.
4. If you want the character to only appear once, uncheck the **Loop at end of path** option. Otherwise keep the option checked, and the character will reset to the beginning of the path once they reach the end.

Tips:

26. When using the **Start delay** option to add characters that won't appear right away, place their start positions out of view so they won't simply pop into existence when they appear.
27. For animations with paths, you can optionally adjust the elevation at each point.
28. When you want the character to walk on surfaces that don't have elevation information, such as pond bridges, custom models, and so forth, uncheck the **Snap to ground** option. The path will then no longer conform to the underlying surface.
29. Characters can be added in either the Plan view or the Perspective view, but are easiest to create in the [Perspective view|topic=Perspective View](#).

See also:

[Character Properties|topic=Character Properties](#)
[Setting Object Properties](#)
[Selecting Objects](#)
[Selecting Points](#)
[Editing Objects](#)
[Saving and Loading Shapes](#)

Character Properties

The properties used to modify a Character object are located to the right of the screen when the character is selected. These properties can either be adjusted right before adding the character to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Model	Description
Model	The Model property determines the type of character. To change the character, click the picture that shows the current character.

Animation	Description
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Animation	The Animation property determines what the character will do when creating a movie or during a Realtime Walkthrough.
Start delay	The Start delay property determines the delay in seconds between the start of the movie or Realtime Walkthrough and when the character appears.
Preview animation	The Preview animation property allows you to preview the animation without creating a movie or starting a Realtime Walkthrough. The animation preview will only play while the character is selected.

Path	Description
Closed	The Closed property determines whether the character's path is open or closed.
Snap to ground	The Snap to ground property determines if the path conforms to the underlying terrain, patio, deck, and other surfaces. When this option is unchecked, the path elevation will only be influenced by the control points.
Loop at end of path	The Loop at end of path property determines what will happen when the character reaches the end of its path. When this option is checked, the character will reset to the beginning of the path. Otherwise, the character will be hidden for the duration of the movie or Realtime Walkthrough. When previewing animations, this property has no effect. The character will always reset to the beginning of the path.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the character's path. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape options button to save the character's path, or to load an existing path. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .
Elevation	The Elevation property determines the character's height above the ground. For animations with paths, you can optionally set the elevation at each point.

See also:

[Adding a Character|topic=Adding a Character](#)
[Setting Object Properties](#)
[Selecting Objects](#)

Water Feature Objects

Adding a Pond



DATAflor GRÜNSTUDIO 3D includes comprehensive support for ponds, waterfalls, and other water features, which are an important part of many modern landscape designs. Once a pond is added to your landscape you can easily modify its shape, alter the water depth, move the entire pond, select a rock border, and choose one of many materials for the pond, such as dirt, rockery, and loose stone. Ponds can be designed from scratch, or pre-build ponds can be added to your design using the [Pond Wizard|topic=Pond Wizard](#).

When walking through your landscape design in the Realtime Walkthrough mode, and when creating movies, koi fish will automatically be added to every pond that is large enough to contain them. See [Realtime Walkthrough|topic=Realtime Walkthrough](#) for more information.

To add a pond:

46. Click the **Add Pond** button that is found near the top of the screen under the **Water Features** tab.
47. Draw the outline of the pond by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
48. To finish drawing the pond, place the last point on top of the first point. Alternately, right-click to place the last point; it will be automatically connected to the first.

The landscape design in the picture below features a pond, waterfall, plants, and other objects.



Rock Border

Rock borders are automatically added to ponds, but can be modified as needed or toggled off.

To turn the rock border on or off per-edge:

49. Click the **Edit border** button found in the [properties|topic=Setting Object Properties](#) to enable rock border editing mode.
50. Click the edges of your pond where you would like to toggle the rock border on or off.
51. When finished, click the **Edit border** button to disable rock border editing mode.

Controlling the Render Order

When overlapping objects, such as ponds, regions, and paths, are added to your landscape design, you can control which ones appear on top. For example, if a pond is added to the back yard of your design, then a large grass region is added to the entire back yard, you could determine that the pond should appear on top of the grass region so that it does not appear as if the pond has a grass floor. See the *Working with Overlapping Regions* portion of the [Adding a Region|topic=Adding a Region](#) topic for a more detailed explanation with images.

Customizing the Plan View

Ponds can be given separate materials in the Plan and Perspective views. This is useful if you wish your Plan view to look stylized, but want the Perspective view to look realistic. To allow a separate material to be shown in each view, click the **Custom appearance in each view** option, found in the [properties|topic=Setting Object Properties](#). Two tabs will appear: Plan and Perspective. These tabs allow you to customize how the pond appears in the corresponding view.

Tips:

52. *Important:* Depending on your local building codes, ponds deeper than a certain depth may require a fence or have other restrictions for safety purposes. Please check your local building codes before building a real pond.
53. Ponds can be added in either the Plan or Perspective views, but are easiest to add in the [Plan view|topic=Plan View](#).
54. Streams can be added to flow into your pond. For details, see [Adding a Stream|topic=Adding a Stream](#).
55. Fountains and waterfalls can be integrated into your pond design; see [Adding a Fountain|topic=Adding a Fountain](#) and [Adding a Waterfall|topic=Adding a Waterfall](#) for more information.
56. Pre-built ponds can be added to your landscape design using the [Pond Wizard|topic=Pond Wizard](#).
57. Landscaping rocks can be added in and around your entire water garden design; see [Adding a Rock|topic=Adding a Rock](#) for details.
58. Plants can be added in and around your pond design; see [Adding a Plant|topic=Adding a Plant](#) for details.
59. The shape of your pond can be easily edited at any time. For more information, see [Editing Points|topic=Editing Points](#).
60. Pond design can be difficult if grid snap is enabled because the points of the pond will snap to the grid intersections as you move them. You can toggle the grid snapping off by pressing Ctrl + G on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).
61. During movie creation and Realtime Walkthroughs, koi fish are automatically placed in ponds that are at least two feet deep. The amount of fish added to your ponds depends on the size of the ponds and the Amount of Wildlife setting, which is found within the [Environment Settings|topic=Environment Settings](#) dialog.

See also:

- Pond Properties
- Pond Wizard
- Setting Object Properties
- Selecting Objects
- Selecting Points

Editing Objects
 Adding a Stream
 Adding a Waterfall
 Adding a Fountain
 Adding a Rock
 Adding a Rock Border
 Realtime Walkthrough
 Sculpting the Terrain
 Saving and Loading Shapes

Pond Properties

The properties used to modify a Pond object are located to the right of the screen when your pond is selected. These properties can either be adjusted right before adding the pond to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the pond will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the pond will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the pond in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the pond in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Fill Material	The Fill Material property determines the material that lines the bottom of the pond. To change the material, click the small image that displays the current fill material.
Material options	The appearance of the pond can be modified by clicking the small button that appears to the right of the fill material image.
Size	The Size property determines the scale of the pond material.
Angle	The Angle property determines the rotation angle of the pond material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the pond material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the pond material's forward and backward orientation. To shift the material forward or

	backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the pond material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the pond in the Plan view. To change the pond opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the pond in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Depth	<p>The Depth property determines how deep the pond is at its center. To change the pond depth, move the Depth slider or type a value in the text box.</p> <p><i>Important:</i> Depending on your local building codes, ponds deeper than a certain depth may require a fence or have other restrictions for safety purposes. Please check your local building codes before building a real pond.</p>
Depth taper	The Depth taper property determines how steep the pond sides are. To change the pond depth taper, move the Depth taper slider or type a value in the text box.
Water level	The Water level property determines the percentage of the pond that is filled with water. To change the pond water level, move the Water level slider or type a value in the text box.
Water effect	The Water effect property determines how the water will appear during a Realtime Walkthrough. Water can be calm, have small ripples, or even include foam and steam (useful for creating natural spas and hot tubs).

	<p>For water effects to be enabled, the Improved water quality property must be checked, and you must have a 3D video card which is capable of these effects.</p> <p>Water ripples will also occur automatically when water flows into the pond from another source such as a stream or waterfall.</p>
Add fish	<p>The Add fish property determines if koi are added to the pond during a Realtime Walkthrough.</p> <p>In order for fish to appear, you must also enable wildlife in the Realtime Walkthrough tab of the Environment Settings topic=Environment Settings dialog.</p> <p><i>Caution:</i> Koi cannot survive in spa water.</p>
Brighten water at night	<p>The Brighten water at night property determines if the water should be artificially lightened during Realtime Walkthroughs when the Time of day topic=Setting the Time of Day is set to Sunrise, Sunset, or Evening. To toggle pond lightening, click the Brighten water at night checkbox.</p> <p>The Improved water quality property must be checked before the water can be brightened at night.</p>
Improved water quality	<p>The Improved water quality property determines if standard or improved water should be used during Realtime Walkthroughs. Improved water generates realistic reflections and refractions, but can cause older computers to run slower. To toggle the water quality, click the Improved water quality checkbox.</p>
Edit points	<p>Click the Edit points button to enable or disable point editing mode, which will allow you to modify the pond's shape. See Editing Points topic=Editing Points for details.</p>
Shape options	<p>Click the Shape Options button to save the shape of the pond, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes.</p>

Rock Border	Description
Add Rock Border	<p>The Add Rock Border property determines whether or not the pond is outlined with a string of 3D rocks. To toggle the rock border, click the Add Rock Border checkbox.</p>
Rock material	<p>The Rock Material property determines the material of the rock border. To change the material, click the small image that displays the current rock material. Note that the rock material will be disabled unless the Add Rock Border property is enabled.</p>

Material Options	The appearance of the rock border material can be modified by clicking the small button that appears to the right of the fill material image.
Size	The Size property determines the scale of the rock material.
Angle	The Angle property determines the rotation angle of the rock material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the rock material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the rock material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the rock material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Smoother rocks	The Smoother Rocks property determines whether the pond's rock border uses smooth or rough rocks. To toggle the rock type, click the Smoother rocks checkbox. Note that the Smoother rocks property will be disabled unless the Add Rock Border property is enabled.
Rock size	The Rock size property determines the approximate size of each rock in the pond's rock border. To change the rock size, move the Rock size slider or enter a value in the text field. Note that the Rock size property will be disabled unless the Add Rock Border property is enabled.
Edit border	Click the Edit border button to enable or disable rock border editing mode, which will allow you to modify the pond's rock border per edge. When rock border editing mode is enabled, click the edges of your pond that you wish to toggle. Note that the Edit border property will be disabled unless the Add Rock Border property is enabled.

<i>Information</i>	<i>Description</i>
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Area	The Area property displays the total size of the pond in square feet or meters.
Perimeter	The Perimeter property displays the total distance around the pond in feet or meters.
Volume	The Volume property displays the amount of water in the pond in cubic feet or meters. The water volume is calculated using the average depth, and should be used as an approximation rather than an exact figure.

See also:

- Adding a Pond
- Pond Wizard
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects
- Realtime Walkthrough
- Saving and Loading Shapes

Adding a Stream



Streams can be an attractive addition to any landscape design. A stream is an adjustable path of water in DATAflor GRÜNSTUDIO 3D, which can be modified in many of the same ways as a pond. If a waterfall or fountain is placed at one end of a stream, then water will flow realistically to the other end of the stream during a Realtime Walkthrough or when creating a movie.

To add a stream:

62. Click the **Add Stream** button that is found near the top of the screen under the **Water Features** tab.
63. Estimate how wide the stream should be, and modify the **Width property**[|topic=Setting Object Properties](#) as needed.
64. Draw the centerline of the stream by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, and press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.

Note: It doesn't matter which direction you draw the stream; DATAflor GRÜNSTUDIO 3D will automatically determine the direction that the water should flow.

65. To finish drawing the stream, right-click to place the last point.

Changing the Shape

After a stream is added to your landscape design, it can be easily changed by modifying the points that control the stream's shape. For details, see [Editing Points](#)[|topic=Editing Points](#).

Adding a Fountain or Waterfall

Water will only appear to flow down a stream if it receives a flow of water from a waterfall or fountain. In the picture below, the water garden is fed by a stream with a waterfall.



Rock Border

Just like [ponds|topic=Adding a Pond](#), streams also support rock borders. The rock border can be toggled on and off per stream or per edge.

To turn the rock border on or off per-edge:

66. Click the **Edit border** button found in the [properties|topic=Setting Object Properties](#) to enable rock border editing mode.
67. Click the edges of your stream where you would like to toggle the rock border on or off.
68. When finished, click the **Edit border** button to disable rock border editing mode.

Controlling the Render Order

When overlapping objects, such as streams, regions, and ponds, are added to your landscape design, you can control which ones appear on top. For example, if a stream is added to the back yard of your design, then a large grass region is added to the entire back yard, you could determine that the stream should appear on top of the grass region so that it does not appear as

if the stream has a grass floor. See the *Working with Overlapping Regions* portion of the [Adding a Region|topic=Adding a Region](#) topic for a more detailed explanation with images.

Customizing the Plan View

Streams can be given separate materials in the Plan and Perspective views. This is useful if you wish your Plan view to look stylized, but want the Perspective view to look realistic. To allow a separate material to be shown in each view, click the **Custom appearance in each view** option, found in the properties. Two tabs will appear: Plan and Perspective. These tabs allow you to customize how the stream appears in the corresponding view.

Tips:

69. *Important:* Depending on your local building codes, streams deeper than a certain depth may require a fence or have other restrictions for safety purposes. Please check your local building codes before building a real stream.
70. Streams and Ponds are very similar. For information on ponds, see [Adding a Pond|topic=Adding a Pond](#).
71. Streams can be added in either the Plan or Perspective views, but are easiest to add in the [Plan view|topic=Plan View](#).
72. Fountains and waterfalls can be integrated into your water garden design; see [Adding a Fountain|topic=Adding a Fountain](#) and [Adding a Waterfall|topic=Adding a Waterfall](#) for more information.
73. Streams can be difficult to design if grid snap is enabled because the points of the stream will snap to the grid intersections as you move them. You can toggle the grid snapping off by pressing Ctrl + G on your keyboard. For more information, see [Snap Settings|topic=Snap Settings](#).
74. Landscaping rocks can be added in and around your streams; see [Adding a Rock|topic=Adding a Rock](#) for details.
75. Fish are not added to streams; the koi fish are only placed in ponds.
76. To change the length of your stream, add, delete, or move the points that define the stream's shape. For information on adding and removing points, see [Inserting and Deleting Points|topic=Inserting & Deleting Points](#).
77. Plants can be added in and around your streams; see [Adding a Plant|topic=Adding a Plant](#) for details.

See also:

- Stream Properties
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects

Adding a Pond
 Adding a Waterfall
 Adding a Fountain
 Adding a Rock
 Adding a Rock Border
 Realtime Walkthrough
 Saving and Loading Shapes

Stream Properties

The properties used to modify a Stream object are located to the right of the screen when your stream is selected. These properties can either be adjusted right before adding the stream to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Material	Description
Custom appearance in each view	The Custom appearance in each view option determines whether the stream will appear differently in the Plan view than in the Perspective view. If this option is unchecked, the stream will appear the same in both views.
Plan	The Plan tab contains properties that affect the appearance of the stream in the Plan view. This tab will not be available unless the Custom appearance in each view option is checked.
Perspective	The Perspective tab contains properties that affect the appearance of the stream in the Perspective view. This tab will not be available unless the Custom appearance in each view option is checked.
Material	The Material property determines the material that lines the bottom of the stream. To change the material, click the small image that displays the current material.
Material options	The appearance of the stream can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the stream material.
Angle	The Angle property determines the rotation angle of the stream material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the stream material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the stream material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.

Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the stream material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Transparency	The Transparency property determines the opacity of the stream in the Plan view. To change the stream opacity, move the Transparency slider or type a value in the text field. Note that the Transparency property is only available when the Custom appearance in each view option is checked.
Line style	The Line Style property determines the appearance of the outline of the stream in the Plan view. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears. Note that a line style is only available when the Custom appearance in each view option is checked.

Options	Description
Depth	The Depth property determines how deep the stream is at its center. To change the stream depth, move the Depth slider or type a value in the text box. <i>Important:</i> Depending on your local building codes, streams deeper than a certain depth may require a fence or have other restrictions for safety purposes. Please check your local building codes before building a real stream.
Depth taper	The Depth taper property determines how steep the stream sides are. To change the stream depth taper, move the Depth taper slider or type a value in the text box.
Water level	The Water level property determines the percentage of the pond that is filled with water. To change the pond water level, move the Water level slider or type a value in the text box.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the stream's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the stream, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

Rock Border	Description
Add Rock Border	The Add Rock Border property determines whether or not the stream is outlined with a string of 3D rocks. To toggle the rock border, click the Add Rock Border checkbox.
Rock material	The Rock Material property determines the material of the rock border. To change the material, click the small image that displays the current rock material. Note that the rock material will be disabled unless the Add Rock Border property is enabled.
Material options	The appearance of the pond rocks can be modified by clicking the small button that appears to the right of the material image.
Size	The Size property determines the scale of the rock material.
Angle	The Angle property determines the rotation angle of the rock material. To change the material angle, move the Angle slider or type a value in the text field.
Offset X	The Offset X property determines the rock material's left and right orientation. To shift the material left or right, move the Offset X slider or enter a value in the text field.
Offset Y	The Offset Y property determines the rock material's forward and backward orientation. To shift the material forward or backward, move the Offset Y slider or enter a value in the text field.
Shininess	The Shininess property determines how glossy the material will appear. To change the appearance of the material, click the Shininess drop-down menu and select from the following options: Default, Off, Low, Medium, or High. The shininess property only affects the appearance of the material while in the 3D view.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the rock material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.
Smoother rocks	The Smoother Rocks property determines whether the stream's rock border uses smooth or rough rocks. To toggle the rock type, click the Smoother rocks checkbox. Note that the Smoother rocks property will be disabled unless the Add Rock Border property is enabled.
Rock size	The Rock size property determines the approximate size of each rock in the stream's rock border. To change the rock size, move the Rock size slider or enter a value in the text field. Note that the Rock size property will be disabled unless the Add Rock Border property is enabled.

Edit border	Click the Edit border button to enable or disable rock border editing mode, which will allow you to modify the stream's rock border per edge. When rock border editing mode is enabled, click the edges of your stream that you wish to toggle in order to turn the rock border on or off at those edges. Note that the Edit border property will be disabled unless the Add Rock Border property is enabled.
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Information	Description
Area	The Area property displays the total size of the stream in square feet or meters.
Perimeter	The Perimeter property displays the total distance around a stream in feet or meters.

See also:

- Adding a Stream
- Setting Object Properties
- Selecting Objects
- Selecting Points
- Editing Objects

Adding a Waterfall



A wide variety of pre-built waterfalls are included in DATAflor GRÜNSTUDIO 3D. If waterfalls are added in or next to streams or ponds in your landscape design, the water will flow realistically from the waterfall to the stream or pond during a Realtime Walkthrough.

To add a waterfall:

78. Click the **Add Waterfall** button found near the top of the screen under the **Water Features** tab.
79. Click the picture of the default waterfall that appears to the right of the screen, and then select the waterfall you would like to use.
80. Click on your design where you wish to place the waterfall.

A waterfall is featured in the water garden design shown below:



Adding Rocks

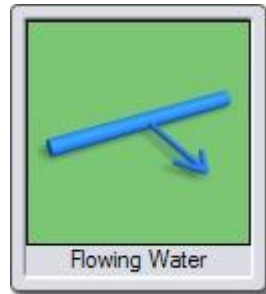
Rocks can be added around your waterfalls for more variety. During Realtime Walkthroughs, water will flow over the rocks realistically.

Designing Custom Waterfalls

If you create a combination of rocks and waterfalls that you wish to use again later, you can save your creation as a custom waterfall using the [Model Creation Wizard](#) (topic=Model Creation Wizard).

To design a custom waterfall:

81. Add a waterfall to your landscape design as described above. Alternately, you can create a new waterfall from scratch using the **Flowing Water** object to identify the water source. The Flowing Water object is a special 3D model that defines the position, size, and direction of flowing water. During Realtime Walkthroughs the arrow will be hidden and flowing water will take its place. The Flowing Water object can be found with the other available waterfall features in the Waterfall library.



82. Build upon your creation by adding rocks, changing the materials of the waterfall, and arranging the items in different ways.
83. Select each of the objects that compose your finished creation. Hold the **Shift** key while clicking to select multiple objects.
84. Click **Tools** and **Model Creation Wizard**. Follow the wizard to finish adding your waterfall to the waterfall library.

Tips:

85. Waterfalls and fountains are similar, but the water flow of a waterfall moves in a particular direction while the water of a fountain always flows straight down. For information on fountains, see [Adding a Fountain|topic=Adding a Fountain](#).
86. Waterfalls are typically part of a water garden design featuring ponds and streams. See [Adding a Stream|topic=Adding a Stream](#) and [Adding a Pond|topic=Adding a Pond](#) for more information.
87. Landscaping rocks can be added in and around your waterfalls; see [Adding a Rock|topic=Adding a Rock](#) for details.
88. Waterfalls can be scaled and rotated normally. See [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#) for more information.
89. Plants can be added in and around your waterfalls; see [Adding a Plant|topic=Adding a Plant](#) for details.
90. The materials of your waterfalls can be customized as needed. For details, see [Editing Materials|topic=Editing Materials](#).

See also:

Waterfall Properties
 Setting Object Properties
 Selecting Objects
 Editing Objects
 Adding a Pond
 Adding a Stream
 Adding a Fountain
 Adding a Rock
 Realtime Walkthrough
 Editing Materials

Waterfall Properties

The properties used to modify a Waterfall object are located to the right of the screen when your waterfall is selected. Some of these properties can either be adjusted right before adding the waterfall to your landscape while others can be adjusted only after it has been added. Below is a description of each available property in the order that they appear in the software.

<i>Options</i>	<i>Description</i>
Model	The Model property determines the type of waterfall. To change the waterfall model, click the picture that shows the current waterfall.
Material options	The appearance of the waterfall can be modified by clicking the small button that appears to the right of the waterfall image.
Elevation	The Elevation property determines the distance of the waterfall from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

<i>Advanced</i>	<i>Description</i>
Width	The Width property determines the size of the waterfall from left to right. To adjust the waterfall width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the waterfall from front to back. To adjust the waterfall length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the waterfall is. To adjust the waterfall height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the waterfall about its X axis. If your view is facing north, this will rotate the waterfall forward or backward. To rotate the waterfall, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the waterfall about its Y axis. If your view is facing north, this will rotate the waterfall left or right as if it was sitting upon a pottery wheel. To rotate the waterfall, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the waterfall about its Z axis. If your view is facing north, this will rotate the waterfall left or right as if it was sitting upon the face of a clock. To rotate the waterfall, move the Rotate about Z slider or type a value in the text field.
Align to terrain	The Align to terrain property determines if the waterfall is automatically tilted when it is placed on uneven terrain. If this

	option is disabled, the waterfall will remain upright by default. To change the automatic terrain alignment, click the Align to terrain checkbox.
Scale evenly	The Scale evenly property determines if the waterfall is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the waterfall, then keep the Scale evenly option checked. If you wish to stretch the waterfall in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the waterfall material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

Adding a Waterfall
 Selecting Objects
 Setting Object Properties
 Editing Objects
 Editing Materials

Adding a Fountain



DATAflor GRÜNSTUDIO 3D includes a many different styles of fountains that can be added to your landscape designs. Some fountains are intended for use on the ground, while other fountains are designed to be placed in ponds. During Realtime Walkthroughs your fountains will spray or gush water realistically.

To add a fountain:

91. Click the **Add Fountain** button found near the top of the screen under the **Water Features** tab.
92. Click the picture of the default fountain that appears to the right of the screen, and then select the fountain you would like to use.
93. Click on your design where you wish to place the fountain.

In the picture shown below, a Tulip fountain is used to enhance the water garden with a constant flow of water.



Pillar Fountains

Pillar fountains are very peaceful yet prominent water features that take very little space. A pillar fountain is composed of a simple rock pillar (often built from fiberglass or plastic), a liner, and a pump with a filter. Water flows down the side of the rock pillar and re-circulates back to the top. Some pillar fountains can even be used indoors.

There are several pillar fountains to choose from in DATAflor GRÜNSTUDIO 3D. Objects such as [Regions|topic=Adding a Region](#), [Rock Borders|topic=Adding a Rock Border](#), and [Edging|topic=Adding Edging](#) may help to complete your design.

In the picture below, a pillar fountain is used as the centerpiece of an elegant driveway design.



Tips:

94. Fountains and waterfalls are similar, but the water flow of a waterfall moves in a particular direction while the water of a fountain always flows straight down. For information on waterfalls, see [Adding a Waterfall|topic=Adding a Waterfall](#).
95. Landscaping rocks can be added around your fountains; see [Adding a Rock|topic=Adding a Rock](#) for details.
96. Fountains can be scaled and rotated normally. See [Scaling Objects|topic=Scaling Objects](#) and [Rotating Objects|topic=Rotating Objects](#) for more information.
97. Plants can be added around your fountains; see [Adding a Plant|topic=Adding a Plant](#) for details.
98. Fountains are typically part of a water garden design featuring ponds and streams. See [Adding a Stream|topic=Adding a Stream](#) and [Adding a Pond|topic=Adding a Pond](#) for more information.
99. The materials of your fountains can be customized as needed. For details, see [Editing Materials|topic=Editing Materials](#).

See also:

Fountain Properties
Setting Object Properties

- Selecting Objects
- Editing Objects
- Adding a Pond
- Adding a Stream
- Adding a Waterfall
- Adding a Rock
- Realtime Walkthrough
- Editing Materials

Fountain Properties

The properties used to modify a Fountain object are located to the right of the screen when your fountain is selected. Some of these properties can either be adjusted right before adding the fountain to your landscape while others can be adjusted only after it has been added. Below is a description of each available property in the order that they appear in the software.

<i>Options</i>	<i>Description</i>
Model	The Model property determines the type of fountain. To change the fountain model, click the picture that shows the current fountain.
Material options	The appearance of the fountain can be modified by clicking the small button that appears to the right of the fountain image.
Elevation	The Elevation property determines the distance of the fountain from the ground. To change the elevation, move the Elevation slider or type a value in the text field.

<i>Advanced</i>	<i>Description</i>
Width	The Width property determines the size of the fountain from left to right. To adjust the fountain width, move the Width slider or type a value in the text field.
Depth	The Depth property determines the length of the fountain from front to back. To adjust the fountain length, move the Depth slider or type a value in the text field.
Height	The Height property determines how tall the fountain is. To adjust the fountain height, move the Height slider or type a value in the text field.
Rotate about X	The Rotate about X property determines the angle of the fountain about its X axis. If your view is facing north, this will rotate the fountain forward or backward. To rotate the fountain, move the Rotate about X slider or type a value in the text field.
Rotate about Y	The Rotate about Y property determines the angle of the fountain about its Y axis. If your view is facing north, this will rotate the fountain left or right as if it was sitting upon a

	pottery wheel. To rotate the fountain, move the Rotate about Y slider or type a value in the text field.
Rotate about Z	The Rotate about Z property determines the angle of the fountain about its Z axis. If your view is facing north, this will rotate the fountain left or right as if it was sitting upon the face of a clock. To rotate the fountain, move the Rotate about Z slider or type a value in the text field.
Align to terrain	The Align to terrain property determines if the fountain is automatically tilted when it is placed on uneven terrain. If this option is disabled, the fountain will remain upright by default. To change the automatic terrain alignment, click the Align to terrain checkbox.
Scale evenly	The Scale evenly property determines if the fountain is stretched or not when you adjust the width, depth, or height. If you wish to simply enlarge the fountain, then keep the Scale evenly option checked. If you wish to stretch the fountain in any direction, then uncheck the Scale evenly option.
Enable enhanced surface detail	The Enable enhanced surface detail property determines whether or not the material will have simulated depth. For this option to take effect the master Enhanced surface detail option must be enabled; it is found by clicking Settings, Program Settings, and Hardware Settings.

See also:

- Adding a Fountain
- Adding a Waterfall
- Selecting Objects
- Setting Object Properties
- Editing Objects
- Realtime Walkthrough
- Editing Materials

Adding a Jumping Jet



A jumping jet is a special type of fountain that emits a jet of water that appears to be a jumping tube. Jumping jets emit water based on a timer, meaning that the behavior of the jet can be edited to your requirements. Multiple jets can be timed together to give the impression that the water is jumping from one portion of your water garden to another. Jumping jets can be an impressive addition to your landscape design.

To add a jumping jet:

100. Click the **Add Jumping Jet** button that is found near the top of the screen under the **Water Features** tab.

101. Click on your design where you wish to place the jumping jet.

While designing the landscape in the Plan or Perspective view, jumping jets appear as solid tubes of water. However, when creating a movie or during a Realtime Walkthrough, the jumping jet sprays animated water based on the flow rate, angle, and other properties that you have set.

In the picture below, a jumping jet has been added to spray water into the pond periodically.



Sequencing Jumping Jets

While single jumping jets make good additions to a water garden design, multiple jumping jets that are timed together can be much more impressive. By configuring the timing of each jumping jet, the water will appear to jump from jet to jet during a Realtime Walkthrough. To configure the timing to be sequential, set the **Start delay**, the **On time**, and the **Off time** of each jet based on the notes below.

Start delay: The Start delay of a jumping jet should be set to the sum of the previous jet's Start delay, On time, and Travel time. This will ensure that the selected jet does not start until the previous jet is finished.

On time: The On time can be set to any amount of time you wish.

Off time: The Off time should be set to the sum of all previous Travel times and On times, subtracting the selected jet's On time. This will ensure that the selected jet remains off until it is time for it to spray again.

For example, if you placed three jumping jets in your landscape design that jumped from one jet to the next, the charts below show the values needed to properly configure the timing.

Jet 1

Property	Value	Notes
Start delay	0	Jet 1 emits water immediately at the beginning of a Realtime Walkthrough.
On time	0.5s	Jet 1 emits water for one half of a second.
Off time	4s	There are three jets, each of which emit water for one half of a second and have a Travel time of one second. Using the above formula, this is $1.5 + 1.5 + 1.5$, minus this jet's On time = $4.5 - 0.5 = 4s$.
Travel time	1s	Based on the jet's Angle (60°) and Flow rate (50), the water takes one second to travel through the air. This value is automatically calculated. (We assume one second for this example.)

Jet 2

Property	Value	Notes
Start delay	1.5s	Jet 2 waits one and a half seconds, which is the time it takes for jet 1's water to fully arrive. Using the above formula, this is 0 (previous jet's Start delay) + 0.5 (previous jet's On time) + 1 (previous jet's Travel time) = $1.5s$.
On time	0.5s	Jet 2 emits water for one half of a second.
Off time	4s	(Same as jet 1).
Travel time	1s	(Same as jet 1).

Jet 3

Property	Value	Notes
Start delay	3s	Jet 3 waits three seconds, which is the time it takes for jet 1's water to fully arrive at jet 2, and for jet 2's water to fully arrive at jet 3. Using the above formula, this is 1.5 (previous jet's Start delay) + 0.5 (previous jet's On time) + 1 (previous jet's Travel time) = $3s$.
On time	0.5s	Jet 3 emits water for ½ second.
Off time	4s	(Same as jet 1).

Travel time	1s	(Same as jet 1).
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In the picture below, the three jets used in the calculations above are shown. Notice how the end of each spray lands on the next jet nozzle.



In the picture below, the above jumping jets are seen operating during a Realtime Walkthrough.



Tips:

- 102. If you wish to create a “pulsing” jumping jet, set the On time and Off time to a small number, such as 0.2 seconds.
- 103. The elevation of a jumping jet can be adjusted in order to place it on top of other objects, such as rocks.
- 104.** When rotating your jumping jet, you may find it convenient to disable Angle snap. For more information, see [Snap Settings|topic=Snap Settings](#) and [Rotating Objects|topic=Rotating Objects](#).
- 105.** The length of a jumping jet’s stream can be adjusted by modifying the jet’s Flow rate.
- 106.** The jumping jet nozzle is a small model that cannot be changed.

See also:

Jumping Jet Properties
 Setting Object Properties
 Selecting Objects
 Editing Objects
 Realtime Walkthrough

Jumping Jet Properties

The properties used to modify a Jumping Jet object are located to the right of the screen when your jumping jet is selected. These properties can either be adjusted right before adding the jumping jet to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Angle	The Angle property determines the tilt of the jumping jet in degrees. To change the jumping jet angle, move the Angle slider or enter a value in the text field.
Elevation	The Elevation property determines the distance of the jumping jet from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Flow rate	The Flow Rate property determines how fast the water will be emitted from the jumping jet nozzle, which has an effect on how far the water travels. To change the flow rate, move the Flow Rate slider or enter a value in the text field from 25 to 100.
Start delay	The Start delay determines the amount of time, in seconds, that the jumping jet will wait before emitting water for the first time. To change the start delay, move the Start delay slider or enter a value in the text field.
On time	The On time determines the amount of time, in seconds, that the jumping jet will emit water before turning off again. To change the amount of time the water will flow, move the On time slider or enter a value in the text field.
Off time	The Off time determines the amount of time, in seconds, that the jumping jet will wait before emitting water again. To change the amount of time the jet will wait, move the Off time slider or enter a value in the text field.
Travel time	The Travel time property displays the amount of time it takes for the first part of the water spray to hit its target.
Color	The Color property determines the tint of the jumping jet water. To change the water color, click the small color swatch that displays the current color.

See also:

- Adding a Jumping Jet
- Selecting Objects
- Setting Object Properties
- Editing Objects

Adding a Sprinkler Line



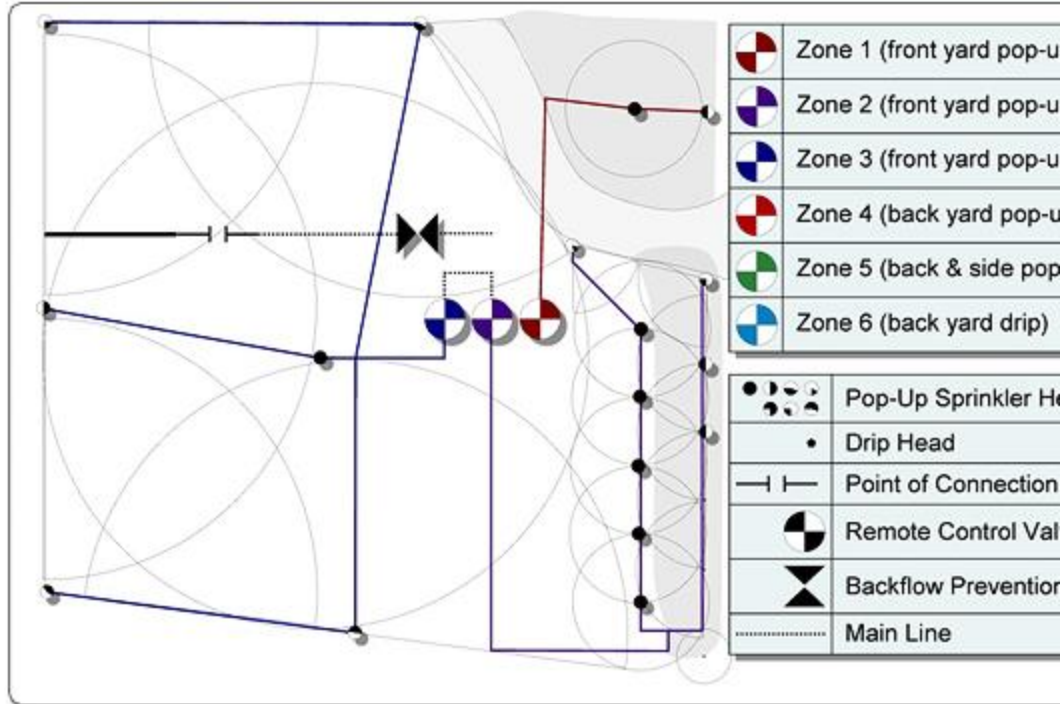
DATAflor GRÜNSTUDIO 3D includes sprinkler lines, sprinkler heads, and many symbols for designing irrigation systems, which are automatically added to the [Project Material List|topic=Creating a Project Material List](#). Because these irrigation tools are versatile, nearly any type of irrigation design is supported, including drip irrigation.

To add a sprinkler line:

107. Click the **Add Sprinkler Line** button found near the top of the screen under the **Water Features** tab.
108. Draw the sprinkler line by clicking the left mouse button to add points. Press the **Backspace** key to remove the last point added, or press the **Esc** key to cancel. If you would like to input the distance and angle manually, place at least one point and then press the **Enter** key.
109. To finish drawing the sprinkler line, right-click to place the last point.

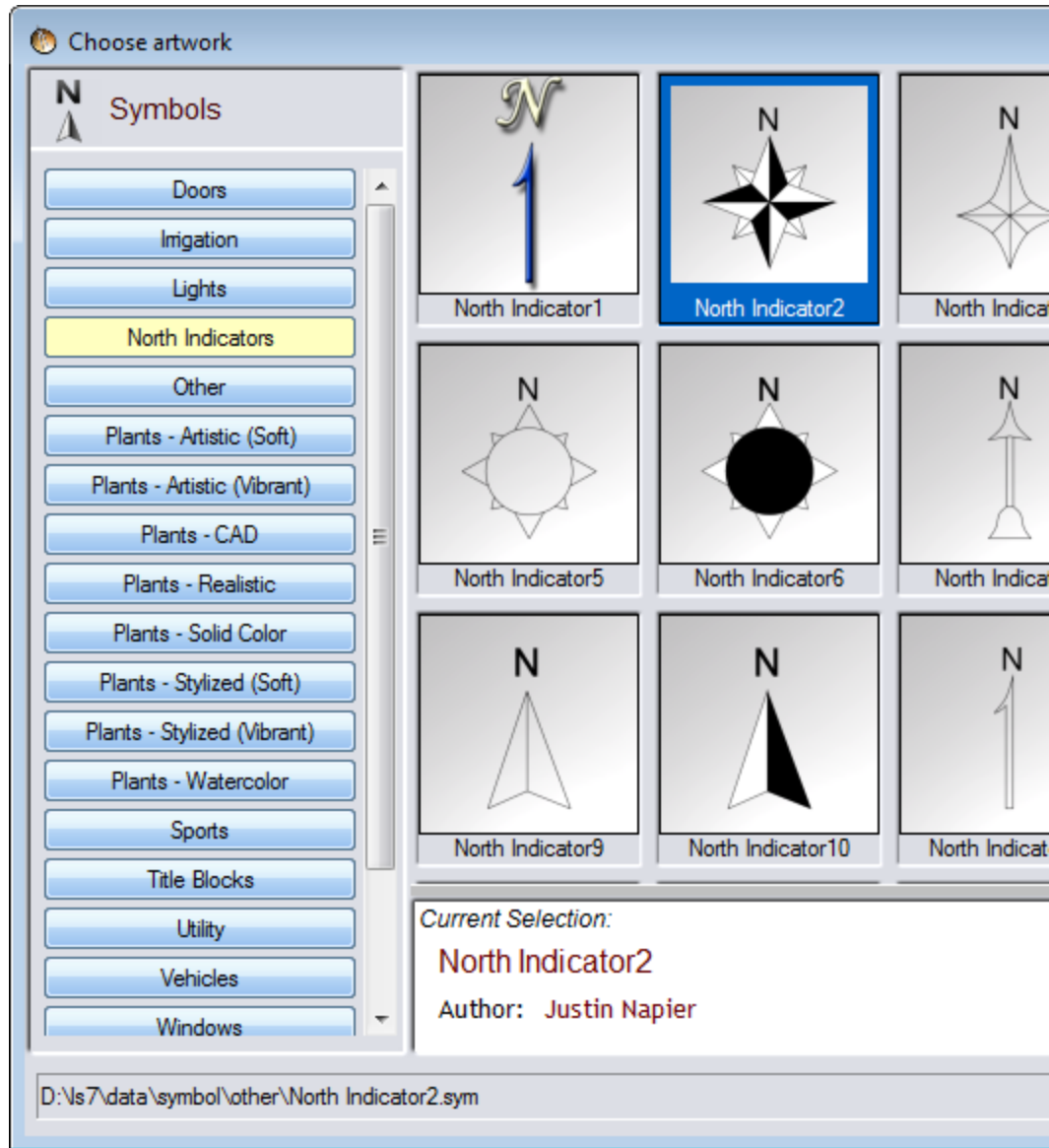
Irrigation designs can be created in either the Plan view or the Perspective view, but it is recommended to use the Plan view in order to gain access to the irrigation symbols that are provided within the [Symbol|topic=Adding a Symbol](#) library.

In the picture below, the landscape design features a basic irrigation system that is composed of a sprinkler lines and sprinkler heads. See [Adding a Sprinkler Head|topic=Adding a Sprinkler Head](#) for another picture of this design shown from the Plan view.



Designing with Irrigation Symbols

Sprinkler lines and heads compose the primary structure of an irrigation system, but there are many symbols that can be used to depict the locations of important objects, such as control valves, the point of connection, and backflow prevention assemblies. For details on adding symbols to the Plan view, see [Adding a Symbol|topic=Adding a Symbol](#).



Tips:

- 110. Sprinkler lines can be curved or straight, depending on the needs of the irrigation system.
- 111. Because sprinkler lines depict underground piping, they do not appear during Realtime Walkthroughs. However, sprinkler heads do appear during walkthroughs and spray water realistically.
- 112. It is recommended to place all objects associated with your irrigation design within a separate layer. This will allow you to show or hide the entire irrigation system at once. For details on layers, see [Using Layers|topic=Using Layers](#).

See also:

Sprinkler Line Properties
 Setting Object Properties
 Selecting Objects
 Editing Objects
 Adding a Sprinkler Head
 Showing & Hiding Objects
 Realtime Walkthrough

Sprinkler Line Properties

The properties used to modify a Sprinkler Line object are located to the right of the screen when your sprinkler line is selected. These properties can either be adjusted right before adding the sprinkler line to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
Length	The Length property displays the total distance, in feet or meters, from the start of the sprinkler line to the finish.
Line Style	The Line Style property determines the appearance of the sprinkler line in the Plan and Perspective views. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.
Edit points	Click the Edit points button to enable or disable point editing mode, which will allow you to modify the sprinkler line's shape. See Editing Points topic=Editing Points for details.
Shape options	Click the Shape Options button to save the shape of the sprinkler line, or to load an existing shape. For more details, see Saving and Loading Shapes topic=Saving and Loading Shapes .

See also:

Adding a Sprinkler Line
 Adding a Sprinkler Head
 Selecting Objects
 Setting Object Properties
 Editing Objects
 Realtime Walkthrough

Adding a Sprinkler Head



Sprinkler heads are the visible portion of a typical irrigation design; sprinkler heads emerge from the ground to shower the surrounding landscape with water at the angle and radius that you have selected. When your landscape design is complete, you can refer to the [Project Material List|topic=Creating a Project Material List](#) for an accurate calculation of the amount of sprinkler

heads that have been added to your design, as well as the length of sprinkler line used.

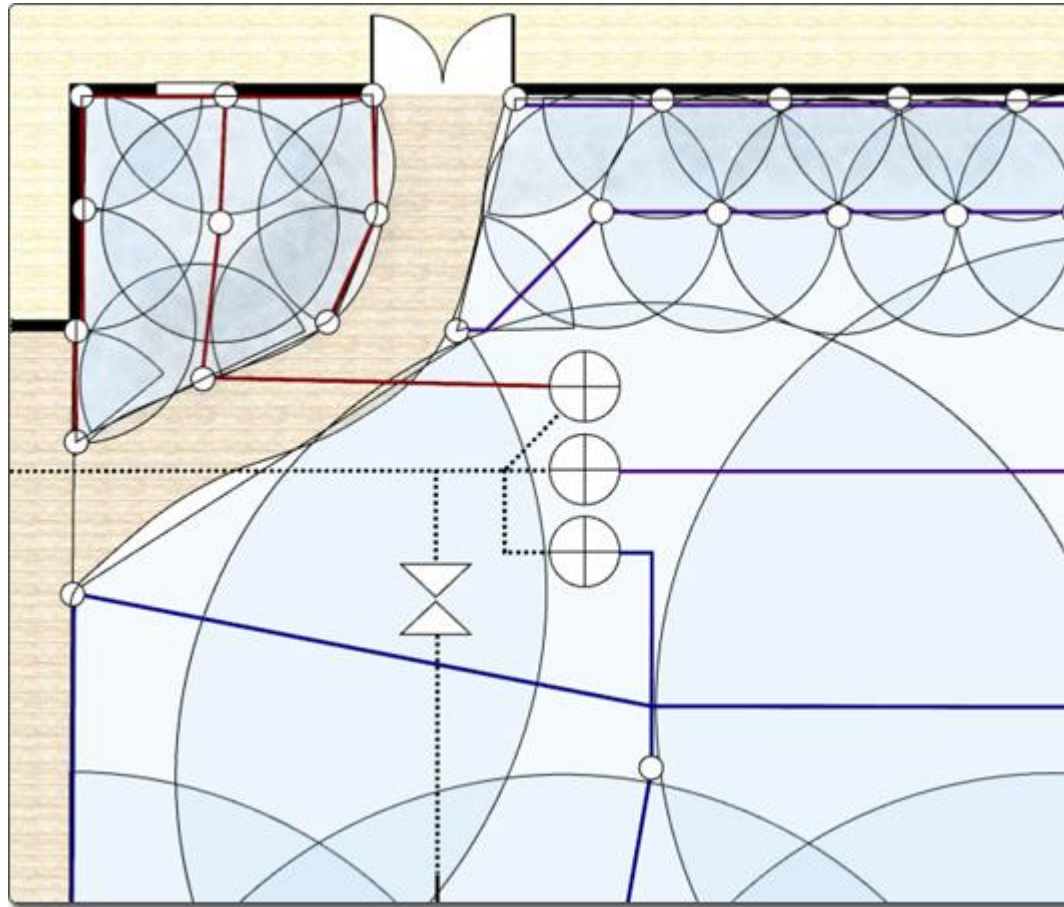
To add a sprinkler head:

113. Click the **Add Sprinkler Head** button that appears near the top of the screen under the **Water Features** tab.
114. Click on your design where you wish to place the sprinkler head. If you wish to add multiple sprinkler heads at once, hold the **Ctrl** key while clicking.

Note: Sprinkler heads can be added to your design before or after the sprinkler lines are in place.

In the picture below, the landscape design features a basic irrigation system that is composed of sprinkler lines (the blue lines), and sprinkler heads (the light blue circles). See [Adding a Sprinkler Line](#) for another picture of this design shown from the Perspective view.

As shown in the irrigation design below, both the coverage angle and the radius of spray can also be adjusted per sprinkler head.



Tips:

115. We recommend placing all objects associated with your irrigation design in a separate layer. This will allow you to show

or hide the entire irrigation system at once. For details on layers, see [Using Layers|topic=Using Layers](#).

116. Sprinkler heads will spray water during a Realtime Walkthrough by default. To disable the spray of a sprinkler head, uncheck the **On during realtime walkthrough** [property|topic=Setting Object Properties](#).

See also:

- Sprinkler Head Properties
- Adding a Sprinkler Line
- Showing & Hiding Objects
- Setting Object Properties
- Selecting Objects
- Editing Objects
- Realtime Walkthrough

Sprinkler Head Properties

The properties used to modify a Sprinkler Head object are located to the right of the screen when your sprinkler head is selected. These properties can either be adjusted right before adding the sprinkler head to your landscape or after it has been added. Below is a description of each available property in the order that they appear in the software.

Options	Description
On during realtime walkthrough	The On during realtime walkthrough property determines if the sprinkler head sprays water during a Realtime Walkthrough. To change whether or not the sprinkler head emits water, click the On during realtime walkthrough checkbox.
Angle	The Angle property determines the angle of sprinkler coverage in degrees. For example, an angle of 180 degrees will produce a semicircular coverage area. To change the coverage angle, move the Angle slider or type a value in the text field.
Radius	The Radius property determines the distance that the sprinkler head will spray. To change the radius of spray, move the Radius slider or enter a value in the text field.
Elevation	The Elevation property determines the distance of the sprinkler head from the ground. To change the elevation, move the Elevation slider or type a value in the text field.
Transparency	The Transparency property determines the opacity of the sprinkler head's blue coverage radius. To change the opacity, move the Transparency slider or type a value in the text field.
Line style	The Line Style property determines the appearance of the sprinkler head's outline in the Plan and Perspective views. To change the line style, click the Line Style button and select the style you wish to use from the dialog that appears.

See also:

Adding a Sprinkler Head
Adding a Sprinkler Line
Selecting Objects
Setting Object Properties
Editing Objects
Realtime Walkthrough