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NEMETSCHEK Vectorworks

Vectorworks Essentials

Tutorial Manual

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1.0 Introduction to Vectorworks

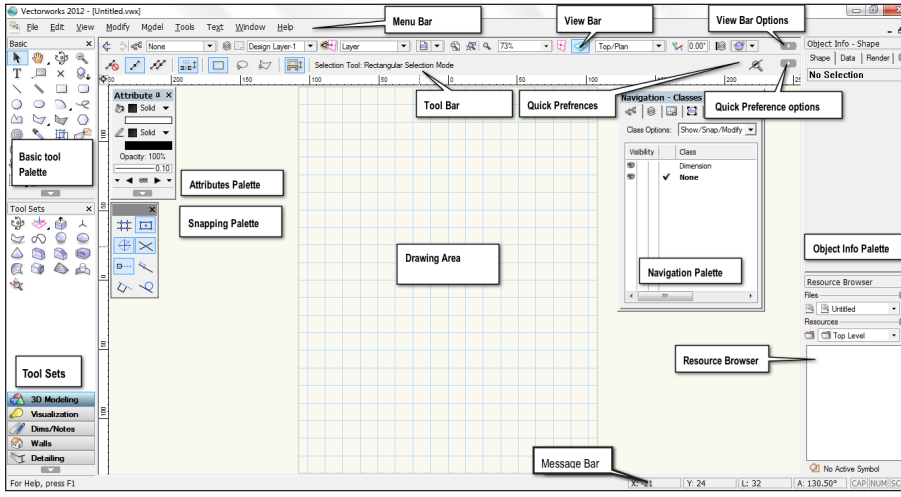
Vectorworks is a powerful program that can be utilized by a range of professions—from engineering and landscape to set and lighting design and architecture. Vectorworks uses a combination of tools and concepts to create sophisticated drawings and models. It includes a database/reporting component and a built-in scripting language that allows you to make your own custom tools.

Vectorworks can be used to create simple drawings for joinery, a whole set of contract documents for a large commercial building, landscaping design, or a virtual model of a building that you can walk around or fly through.

1.1 Vectorworks Interface

When you start Vectorworks it looks like this on a Windows machine:

movie
movie001.mov



2.0 Tools and Commands in Detail

Vectorworks has many tools and commands for creating, editing, modifying, and annotating. At some point you need to learn these tools and commands, so this section of the manual is designed to teach you many of these tools in detail.

2.1 Creating, Modifying, and Editing

- Open the file called **Creating and Editing.sta**.

The file is divided up into a series of layers. The exercises are designed to teach you how to draw and edit things in Vectorworks. Each tool you choose in Vectorworks has choices about how you use that tool. The choices are shown on the Tool bar. The purpose of these exercises is to get you to use each mode for each tool.

When you have completed the instructions on the first layer, go to the layer button and choose the next layer down in the list. Do the same for all the layers until you get to the bottom of the layer list. Then you can move on to the next exercise.

movie034.mov

Use these exercises as a starting reminder when you have taken a break from Vectorworks for any length of time. They are designed to allow you to develop some skills with Vectorworks. Then you can use them to refresh your memory.

movie035.mov

3.0 Organizing Information

One way of creating drawings in view is to create one file for each drawing that you want. You can copy and paste the information from one file to the next. While some people might be happy to use this method, I am not, and it is not the recommended method. The recommended way is to have as many drawings as practically possible in one file and use Vectorworks organizing concepts to create the drawings that you want.

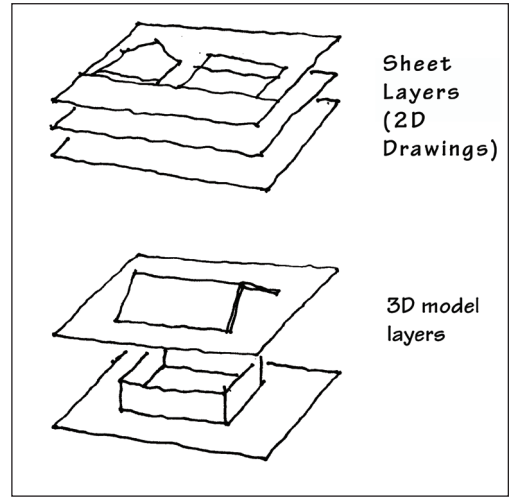
Vectorworks uses several concepts to organize information. We will be looking at only some of the concepts:
Design Layers
Classes
Sheet Layers
Viewports

3.1 Design Layers and Sheet Layers

We use Design Layers as an organizational tool to break up the design into usable chunks. Layers are used to control the visibility of parts of the drawing so that we can hide or show information for different purposes.

Design Layers are a horizontal organizing method where you can divide a file up into horizontal chunks. These horizontal chunks also have a height, and if you set the heights up correctly, you can easily generate 3D views of the model.

If you were an architect, you would tend to break up the design into building elements or stories (floors) of the building. You would also have several layers that contain drawings and details that make up the document set.



4.0 Drawing Exercise

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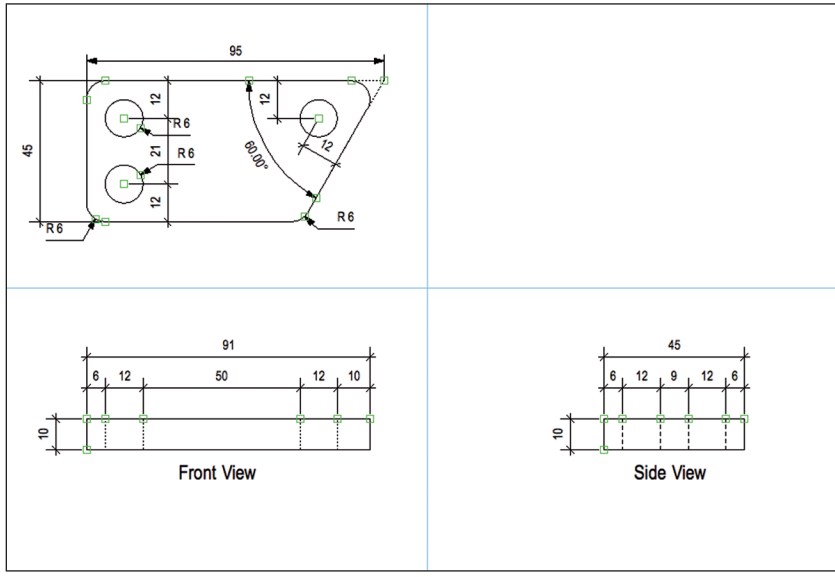
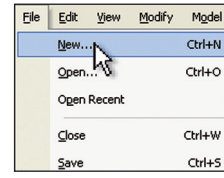
The aim of this exercise is to bring together many of the drawing tools and techniques into one drawing. We want to complete a drawing of a steel bracket.

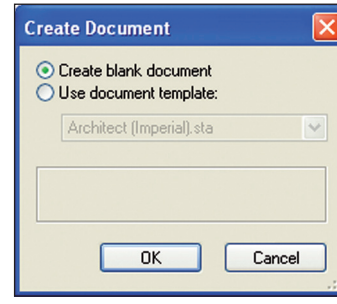


Start with a new file.

- Go to the **Menu** bar.
- Choose **File > New...**



- On the Create Document dialog box, choose the option to **Create blank document**. We will start with a blank document and set it up to suit the drawing that we want to draw.



5.0 Drawing Buildings

Before starting this section, make sure that you are using the Standard Workspace. From the Menu bar choose, **Tools > Workspaces > Standard**.

To draw this single house, we start by drawing the outside walls. We will be using the Wall tool. When you use the Wall tool, it will create walls in 2D and 3D. The 3D height of the walls will be created from the Layer dialog box.

5.1 Setting up the Layer Heights

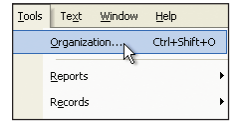
movie
movie059.mov

- Open the file **Building 1.sta** from the exercise folder.

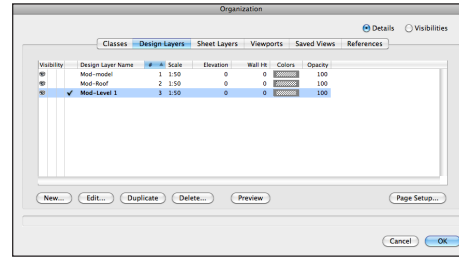
Normally, to start a project you would work out the number of layers that you need and the classes that you would need to make the drawing. To work out the layers and classes required, you need to have some idea of the project and the number and extent of the drawings that you want to make. For this case, we will use a template file that has already been set up with the layers and classes that we need, but the layers are not set at the correct heights.

We need to have some idea of the house that we will be drawing. We have looked at the plan and worked out that the storey (floor) will have a wall height of **2440mm (8' 0")**. To set up the layers to their correct heights we need to edit the layer using the **Organization** dialog box.

- Go to the **Menu** bar.
- Choose **Tools > Organization...**



- Click on the **Design Layers** tab.
- Double-click on the **Mod-Level 1** layer.



- If you are using the Navigation palette, then you can right-click on the layer that you want to edit.
- Choose **Edit...** from the pop-up menu.