

Your first day with the Newforma Model Viewer

Congratulations! You are moving forward with your first project using the Newforma® Model Viewer, powered by VEO. This document will teach you everything you need to know to get started, using hands on, step-by-step approach. As a result, you'll immediately begin saving time and money and increasing productivity across the entire design, building, and operating team.

Key learning outcomes:

1. Export and navigate your first VEO project.
2. Share your entire project with real-time collaboration.
3. Think ahead to closeout, operations, and a BIM-to-FM deliverables.

Introduction

Getting your first project ready for collaboration in Model Viewer is very straightforward and easy. It only takes about an hour to create a useful Model Viewer project. Here are the basic steps to becoming immediately productive and sharing your project:

- Exporting to Newforma Model Viewer
- Cleaning up the project
- Creating useful view settings
- Using logic and archive
- Sharing your project

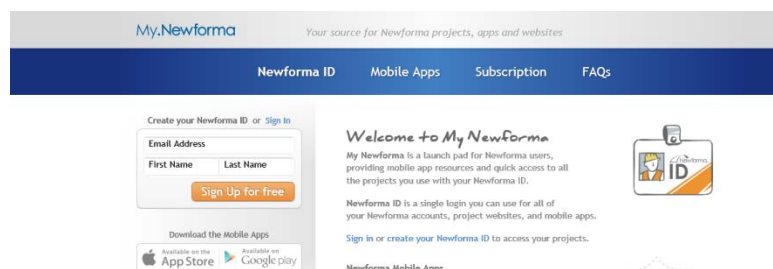
Once you share the project, other designers can remotely export their work to the same Model Viewer project. This is much faster than manually transmitting design files. As soon as new project information is available for *anyone*, it is available for *everyone*. This allows the entire team to communicate, coordinate and collaborate with confidence.

Keep in mind as you start to create your first project that once your project is shared, everything you create will be available for other team members. It's a good idea to plan ahead and organize your project with clear naming conventions.

Creating login credentials to Newforma Model Viewer

Create a user account at my.newforma.com.

Now connect to companies you're doing business with. Once you've selected the company and logged in, you'll see a list of projects to which you have access.

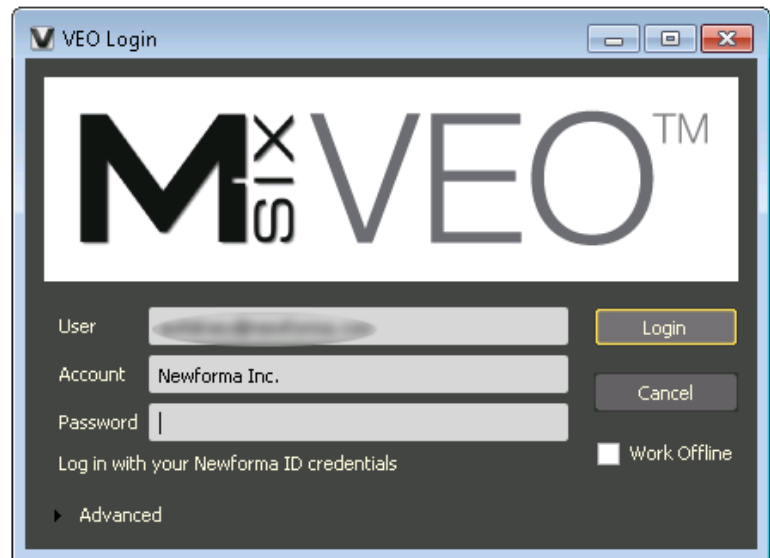


Now that you've logged into Info Exchange, you can log into Newforma Model Viewer:

- **User:** Email address
- **Account:** Company name
- **Password:** Whatever you set up

If **Model Viewer is open**, Revit will automatically detect your login. If Model Viewer is **not** open, you will need the above credentials before publishing your model to Newforma Model Viewer.

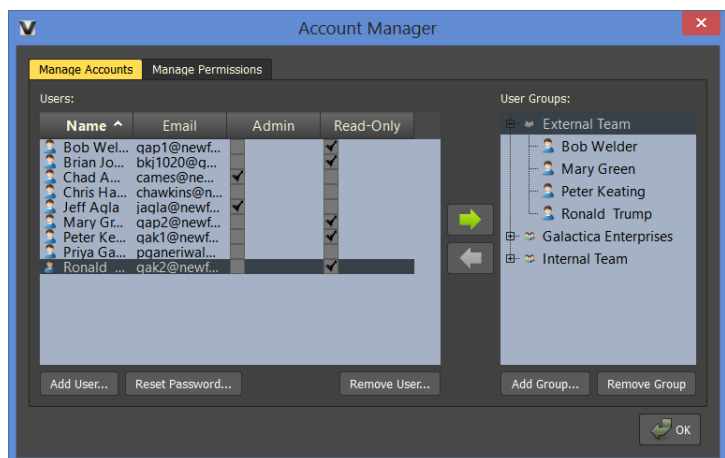
First, the Newforma Global Admin will need to log into Newforma Model Viewer in order to assign people to projects. (This step will be automated in future releases, post-edition 10.1.) We recommend you create an External Team on the Manage account tab by selecting **Add Group** on the right side of the dialog under User Groups. Once the group is created:



1. Select the user.
2. Select the group you want to add them to.
3. Press the highlighted arrow pointing to the right. (See image below.)

To remove users, select them and press the highlighted arrow pointing to the left.

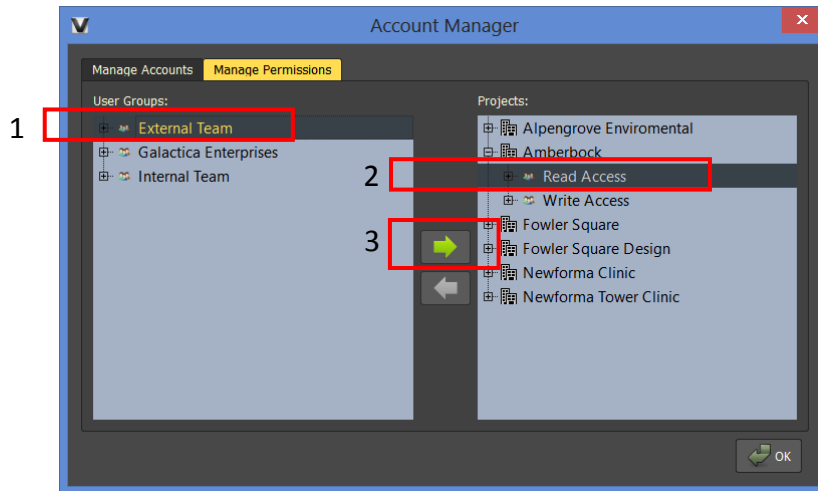
Now that you have created user groups, you can add these groups to projects, making management easier.



Account Management dialog

1. Select the group.
2. Select the project.
3. Expand and select either the Read or Write access group.
4. Press the highlighted arrow pointing to the right.

To remove them, select the group or individual under the project, and click the arrow pointing left.

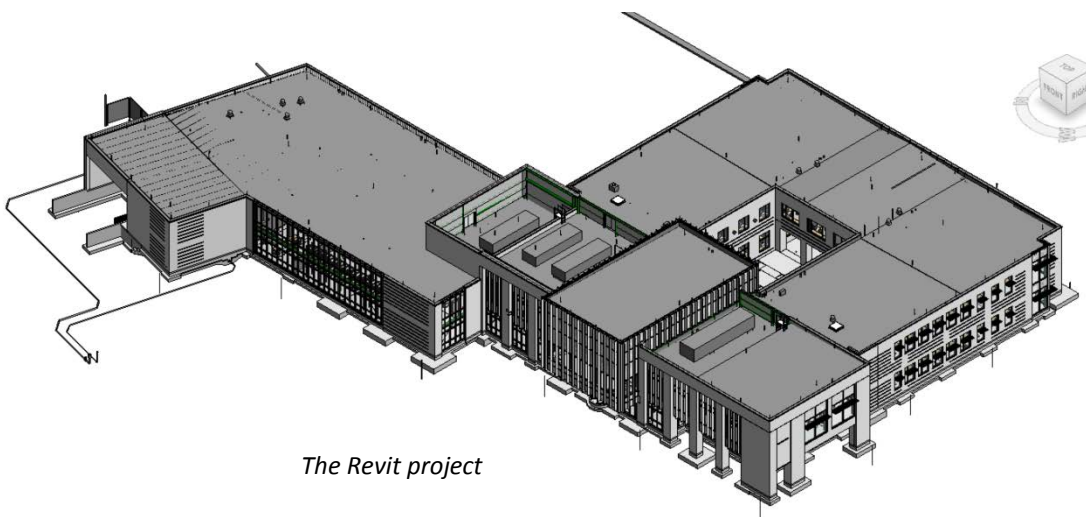


Account Management dialog

Exporting from Revit to Model Viewer

Install the plugin for Revit found by clicking this [link](#) or by selecting the link from within Info Exchange or Project Center.

Open your Revit project in **Revit 2013 or Revit 2014**. You can export all the linked files together in VEO. In the future, imagine that you could distribute this effort, where each design team would only export their project (rather than wait for one person to export all the projects to VEO). As a result, it's easy to see how the VEO project could actually be as up-to-date if not more up-to-date than the Revit files.



The Revit project

All the links in this project are origin to origin. If this wasn't the case you'd simply publish the coordinates from the Architectural file to each of the links. This will bring in all the links at the same location.

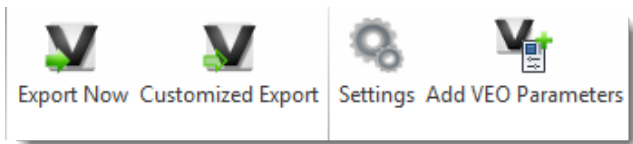
If you ever export a Revit project containing links to VEO and the files are not in the same location, publishing the coordinates to each of the links and re-exporting will correctly locate the links.

To start this process, you will need to first create and save a project in Newforma Model Viewer. Under the File menu, select **New Project** and enter your project name.

For this exercise enter *Amberbock* and press OK.

This new project will load; just save it by selecting **Save** under the File Load menu. You have now created a placeholder project in the Model Viewer to which you can export models, whether from Revit or AutoCAD.

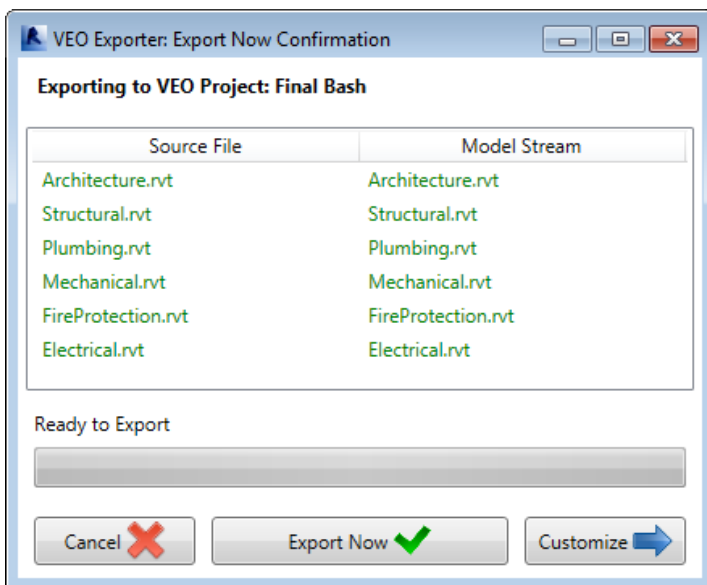
Select the VEO tab in the menu bar and then select **Export All**.



VEO export menu

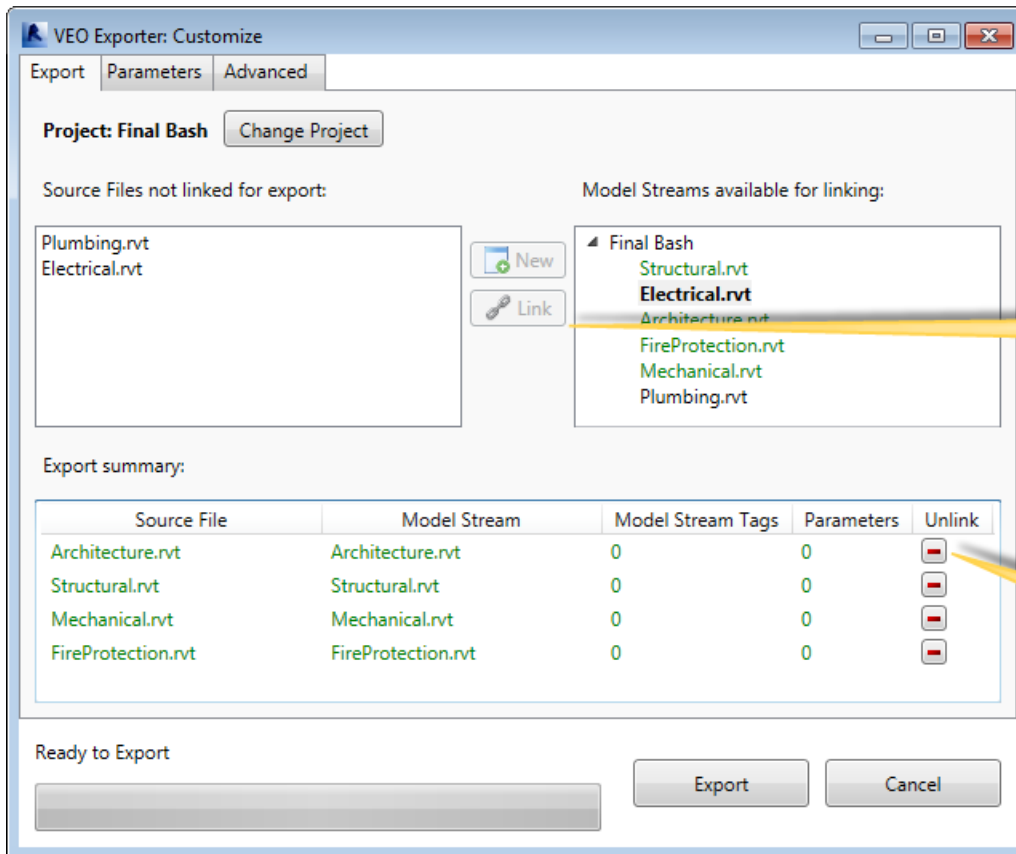
After selecting the Export Now button your Revit Model will automatically map new model streams to VEO. Now you are one click away from publishing to the Model Viewer

Each of the Revit files requires its own Model Stream in VEO.



Select Customize for additional options

You have the option to control which model and parameters get exported to VEO



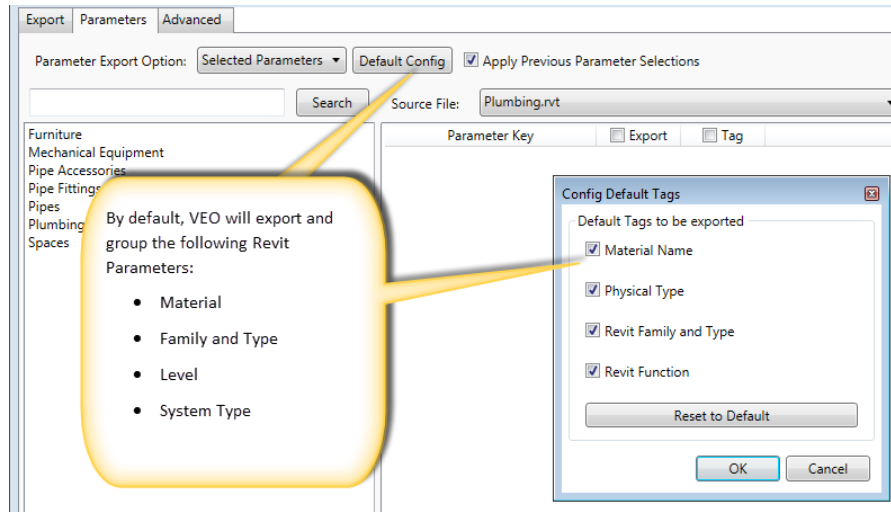
To re-link models for export select models on both side a select the link button

You have the choice to control which model are exported.

To remove a model from export use the unlink button

By default, VEO will export and group the following Revit Parameters:

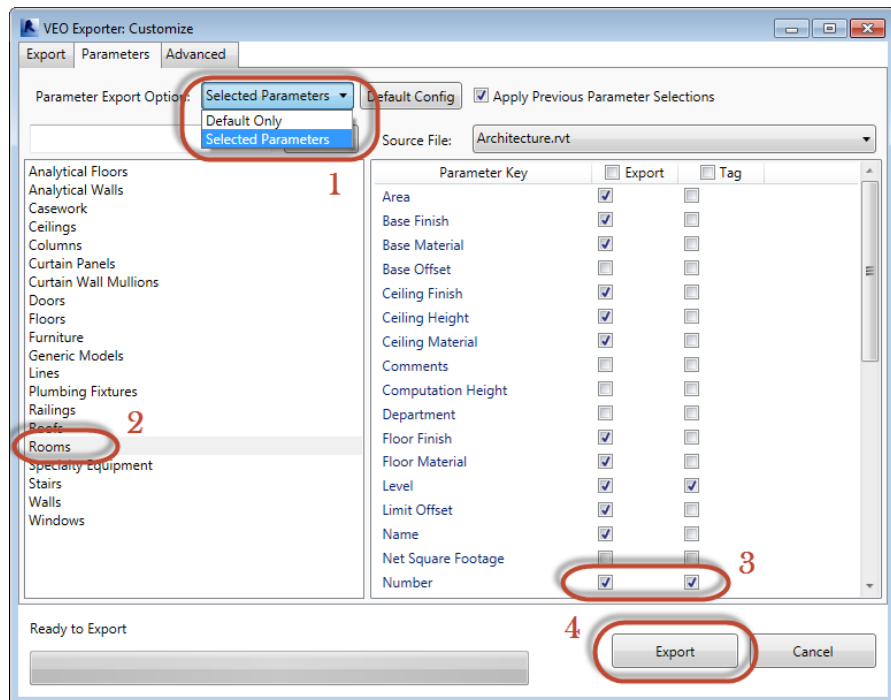
- Material
- Family and Type
- Level
- System Type



You can also export and tag additional parameters. Let's export and tag the **Rooms** parameter from the **Architectural** file. The room names will be grouped as well.

Begin by selecting the **Parameters** tab (between the Model Streams and Options tabs).

1. From the Parameter Export Option pull-down select **Selected Parameters**.
2. Select **Rooms**.
3. Check both **Export** and **Tag** boxes next to the **Name & Number** value.
4. Now select **Export**.

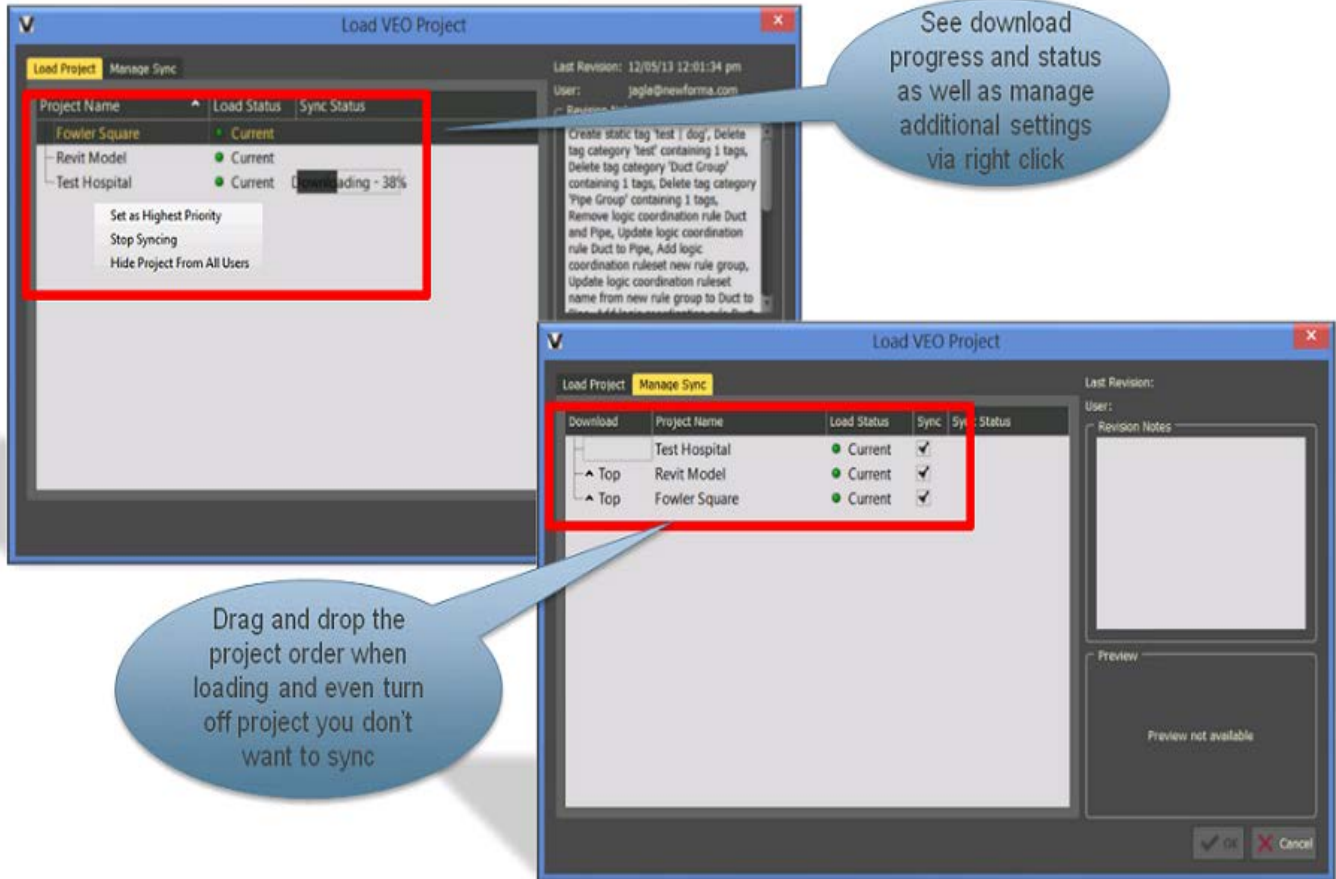


Exporting the VEO project with room names

It will only take two or three minutes to export all six files. File size and the number of custom parameters selected during export impact the export time. When you export the same project in the future, you can select the **Apply Previous Parameter Selections** to automatically select previously selected parameters.

Load Project Dialog

Open the project in VEO by selecting **File > Load**.



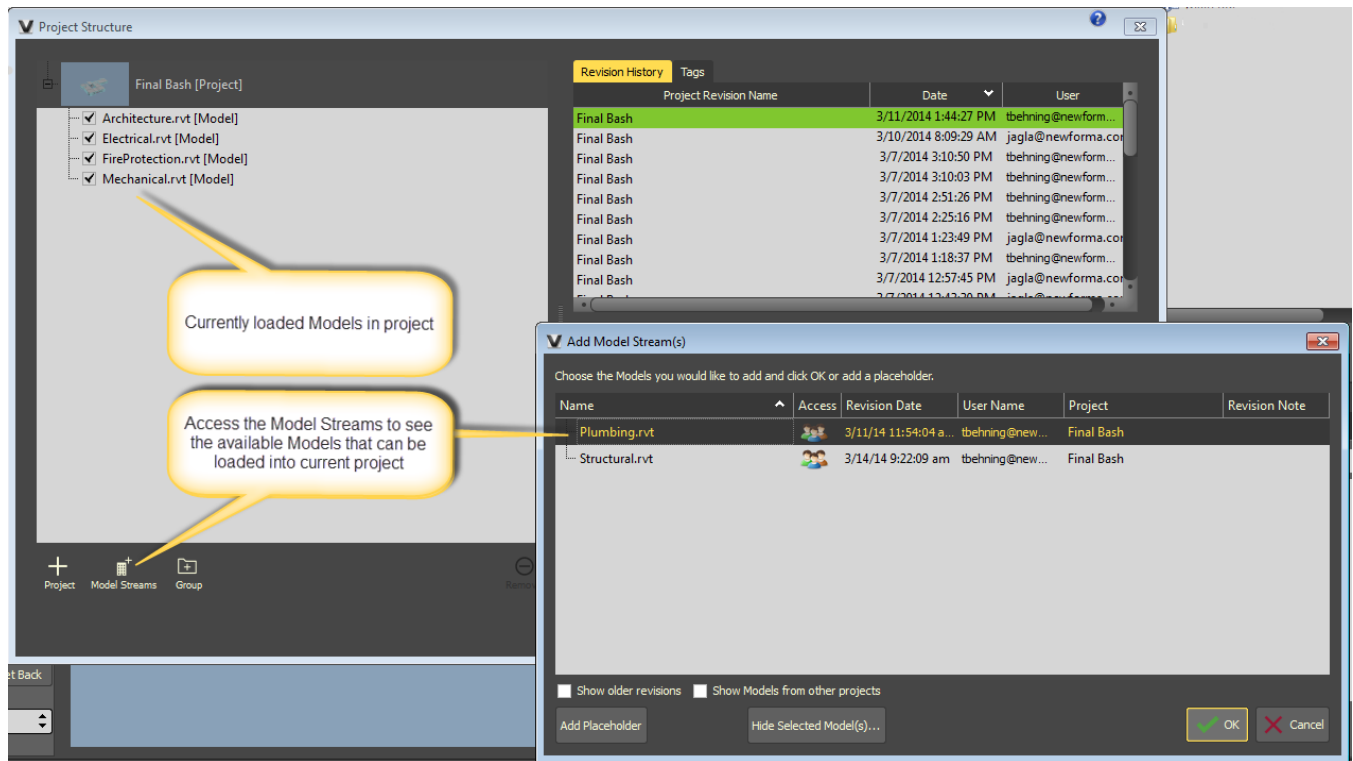
Opening the VEO project

Add or Update Model Stream

Now let's load in the Model Streams:

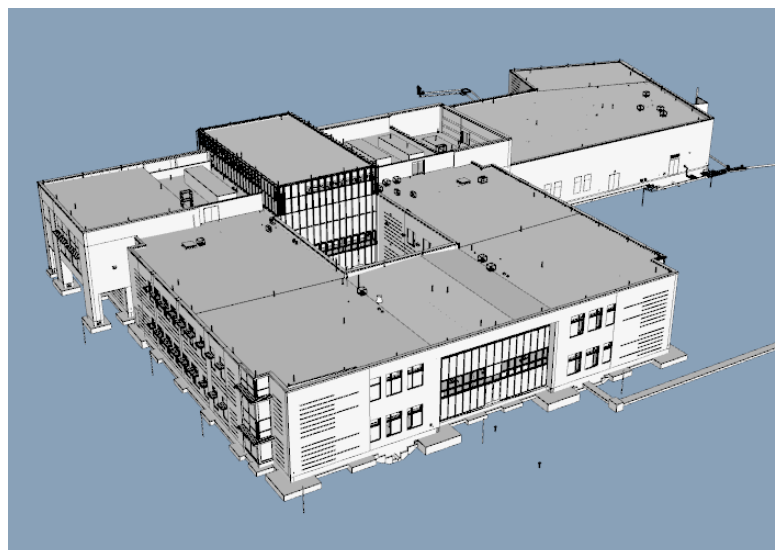
Under the File menu:

1. Go to **File > Project Structure**.
2. Select the Amberbock project under the Project Revision Name.
3. Pick the Add Model Stream button to see the dialog below.

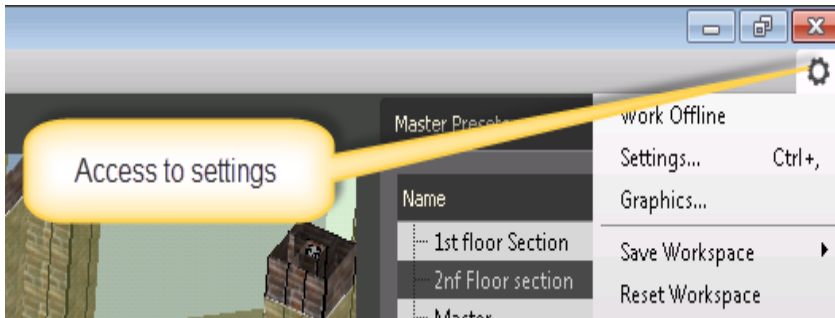


(Note that the 'Show Models' checkbox is only available for Admin accounts.)

When finished, your project model should be visible in the main screen. Press OK.



Changing the settings

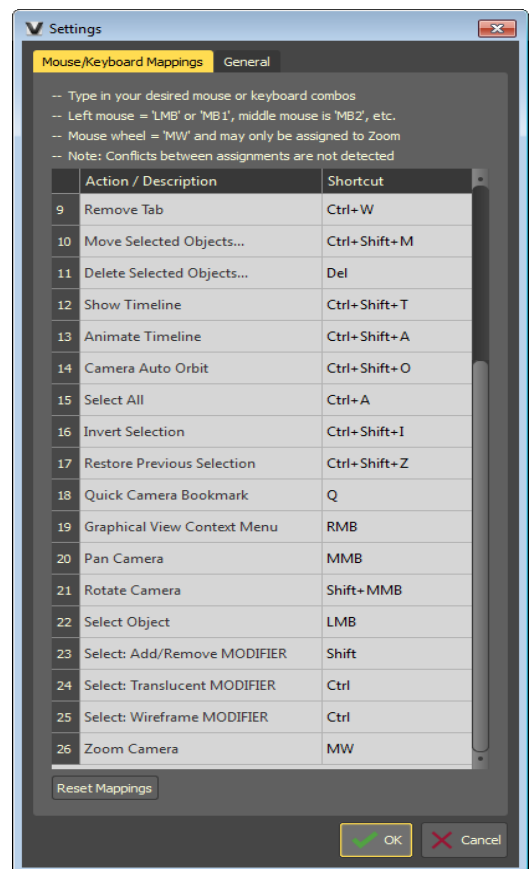


To change the navigation to mimic other applications, select the **Settings** icon (gear) located in the top right of the application.

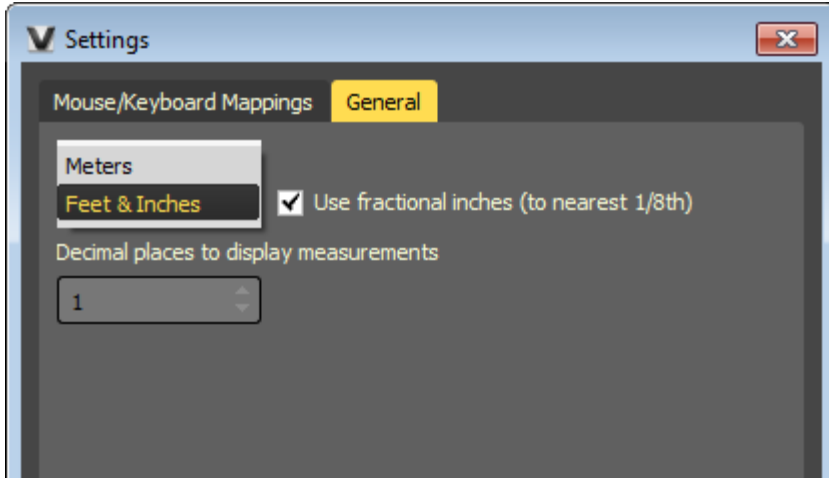
Customize Mouse and Keyboard Controls

Navigation in VEO is customizable, which we will cover below. As you navigate you'll notice the file feels very light and responsive!

- **Rotate** the view by pressing and holding the left mouse button.
- **Pan** the view by pressing and holding the middle mouse button.
- **Zoom** in / out by pressing and holding the right mouse button.
- To quickly zoom and frame an object, hover over it with the pointer and double-click.
- **Select** by holding down the **ALT** key while picking or using a selection window.
- Hold **ALT** and **Shift** to pick multiple objects.
- **Temporarily Isolate** a selection by toggling the **Tab** key.



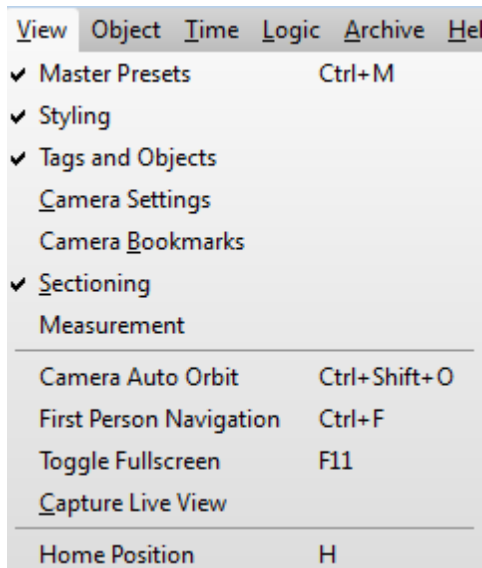
Newforma Model Viewer now supports both feet and meters as units of measurements. You can select the unit of measurement from the General tab of the Settings dialog box, shown below:



You can control the precision of the measurement information displayed. When Feet and Inches is selected, select the Use Fractional Inches (to Nearest 1/8th) to display measurements to an eighth of an inch. When Meters is selected, set the number of decimal places to display in the Decimal Places to Display Measurements field.

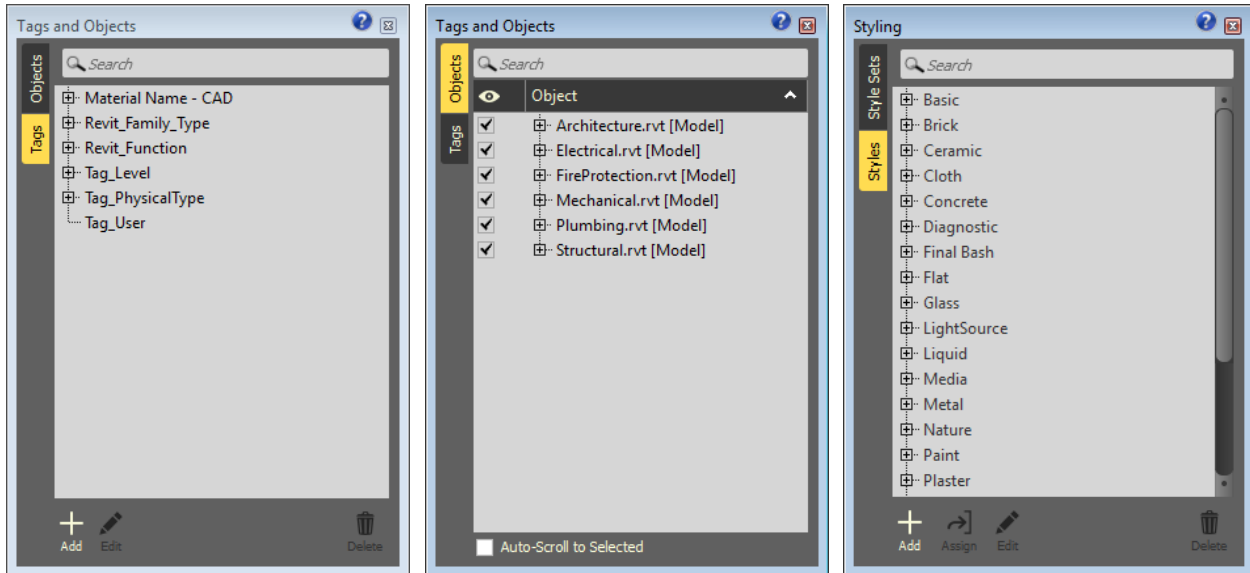
Accessing Tool Panels

From **View** menu, open the following menus as shown in the image at right:

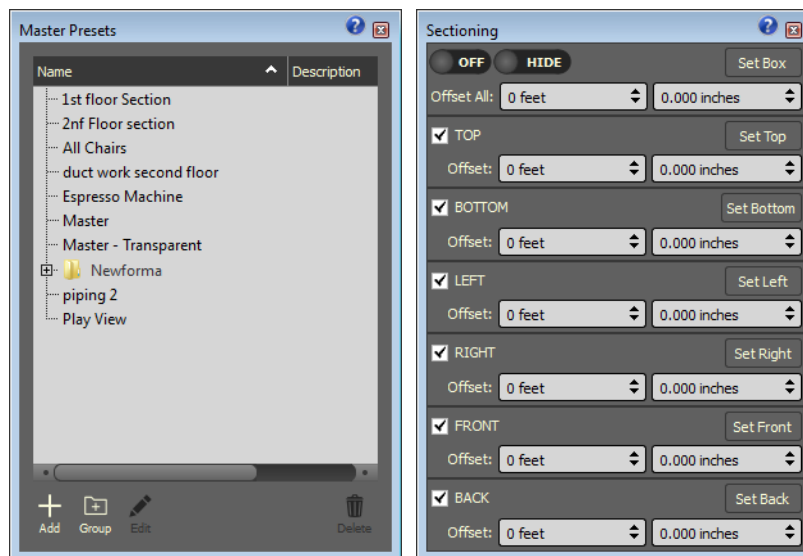


Model Viewer Tool Panels

Turn on the following Tool Panels



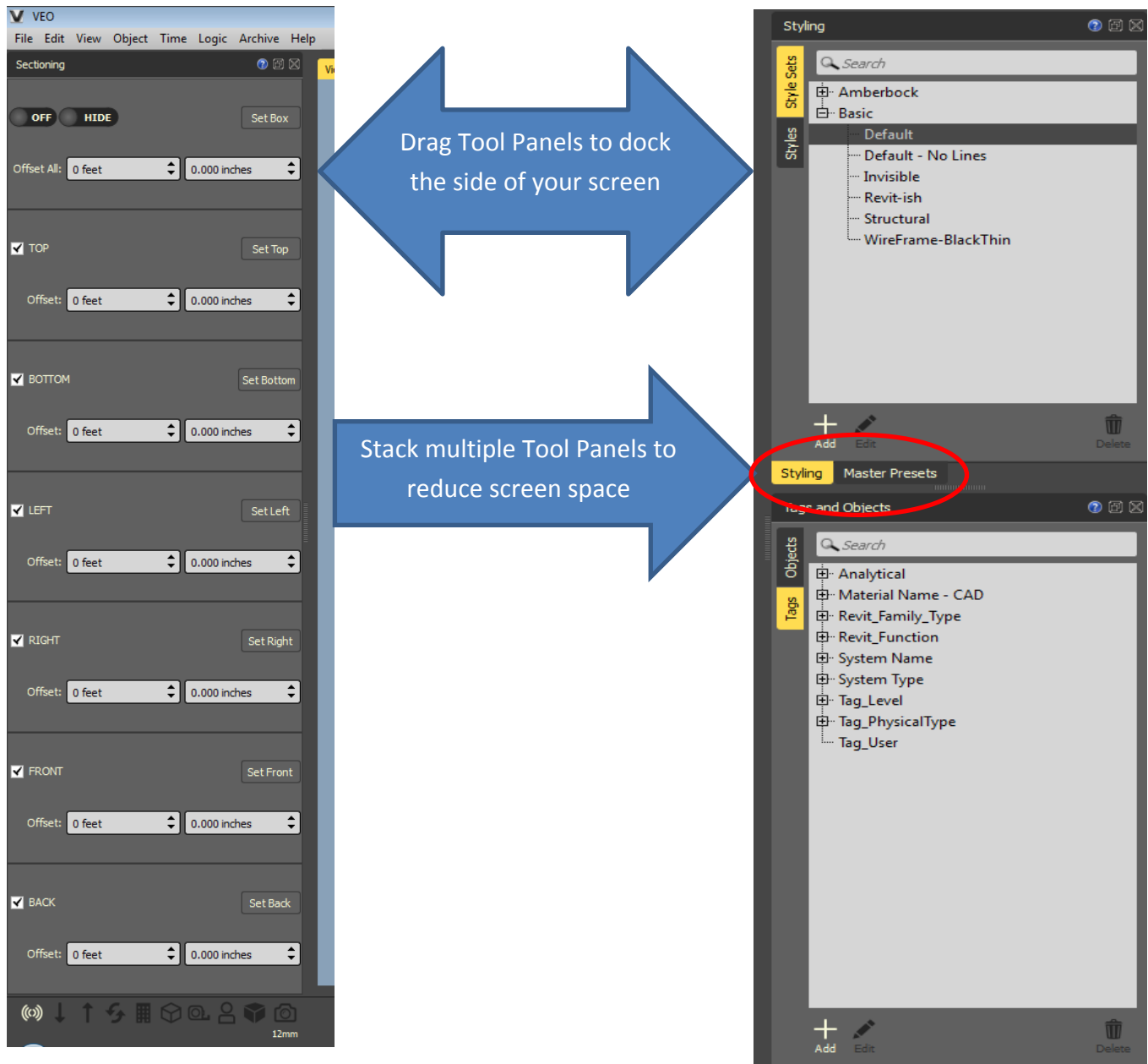
Tags and Objects and Styling Tool Panels



Master Presets and Sectioning Tool Panels

Now is a good time to **save your project!**

Docking and Moving Tool Panels

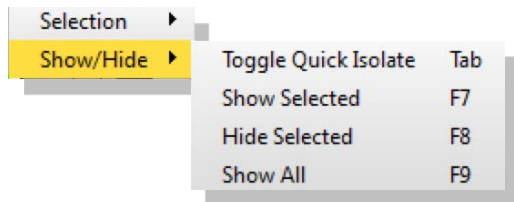


Configure your User Interface by dragging any menus not already docked to the sides of the screen as shown above.

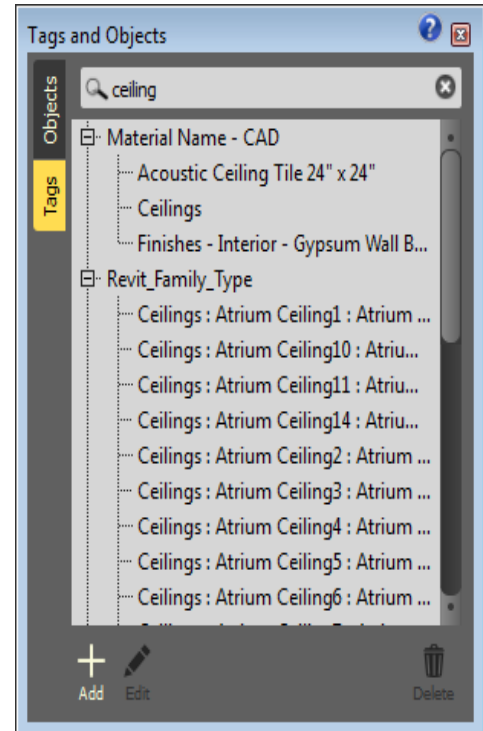
Searching and Controlling Element Visibility

You can also search for elements by their Tag. Simply start to type in a few keywords and VEO will filter the appropriate tags. If you select the tag all the corresponding objects are selected and highlight in the model window.

- Depress and release the Tab key it will isolate a selection.
- Press **F8** to **Hide** a Selection.
- Press **F7** to **Show** a **Selection**.
- Press **F9** to **Show All**.



Visibility Options Via Right+Click



You can also right-click in the model window to access the above options.

When you export design projects to VEO you'll see many objects that do not need to display. For example, geometry that is on a temporary Phase, Filled Regions, Detail Items and Analytic Planes. **DON'T delete them.** You may need them for reference and coordination purposes.

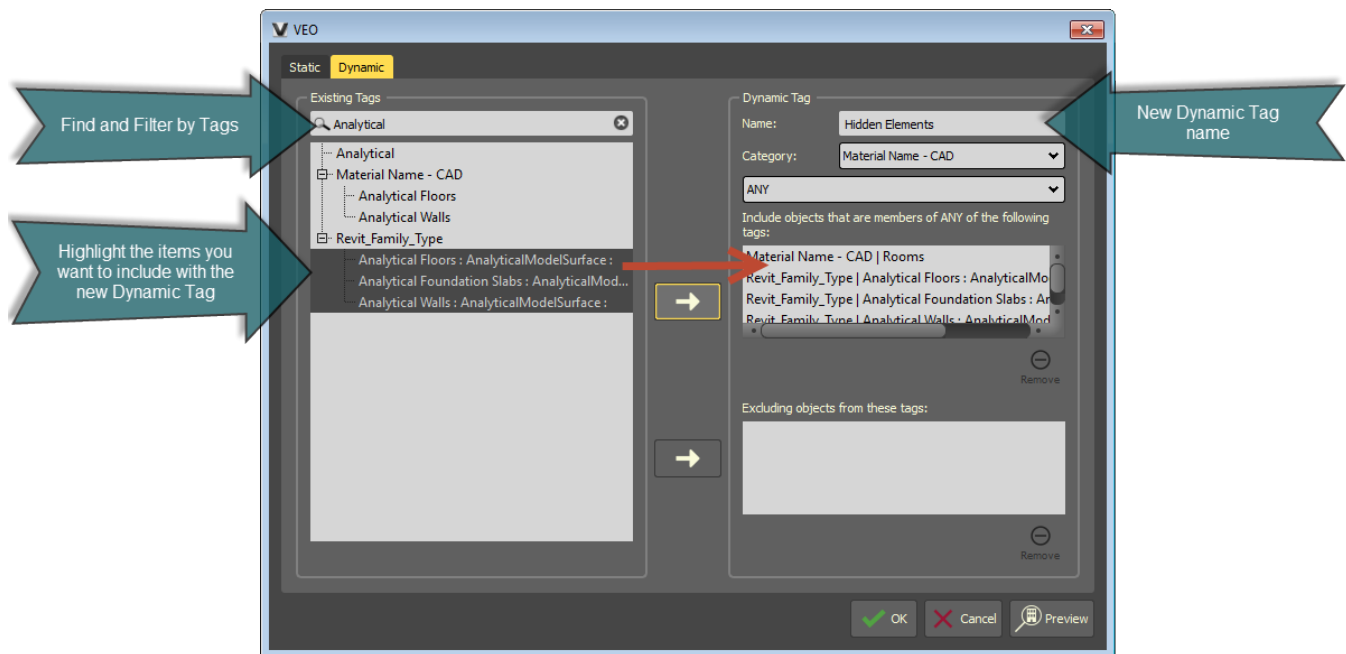
The best practice is creating a Dynamic Tag for "Hidden Elements." Now you can quickly select and **Hide** all the related Tags at once.

Let's create a Dynamic Tag to hide unwanted elements

Select **Add (+)** from the **Tags and Objects** panel. The next image illustrates the settings for the Dynamic Tag.

- Create a filter search for **analytic**. Include all the Revit family types.
- Expand the Material Name – CAD tag. Select **Spaces** and include.
- Set the pull down menu from **ALL** to **ANY**.
- Name the Tag Hidden Elements.
- Select OK.

Once you've created the Dynamic Tag, select OK. Then press F8 to hide all the analytic and space elements in your view.



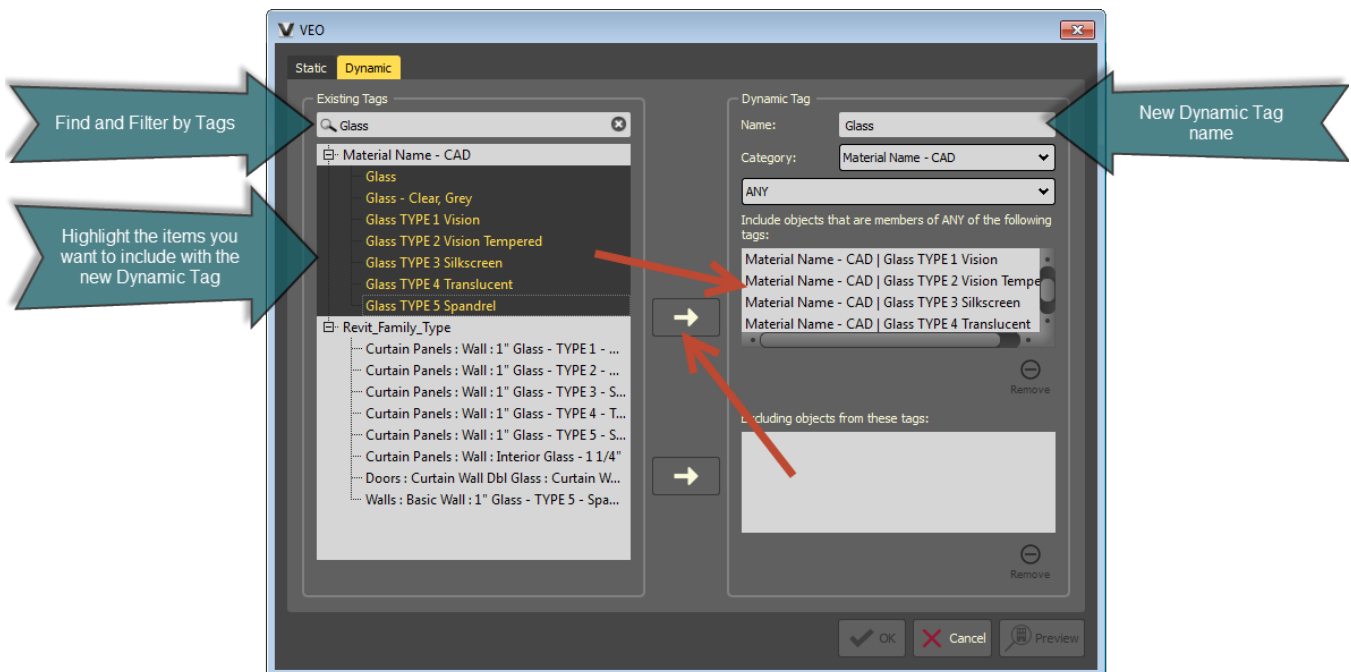
Creating a Dynamic Tag for Hidden Elements

Let's now create a new Dynamic Tag to control all the elements that use glass as a material

Dynamic Tags are also very useful for creating groups of common elements that you would like to be able to select en masse. At the moment, all the geometry is a solid gray color. Let's create a Dynamic Tag select all glass materials in the project.

Select Add (+) from the **Tags and Objects** panel. Expand the Material Name – CAD tag. Scroll down and use the shift key to select all the glass-related materials and include them in the tag definition as shown in the image below.

Creating a Dynamic Tag for glass materials

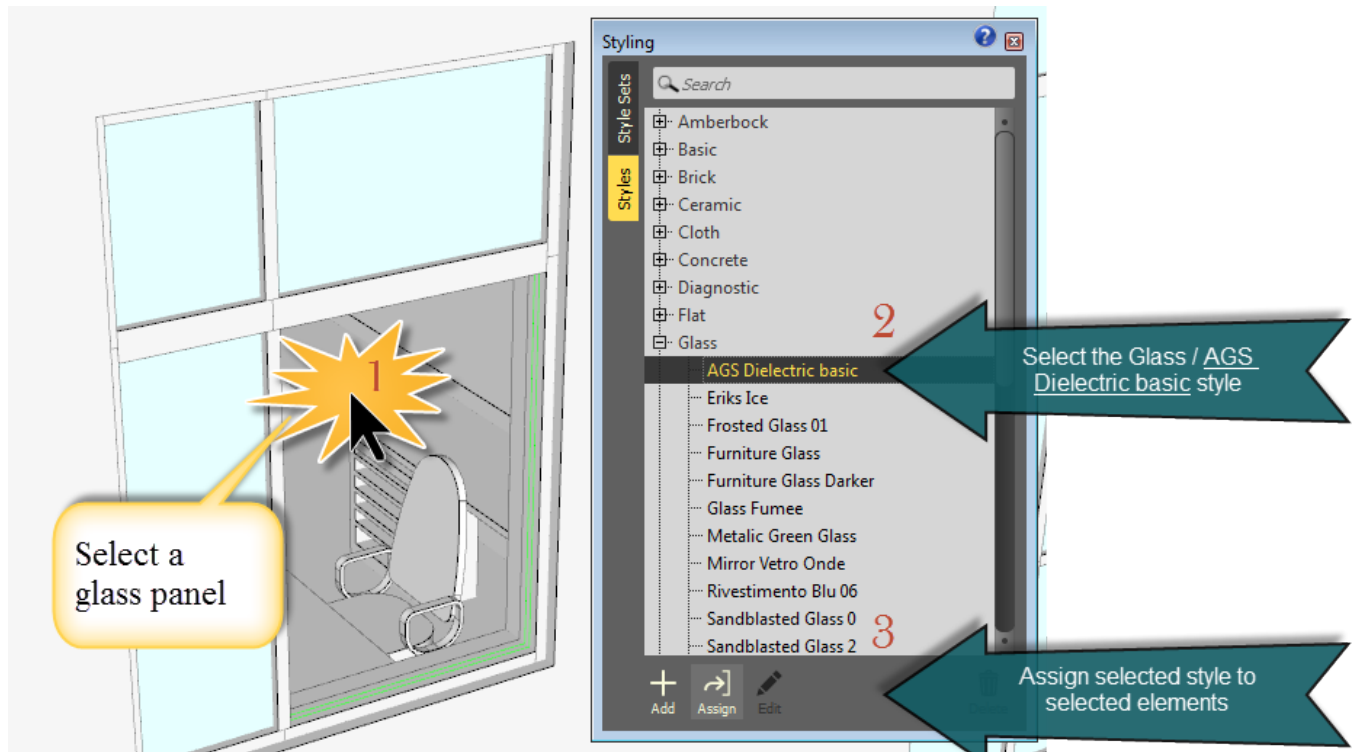


Assign new Style to selected elements

Once you select OK, all the objects with a glass material are selected. Let's assign a new **Style** to the selection to make them transparent.

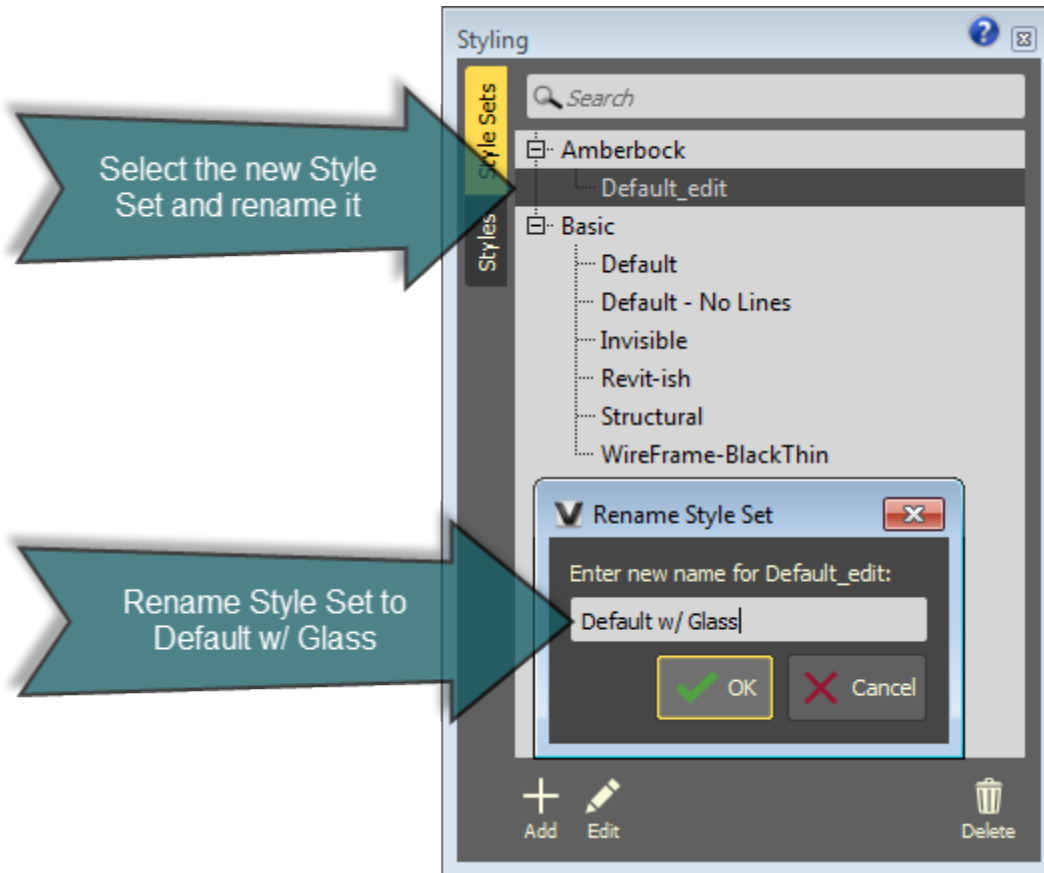
- #1 Selects an element from the model
- Select **Styling** tool panel
- Select the **Styles** tab
- Expand the **Glass** style.
- #2 Select AGS Dielectric basic.
- #3 Select **Assign to Selected**.
- Select OK to accept the creation of a new Style Set.

The steps are illustrated in the following image. All the glass materials are transparent.



Assigning Glass Material to an Element

A new Style Set has also been created named **Default_edit**. Rename the Style Set to **Default w/ Glass** and select **OK**.



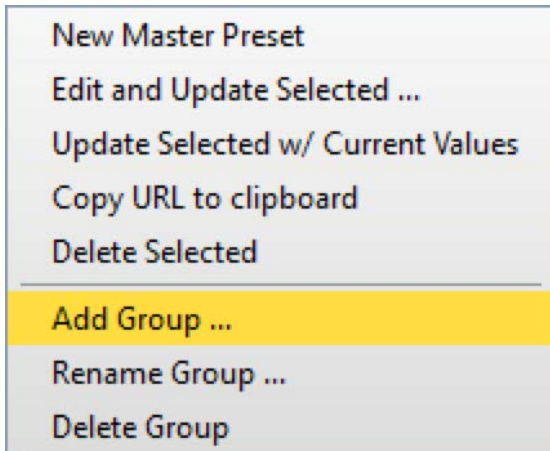
Renaming the Style Set

Now is a good time to **save your project!**

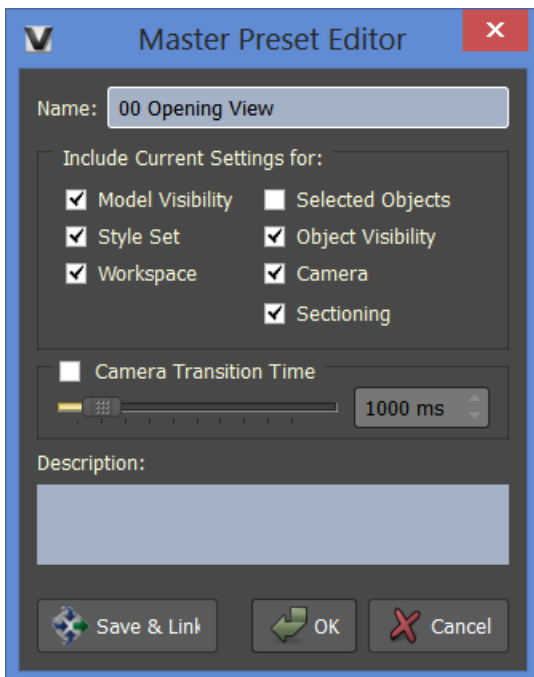
Creating Useful View Settings

Master Presets can recall many view settings with one click. Rotated the view to show the front of the building. This will become your opening view.

- Right click in the Master Preset window to create a **Group** named **VEO** to organize your Master Presets.
- Create a new Master Preset named **00 Opening View**.



Creating the Master Preset Group



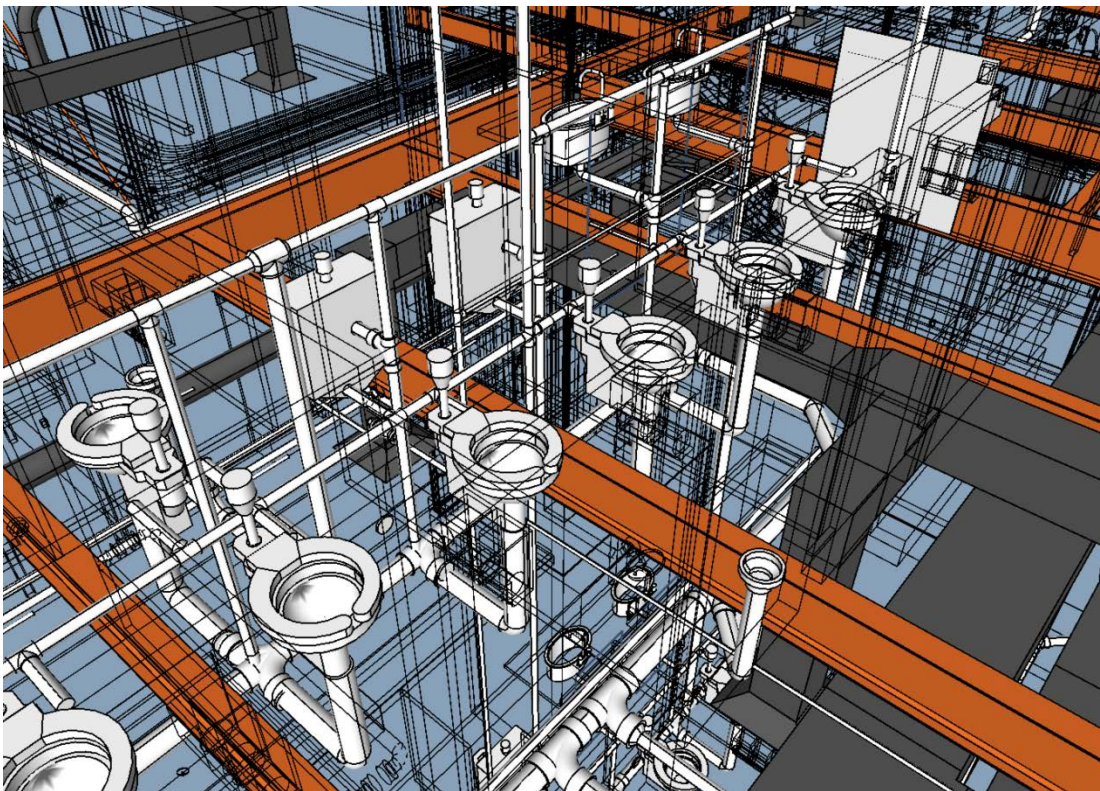
Settings for the 00 Opening View Master Preset

Selecting this Master Preset automatically recalls the view location and applies the present Style Set **Default w/ Glass**.

Style Sets quickly apply numerous material styles with one click. VEO has five default Style Sets. Style Sets are useful for communicating real-world or analytic material settings. The default Style Sets are great starting points for creating custom Style Sets. Editing a Default Style Set will automatically create a custom Style Set.

Let's create a Style Set that displays analytic Materials to Objects based on their category.

- Select the **WireframeBlack-Thin** Style Set.
- Select various categories of elements based on the **Tag_PhysicalType** Tag such as **StructuralFraming, Ducting, Piping** and **PlumbingFixture**.
- As you select each Tag, apply a different Style to the Tag.
- Rename the Style Set "Physical Type."

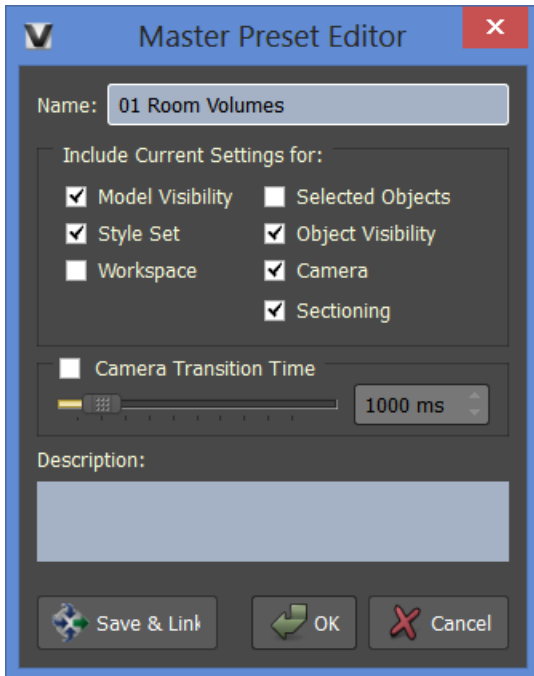


Styles based on Physical Type

Let's create a Style Set that displays analytic Materials for Rooms volumes.

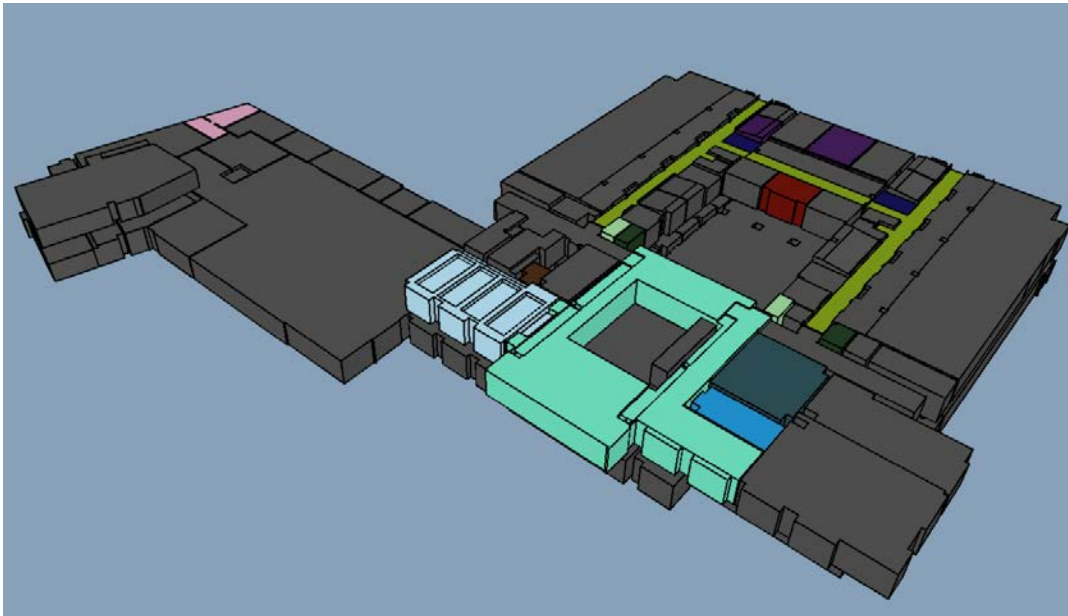
- Select the Wireframe Style Set.
- Select all the tags under the grouped tag **Name** category.
- Apply the Style Grey Anisotropic Plastic.

- Right click in the view while the rooms are still selected and select **Selection>Invert Selection**.
- Press **F8** to hide all the building elements.
- Select rooms by names and select a Style.
- Select **Assign to Selected** to apply different Style to each of the room names.
- Rename the Style Set “Room Name.”
- Create a Master Preset called **01 Room Volumes** with the following settings:



Room Volumes Master Preset

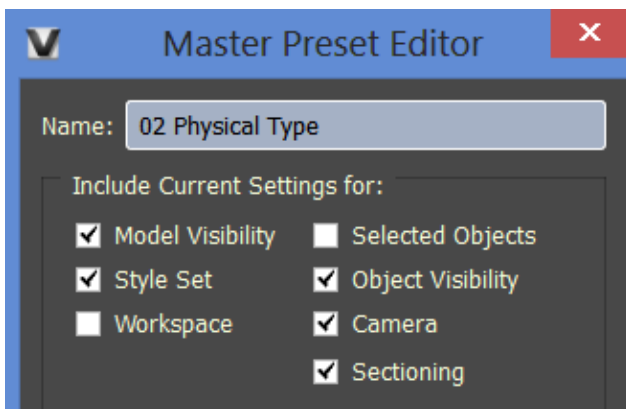
Here's an example of room volumes given different Styles:



Room volumes with Styles applied

Let's create one more Master Preset to display the Physical Type Style set:

- Select the **00 Opening View** Master Preset.
- Change the Style Set to **Physical Type**.
- Save a new Master Preset named **02 Physical Type**.



Physical Type Master Preset

Switching between the three Master Presets will immediately alter the materials, visibility, camera location and more!

Tip! Experiment by creating different Style sets that display real-world materials. Be sure to begin by creating a new (or duplicating an existing Style Set). Be sure to make the desired Style Set active before editing the Style Set.

Now is a good time to **save your project!**

Using Archive

VEO Archive for can be used during Design, Construction and Operations. Any Document may be bi-directionally linked to any Object or Tag. Assigning the Document to a Tag means every Object is associated to the document. Selecting the Document can show all Objects. Selecting the Tag or Object will show all Documents.

Begin by opening the Document Viewer window via **Archive>Document Library**. Right-click in the Document Viewer window and select **Create New Directory**. Create three new directories:

- 01 Design Images
- 02 Construction Details
- 03 Operation Manuals

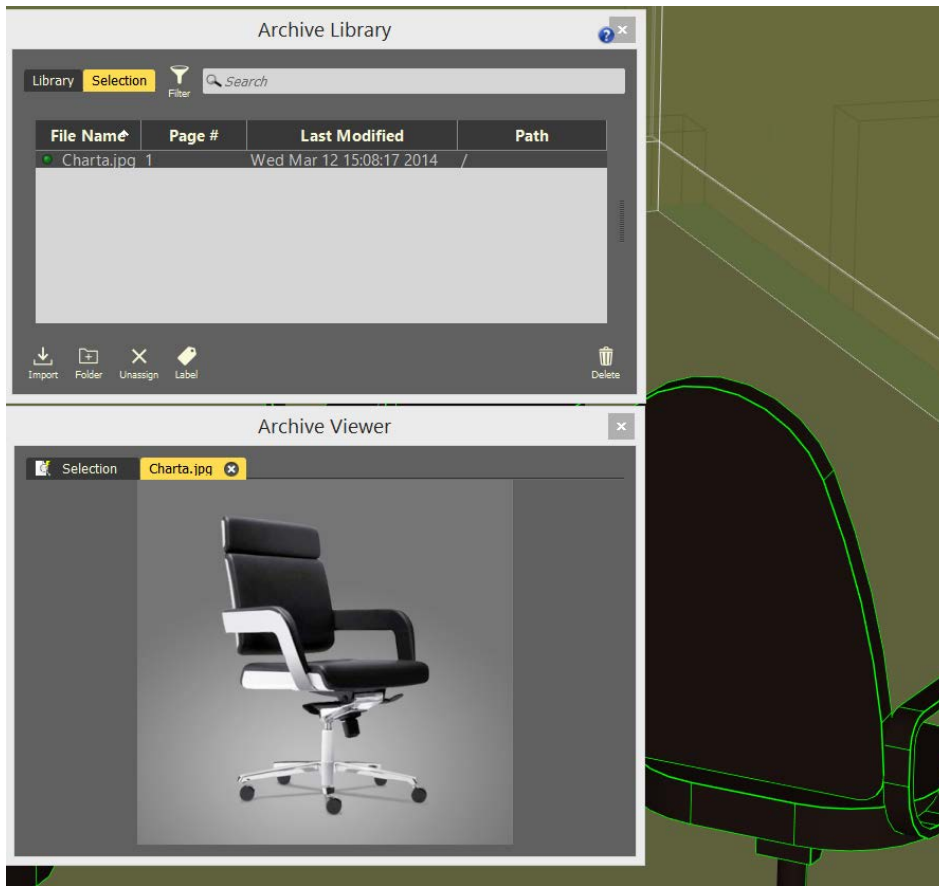
Drag and drop all the documents from the **Archive Files** folder to the document viewer window.

- Add the office chair images to the Design Images folder.
- Add the plumbing details to the Construction Folder.
- Add **Mastrena Cut Sheet.pdf** to the Operations Folder.

Assigning Documents to Tags creates a bi-directional relationship between the documents and the objects that the tags represent. Any new objects added to the project will automatically presume the relationship to the previously associated documents.

Navigate to the lobby area and select the chair at the reception desk. Select any part of the chair and right-click to select the Revit Family Type associated to the chair.

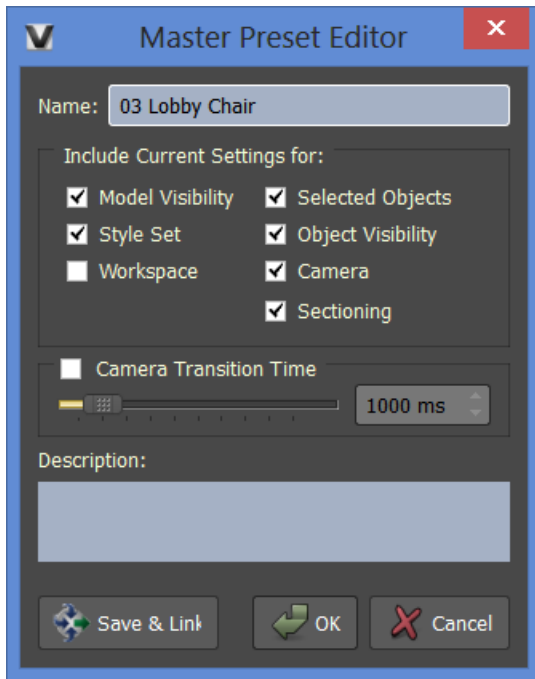
- Drag each of the office chair images to the tag associated to the chair.
- Frame the chair in the view as shown with the Document viewer open.



Lobby office chair and associated options

Finally, create another Master Present named **03 Lobby Chair Options** with the options shown in the following image. When the Master Preset is selected, it will frame the chair in the view. Select the chair and display all the associated seating options images in Archive.

This is a great way to visualize and communicate real-world design options without over-modeling in Revit. You can easily visualize all your options in context with the rest of the building!



03 Lobby Chair options Master Preset

Next, search for and select any of the sinks in any of the washrooms. Assign the section details to the tag for the sinks in the washroom.

Finally, search for and select the **Mastrena Espresso Machine**. Assign the manufactures cut sheet to the tag for the espresso machine. **Tip:** you can double-click a tag and it will frame the object(s).

Now is a good time to **save your project!**

Project Visibility

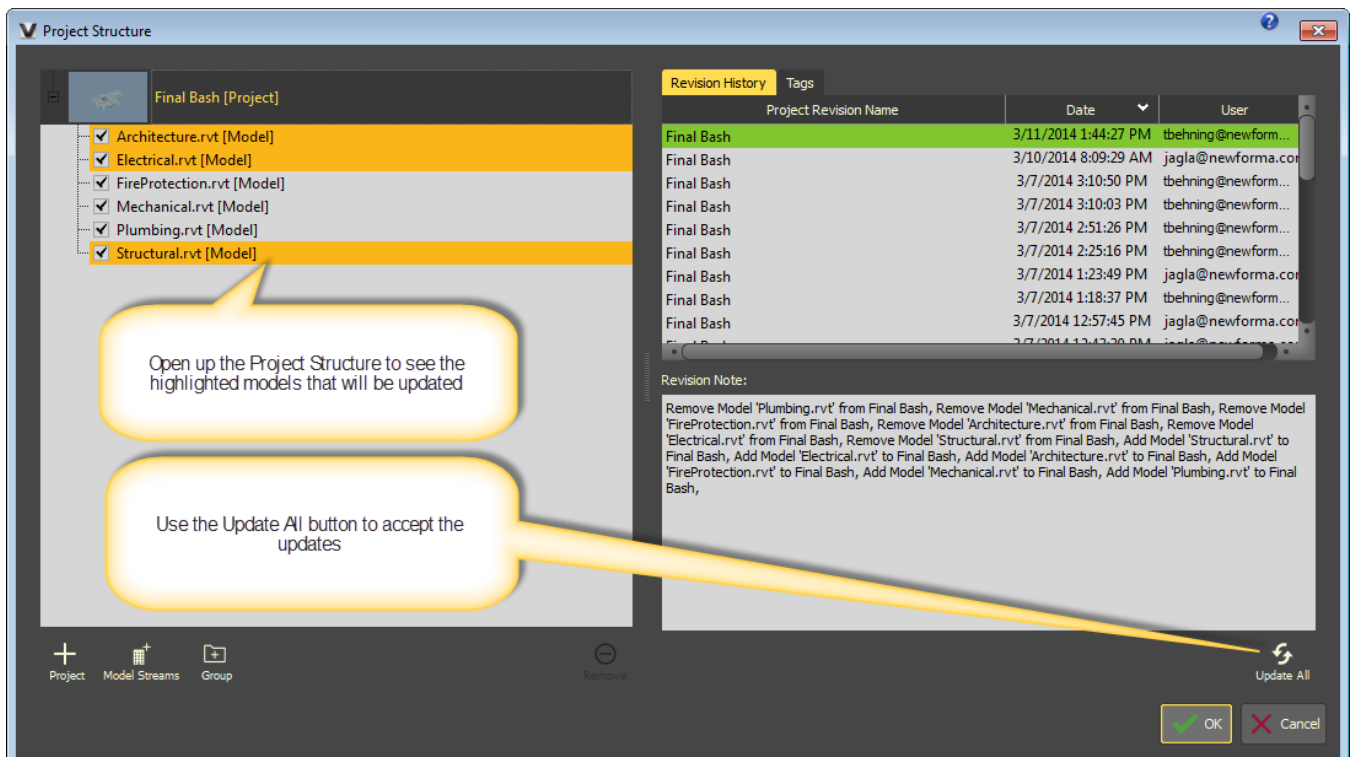
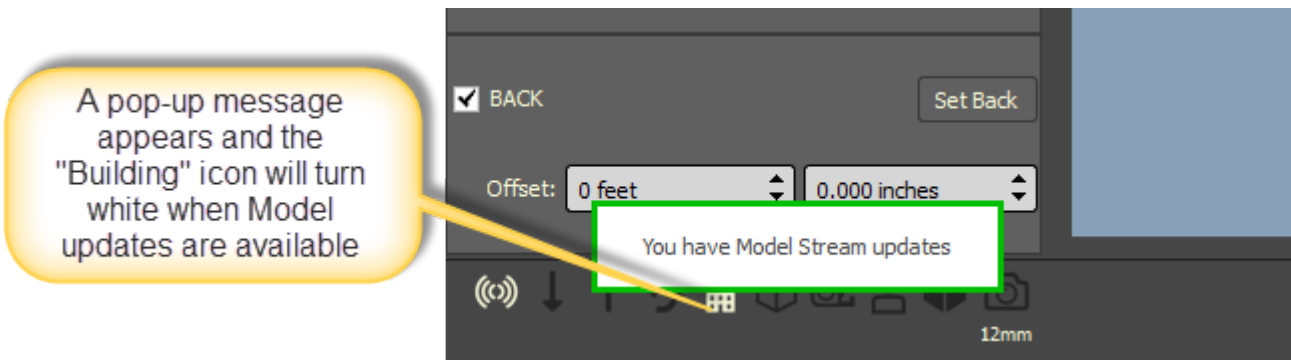
Hiding your project cannot be undone. Once you hide your project, it is hidden forever!

Once you share your project, only those who have been granted access can see it.

Project Updates

Once you make changes in Revit you'll have to re-export the project (along with any modified links). Once you've exported the project you'll need to refresh the project in VEO. To update the VEO project:

- The model window will have a pop-up message "You have Model Stream updates"
- Click on **Project Updates are Available** link to open the Project Structure dialog.
- Model Streams with updates are highlighted orange.
- Select Update All.
- VEO will refresh and show the latest information.



Model streams with updated project information

Project Updates

When a new revision is made to the project you are currently working in the project update notification icon activates by turning white.



Select the Project Updates notification or File > Project Updates to open the Project Updates panel.

Select Update Now to accept updates from other users

“Project Updates are Available”

For support, please join our M-SIX user forum at <http://www.m-six.com/forum>.

Conclusion

M-SIX VEO™ is a social platform that connects designers, builders and owners. And Newforma project information management software integrates the work of architecture, engineering, construction, and owner organizations. Together, they generate timely and accurate information that allows people to make informed decisions and avoid rework and revisions – wasting everyone’s time and money.

When you are collaborating using the Newforma® Model Viewer, powered by VEO, project information that is available to anyone is available for everyone. By working together, the sum of everyone’s efforts becomes greater than the individual parts.

We hope this lab allows you to be immediately productive. Please contact us if you have any comments, questions or suggestions.



1750 Elm Street, 10th floor
Manchester, NH 03104 USA
+1 603.625.6212
answers@newforma.com
www.newforma.com