Power of the Triad—Effectively Manage Xref and Xref Layer Property Overrides in AutoCAD

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Class Summary

- Are you having challenges managing those xref changes especially xref layer property overrides in your host drawing? **Learn** how you can effectively use the three system variables–**XREFOVERRIDE**, **VISRETAIN**, and **VISRETAINMODE** and understand how AutoCAD can smartly manage xref layer property overrides for you.
- **External Reference** (Xref) is one of the key concepts in AutoCAD– allows you to work with large files, without having to ‘load’ them completely–just reference the other drawings and keep up with the changes. **Discover** how AutoCAD has provide newer options to simplify the experience

Key Learning Objectives

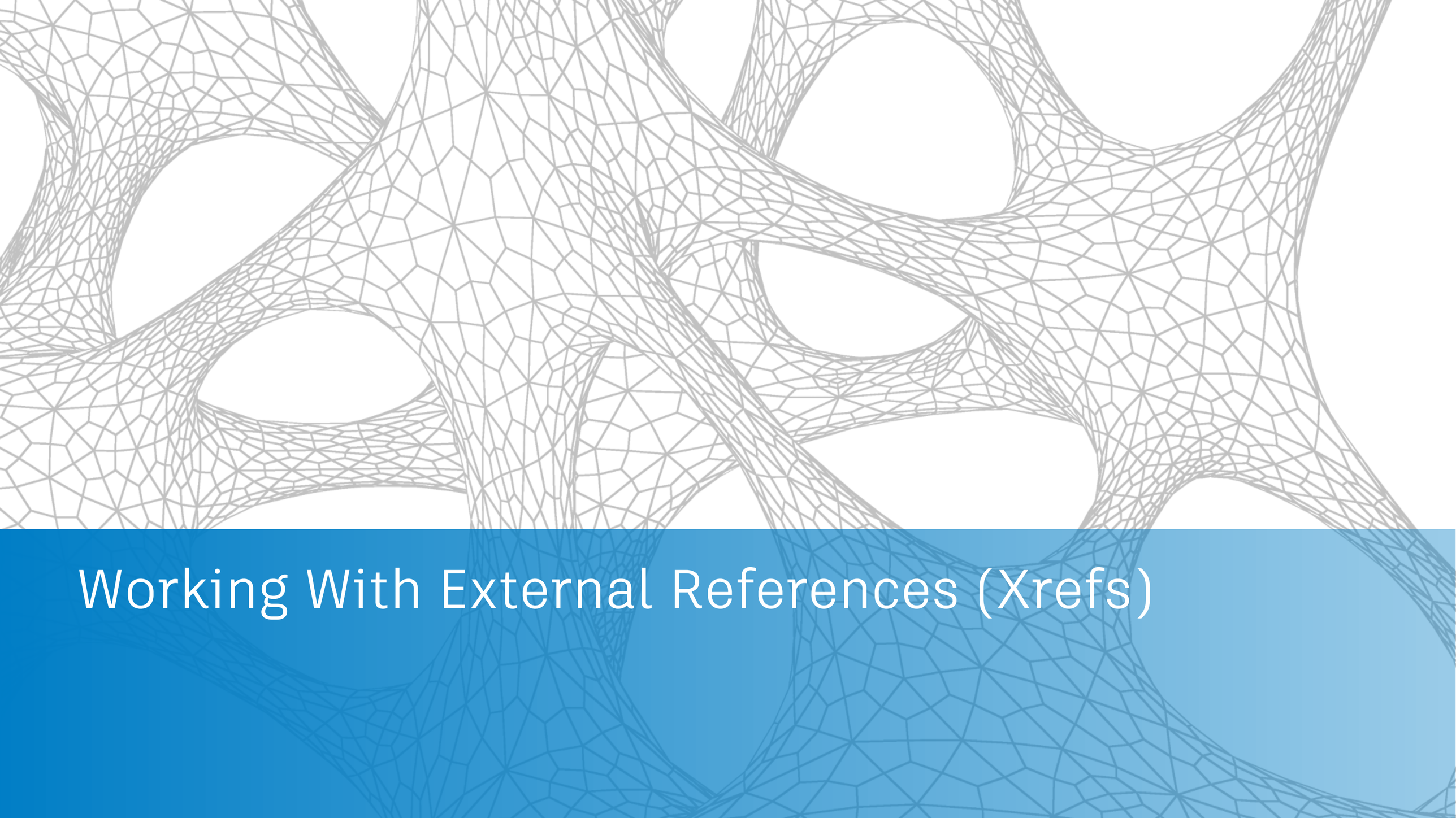
- Learn how to manage external references smartly in AutoCAD
- Learn how to quickly fix missing references and do smart configuration
- Learn how to selectively control and manage xref layer property overrides in AutoCAD
- Learn how to quickly visualize xref layer overrides in the Layer Manager and the ability to reset

Who Are You?

- I am an AutoCAD Xref Guru, but I have some challenges managing Xref Layer Properties—looking for some tips and tricks!
- I am an intermediate user of AutoCAD and I looking for some guidance on how to best use the sysvars to manage xref layer property overrides.
- I was drawn by the title of this class—just curious.
- I am here because other classes were full ☺

Over the next 40 minutes, we will take you on a journey of how to effectively manage xref layer properties overrides in AutoCAD. So sit back, relax, and enjoy the ride!

Photo by Nubia Navarro (nubikini) from Pexels



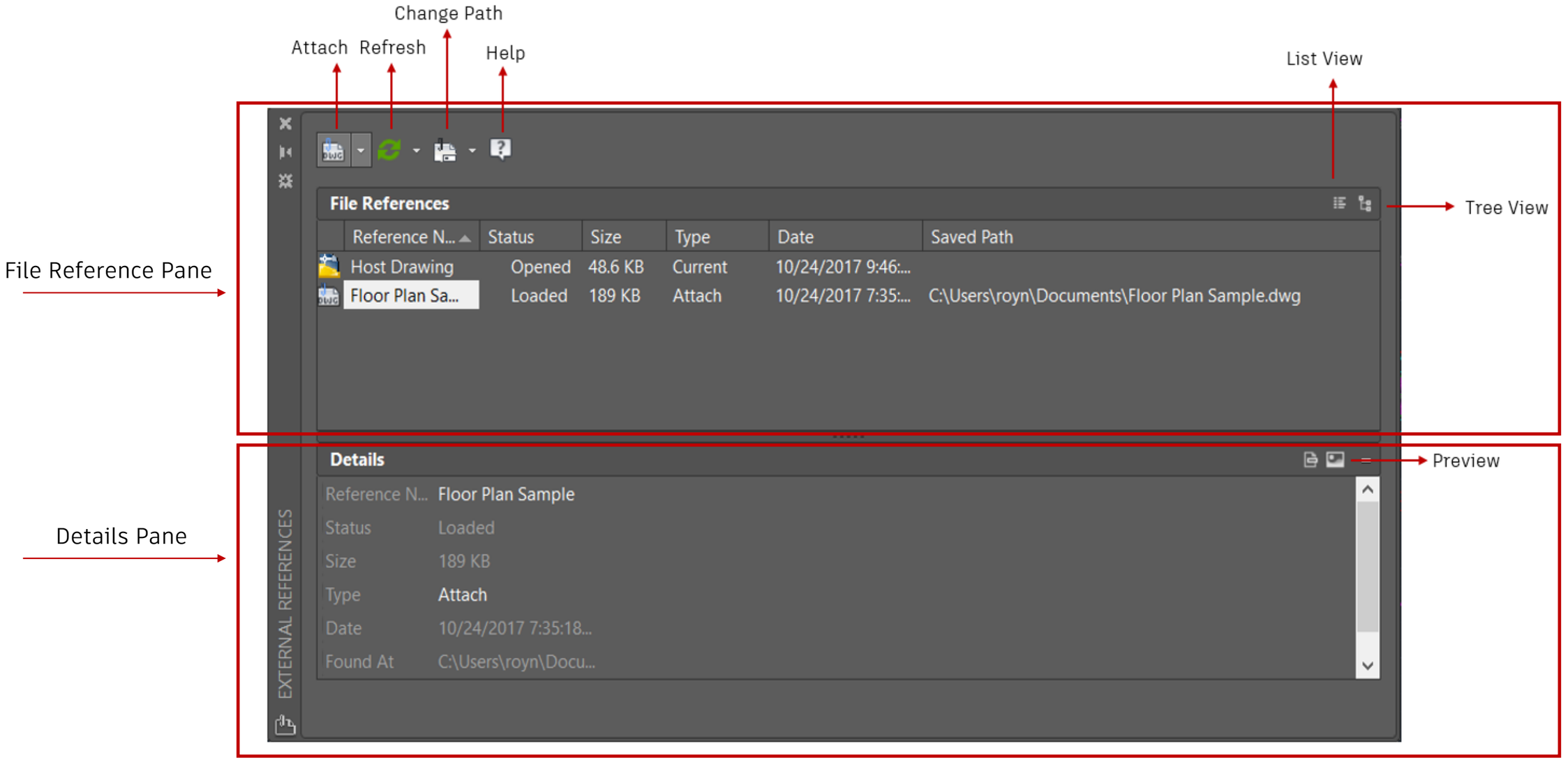
Working With External References (Xrefs)

A Quick Refresher On Xrefs

Xrefs are every drafter's first love. Why?

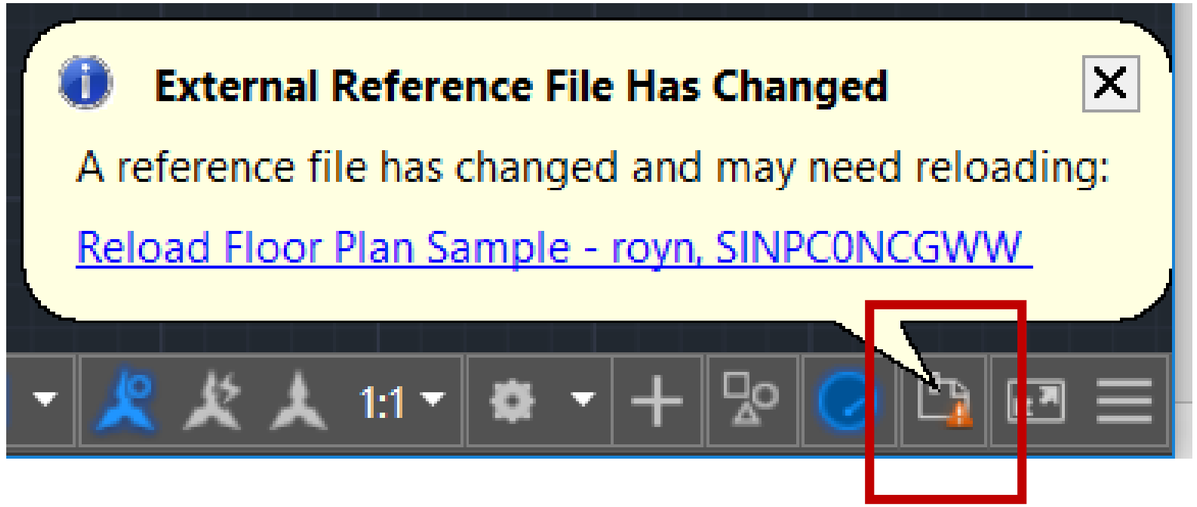
- Coordinates your work with the work of others by referencing other drawings in your drawing to keep up with the changes being made by other drafters/designers
- Xref's content is not stored in your drawing, hence xrefs are an excellent tool to help keep file sizes to a minimum yet have as much information in a drawing as possible
- Updates to the external drawing appear automatically in the host drawing when the drawing is opened, and notification of updates is provided during the host drawing session
- Allows you to work with large files, without having to 'load' them completely. You can use xrefs tools, like Clip, to define only a visible portion of the referenced file in your drawing

External Reference Manager



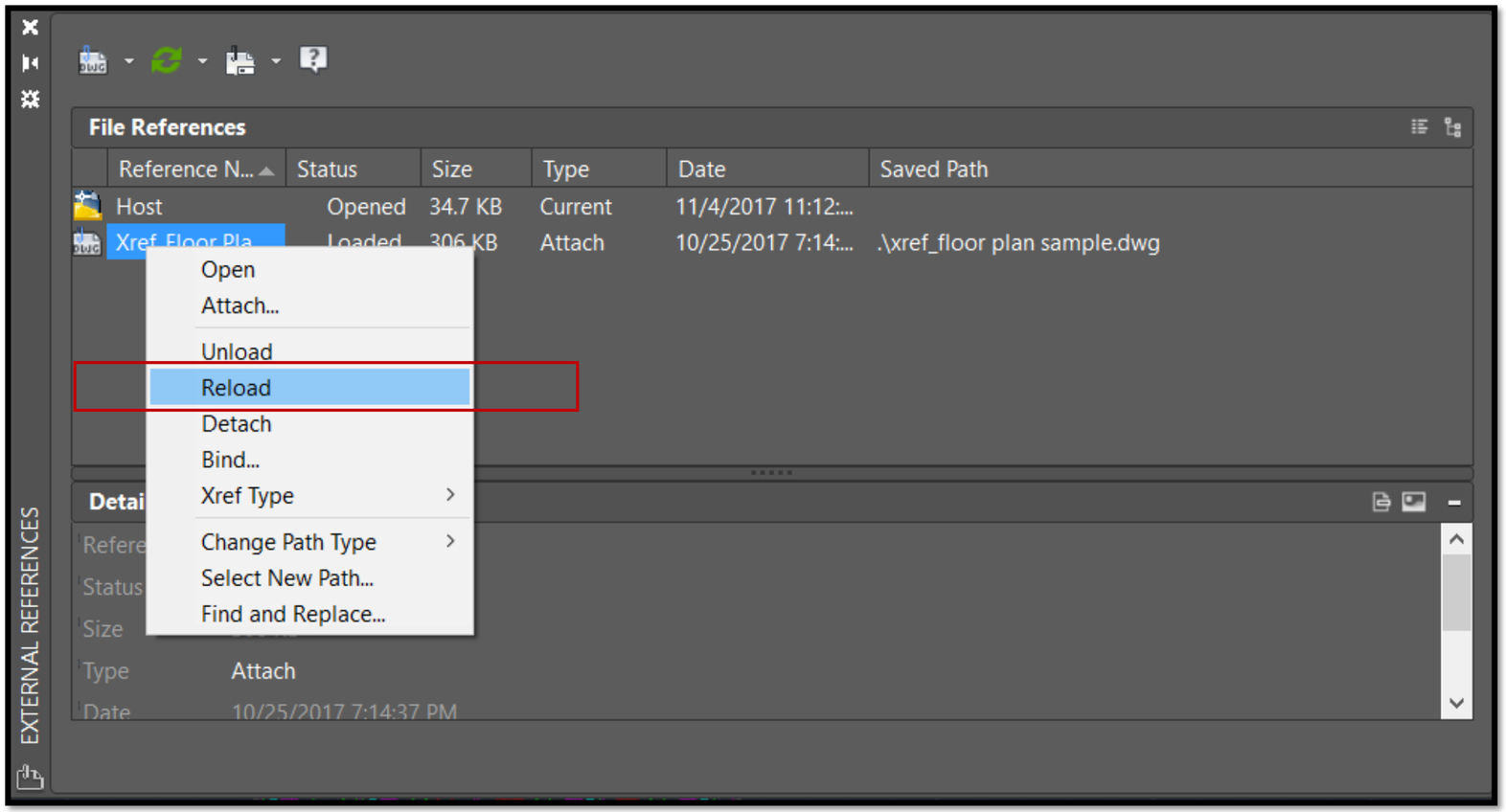
Setting Up Xref Notification

- AutoCAD periodically checks whether the referenced files have changed since the last time they were loaded or reloaded
- Use the XREFNOTIFY system variable (sysvar)to manage your xref notifications



Updating Referenced Drawing

1. Click Insert menu > External References.
2. In the External References palette, select the reference name that you want to reload.
3. Right-click, and click Reload.



To reload all xrefs, use ***-XREF/Reload/****

Xref Layer Control

Understanding the Challenge?

How to effectively manage xref layer properties in the host (current) drawing and the ability to control the xref layer property overrides?

Commands for Xref Layer Property Overrides

An xref override is a change you make to a specific xref layer property (color, linetype, etc.) in the host drawing.

Use these commands, in combination, to get the appropriate behavior of xref layer property overrides:

- **VISRETAIN** (Introduced in AutoCAD R12)
- **VISRETAINMODE** (Introduced in AutoCAD 2018.1)
- **XREFOVERRIDE** (Introduced in AutoCAD 2016)

VISRETAIN

Working With VISRETAIN sysvar

In AutoCAD, VISRETAIN is set to 1 by default and saved in the drawing.

To Reload Xref Layer Properties on Drawing Reopen

1. Set the VISRETAIN variable to "0".
2. Save the drawing and reopen. You xref layer overrides, in your host drawing, are not retained. Your host drawing reloads the xref layer properties.

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XREFOVERRIDE

Working With XREFOVERRIDE sysvar

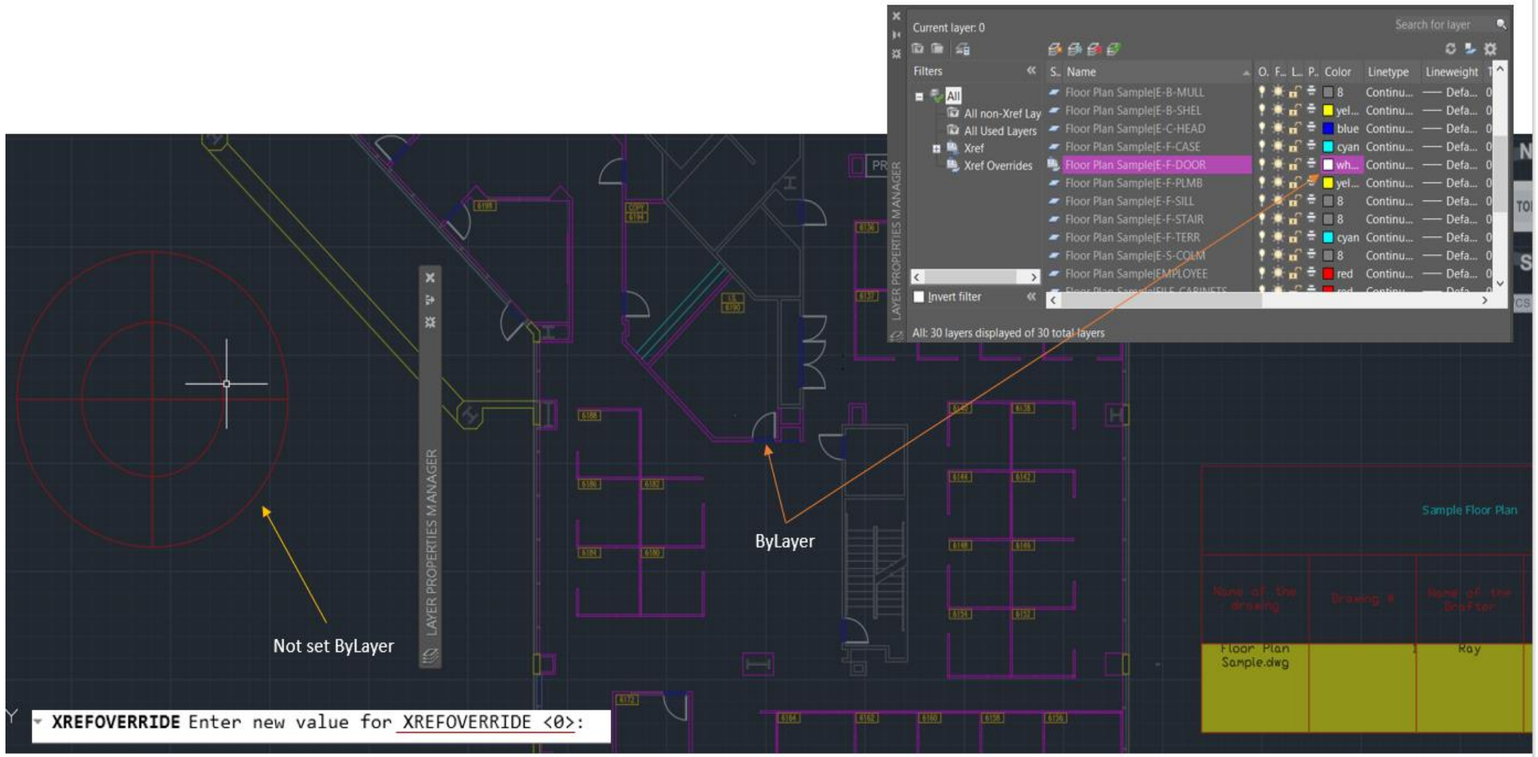
In AutoCAD, XREFOVERRIDE is set to 0 by default and saved in the drawing.

Consider these scenarios:

- If you want the xref layers to retain their layer settings, it is recommended to set VISRETAIN and XREFOVERRIDE system variables to 0.
- If you want the xref layers to retain the overrides you made in the host (current) drawing, it is recommended to set VISRETAIN to 1.

To Change Xref Layer Colors Not Set to ByLayer

1. In the Layer Manager, change the color property for *Floor Plan Sample|E-F-DOOR* layer to white.

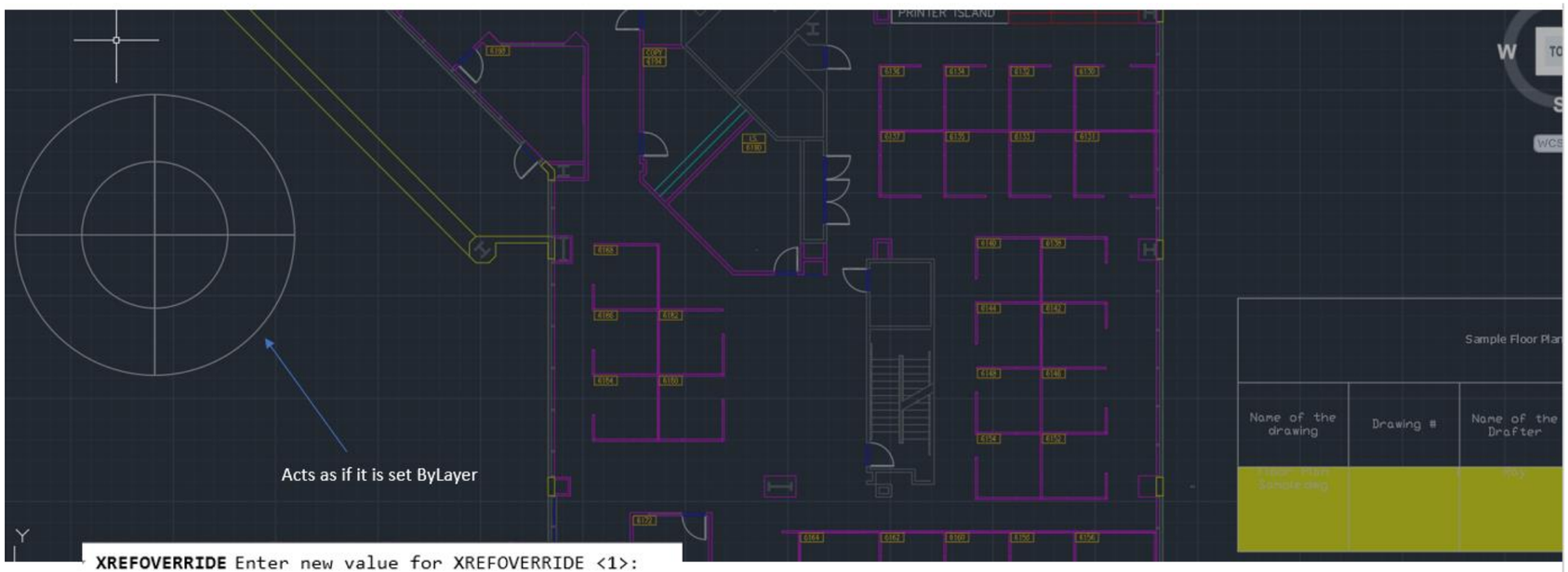


When XREFOVERRIDE is set to 0

*Except for the xref objects that are **not set to ByLayer** (the red colored circle objects), the color layer property is changed to white in the host/current drawing.*

To Change Xref Layer Colors Not Set to ByLayer

2. Set the XREFOVERRIDE to "1".



When XREFOVERRIDE is set to 1

This adjusts the display of referenced objects as if they were all created with color/linetype/lineweight/transparency set to "ByLayer" without the need to modify the objects in the xref drawing.

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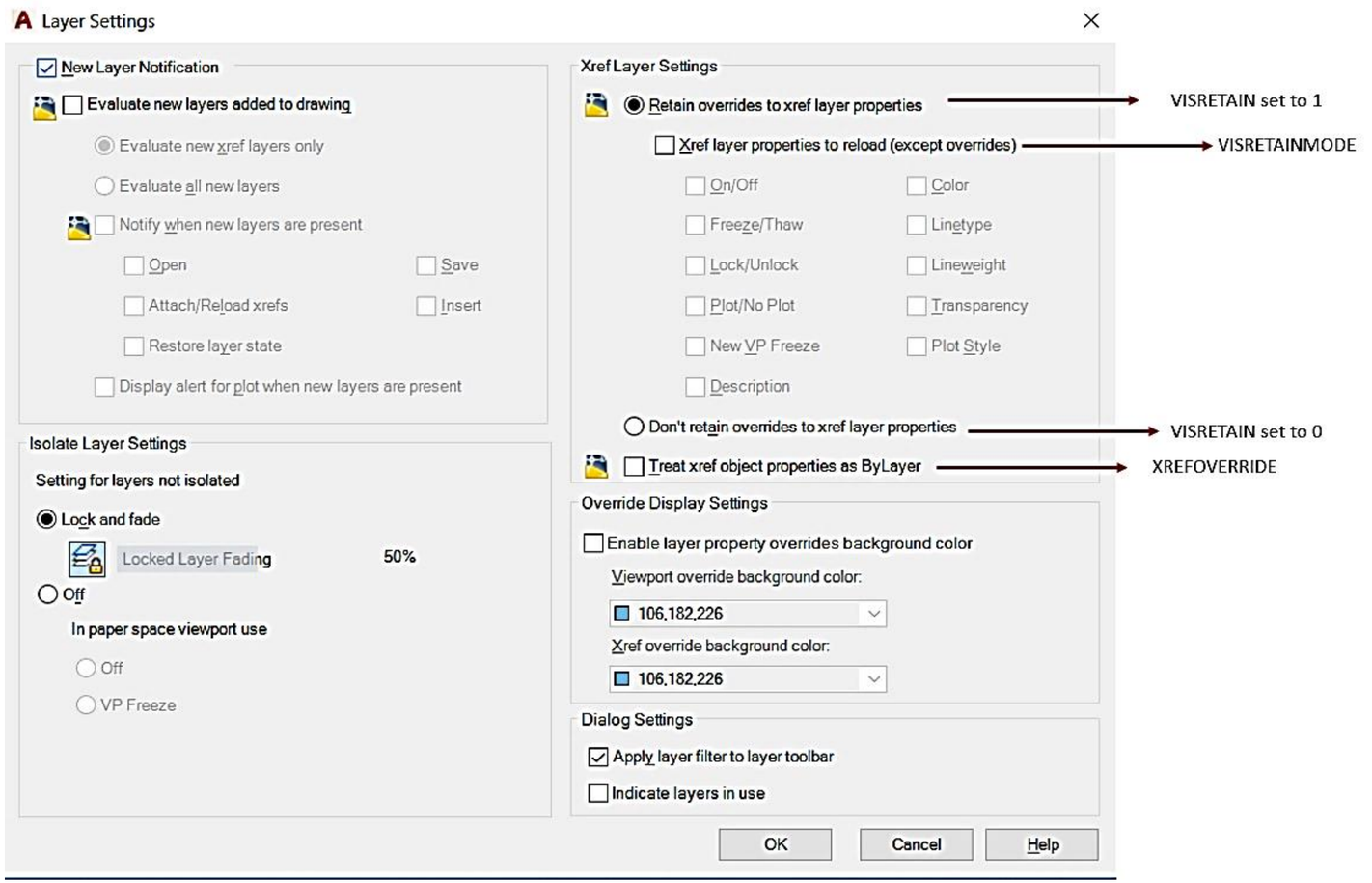
VISRETAINMODE

To Selectively Retain Xref Layer Property Overrides

1. In the Layer Properties Manager, click Layer Settings.
2. In the Layer Settings dialog, select ‘Xref layer properties to reload (except overrides)’ in the Xref Layer Settings group.



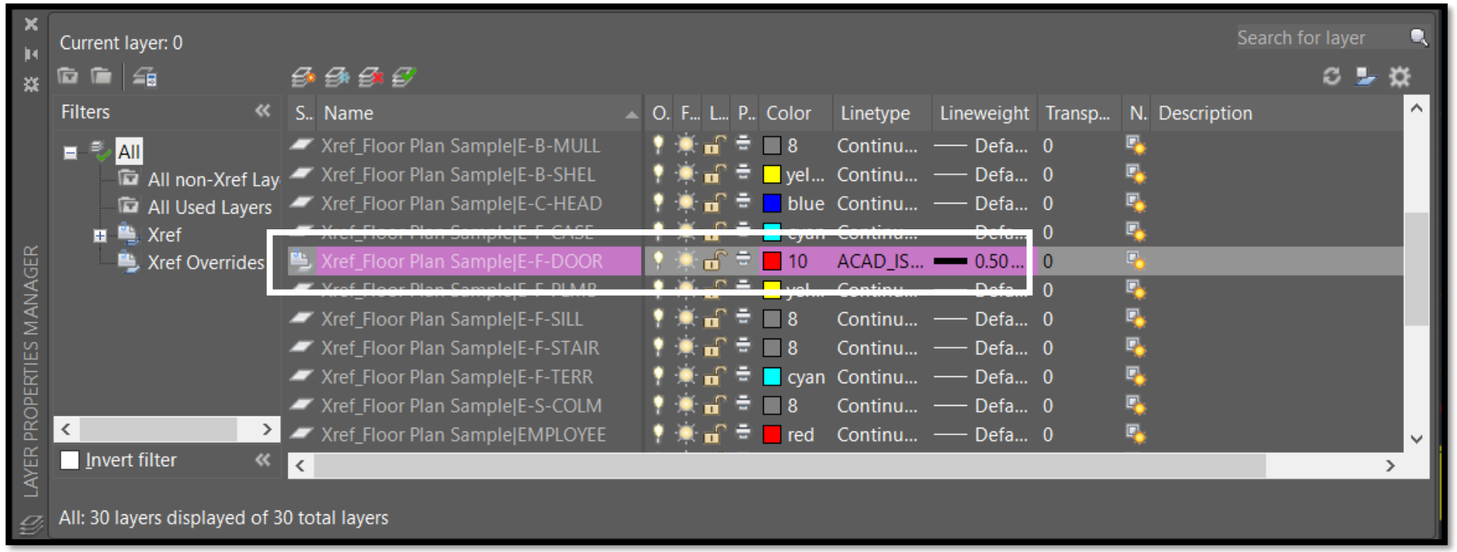
To Selectively Retain Xref Layer Property Overrides

3. Select the xref layer properties that you want to reload from the xref (source) drawing. In this example, let us select color, linetype, and lineweight.

   Note: *If any of the layer properties that you have selected has an override in the host drawing, it won't be reloaded from the xref (source) drawing.*

4. In the host drawing, change the following xref layer properties for Floor Plan *Sample|E-F-DOOR* layer:

   - Color = *Red/1*
   - Linetype = *ACAD_ISO03W100*
   - Lineweight = *0.50 mm*

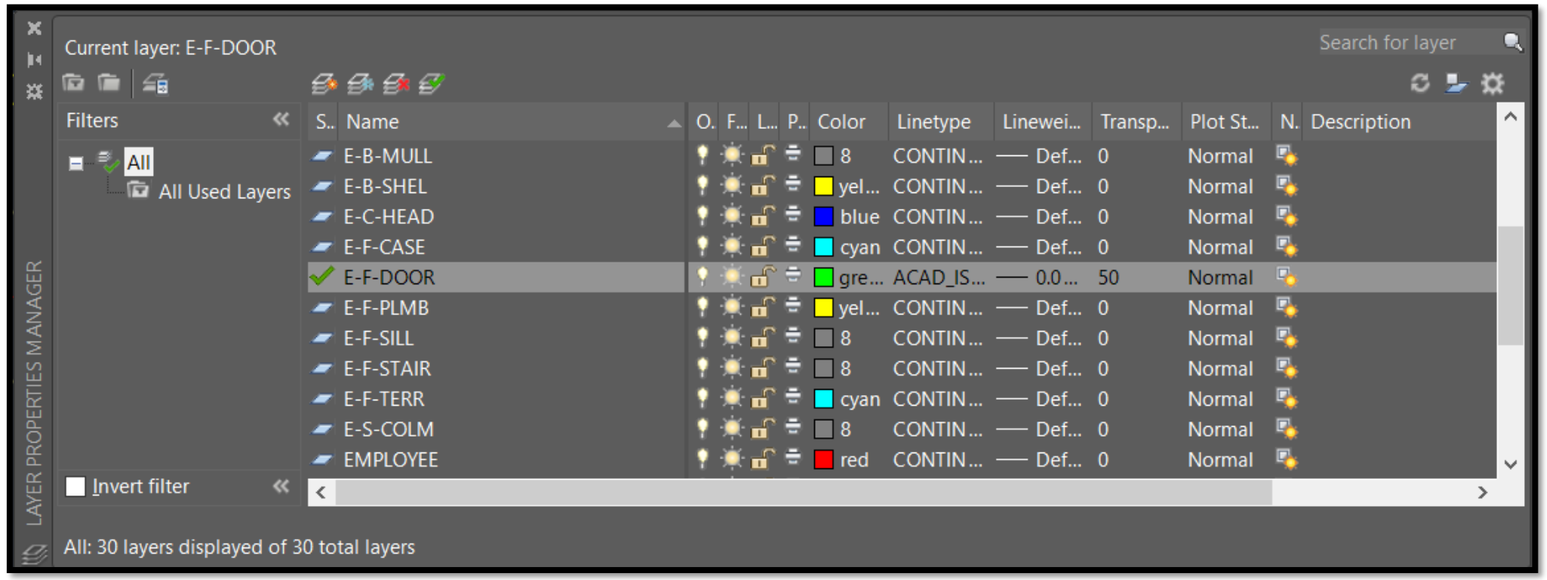


Note: *The status icon indicates that the xref layer has an override*

To Selectively Retain Xref Layer Property Overrides

5. In your xref drawing, change the following layer properties:

   - Color = *Green*
   - Linetype = *ACAD_ISO03W100*
   - Lineweight = *0.13 mm*
   - Transparency = *50*



6. In your host drawing, reload your attached xref. Notice that the color and lineweight overrides were not reloaded from the xref layer properties, but other properties were reloaded from the xref file.

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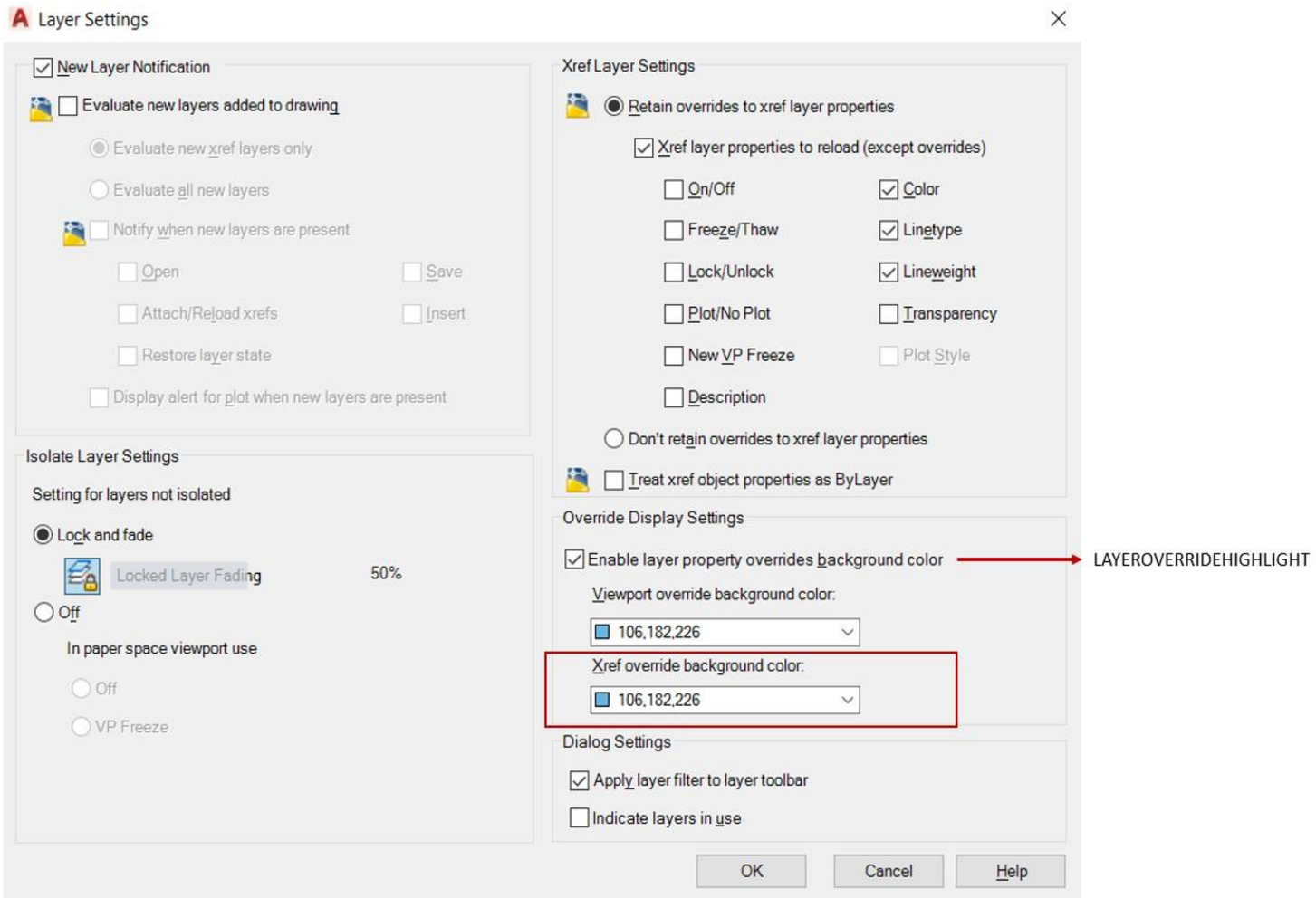
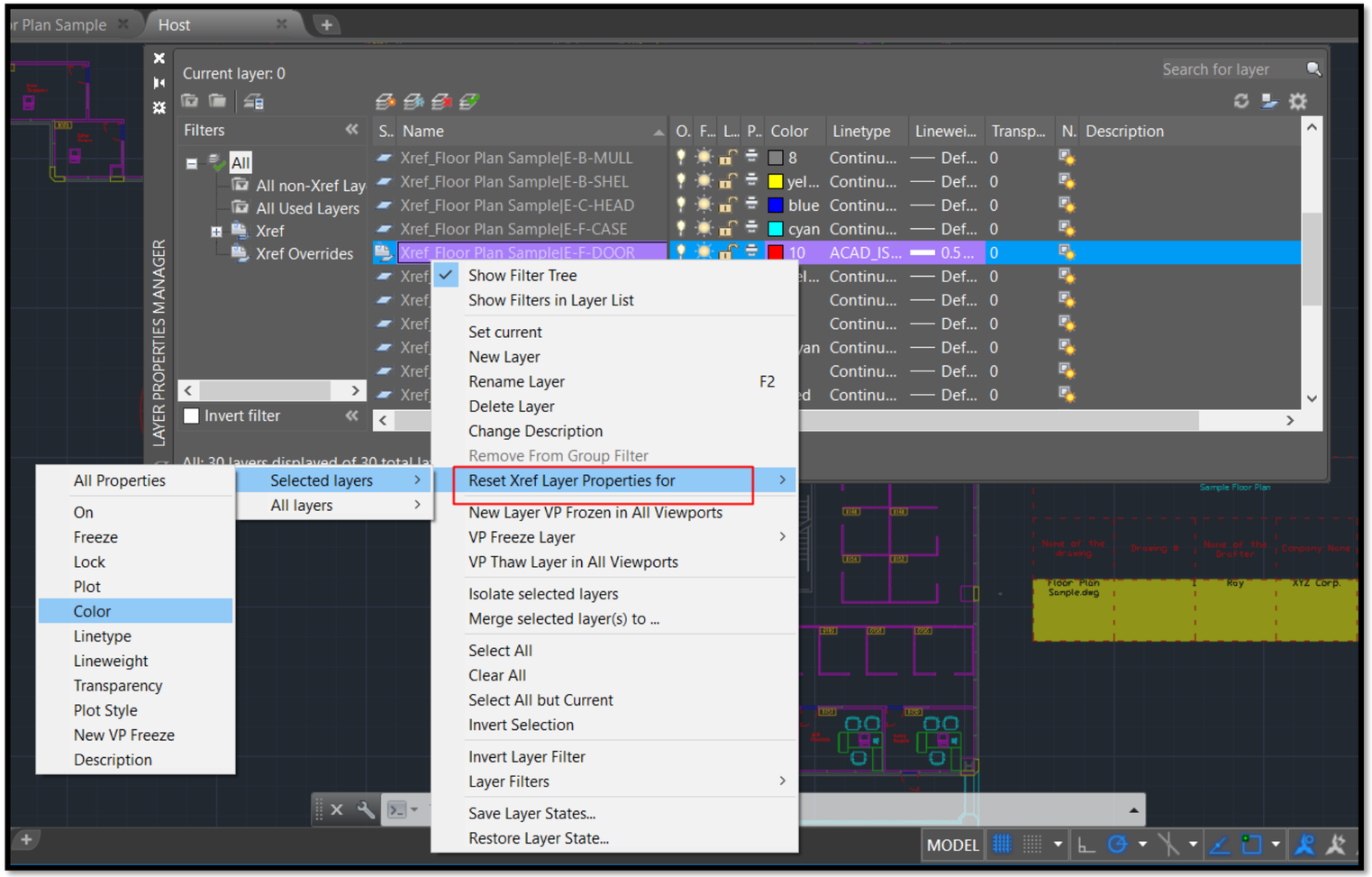
To Set Xref Layer Property Overrides Background Color

1. In the Layer Properties Manager, click Layer Settings.
2. Select the background color to highlight xref override in the Layer Properties Manager.



To Reset Xref Layer Property Overrides

1. In the Layer Properties Manager, right-click and select ‘Reset Xref Layer Properties for’
2. Click a layer property you want to reset for either all layers or the selected layers.



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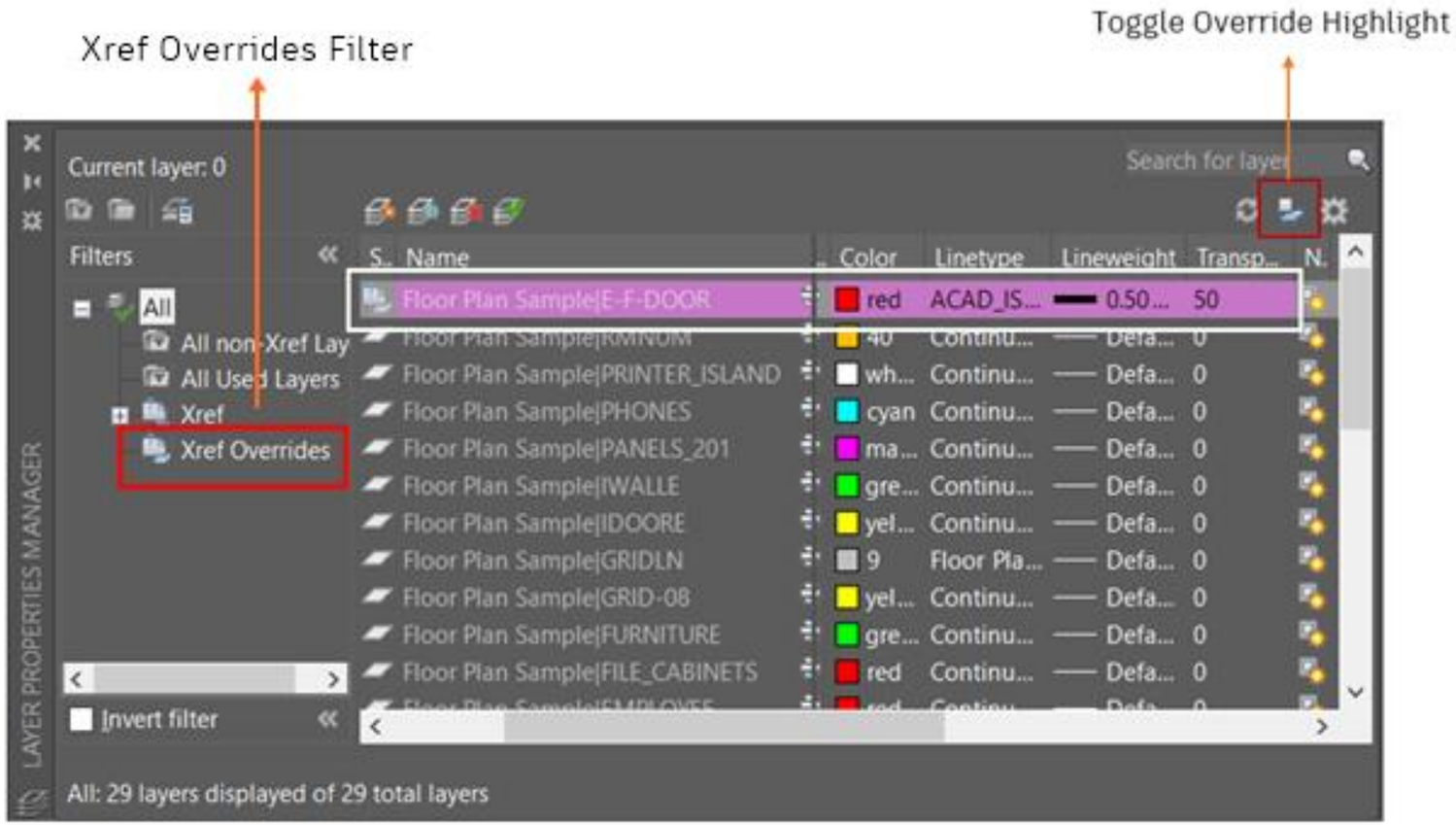
To Filter Using Xref Overrides

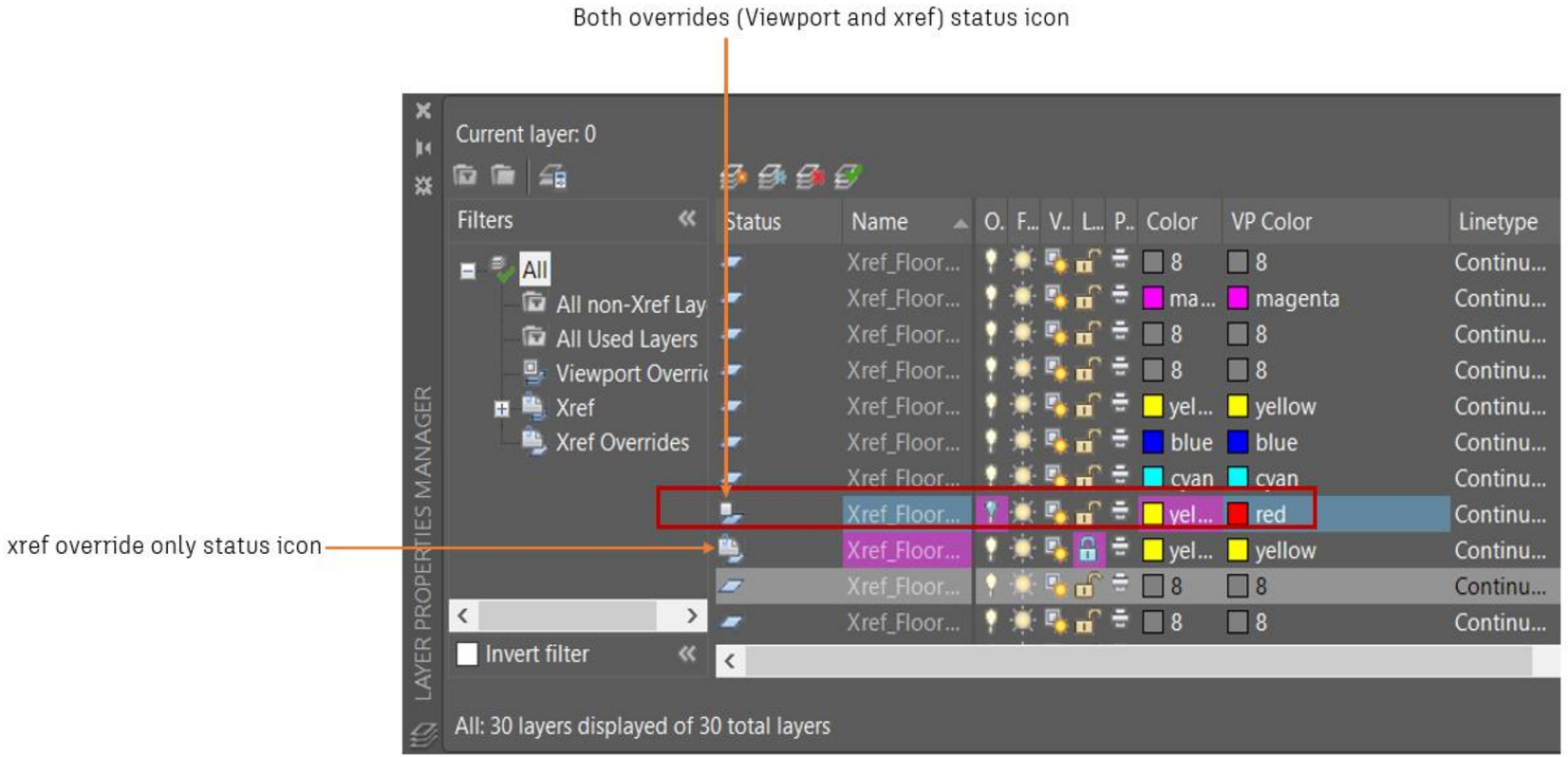
- In the Filters pane, you can select the xref overrides filter to quickly view xref overrides.



By, default, layer override highlighting is off. When the highlighting is toggled off, you can still see which layers have overrides from the status icons and status tooltip. You can also use the 'Toggle Override Highlight' button besides the 'Refresh' icon to quickly switch on or off background highlighting.

Use the Status Icons to Understand the Type of Overrides

- Different status icons for layers for:
  - Xref overrides only
  - Viewport overrides only
  - Both, xref and viewport overrides



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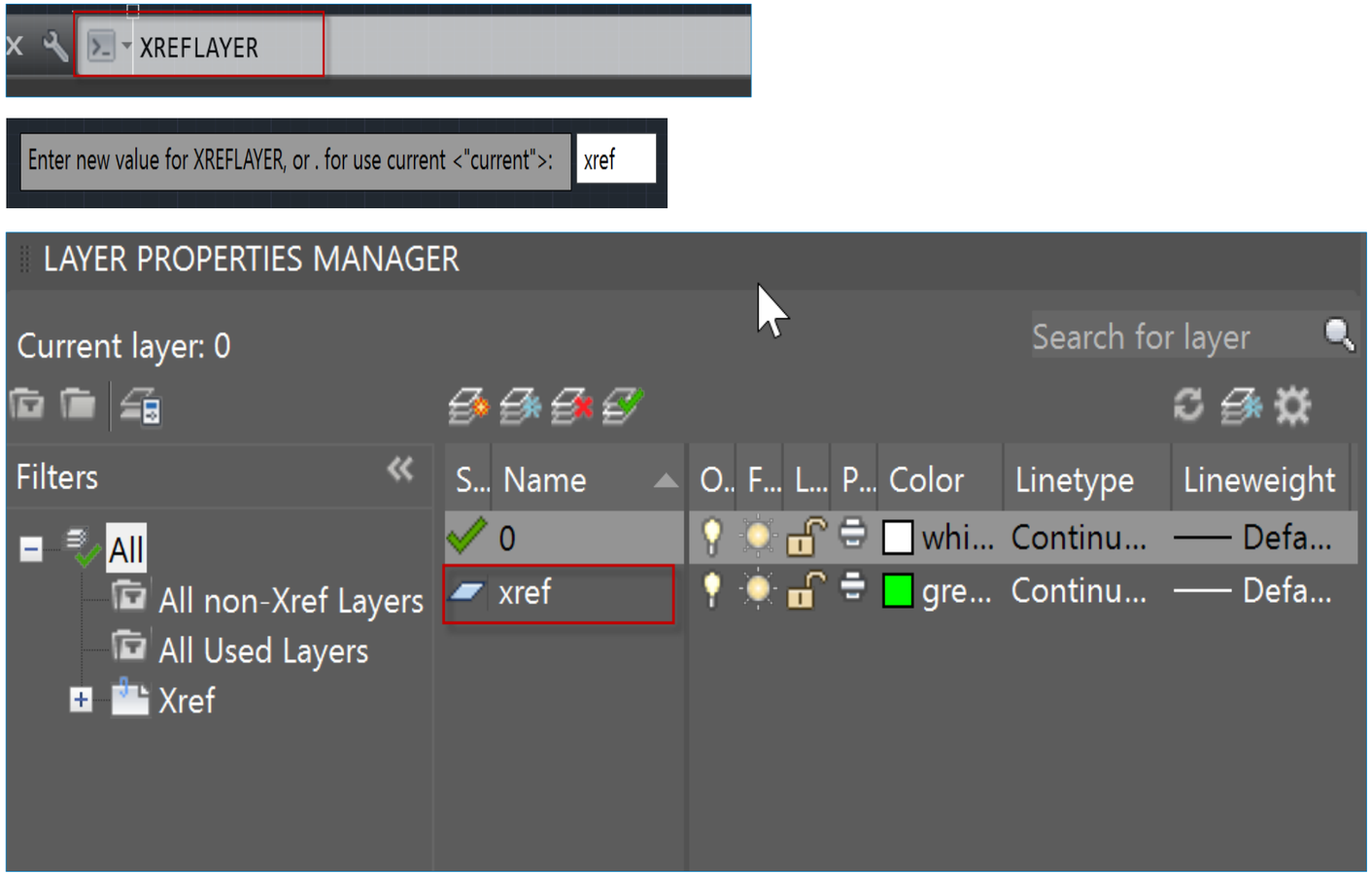
Use the New Default Xref Insertion Layer

- New sysvar, XREFLAYER, to specify default layer for your xrefs.
- Saved in drawing



***Note**: "." or <"use current"> is previous behavior- xrefs are attached on current layer.*

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Recommendation

System Variable	Value	Saved In?	Remarks
VISRETAIN	1 (default)	Saved in drawing	
VISRETAINMODE	2032 (different from the AutoCAD default setting)	Saved in registry	The following properties are reloaded or synced (if they haven't already been overridden): Color, Linetype, Lineweight, Transparency, Plot Style, New VP Freeze, and Description. The following properties are not reloaded (synced): On/Off, Freeze/Thaw, Lock/Unlock, Plot/No Plot
XREFOVERRIDE	1 (different from the AutoCAD default setting)	Saved in drawing	

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