BES467279

Let's Collaborate – Sharing and Comparing Drawings in AutoCAD 2021

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Learning Objectives

- Use the Share View command to create and share a drawing view
- Open and markup the drawing file in Autodesk Viewer
- Use the Drawing Compare command on the original and the changed drawing files
- Highlight the differences between the two drawing files

Description

During the process of designing and drafting, many a times, you need to share your designs with the clients who do not have AutoCAD software. In this class, you will learn to share views electronically using the Autodesk cloud environment, as opposed to simply printing PDF/DWF files. These shared views are stored in the cloud to be viewed and commented on using any web enabled desktop or mobile device. After sharing a drawing file, you will measure and markup the design in the Autodesk Viewer and send the design back to the AutoCAD software. You will also use the Drawing Compare command on the two versions of a drawing file to highlight the differences to easily visualize them.

Speaker(s)

Renu is an Instructional Designer for ASCENT, an Autodesk Authorized Publisher and a leading developer of professional learning materials and knowledge products for engineering software applications. Renu uses her instructional design training to develop courseware for AutoCAD and AutoCAD vertical products, Autodesk 3ds Max, and other Autodesk software products. Renu holds a bachelor's degree in Computer Engineering and has worked with Autodesk products for the past 23 years. She has co-authored a variety of 3ds Max and AutoCAD books and used 3ds Max in real-world scenarios to develop customized 3D web planner solutions.

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This handout is provided as a supplement to the Autodesk University 2020 class *Let's Collaborate – Sharing and Comparing Drawings in AutoCAD 2021 (BES467279)*. To get the full benefit out of this handout, consider watching my recorded session on the Autodesk University website. This handout is broken into four main sections which align directly with the course objectives. This covers the two collaborative commands that are provided with AutoCAD 2021: The **Share View** command and the **Drawing Compare** command.

Note: In AutoCAD 2021, you can now compare the attached Xrefs and the referenced drawing file. This feature has not been covered in this class. More information about the **XRef Compare** command can be found at:

https://knowledge.autodesk.com/support/autocad/learn-explore/caas/CloudHelp/cloudhelp/2021/ENU/AutoCAD-Core/files/GUID-94951E33-4FDB-460E-9732-9186CCFDA53F-htm.html

https://knowledge.autodesk.com/support/autocad/getting-started/caas/simplecontent/content/the-xref-compare-feature-new-autocad-2021.html

Sharing Views

Creating shared views are a great alternative to printing .PDF and .DWF files for sharing your designs with stakeholders. Shared views are stored in the cloud and can be viewed and commented on by any web enabled desktop, tablet, or mobile device. Once you create a shared view, you provide a link to the people you want to share your design with. The links created for sharing views expire after thirty days, but can be extended or terminated at any time. The people you share the views with, are not required to have the AutoCAD software and can open the views in the Autodesk Viewer which is a free online viewer provided by Autodesk. They can then review and markup the design and then send it back to you. When you create the shared view you are notified by an email. After sharing if someone comments on the shared view, you are again notified by an email indicating that someone has commented. From your AutoCAD software, you can review, reply, and manage your shared views.

Signing into your Autodesk account

Typically, you should be signed into your Autodesk account, before you start creating and sharing you drawing views. You can confirm that you are signed in by looking at the InfoCenter, which displays your Autodesk user name when you are signed in, as shown in Figure 1.
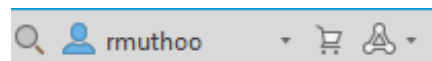
FIGURE 1: Signed into the Autodesk Account

If you are not already, sign in to your Autodesk account by clicking **Sign In to Autodesk account** in the Sign In area of the InfoCenter, as sh shown in Figure 2.
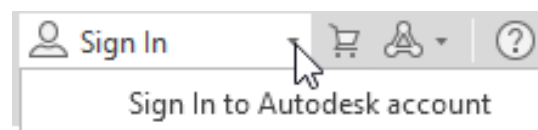
FIGURE 2: Select Sign In to Autodesk account

It opens the Sign In dialog box (as shown in Figure 3) where you can enter your username and password or create a new account if you do not have one.
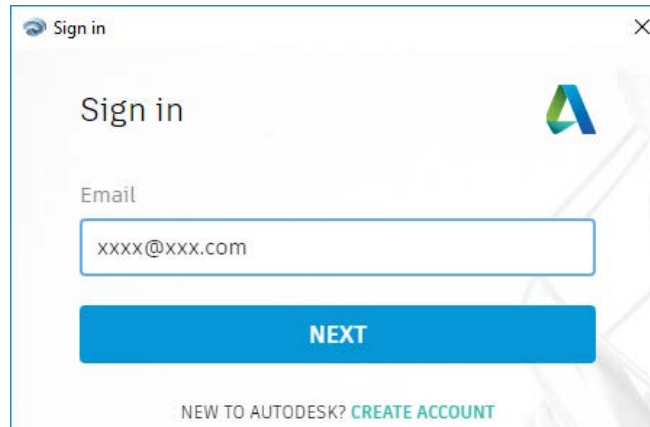

FIGURE 3: Sign In dialog box

Creating Views for Sharing

The following section explains how to create views for sharing.

1. Expand ![A] (Application Menu)>Publish and click ![icon] (Share View).
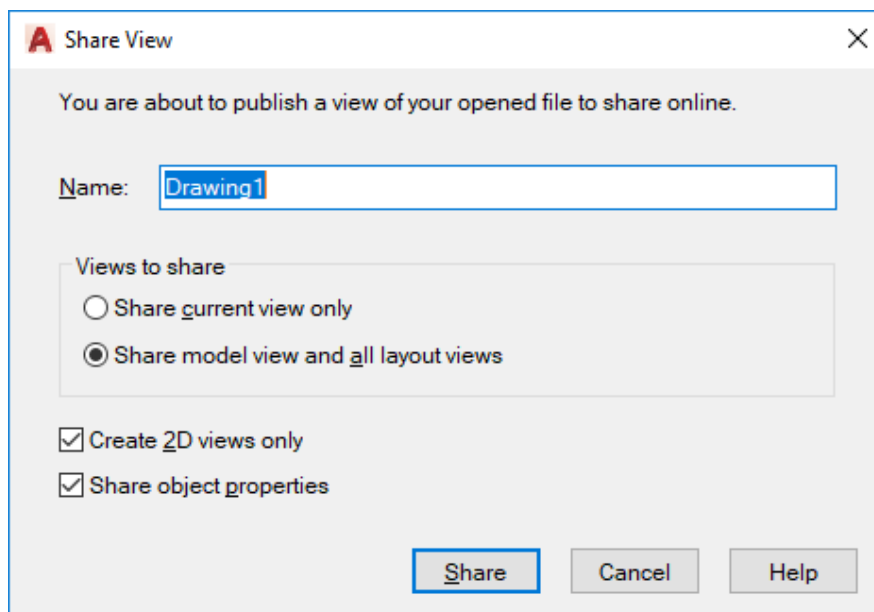2. The Share View dialog box opens, as shown in Figure 4.

FIGURE 4: Share View dialog box

In the Share View dialog box, you have the following options:

- **Name**: Enter the name for the views you want to share.
- **Views to share**: You can use the *Share current view only* option to publish the view that is displayed in your current model space area or in the current layout. You can use the *Share model view and all layout views* option to publish the current model space area and all the layouts in the drawing.
- **Creade 2D views only**: The view is created for 2D objects only.
- **Share object properties:** Enables you to include object properties with the view to better communicate object information. The software takes longer to create the views when this option is selected.

3. After setting the options, click **Share** in the Share View dialog box to start the background process of extracting the views and object information, as shown in Figure 5.
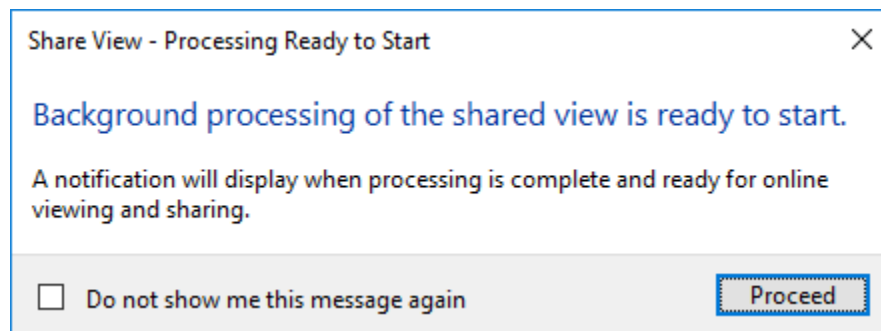
FIGURE 5: Share View - Processing dialog box

4. Click **Proceed** to start background process. It is indicated by the animated (Share View) icon in the Status Bar. Once the process is complete, an information bubble is displayed with in the Status bar, as shown in Figure 6. The bubble indicates that the link with the view is uploaded to a temporary location on the cloud. The link is also provided in the bubble.
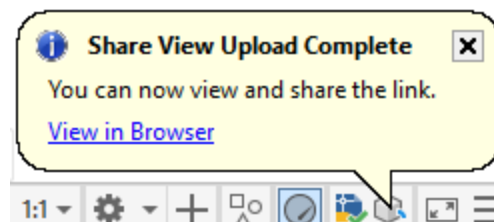
FIGURE 6: Share View Upload Complete

5. You also receive an email indicating that your file is ready to be viewed, as shown in Figure 7.
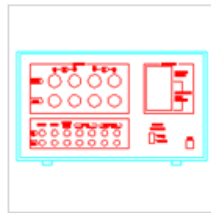
FIGURE 7: Share View Upload Complete

6. Open the link from either the browser or from the email that you received. It opens the file in the Autodesk Viewer as shown in Figure 8.
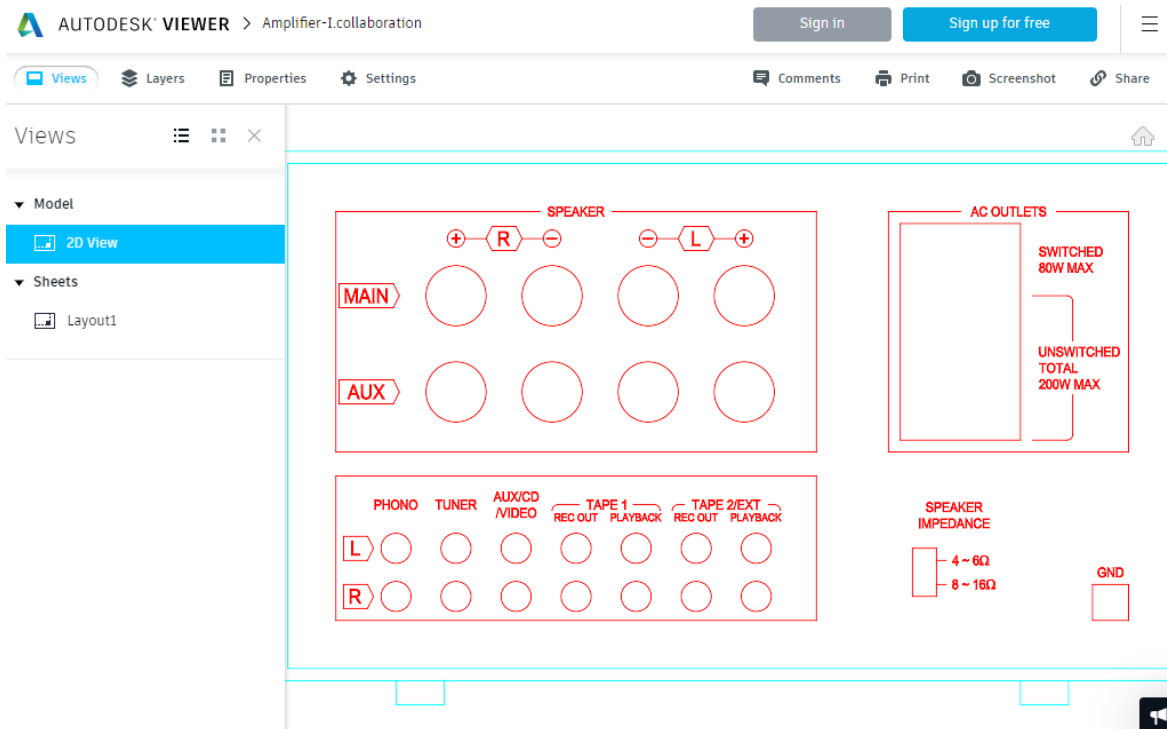

FIGURE 8: Viewing the file in Autodesk Viewer

7. You can share your view either by clicking 🔗 Share in the Autodesk Viewer or by forwarding the email that was sent to you.

Shared Views Palette

In the AutoCAD software, a history of the published shared views displays in the Shared Views palette, as shown in Figure 9. Click on the ellipsis next to the Shared View to see a list of available commands. You can also create new sheets from here. In the Collaborate tab>Share panel, click (Shared Views) to display the Shared Views palette.
.
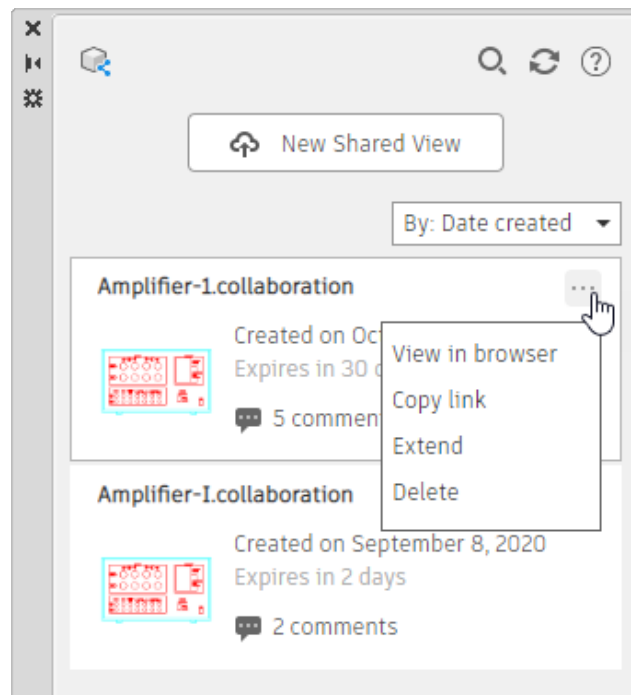
FIGURE 9: Shared Views Palette

Measuring and Marking Up in Autodesk Viewer

The Autodesk Viewer opens the temporary view link in a browser on your desktop, tablet, or other mobile device. This enables you to share the view with stakeholders who do not have AutoCAD software, without having to email files back and forth or install other viewing software. Using an Internet browser, they can review and markup the design for better communication. Figure 10 shows the Autodesk Viewer interface.
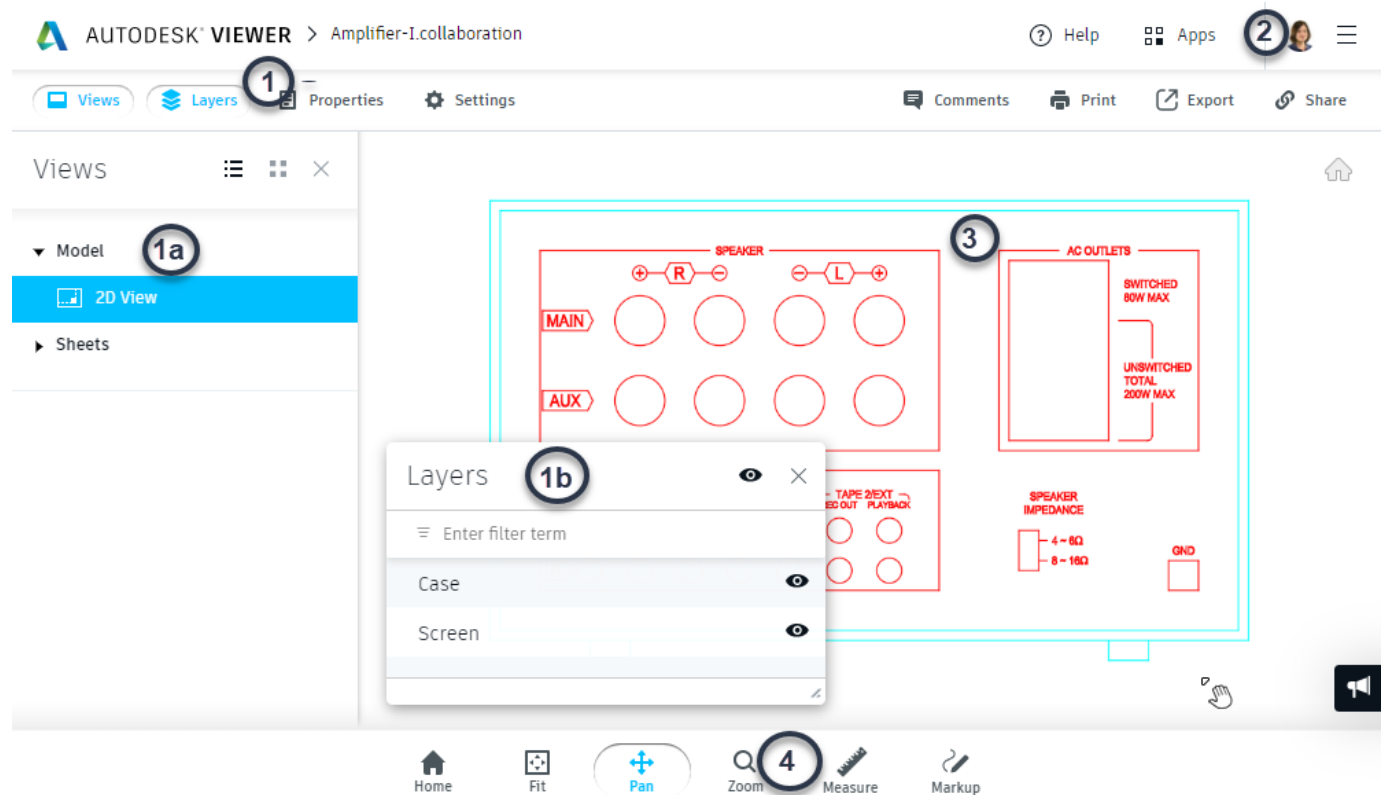
FIGURE 10: Autodesk Viewer Interface

1. **Palettes Bar:**

    Multiple palettes are available to help navigate, share, and analyze the model. Palettes include: Views, Layers, Properties, Settings, Comments, Print, Export, and Share.

    1a - Views: Lists all the model and sheet views shared when the view link was created.
    1b - Layers: Lists the layers that are included in the drawing when it was shared.

2. **Autodesk Sign in:**

    Typically, you must already be signed in. If you are not, you are required to sign in to your Autodesk account to be able to open views and save markups.

3. **Active View**

    The active view displays the model or sheet shared from AutoCAD.

4. **Tool Bar**

    The Tool Bar contains navigation and communication tools, as shown in Figure 11. The **Fit**, **Pan**, and **Zoom** tools help you quickly navigate the active view. The **Measure** and **Markup** tools help you communicate with others about the design.
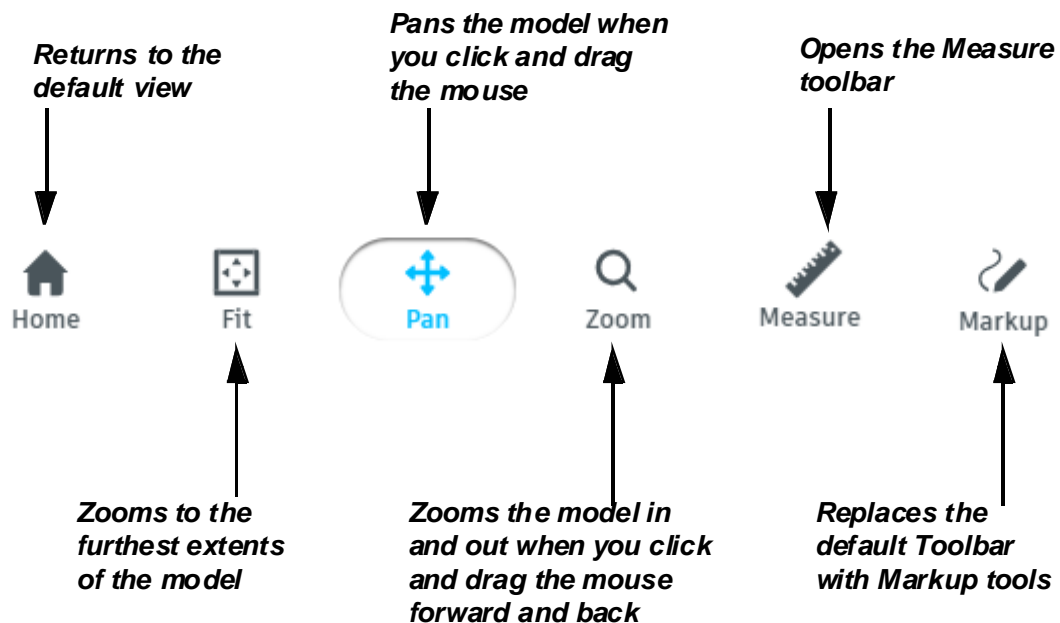
FIGURE 11: Autodesk Viewer Tool Bar

Measure Tools

The Measure tool contains additional tools for measuring shared view objects including: distance, angle, and area, as shown in Figure 12. You can also calibrate distances by placing a distance measurement and defining the distance you measured.
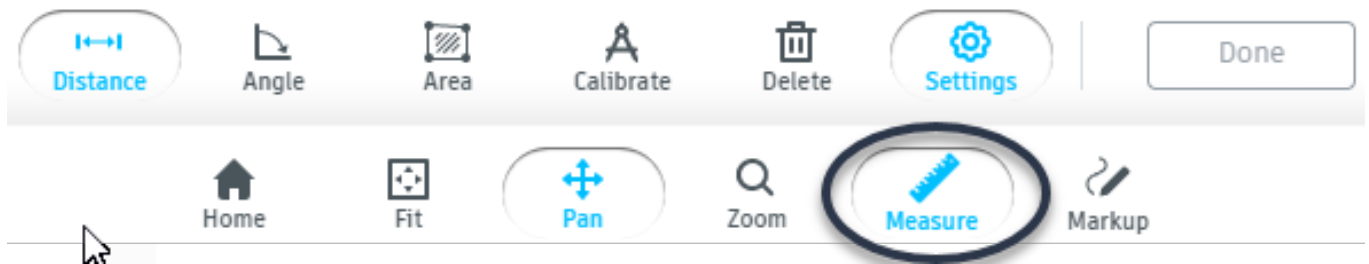
FIGURE 12: Autodesk Viewer – Measure Tools

Set the Units Display

1. In the Toolbar, click ![Measure] (Measure).

2. In the Measure toolbar, click ![Settings] (Settings).
3. In the Settings dialog box, select the unit type and precision, as shown in Figure 13.
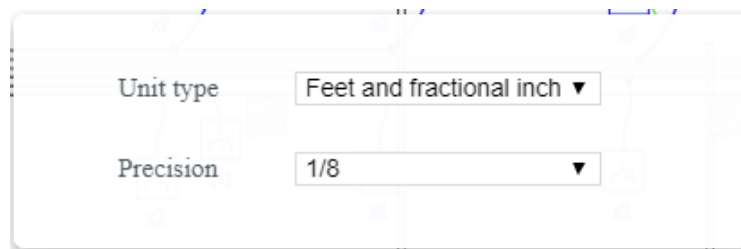
FIGURE 13: Measure - Units Display

Measure Objects

1. In the Toolbar, click Measure (Measure).
2. In the Measure tools, select the type of measurement you want to make: Distance, Angle, or Area.
3. Click on the points you want to measure. Note that Object snaps are enabled automatically, as shown in Figure 14.
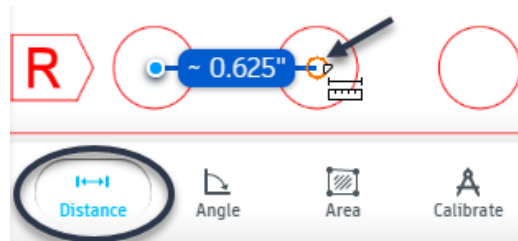
FIGURE 14: Measure Distance – Center Object Snap

Calibrate Measurements

1. In the Toolbar, click Measure (Measure).

2. In the Measure toolbar, click (Calibrate).
3. Click on the points you want to measure. In the Calibration dialog box, define the size and set the unit type, as shown in Figure 15. Click **Set Calibration**.
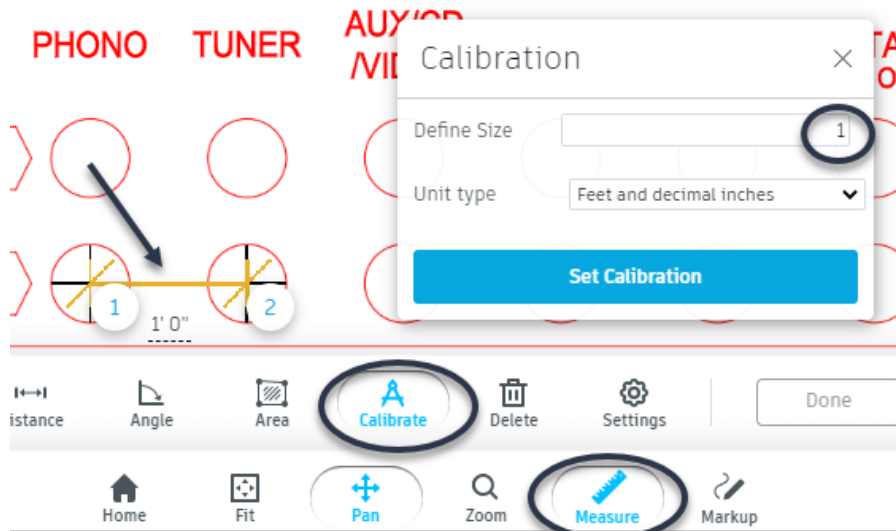
FIGURE 15: Measure -Calibrate

Markup Tools

The Markup toolbar contains tools for redlining and marking up shared views including text, arrows, clouds, etc. When you click ∂✎ Markup (Markup), the Markup toolbar replaces the original toolbar, as shown in Figure 16.
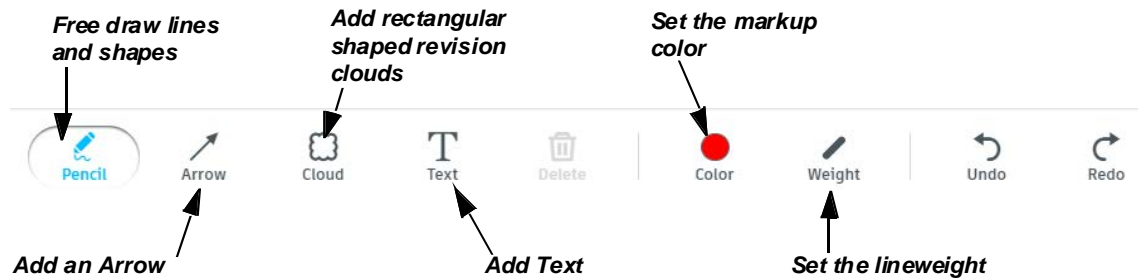
FIGURE 16: Markup Tools

NOTE: Markups must be saved or canceled before the original toolbar can reappear.

Adding Text

1. In the Autodesk Viewer toolbar, click ∂✎ Markup (Markup).

2. In the Markup toolbar, click T (Text).
3. In the Active View, click a point to place the text box as shown in Figure 15. Type your comments inside the text box as shown in Figure 17.
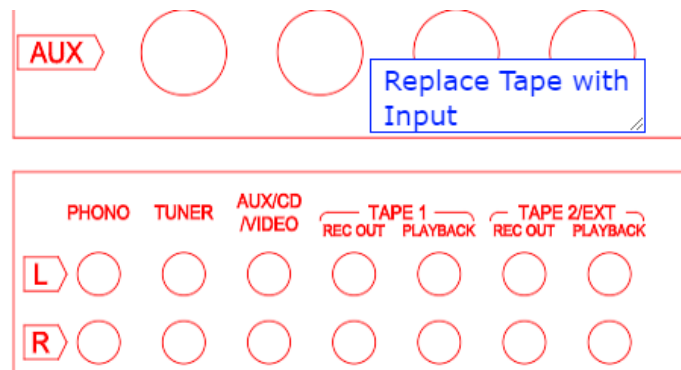
FIGURE 17: Markup – Text Tool

Adding Arrows

1. In the Autodesk Viewer toolbar, click Markup (Markup).

2. In the Markup toolbar, click (Arrow). You can select a color for the arrows.
3. In the Active View, click and point to place the arrows and adjust them as required, as shown in Figure 18.
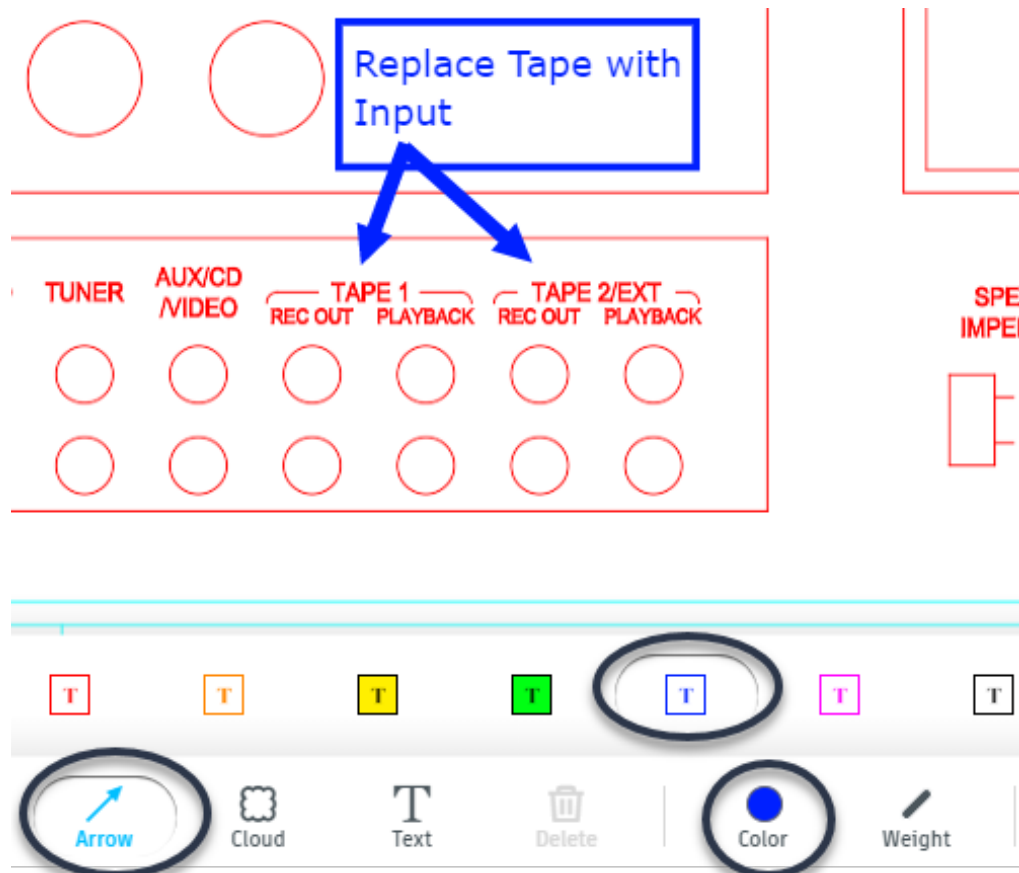

FIGURE 18: Markup – Arrow with Color Tool

Adding Clouds

1. In the Autodesk Viewer toolbar, click ✐ Markup (Markup).

2. In the Markup toolbar, click ⬜ (Cloud). You can select a color and weight (thickness) for the cloud.
3. In the Active View, click and drag to place the cloud and adjust it as required, as shown in Figure 19.
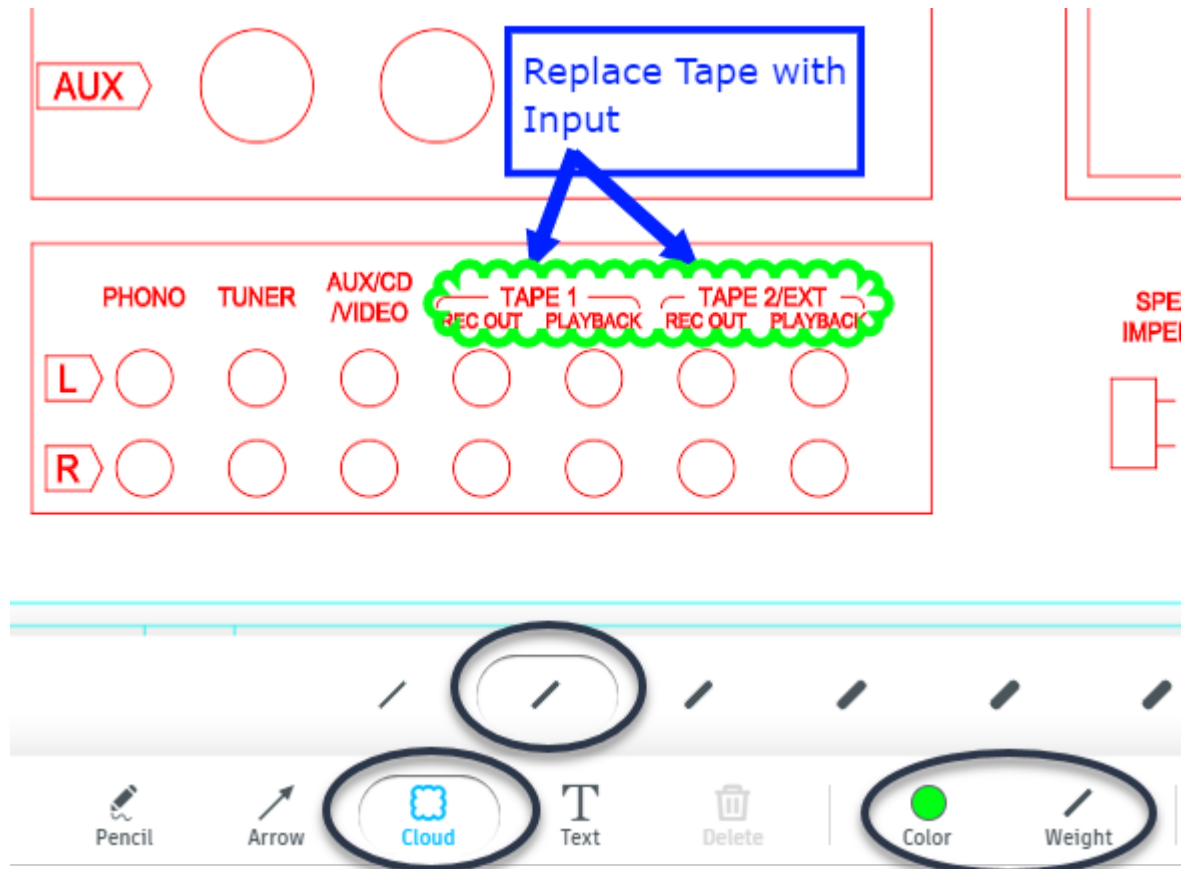

FIGURE 19: Markup – Cloud with Color and Weight Tool

Comparing Drawings

Shared files have a higher chance of edits made by one user being overwritten by another user who might be making edits at the same time. There are also times when multiple people in a team are working on the same drawing and therefore multiple versions of the same drawing gets saved. The Drawing Compare command provides a way to quickly highlight the differences between two versions of the same drawing.

You can also modify the drawing while in the compare state. While in compare state, the changes that you make are compared in real-time and the differences are dynamically highlighted.

The software compares drawings by displaying the objects that are unique to the currently open drawing in one color, and the objects unique to the comparison drawing in another color. The objects that are common in both the drawings are displayed in gray. It also places a revision cloud around the changes, as shown in Figure 20. This enables you to easily visualize the differences and import the required changes.
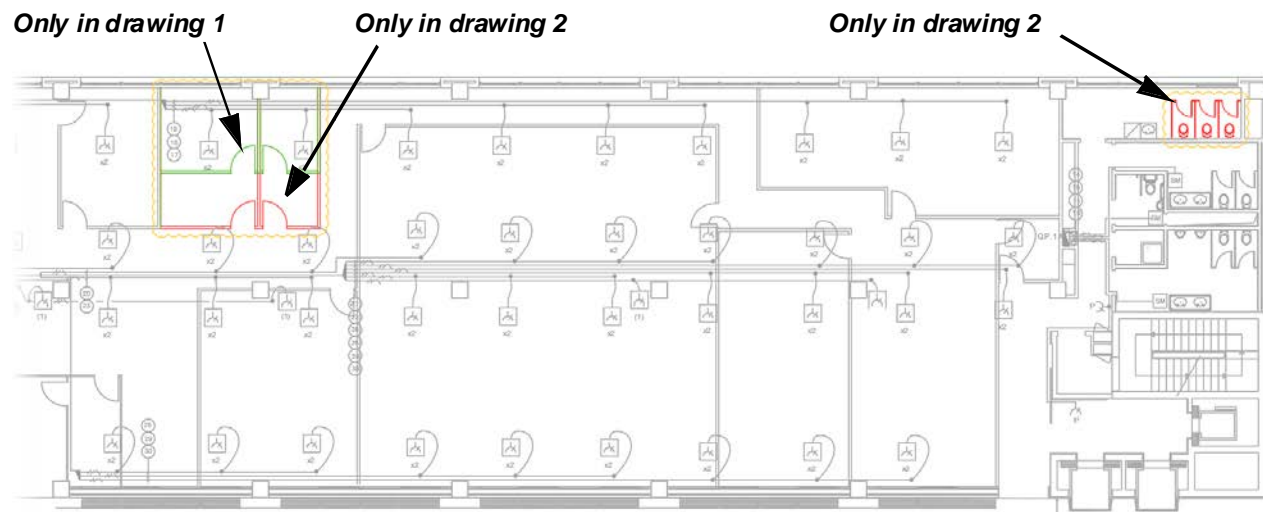

FIGURE 20: Compare Drawings

NOTE: Only drawing objects are supported during the compare process. If there are coordination models, Map 3D GIS objects, images, OLE objects, cameras or point clouds in the drawing, they are ignored during the comparison process.

Comparing Drawings

1. Open one of the drawings that you want to compare.

2. In the Collaborate tab>Compare panel, click ▯▯ (DWG Compare).
3. In the Select a drawing to compare dialog box, select the other drawing that you want to compare to the current drawing.

Compare Window

The comparison is displayed in the Compare window, which is enclosed in a thick blue border with the DWG Compare toolbar displayed along the top of the drawing window and the differences in the drawings highlighted in different colors, as shown in Figure 21.
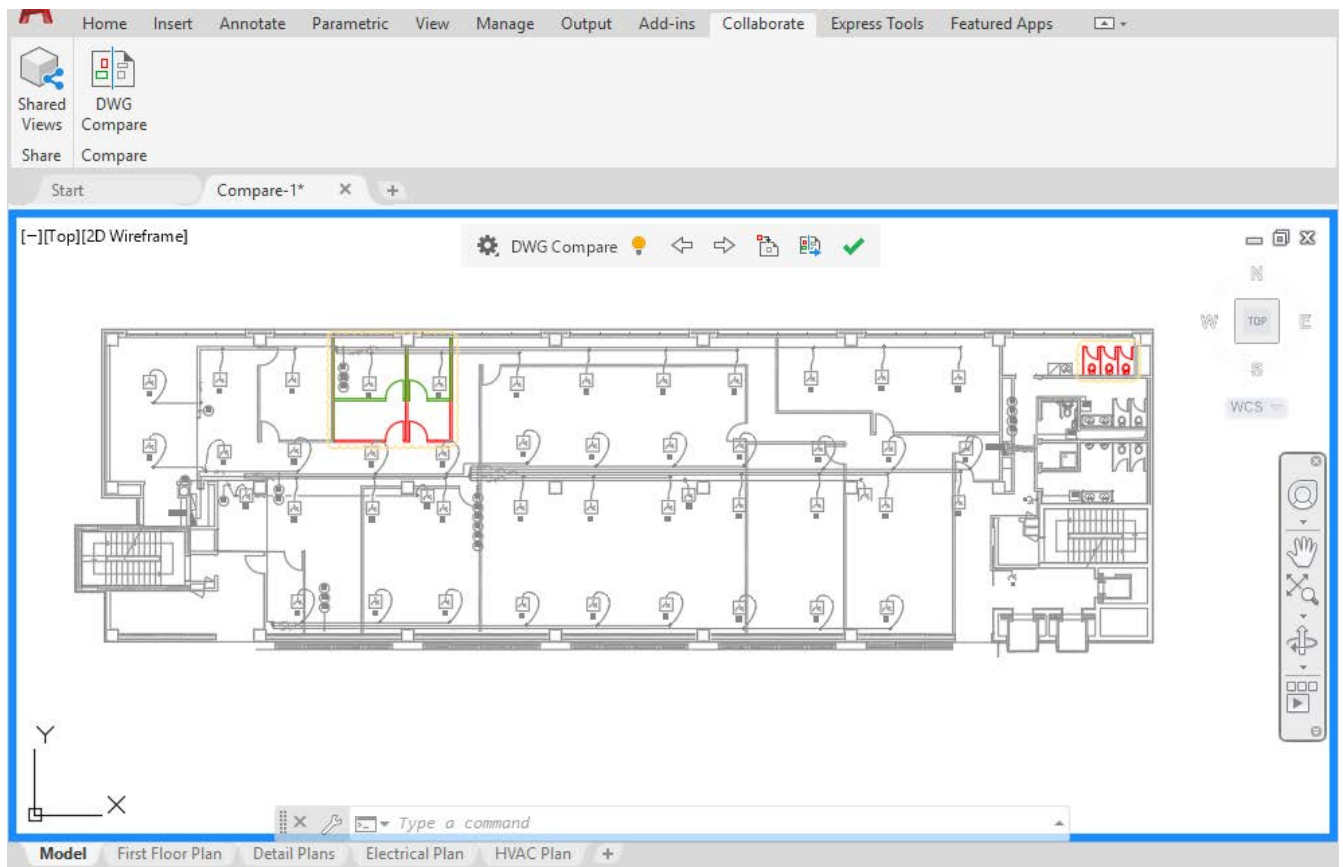
FIGURE 21: Compare Window

The Compare toolbar (shown in Figure 22) can be used to control the settings for how the comparisons are highlighted.

FIGURE 22: Compare Toolbar

- The ● (On/Off) icon controls the visibility of the objects that are different and highlighted in either one of the comparison colors.

- To jump and zoom to the previous or next comparative difference, click on the ⇦ / ⇨ (Previous/Next) arrows.

- Click ▣ (Import Objects) to import the changes from the compared drawing into the current drawing. Once the objects are imported, they are no longer highlighted in the compared drawing color, and are displayed in gray.

- ▣ (Export Snapshot) creates a new drawing that contains all of the similarities and differences in both of the drawings, maintaining the colors of the differences.

- Select ⚙ (Settings) to display the detailed tools that can be used on the comparison objects, as shown in Figure 23.
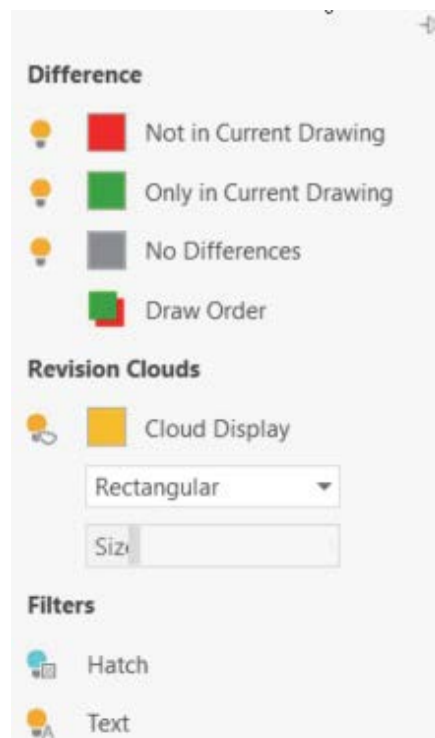

FIGURE 23: Compare Toolbar

Using Compare Options

1. In the DWG Compare toolbar, click ⚙ (Settings) to display the detailed tools.
2. To customize the color of the compared objects, click on the color block beside **Not in Current Drawing**, **Only in Current Drawing**, or **No Differences** to open the Select Color dialog box. Select the color of your choice and click **OK**. In Figure 24, the color of the objects that are **Not in Current Drawing** has been changed to magenta from default red.
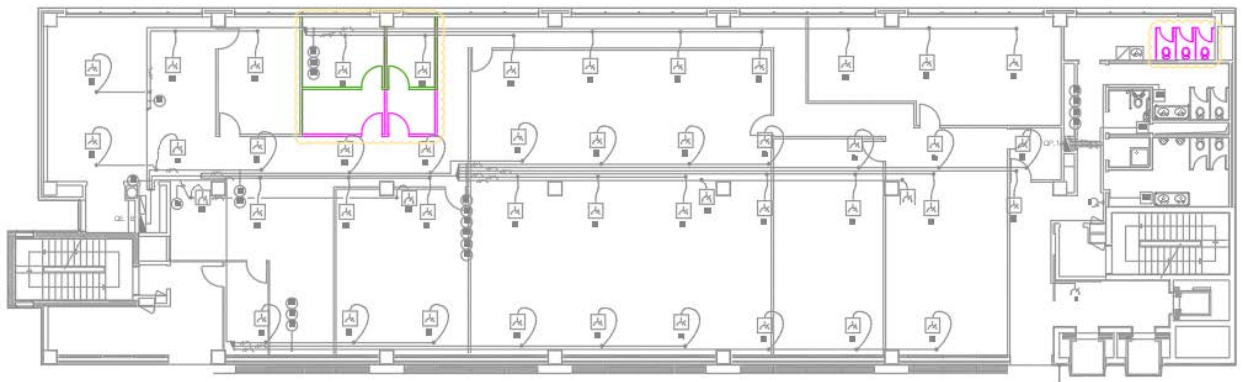

FIGURE 24: Customizing Comparison Colors

3. To toggle off the display of specific objects, click 💡 beside **Not in Current Drawing**, **Only in Current Drawing**, or **No Differences**. Note that the icons change to 💡 to indicate the off position. In Figure 25 the objects specific to the current drawing and the objects that are the same in both the drawings are switched off.
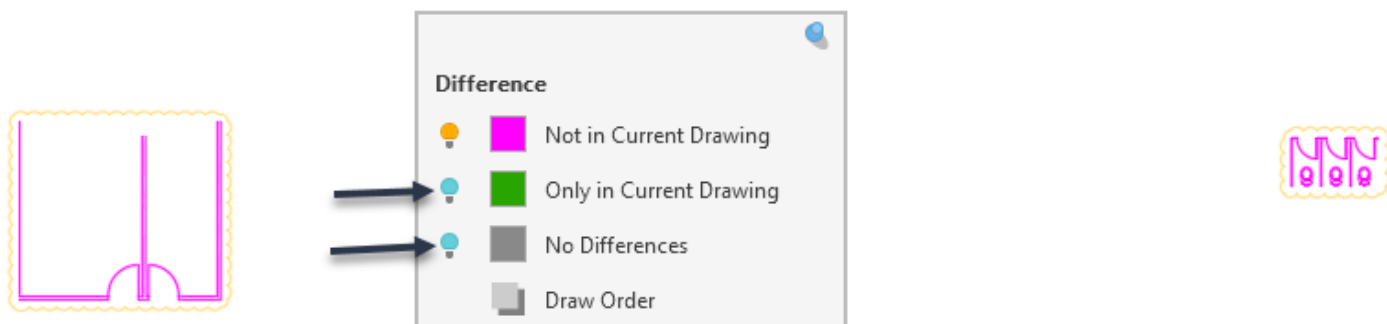

FIGURE 25: Switching On/Off

4. By default the revision clouds are displayed around the differences. Click on
    (Revision Cloud) to toggle the display of a revision cloud around the different
    objects. You can change the color of the revision cloud using the color swatch
    and also set these revision clouds to be either **Rectangular** or **Polygonal** using
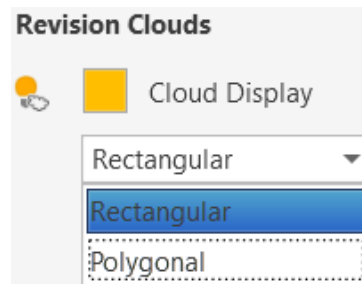   the Revision Cloud drop-down list, as shown in Figure 26.

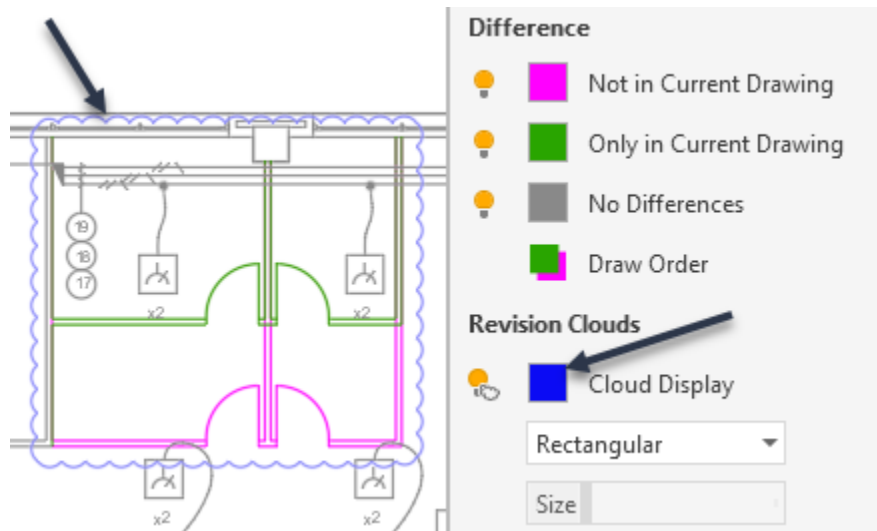FIGURE 26: Revision Clouds

-   Figure 27 shows the changing the revision cloud color to blue from yellow.

FIGURE 27: Revision Clouds color

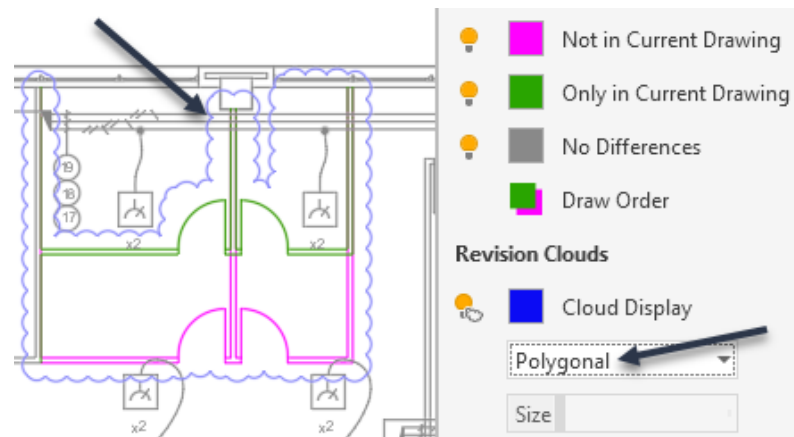- Figure 28 shows the display of revision clouds as polygonal.

FIGURE 28: Revision Clouds - Polygonal

- You can also toggle off the display of Hatch and Text. Figure 29 shows Hatch and Text objects on whereas Figure 30 shows the Hatch and Text objects off.
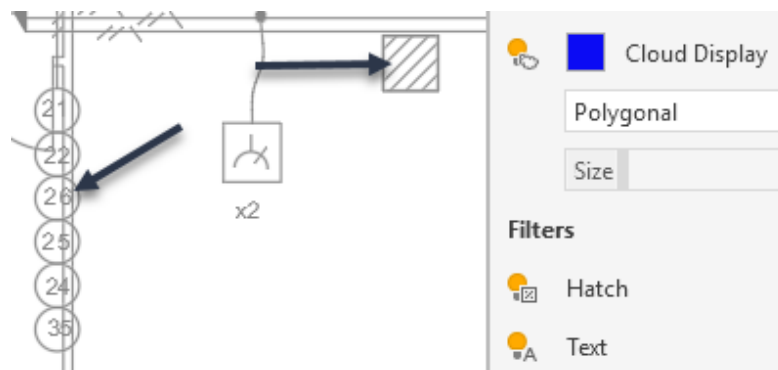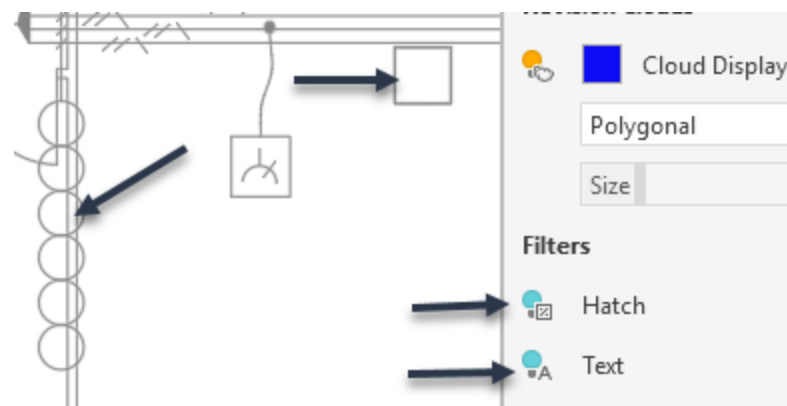

FIGURE 29: Hatch and Text filter on

FIGURE 30: Hatch and Text filter off

Exporting Snapshot and Importing Changes

1. In the Compare toolbar, click ![icon] (Export Snapshot) as shown in Figure 31.
   .

FIGURE 31: Export Snapshot tool

2. A processing dialog box is displayed as shown in Figure 32. Click **Continue** to start the process of creation.
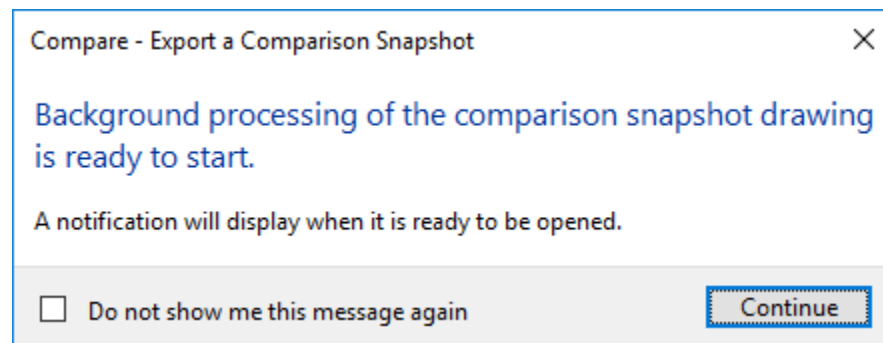   .

FIGURE 32: Background Processing dialog box

3. When the process is complete, a bubble dyisplays in the Status Bar (as shown in Figure 33), indicating that you can open the comparison drawing for viewing.
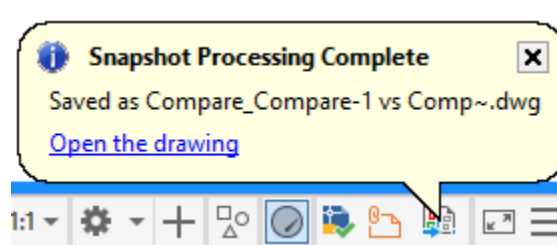

FIGURE 33: Snapshot Bubble

4. Click **Open the drawing**.

5. In the Compare toolbar, click (Import Objects) as shown in Figure 34 to import the changes from the compared drawing into the current drawing.

FIGURE 34: Import Objects tool

6. Select the comparison objects for importing into the drawing as shown in Figure 35.
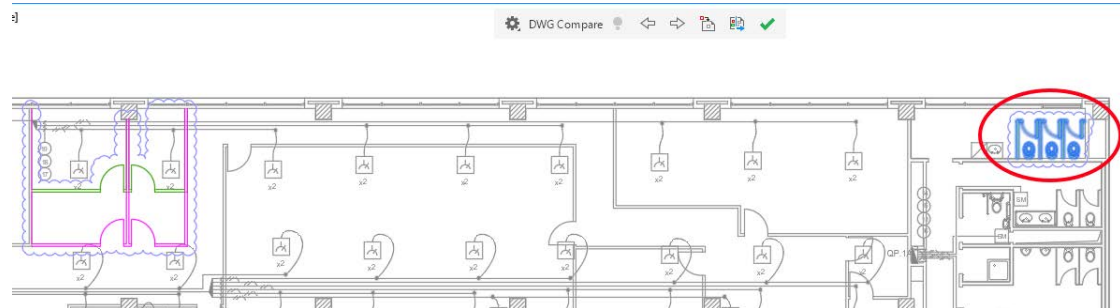

FIGURE 35: Objects selected for Import

7. Note that the selected comparison objects turn gray indicating that they are now a part of the current drawing as shown in Figure 36.
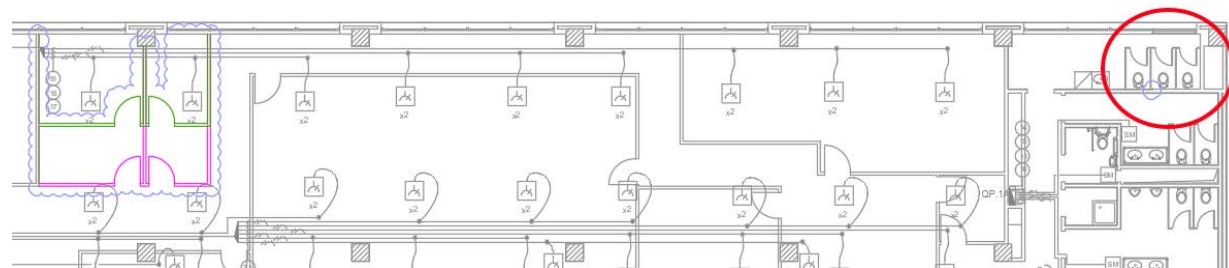

FIGURE 36: Objects are part of the current drawing

8. Click (Exit Compare) to end the compare mode. Note that all the comaparisons that were not selecte are discarded.