Chief Architect
Architectural Home Design Software

Creating a Custom In-ground Swimming Pool

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The information in this article applies to:

PREMIER

QUESTION

I would like to create a custom in-ground swimming pool. How do I do this?

ANSWER

Using the terrain features, 3D/polyline solids, and molding polylines, you can create a custom in-ground swimming pool.

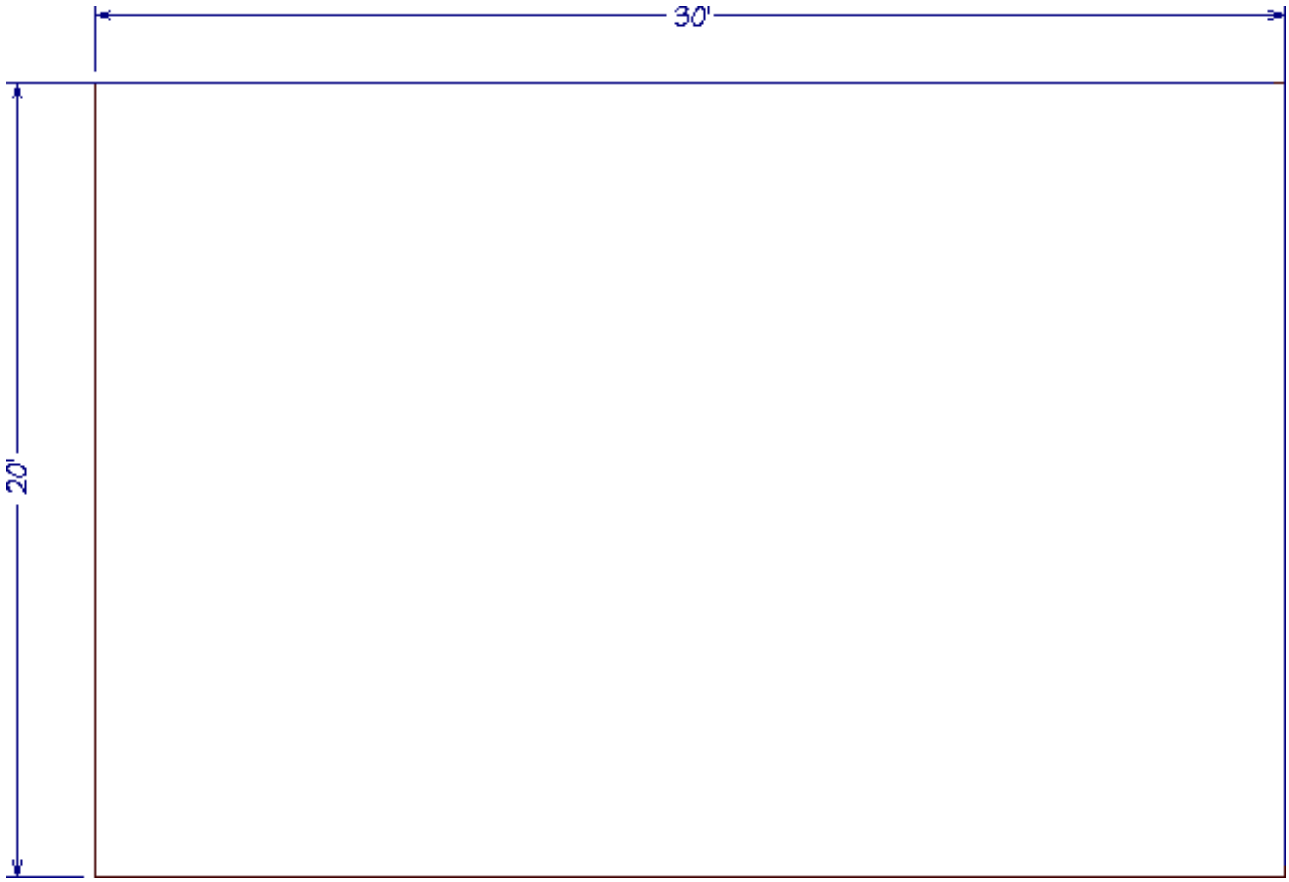
To create a hole for the pool

1. Select **Terrain> Create Terrain Perimeter**  from the menu to create terrain in which the pool can be designed. You can skip this step if you have a terrain perimeter already drawn.

2. Select **Terrain> Feature> Rectangular Feature**  from the menu, then click and drag to draw a rectangular feature polyline contained inside the terrain perimeter.

   In this example, a 20' x 30' rectangular polyline is used, and will form the hole for the swimming pool.

   > Features follow the contours of your terrain. If you place a feature on a slope, it will follow the slope rather than form a flat area. If your terrain is sloped, use Elevation Lines or a Flat Region to create a level area to place your pool in.



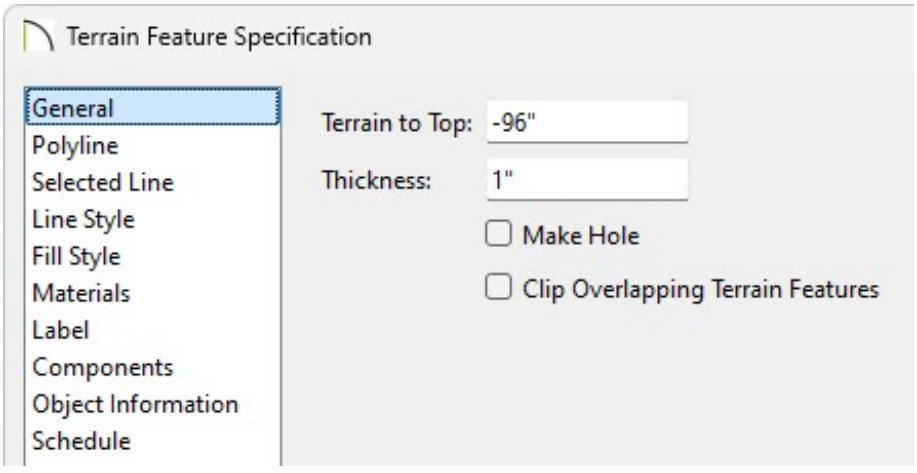
3. Select the polyline and click the **Open Object** edit button.

4. On the GENERAL panel of the **Terrain Feature Specification** dialog that opens:

   - Change the **Terrain to Top** to the desired depth of the pool's deepest point.

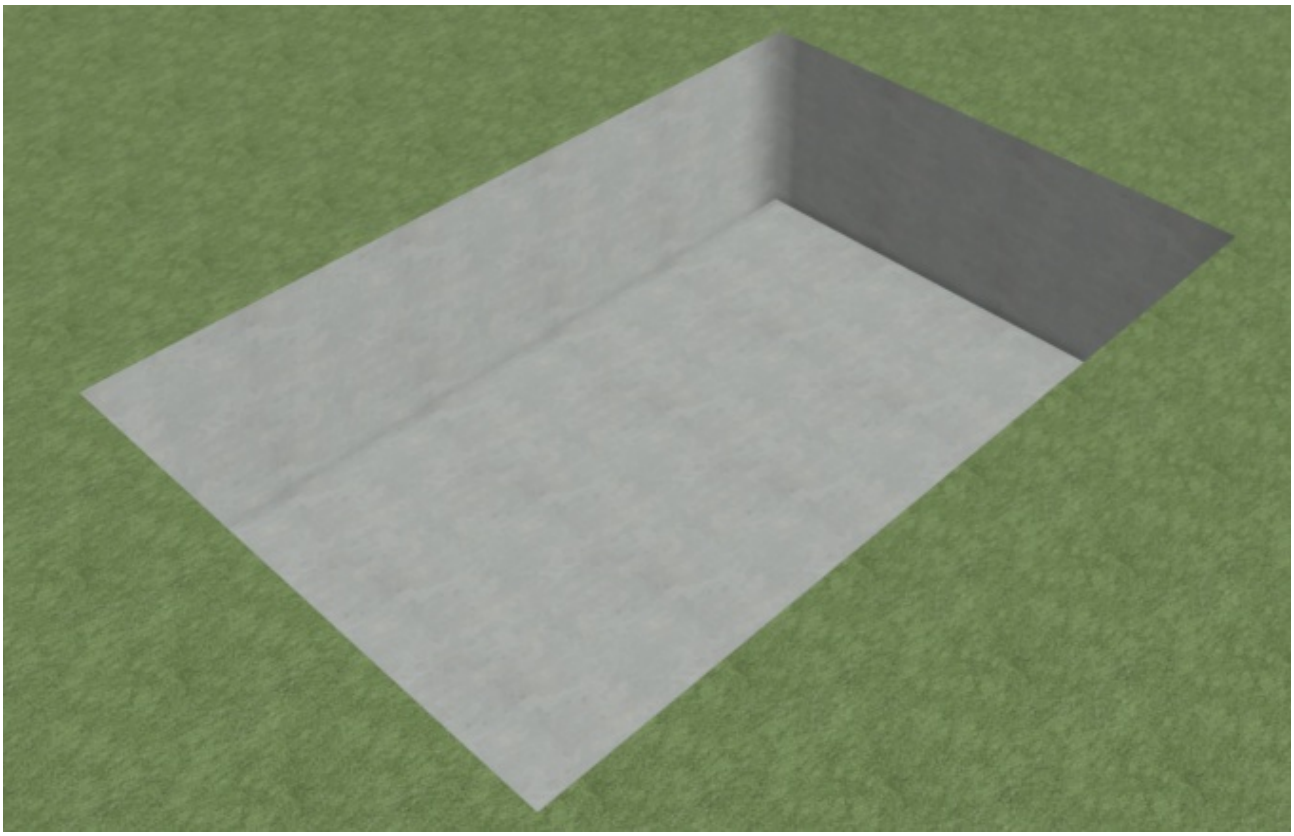
     In X12 and prior versions, change the **Height** instead.

     In this example, -96" is used.



- Click **OK** to close the dialog and apply your changes.

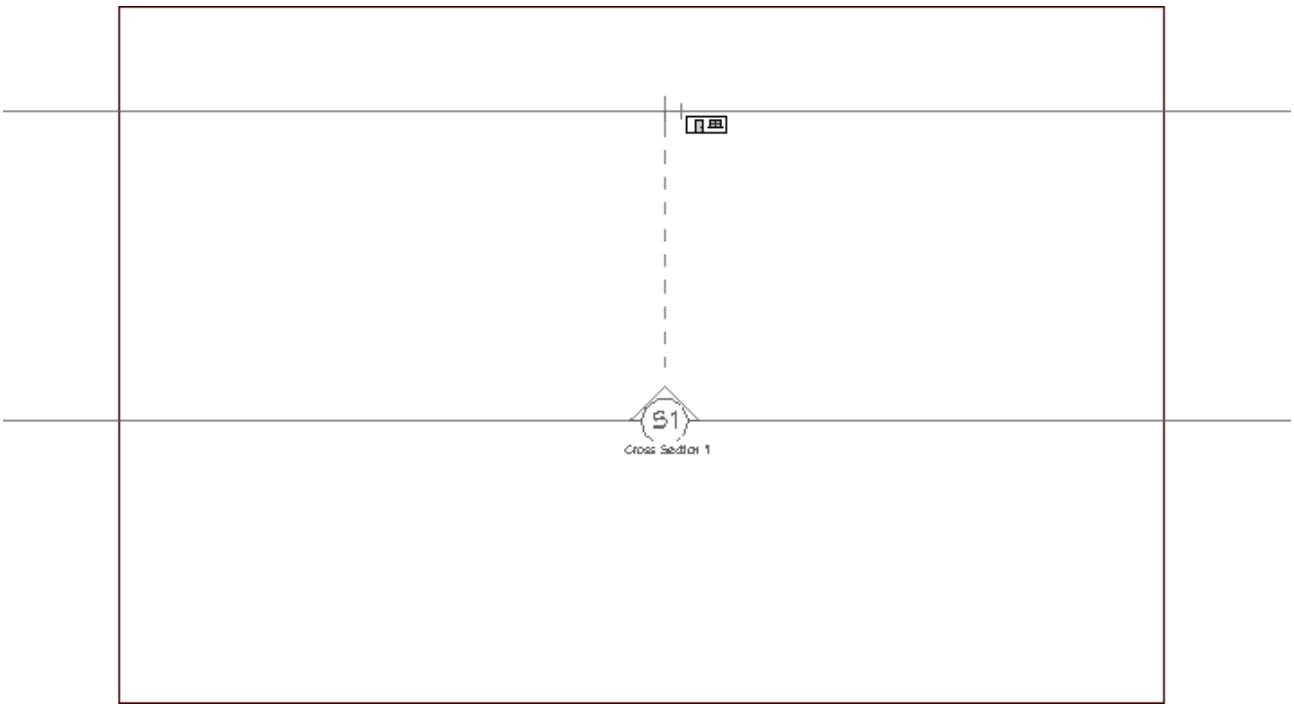
5. Next, select **3D> Create Perspective View> Perspective Full Overview** to see the results so far.



6. Once you have verified the camera view, select **File> Close View** to return to a floor plan view.

To slope the bottom of the pool

1. Select **3D> Create Orthographic View> Back Clipped Cross Section** , then click and drag a camera arrow that runs perpendicular to the slope that you wish to create.

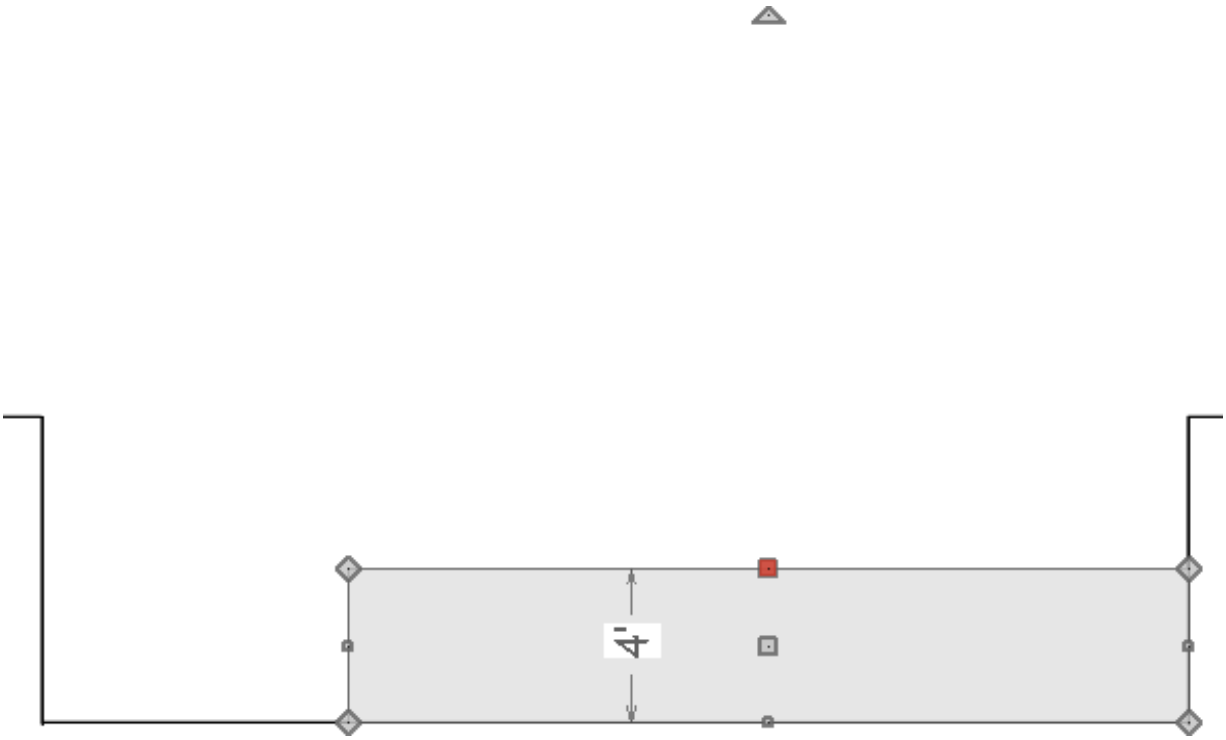


2. In the back clipped cross section view, select **CAD> Boxes> Rectangular Polyline** from the menu, then click and drag to draw a rectangle along the bottom part of the pool.

   This rectangle will form the shallow end of the pool, as well as the slope to the deep end.

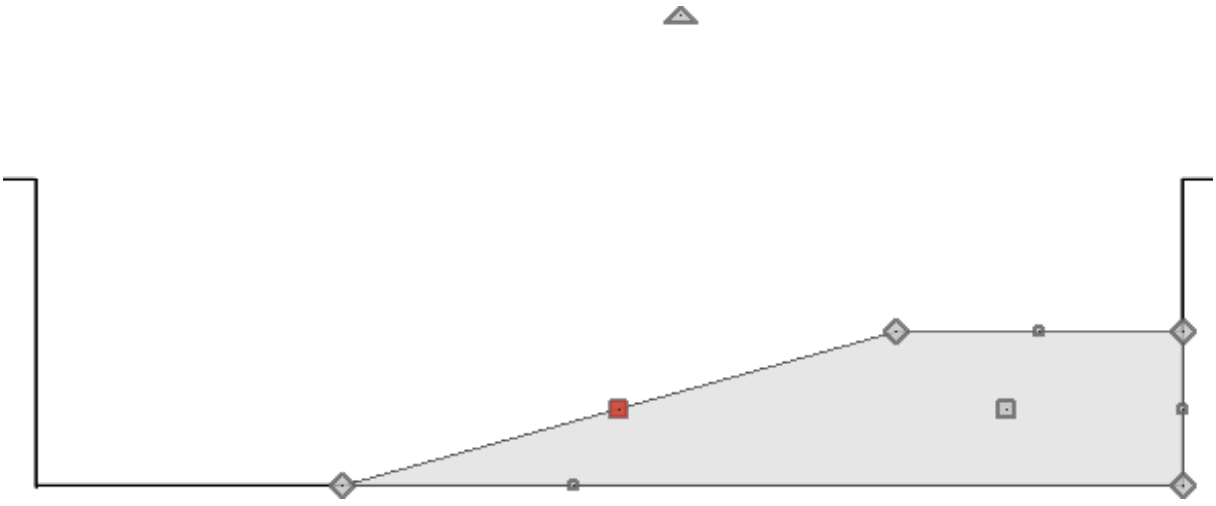
3. Click on the top edge of the polyline to select it, then click on the temporary dimension that displays between it and the bottom edge to specify the height above the deep end that you would like the shallow end to be.

   In this example, 48" is used.



4. With the rectangle still selected, click the **Add Break** edit button and click along the top edge of the rectangle to place a break at that location.

5. Next, drag the top left corner down to create a slope, as shown in the image below.

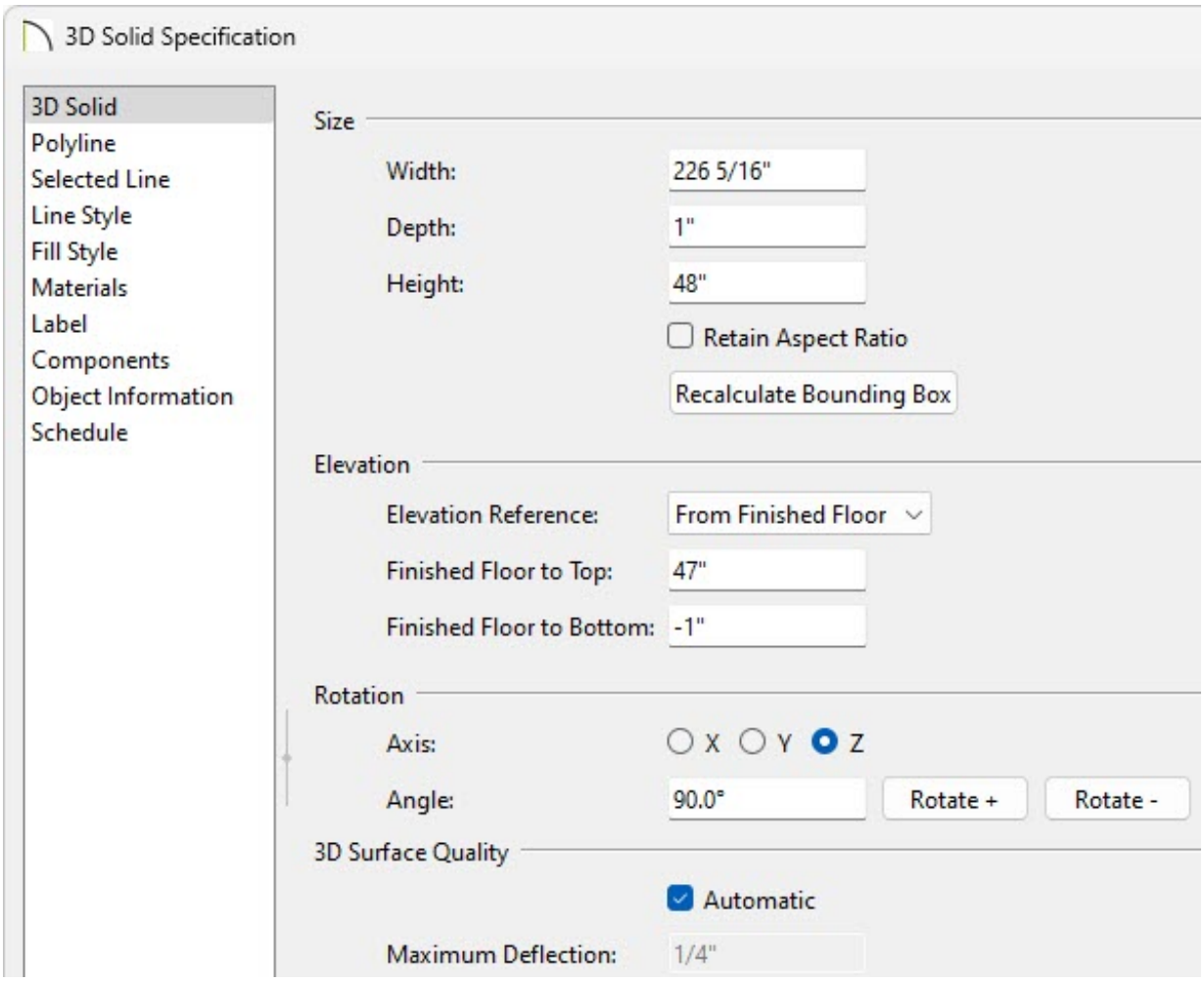


6. With the rectangular polyline still selected, click the **Convert Polyline** edit button, and in the **Convert Polyline** dialog that displays, choose the **3D Solid** option, then click **OK**.

   In X13 and prior versions, 3D Solids were called Polyline Solids.

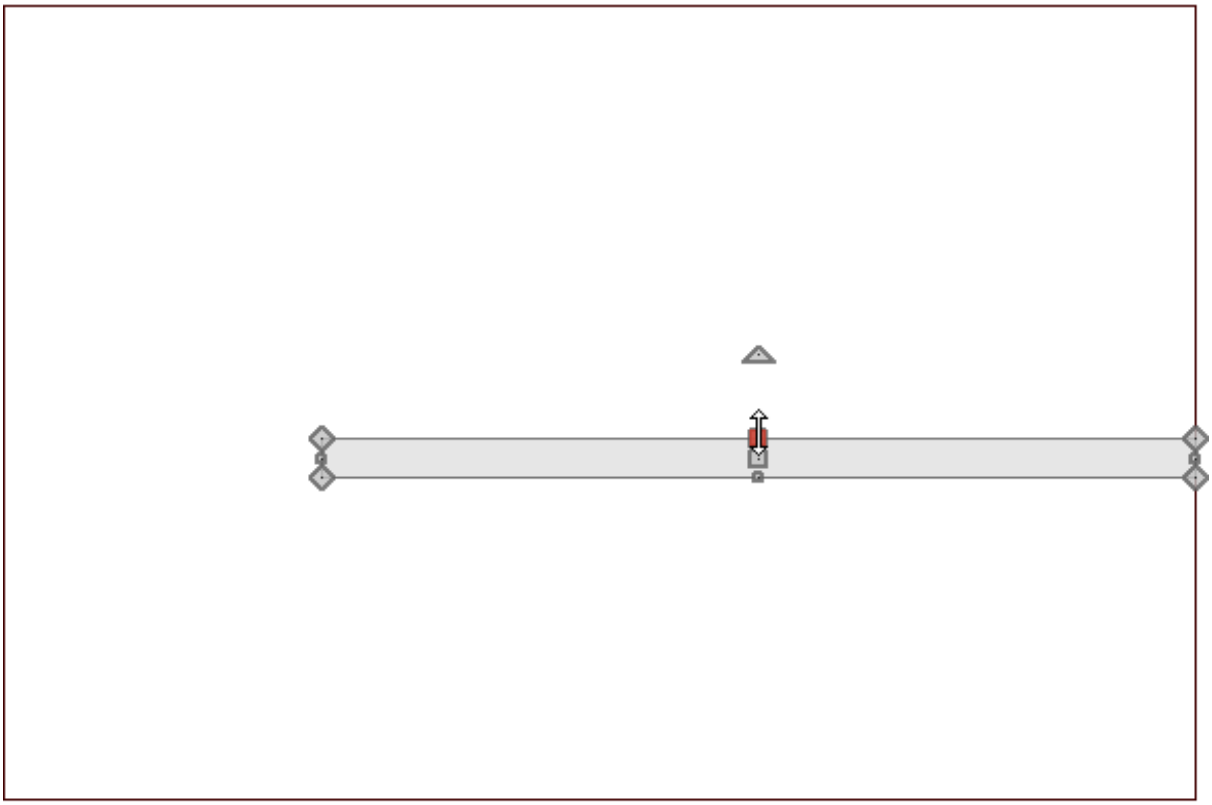
7. On the GENERAL panel of the **3D/Polyline Solid Specification** dialog that opens next, change the **Height** or **Thickness** to your desired value, then click **OK**.

   In this example, a value of 48" was used.



8. Select **File> Close View** to close the back clipped cross section view and return to a floor plan view.

9. In a floor plan view, select the newly-created 3D/polyline solid and use the edit handles to adjust its width to match the width of the pool.



To create a rounded ledge around the pool in X16 and newer versions

1. Using the **Select Objects** tool, click on the pool feature region to select it, then navigate to **Edit> Copy and Paste in Place** from the menu.

2. With the newly created region selected, click the **Concentric Resize** edit tool.

   - With the **Concentric Resize** edit tool selected click the **Set Concentric Jump** edit tool to open the **Set Concentric Jump Distance** dialog.

   - In the **Jump Distance** box type in your desired ledge distance.

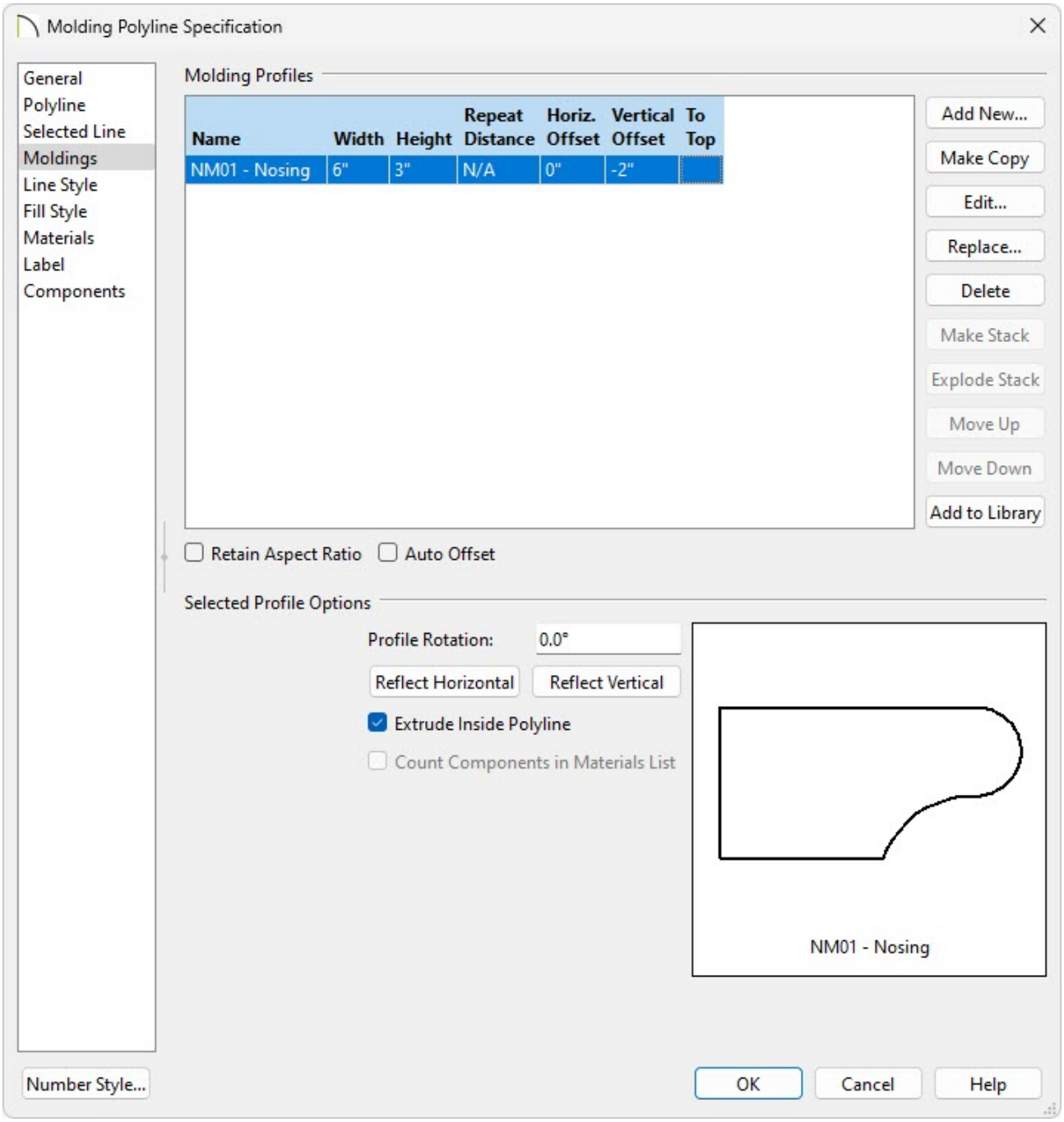
     In this example, 3" is used.

   - Click **OK** to close the dialog and apply your changes.

3. Place your cursor over one of the diamond shaped edit handles, then click and drag away from the pool. When a second outer polyline displays release the mouse.

4. With the newly created feature region still selected, click the **Convert Polyline** edit button, and in the **Convert Polyline** dialog that displays, choose the **Molding Polyline** option, then click **OK**.

5. On the MOLDINGS panel of the **Molding Polyline Specification** dialog:



- Click the **Add New** button, browse to **Chief Architect Core Catalogs> Architectural> Moldings, Profiles, Extrusions> Chair Rail**, and choose a molding profile.

  In this example, NM01-Nosing is used.

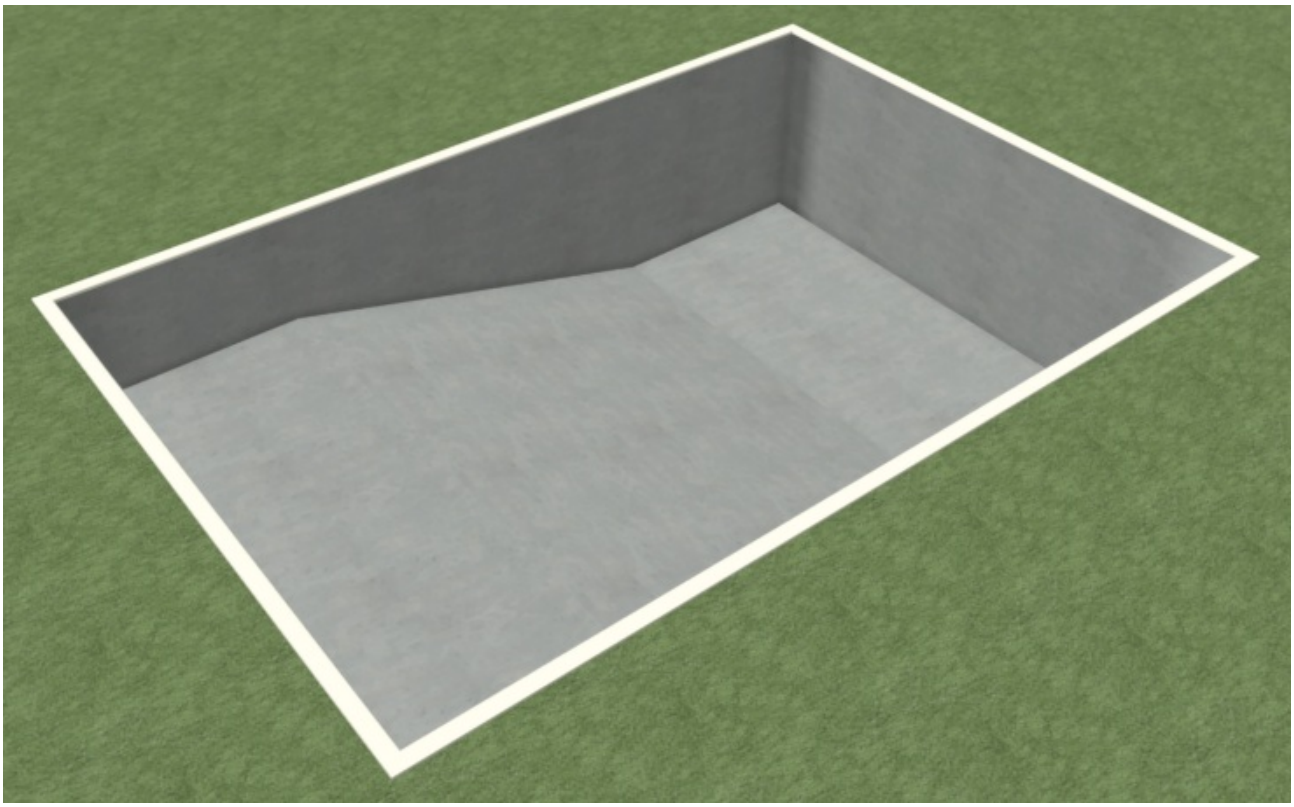
- Set the **Height**, **Width**, and **Offsets** to your liking.

  In this example, a Width of 6", a Height of 3", and a Vertical Offset of -2" is used.

- Make sure that the box beside **Extrude Inside Polyline** is selected.

- Make any other desired changes, then click **OK**.

6. Take a **Perspective Full Overview** to see the results so far.



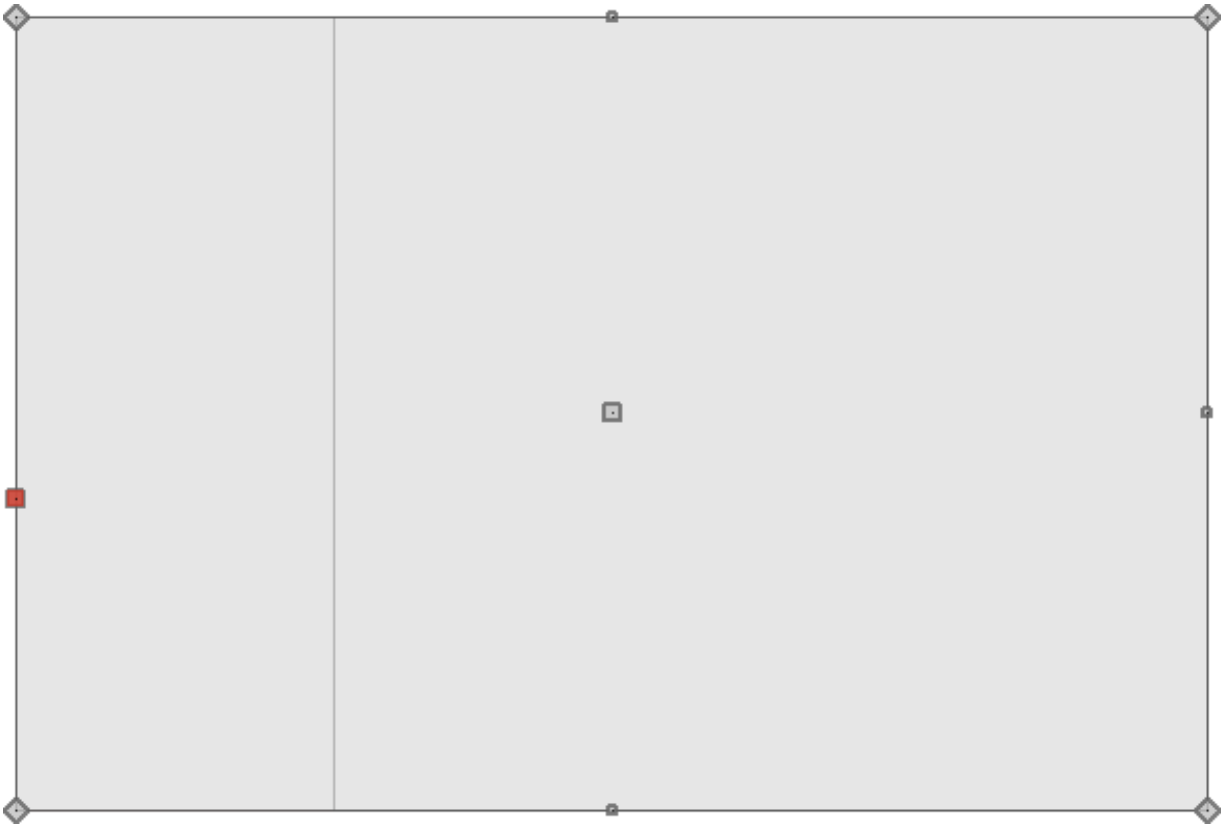
7. Once you have verified the camera view, select **File> Close View** to return to a floor plan view.

To create a rounded ledge around the pool in X15 and prior versions

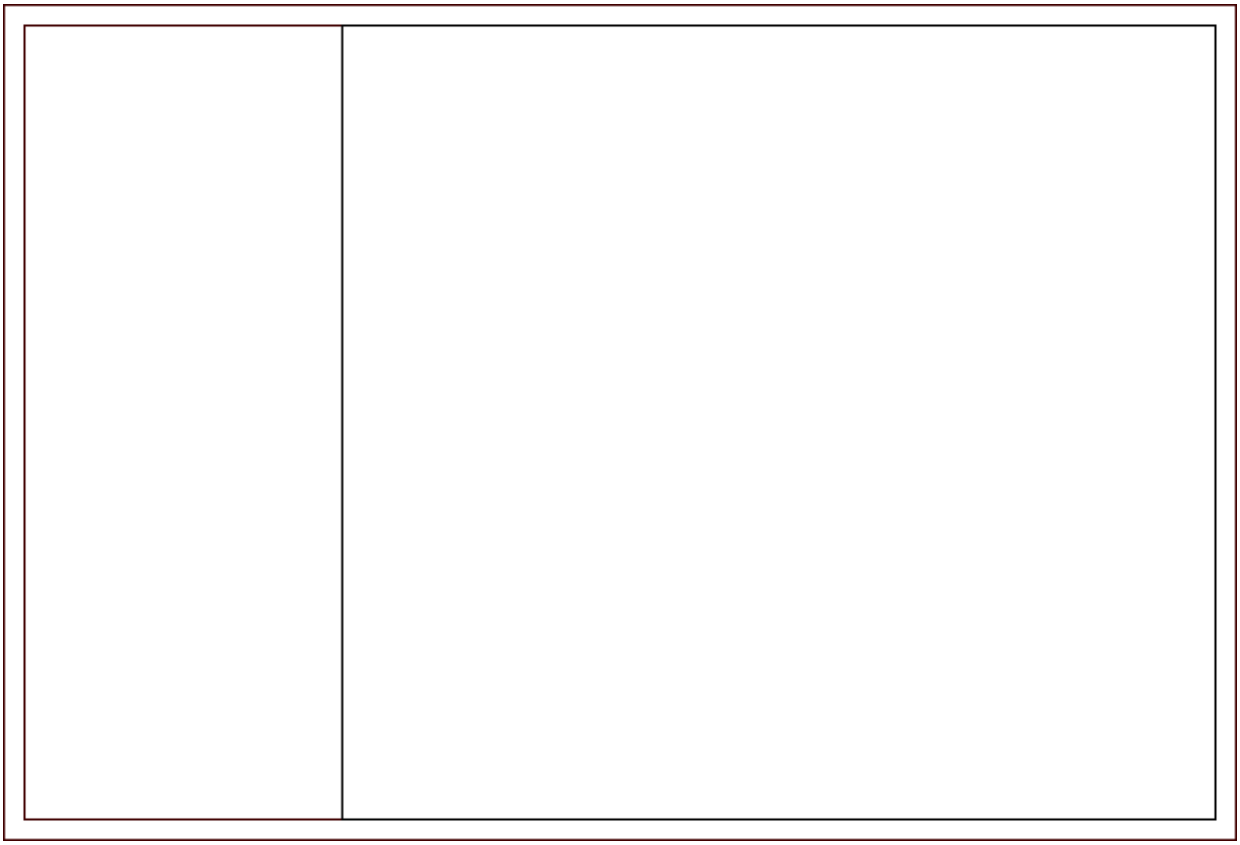
1. Select **Edit> Edit Behaviors** and click on **Concentric**, which allows you to resize objects so that the distance moved by each edge is the same.

> **Note:** You will notice once you have selected this option that the Concentric icon may display next to your mouse cursor until you return to the Default edit behavior.

2. Using the **Select Objects** tool, click on the pool feature region to select it, then navigate to **Edit> Copy and Paste in Place** from the menu.



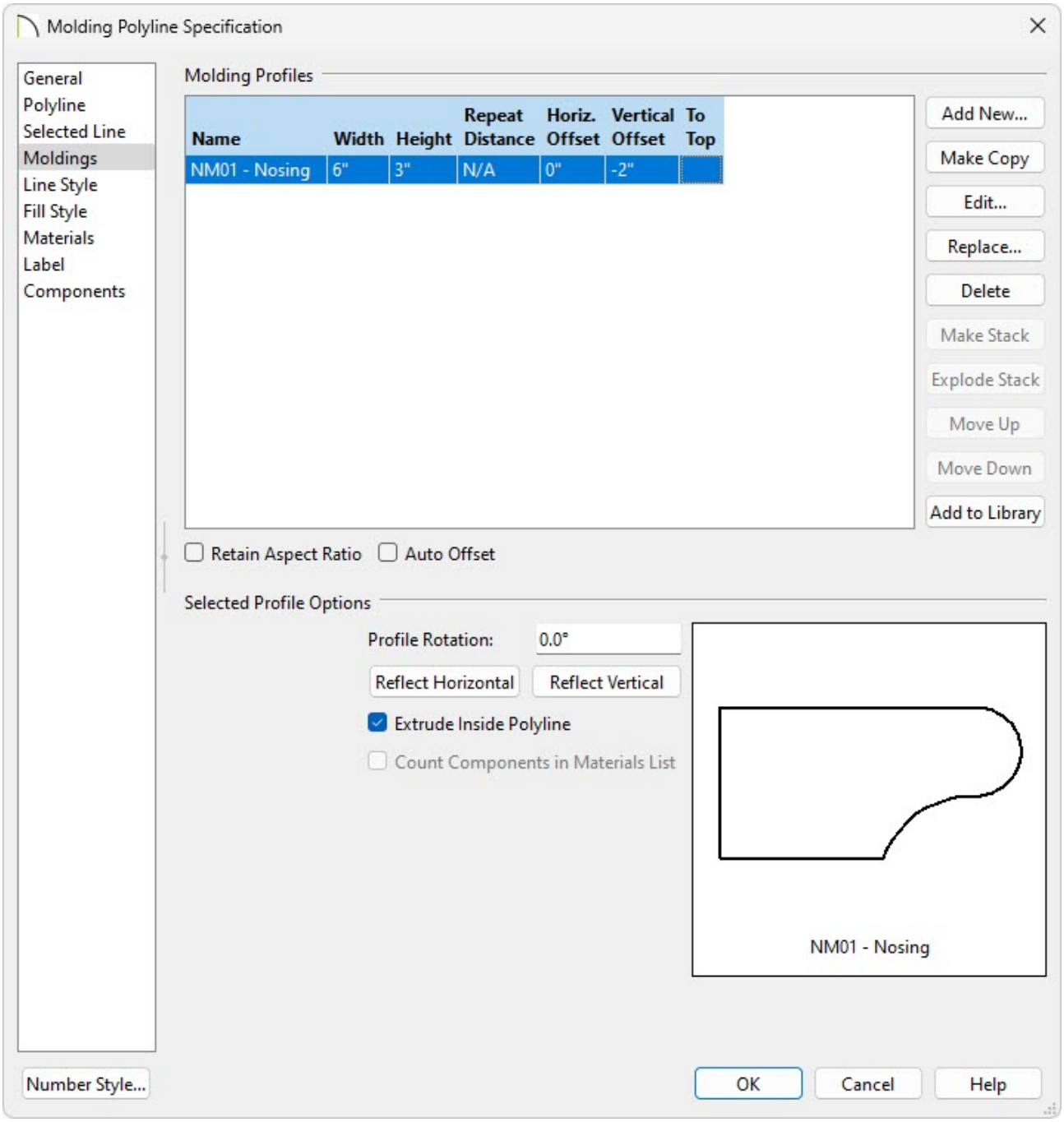
- Place the mouse pointer over one of the diamond shaped corner handles.
- Click and drag the handle slowly away from the pool. You will see that it snaps at 1 inch increments.
- Release the mouse button so that a new region is created 3 inches out from the original.



3. With the newly created feature region still selected, click the **Convert to Plain Polyline** edit button so that it is no longer a terrain feature.

4. Next, with the new plain polyline selected, click the **Convert Polyline** edit button, and in the **Convert Polyline** dialog that displays, choose the **Molding Polyline** option, then click **OK**.

5. On the MOLDINGS panel of the **Molding Polyline Specification** dialog:



- Click the **Add New** button, browse to **Chief Architect Core Catalogs> Architectural> Moldings, Profiles, Extrusions> Chair Rail**, and choose a molding profile.

  In this example, NM01-Nosing is used.

- Set the **Height**, **Width**, and **Offsets** to your liking.

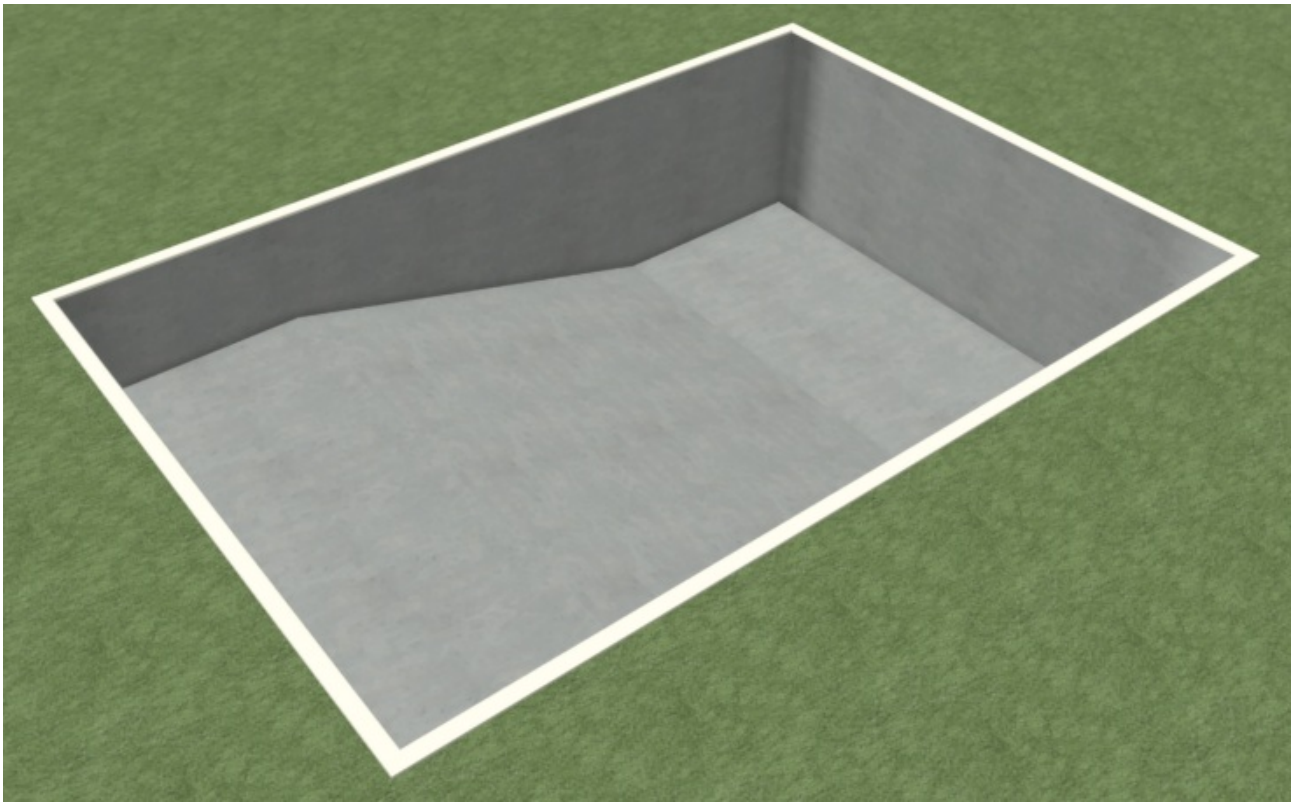
  In this example, a Width of 6", a Height of 3", and a Vertical Offset of -2" is used.

- Make sure that the box beside **Extrude Inside Polyline** is selected.

- Make any other desired changes, then click **OK**.

6. Now that we are finished using the concentric edit behavior, select **Edit> Edit Behaviors> Default** to return to the default edit behavior.

7. Take a **Perspective Full Overview** to see the results so far.



8. Once you have verified the camera view, select **File> Close View** to return to a floor plan view.

To add water to the pool

1. Select the pool terrain feature created in the first section of this article.

   If you initially select an object other the terrain feature, click the **Select Next Object** next button or press the **Tab** key on your keyboard.

2. With the terrain feature selected, navigate to **Edit> Copy/Paste in Place** from

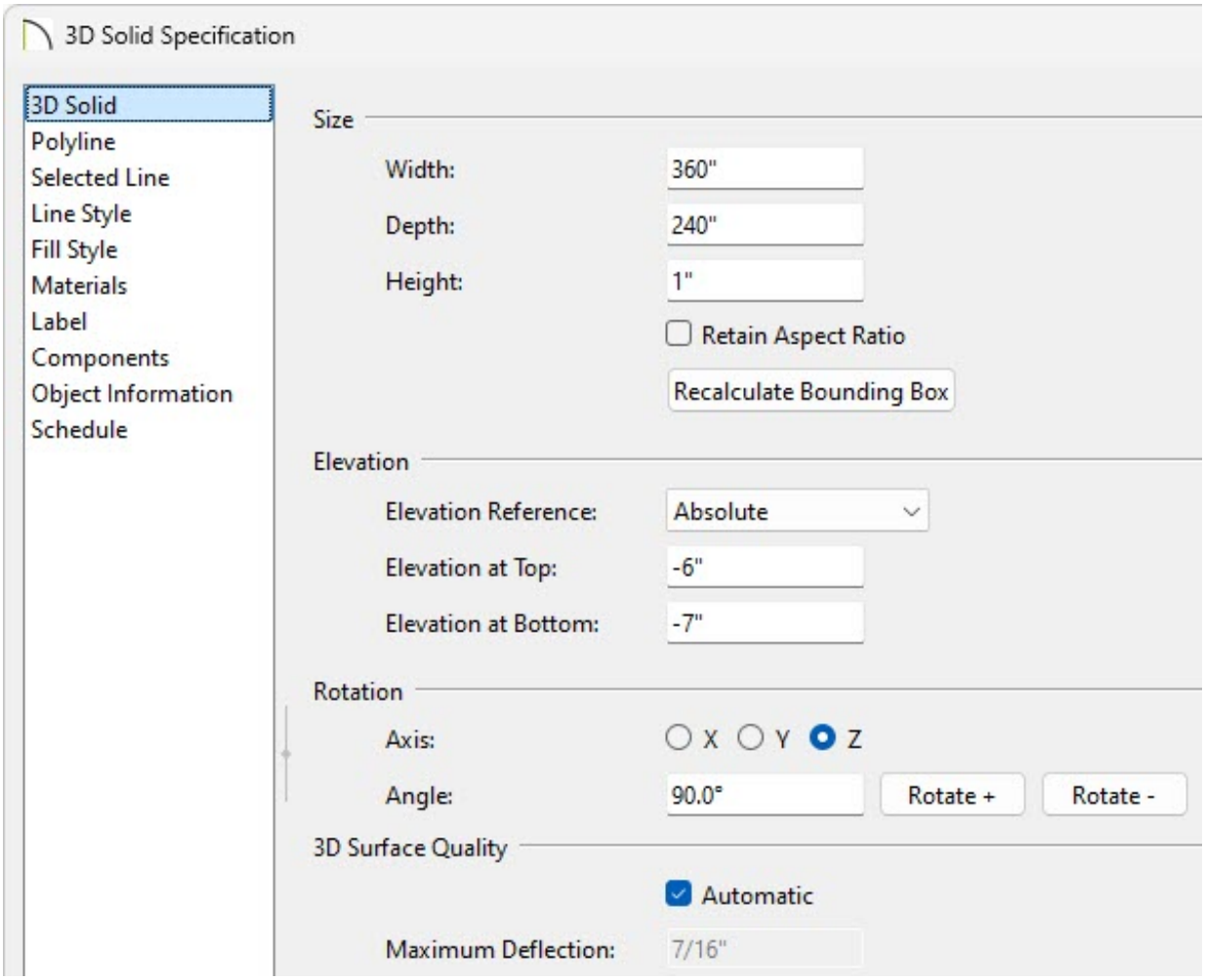
the menu.

3. With the pasted terrain feature still selected, click the **Convert Polyline** edit button, and in the **Convert Polyline** dialog, choose **3D Solid**, then click **OK**.

   In X15 and prior versions, click on the **Convert to Plain Polyline** edit button, then click the **Convert Polyline** edit button, and in the **Convert Polyline** dialog, choose **3D Solid**, then click **OK**.

4. In the **3D/Polyline Solid Specification** dialog that displays next:

   - On the GENERAL panel, set the **Height** or **Elevation** to 1", change the Elevation Reference to **Absolute**, then set the **Elevation at Top** to -6".



   - On the MATERIALS panel, select the 3D/Polyline Solid component, then click on the **Select Material** button.

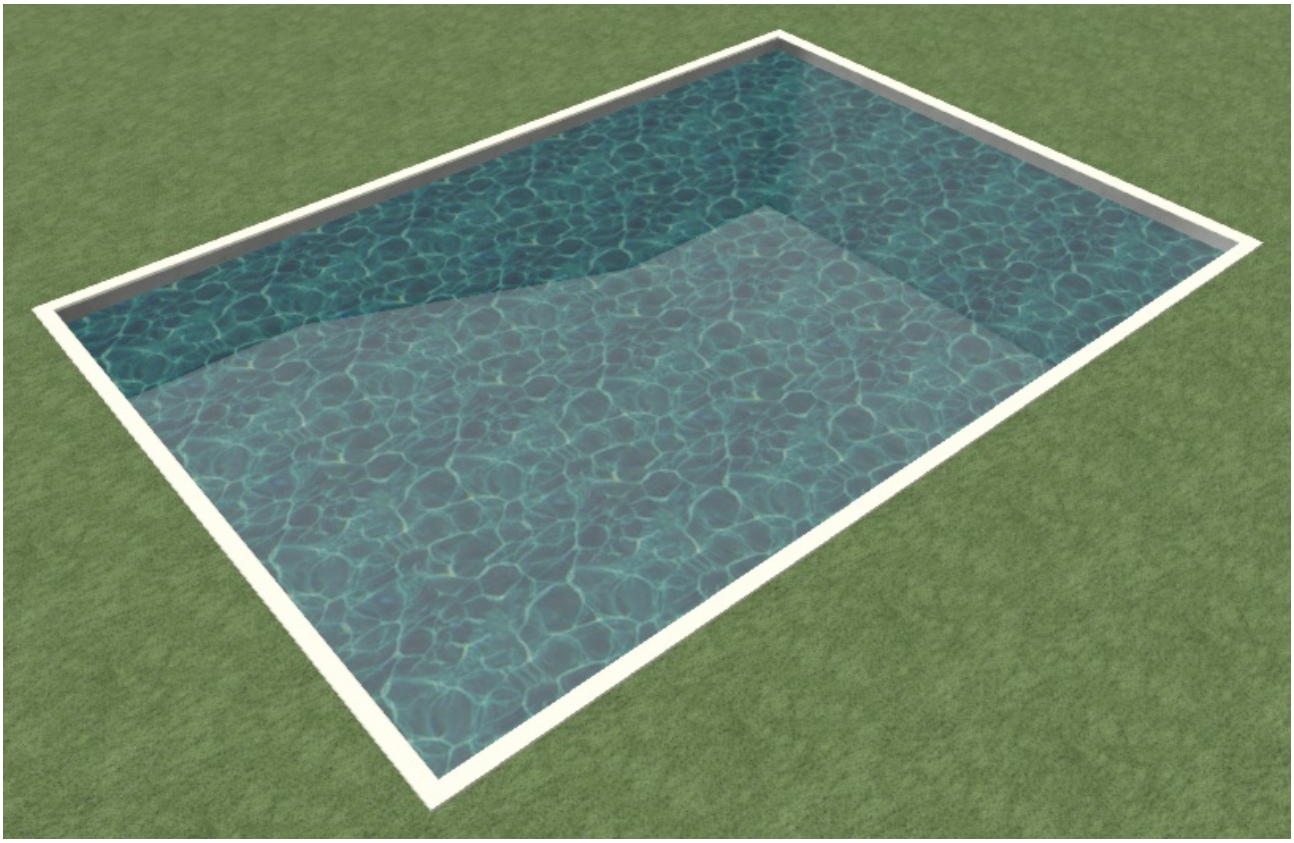
   - In the **Select Material** dialog, browse to **Chief Architect Core Catalogs>**

Materials> Landscaping and Roadways> Water, and choose a water material.

In this example, Water1 is used.

- Click **OK** and **OK** again to close the dialog and apply your changes.

5. Finally, take another **Perspective Full Overview** to see the results.



To accessorize the pool area

A patio area around your pool can be designed using one or more terrain features with different heights and materials. Avoid drawing a terrain feature over the pool feature, as it will cover it up.

Suitable patio materials can be found in the library browser by going to **Chief Architect Core Catalogs> Materials>** Masonry **and Stone** and the **Chief Architect Core Catalogs> Materials> Tile** folders.

Furniture, games, and other accessories can also be found in the Library Browser.

Additional poolside objects and materials can be found by accessing the 3D Library (https://www.chiefarchitect.com/3d-library/index.php?r=site/library&reset=true).

Related Articles

- Creating a Deck Around an Above-ground Pool or Spa (/support/article/KB-00852/creating-a-deck-around-an-above-ground-pool-or-spa.html)
- Creating and Editing Molding Profiles (/support/article/KB-00166/creating-and-editing-molding-profiles.html)
- Obtaining and Updating Library Content (/support/article/KB-00090/obtaining-and-updating-library-content.html)

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