

How to Create Topographic Surfaces



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Arch 3691

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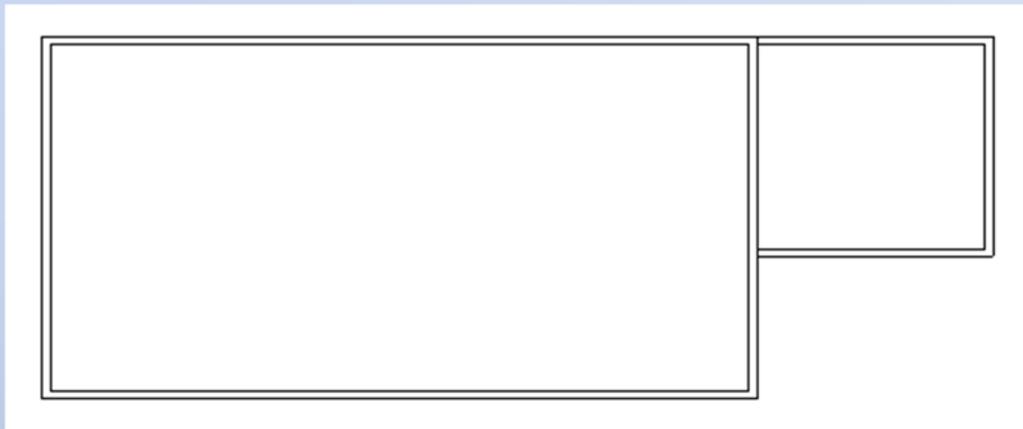
Things Needed to Complete This Tutorial

- Revit (Latest Model Preferred) *Not sure if we can create topographic surfaces in previous versions.
- Preferable: Dual Monitors for easier multitasking.

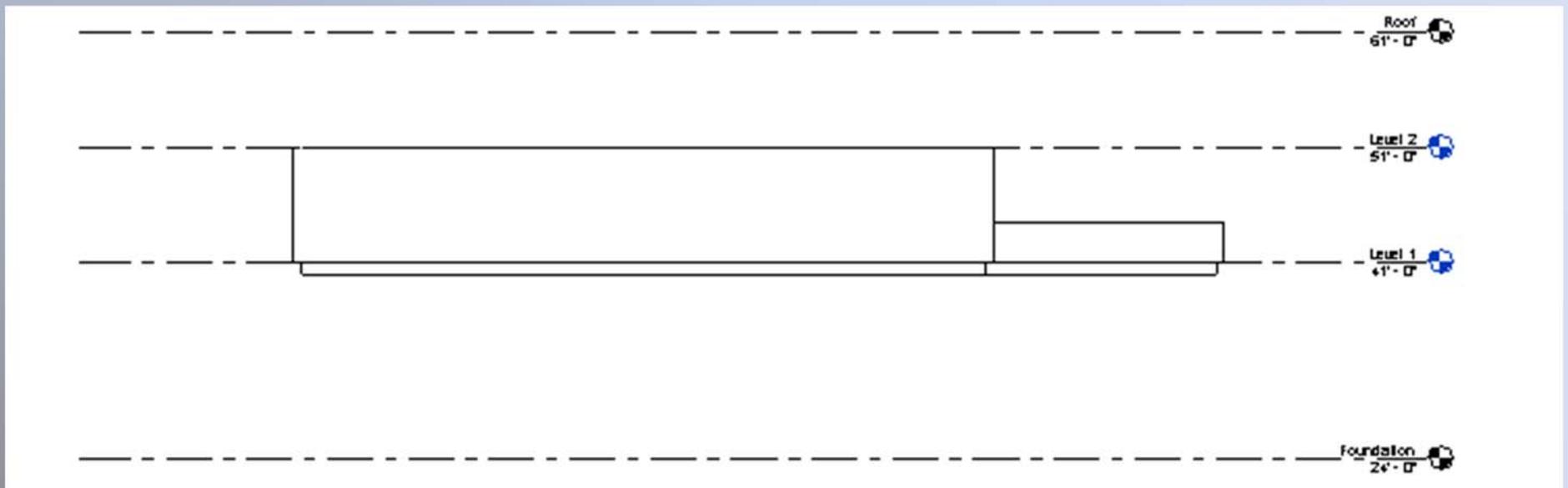


What is a Topographic Surface?

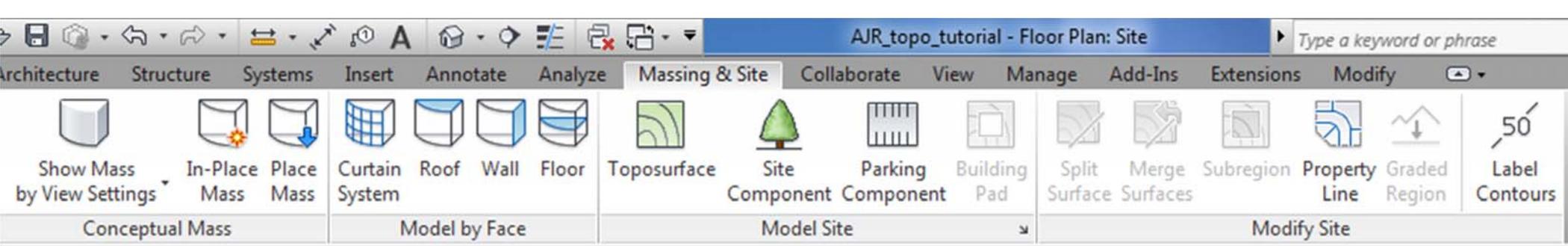
- Topographic surfaces (or contours), provide a point of reference such as heights in the landscape.
- These types of lines on a drawing, accurately depict features of a surface through contour lines, colors and symbols.
- Typically, topographic surfaces refer to the accurate representations of hills, valleys, rivers, lakes, streams, trails and wooded areas as well as man-made features, including dams and roads.
- However, topography also refers to planetary features, such as the moon's craters or the human body.



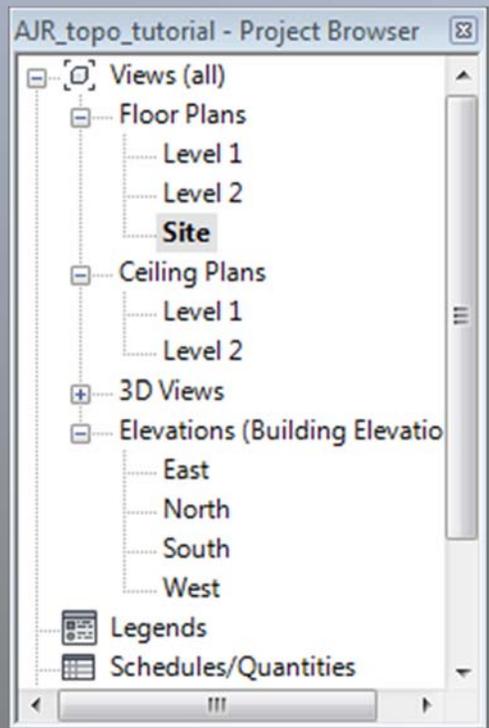
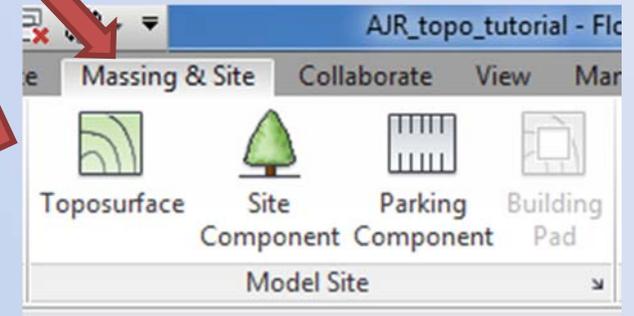
- Start with a building footprint which the contours will eventually interact with.



- Then arrange your heights so that they have a sense on context in comparison to the contours you expect.

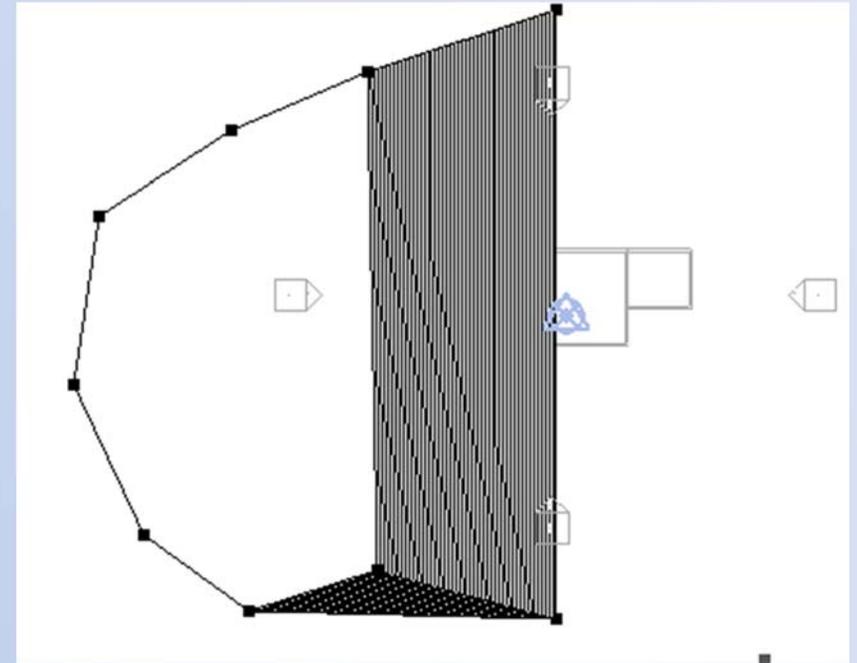
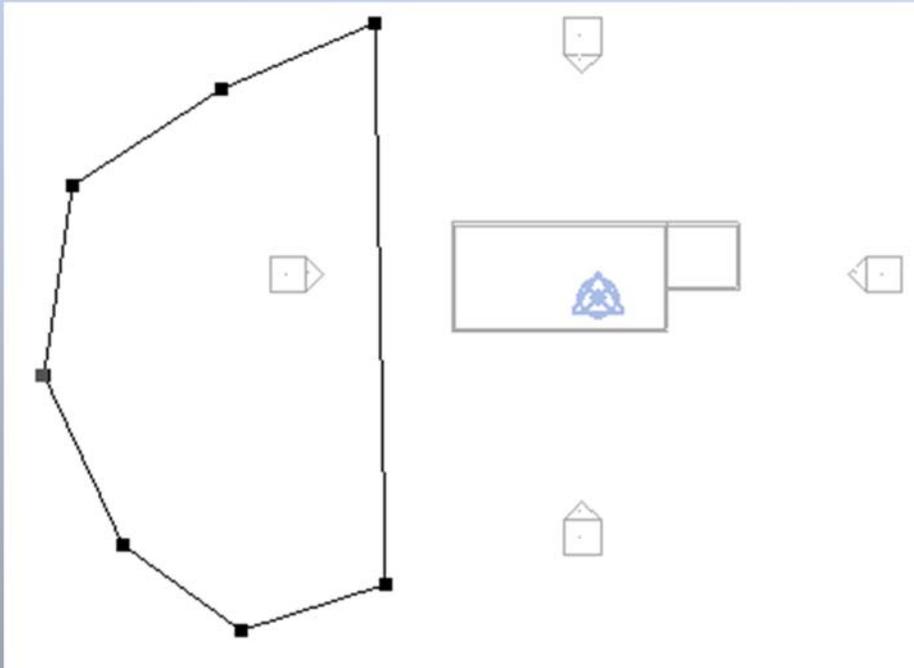


- In the Revit toolbar locate the **Massing & Site** tab and under it find the **TOPOSURFACE** button.



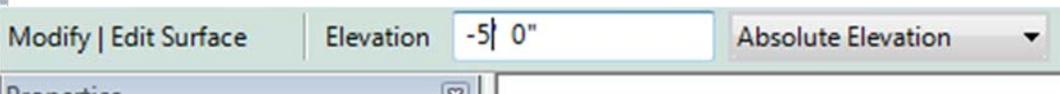
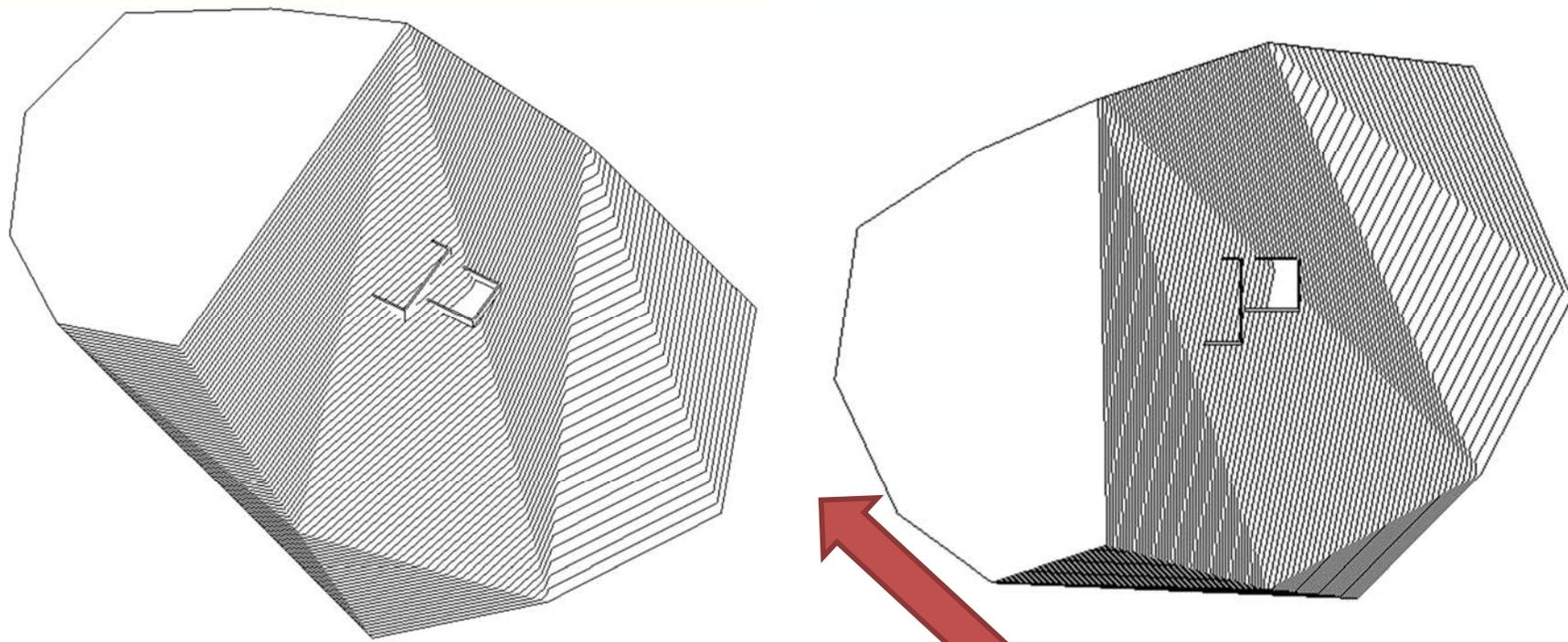
- Now using the **Site** Plan View Located under Floor Plans we can see the building footprint and begin to draw out our points for the topographic surface.

- The heights I selected are essentially random but they slope downwards from left to right.



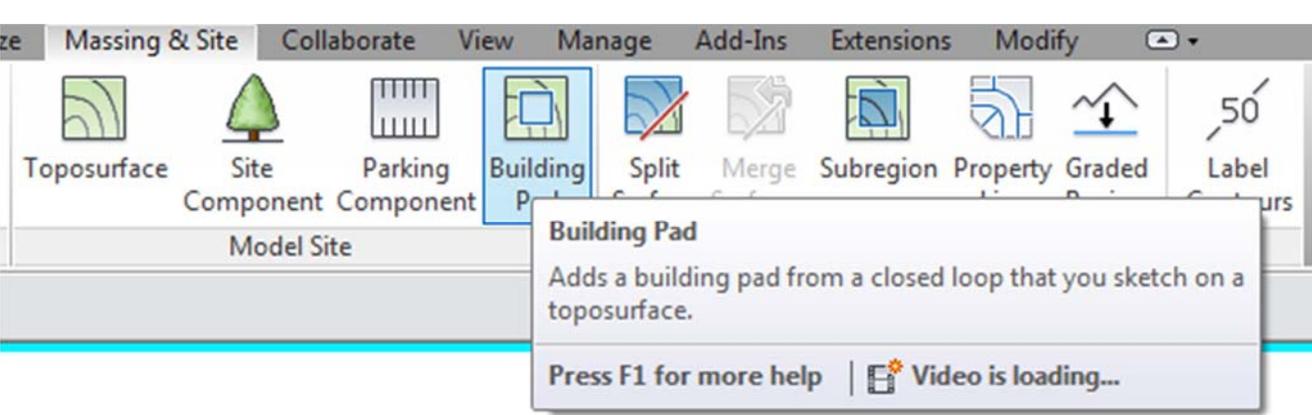
1. To the far left side of the building you place a set of points which I set to a height of 80’.

2. To the center of the building you place a set of points which I set to a height of 30’.



To the far left side of the building you place a set of points which I set to a height of -5'.

If you see the image above you can see that our building is currently dug into the contours instead of having our footprint shaped out, there's a solution for this.



- Under the **Massing & Site** tab, find the **Building Pad** button. This would add the cutout on the contoured surface that is necessary to avoid getting dirt inside of our structure.
- Next we select the boundary line tool we fine best fit for the job, if you have a rectangular footprint it's easier and faster to just use the rectangle tool. Since my structure isn't a perfect rectangle I decided to use the line tool.



IMPORTANT: Draw the boundary lines of the building pad on the interior sides of the walls. Since this is the places where we do not want the dirt to be.

After completing the building pad, the 3D model should look like this.

