Andhra Pradesh State Skill Development Corporation

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ARCHITECTURAL MODELING USING REVIT

DRAWING OF WALLS

DRAWING OF WALLS (OPTIONS BAR & DRAW TOOLBAR)

CREATING A BASIC WALL

First ensure that you are in a Floor Plan view. Your choice of Floor Plan should match the Level that you wish the base of the wall to start from. Now switch to the "Architecture" menu and click on "Wall" on the "Build" panel.

OPTIONS BAR

As soon as you click "Wall" the Options bar will change and should appear similar to the image above. Via this Bar, you have quick access to options for setting the height of your wall, the Location Line position, whether you wish to draw a chain of wall segments (without having to activate Wall before placing each segment), whether you wish an offset to be applied to the wall position (relative to your cursor position) and whether you need to apply a radius to your wall segment- useful for curved fillets.

TYPE SELECTOR

At the same time that the Options bar changes, the Properties Palette does too. You will now have access to all the Wall Types available in your current project. Remember, these will be divided into three distinct groups- Basic Wall, Curtain Wall and Stacked Wall types. The currently selected Wall Type will be displayed in the Type Selector, at the top of the Properties Palette. Now I'm going to select a 225mm masonry wall.

Be sure to change the Wall Type to the one you want, if it is not currently selected. You can now click in the floor plan view to designate the start point of your wall. After your initial click, more your cursor to define the direction and length of the first wall segment. Note how Revit presents temporary dimensions to help you gauge the length of the wall you are defining.

WALL LOCATION LINES:

One important decision you will need to make (ideally) before placing your Wall segments is which Location Line setting you are going to use. The drop-down selector can be accessed either from the Options Bar or the Properties palette.

ADJUSTING THE HEIGHT OF WALLS:

To control and adjust the height of your wall elements you have a number of Instance Parameters. To access these just select an instance (i.e. a single element) of wall within your model and then examine the Properties Palette.

BASE CONSTRAINT: You can choose from a drop-down list, any of the Levels currently in your model- to define the height of the base of your Wall instance (Here You need to select the base constraint as Level1 i.e., ground floor).

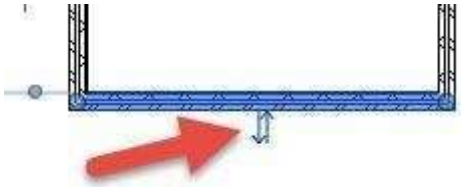
TOP CONSTRAINT: You can choose from a drop-down list, any of the Levels currently in your model to define the height of the top of your Wall instance (Here You need to select the top constraint as Level 2 i.e., first floor).

BASE OFFSET: This is a finite numeric value (either positive or negative) that is added to the height of the BASE of your wall (as set by the "Base Constraint" parameter.

TOP OFFSET: This is a finite numeric value (either positive or negative) that is added to the height of the TOP of your wall (as set by the "Top Constraint" parameter.

You set these parameters on a per-instance basis (i.e. selecting each segment of Wall in turn) or select multiple instances of Wall and then change their parameters all in one go.

CHANGING THE DIRECTION OF YOUR WALLS:



If you happen to have drawn your walls in the wrong direction (see "Clockwise Direction" above) they will (in effect) be inside out! If you have done this (and you will at some point!), don't worry. Simply select the wall elements in question and (once selected) you will see a small double arrow icon (see the image above). Click on this icon and the wall will "hand" itself (i.e. reverse the order of its layers from inside to out).

1. On the Draw panel, select a draw tool to place the wall using one of the following methods:

   - Draw the wall. Use the default Line tool to place a straight wall segment by specifying both a start point and an endpoint in the drawing. Alternatively, you can specify the start point, move the cursor in the desired direction, and then enter a value for the wall length.
     Other tools on the Draw panel let you sketch rectangular, polygonal, circular, elliptical or arced layouts.

   - **About Sketching Elements**
     you can either draw sketch lines or use a Pick (Walls, Lines, and Edges) option when sketching.

   - **Sketch a Rectangle**
     Select the position for 2 diagonal corners to sketch a rectangle.

   - **Sketch a Circle**
     Draw a circle by specifying its center point and the radius.

   - **Sketch an Inscribed Polygon**
     For an inscribed polygon, the radius of the circle is measured to a vertex between sides of the polygon.

   - **Sketch a Circumscribed Polygon**
     Sketch a polygon whose sides are a specific distance from the center.

   - **About Sketching Arcs**
     several arc tools are available for sketching curves or rounded corners.

- **About Sketching Ellipses**
  Ellipses are available for model lines, detail lines, beams, walls, and sketch-based elements.

- **About Sketching Splines**
  when sketching a spline, try to use the simplest lines (or combination of lines) to achieve the desired results.

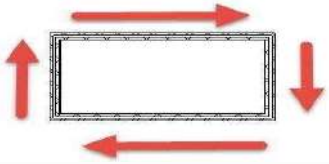
As you are drawing a wall with these tools, you can press the Spacebar to flip the interior/exterior orientation of the wall in relation to its location line.
Note: You cannot use the spacebar to flip the interior/exterior orientation of a wall created with an ellipse or partial ellipse during wall creation.

- Place the wall along an existing line. Use the Pick Lines tool to place wall segments along lines you select in the drawing. The lines can be model lines, reference planes, or edges of elements, such as roofs, curtain panels, and other walls.
  Tip: To place walls simultaneously on an entire chain of lines, move the cursor over a line segment, press Tab to highlight them all, and then click.

- Place the wall on an existing face. Use the Pick Faces tool to place a wall on a massing face or a generic model face that you select in the drawing. **Note:** You cannot pick the face of a wall created with an ellipse or partial ellipse. **Tip:** To place walls simultaneously on all vertical faces on the mass or generic model, move the cursor over one of the faces, press Tab to highlight them all, and then click.

2. To exit the Wall tool, click ESC twice.

CLOCKWISE CONVENTION:



In Revit, Walls are frequently asymmetrical. Consequently this means that they have a "direction" and as such it does make a difference as to how you define them in your model. The convention is that you should define (or "draw" for want of a better expression) you're Walls in Revit in a clockwise direction. Take the image above: If we want to put these 4 walls into Revit, it doesn't matter which one we start with- but as we are clicking to define our start and end points (and let's assume we have "Chain" turned on) we need to make sure we're doing so in a clockwise order. This will ensure that the outside layers of our walls are indeed on the outsides of the building.