



## Lesson 8

### The Focus of this Lesson is:

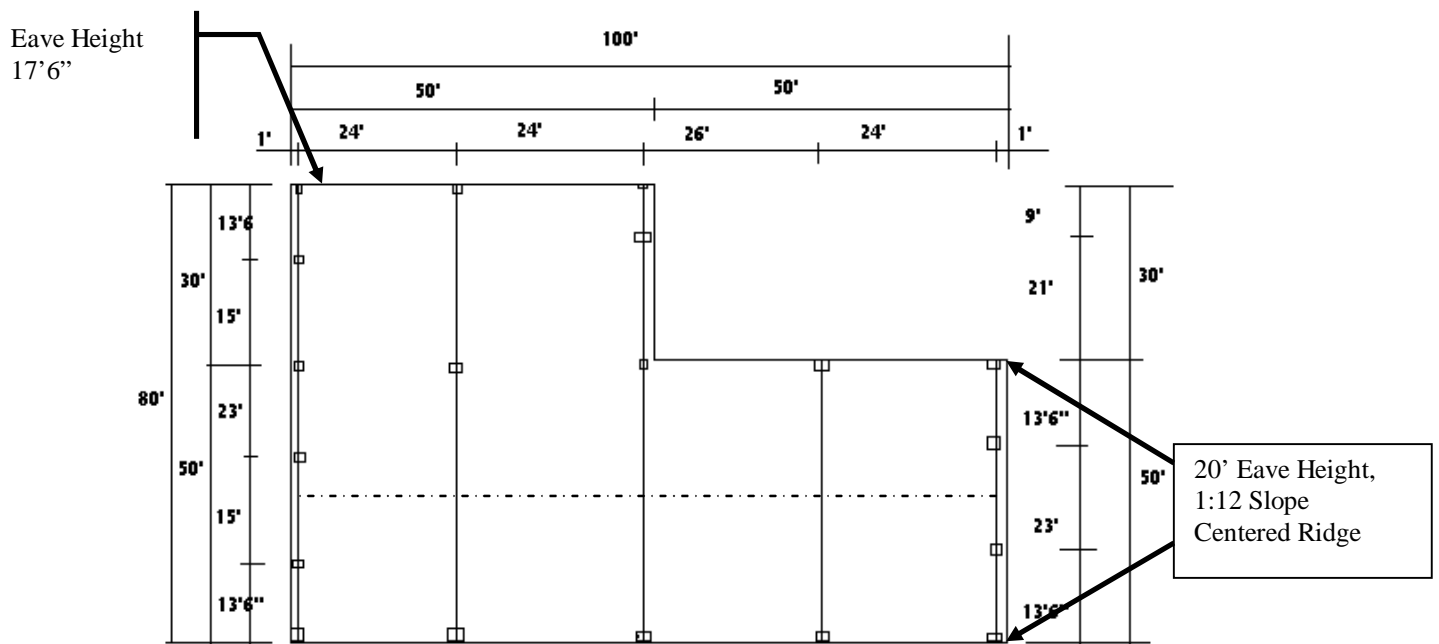
- Use Custom Shapes to define your Geometry (Floor and Section). You will use X & Y Coordinates to create the floor plan, plotting coordinates where the building walls change directions.

#### Lesson Comments:

Custom Shapes are intended to allow Geometry Input of the Floor and Section for shapes where there is no pre-defined shape available for selection. *Note that there is a maximum of two roof planes per custom shape input, but you may add multiple custom shapes to create your desired result.*

The following pages are actual VP Command screens with instruction and explanations. The floor plan to the building you are about to input is shown below. A Pre-Defined shapes exists for this shape, however, you will use the "Custom Shape" method as an introduction to this concept.

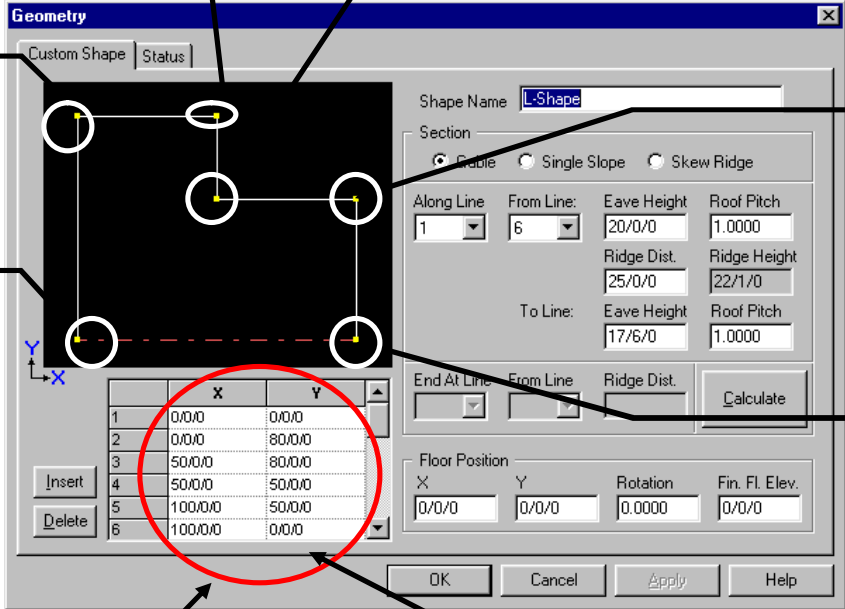
#### Begin Building Input:



Input the building New/Insert a New Shape/Revise/Custom Shape. Shape name for this example is L-Shape.

Begin by Inputting the X & Y coordinates as shown. Use your Floor Plan to assist you in Locating Points (Coordinates). See VPCommand screen on page two for reference of Coordinate locations. You will input a coordinate at every place your footprint changes direction. *Note that a "line" will always connect back to the first coordinate you input. Thus, you DO NOT need to re-input "0, 0" in this case. Only ONE coordinate point is allowed. You MAY NOT have duplicate points.*

- First Point X=0 and Y=0
- Second Point X=0 and Y=80
- Third Point X=50 and Y=80
- Fourth Point X= 50 and Y=50
- Fifth Point X=100 and Y=50
- Sixth Point X=100 and Y=0



**Point One**  
X=0  
Y=0

**Point Two**  
X=0  
Y=80

**Point Three**  
X=50  
Y=80

**Point Four**  
X=50  
Y=50

**Point Five**  
X=100  
Y=50

**Point Six**  
X=100  
Y=0

The screenshot shows the 'Geometry' dialog box with the 'Custom Shape' tab selected. The 'Shape Name' is 'L-Shape'. The 'Section' options are 'Gable', 'Single Slope', and 'Skew Ridge'. The 'Along Line' is set to 1, 'From Line' to 6, 'Eave Height' to 20/0/0, and 'Roof Pitch' to 1.0000. The 'Ridge Dist.' is 25/0/0 and 'Ridge Height' is 22/1/0. The 'To Line' is 17/6/0 and 'Roof Pitch' is 1.0000. The 'End At Line' and 'From Line' are both set to 6. The 'Calculate' button is visible. The 'Floor Position' section has 'X' and 'Y' set to 0/0/0, 'Rotation' to 0.0000, and 'Fin. Fl. Elev.' to 0/0/0. A table at the bottom of the dialog shows the following coordinates:

	X	Y
1	0/0/0	0/0/0
2	0/0/0	80/0/0
3	50/0/0	80/0/0
4	50/0/0	50/0/0
5	100/0/0	50/0/0
6	100/0/0	0/0/0

• Note that you DO NOT input the origin again. You are plotting coordinates where the building walls change directions. You have already placed at coordinate at x=0, y=0.

### Floor Coordinates

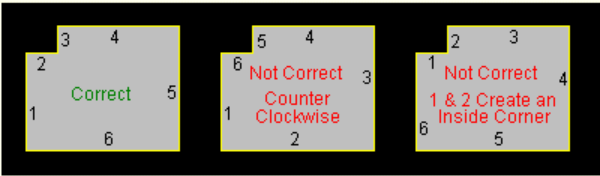
Within this grid control, select the X and Y floor coordinate dimensions that you want to insert or revise to define the floor layout of your shape.

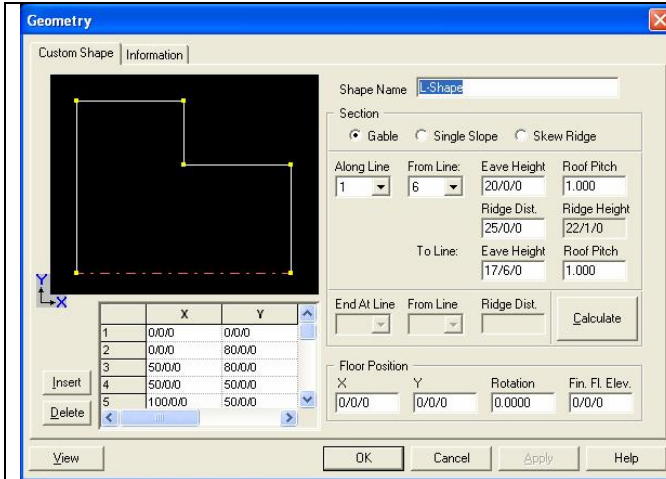
**Floor Coordinate - X**  
Enter the horizontal dimension (right is (+) positive, left is (-) negative) of the end point of the floor line.

**Floor Coordinate - Y**  
Enter the vertical dimension (toward the back / up is (+) positive, forward / down is (-) negative) of the end point of the floor line.

**Note:**

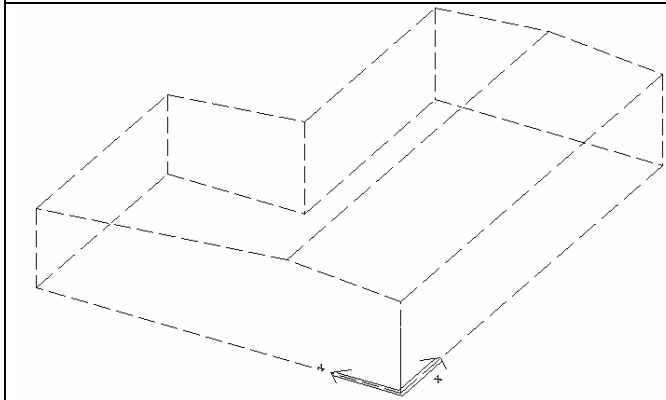
1. The floor must be input clockwise, and the first and second lines must create an outside corner.
2. The sketch of the floor plan displays a dynamic image, it will resize proportionally to match your shape's floor dimensions. The ridge line (gable sections) and wall numbers are not displayed. The ridge line is displayed on skewed ridge shapes.
3. Each shape has the ability to create only 1 section, with a maximum of 2 roofs per shape. Additional shapes may be input to create a building with 3 or more roofs using Custom Shape input method and using the x, y floor position options.



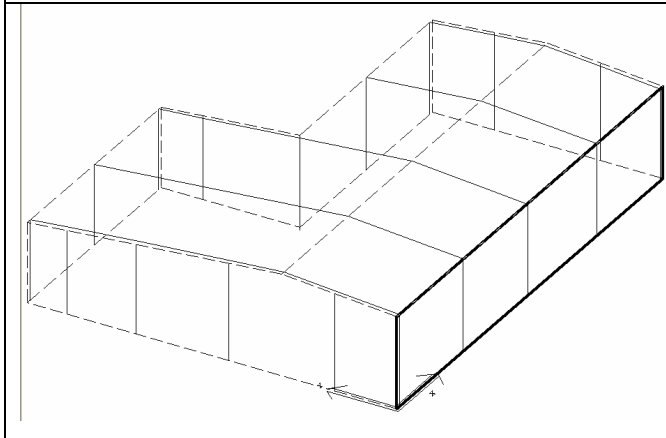


- 1) Define your *Building Cross Section*.
  - The walls are **numbered** beginning at the origin and counting **clockwise** around the floor plan.
  - Line six or the **100' front sidewall** will have 20' eave height.
  - Reference drawing on previous page for **exact coordinate** location.
  - Input **section information** as shown here.

Note: The Along Line used must include the highest point on the single slope shape.



- 2) After you complete these steps and OK, your screen should look like this.
  - The Building Shell *Geometry* is now complete.
  - You can treat this shape as any other *Pre-Defined* shape.



- 3) Now input your frames as you have done in *Lesson 6*, except locate them "along" wall 6.
- 4) Note that the "Along" wall you selected to define the Section for this shape has nothing to do with the "Along" wall for locating frames.
- 5) Any other changes you may need to make are the same steps as any *Predefined* Shape Building.