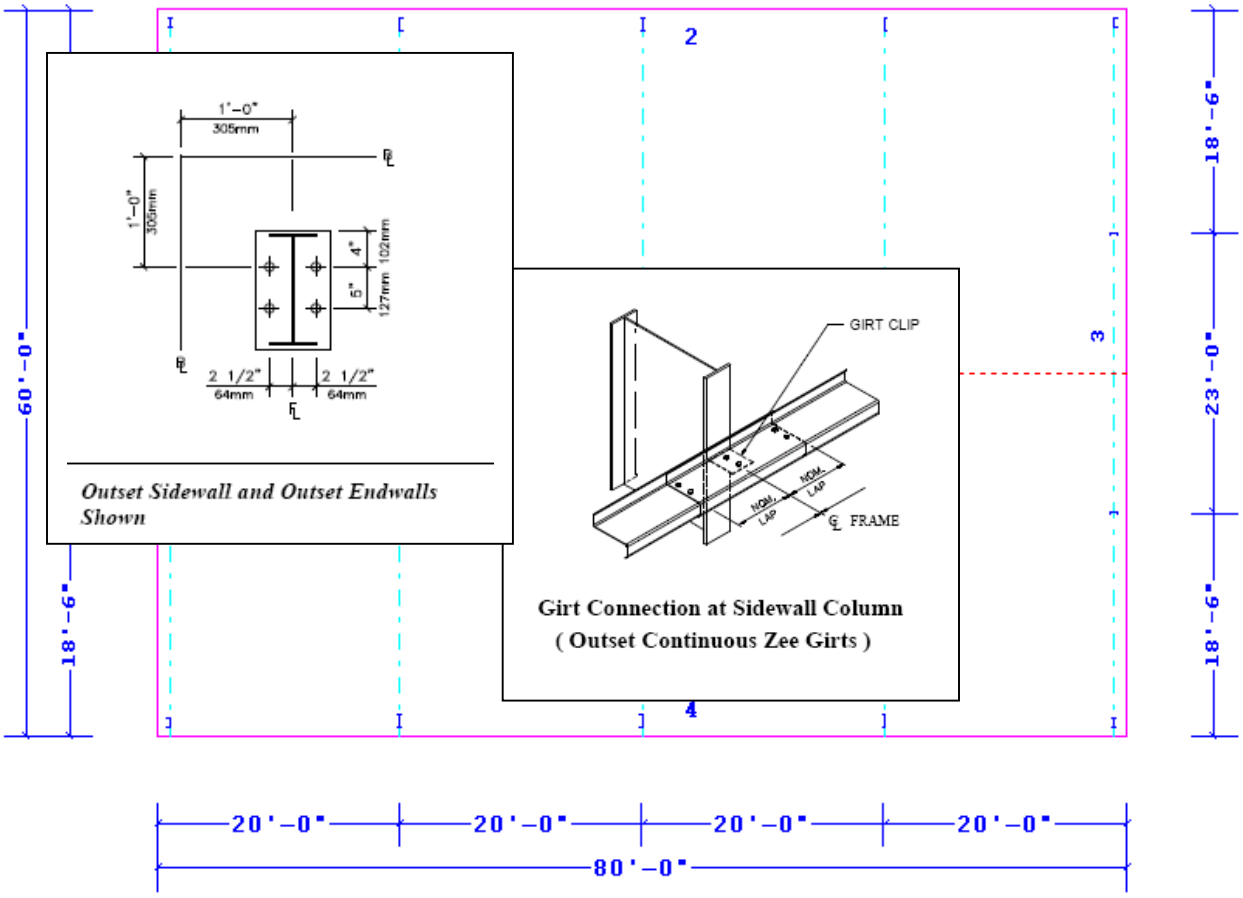
## The Focus of the Lesson is:

- Input a Basic Building Shape (Pre-defined)
- Input Loading
- Input Frames
- Save Files
- Run and Review Reports

In this lesson, you will learn the basic steps to input a building shape using the parameters shown below:

- Building Geometry: 60'-0" wide x 80'-0" long x 12'-0" eave height
- 1:12 roof pitch, symmetrical ridge
- Post & Beam end frames (outset girts, 1'-0 end frame location), Rigid Frame interior frames
- Default panel, trim, etc.



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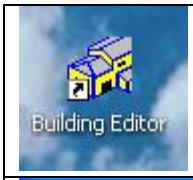
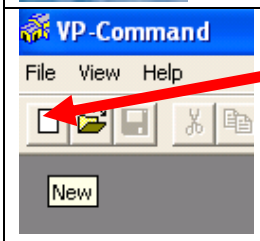
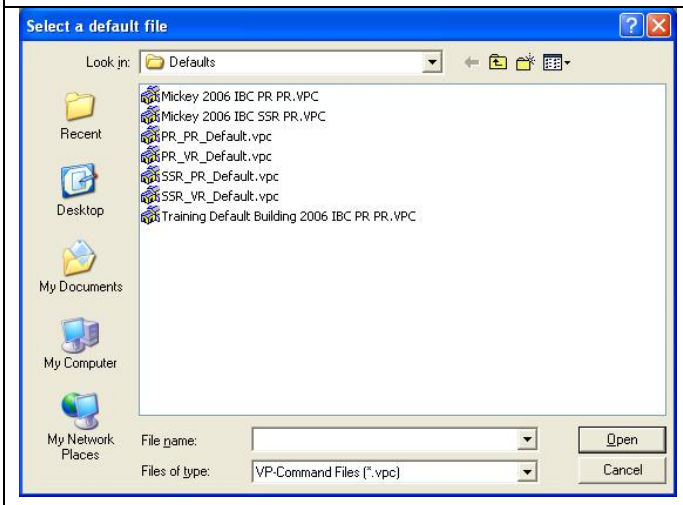
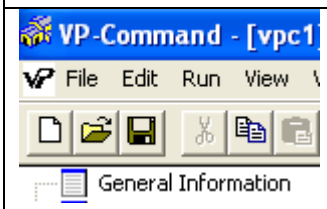
|  | 1. Start Building Editor:<br>• Click Building Editor Icon on your desk. |
|  | 2. Start a New File: This will begin the process of creating a brand new VPCommand file (or project).<br>• Click once on the New File icon from the toolbar (or click on File / New from the menu) |
|  | 3. From the *Select a default file* window:<br>• Click on PR_PR_Default.vpc<br>• Click on Open<br><br>Note: You will investigate and create default project(s) of your own in Lesson 2. A default file is a template of sorts containing your building preferences such as loads and codes, panel types, finishes, trim preferences, names and addresses, etc. This will save you from having to input repetitive information in future projects. |
|  | 4. General Information file:<br>• Double-click the General Information file. |
|  | At the General Information window you MUST complete the Jobsite Information, Builder, and Division Information tabs. The other tabs may be filled in as necessary. The information you provide will be shown on Reports and Drawings.<br>You may use your own information. |

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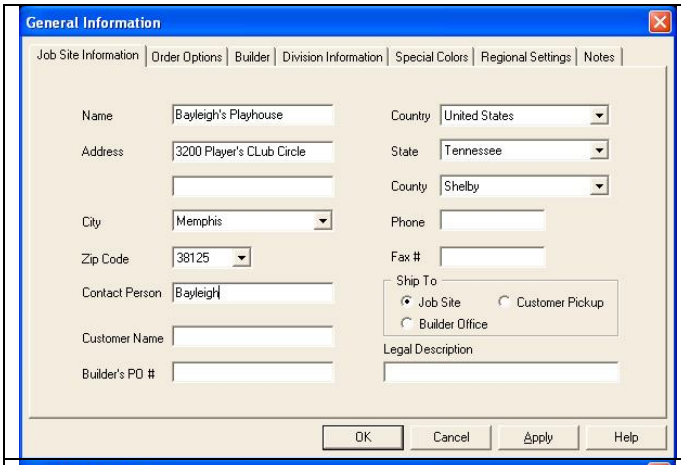
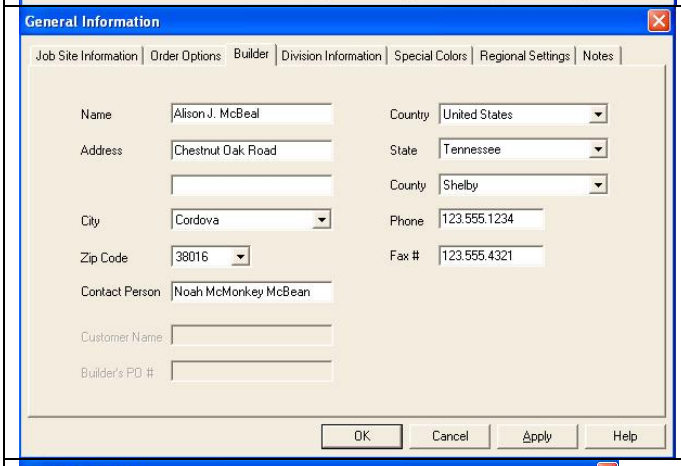
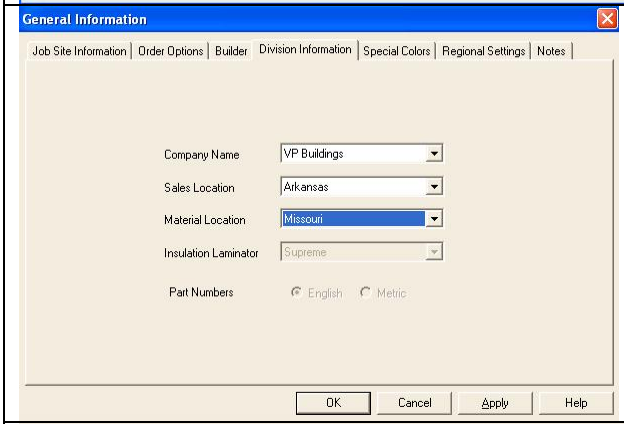
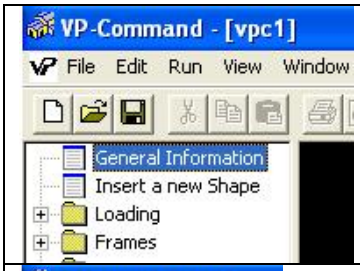
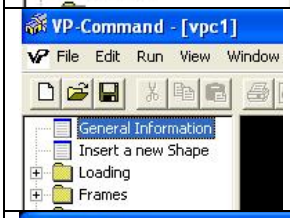
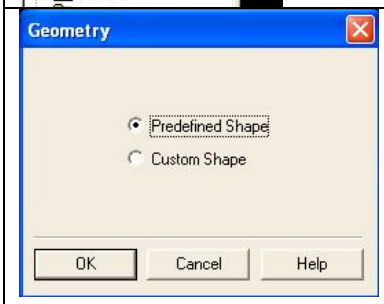
|  | Jobsite Information:<br>• Complete the required fields<br><br>Note: When you build your Default file(s) you will be required to fill out this window. Most users use their office information and change as needed on future projects. |
|  | Builder:<br>• Complete the required fields<br><br>Note: When you build your Default file(s) you will be required to fill out this window. Once completed this information will be applied to future VPC files that use this default and you will only change as needed. |
|  | Division Information:<br>• Complete the required fields<br><br>Note: When you build your Default file(s) you will be required to fill out this window. Once completed this information will be applied to future VPC files that use this default and you will only change as needed. Ask your instructor if you are unsure what values to select. |
|  | Click on OK when input is complete.<br>Note: OK checks your input and closes the window if OK. Cancel ignores all input and closes the window. Apply checks your input and leaves the window open. Help will display information explaining that window. |




When a file has been revised, it will display a red checkmark. This will allow you to easily identify where changes have been made.

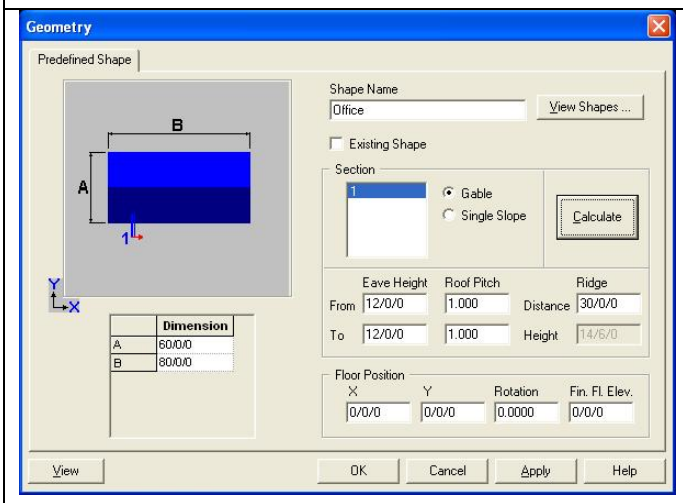


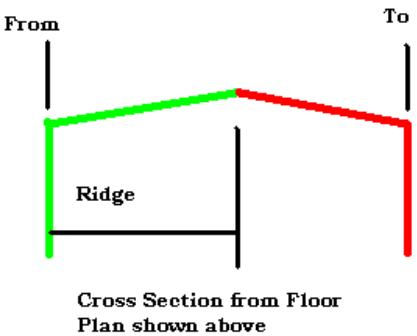

5. Insert a new Shape:
   - Double-click Insert a new Shape to access the Geometry window.




The Predefined Shape button will already be selected. (You will study Custom Shape in Lesson 8.)
- Click on OK.

Note: Predefined Shape will allow you to input the building envelope by selecting from over one hundred various geometrical shapes. You will select a footprint to suit your needs.




Cross Section from Floor Plan shown above

Defining Geometry:
- Input a Shape Name (use Office for this lesson). This name is used to identify this Shape throughout VPCommand. Example names may be Office, Warehouse, Manufacturing, or any name you wish to use to identify your building shape. When working with *multiple shapes*, the shape name will allow you to quickly identify which building you are working on in the "Tree"

Defining Section Dimensions: This predefined shape shows one section cut (1) with a "Red" arrow which represents the "To" dimensions. The opposite wall represents the "From" dimensions. In shapes that are more complex, both the Green (From) and Red (To) arrows will be shown.

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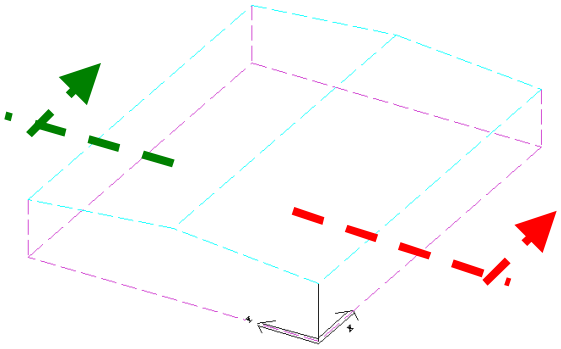
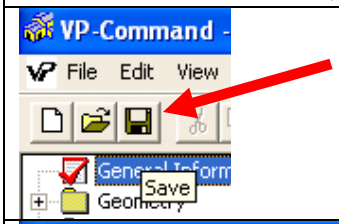
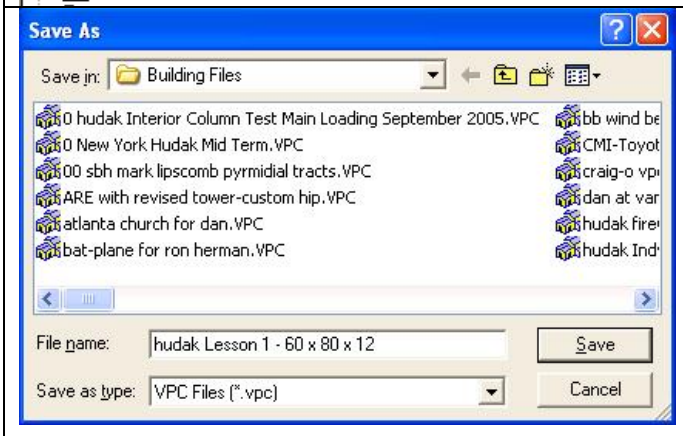
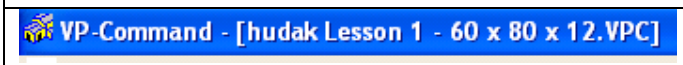
| | • Dimension A = 60<br>• Dimension B = 80<br>• From (Green) Eave Height = 12<br>• From (Green) Roof Pitch = 1<br>• Ridge Distance = 30 (measured from the Green / From arrow)<br>• To (Red) Eave Height = 12<br>• To (Red) Roof Pitch = 1<br><br>Note: You may leave one value blank and allow VPC to Calculate this unknown.<br>• Click on OK when complete. |
|  <br>Reference of Section through Shape | • The Graphics Pane will display a three-dimensional view of your building envelope. |
|  | 6. Save your file:<br>• Click on the Save icon from the toolbar. |
|  | • The Save As window will appear pointing to Save in the Building Files folder.<br>• In the File name field, type in a descriptive name that you wish to identify with this VPC file.<br>• Click on the Save button.<br><br>Note: The Building Files folder is where VPC will first look using VPC functions such as the Building Editor, Drawings, and VPC-Run. |
|  | The top of the Building Editor window will display your file name. |

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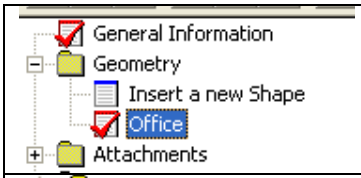
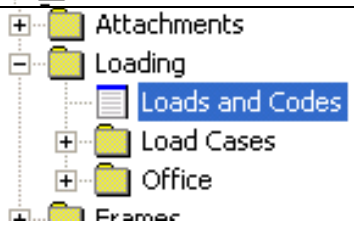
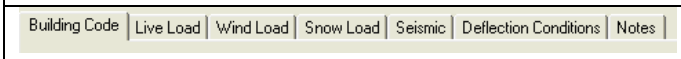
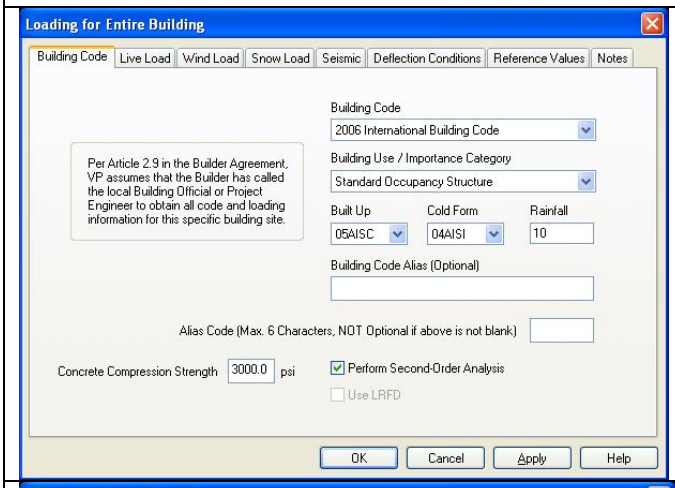
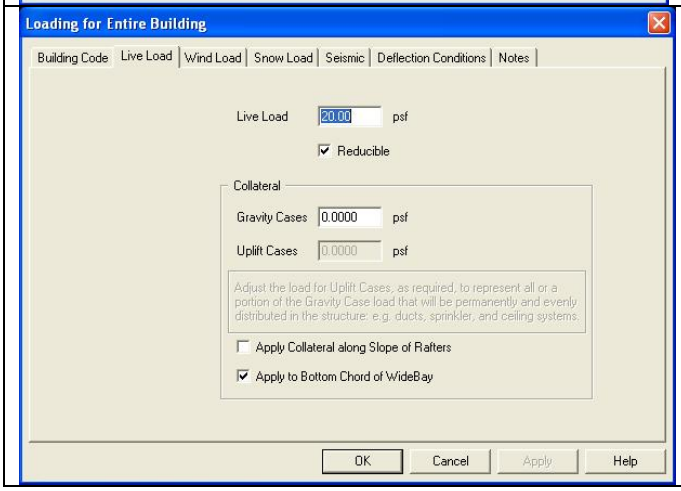
|  | Note: If you need to modify your building shape:<br>• open the "Geometry" folder<br>• Double-click the shape file (Office in this example) |
|  | 7. Inputting Loading Parameters: In this step you will provide loading for your area. The loads shown are for reference only. Ask your instructor if you are unsure of any input value.<br>• Click once on the plus sign (+) to the left of the Loading folder to expand it.<br>• Double-click the Loads and Codes file to open the Loading for Entire Building window. |
|  | You will be complete each tab at this level as required. |
|  | Building Code: Select your appropriate code.<br><br>Note: Your local building official may specify that a unique "Building Code Alias" be entered so that drawings and reports include this information. |
|  | Live Load: Input required live load and any additional Collateral loads.<br><br>Note:<br>If you left-click the mouse in any field in any window of VPC, and hit the "F1" key from the keyboard, you will receive a help message explaining the entire page. |

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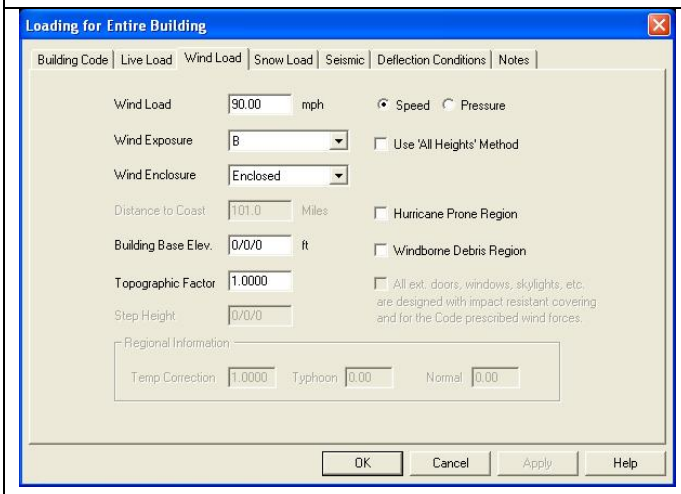
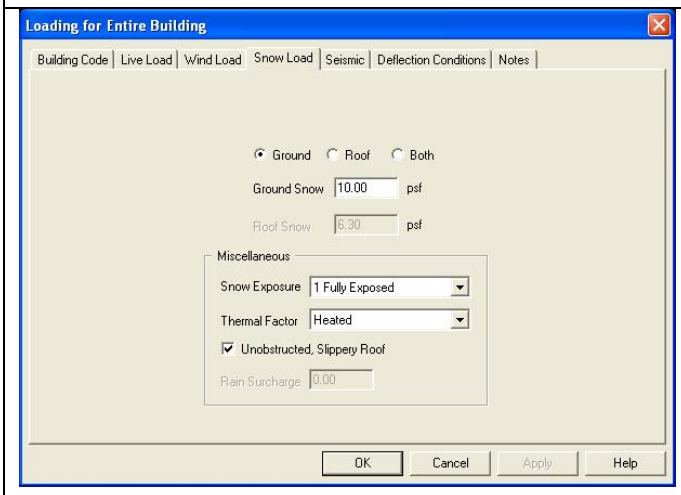
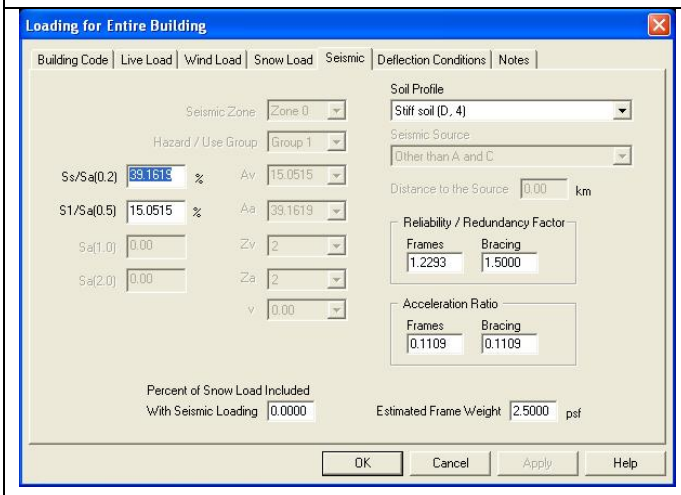
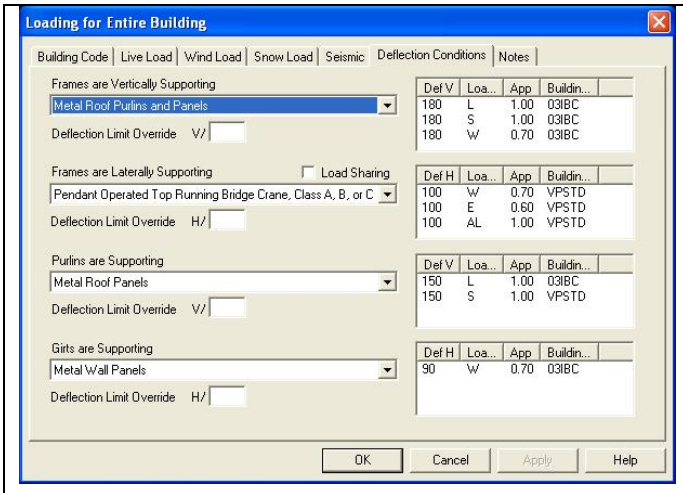
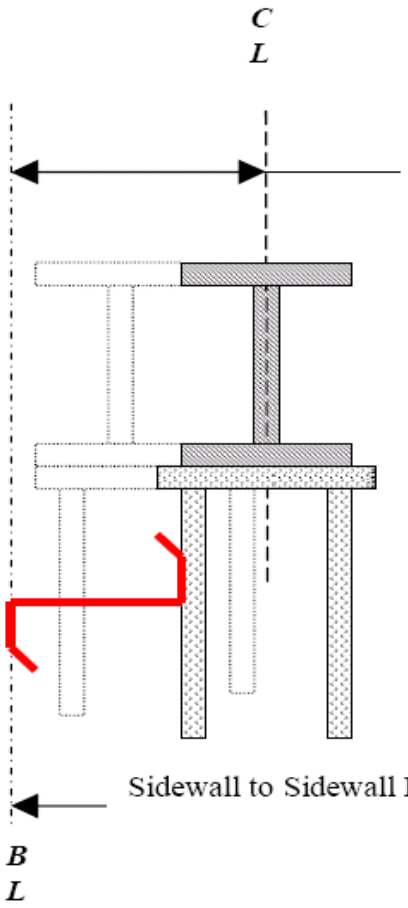
|  | Wind Load: Input required wind speed, exposure, and enclosure.<br><br>Note: This is typically specified by local building official based on wind contour maps. |
|  | Snow Load: Input required snow load (ground, roof, or both).<br><br>Note: This is typically specified by local building official based on snow contour maps. |
|  | Seismic: Input applicable Ss and S1 or Aa and Av. Input Soil Profile, soil profile is determined by the Soil Engineer. The below instructions will take you to a website where you can input your jobsite information to obtain the Ss and S1 values.<br><br>See Note Section for How-To on determine Ss and S1 values based on longitude and Latitude. |




The Deflection Conditions tab defaults to the frames and secondary supporting metal roof and wall material. You may change this as required for masonry, flexible ceilings, etc.

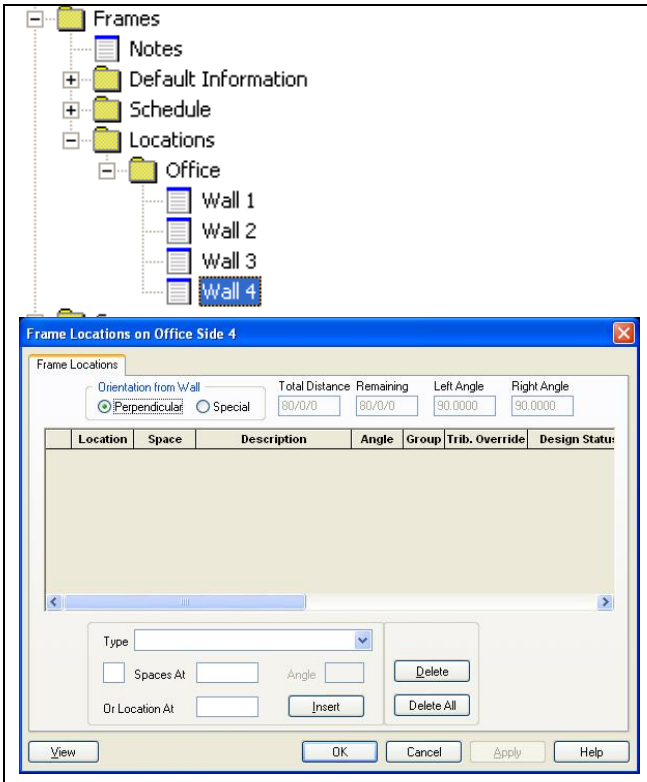



**End Frame Location Dimensions**

**Building Line to Centerline:**

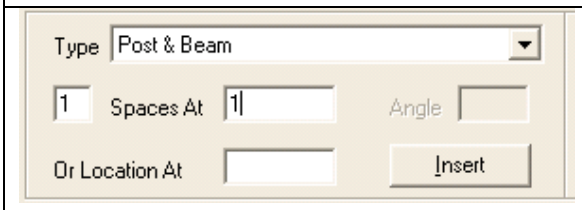
- **7" and 8 ½" Outset/Bypass Endwall Girts**
  **1'-0" BL to CL Frame**
- **10" and 11 ½" Outset/Bypass Endwall Girts**
  **1'- 3" BL to CL Frame**
- **7", 8 ½", 10", and 11 ½" Inset/Flush Endwall Girts**
  **0' – 6" BL to CL Frame**
- **Other as Desired**

❖ Note that the overall building dimension (out to out of Building Line) do not change. The frame is moved toward or away from the building line to accommodate the desired offset.



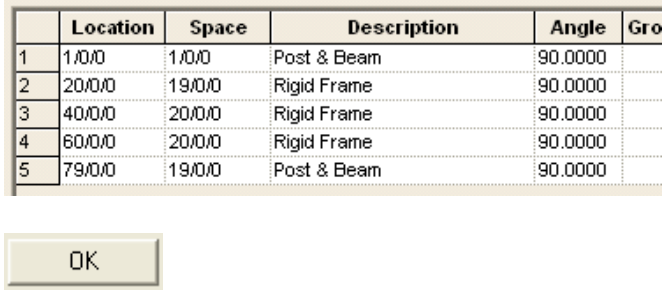

8. Locating Frames / Defining Bay Spacing: This lesson will have 20'-0" bays with an outset girt condition (end frames 1'-0" from each endwall). Frames are input perpendicular or at an angle to a wall (Along Wall). For this example, we will use Post and Beam end frames and Rigid Frame interior frames which are contained in the Frames/Schedule (to be discussed more in Lesson 2).

- Click once on the plus (+) sign to the left of the Frames folder to open it
- Open the Locations folder
- Open your shape folder (Office in the example shown)
- Double-click Wall 4 to open the Frame Locations window. Wall 4 will be the frame you are locating the frames perpendicular to.

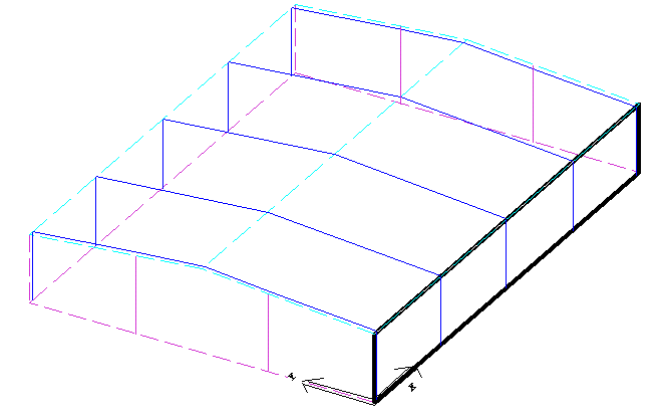



- At the Type field, select Post & Beam
- Input 1 Spaces At 1 (for an outset endwall condition)
- Click on the Insert button


Note: After the Insert button is clicked, the frame(s) will appear in the frame list. The "Spaces At" option will locate the centerline of frame from the last centerline of frame while the "Location At" will locate the centerline of frame from the left hand side (zero dimensions) of the selected (along) wall.




- insert a Rigid Frame at 1 spaces at 19
- insert a Rigid Frame at 2 spaces at 20
- insert a Post & Beam at 1 spaces at 19
- Click on OK when all frames have been located and you have 1/0/0 in the Remaining field.

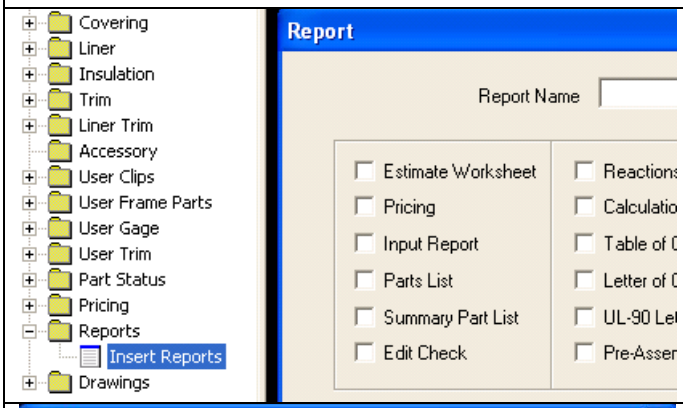


The graphics pane will display your frames as yellow stick segments.

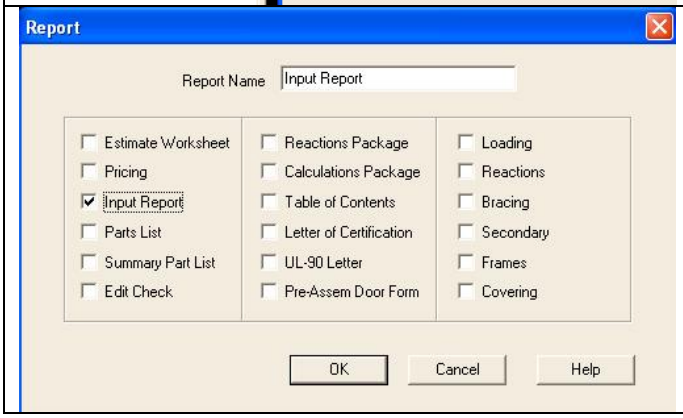
Note: After the VPC-Run is completed you will investigate the various colors of the building members. This will lead you to find what has been designed and priced correctly and what has been unable to design and price.


9. Save your VPCommand file.
   - Click on the Save icon. The file will immediately save.

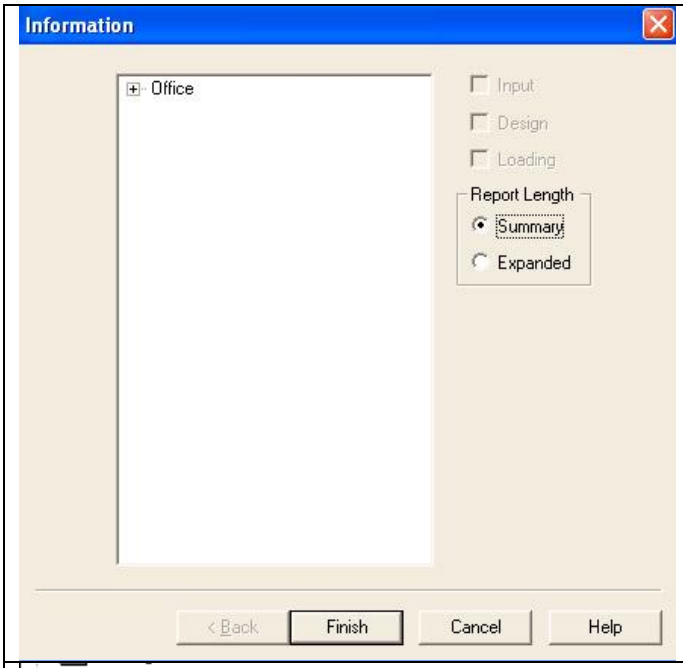
Note: Remember that the first time you saved your file you saved it to the Building Files folder and were required to name it. Every save after this adds the latest information to the VPC file.



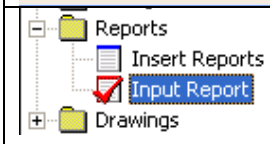

10. Run and Review your Input Report.
   - Click on the plus (+) sign to the left of the Reports folder to open it.
   - Double-click the Insert Reports file to open the Report window.



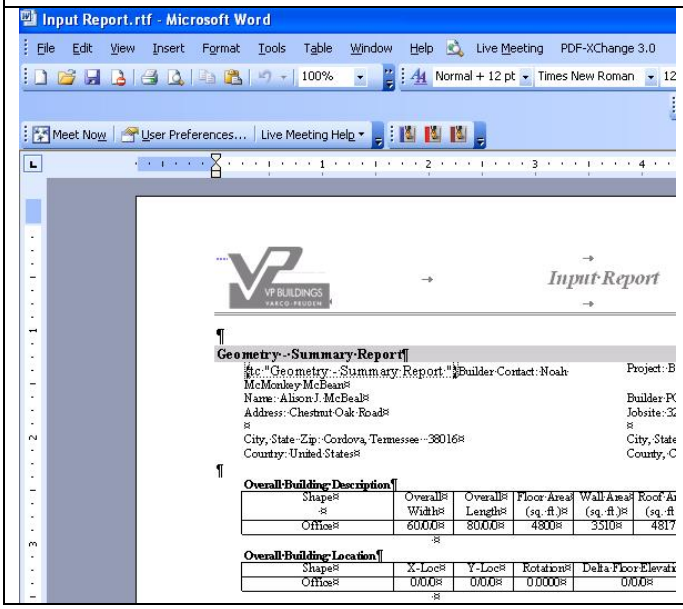

- Select Input Report from the list. The first report you click on from the list will become the header on the report generated. You may type in any name you desire in the Report Name field.
- Click on OK.




- Click on Finish at the Information window.




- Open the Reports folder again.
- Double-click the Input Report (or whatever you have named it) to open the report in Microsoft Word.




- Review the Input Report.
- Exit MSWord when review is complete.

Note: What you have input into VPCommand and is reflected on this report is what the VPC-Run function will attempt to design, detail, and price. This report is not tied back in with VPC. Any changes you make on this MSWord document will not be placed back into the VPC Building Editor. If you make any changes to this report (such as add pictures, etc.) you should save it as a ".doc" MSWord file type.

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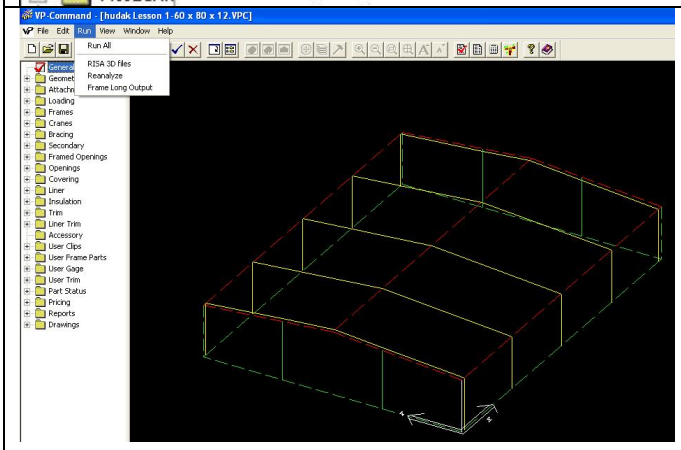
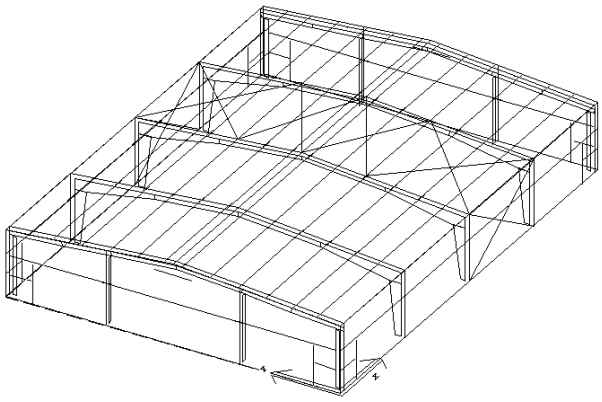
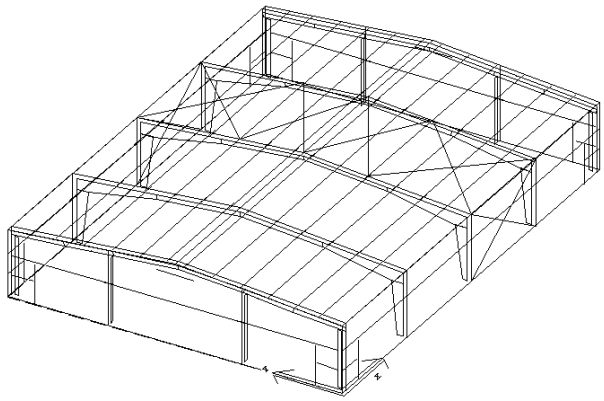
|  | 11. -Run – Designing and Detailing your VPC file.<br>• Click on Run |
|  | • Click on the Run All from the menu.<br><br>Note: At this point VPC will design, detail, and price your building based upon your input. At the lower left portion of this screen you will see the functions that are being executed and you will also see your building file take shape. |
|  | • Your curser will be shape of hour glass during run time.<br>• When the Run is complete you will see the building's segment colors have changed. |



12. Reviewing VPC Colors:

- The colors and building segments will appear as they did when you completed the Run. Looking at the colors will give you a good indication of which building components have designed and priced.

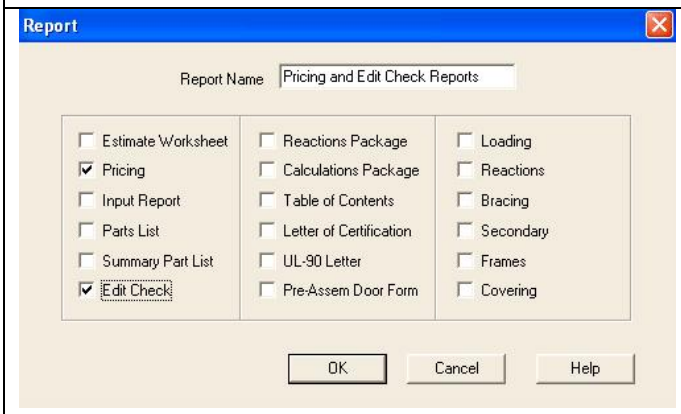
Description of VPCommand Colors

Frames: Red Frames indicate that the frame designed and detailed completely.
Frames: Yellow indicates that the frame has not been designed, or Interactive Design is required. This member has not priced.

Secondary: Cyan (Light Blue) Secondary indicates the secondary has designed and detailed.
Secondary: White Secondary indicates that the secondary has not been designed or that design has failed for that member. This member has not priced.
Exception: Wide Bay Trussed Purlins that do not design are light blue, however, the part mark number will reflect un-designed members.

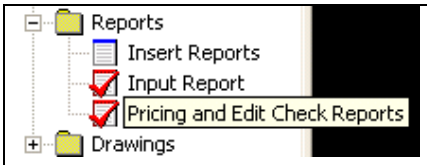
Bracing: Yellow Bracing indicates that the bracing member has been designed and detailed.
Bracing: White Bracing indicates that the bracing member has not been designed or that design has failed for that member. This member has not priced.

Trim: Salmon (Pink) Trim indicates that a trim segment has generated. You must verify on the Reports if there are any unpriced trim items.
Trim: Red-Dashed Lines indicate that the trim segment has not been generated.



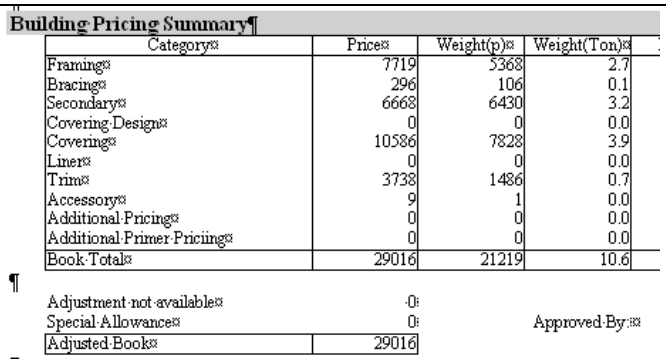

13. Obtaining more Reports – Pricing and Edit Check:

- Still within the Building Editor, open the Reports folder as you did in step 10.
- Double-click the Reports file to open the Report window.
- Click on the Pricing and Edit Check fields. Note that it is recommended you change the name in the Report Name field to reflect what reports you have requested.
- Click on OK.





- Open the Reports folder.
- Double-click the name of the desired report to activate MSWord once again.
- A Warning message will appear to review the Engineering Content list every time you request a Pricing report. You will do this after reviewing the Reports.
- Click on OK on this message to allow MSWord to continue to open.



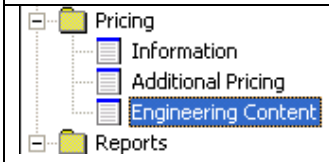
**Building Pricing Summary**

| Category | Price | Weight(p) | Weight(Ton) |
|---|---|---|---|
| Framing | 7719 | 5368 | 2.7 |
| Bracing | 296 | 106 | 0.1 |
| Secondary | 6668 | 6430 | 3.2 |
| Covering Design | 0 | 0 | 0.0 |
| Covering | 10586 | 7828 | 3.9 |
| Liner | 0 | 0 | 0.0 |
| Trim | 3738 | 1486 | 0.7 |
| Accessory | 9 | 1 | 0.0 |
| Additional Pricing | 0 | 0 | 0.0 |
| Additional Primer Priciing | 0 | 0 | 0.0 |
| Book Total | 29016 | 21219 | 10.6 |

| | | |
|---|---|---|
| Adjustment not available | 0 | |
| Special Allowance | 0 | Approved By: |
| Adjusted Book | 29016 | |

Reviewing the Pricing and Edit Check Reports:

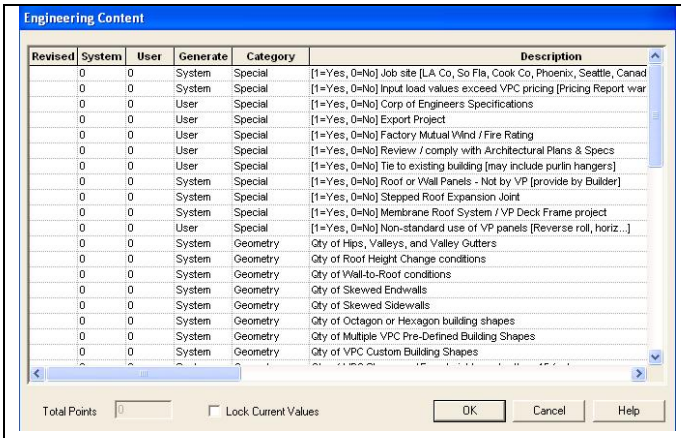
- In addition to reviewing the VPC colors, you will review the Pricing and Edit Check reports thoroughly to look for potential problems before finalizing your price.
- At the Building Pricing Summary section you should look for asterisks (*) in any category. This will indicate a potential problem that you must correct before pricing is complete.

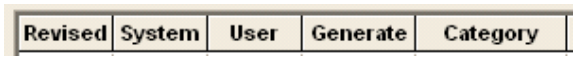



14. Reviewing Engineering Content Screen:

- Open the Pricing folder.

Double-click the Engineering Content file to open the Engineering Content window.





Description of the Engineering Content Screen:

Revised: Show the status of the condition. If the condition was added by the system (VPC), it will show No, in that the status of that item was set but has not been changed by the user. If the user has modified a system generated or user input item the status will show Yes.
System: Shows the quantity of system detected conditions.
User: Shows the quantity of user input conditions.
Generate: Shows the type of condition, either System or User. A system condition should be detected by VPC automatically. A user condition must be entered by the user.
Category: Shows the category of input the condition is in.
Description: Shows a brief description of the condition.

- Click OK after review and revision is complete to close the Engineering Content window.

Summary: Lesson 1 is now complete. You will learn about the Drawing functions in Lesson 3. The items you have completed in this lesson are:

- Input a basic shape.
- Input Loading
- Input Frames
- Run Input Report. Note: All other information has been defaulted such as panels, trim, etc.
- Complete VPC Run
- Verify building colors and pricing
- Run Pricing and Edit Check reports to look for asterisks (*)
- Review Engineering Content