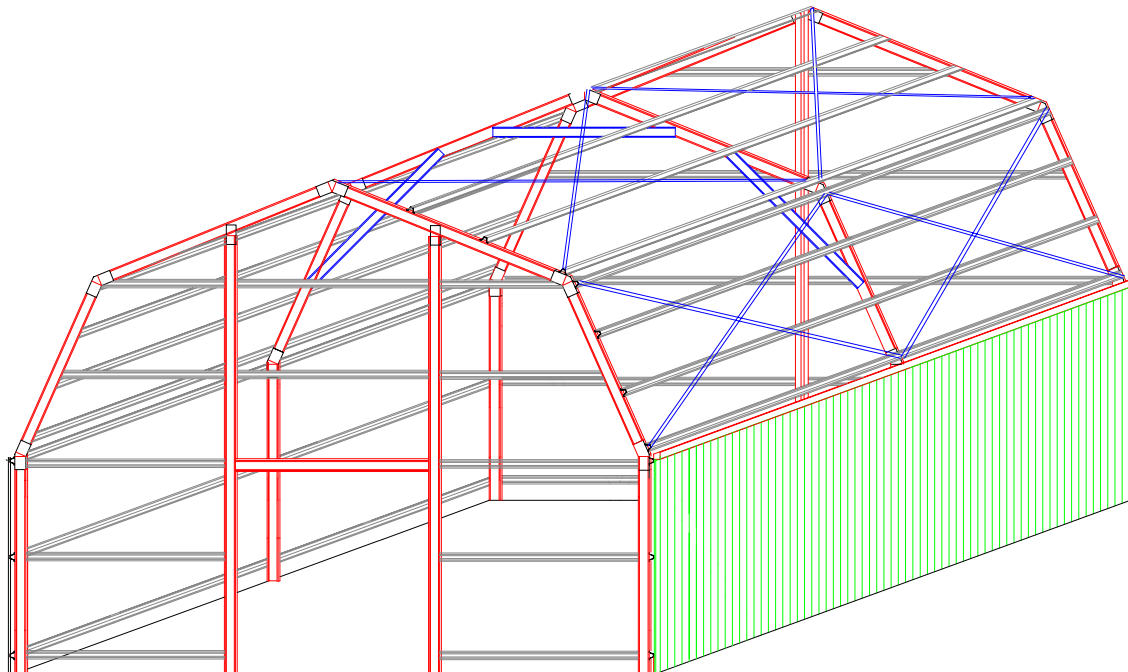


**INSTRUCTION MANUAL FOR MULTIBUILD**  
**VERTICAL CLAD QUAKER BARN**  
**WITH OR WITHOUT OUT MEZZANINE FLOOR**  
**UP TO 12 METRE SPAN**



**SUPPLIED BY:**

LAST UPDATED March 11, 2003  
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*It is important to be aware of the following:*

Before erecting your new building, please check that all local building department requirements such as Building Applications are adhered to.

Check with the local licensing board to see if you require an Owner Builders permit.

This is not a work safety manual, so it is of utmost importance to follow all safety recommendations of OH&S (Occupational Health and Safety) regulations. Do not work on the building in damp conditions and do not walk on roof cladding in damp or frosty conditions.

If you are employing a tradesman to erect your building for you, check with your building department to see if he needs to be licensed and also check that all insurances for both he and his employees are current.

Any information contained in this instruction manual overrides any details as shown on any instruction video or CD.

This manual must be used in conjunction with the engineer's plans as submitted to the local building department.

**NOTE: THE ENGINEERS PLANS OVERRIDES ANY INFORMATION IN THIS MANUAL.**

All measurements are to be taken from the accompanying plans and specifications.

**This manual is to be read in conjunction with:**

**1. Engineering plans supplied with the building.**

This contains a Members Isometric Drawing the connection details and elevation drawing's of the building supplied. The members schedule is written from the supplier's software, and will give particulars on member sizes and spacing, as well as other relevant information.

**2. Bill Of Materials**

This is a list of all components ordered for this building. You can consult it to check you have received all components. It also shows what each component is intended for.

**3. Structural Details**

This is a list of all structural components, including the spacing of these items and their location in the building. It also gives an estimated height to the apex of the structure.

Refer to the schedules for the following:

- Schedule 1- Tools
- Schedule 2 - Eave Purlin Bracket Location
- Schedule 3 - Installation of Side Door.
- Schedule 4 - Installation of End Door.
- Schedule 5 - Fitting Windows and Doors.

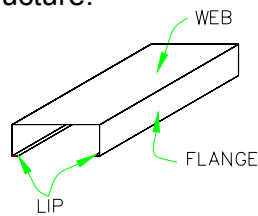
#### Separate Sections

- Annexure 1 - Garaport Bay extensions and Lean-tos.
- Annexure 2 - Mezzanine floors and Stairs.
- Annexure 3 - Horizontal Clad Buildings
- Annexure 4 - Verandah Installation

## Frame Components

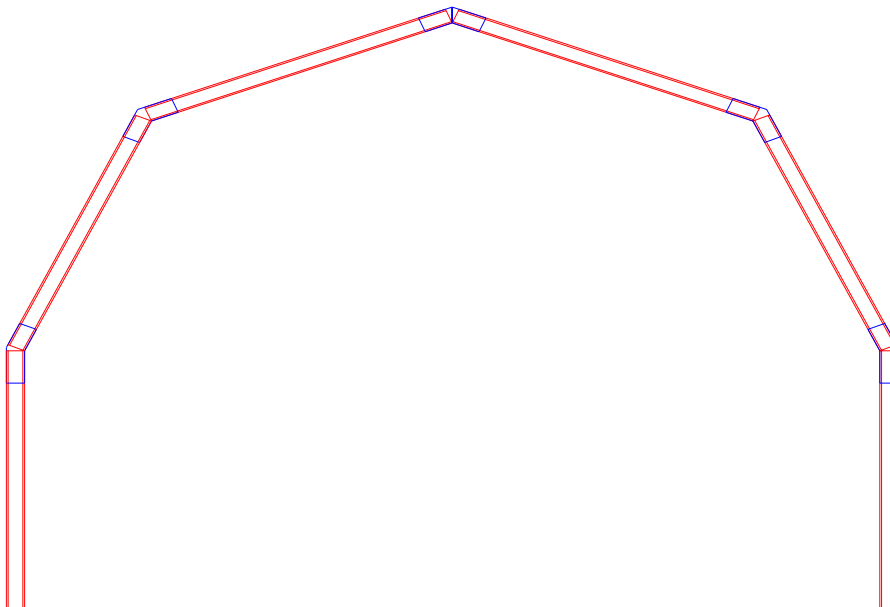
The following is a description of each of the components used in construction. The underlined component name corresponds with the name used on the Members Isometric Drawing and the Specification Sheet.

1. **Column**. “CEE Section” which may vary in size depending on the span, height and other relevant considerations. Joined to the rafter with a haunch bracket.
2. **Rafters**. “CEE Section” which may vary in size depending on the span, height and other relevant considerations. This member is normally the same size as the column (excluding length). Joined together with two apex brackets. Rafters are also referred to as end wall rafters and intermediate rafters, depending on their location in the structure.

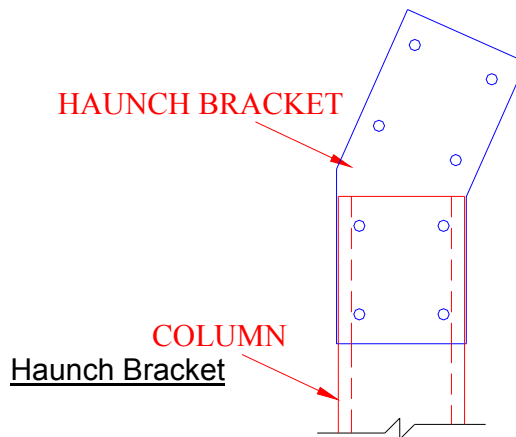


C SECTION.

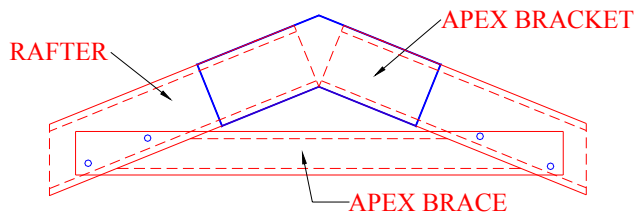
3. **Portal Frame**. Consists of 2 Columns and 4 Rafters, joined together with bracketry to make up a complete ‘frame’. It is common to have a double frame, consisting of 4 columns and 8 rafters attached “back to back”, or even doubled columns and single rafters, as the engineering may require.



4. **Haunch Brackets.** An 11 deg Apex Bracket is used to join the columns and rafters, and is called a Haunch Bracket on this roof configuration only. Haunch brackets must always be attached to the “web” side of the CEE Section. It is of the utmost importance to follow the screwing or bolting procedure as shown. Important Note: Some connections require 2 brackets per connection, and back to back connection may require 4 brackets. Check your MultiBuild output (BOM & Structural Page) for clarification.



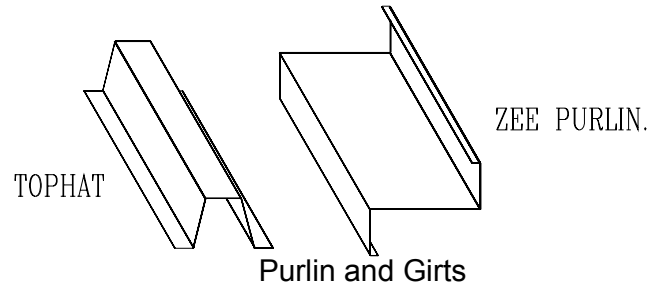
5. **Apex Brackets** A 22 deg Apex Bracket is used to join the lower rafters to the upper rafters, and to join the upper rafters together at the apex of the building. These must be attached to the “web” side of the CEE Section. Follow the screwing or bolting procedure as shown. Important Note: Some connections require 2 brackets per connection, and back to back connection may require 4 brackets. Check your MultiBuild output (BOM & Structural Page) for clarification.



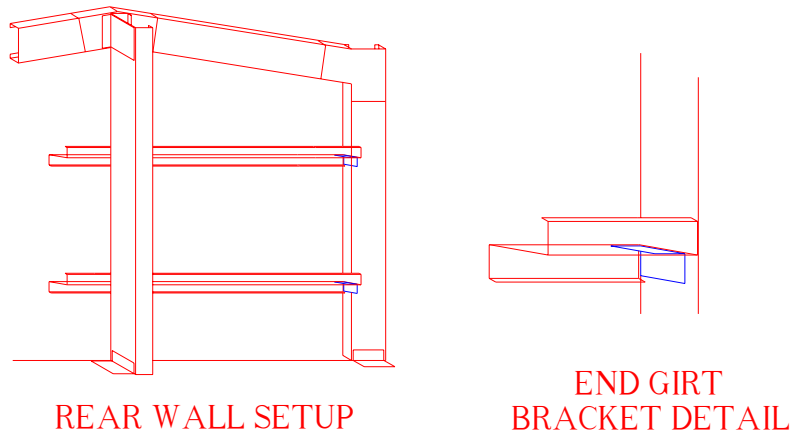
### Apex Bracket

6. **Roof Purlin.** A Tophat or ZEE Section that is screwed to the rafters to support the roof cladding. Use frame screws to attach all framework.
7. **Side Girts.** A Tophat or ZEE Section screwed to the columns to support the wall cladding.

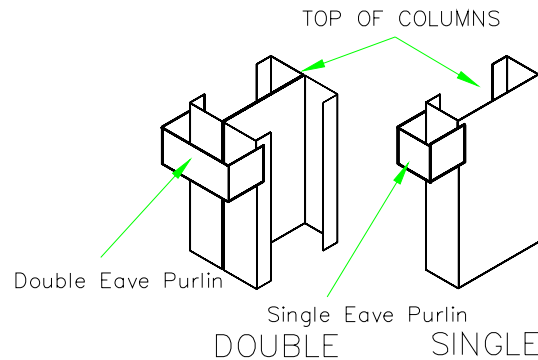
8. **End Girts.** A Tophat or ZEE Section which attaches between the corner columns with one end wall girt bracket on each end and screwed to the end wall mullion where they overlap.



9. **Girt Bracket.** An 'L' shaped bracket to join wall girts to columns and door headers to doorjamb.

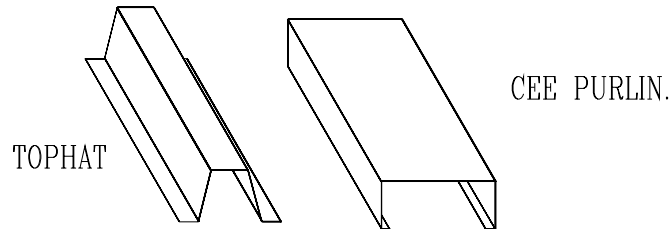


10. **Eave Purlin Bracket.** A "U" shaped bracket tek screwed to one 'web' and one 'lip' of the column to hold the eave purlin in place. The purpose of the bracket is to hold the eave purlin out and in line with the outside edge of the side girts. Note: For back-to-back columns, a double eave purlin bracket is used. These are screwed to the 'lip' side of both columns.

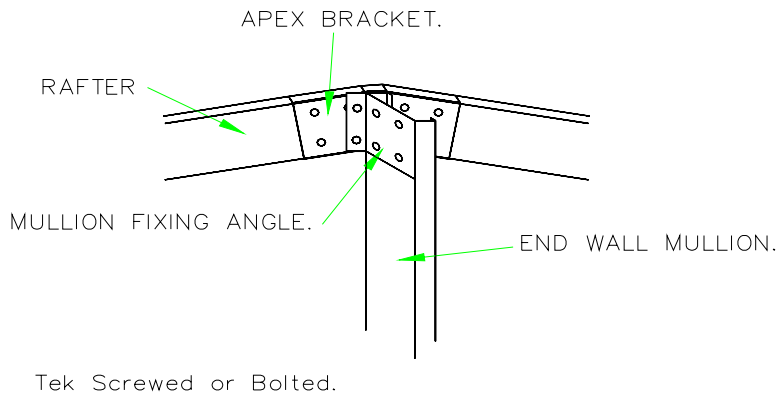


EAVE PURLIN BRACKETS.

11. **Eave Purlin.** (Fascia Girt) This is used to support the top of the wall cladding, where it joins the roof cladding. The size of the Purlin varies with the rest of the frame.
- CEE Section Eave Purlin.** These are screwed onto the column using the Eave Purlin Bracket.
  - Tophat Eave Purlin.** This is an option in lieu of a CEE Section eave purlin and tek screws directly to the columns. This option can only be used only for frames using Tophat purlins and girt.

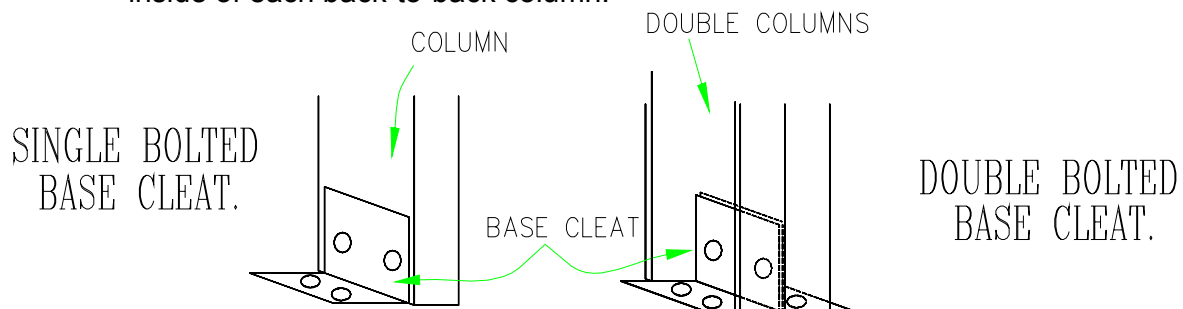


12. **End Wall Mullion.** A CEE Section usually the same size as the columns but oriented sideways. (I.e. perpendicular to the end wall.) These are longer than the columns and extend to the top of the rafters. They are attached to the rafters with a Mullion Fixing angle and attach to the footing or slab via a base cleat.
13. **Mullion Fixing Angle.** An 'L' shaped bracket tek screwed to the "web" at the top of the end wall mullion/s and to the "web" of the rafter. Centre end wall mullions are situated directly under the apex of the roof and are tek screwed through the Apex Bracket into the "web" of the rafter. Also used to connect the end wall door jamb/s to the rafter. (See diagram)

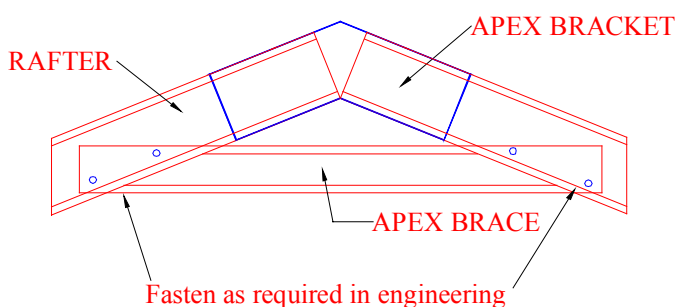


MULLION FIXING ANGLE.

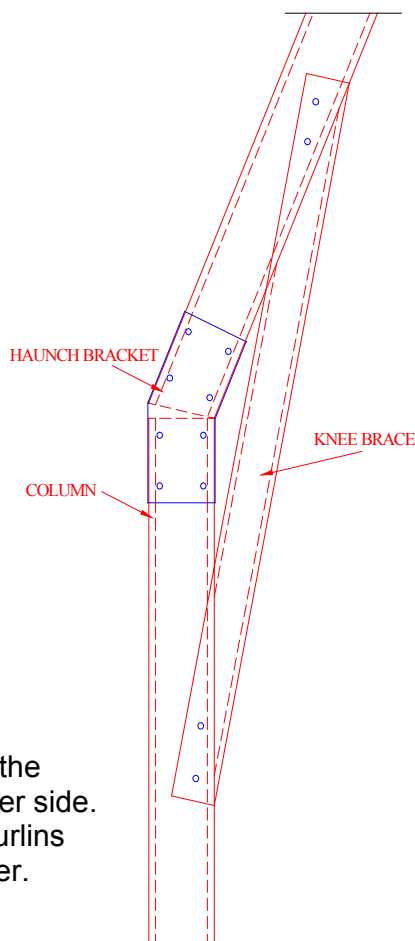
14. **Base Cleat.** Angle bracket tek screwed or bolted to the "web" of the base of the column, end wall mullions and end wall doorjamb, which are then attached to the footing or slab. Where a double column is used, attach a base cleat to the inside of each back-to-back column.



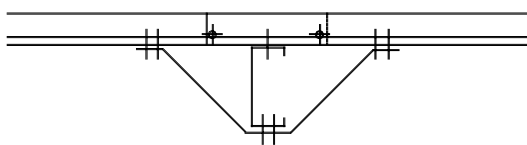
15. **Apex Brace.** CEE Purlin, which connects to the intermediate rafters (end rafters only if end wall is not clad) on either side of the apex. The flange and the lip of the brace will require trimming to fit correctly. Fasten as required by engineering. These are not used on all buildings. Refer to the plans.



16. **Knee Brace.** CEE Purlin, which forms a brace between the columns to the rafter. The flange and the lip of the brace will require trimming to fit correctly. These are not used on all buildings. Refer to the plans. Fasten the knee brace in the manner required in the engineering.



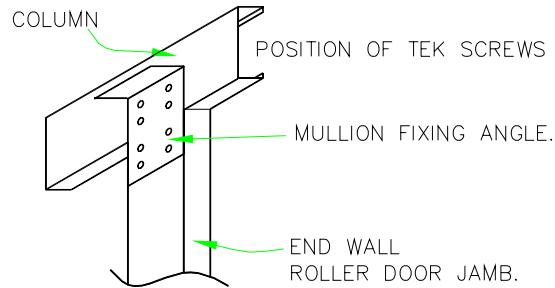
17. **Fly Brace.** Galvanized strapping tek screwed to the underside of the rafter and the roof purlin on either side. Place two tek screws to each end into the roof purlins and two screws into the bottom flange of the rafter. Refer to plans for usage.



FLYBRACE.

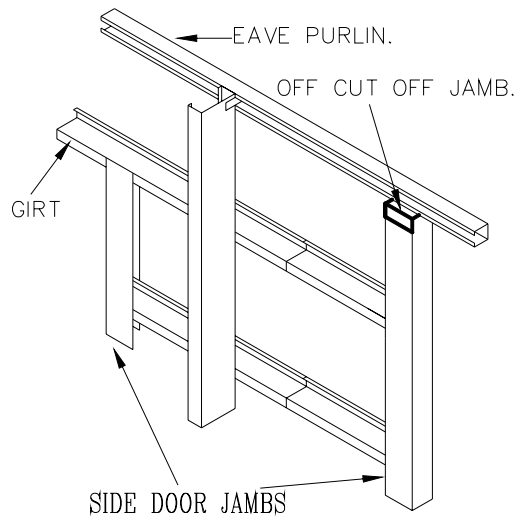


18. **End Wall Door Jamb.** A CEE Purlin, which is usually, the same size as the main columns, and forms the side framework of the door opening to an end wall. It fits under the rafter and is attached to the “web” of the rafter with a mullion-fixing angle.



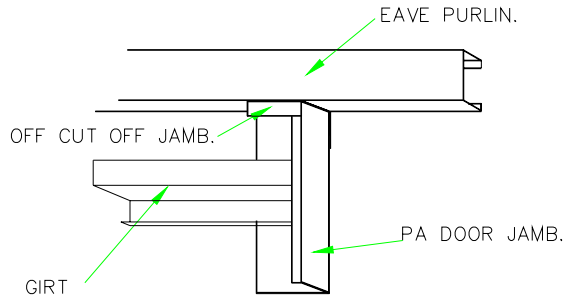
ROLLER DOOR JAMB

19. **Side Wall Door Jamb.** Is a length of folded galvanized section, which raps around the wall girt to form the door opening. The length of the jamb will vary depending on the height of the door and the height of the structure.



20. **Door Header.** Either a CEE or a Tophat purlin. These are fitted between the End wall doorjamb or the sidewall jamb to form a header above the door. They are secured to these members using end wall girts and framing tek screws.

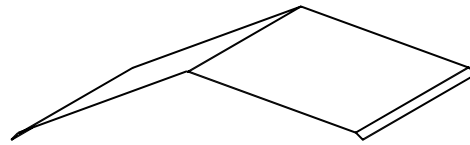
21. **P.A. (Personal Access) Door Jambs.** These are of the same configuration as the doorjamb mentioned previous. They form the opening for the framed P.A. Door to fit into.



PA DOOR JAMB.

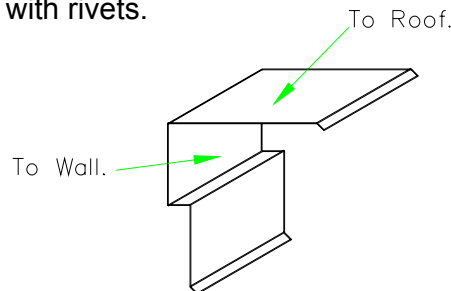
22. **Cladding.** Wall and roof cladding is fixed to the wall girts and roof purlins with the screws provided.

23. **Ridge Capping.** This covers the gap between the two runs of roof cladding at the apex of the roof. Fixed with 12-20 x 3/4" tek screw into the top of the roof cladding.



RIDGE CAP

24. **Rake Flashing.** To cover the gap between the roof and the wall cladding at the gable ends of the building. Fixed the roof with 12-20 x 3/4" teks and to the wall cladding overlaps with rivets.

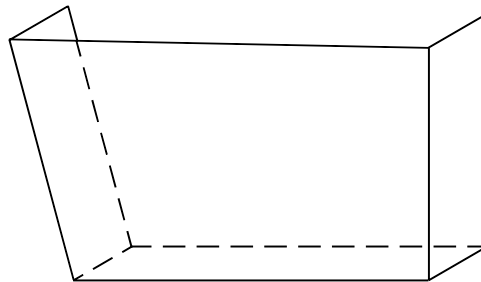


**RAKE FLASHING / BARGE CAP**

25. **Guttering.** Guttering is optional on all structures. If used, use the following instructions. Fitted to the top of the sidewall cladding to collect rainwater from the roof sheets. Gutter brackets are attached to the rib on the roof sheet, to the top outside edge of the gutter, to hold the shape of the gutter and to stop it from collapsing under peak volume. There are various gutter styles available.



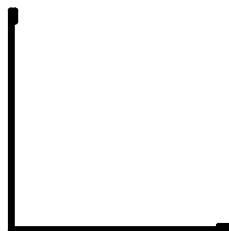
26. **Gutter Stop Ends.** To seal gutter ends. Rivet into position and sealed to stop leaks. The shape will match the gutter used.



27. **Downpipes.** Connected to the guttering with a nozzle to convey the rainwater to ground level. Riveted to the nozzle at the gutter and held in place with a tek screw drilled into the back of the downpipe from inside the building.

28. **Nozzle.** To connect downpipes to the gutter.

29. **Corner Flashing.** Usually 50 x 50mm, 75 x 75mm or 100 x 100mm depending on the style of building and the type of wall cladding being used. Also used for door trims etc.

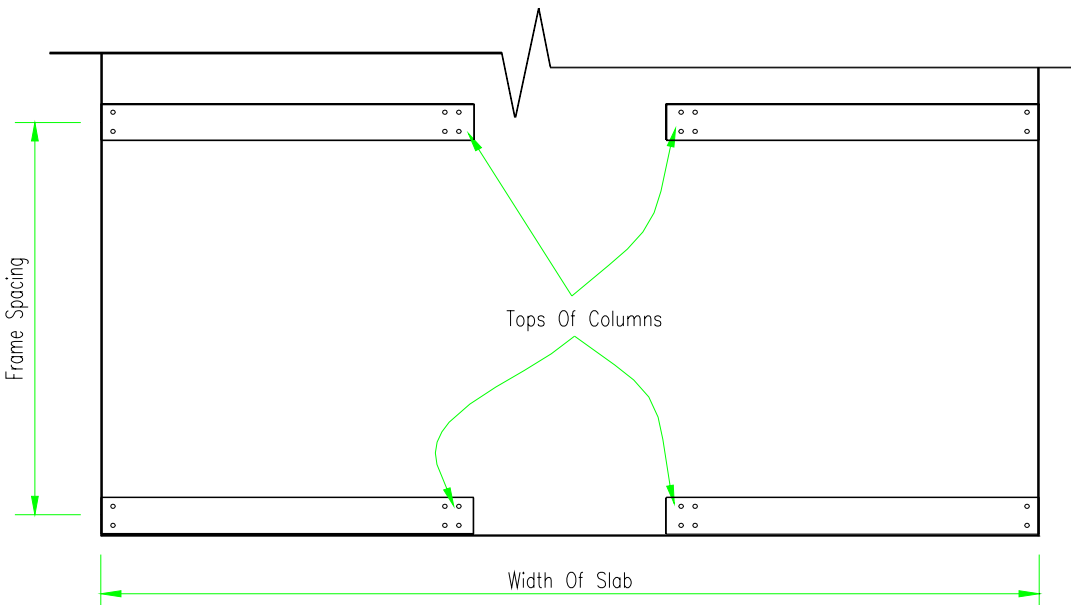


30. **Screws.**  
10-16 x 16 Wall screws. To screw the wall cladding to the wall girts. These are the smallest screw supplied. This screw comes with a neoprene washer.
- 14-20 x 22 Frame screws. (No Seal) To screw the bracketry to the framework and the purlins and girts to the frame. These are a stubby screw with a built-in washer type head.
- 12-14 x 35/45 Roofing screws. To screw the roof sheets into the roof purlins. This screw comes with a neoprene washer. In higher wind areas or if thick insulation is being used, a longer screw may be supplied.
31. **Rivets.** To fix corner flashings, Trim angles and rake flashing the wall cladding. Also to fix downpipes to dropouts.
32. **Purlin Assembly Bolts.** There are two types of bolt sets supplied with this line of buildings. For the smaller buildings a 12 x 30mm bolt is supplied and for the larger buildings a 16 x 30mm bolt set is required. A Bolt set consists of 1 bolt, 2 washers and 1 nut.
33. **Masonry Anchors.** These will vary depending on the wind rating and the size of the building. They may be wedge-all anchors, hold down 'U' bolts, screw in "Power" bolts or chemical anchors.

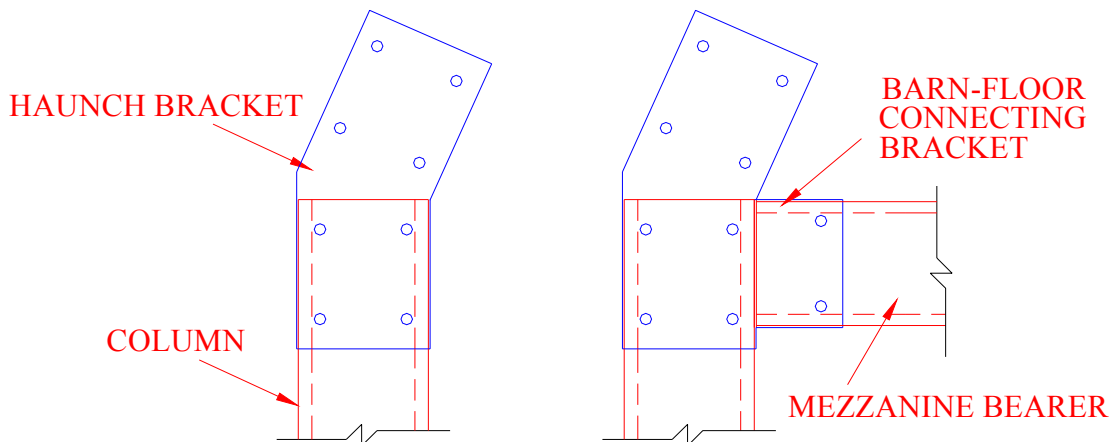
**NOTE: It is imperative that the concrete slab is diagonally square and level before proceeding. The size of the slab needs to be the exact size of the building. Lean-to slabs, concrete aprons or any surrounding concrete such as paths, need to be a minimum of 50mm below the level of the main slab to allow for the wall cladding to lap over the top of the main slab to waterproof building.**

## Assembly Instructions.

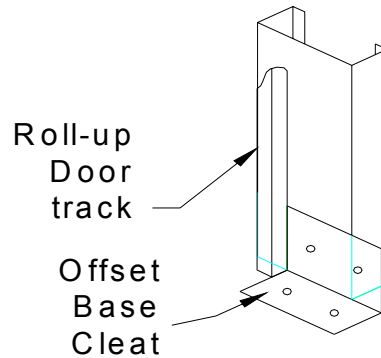
1. Lay columns flat on the ground or slab, with “web” face up. The columns are to be laid out across the slab in pairs with the top of the columns facing each other. The column will have 4 holes at the top and 2 holes at the base. The distance between the column bases are to suit frame spacing. **Intermediate columns on Quakers Barns are ‘back to back’.**



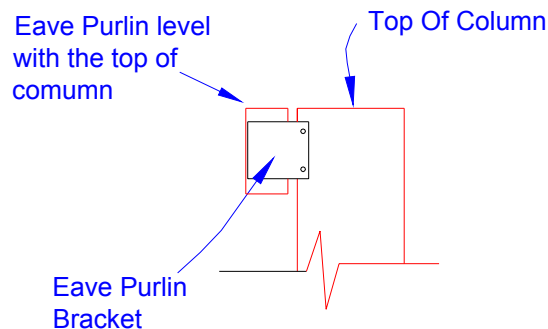
2. Fix the 11 deg Apex Bracket to the Web side of the columns, using 4 bolts supplied. Screw the intermediate ‘back-to-back’ columns together, at 500mm centres, ensuring that 2 haunch brackets are sandwiched between the ‘back-to-back’ columns, and bolted through both columns and brackets. When a mezzanine floor is to be fitted one 6mm thick 3 sided Barn-Floor Connecting Bracket is used.



- Locate and fit the Base Cleats to the web side of the column using 2 bolts. Offset the Base Cleats on the end doorjamb approximately 50mm to allow for the level door tracks.  
On 'back to back' columns the base cleat is fitted inside the 'CEE' Purlin column so that a double 'back to back' column has 2 base cleats.

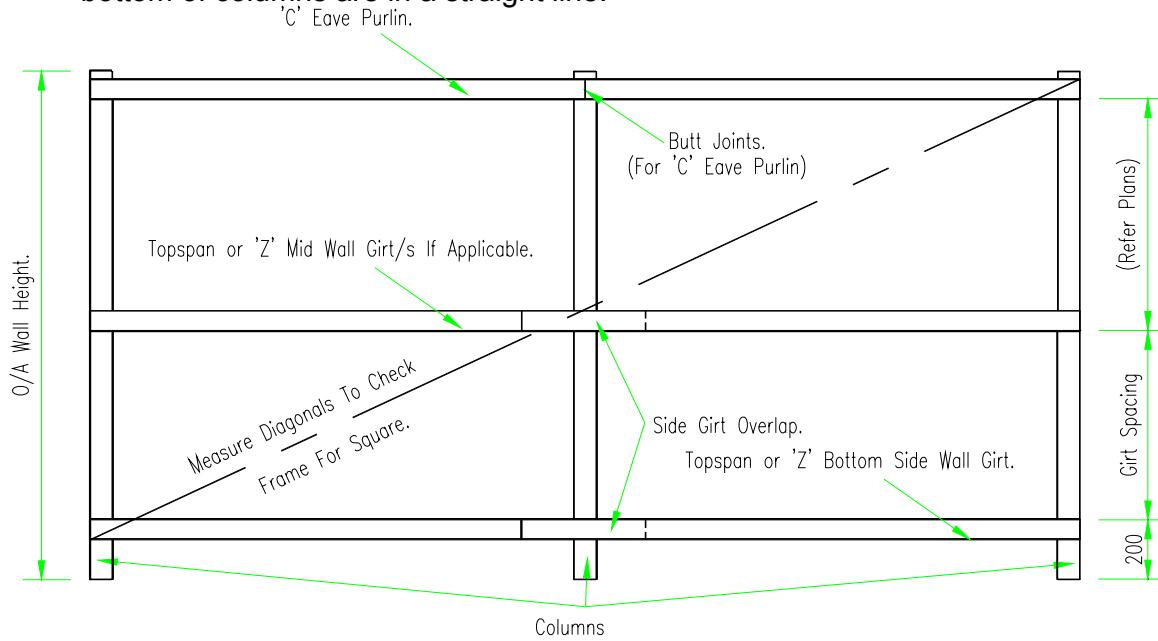


- Roll the columns over so that the Haunch bracket is resting on the concrete slab and space the columns to suit bay sizes (frame spacing). The end wall columns will be flush to the end of the concrete slab. The intermediate columns spaced to suit the frame spacing.
- Join sidewall girts together (with overlap required) to suit the length of the building. For ease of handling, it is recommended that girts be joined together in multiples of two at a time. First row of girt is 100 from floor level.
- Attach the eave purlin to the top of the columns. A diagram can also be found in the Material Descriptions, Item No 10 Eave Purlin Brackets.

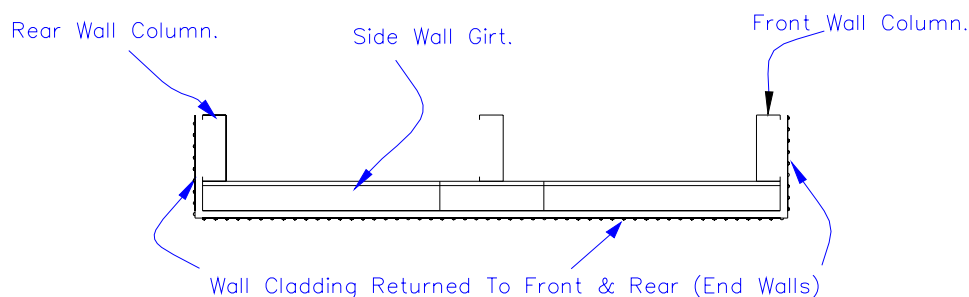


- Measure up 200mm from the bottom of the column and place a mark on the column. This will be the top side of the sidewall girt.
- Measure the distance between the bottom sidewall measurement and the eave purlin, and evenly space the remaining sidewall girts. (As per specifications.) **TIP** If you are fitting a window or PA Door it is advisable to measure them before fastening the sidewall girts into place, and allow adequate spacing for these items.

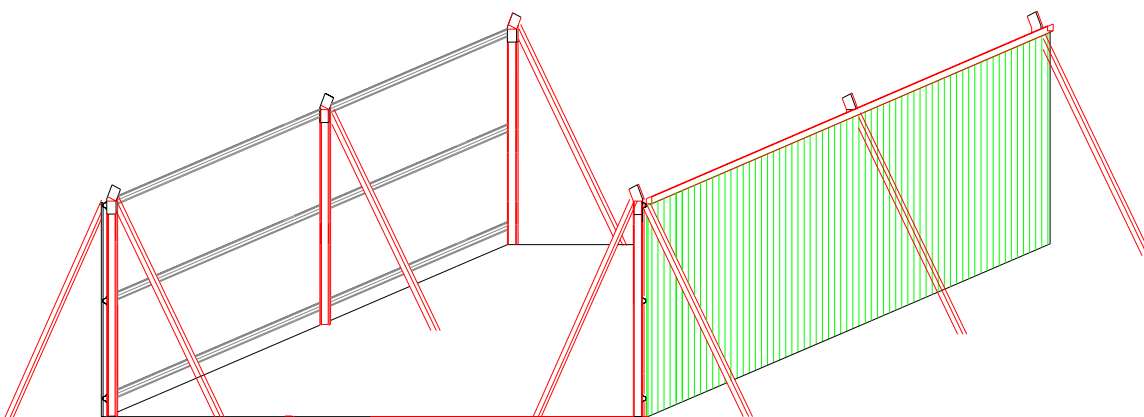
9. Screw the eave purlin, bottom side girts and mid wall girts to columns with one (1) tek screw per girt per post ONLY at this stage.  
The ends of girts will be flush to the outside edge of columns. I.e. overall length of slab.
10. Sight along bottom of columns or use a string line (preferred) to make sure bottom of columns are in a straight line.



11. Measure the diagonals of wall frame. (Both measurements must be the same)
12. **Finish screwing all sidewall girts with an additional screw to columns at this stage.** (Usually 2 Tekes per connection, or 4 on back-to-back column connection.)
13. If you don't feel confident enough to be able to lift the side walls clad you should stand the frame and clad the walls after the frame is standing and secure. When using horizontal cladding the cladding should be fitted after the frame is standing and completed. This will also eliminate the possibility of damaging the cladding whilst fitting mezzanine framing materials.
14. It is most important that the sidewall-cladding placement be understood before commencing. The quantity of sidewall cladding supplied allows for the cladding to be returned around both end walls, to the inside edge of the columns. The cladding is cut at the corner or may be folded around the corner. (Otherwise a shortage of wall cladding may occur.)



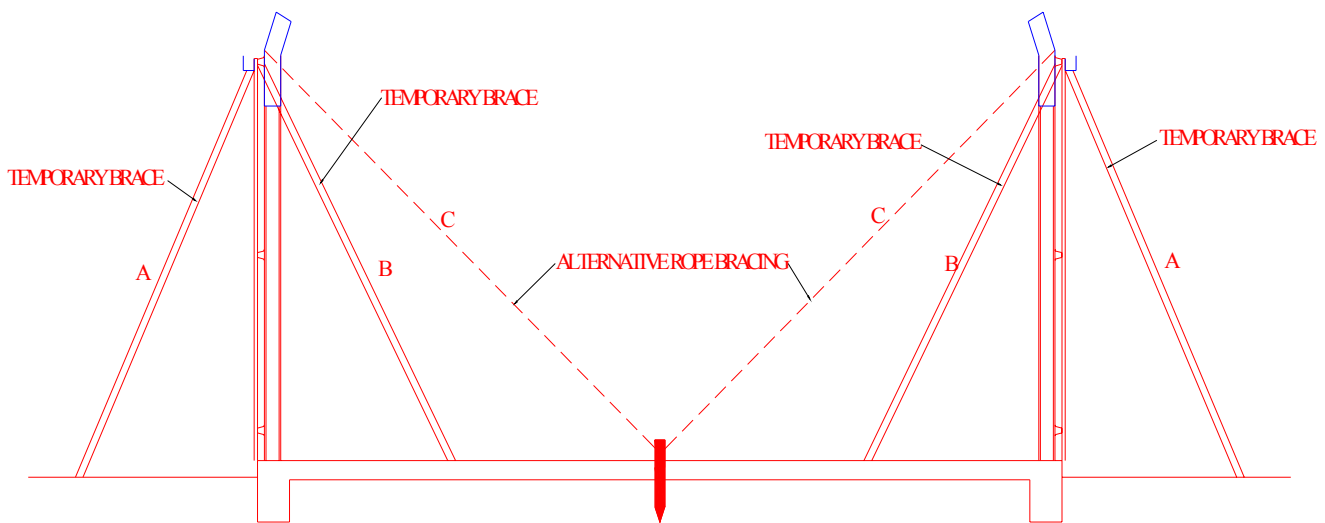
15. Start cladding side walls, (wall cladding to be a minimum 25mm below bottom of column i.e. below top of slab) making sure that the male rib of cladding i.e. the edge of the sheet with the 'lip', faces the rear of the building (away from level doors)
16. Using the required number of tek screws per sheet per girt, fix wall cladding, one sheet at a time, using a straight edge to ensure screws are placed in a straight line. Mark and cut last wall sheet to each sidewall, flush to end of sidewall girts, or fold sheet, and use off cut around the corner on end wall.
17. Fit gutter stop ends to the ends of the gutter.
18. Cut a hole in the gutters to suit the size and quantity of dropouts supplied and rivet into position. Apply silicone to the nozzles and stop ends to avoid any leakage.  
Overall length of the gutters is the overall length of the building from outside to outside edge of end wall sheets.  
***Depending upon the length of the structure, gutters can either be fitted now or after the walls are standing.***
19. Fit gutter to ribs of wall sheets with wall screws. Gutters maybe installed level or with a slight downfall to downpipe end.
20. At this stage, both sidewalls of the structure are usually sheeted and ready to stand. On smaller buildings where space is limited on the floor slab, only one wall at a time can be built.
21. With the assistance of competent helpers, one sidewall can be lifted into position, keeping the ends of the side girts flush with the ends of the slab. If slab has been made the correct size, the wall can be pulled in so that the wall cladding is up against the concrete (edge of the slab). If using footings other than a slab, stand the walls and measure the width of the building between the wall cladding. Brace and prop both sides of the wall using timber or alternately ropes tied securely around stakes driven into the ground.



## STANDING CLADED SIDE WALLS

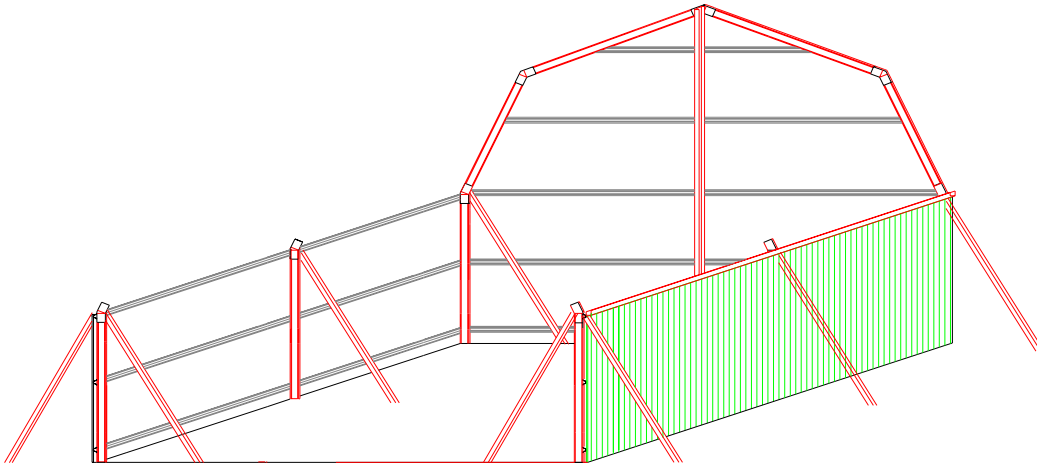


22. **When propping under gutter, it is recommended that soft cloth or similar be tied around the end of props to avoid marking the gutter. Do not attempt to stand sheeted walls on windy days.**
23. Drill and anchor one sidewall to slab, ensuring that all holes are clean before placing masonry anchor. Check that all anchors are tightened down sufficiently and check columns for plumb using a Level. Re-adjust props if necessary. Stand other sidewall.
24. Measure width of building between inside of wall cladding. Anchor and plumb wall and re-prop if necessary. **Note:** *If there is insufficient space to use props 'A' then a rope 'C' may be used as well as Props 'B' to hold walls plumb. Rope 'C' is attached to a peg or post, which is driven into the ground as shown.*

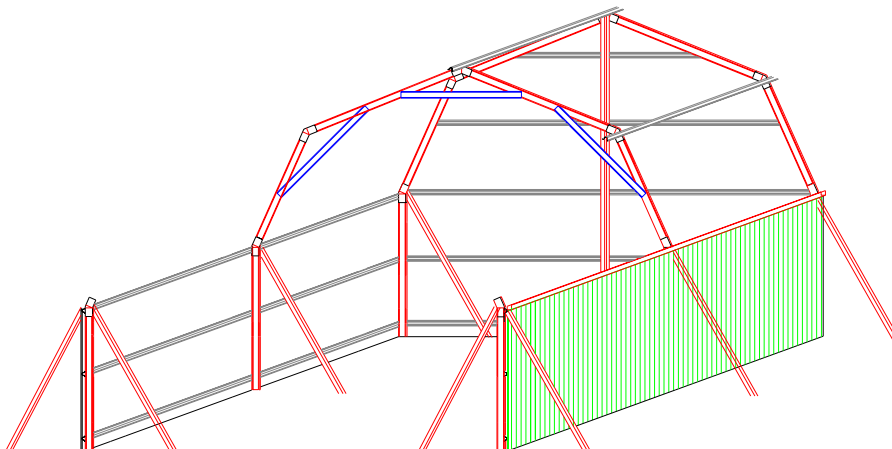


25. Make up the rafters for the building. Each rafter consists of 4 separate rafters connected together with 3 x 22 deg Apex Brackets. Internal rafters will be back-to-back, requiring 8 separate rafters and 6 brackets. Install apex bracing where required. Mark the locations of the roof purlins before lifting into position. (Refer to specifications)  
**Check that the lengths of rafters correspond with the lengths as drawn on the appropriate plan to suit your barn width and that they are installed in the correct location.**
26. Attach made up rafters into position on one end wall by joining to the haunch bracket with bolts supplied. Check for plumb by using a plumb bob or Level and straight edge. Place a temporary brace (rope or similar) from the apex of the rafter back to a peg or similar driven into the ground or to an intermediate column. While being supported install end wall mullion and end wall girts.

27. Fit end wall mullion/s. (long side of the C-section perpendicular to the end girt). End wall mullion/s is offset by the size of the end girt from the edge of the slab.

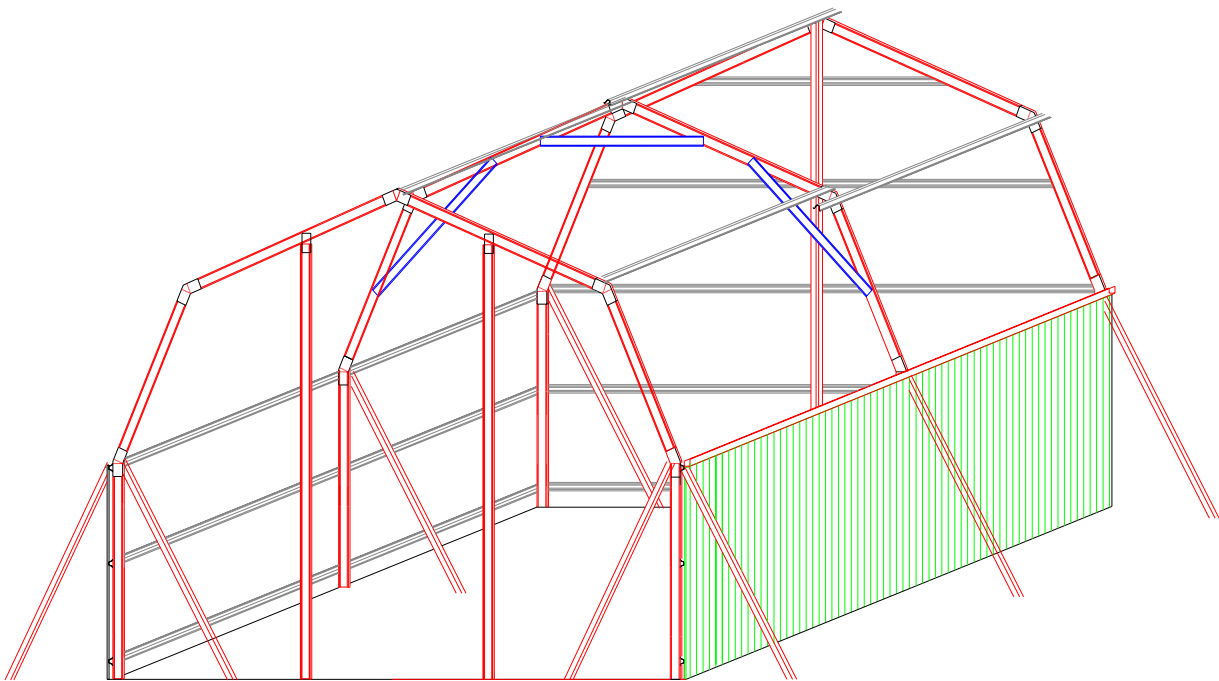


28. Tek screw the base cleat to the bottom of the end wall mullion and fix the top of the mullion to the “web” side of the rafter with a mullion fixing angle. End wall mullion/s is usually equally spaced.  
If only one mullion per end wall is used then these will be attached to the end wall rafter’s apex bracket with a mullion-fixing angle.  
Check end wall mullion for ‘plumb’ by using a Level on the ‘web’ side.  
Check that the distance from the edge of the slab to the outside ‘flange’ side of mullion is the same depth as the end wall girts.
29. Tek Screw the end wall girt brackets to the inside edge of the end wall columns. Attach the end wall girts to these brackets with tek screws, overlapping the end wall girts past the end wall mullion/s.
30. Continue installing rafters through to the other end of the building. Intermediate portal rafters are back to back as per the columns directly under. Back-to-back rafters may be bolted together and lifted as one unit or alternately stood one frame at a time and then connected together. Attach knee braces as required.

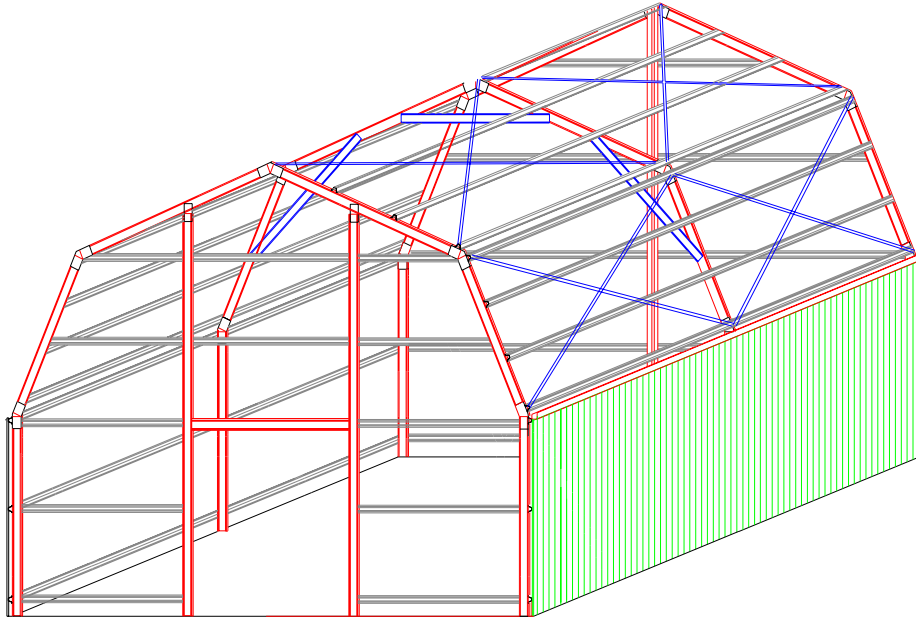


INSTALL INTERNAL RAFTERS

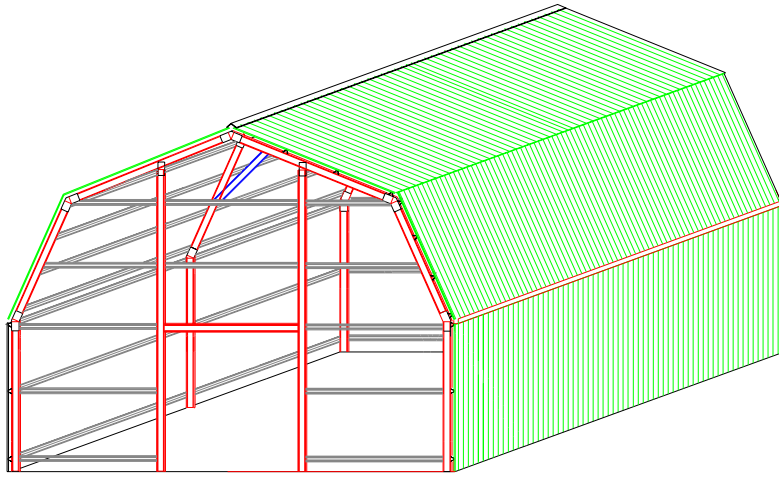
31. As each portal rafter is stood into position locate and install the 2 apex roof purlins to the preceding bay to tie the framework together. Check the frame spacing of the rafters corresponds to the frame spacing of the main columns below.
32. Once the other end portal rafters are positioned, check for plumb and place a brace into position as in step 25. Install end wall mullions and/or roll up door supports. (Steps 26 – 28)
33. If level door/s are being installed into one end wall (i.e. gable end wall) Find End Door Jamb/s and place base cleat to bottom (inside of 'C' purlin so as not to interfere with level door tracks.) and a mullion-fixing angle at the top. Measure level door size and allow clearance (refer to manufacturers specifications.) **Note.** Roller Door Jamb/s fit under the rafter and no perpendicular to rafter as the end wall mullions are fitted. See item 18 under frame components.



34. Attach the roof purlins on the previously marked rafters. Roof purlins end flush with the outer face of rafters on the gable end. It is advisable to fit the 2 roof purlins (one either side of apex) at this stage, checking frame spacing between the rafters correspond with the frame spacing between the columns. Fit and Tek screw all purlins to portals. Check rafters for plumb. *Roof purlins may be Tophats or 'Z' Purlins.*

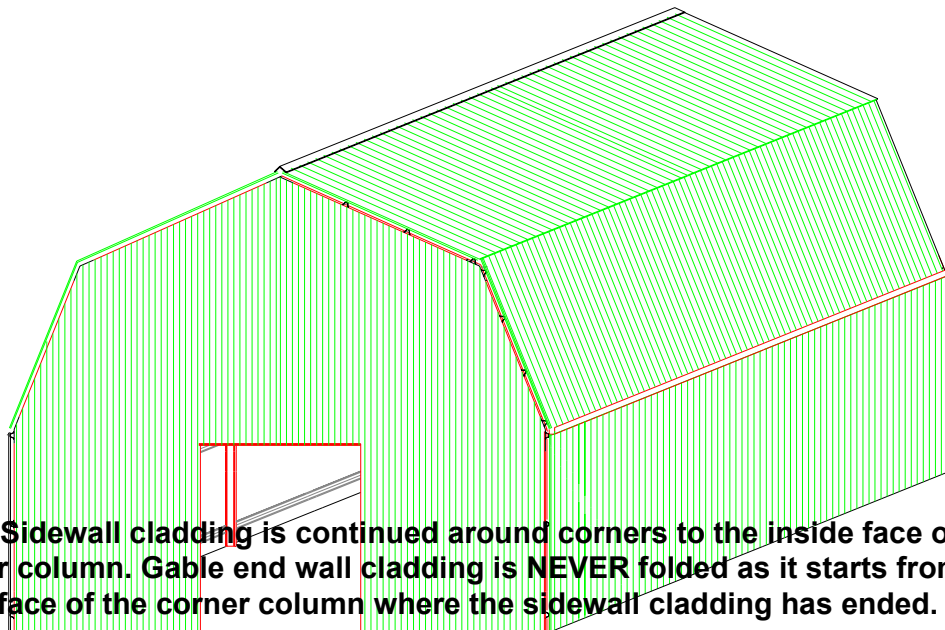


35. Check end walls for plumb by placing a Level against the flange side of the end wall columns. Prop until end walls are fully clad and tek screwed.
36. Fit Door Header/s using a girt bracket to each end.
37. If a door is offset, or only one door is used, then additional end wall girts will need to be fitted between the end wall column and the roller doorjamb. These are fitted using Girt Brackets.
38. At this stage, fit the PA doorjambs (only if applicable), before the roof is installed. Cut out the wall sheets and the bottom row/s of wall girt where the PA door is to be fitted. The PA doorjamb is made to fit around the ends of the wall girts.
39. Before fixing the roof cladding into position, check that both sidewalls are straight by using a string line along the inside of the columns. Re-prop intermediate columns if necessary. This also keeps structure more rigid while working on the roof.
40. Fix the roof cladding into position starting at the front of the barn and working towards the rear.  
Install the lower run of roof sheets first. Place a straightedge across the top roof purlins at each end of barn, fix a string line between these and fix all roof cladding to this line. Screw the first roof sheet into position, checking for plumb and continue fixing sheets through to the other end of the barn, being sure to work to the string line. Sheet the top roof section next allowing 50mm overhang from the face of the lower roof cladding.



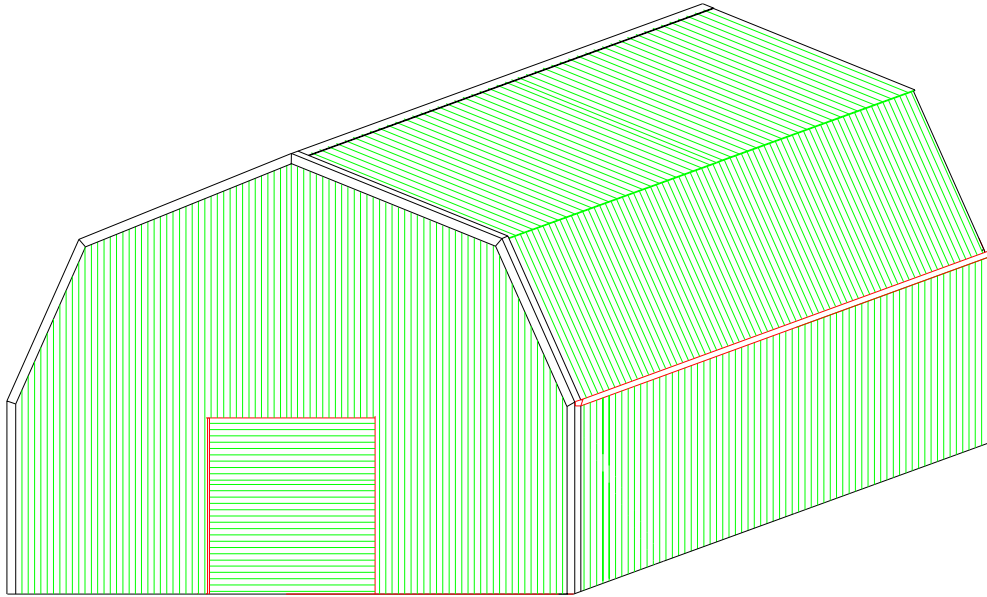
**Be sure to turn up apex end of top roof cladding to help keep building waterproof.**

41. Install ridge capping, ensuring that the ends are flush to the ends of the roof cladding. It is best to keep the joints facing away from prevailing weather and run a bead of silicone between the ridge capping at the overlaps.
42. Remove Props.
43. Start cladding the end wall/s. Keep the bottom of the end wall cladding level with the bottom of the sidewall cladding. Check each sheet for plumb with a level. Place two tek screws per sheet per girt at this stage. (One to each side of sheet) Once all end wall cladding is in place, flick a chalk line for each row of girts and finish screwing all cladding into position.



**Note: Sidewall cladding is continued around corners to the inside face of the corner column. Gable end wall cladding is NEVER folded as it starts from the inner face of the corner column where the sidewall cladding has ended.**

44. Cut and fit the barge capping into position, allowing it to cover the ends of the gutter. Barges can be formed around the join between the upper and lower roofing using a series of cuts, but it easier to simply butt them up to each other.
45. Fit corner flashings.



46. Fit downpipes by riveting to nozzle and tek screw or rivet from inside of garage through rib or pan into back of downpipe towards bottom.
47. Fit Personal Access Door into opening previously left.
48. Install roll up door or sectional door brackets making sure they are level. Install doors following the instructions supplied with the door.
49. Install fly bracing if specified. Refer to specification sheet.
50. Make a final check on the structure. Make sure that all base cleats have been tightened down firmly. Check that the roof and wall screws are complete.
51. Brush the complete structure down, including the roof with a soft hair broom to remove any swarf (metal dust and filings caused by angle grinder)

Hose down the concrete slab to remove any steel particles, tek screws and rivets, which may puncture a tire. Stand back with a beer in hand and congratulate yourself on a job well done.

## **Schedule - 1 Tools**

***The following is a list of basic tools required:***

1. Hammer
2. Small Tape Measure
3. Long Tape Measure
4. Quick release clamps
5. Snips
6. Open End Wrenches
7. Crayon or Permanent marker.
8. Pencil
9. Score and Snap Knife for scribing and folding wall sheets
10. Chalk line
11. String line
12. Water level or Auto Level
13. Spirit level
14. Square
15. Screw Drivers
16. Tek Screw Gun or Electric Drill with Clutch with a 5/16" Hex Head and a wafer tek bit to suit wafer screws. (If supplied in kit)
17. Electric Drill (a battery drill will also be very handy)
18. Nibbler OR
19. Angle Grinder
20. Silicone and Calking Gun or alternately 2 tubes of Gutter Silicone.
21. Multigrips or pliers.

If using an angle grinder BEWARE.

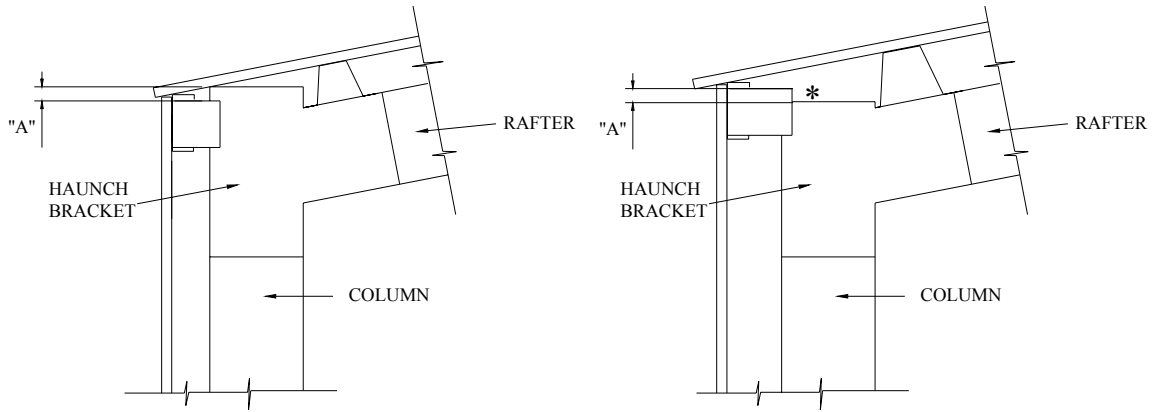
Not only can these be extremely dangerous to operate, they leave 'swarf' on zinc and colour steel cladding, which can cause rusting and void any warranties. Be sure to thoroughly sweep any 'swarf' off with a soft hair broom.

**DO NOT USE NEAR ANY COLORSTEEL FENCING, MOTOR VEHICLES OR GLASS.**

*If using an angle grinder be sure to wear safety goggles and follow all safety regulations in relation to the use of power tools.*



## Schedule 2 - Eave Purlin Bracket Location



DETAIL - 1

DETAIL - 2

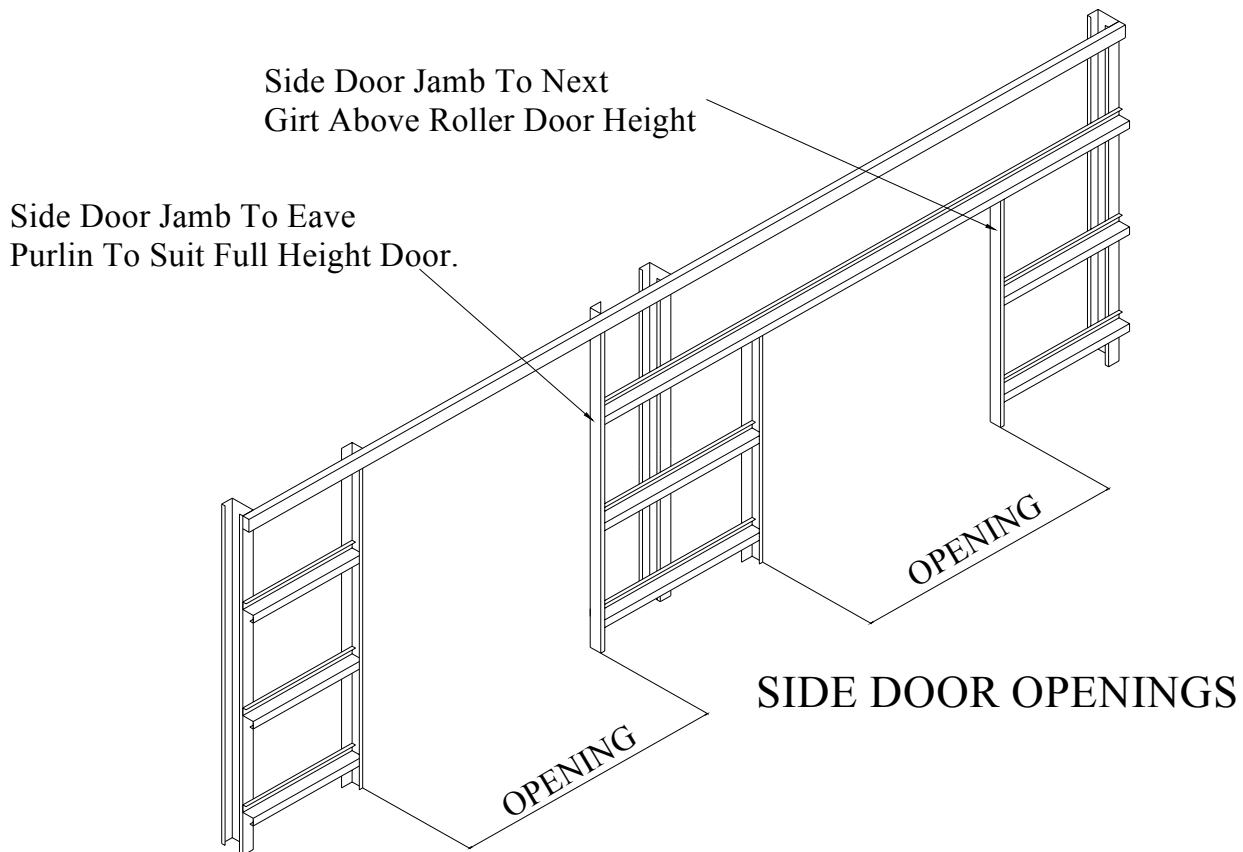
\* NOTE: FOR ALL MINUS DIMENSIONS SEE DETAIL - 2

PITCH	TOPHAT 64					TOPHAT 120				
	11	15	22	30	45	11	15	22	30	45
C150	21.5	27.5	31.5	45.5	72.5	-23	-14	-5	16	52
C200	21.5	26.5	35.5	45.5	72.5	-22	-14	-0	16	52
C250	-	-	-	-	-	27	35	51	84	135
C300	-	-	-	-	-	38	47	63	84	-
"A"					"A"					

PITCH	'Z' PURLIN 100					'Z' PURLIN 150				
	11	15	22	30	45	11	15	22	30	45
C150	-21	-14	-7	13	45	-62	-52	-41	-16	24
C200	-20	-14	2	13	45	-61	-52	-35	-16	24
C250	-	-	-	-	-	-12	-1	18	53	110
C300	-	-	-	-	-	-1	9	28	-	-
"A"					"A"					

### Schedule 3 - Installation of Side Door.

1. Opening size for the side door will be the nominal width of the door. Cut the wall girt to allow for the width of the door to be installed.
2. If there is a side girt between the top of the door and the top eaves purlin then the jamb will suit this length. IF THERE IS NO GIRT ABOVE THE OPENING, (i.e. between the top of door and top eaves purlin) then the length of the jamb will be to the top eaves purlin. It is to be attached to the eave purlin or side girt whichever is applicable.



DOOR OPENING EQUALS WIDTH OF DOOR CURTAIN LESS  
- FOR INDUSTRIAL DOORS DEDUCT 100mm  
- FOR RESIDENTIAL DOORS DEDUCT 50mm

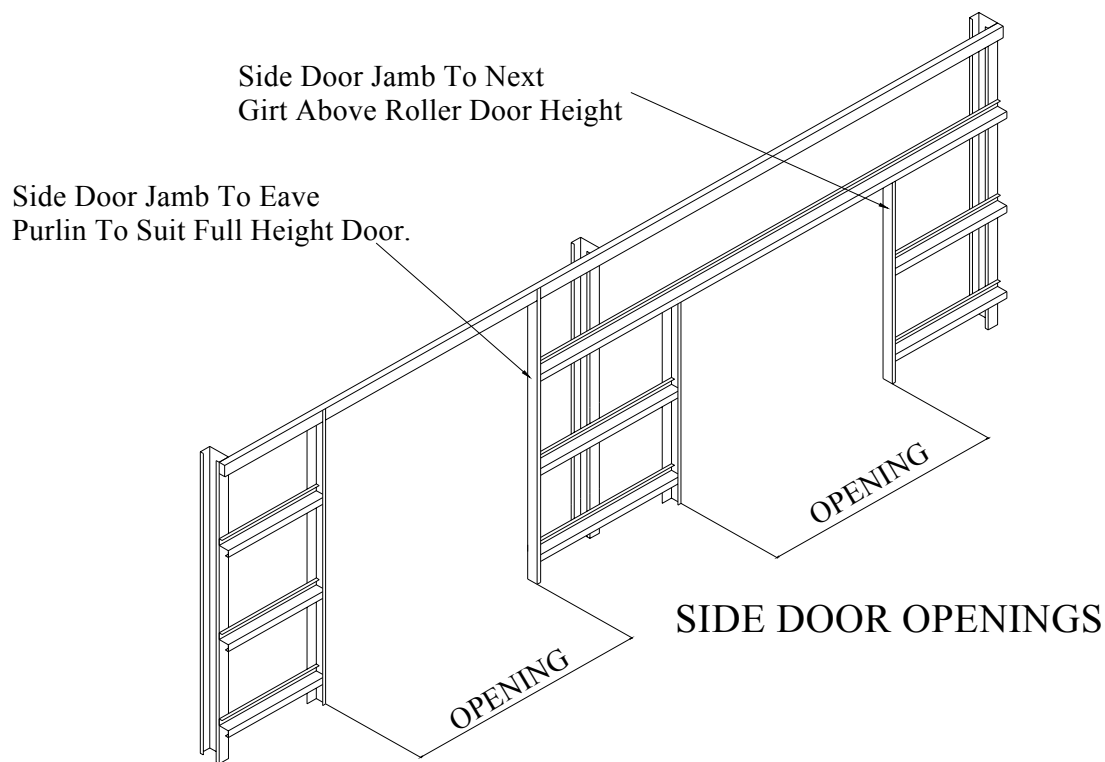
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NOTE: FULL HEIGHT DOORS CAN VARY FROM 300-450mm SHORTER THAN WALL HEIGHT.  
E.G. 2.4m WALL HEIGHT = 2.2m HEIGHT DOOR  
E.G. 5.0m WALL HEIGHT = 4.5m HEIGHT DOOR

3. Fit L/H and R/H side doorjamb to the next side girt above door opening if there is any. If there is no side girt above the opening, then it is to be attached to the eave purlin. Cut corners of the jamb vertically to the required height, fold back and screw to the underside of the eave purlin. Screw the two upright (uncut) legs to both sides of the eave purlin. Screw the base cleat to the bottom of doorjamb and screw the doorjamb at intersection of girts, which were cut off.
4. Fit the CEE section door header between the jambs using girt brackets and screws. Height of door header is equivalent to the height of the door opening required.
5. Side doors can be located anywhere between two sidewall columns. If the door should be offset to either the Left or Right of the Bay, allow a minimum of 100mm for the door brackets, from door opening to inside face of column.
6. Follow manufacturer's installation supplied with the door.
7. Fit wall sheeting above and around the opening.
8. Trim the opening.

### Schedule 3 - Installation of Side Door.

9. Opening size for the side door will be the nominal width of the door. Cut the wall girt to allow for the width of the door to be installed.
10. If there is a side girt between the top of the door and the top eaves purlin then the jamb will suit this length. IF THERE IS NO GIRT ABOVE THE OPENING, (i.e. between the top of door and top eaves purlin) then the length of the jamb will be to the top eaves purlin. It is to be attached to the eave purlin or side girt whichever is applicable.



DOOR OPENING EQUALS WIDTH OF DOOR CURTAIN LESS  
- FOR INDUSTRIAL DOORS DEDUCT 100mm  
- FOR RESIDENTIAL DOORS DEDUCT 50mm

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NOTE: FULL HEIGHT DOORS CAN VARY FROM 300mm - 600mm SHORTER THAN WALL HEIGHT.  
E.G. 2.4m WALL HEIGHT = 2.1m HEIGHT DOOR  
E.G. 5m WALL HEIGHT = 4.4m HEIGHT DOOR

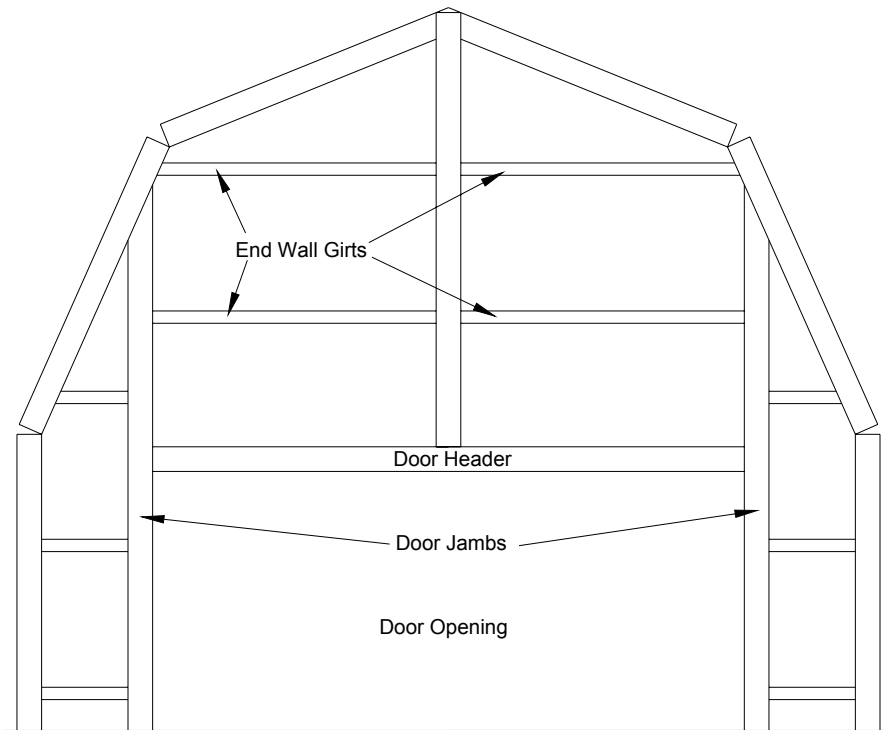
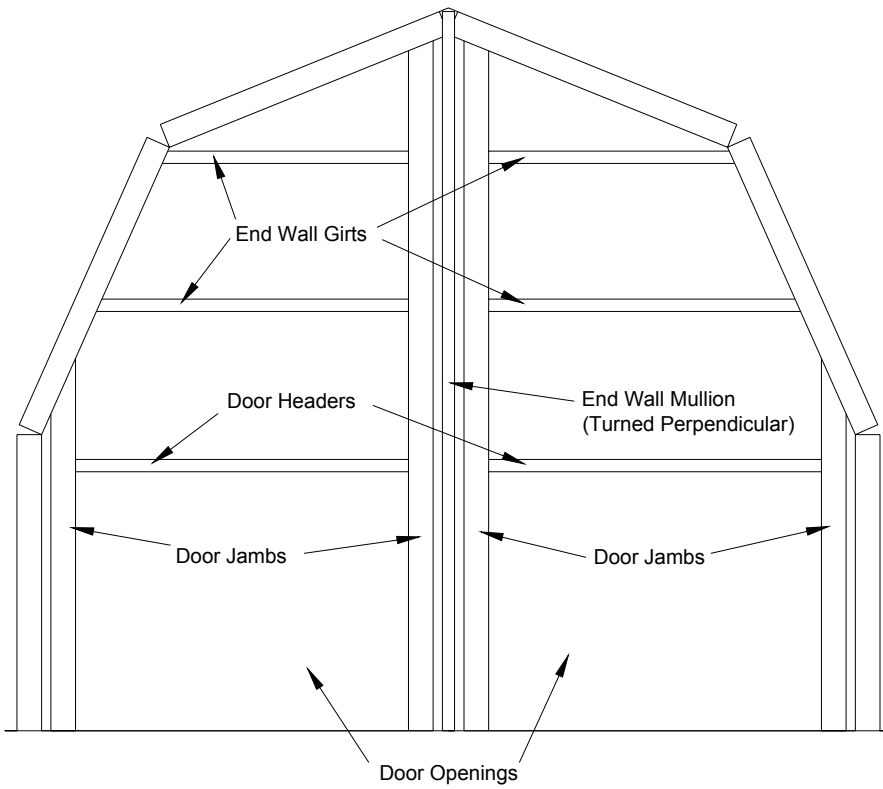
11. Fit L/H and R/H side doorjamb to the next side girt above door opening if there is any. If there is no side girt above the opening, then it is to be attached to the eave purlin. Cut corners of the jamb vertically to the

required height, fold back and screw to the underside of the eave purlin. Screw the two upright (uncut) legs to both sides of the eave purlin. Screw the base cleat to the bottom of doorjamb and screw the doorjamb at intersection of girts, which were cut off.

12. Fit the CEE section door header between the jambs using girt brackets and screws. Height of door header is equivalent to the height of the door opening required.
13. Side doors can be located anywhere between two sidewall columns. If the door should be offset to either the Left or Right of the Bay, allow a minimum of 100mm for the door brackets, from door opening to inside face of column.
14. Follow manufacturer's installation supplied with the door.
15. Fit wall sheeting above and around the opening.
16. Trim the opening.

## Schedule 4 - Installation of end door.

1. Opening size for the end door will be the nominal width of the door. Fit L/H and R/H end wall doorjambs, usually CEE's to the underside of the rafter with mullion fixing angle. (Note: For exact fit roller doors to end wall, only one doorjamb is required, between the doors.) The orientation of the end wall doorjamb is in the same manner as the columns of the structure. The distance between the jambs is the nominal width of the door. Fit base cleat to bottom of column.
2. Attach the CEE section door header between the jambs above the door opening with an angle bracket and screws. Height of door header is equivalent to the height of the door opening required, but will usually be at a maximum level of to the bottom of the haunch brackets. The door header is flush to outside face of the doorjamb. Level across to the other jamb. Web side of CEE section faces outside of the structure.
3. End wall door/s must be located as per plan, as end wall doorjambs are usually cut to required size.
4. Follow manufacturer's installation instructions supplied with the door.
5. Fit wall sheeting above and around the opening.
6. Trim around the opening.

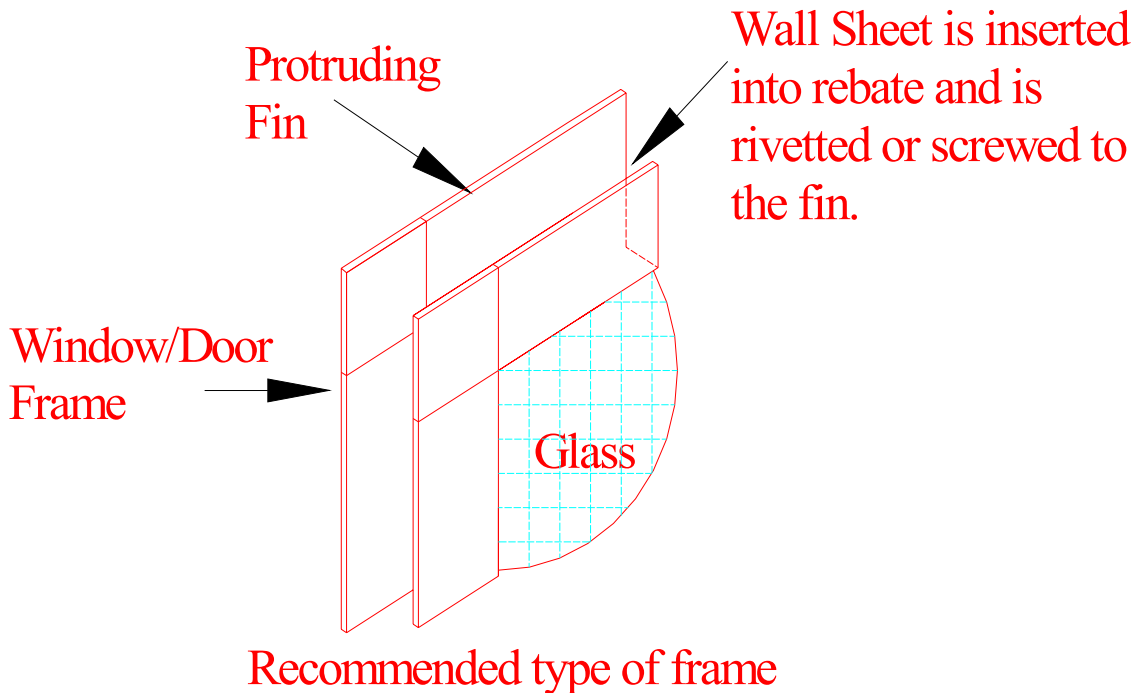


## Two Typical Types of End Wall Door Openings

## Schedule 5 – Fitting Windows and Sliding glass doors.

The windows and glass sliding doors used have a reveal or fin protruding from the centre of the window frame which extends for approximately 35mm.

### Vinyl or Aluminum Window\Door



Windows and glass sliding doors may be installed in the following ways:

1. Providing that the height of the window is not greater than the spacing between the girts, the bottom flange of the window can be attached to the girt found at about 100mm from the ground. The protruding fin is attached directly to that girt.
2. The top of the window is attached to either the next girt above the window, the wall sheeting if close to a girt, (within 150mm) or directly to the eave purlin in particular instances.
3. Windows that are higher than the girt spacing and glass sliding doors will require side door jambs to be fitted so that the side flanges may be attached to these jambs for rigidity. Measure the width of the door or window and allow a slight clearance so as not to break glass when installing into opening. Install the jambs as per the instructions found in Schedule 2. Note:



windows that are higher than the spacing between the girts will only require a jamb between the girt above and below the window to form a frame. See diagram below.

4. Trim sheeting to fit around the window or door and fasten to window or door reveal with wall screws or rivets. These will need to be measured and cut on site.

**Note: on end walls, the sheets above the window or door will need to be measured and cut to the required length with the required angle to suit roof pitch.**

