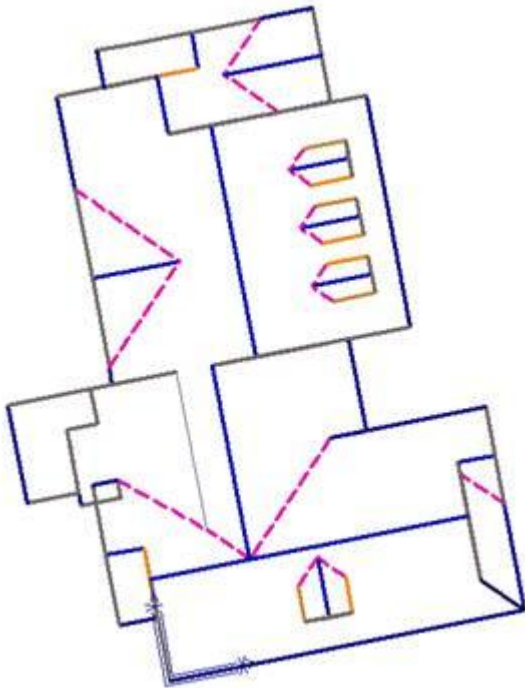




Tips and Tricks # 46

Complex Multi-Gable Roof from an Image

This roof whilst looking complicated, falls out pretty easily. It is a good example, as there are tricks galore to be learned from this. The tutorial assumes mid to advanced experience with the AppliCad software to complete.

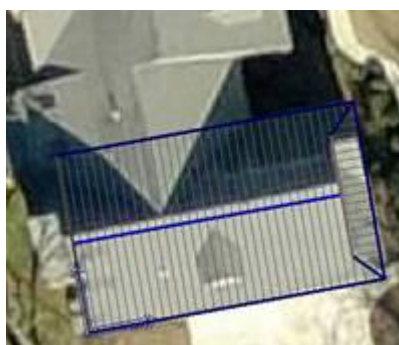
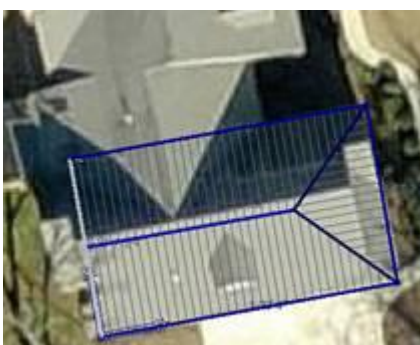


Overview

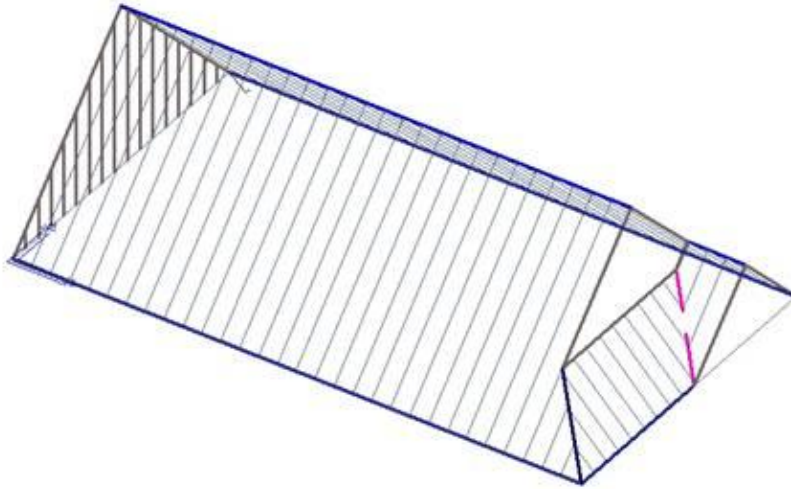
1. Place the background image underneath, unscaled.
2. Using the [...] (ellipsis) button on the digitizing constrained values dialog to set the CPL to the image orientation.
3. Scroll in/out using the zoom wheel
4. Always measure off the image where you can for depths, lengths and offsets, but ignore the value while it remains unscaled.
5. Know how roofs work and thus where to get easy values from.
6. Save in Stages so you can go back if you need to.

Stage 1 – build the easy part of the roof

Gable to Hip, Dutch Gable, Dormer (measure width, use this value for distance along but type $/2$ after it to halve in the dialog, i.e. let the software do the calculation for you).



Model is now messed up, so use **SmartLines** to tidy up the over-calc on the dormer. Delete planes, trim lines to corner and insert planes again.



Stage 2 - Modelling the guts of the roof

OK, for this next bit you need to be able to see the roof as it is, really just a Capital-L shape with some trimmings. So, we measure the width of the current roof and make the stem of the L the same width as this, so that it can be tee'ed-in and the ridges will align.

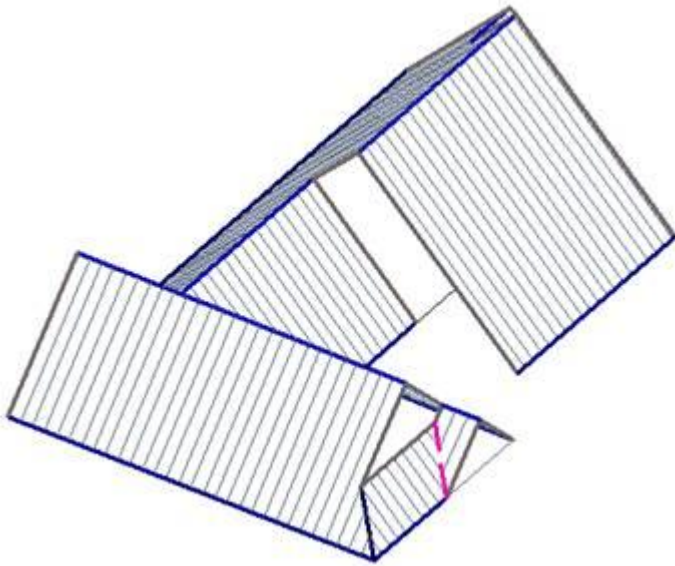


Stage 3 – The highlight

This bit is tricky, but the highlight tool works perfectly (almost) on that middle bit. Hard to see, but when you play with it a bit you get good at it.

Tips and Tricks

Items drawn from AppliCad's Customer Service file



Fix-up in ISO view required whenever a highlight goes outside the existing roof boundary – again using **SmartLines**.

Tips and Tricks

Items drawn from AppliCad's Customer Service file

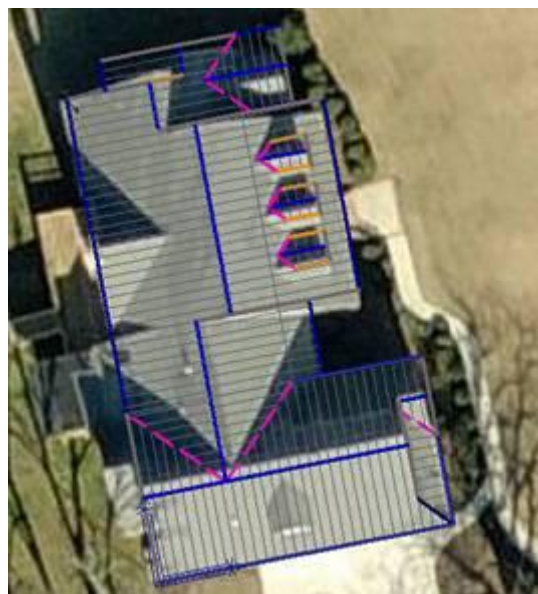
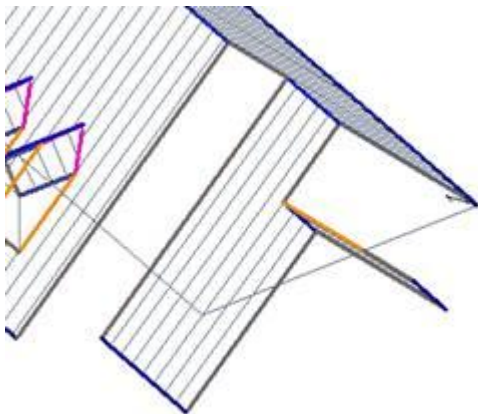
Stage 4 – Drop Eaves and Do Dormers

OK, drop eaves either side of the highlight by the measured distance. Then, insert the middle dormer on the highlight area centrally, measuring the distance and then using the “/2” to centre it perfectly. Then, use that value and use “/2” again to get the quarter dormer positions.



Stage 5 – Split Gable and Dormer at the top

Insert a Split Gable, by measuring the distance between the ridges and the length and the drop its eaves by the same amount as previously – result stored in dialog still. This messed up, so if I did it again I would probably drop the eave at this end after the highlight instead of before, as the fix up wasted 2 minutes!



***Time Check - up to here about 16 minutes.

Tips and Tricks

Items drawn from AppliCad's Customer Service file

Stage 5 – 2 missing dormers

Just draw these as they look, with the measure tools



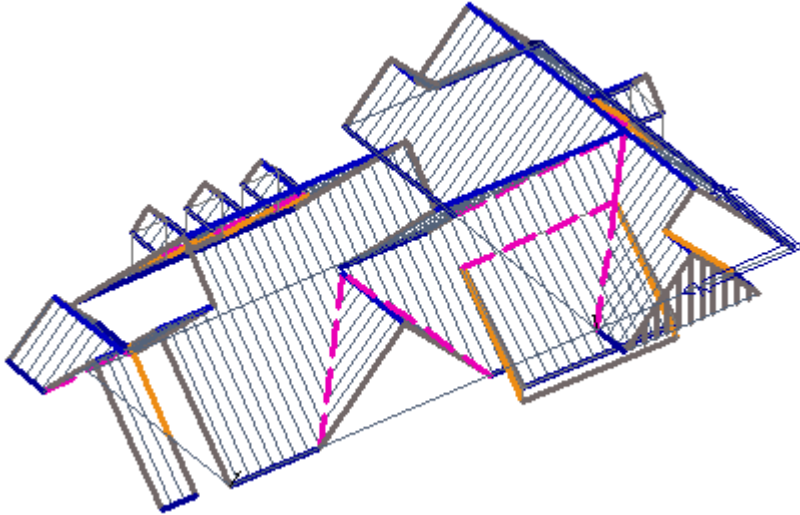
Stage 6 – The Split Gable on the left


Measure the distance between the ridges and insert – very simple.

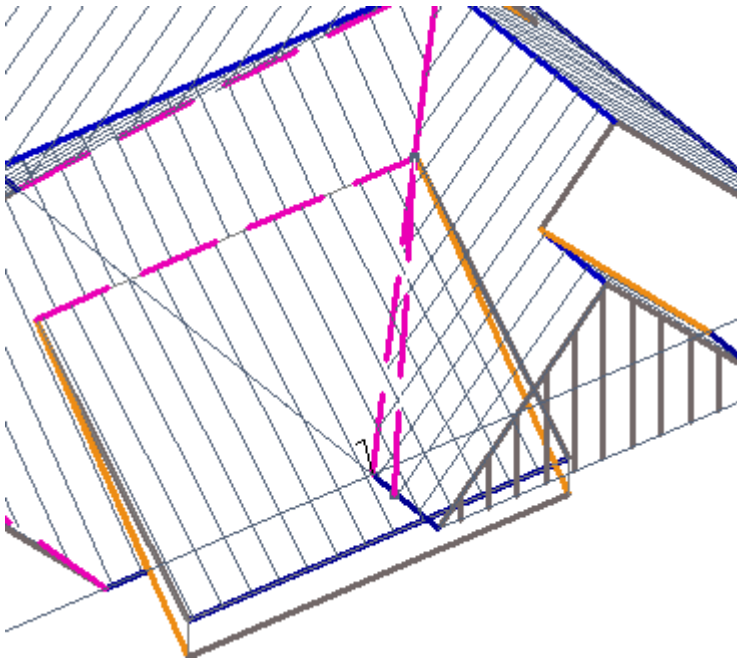


Stage 7 – The last bit – Flat Dormer

First up, insert a Skillion (Flat) Dormer to get the majority of the linework in there quickly and at an accurate slope.



Then, using the Skillion Plane and the Split-Gable Plane, determine the new valley location using the intersect-planes command under **SmartLines**  and change it into a valley:

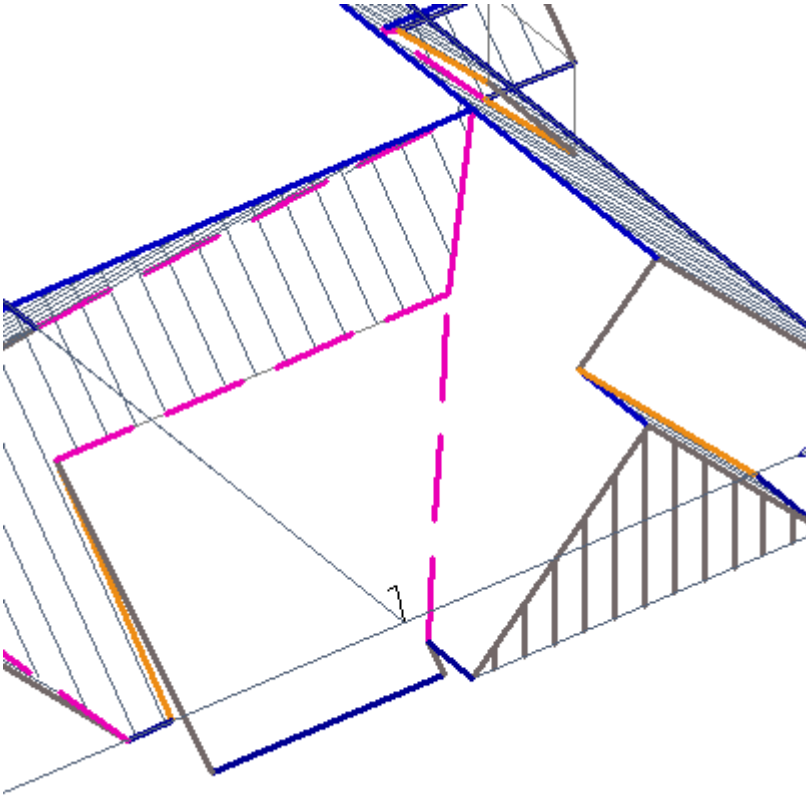


Also, copy the apron line down and make this a valley also. Then, trim up corners and remove unwanted line work:

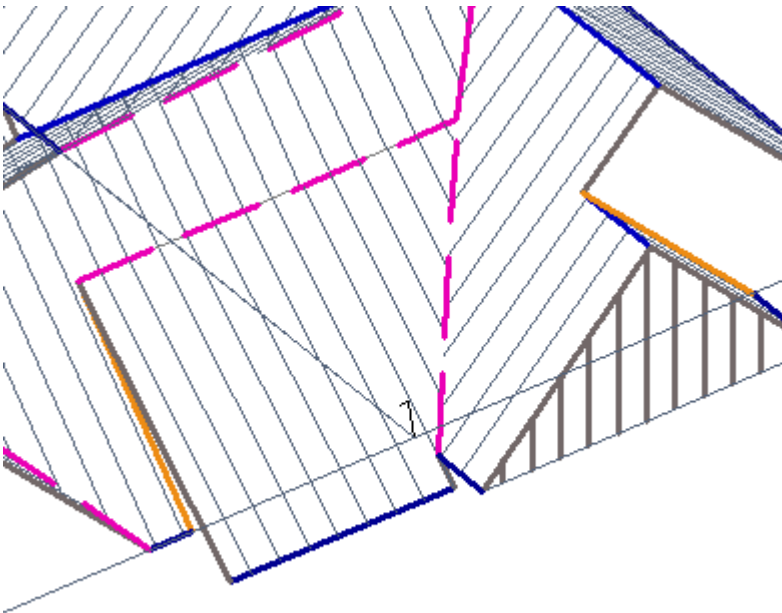
Tips and Tricks

Items drawn from AppliCad's Customer Service file

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Finally, re-insert the planes so we can add further offsets etc.



I added these in plan view using the command **Mod-Roof > Extend-Barge** and then **Tools > Merge-Collinear Lines** and then finally reverse atrium (**Mod-Roof > Atrium** with negative values).



***Time Check - To here approx. 26 minutes.

Stage 8 – The lower roof –

I whooped this one in way too quickly for my liking, just that I was pushing 30 minutes and I wanted to do it faster than that.

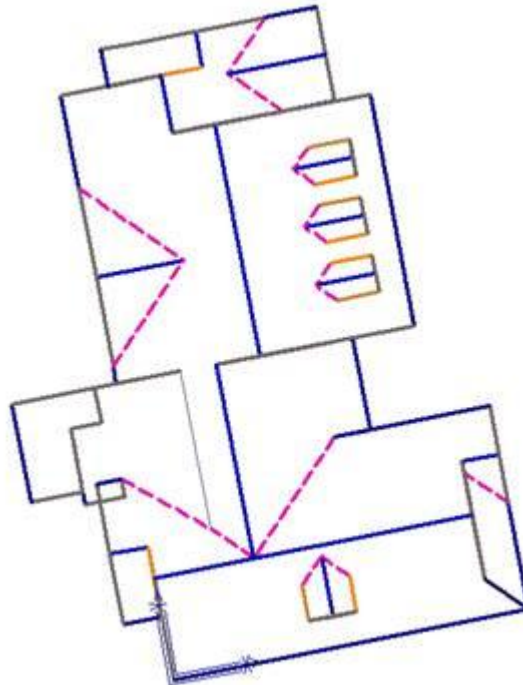
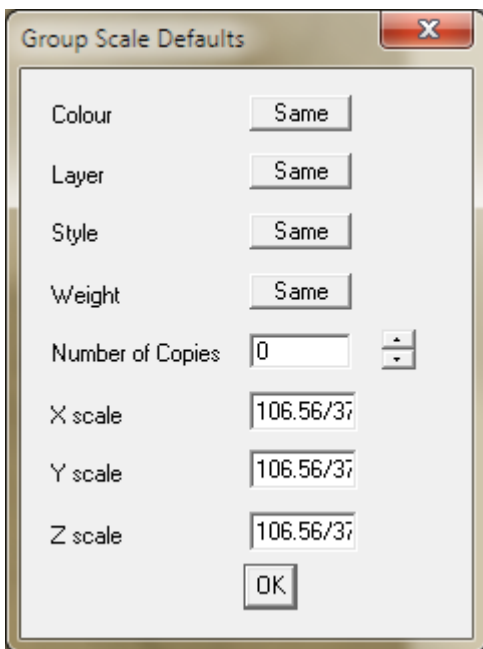
Tips and Tricks

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Stage 9 – Group Scale –

Scaled everything in X, Y and Z by the size you had given me – one single diagonal measurement that on my drawing was 37.53'



I quickly added pitches, lengths and areas and saved them and have attached the whole model here for you to view. Sorry that the Stages in the database don't necessarily match the stages in the email – but it provides for some saved points to return to. The Stage 3 is the finished model.

Tips and Tricks

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Items drawn from AppliCad's Customer Service file

Oh yeah, all up time-wise I spent 29 minutes modelling. The checking and doing the areas, pitches and lengths wasn't nearly as intensive as it should have been but I'd be pretty disappointed not to be able to do this job in well less than an hour.

AppliCad Support Team

END