



Part 3 - Hanin's Chapel

Introduction

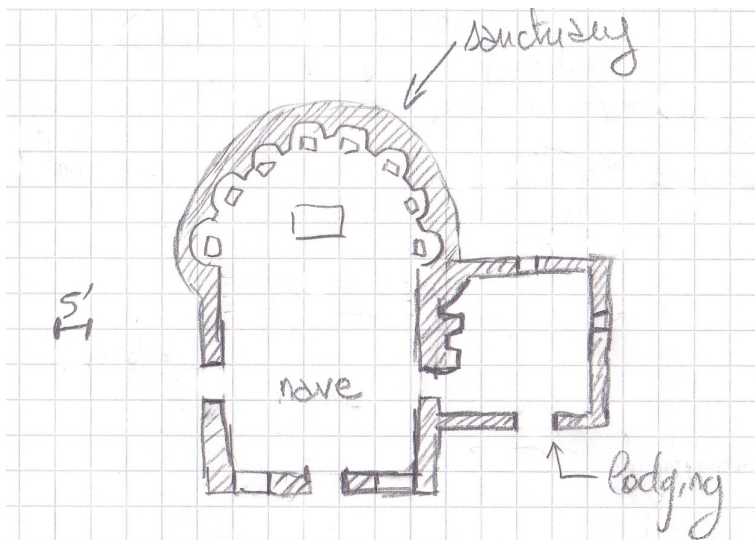
In this part we will make a sketch to find the size of the map, draw a grid and start to build the walls of the chapel, but first we need to recap all we know about the chapel:

Hanin is a hamlet lost near world's end, or so it was before the local ruins were exorcised and people began to colonize the nearby city again. Hanin's inhabitants are born there, fleeing civilization or just their past. Multiple origins and races make for multiple religions and many gods are revered here, but there is neither enough gold nor enough talent to decorate the chapel with statues, bas-reliefs or paintings.

This means a modest sized building, able to host 8 small shrines, and accommodation for a priest.

Make a sketch of your design

Draw this sketch on graph paper. Here is the one I made for the chapel:



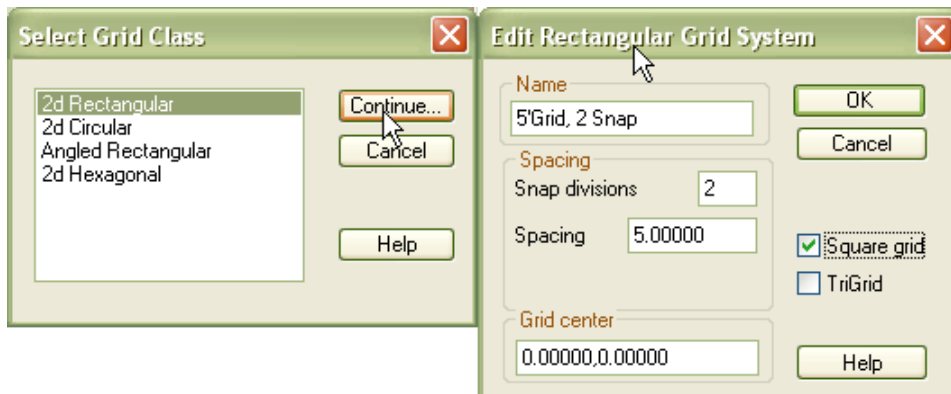
The main part is made from a diameter 35' circular sanctuary and a 25' wide square nave. The priest's quarters in another square, 20'x20' inside the walls.

The size of the map can be deduced from the sketch, for example 120'x80'. This leaves enough room to add a part of the graveyard to the left and some details around the building.

Set the screen snaps

Go to the **Tools**→**Snaps**→*Grid Settings* or right-click on the **Grid**, **Snap** or **Ortho** button.

Select the 5'Grid, 2 Snap setting. It's included in the blank.FCT template. If you prefer not to use the template, click on **New** and set everything as shown below then click **OK**:



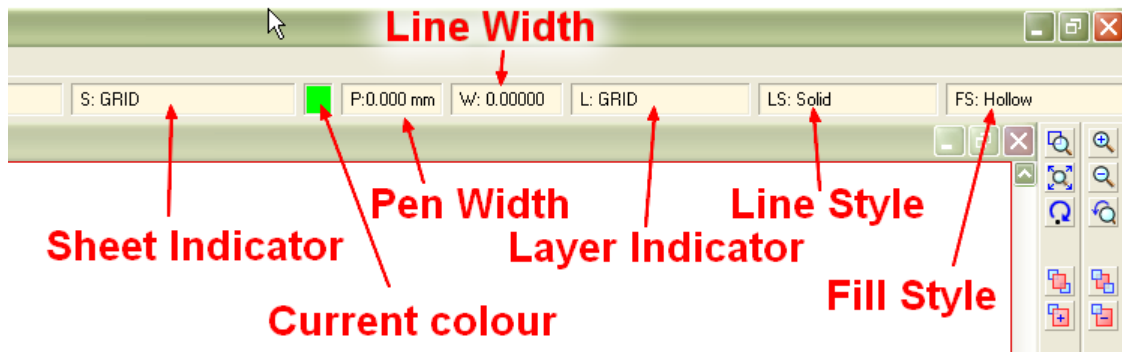
Make sure that the Grid and Snap buttons are pressed down and that the Ortho and Attach buttons are up.





Set the screen configuration




Set your screen settings as shown in the screen shot below:



1. Open the Sheet Indicator to check the left box of the **GRID** sheet. Close the sheet selector (click **OK**)
2. Select color 1 (bright green) either by clicking on the right colors box on the color toolbar or on the color box next to the Sheet Indicator
3. Click on the Pen Width Indicator and enter 0 (if it's not already set)
4. Click on the Line Width Indicator and enter 0
5. Open the Layer Indicator and check the leftmost box of the **GRID** layer. Close the Layer Selector (by clicking the **OK** button)
6. Click on the Line Style Indicator and select Solid
7. Click on the Fill Style Indicator then on the Brush Patterns and select Hollow

Create the grid

Divide the length and the height of the map both by 5' and add each time 1 for the closing line. With 120'x80' that makes $120 \div 5 + 1 = 25$ vertical lines and $80 \div 5 + 1 = 17$ horizontal lines.

1. Invoke the **Line** tool  (**LINE**↵).
2. Type **0,0**↵
3. type **120,0**↵
4. Right-click or hit **escape**.
5. Start again, but this time type **0,0**↵ followed by **0,80**↵ and right-click or **escape**. (120'x80' is the size I chose for the map).
6. Click on **Zoom Extents**  (**ZEXT**↵) to focus the view on those two lines.
7. Right-click the **Copy**  icon and select **Rectangular array**, or just type **Repeat**↵. Select the horizontal green line by clicking on it then hit the **d** key or right-click and select **do it**. Answer the prompts by:
 - Numbers of columns [1]: **1**↵
 - Numbers of rows [1]: **17**↵
 - Repeat origin: **0,0**↵
 - 2nd row 2nd column: **0,5**

Note: if you type 0,0 for the repeat origin, you just have to type the amount of displacement for the 2nd row 2nd column input.

8. Invoke **Rectangular array** (**Repeat**↵) and select the smaller, vertical line then hit the **d** key or right-click and select **do it**.





Note The default values are set to the first input (7. above). Every time there is a default value, you can accept it by right-clicking, which also means you cannot cancel by doing so (the **escape** key still cancels).

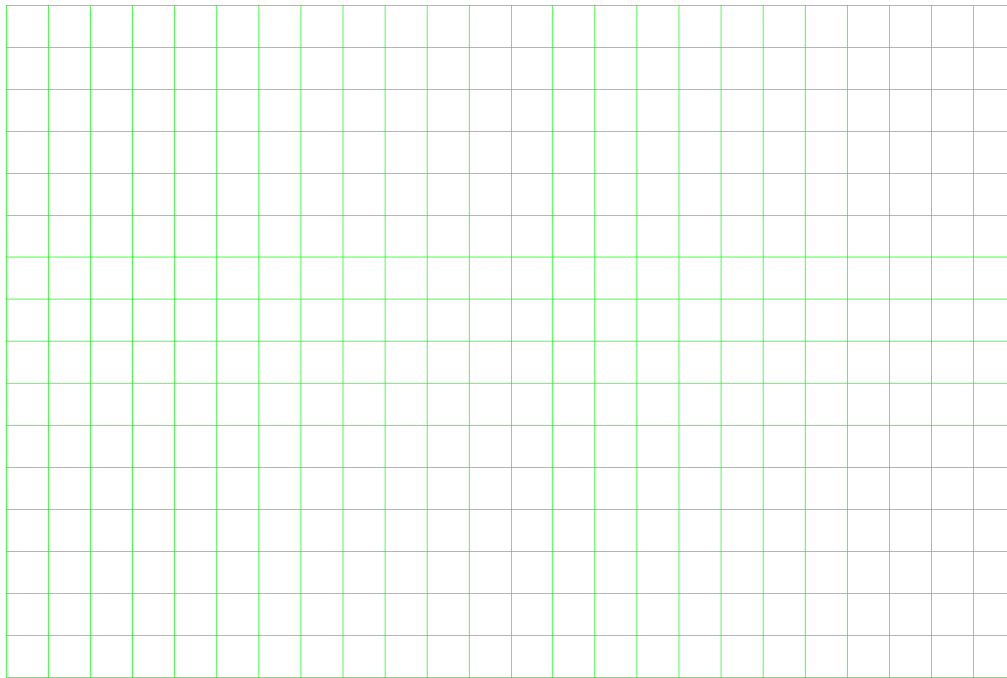
Here answer:

Number of columns [1]: **25**↵

Number of rows [17]: **1**↵

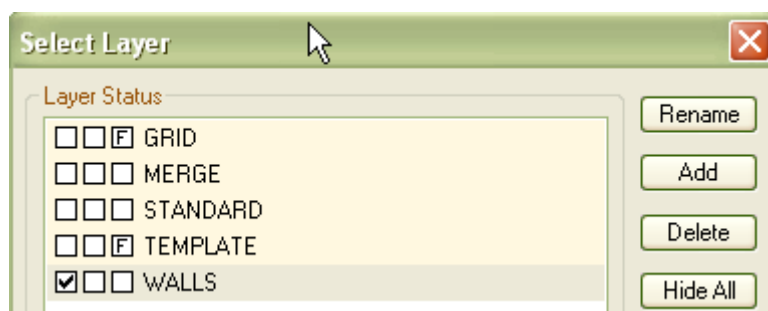
Repeat origin: **0,0**↵

2nd row 2nd column: **5,0**↵



Freeze the Grid

To make this grid secure, click on the Layer Indicator, check the leftmost box of the **WALLS** layer (or any layer except the **GRID** or **TEMPLATE** layers) then check the rightmost box of the **GRID** layer. It should show an “F”, meaning that the layer is now frozen. Close the layer selector by clicking **OK**. Your grid is secure (try erasing or moving part of the it: you can't select it anymore).



Save the map under a new name such as Chapel01.fcw.

Note: CC3 has a tool to draw a grid in one go. It's the **Draw**→**Hex or Square Overlay...** I don't use it because it gives a grouped entity and grouped entities still react to commands even on frozen layers (see sidebar next page).







The Sanctuary – Mapping at last!


Thirteen pages and not a single map line yet. It's about time something happens...

The mean radius is $35' \div 2 = 17.5'$. A width of 5' will provide enough thickness to host the shrines:

1. Click on the wall button  to set the colors, the sheet and the layer in one go.
2. Use the **Double Circle** tool  (**DBLC**↵). At the prompt for the double line width type **5**↵ then click a grid corner to place the circles center.
3. The prompt asks for a point on the circle, in fact on the mean circle that sits just between the two circular sides of the wall. Because the grid is spaced 5' and there are 2 snaps, you could count the squares to 3½. Or you can use the **@** short cut. The “at sign” character means “counting from the last used point”. The last used point is here the center of the circle. Type **@17.5,0**↵ which indicates a point 17.5 units to the right of the center, effectively designing a radius 17.5' circle.
4. Save the map as: Chapel02.fcw

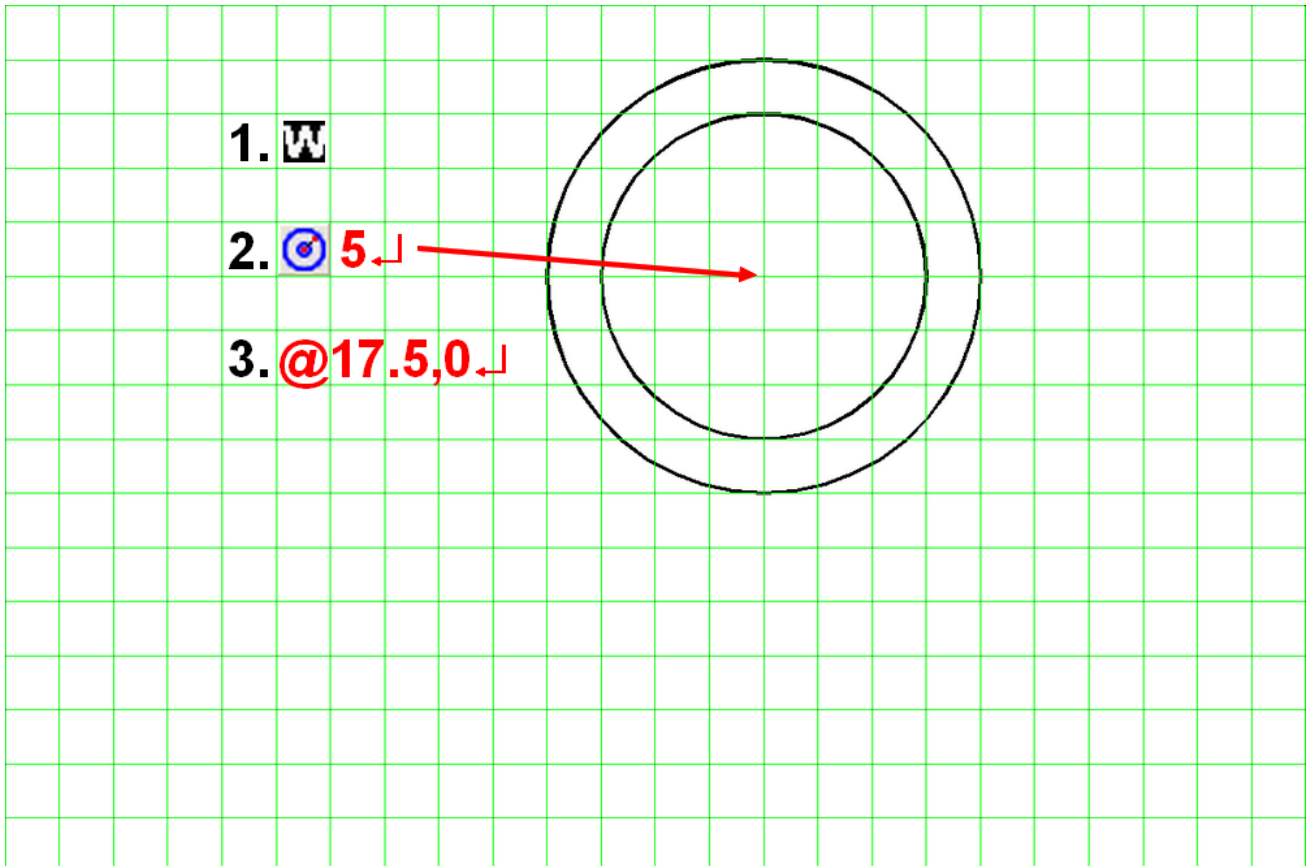
Frozen Entities

The rules governing frozen entities are:

- An entity on a frozen layer cannot be erased, moved, copied or altered in any way,
- An entity on a frozen layer still can be used with modifiers. For example you could start a line from any grid line by using the **On**  (**F9**) modifier.

This last point is important because often the grid gets in the way. That's the reason for the two green buttons added part 1, page 2: **G** and **G**. In just one click you can hide or show the grid.

- Show the grid to draw construction lines (see further), place symbols, count squares, etc. On a small map like this one, the dotted grid you get when the **GRID** button is down would be enough, but on more extended maps, use the green grid instead.
- Hide the grid to draw or use tools with modifiers or just to check your work.











Note: Line widths were increased for better reading.

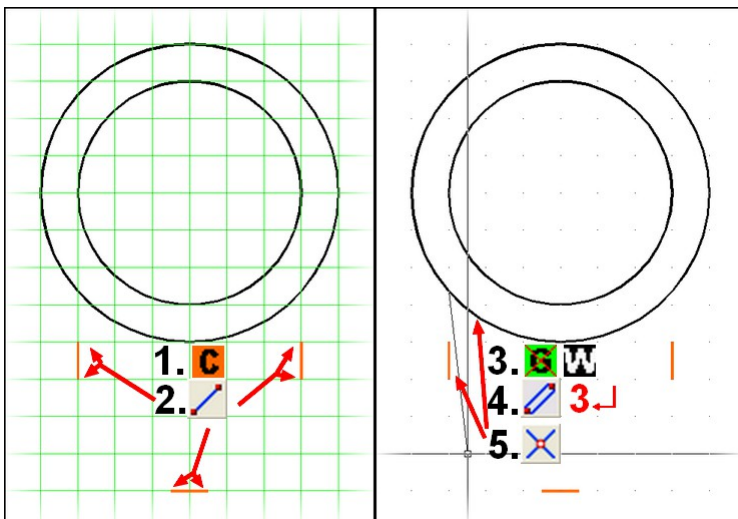




The Nave


1. Click on the orange button **C** that sets everything for construction lines: the sheet to **CONSTRUCTION**, the layer to **STANDARD** and the color to bright orange (8) to clearly identify the nature of the lines
2. Use the **Line** tool  (**LINE**↵) to draw some very short lines on the axes of the walls of the boxed part of the chapel without crossing the circles (see sidebar). Right-click after each line
3. Click on the  icon to hide the grid then click on the  icon to quit the construction settings and enter wall drawing mode: **WALLS** sheet and layer, color black (0)
4. Select the **Double Line**  (**DBLL**↵) tool. Type **3**↵ for the wall width
5. Click on the **Intersection Point**  modifier or hit the **F6** key. Click on a vertical orange line then on the outer circle
6. Click again on the **Intersection Point**  modifier (**F6**). Click on the same orange line as in 5. then on the horizontal orange line
7. Click a third time on the **Intersection Point**  modifier (**F6**). Click on the horizontal orange line then on the second vertical orange line
8. Click a last time on the **Intersection Point**  modifier (**F6**). Click on the second vertical orange line then on the outer circle. Because the tool found an entity at the last point, it breaks the entity to insert the wall and stops automatically

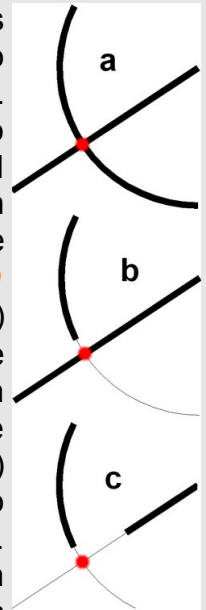
Note: because the corners are on grid nodes, you can bypass steps 6. and 7. by clicking on the nodes if the **Snap** button is down.




Construction Lines and Intersection Points

Construction lines are temporary drawings that won't appear on the final map. Their uses are multiple: finding intersection points, project lengths, draw sketches etc. Here, I use them mostly to get precise intersection points. Because they won't appear on the final map they go on their own sheet: **CONSTRUCTION**.

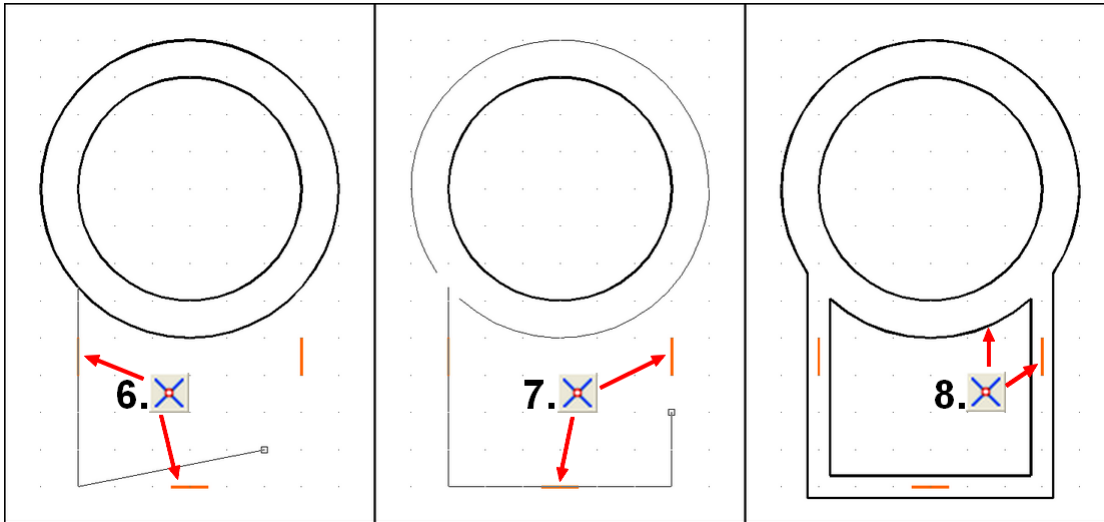
An intersection point is basically a point where to entities cross (a, right). This notion extends to where two entities would cross if one (b) or both were longer (c). On case (a) The **Intersection Point** modifier  (**F6**) can get the precise intersection point when it's pick box is over the intersection. On cases (b) and (c), you need to select first one entity (i.e. the arc or the line) than the other one, which is also an option in case (a).



If you use the modifier to select an entity and define a precise point, as is the case with most CA46 tools, (a) can lead to a wrong selection because two entities (the line and the arc) share this point. This is avoided in (b) if the target is the line. Case (c) will fail because no entity go through the point.

If two entities have more than one intersection point (e.g. a circle and a line) the nearest point is picked by the modifier. If the entities overlap, (e.g. a line above another line) there are too many shared points so the modifier usually fails. If the entities are on separate layers or sheets, the solution is to hide one layer/sheet. Because construction lines are often drawn along the grid, the icon  quickly hides the grid to that effect.








Without CA46

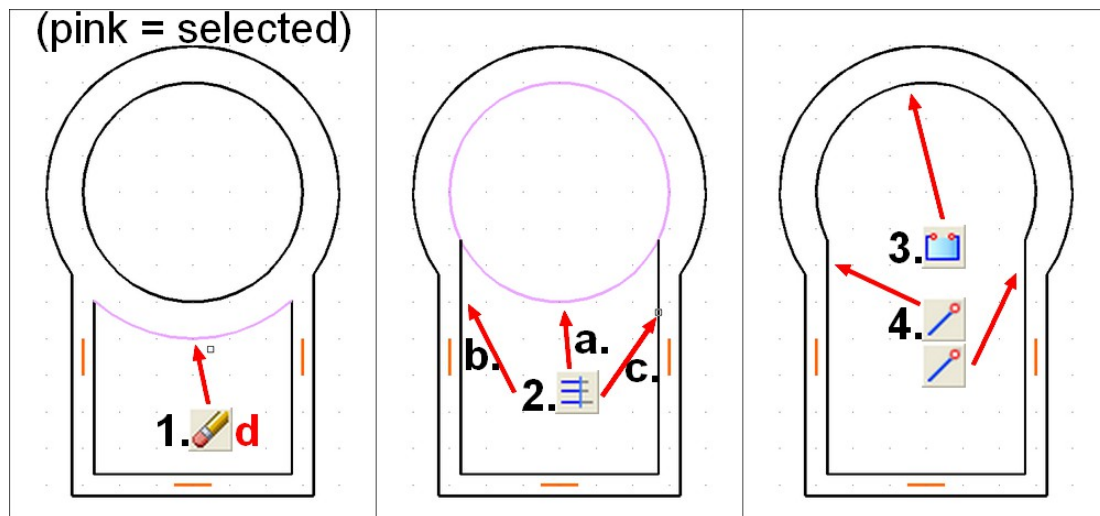
If you don't own Annual 4 you can achieve the same result with some more work.

Check Appendix A to see how to proceed.

Opening the Nave to the Sanctuary





The part of the circular walls separating the nave from the sanctuary must be removed:

1. Click on the **Erase**  icon (**ERA**↵) then on the lower part of the outer circle (now broken into an arc). Right-click **do it** (or hit **d**)
2. Trim the inner vertical lines to the inner circle with the **Trim To Entity**  (**TRIMTO**↵) tool
3. Click on the **Break**  icon (**BREAK**↵) then click the inner circle on the part to keep
4. Use the **Endpoint** modifier (**F5**) to select the upper endpoints of the vertical inner lines

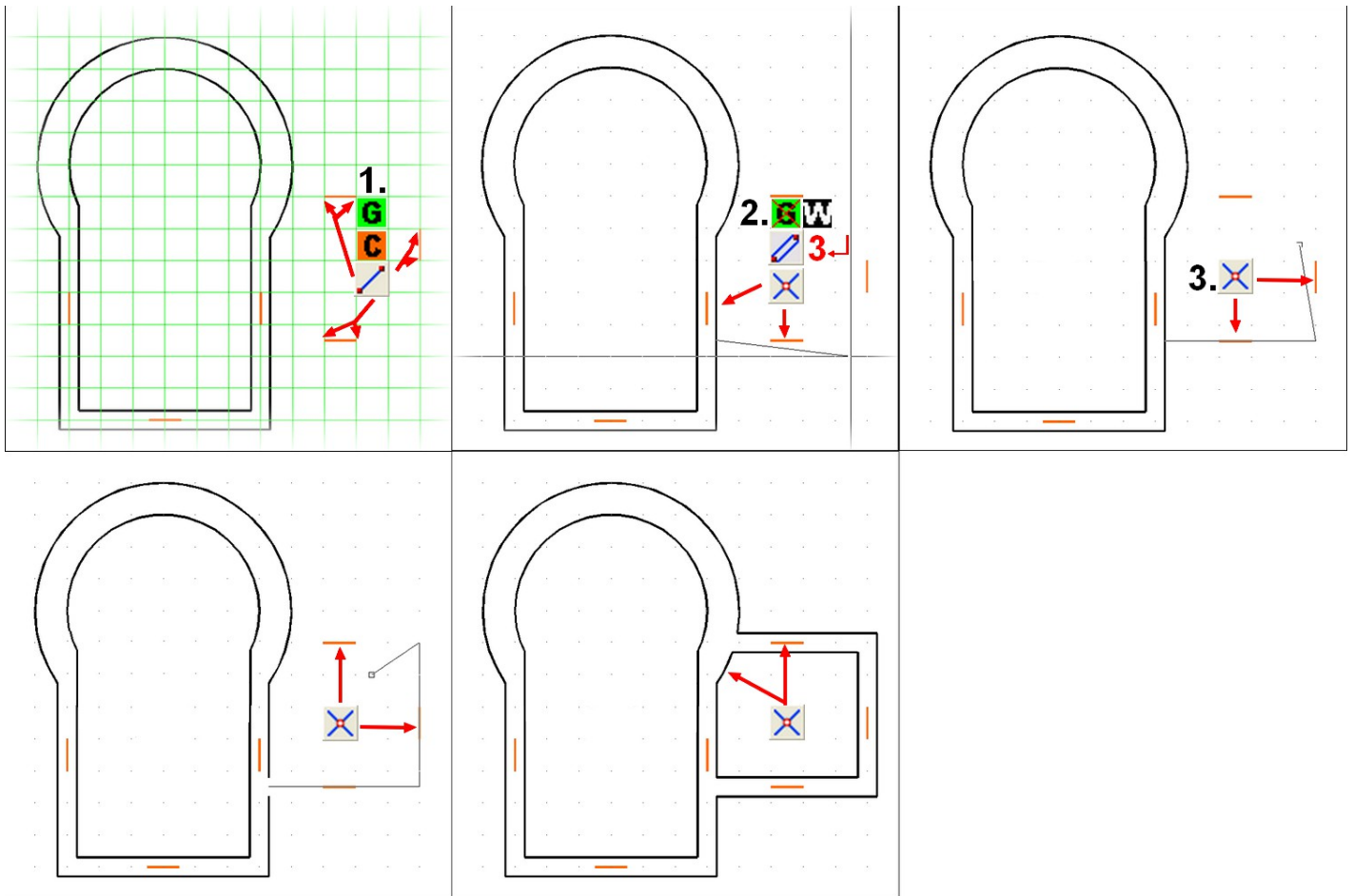


The Lodging

To add the priest's lodging, just repeat the steps from the Nave:

1. Click **G**, click **C**, use the **Line** tool  (**LINE**↵) to draw short construction lines
2. Click **G**, click **W**, select the **Double Line**  (**DBLL**↵) tool and right-click to accept the memorized wall width (or type **3**↵ if you closed CC3 in between or just feel like doing it instead of right clicking). Select the **Intersection Point**  modifier (**F6**). Click on an orange line near an existing wall, then on said wall's outer line
3. Continue with the **Intersection Point**  modifier (**F6**) till you reach another existing wall line
4. Save as Chapel03.fcw





Conclusion

We have now a well defined map area and the rough shape of all the walls has been designed.

In part 4 we will refine these walls by adding alcoves (recesses) and other similar features, giving more details to the basic masonry.

