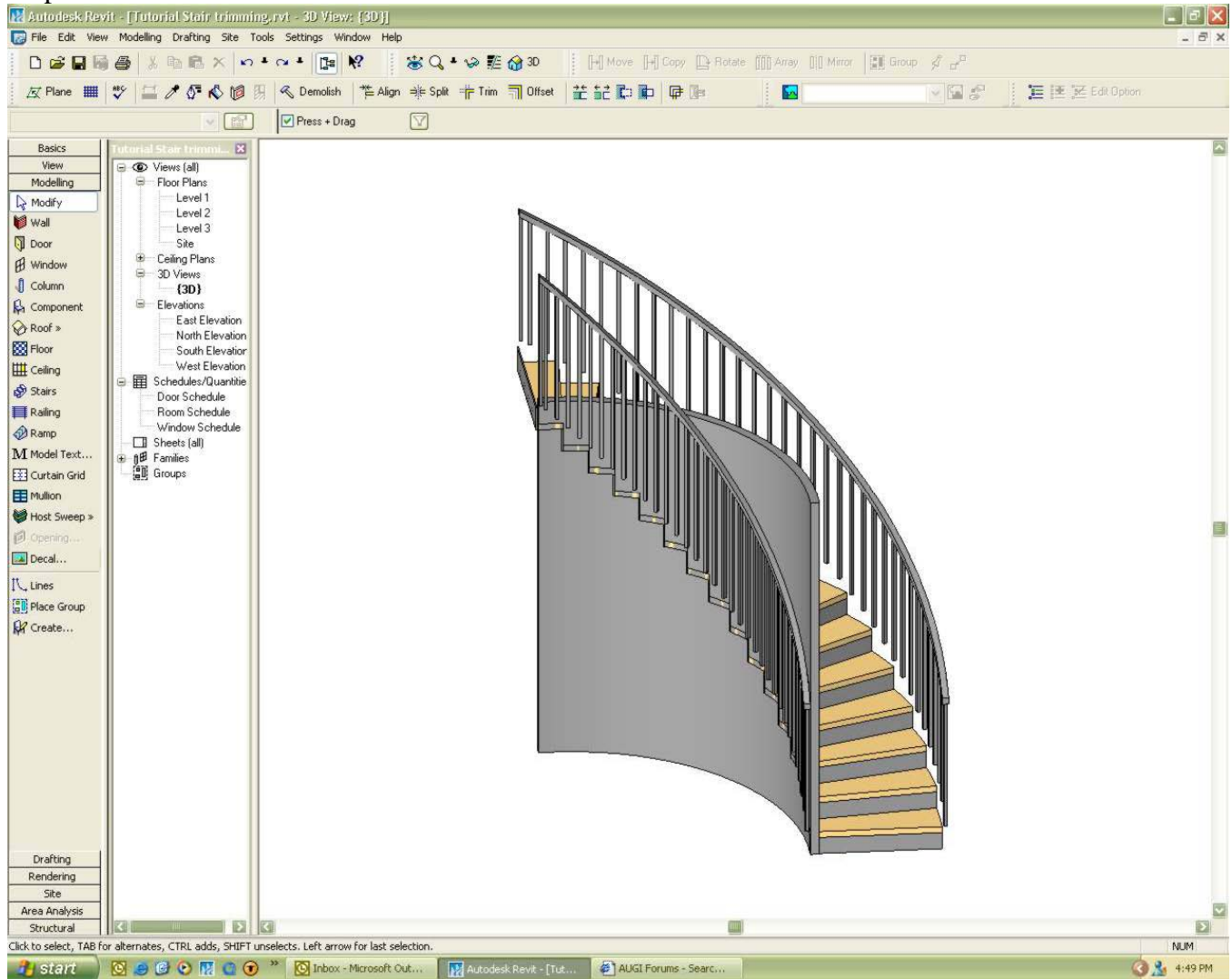


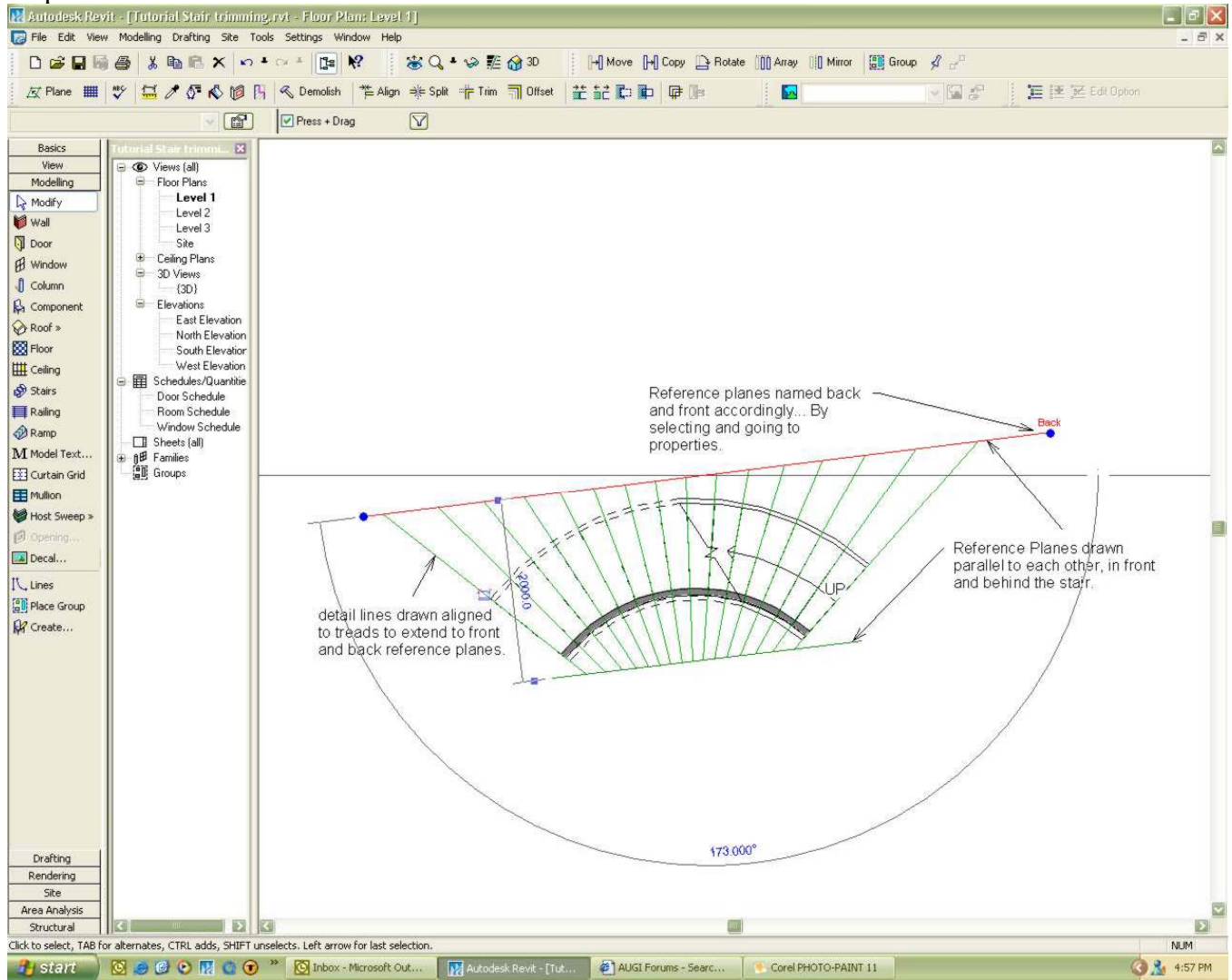
Revit Tutorial – Trimming Walls to the underside of stairs using voids.

Step 1.



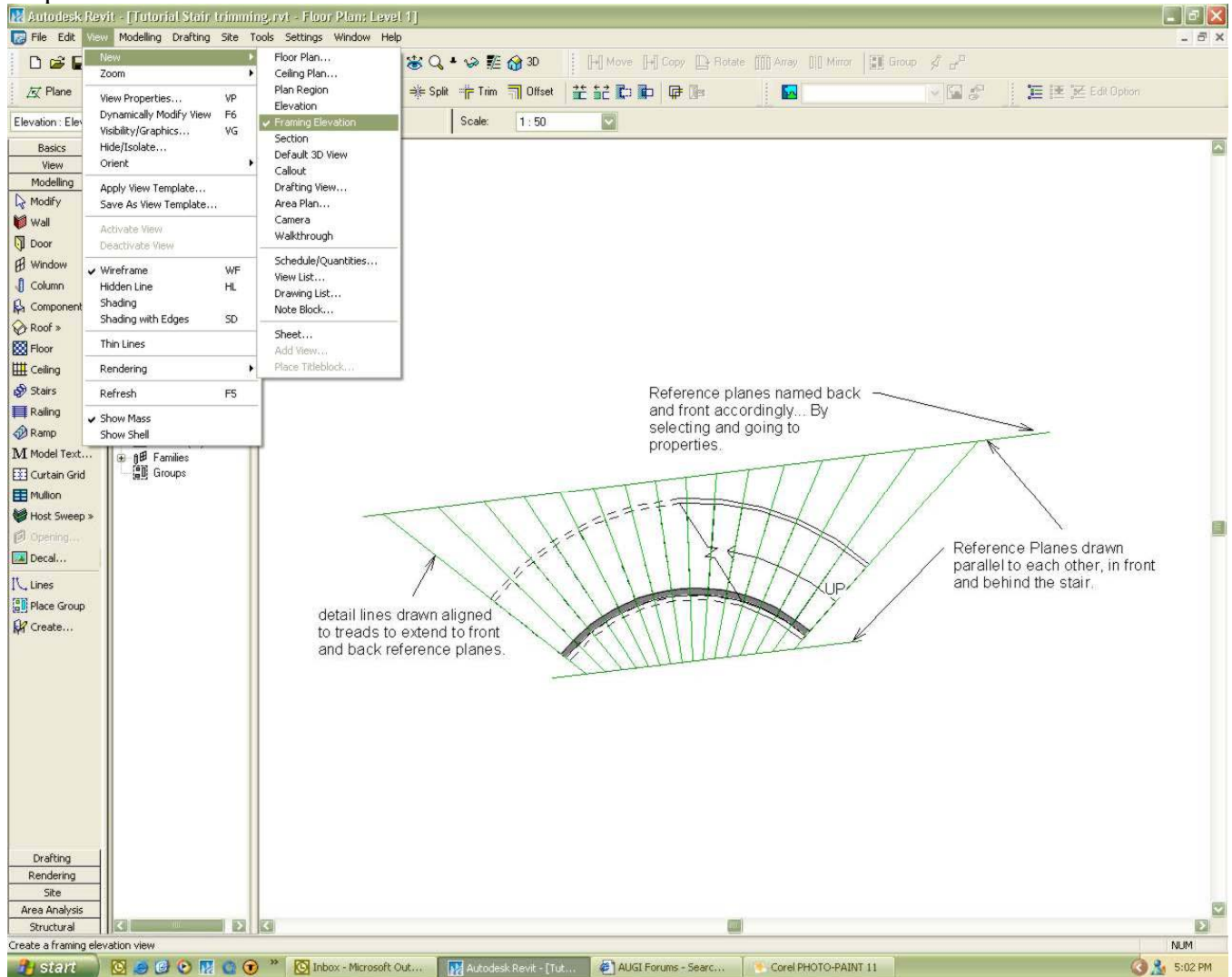
The problem, a curved stair case with a wall underneath.

Step 2.



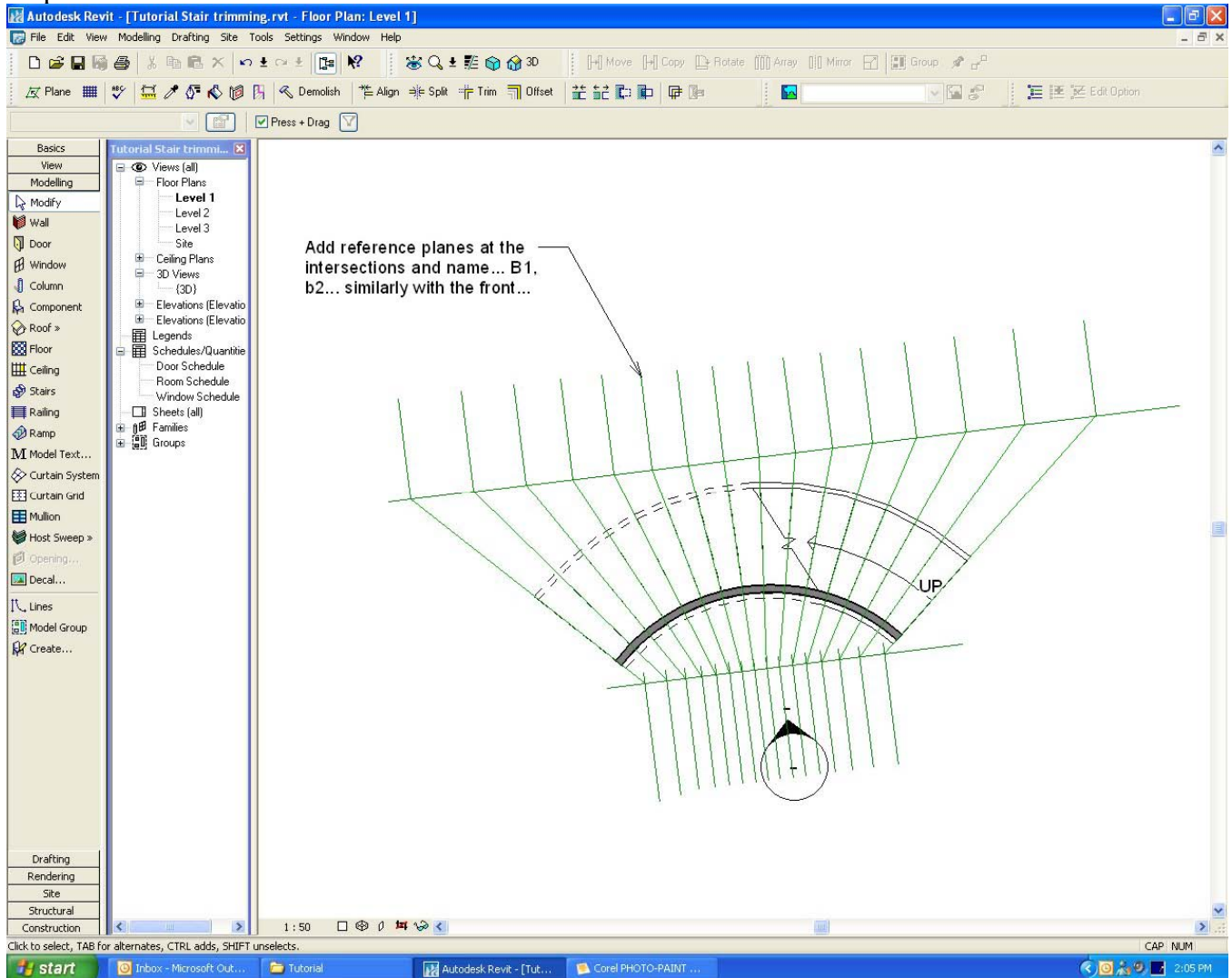
Draw two reference planes in front and behind the stair as shown (make sure they don't intersect the stair at any point). Now click on each of these, go to their properties and name them back and front respectively. Then draw detail lines which are aligned with the risers to project where the tread would hit the reference planes when projected (refer image).

Step 3.



Create a new framing elevation by going to View→New→Framing Elevation, then pick the front reference plane as the reference looking towards the back reference plane. This will create a view exactly parallel to the reference plane. Now just make sure the view extents of the elevation see past the rear reference plane by clicking on the reference plane. If not drag the far clip plane past this point.

Step 4



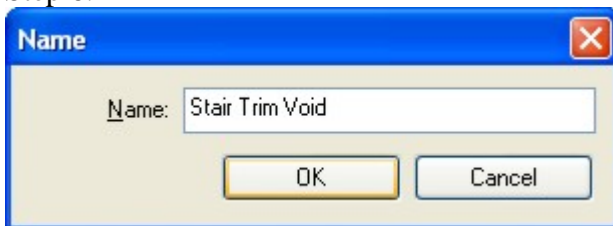
Now we need to add reference planes where the detail lines intersect both the front and back reference planes. To make it easier for us in our elevation name them using the previous method according to their position. That is, the reference planes associated with the first tread should be named B1 and F1 (B=back, F=front), then continue this numbering method up the stairs. Also make sure the reference planes properly intersect the view, that is the 3D extents overlap the elevation boundaries.

Step 5.



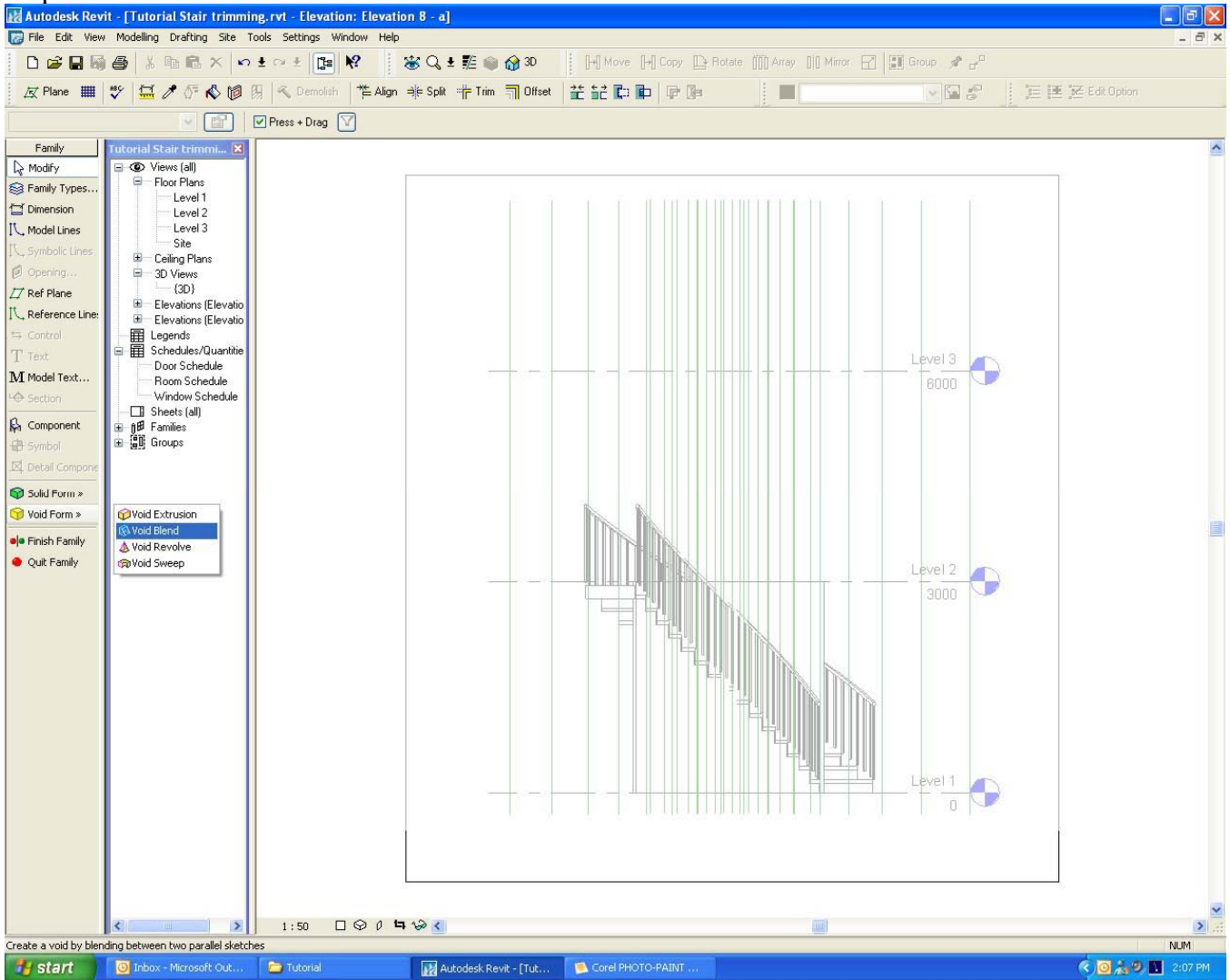
Now click the work plane button and choose pick plane, then select the “FRONT” reference plane. You will be prompted to go to an appropriate view, select the framing elevation we just created.

Step 6.



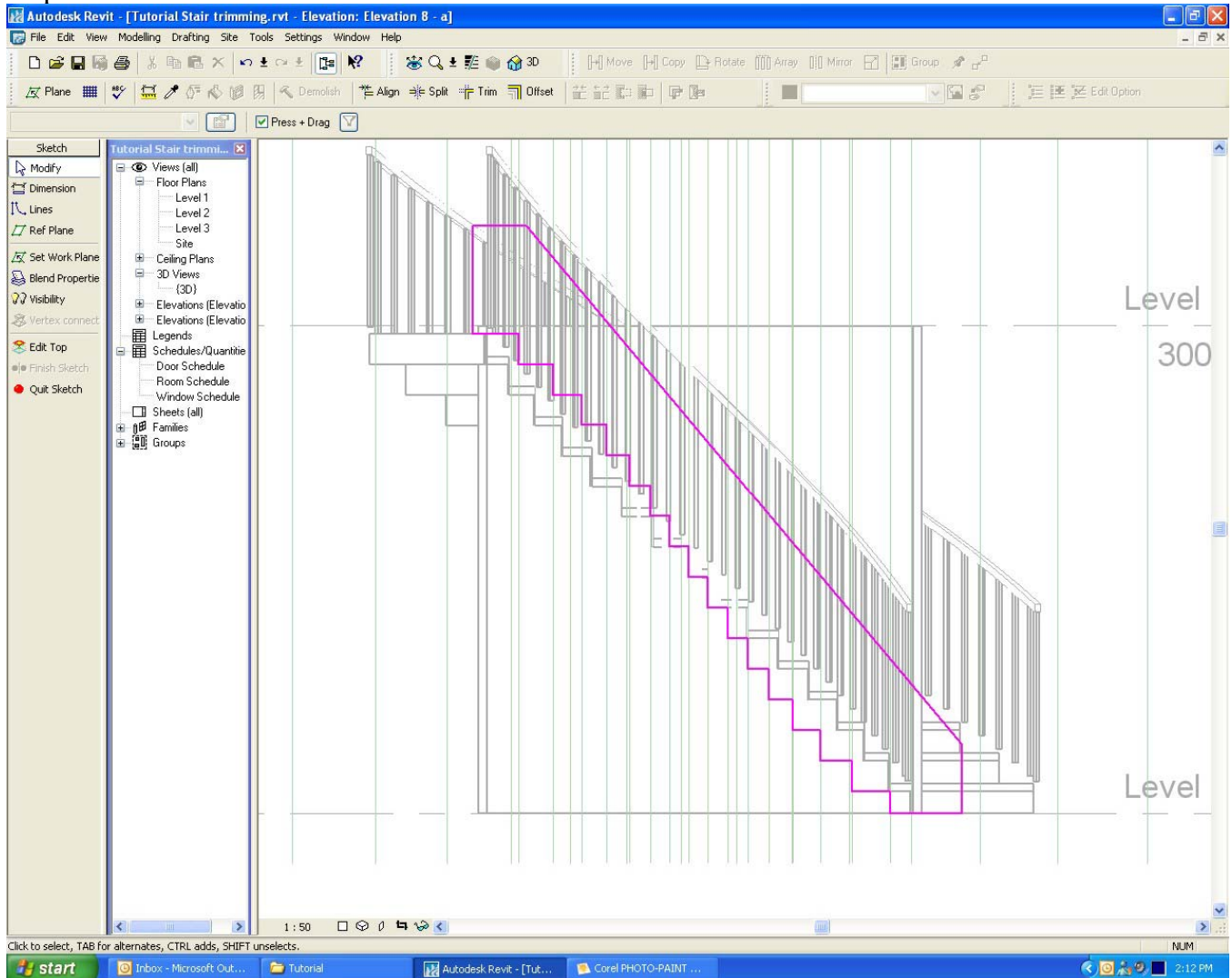
We now want to create an in-place family void to cut out the unwanted section of the wall. Choose Create (modelling tab)→Wall→Then give the family an appropriate name. Refer image above.

Step 6.



We need to create a void using the blend method, select void from → Void Blend. Make sure you are still in the appropriate work plane, that is the front reference plane.

Step 7.



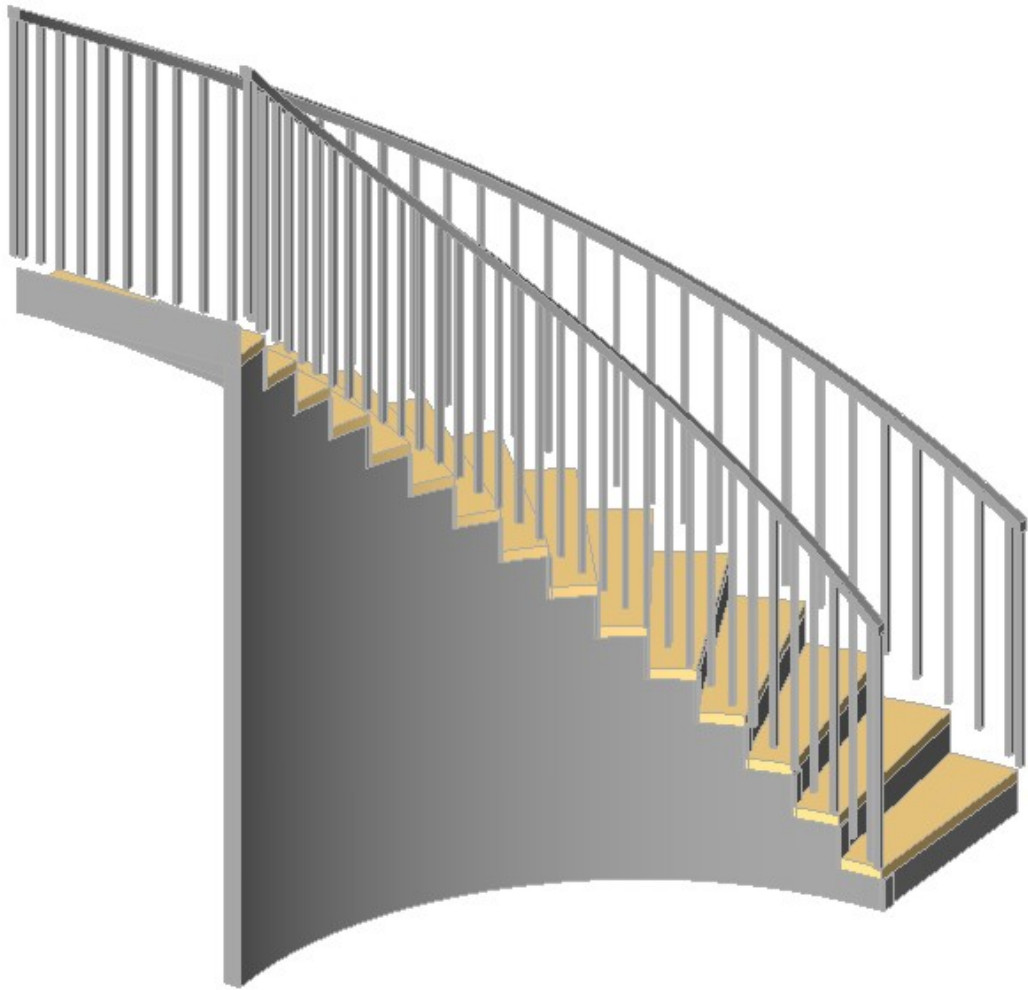
We now have to begin sketching the two profiles for the void, front and back. Begin by sketching the front. When your sketching you should be able to see when the lines snap what they are snapping to. Being at the bottom of the stair, first at F1, then horizontal, then up at F2, horizontal etc. until you hit the top of the stair. We want to remove the top of this section so we need to enclose a box around the full extent of the wall. As sketched above the void will not cut the entire unwanted section of the wall, be sure to make it big enough to do this.

Then Select→Edit Top and do the same thing for the back section, this time using the B series of reference planes.

Once you've done this select→Finish Sketch. Go to your plan view and select the void, drag the rear grip to align with the back reference plane. If done correctly the vertices of the blend should align with the drafting lines we drew earlier.

Now we just have to tell the void to cut the wall. Select the cut geometry tool at the top of the screen, then first select the void, then the element we want it to cut, in this case the wall.

There you go, the stair is now trimmed.



I hope you find this helpful.

**Kind Regards,
Mr Spot.**

Chris Price