

Polygons for Dummies (like me!)

And I was told ... “Well, to “fix” that, all you have to do is apply a hydro polygon there and a sloped polygon over there then throw in a flatten and it's fixed” ... uh, yeah, sure that makes sense, except I didn't have a clue what the person was saying! I wanted to build a parking lot ... how difficult can that be? Well if you learn just a little bit of “magic” ... it is actually easy and kind of fun. The “terms” people throw around are more difficult than the process. But alas, I probably don't use half of what the “magic” can do, and no doubt I've over-simplified it for many folks. But for me, it works and here's how I do it.

The Goal: I want a parking lot beside a casino. I've built a dock for a yacht to tie up, now I need to have a place for people who want to ride on the yacht to park their cars, grab a coke, sit on a bench to wait and just enjoy the view.

The Problem: The area where I want the parking lot is full of bumps and actually is a hill. If you “place” a car on it, you'll find the back or front of it buried with the other end hanging in the air. It must be flat.

The Solution: The magic you need is in a little freeware program called SbuilderX313. You can download it (free) here: [Http://www.ptsim.com/sbuilderx/sbuilder313.zip](http://www.ptsim.com/sbuilderx/sbuilder313.zip). For the folks like me, this is about as magical as it gets, and simple to use once it is explained.

So here's a view of what I started with and what I wanted, I placed the red and white “buoys” where I wanted the parking lot to be located.



Next, I get in my trusty DHC-2 Beaver (you can use any “vehicle” of your choice). I like the Beaver because I know that when you are in “cockpit view” you are exactly 2.5 meters in elevation ... this becomes VERY important later. Also the pontoons help me. I place the marker squarely between the pontoons to get my “aircraft position” ... or a “point” for the polygon I'm building. By the way, be sure to switch your “settings” in FSX away from the US System and use METERS. I'll mention this again later.



You can see how I position the marker buoy right between the pontoons, left/right and front/back.

As you set up SbuilderX31, it will ask you “where” you want your files. I put the SBUILderX31 program under FSX Addon Programs, and I pointed my output folder to SCENERY in the SbuilderX31 folder.

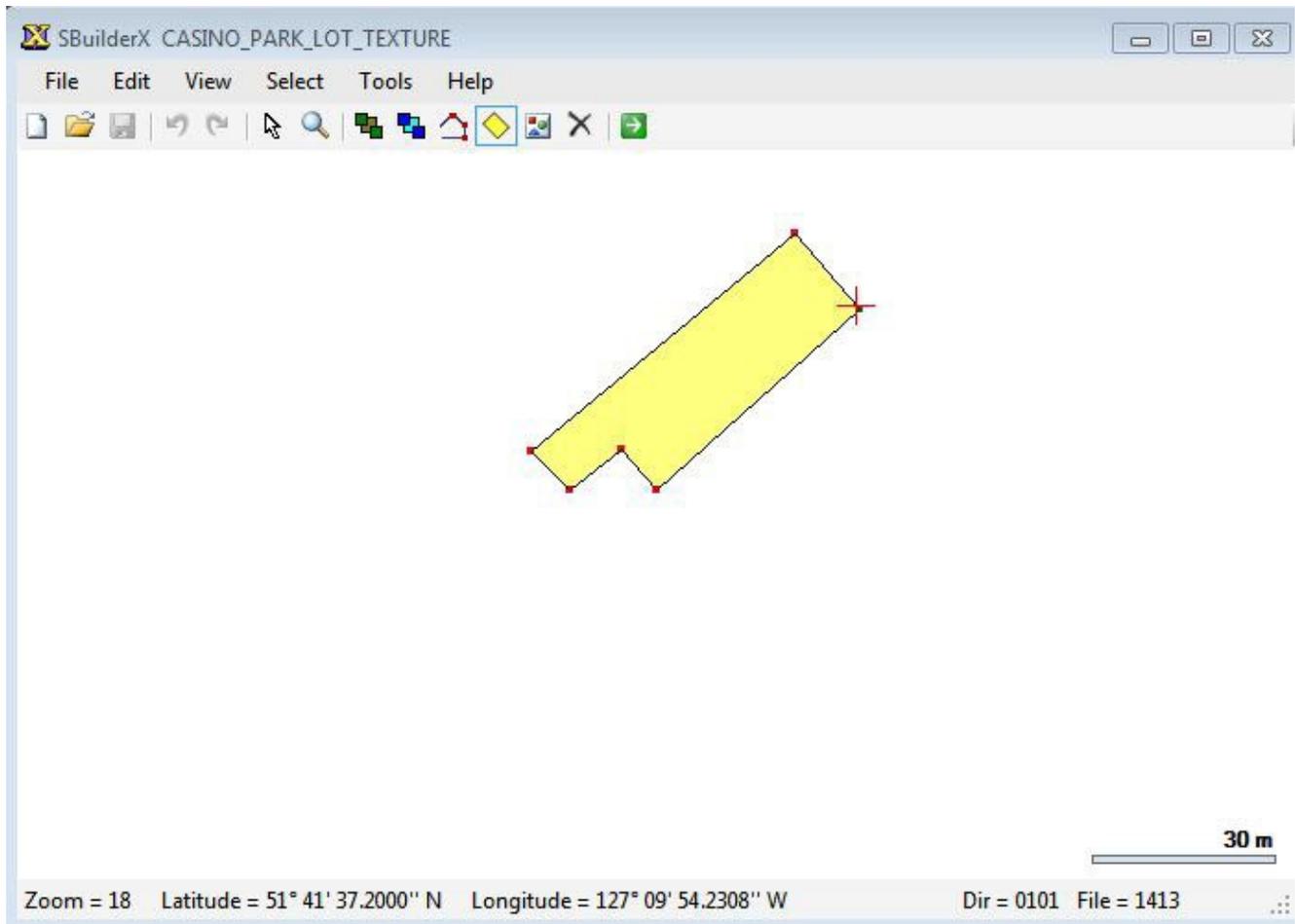
Then you open up SbuilderX31. To get it “ready” to respond for you. First click on FILE and select NEW PROJECT. Put the name of your project into the PROJECT NAME box. I used cassino_parking_lot_flatten. Then press OK.

Oh goody, a blank white screen, now what? Go to VIEW and select SHOW AIRCRAFT. Like magic, a red “X” shows up on the screen ... that is the position of your aircraft. (You can put a Google Earth Map behind this, but frankly, that is more confusing than it is worth. For “micro” projects like a parking lot, Google Earth is not “specific” enough). But before you do anything, look down in the lower right hand corner and you'll see 30 km. My little parking lot is only going to be about 30 meters wide, not 30 kilometers wide, so I need to change that. Move your mouse wheel to “zoom in” or “zoom out” you want to lower this number to about 60m (meters) for a project like this.

Now you click on the little yellow square up in the tool bar. That is the polygon tool and when you left click on it your mouse is “hot” to lay down your first point. Make sure your aircraft (The Red X) is positioned over your first marker, then LEFT CLICK the mouse. Then run it off the screen to the right ... DO NOT click the mouse again until you are “off” the white screen, click on your FSX window so

FSX is active. Now slew your aircraft to the next marker. Click the top of the SbuilderX screen to activate that window again, and your mouse is “hot” again for another point. Move the cursor right over the Red X. The red “X” only flashes about every 5 seconds. So move the pointer until it and the red “X” are finally lined up. Then LEFT CLICK and it lays down another point. Continue this around your polygon. When you have entered the last point, hit ESC and the polygon completes. Congratulations, you just made a polygon!

In the example below I show you a 6 sided polygon, just so you can see what something other than a square would look like.



Next, go to FSX. Be sure your “altitude” is being measured in metrics (meters), not US (feet). If not, go to **OPTIONS/SETTINGS/GENERAL** and change the “Unit of Measure” to “metric.” You now decide the height of your polygon. For me, I'm along a shoreline, so I want to be at water level. I place my aircraft at the shoreline and read my altitude at 14.8 meters. For the Beaver, the “viewpoint” is 2.5 meters HIGHER than the ground. So you subtract 2.5 from 14.8 ... this give you 12.3 meters. (Even I could handle this calculation!). The key here is knowing how high your aircraft's point of view is. You may have to experiment to find it ... or use the float beaver and utilize my 2.5 meter tip.

Now that you know you want your parking lot at 12.3 meters, you go to SbuilderX31 and right click on a point (red dots you added, NOT on the line, but on a point), then select **PROPERTIES**. A little box for Geographic Coordinates comes up. You are only interested in **ALTITUDE**, so click on the “0” there and replace it with 12.3. Do this for all of the points.

When all the points have an altitude, right click on the LINE. Then select properties. A new box comes up for “polygon” properties. Scroll down until you find one called “AB_Flatten”. When it is highlighted, click on OK. Now you are back to your polygon, but it has changed color to a dark green.

Next go to SELECT and choose “All Polygons” ... the little red dots turn from red to green. Then click on the little green arrow at the top in the toolbar on the right, this compiles your polygon. If you go to the folder you designated as your output folder, you'll find a bgl file there with your project's name on it.

Place the bgl into the scenery folder where you are building the parking lot. “SAVE FLIGHT” in FSX then “END FLIGHT”. When the home screen for FSX comes up, click on settings and go to SCENERY. Uncheck the box for the scenery folder you are working in. (It recompiles), then click on scenery again and RE-check the box for the scenery folder you are working in, now your new bgl is in the scenery. Now go to Free Flight and select load the flight you saved. FSX now comes up with your “flatten” in there. For me it looked like this: (I'll be darned, it worked ... magic, as I said!)



TIP: Before you go on, do a “save as” for your polygon and give it the name you have used. (You'll see the name just above the box that is open). Then click the “save” button. If you've made a mistake or want to come back and enlarge the area, you can do it by pulling up this saved “workbook” file, so you don't have to start all over.

In the picture above, you can see the area between the red markers is now flat. Ah, but there are trees in the parking lot ... and you wouldn't want to be parking on the grass if it rains, you'll get stuck in the mud. So now we “pave” the parking lot.

You start a NEW PROJECT name this one “parking_lot_paving”. Make another polygon using the red markers and the aircraft. Add the altitude properties for each of the points. But the difference in the process is this: When you click on the line for the “polygon properties” ... this time select: “FTX_CRM_Railyards_Gravel_Polygon” ... highlight it and click on OK. Now the polygon turns light green. Go to “Select” and get “all polygons” (red dots turn to green) then click on the little green “compile” arrow again.

Go to your output folder, and you'll see a new bgl there with the name you gave it. Now place that into the scenery folder you are working in. END your flight, go to Settings and click on Scenery, uncheck the folder you are working in, Then go again to Scenery and re-check that folder. Load your saved flight and you will see the results of your new "paving" polygon. As you can see, I made a polygon that only included a part of the flattened area. Also, notice I connected the little road coming in from the left. This gave me a nice grassy area in front of the lot so the pavement didn't go all the way to the water. This gives you some room for some artistic landscaping. Notice the pavement texture took out the trees!



At this point, you can go in and take out the red markers. Then use Instant Scenery (or a program of your choice) to "finish" the job. Mine turned out like this:



When you have an area flattened like this, you can do the rest of the “magic” easily. Cars have all four tires on the ground, curbing is level, if you place a little building on it, all four edges are on the ground, not half buried or “flying”.

Practice will make it easier the second time. Also, as you get the hang of it, they you can get more creative (as I did connecting the little road).

But above are the “basics” ... and if you take a little time to learn them ... you too will have “the magic touch.”

Doug Linn
Return to Misty Moorings

PS ... I write this down not just for YOU, but for ME! I work hard to learn a new program, then 3 weeks later can't remember how I did it. So I'm learning to take notes and screenshots and documenting the process so I can use this information 3 weeks from now! (Told you it was for Dummies!)