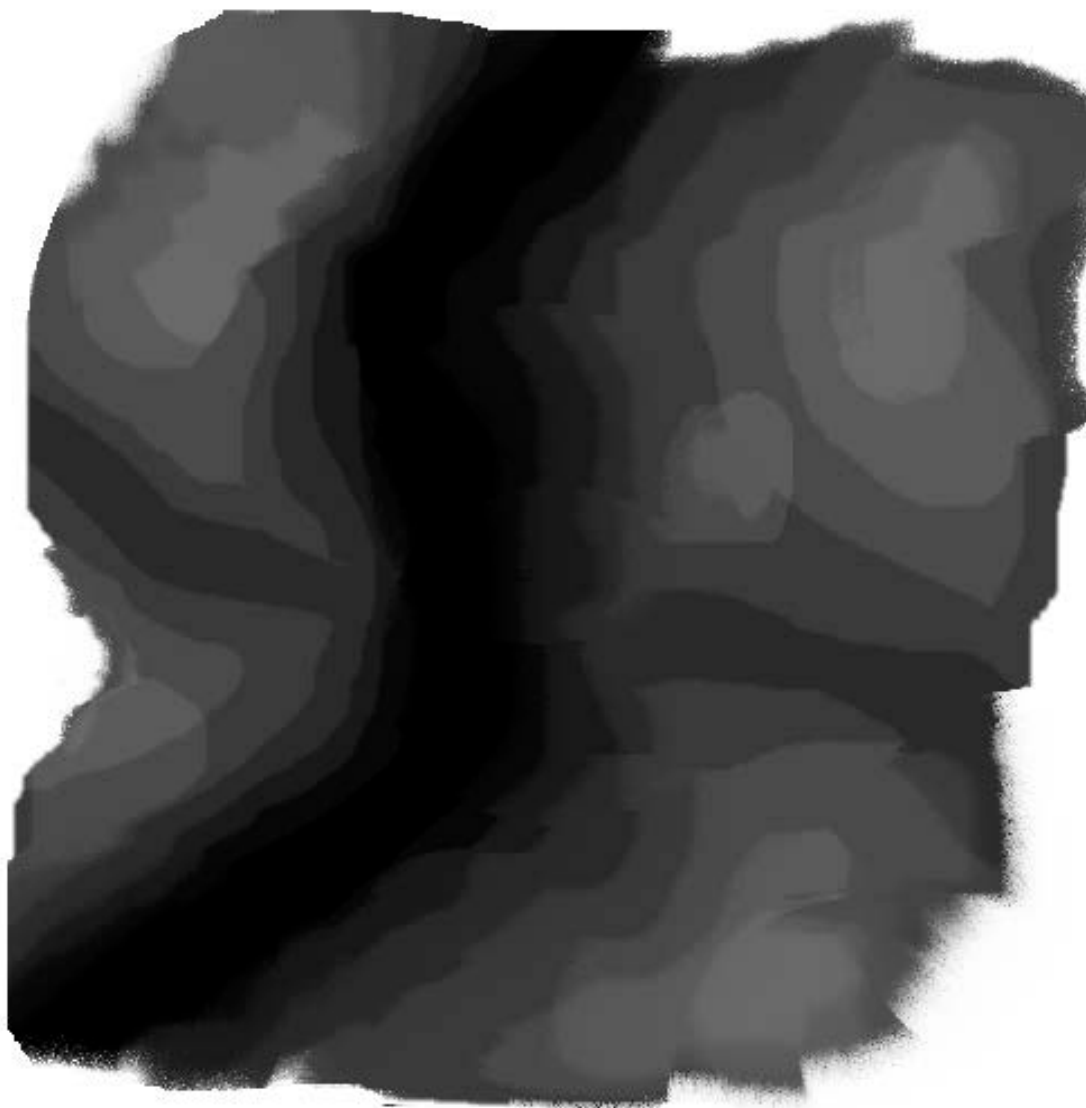


Installing Gensurf

Create a folder called plugins under your Radiant folder. Mine is simply MOHRadiant/plugins. Unzip The MOHGensurf zip file into it. Save the maptest.bmp image someplace where you will remember where you put it.

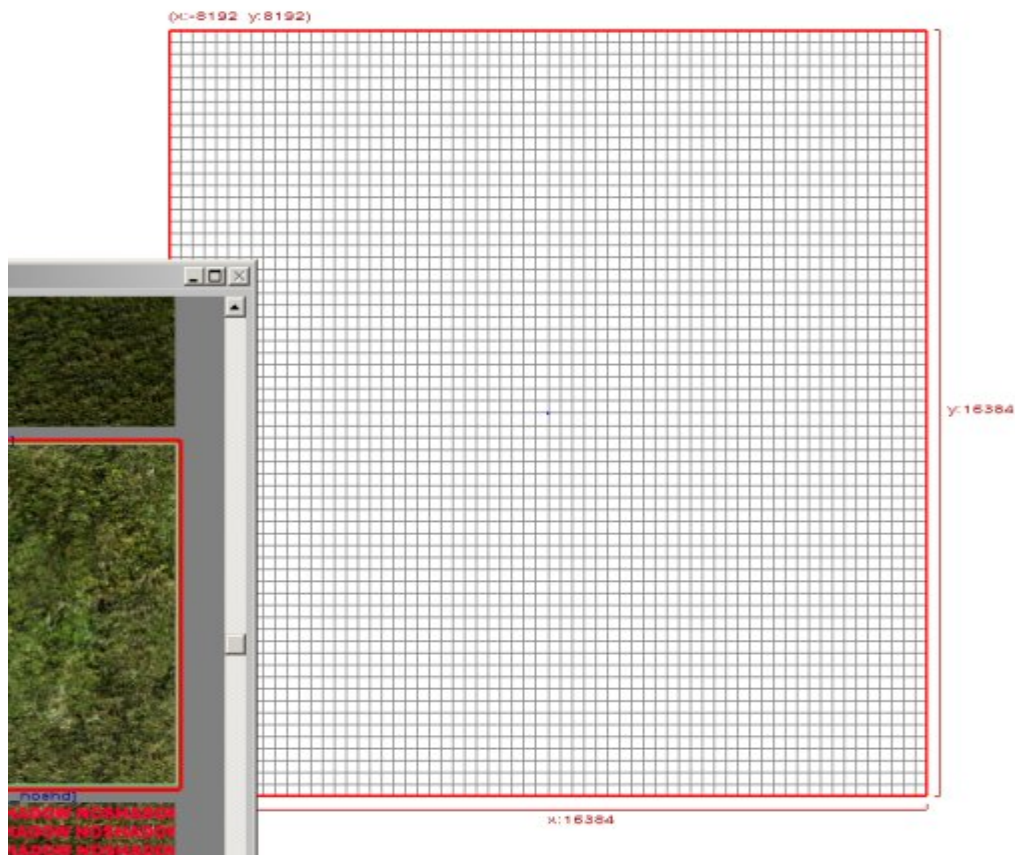
Creating a bitmap image

Gensurf allows you to use a 256 greyscale bit-map image to create terrain. It doesn't matter what size the image is. I use 512 x 512. Your image is basically an elevation map, with black being the lowest and white the highest elevation. I've created a greyscale image with a stream running through it (black area), a road crossing it (dark grey), and some hills (lighter greys). The white area around the outside will be brushes I'm going to discard. Making them lots taller than everything else just makes them easier to pick out. I've chosen this layout because it allows me to demonstrate the basic forms of triangle brush manipulation.



Creating the map

Open Radiant. Select a texture for the ground (grass). Set your grid size to 256 or 512. It's important that you make your initial triangles either 256 x 256 or 512 x 512. I'm going to use 512 x 512. The size of your triangles is determined by the size of the map divided by the number of divisions specified in Gensurf. If you create triangles in an odd size, it's virtually impossible to adjust vertices. Now, create a brush exactly 16384 x 16384... the entire size of the grid. No more, no less. It doesn't matter how thick it is, Gensurf will take care of that.



Select plugins, choose Gensurf, then ground surface. You should see the Gensurf pop-up window. Click the general tab and select these options:

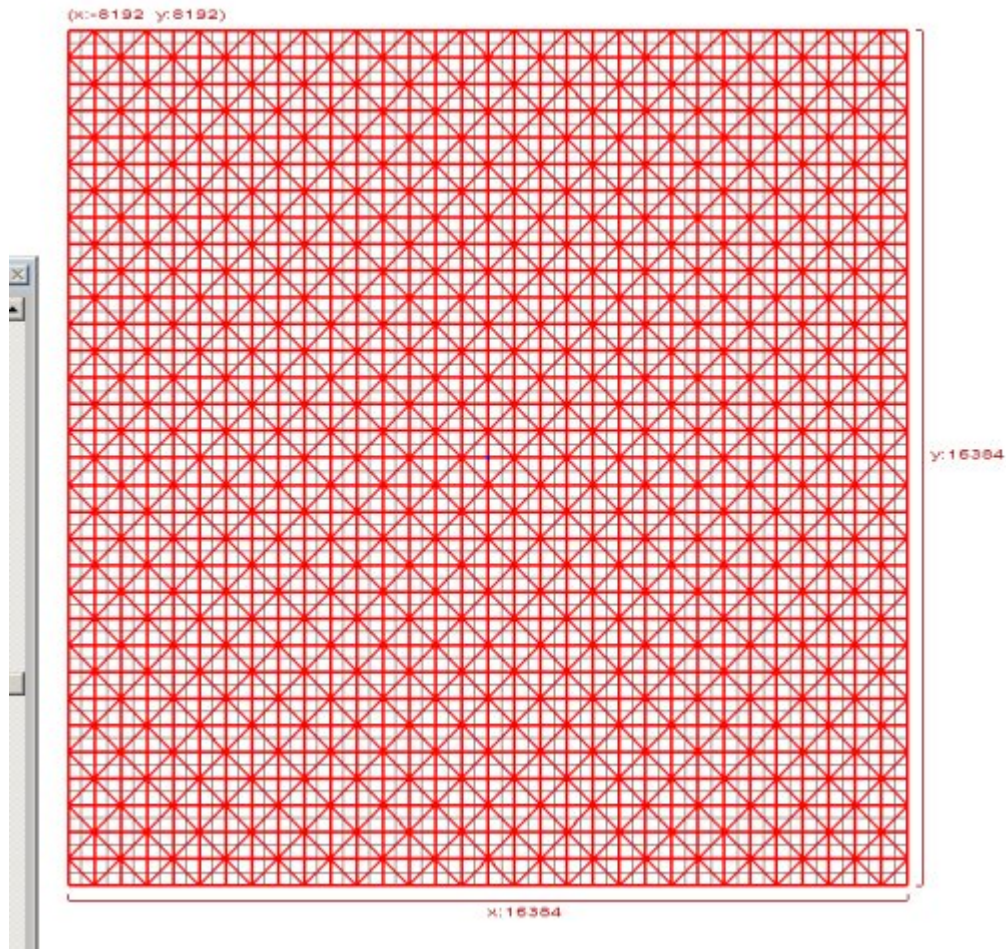
Game is Quake3 arena
Orientation is ground surface
Waveform is from bitmap
Roughness should be 32 or 64, I used 64.
Random seed can be anything you want, I leave it as 2.

Now click the extent tab. Set the extents as follows:

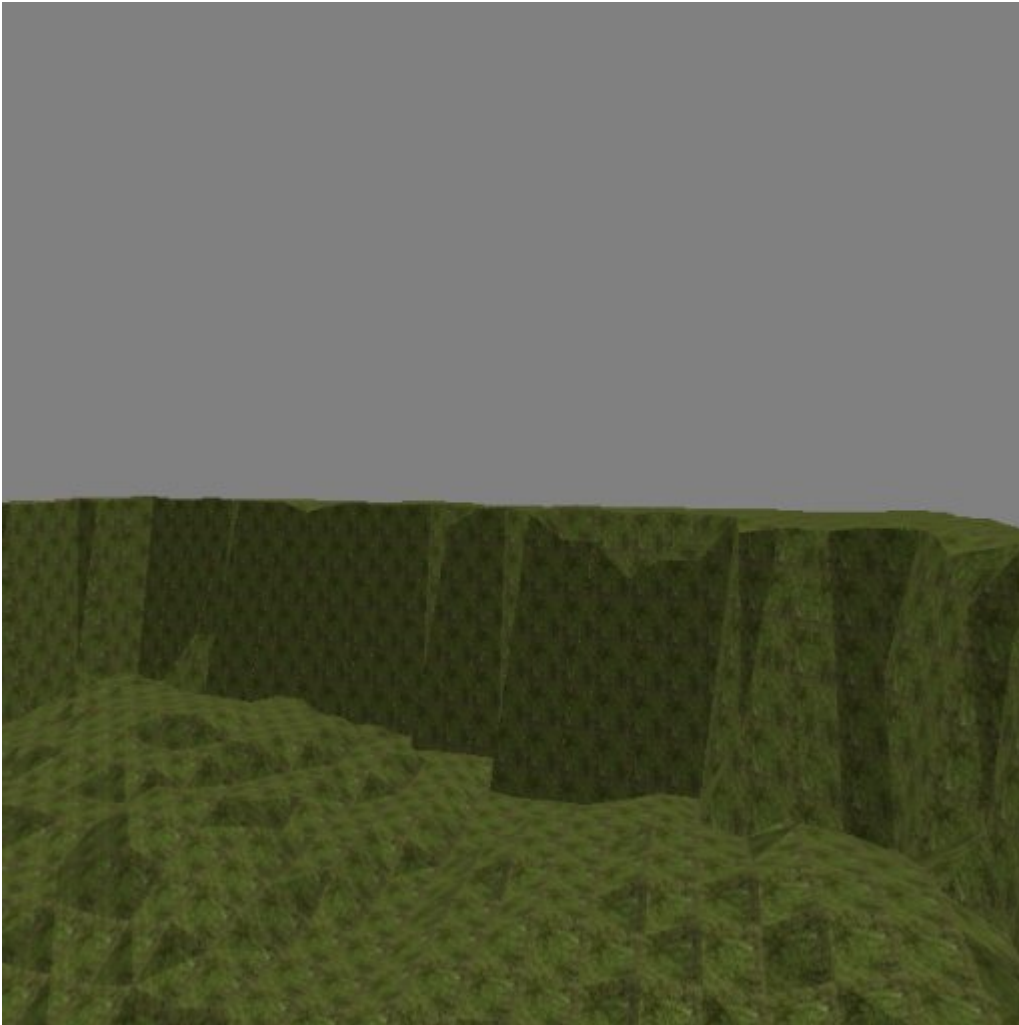
X: -8192 8192
Y: -8192 8192
Divisions: 32 32

Now click the bitmap tab and find the maptest.bmp file I enclosed in the zip file.
Set map color 0 to 0
Set map color 255 to 4096 (this is important, you always want a value divisible by 32).

When you are finished, click go to create the map. You should see this, you may have to use deselect to rather than manually selecting with the escape key.

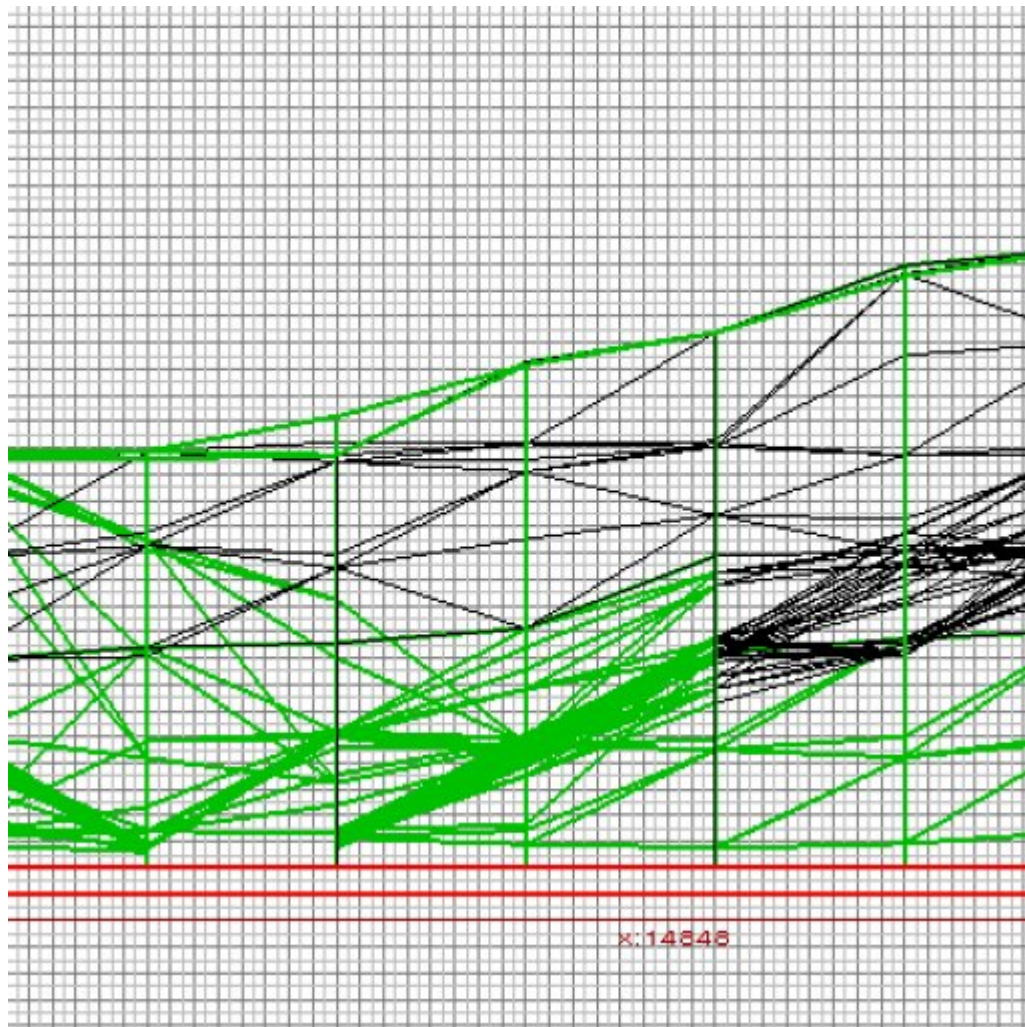


Notice the high sides I created. I'm just going to delete them.

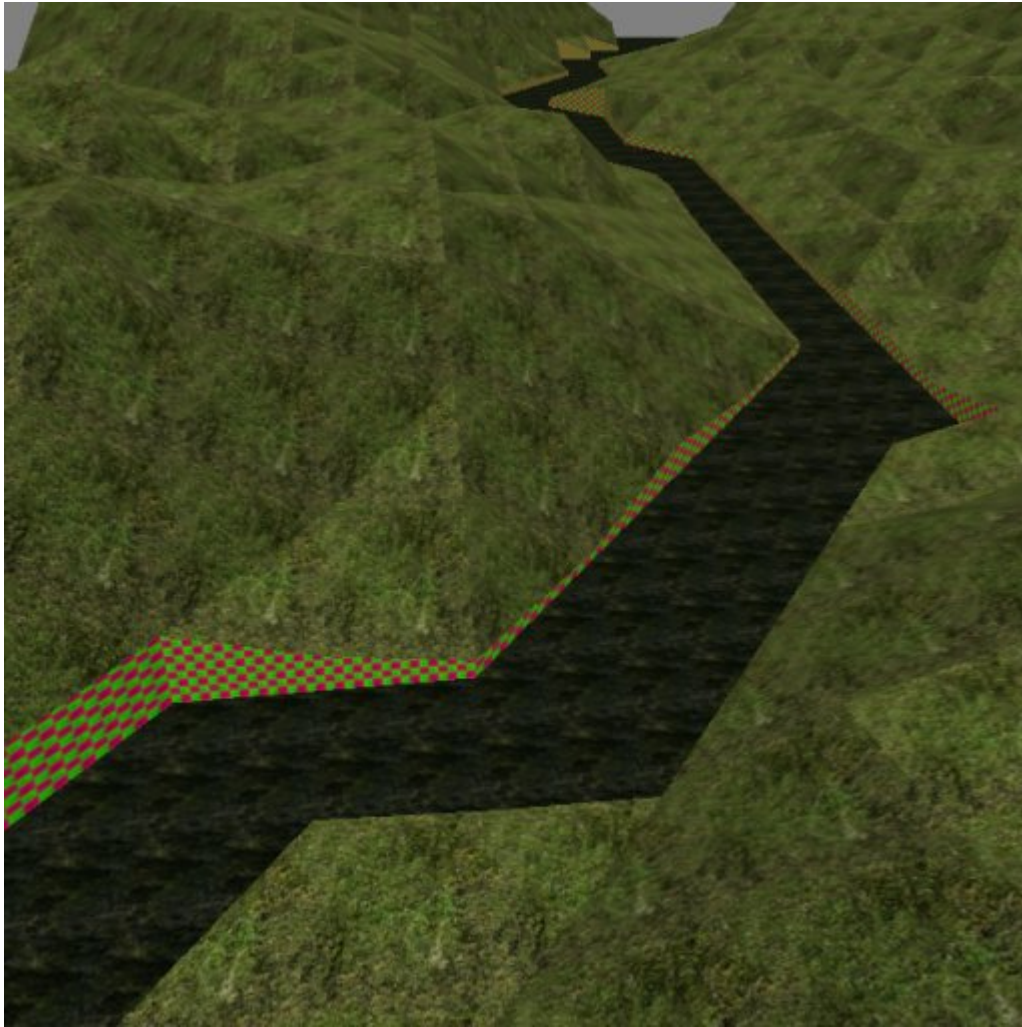


After deleting the unwanted sides, I will also delete the brushes that make up the river bottom. When I'm done removing these unwanted brushes, the map should look like this (I've made the edge brushes detail, so they show up better):

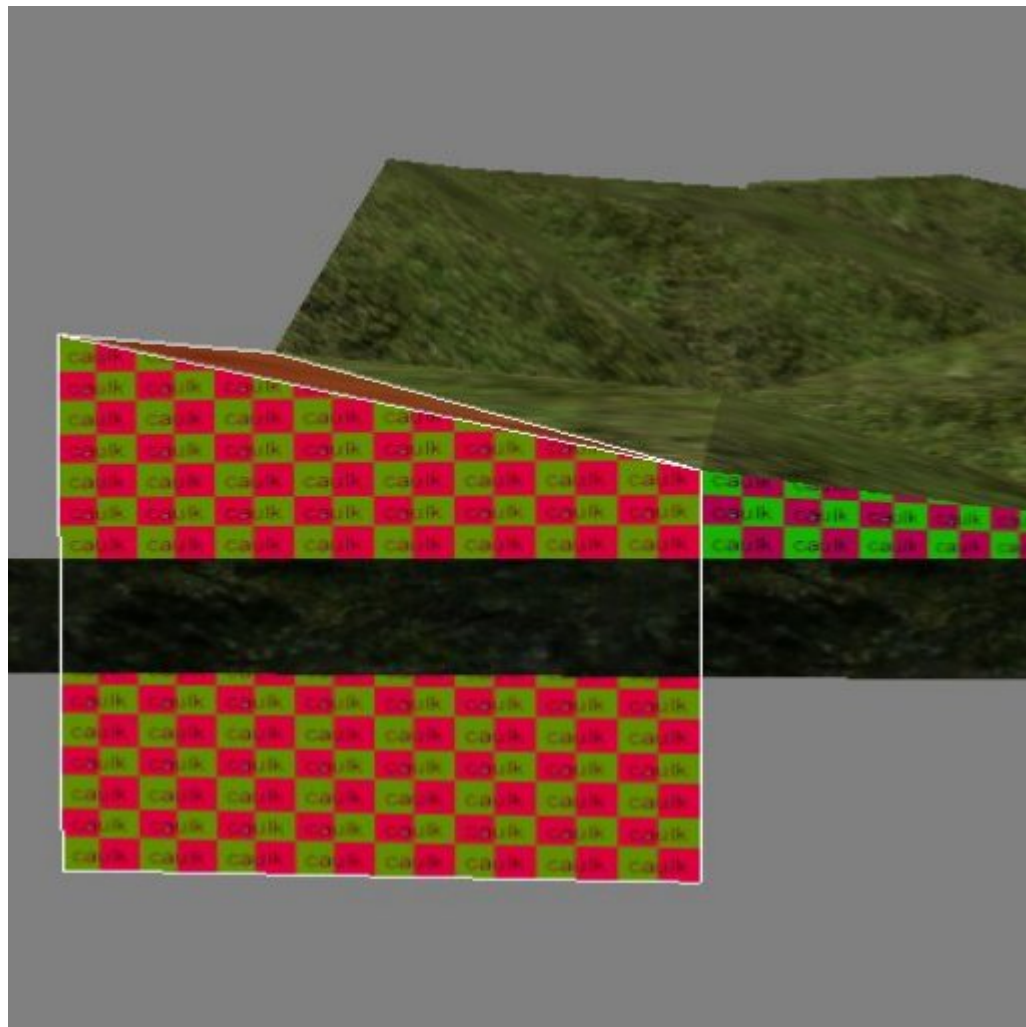
Now I'm going to make a brush to serve as the river bottom, as well as the bottom of my map. I'll place this brush directly underneath my triangles:

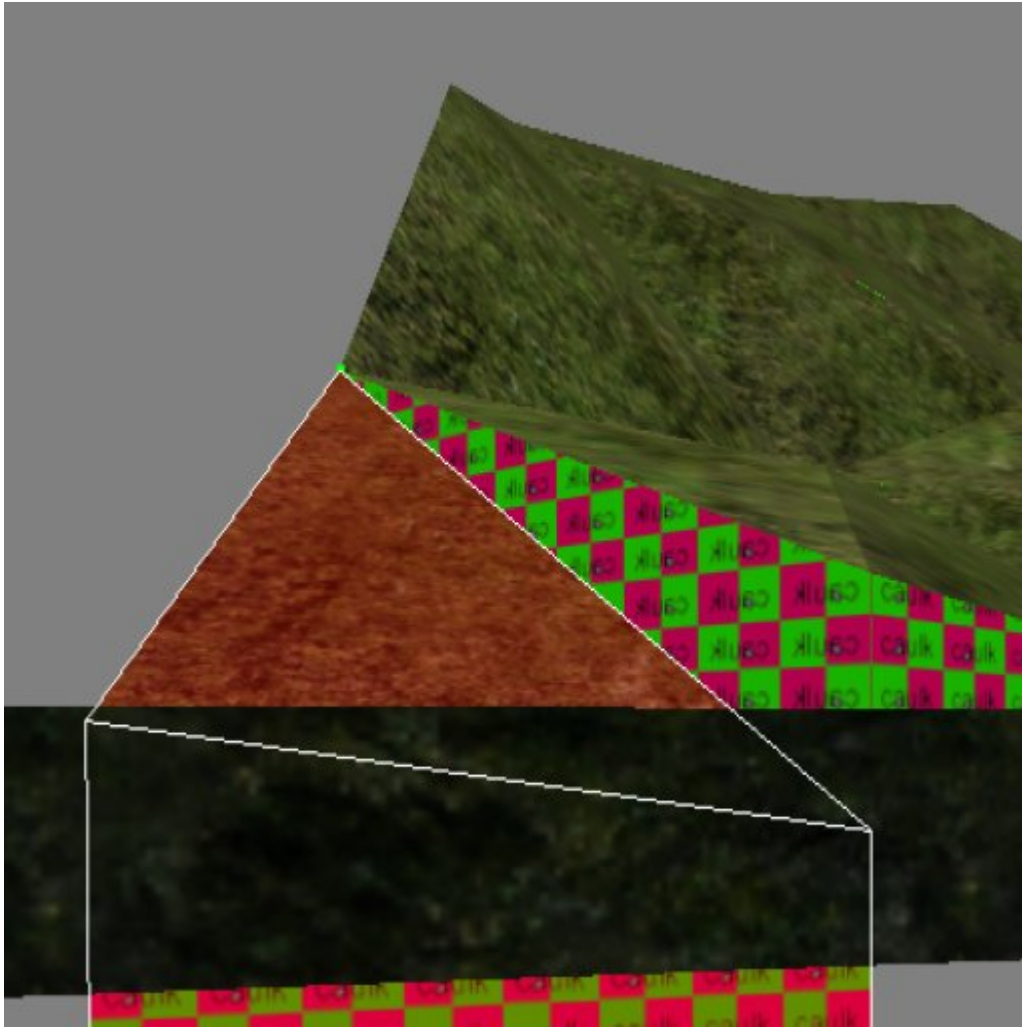


You will notice when looking at the map image above or this one, the river doesn't look too good. It's very straight and angular and has caulk showing in lots of places:



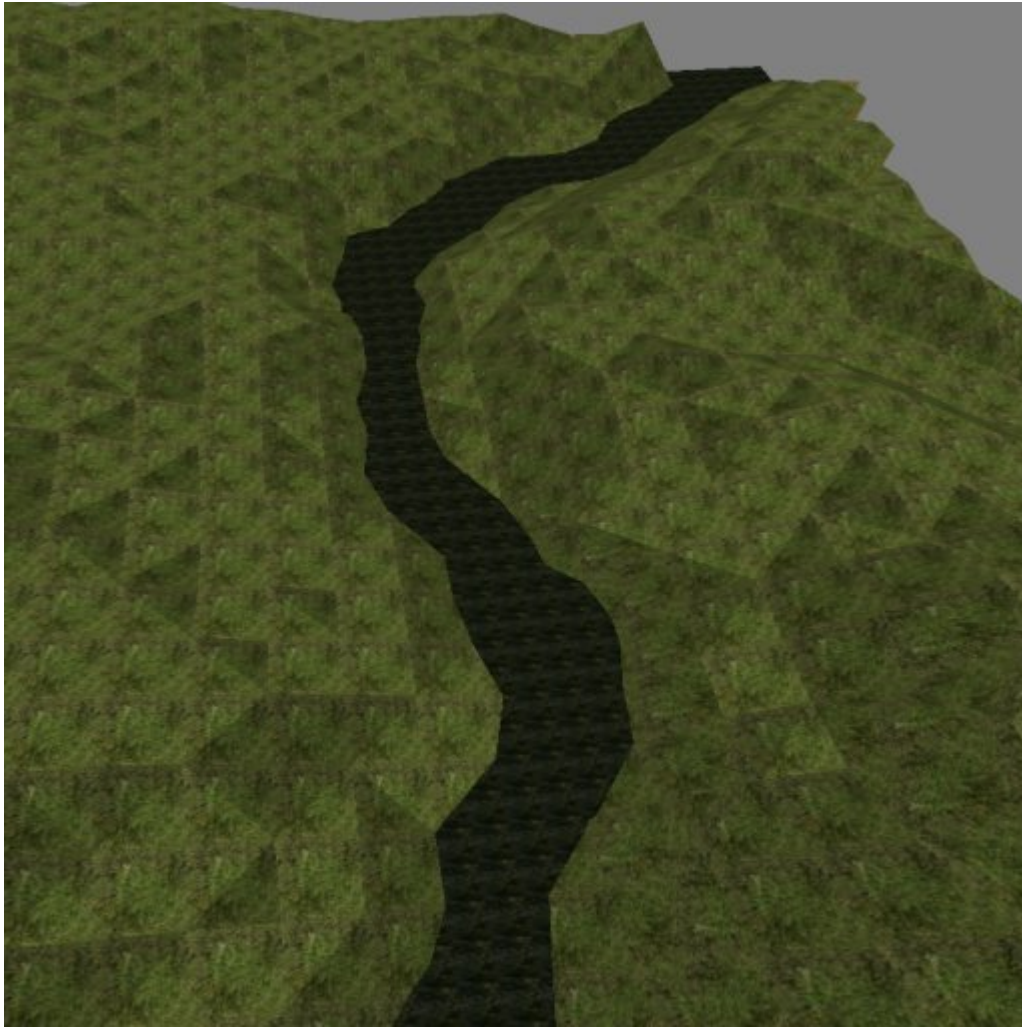
We are going to fix that by extending the the brushes down past the bottom of the map and adjusting vertices, on every brush at the river edge.



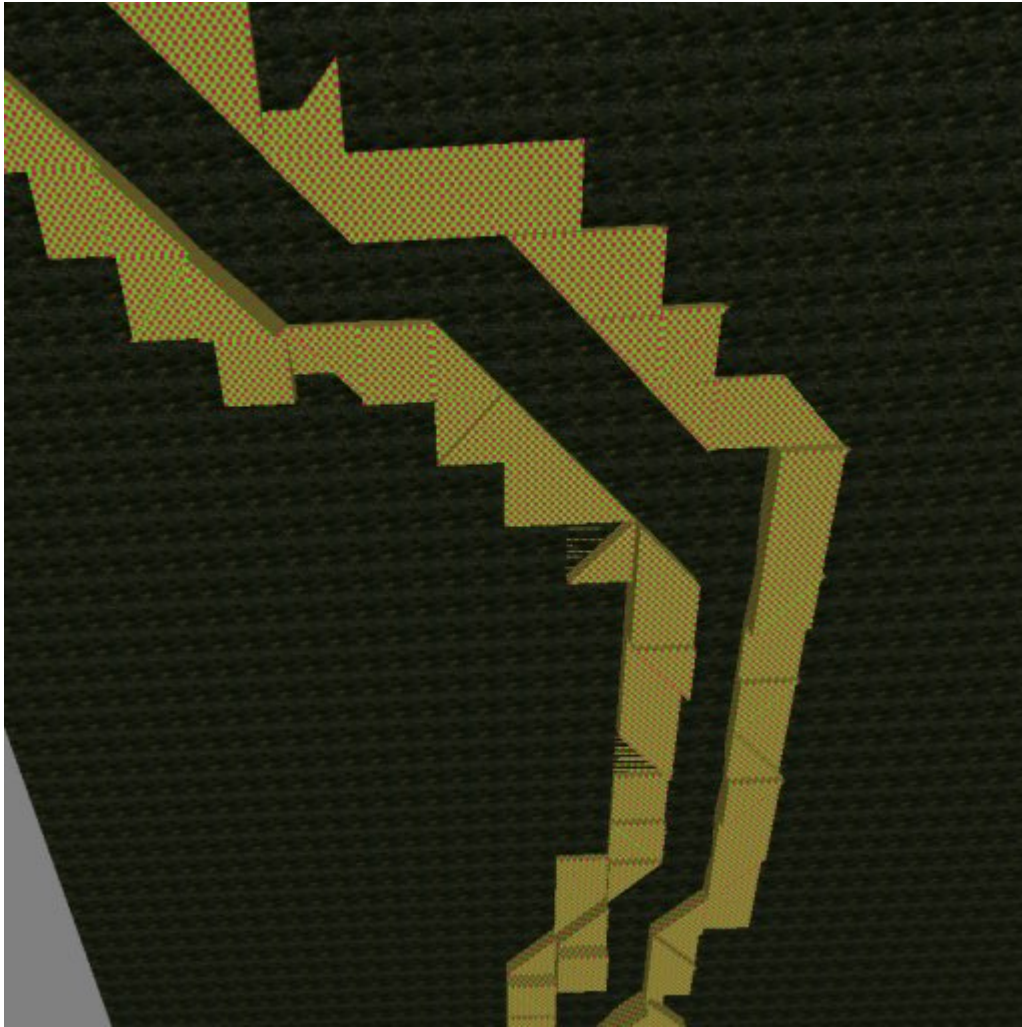


To adjust vertices, select a triangle and hit V, the vertices should appear. Set your grid scale to 32 or 64 and drag the vertice down. You should only adjust vertices and or down, never sideways, until you have a great deal of practice.

When you get done adjusting all of these vertices, you will wind up with something that looks like this:



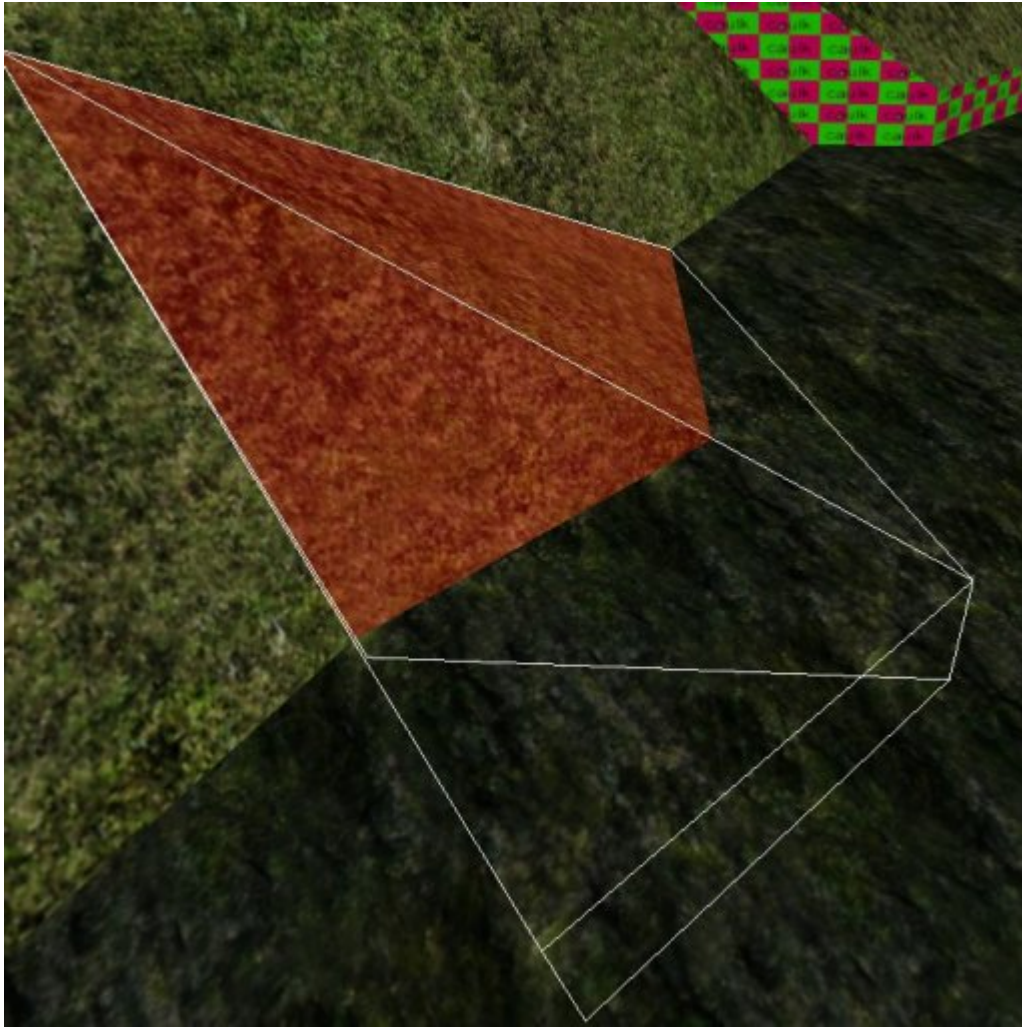
However, if you look under the map, you will see this:

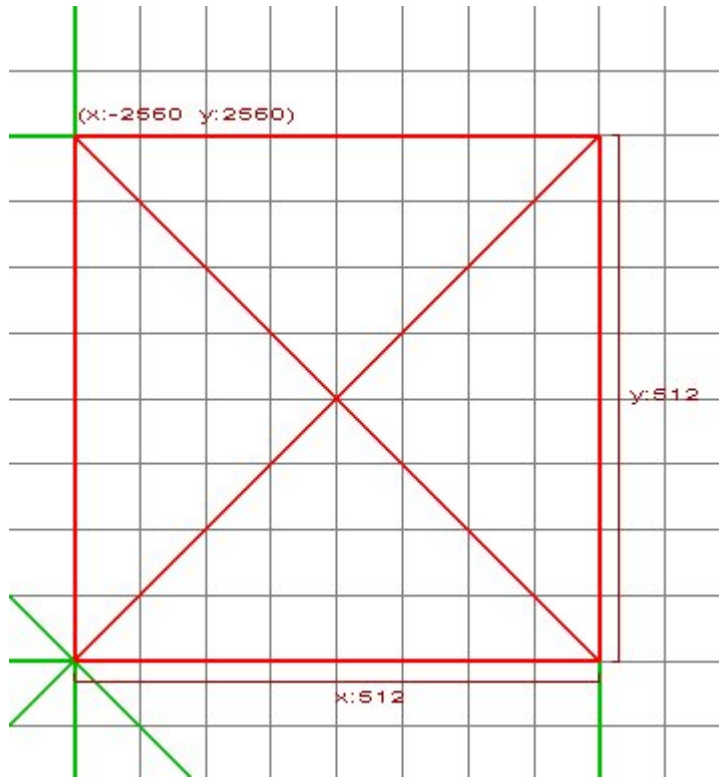


This shows all the brushes you have extended downward and adjusted the vertices. Don't worry about them now. As a last step to building the terrain we just clip them even with the top of the river bottom brush. The further below the map you drag the vertex, the longer the vertex line between two vertices is and the smoother the angle appears.

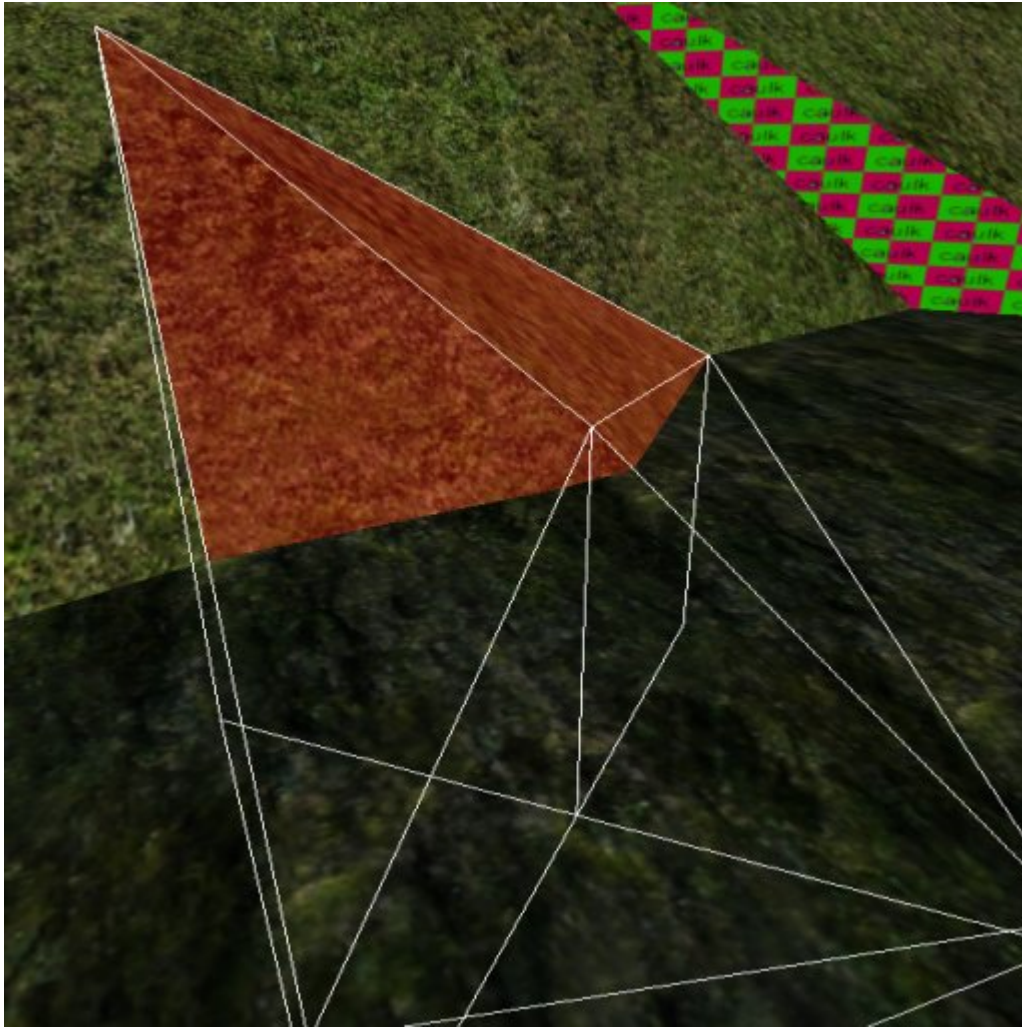
Vertice manipulation 2:

As I'm adjusting vertices, I notice an area that I think is still too angular looking, so I'm going to split my triangles from 512 x 512 to 256 x 256 to give me more granularity. I could split triangles down to 32 x 32 and still be able to adjust the vertices.



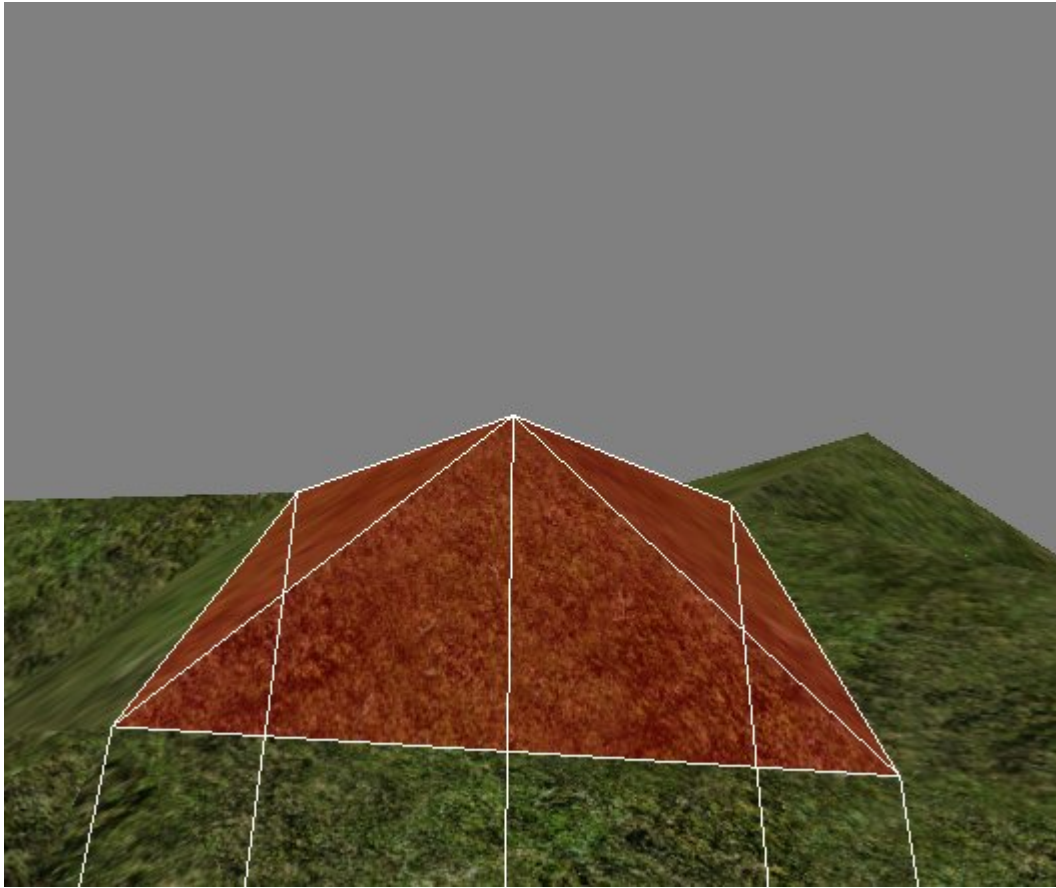


Now, I adjust the vertices of the 256 x 256 brushes I've created and it looks like this:

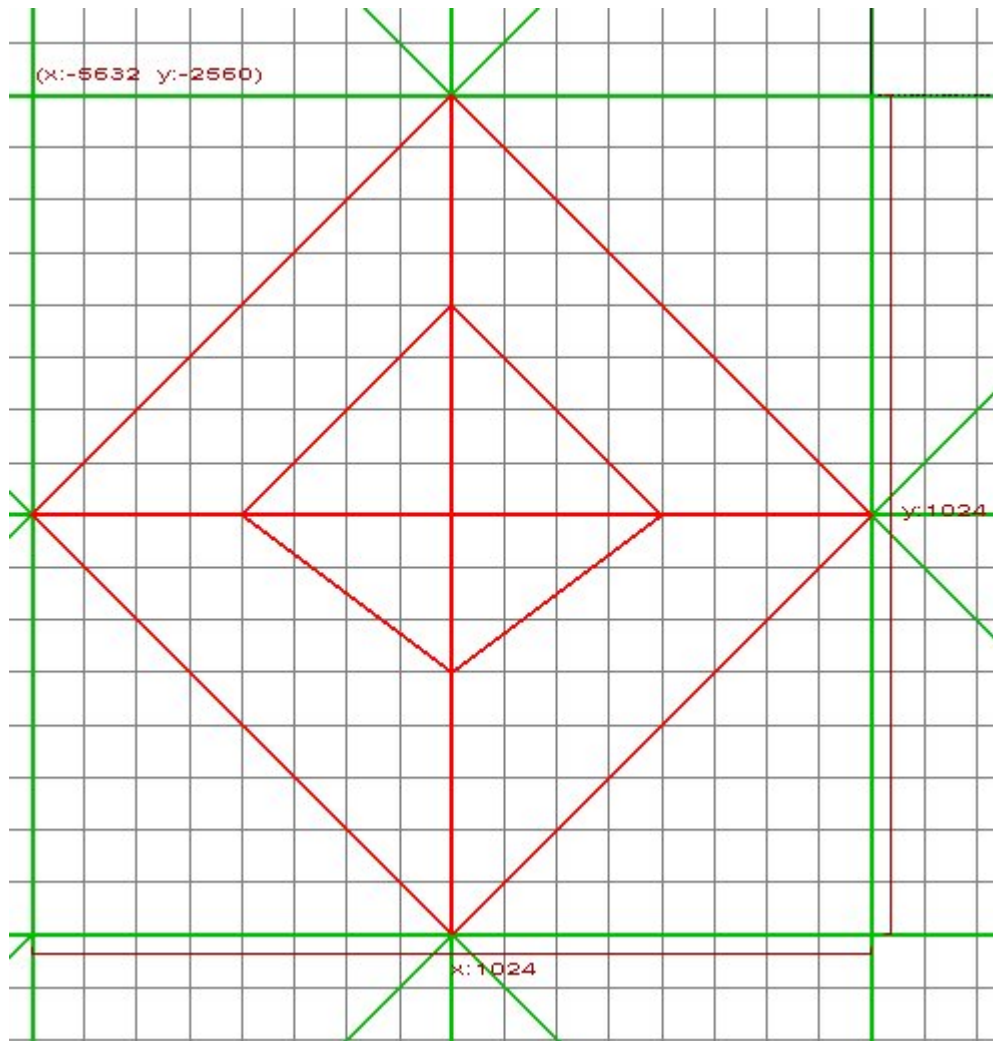


Vertice manipulation 3:

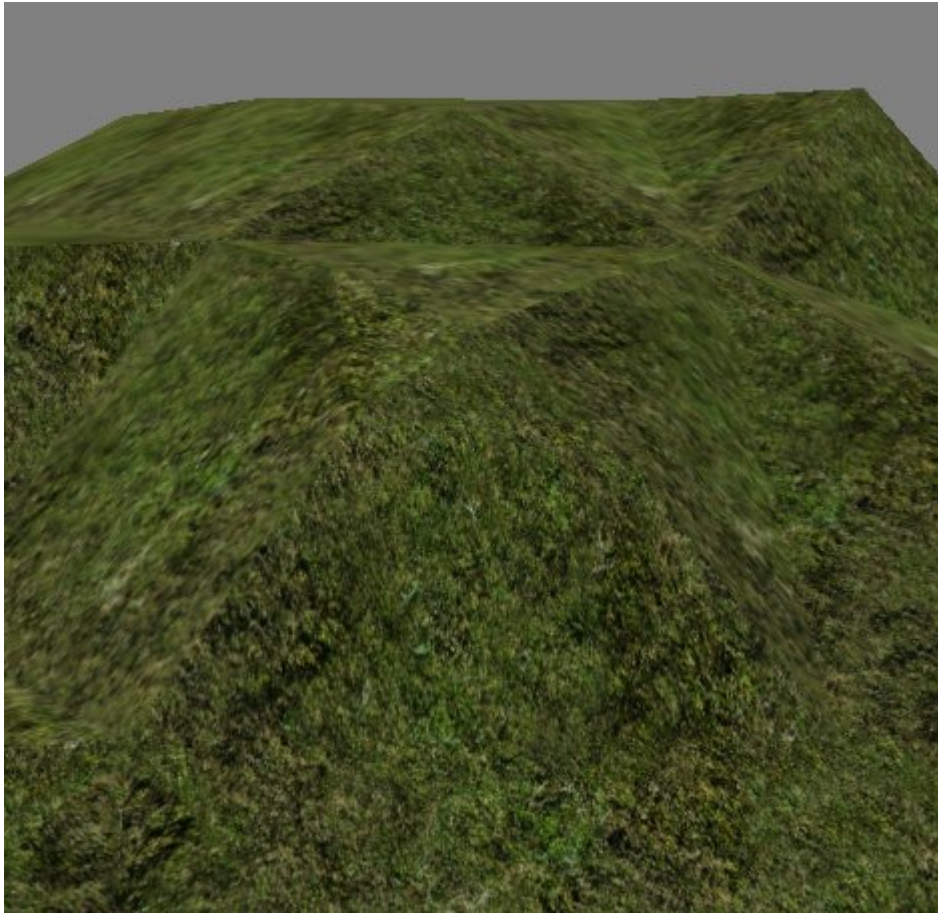
As I'm going over the map, adjusting vertices and generally reshaping things I don't like, I see a ridge that I think is entirely too angular and straight:



It is made up of 4 triangles, so I'm going to cut those triangles up a little.



Notice that the ends of the cuts meet the ends of the cuts in the adjacent triangles. You can cut the triangles any way you want as long as you do it one at a time and make sure the cuts natch those of the next triangle. Next, I'll adjust the vertices of the now 8 brushes I've created and it looks like this:



Notice that by cutting the brushes, 4 of them are no longer triangles. When you adjust vertices on these brushes they will create an additional face.

This type of cutting can be risky. If it doesn't work the way you wanted, the best thing to do is to delete the brush pieces and make a new triangle brush. Adjusting vertices of these brushes can cause an invalid surface plane. So, be careful.