



## MUD-Lab Toolkit

# Adobe Photoshop Explained

*This handout is an introduction to Adobe Photoshop. Photoshop is the industry standard software for editing raster graphics. It is extremely useful for our urban design presentation, especially for creating the masterplan and bringing it to life. In this handbook you will learn the software basics. These will be taken further in Ps Practical Guide handbook to show you more tips and tricks.*

Toolkit Published 2020

**The MUD-Lab Toolkit**

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To reference this MUD-Lab Toolkit please use the following:

'Manchester Urban Design LAB (2020) '*MUD-Lab Toolkit: Adobe Ps Explained*' accessible at [www.seed.manchester.ac.uk/mudlab](http://www.seed.manchester.ac.uk/mudlab)

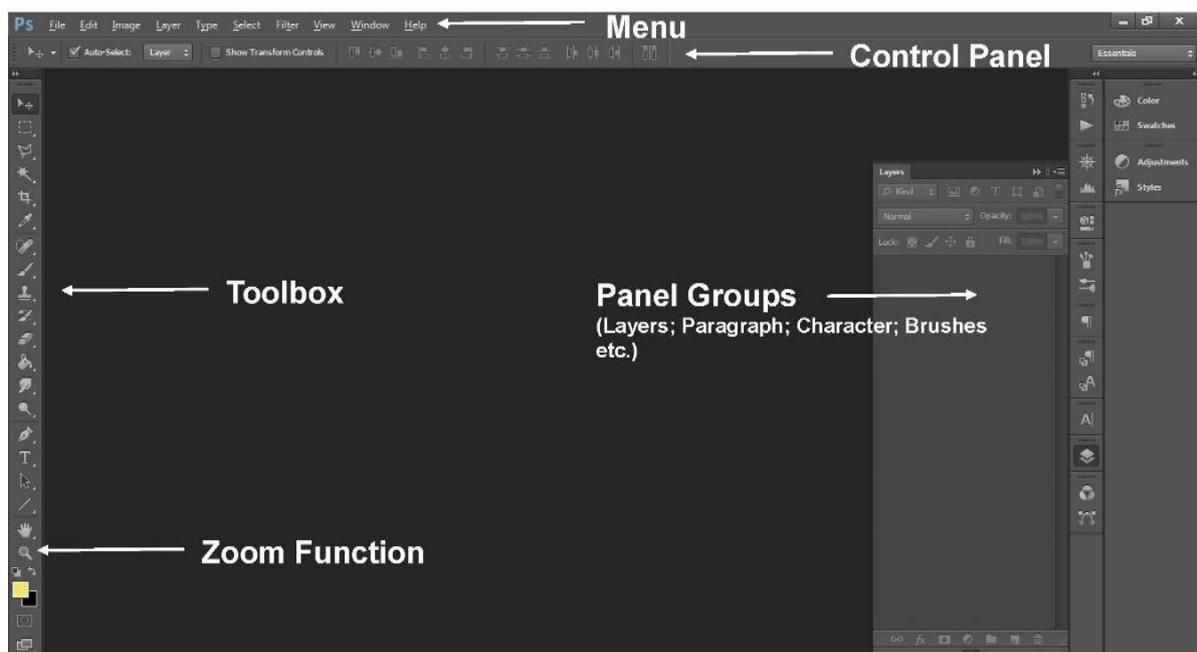
# INTRODUCTION

Adobe Photoshop (Ps) is the industry-standard raster graphics editor used by photographers, graphic and web designers, videographers and 3D artists to enhance and manipulate photos and create original, digital artwork for all kinds of media: print, web, interactive, video and mobile.

Raster (bitmap) graphics are one of the two most commonly used graphic formats in design, the other being vector graphics. Photoshop, an image-editing program (sometimes known as a raster graphics editor), enables you to select and edit pixels of a bitmap graphic and save or export the artwork in file formats such as JPEG, PNG, GIF and TIFF.

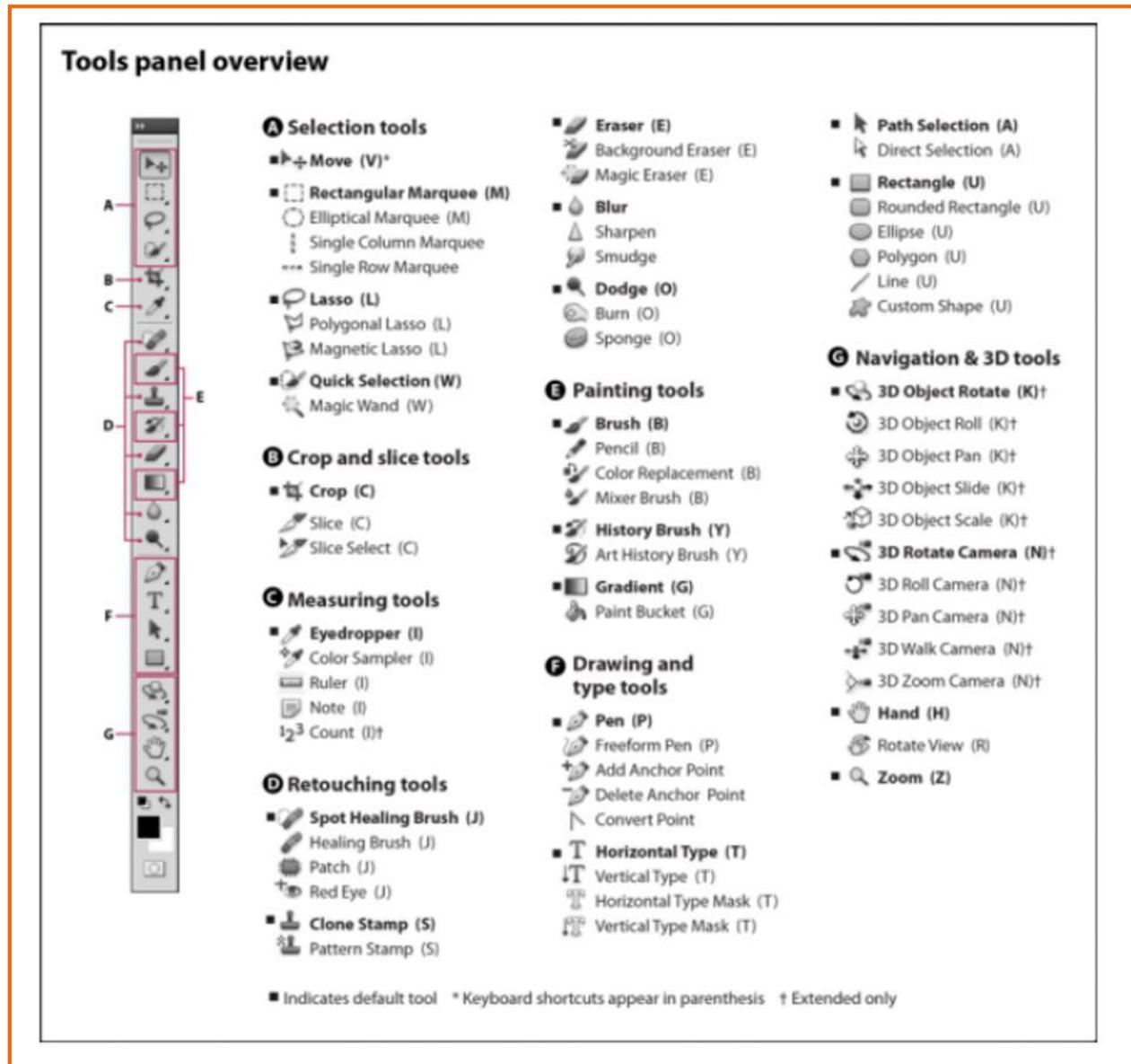
Raster graphics are generally used to display photographic content. These files display individual pixels that contain unique colour values; when viewed together, the pixels comprise the photo or image. Unlike vector graphics, which can be rescaled without affecting the quality of the image, raster graphics should not be rescaled. Rescaling raster graphics will cause them to become pixelated.

## 1.1 Adobe Photoshop Interface



## 1.2 Introduction Photoshop Tools

1. Photoshop provides many tools for editing and manipulating your images including: selection tools, crop and slice tools, measuring tools, retouching tools, painting tools, drawing and type tools as well as navigation and 3D tools.

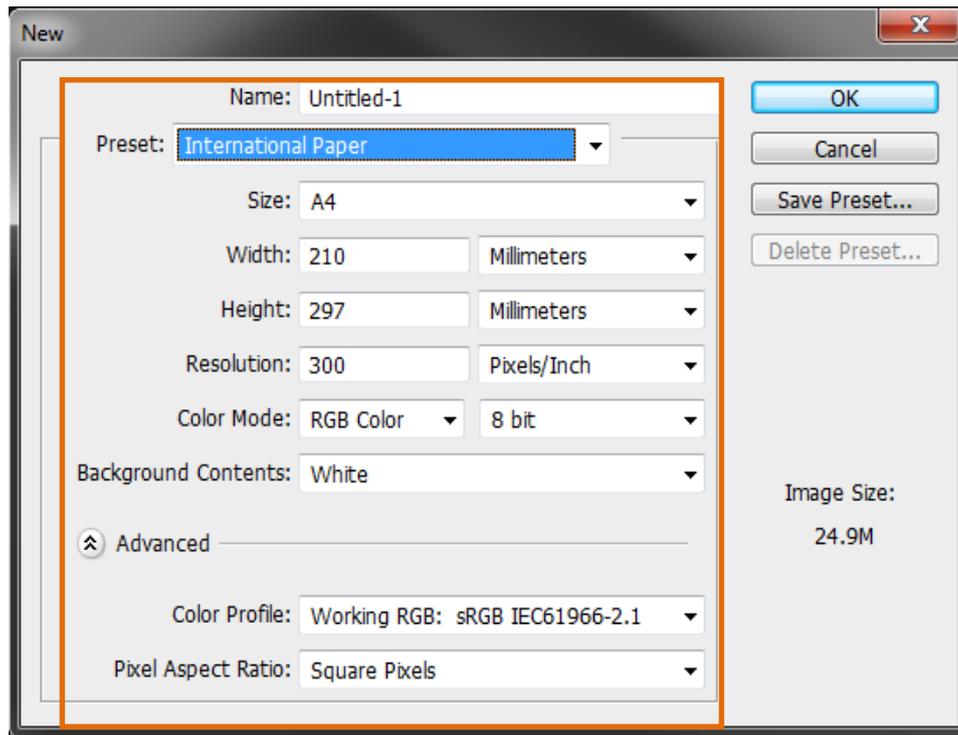


2. For further information on all of these tools please see <http://helpx.adobe.com/photoshop/using/tools.html>.

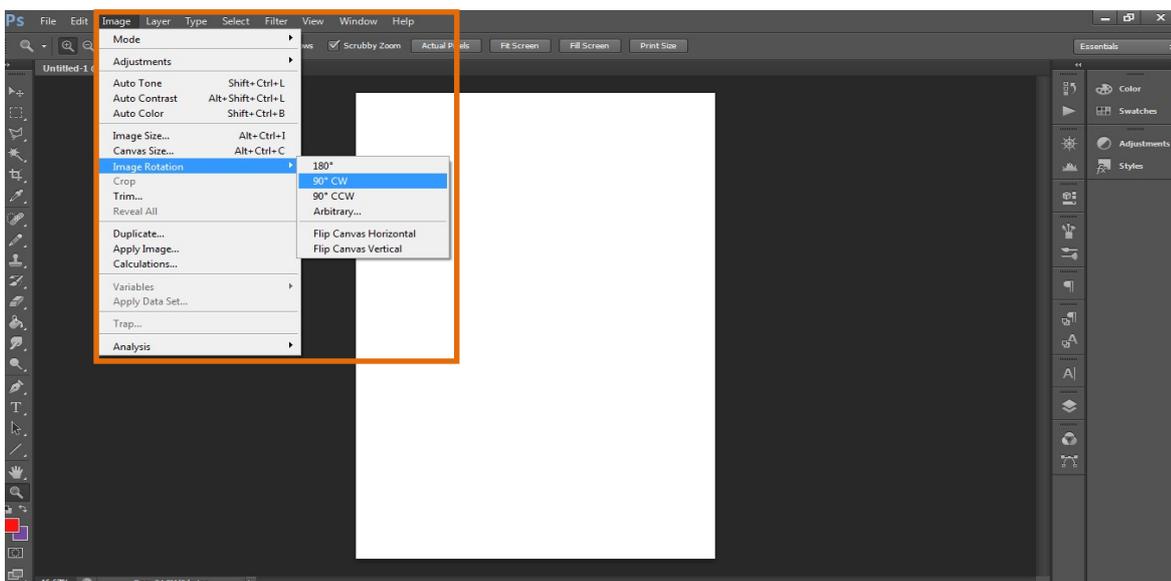
# DOCUMENT SET-UP

## 2.1 Setting up an A3/A4 Sheet

1. Launch Photoshop, when it opens click **File>New**, select **Preset>International Paper** you can then choose A4, A3, A5 etc., select **A4/A3** and a resolution of **300pixels/inch** (if you want A0 or A1 simply enter the appropriate page dimensions).



2. Your Canvas may appear as Portrait, if so, select **Image>Image Rotation>90°CW** to make it Landscape.

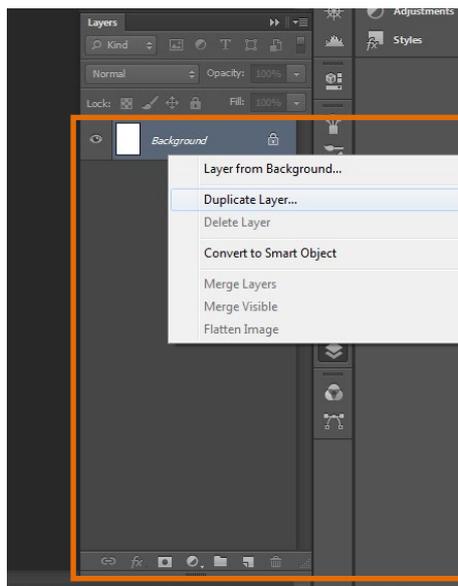


### 2.1.1 Inserting Your Map

Click **Ctrl+O**, select the image/s you wish to edit and click **open**.

### 2.1.2 Creating an Editable Background

1. Click **F7** (this will bring up your layers window), **right click** on your background layer in the layers window and select **Duplicate Layer**, click **OK** (this will provide you with an unlocked version of your background layer). Unlocked layers can be edited and manipulated.



2. Now click on the original locked layer and **delete**.

### 2.1.3 Moving Your Map to a New Tab/Overlying Features

Press **V** on your keyboard, this will select the **Move Tool**, simply click and drag your image/layer, hover over the tab you wish to move to, when the tab opens, move your mouse into the middle of the screen and unclick.

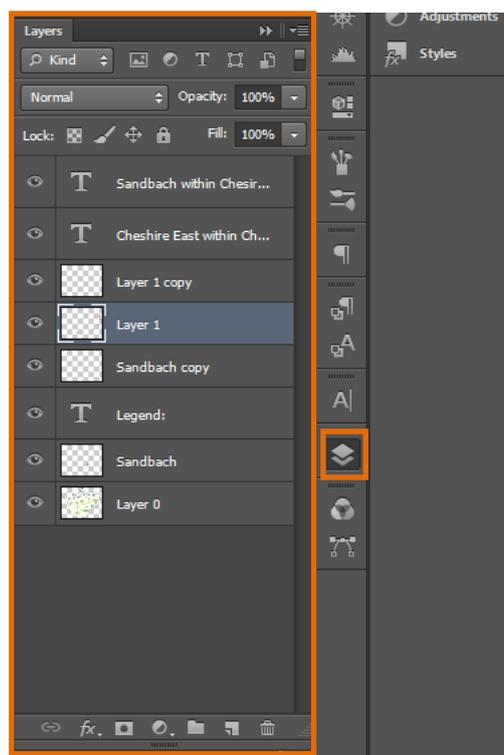
### 2.1.4 Undo/Redo

Use **Alt+Ctrl+Z** for **Undo** (Step Backward) and **Shift+Ctrl+Z** for **Redo** (Step Forward).

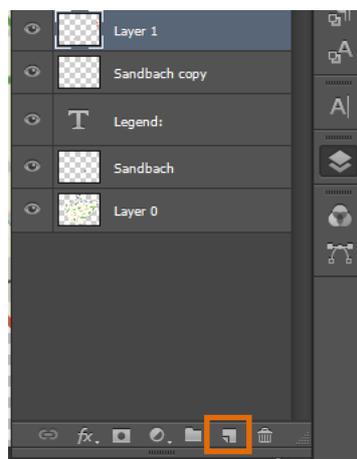
## 3. LAYERS AND LAYERS PANEL OPTIONS

### 3.1 Layers Panel and Creating Layers

1. Click **F7**, this will open the **Layers Panel**.

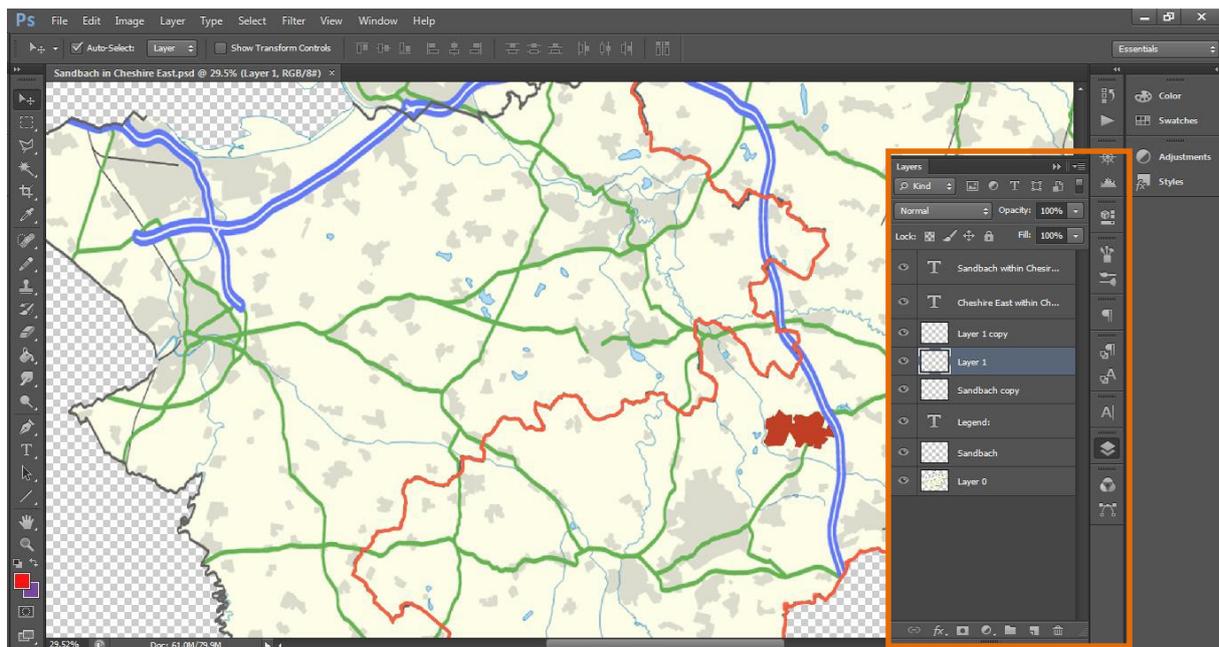


2. To create a **New Layer** click **Shift+Ctrl+N** or click on the symbol below:



### 3.1.1 Selecting Layers

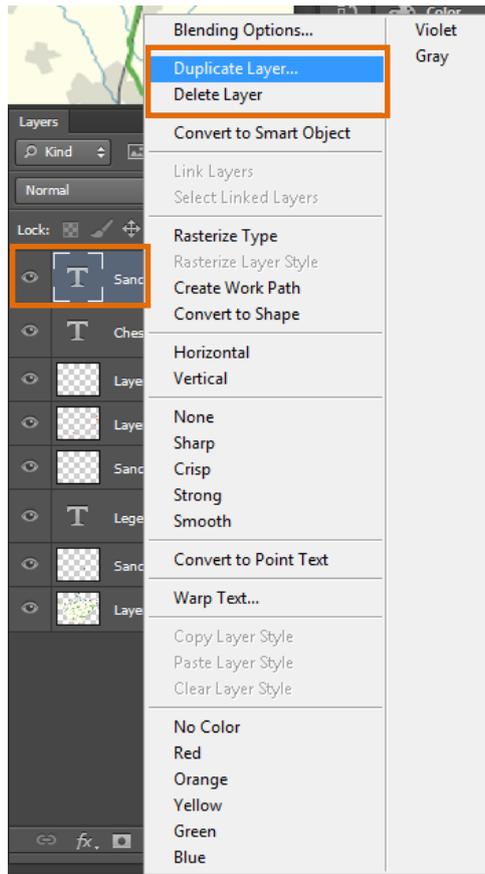
1. Select the **Move Tool (V)**>right click on the image>you will then be able to select a layer.
2. Alternatively **click F7**, this will open the layers window>select a layer by clicking on it.



### 3.2 Layers Panel Options

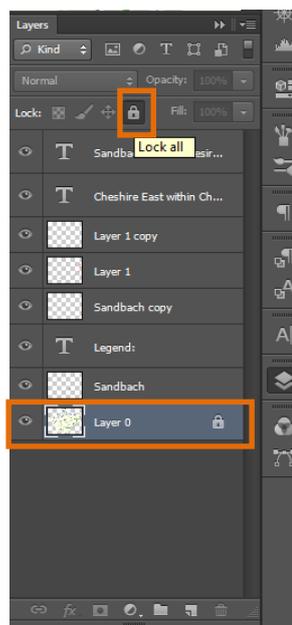
#### 3.2.1 Duplicate Layer/Delete Layer

**Right click** on the layer you wish to **duplicate/delete** in the layers panel window>**click duplicate layer/delete layer**.



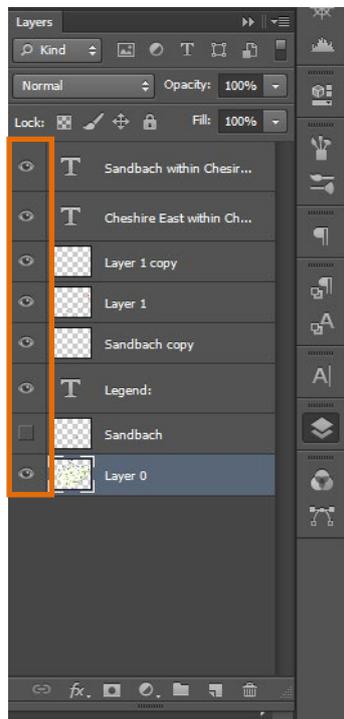
### 3.2.2 Layer Lock

Click on the **lock symbol** in the layers panel to lock a layer.



### 3.2.3 Layer Visibility

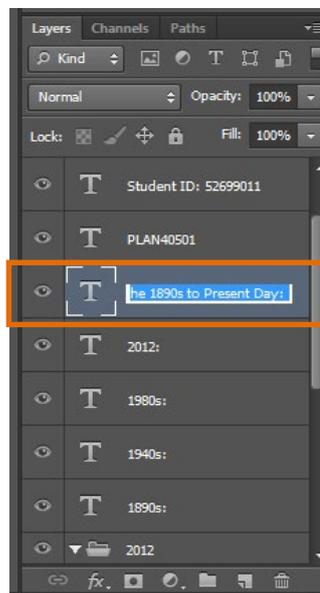
Layers can be turned on and off using the **Eye Symbol** in the layers panel.



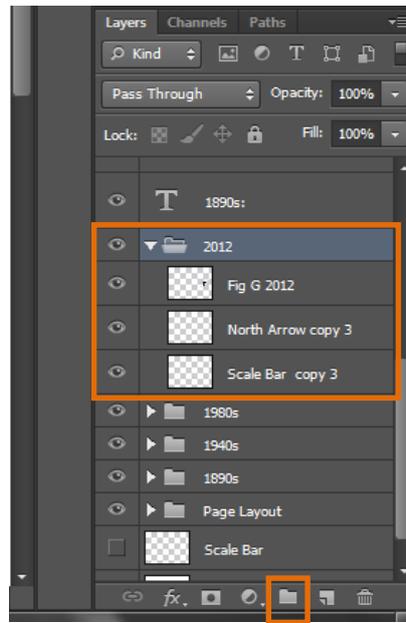
### 3.2.4 Organising Layers

When creating maps in Ps you can accumulate a lot of layers. Make sure to organise your Layers Window.

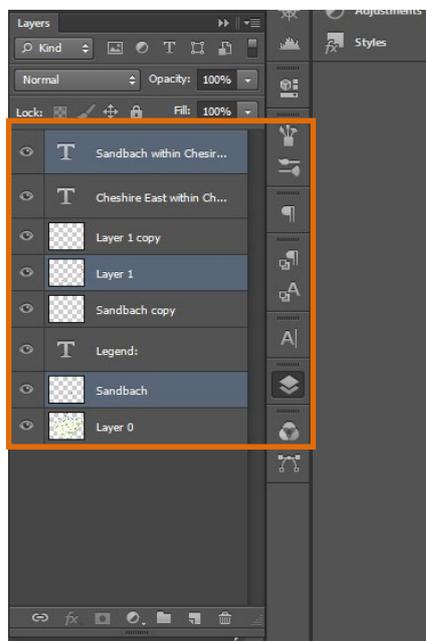
1. You can do this by labelling your layers – simply **double click on the text** and rename appropriately.



- It is also possible to gather all of the layers associated with a particular feature by grouping them (in this example all the layers which make up the 2012 Figure Ground are grouped within a folder called 2012).
- Click **Create a Group**>name it>then drag all of the layers into that folder by clicking on each layer whilst holding Shift.



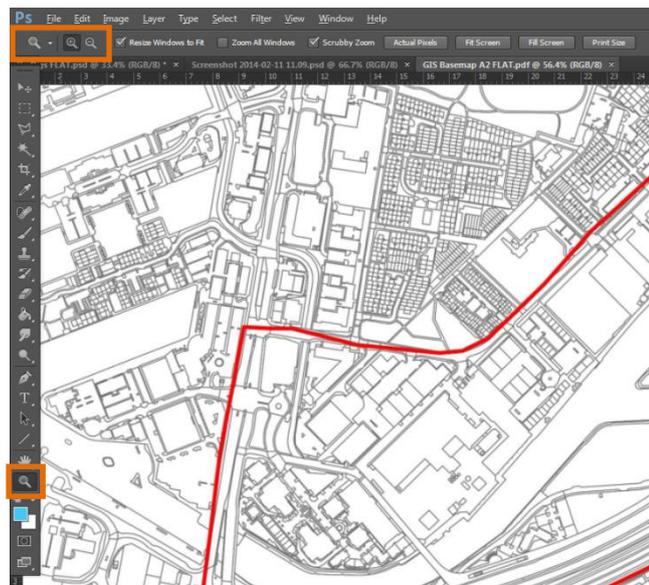
- To select multiple layers out of sequence hold Ctrl whilst you click.



## 4. USING PHOTOSHOP TOOLS

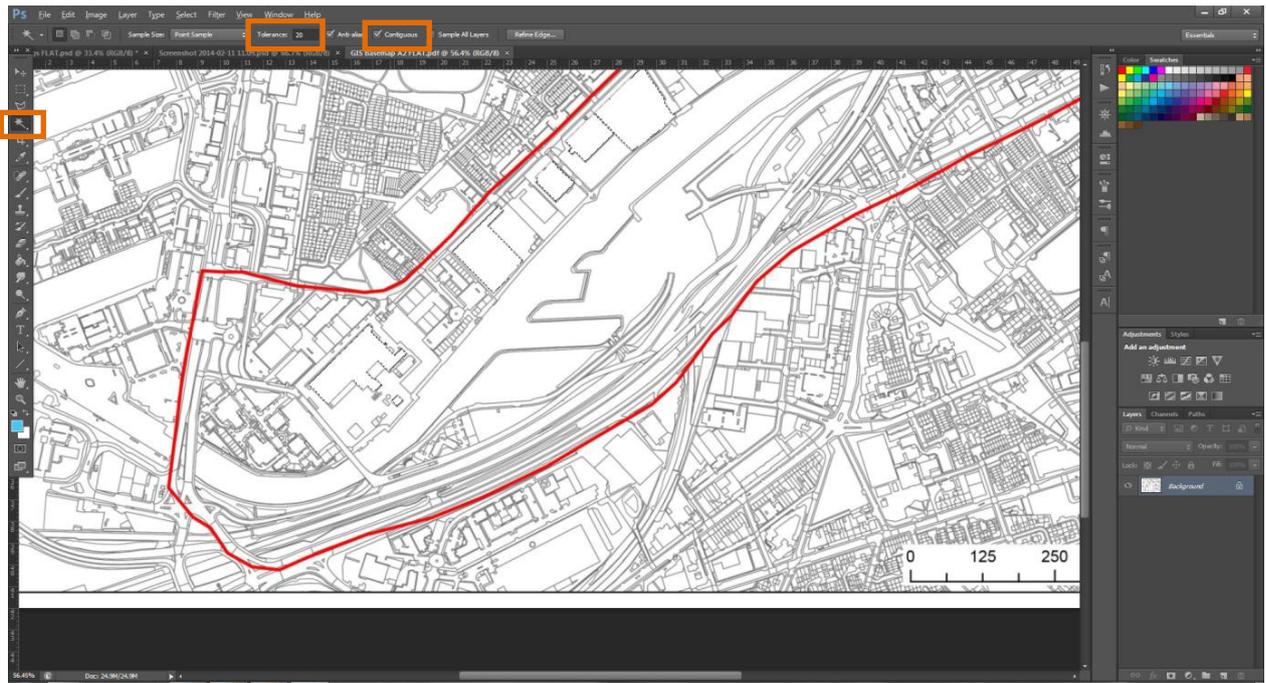
### 4.1 The Zoom Tool

- 1 Use the **Zoom Tool (Z)** to zoom in (Ctrl+)/out (Ctrl-) of the image – this tool is one of the most frequently used when creating/editing/colouring up graphics.

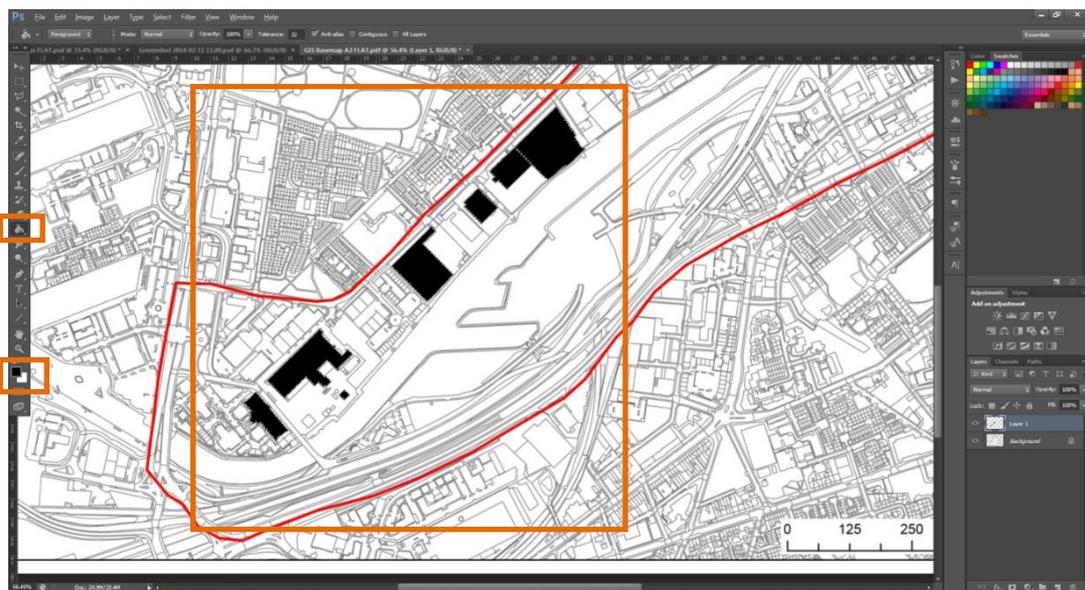


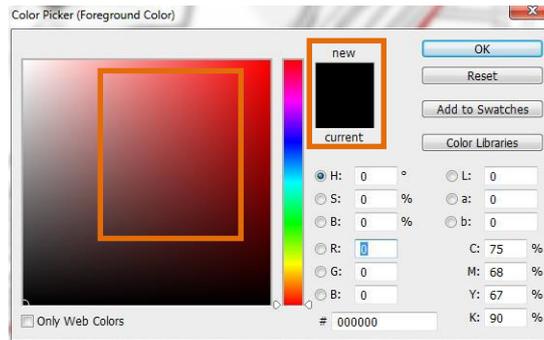
### 4.2 The Magic Wand and Paint Bucket Tools

- 1 Select the **Magic Wand Tool (W)**. The Magic Wand Tool selects similarly coloured areas.
- 2 Tick **Contiguous** (by selecting Contiguous you will only select the area you are hovering over (when you click) and not the entire image/basemap. Untick Contiguous and see what happens. Play around with **Tolerance** – you will find as you increase and decrease tolerance your selection will change.



3. You can use the Magic Wand Tool to colour your image.
4. Click on the element you want to colour (if you wish to select a number of elements hold **Shift**).
5. When you have selected the elements you wish to colour tap **Shift+Ctrl+N>OK**. This will provide you with a **New Layer**.
6. Select the **New Layer** you created>select the **Paint Bucket Tool (G)**>Select a colour as the Foreground Colour (by clicking on **Fill (X)**) then **click on one of your selected elements**>they will change to your chosen colour.

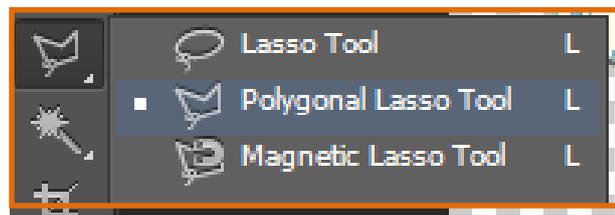




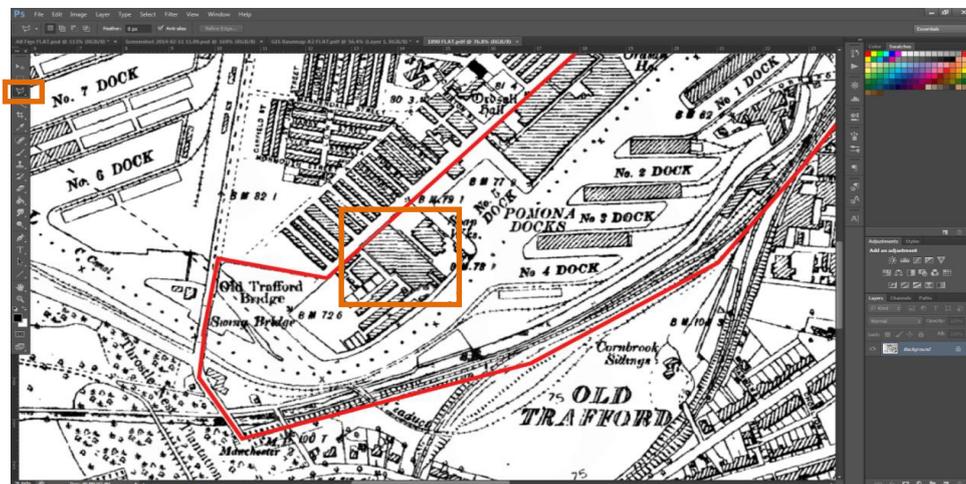
7. By repeating this process you can colour up the rest of your image/map/plan.

### 4.3 Polygonal Lasso Tool

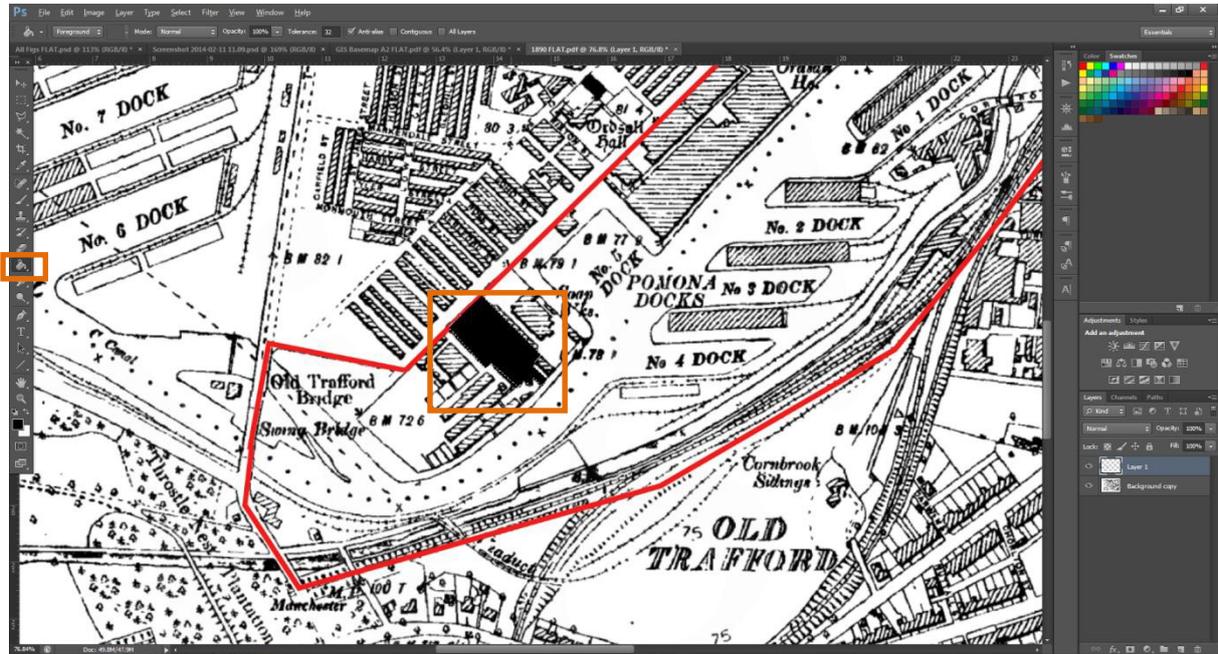
1. One limitation to the **Magic Wand Tool (W)** is that it relies on and only work best with images that have clearly defined edges. When you find the Magic Wand Tool does not work use the Lasso Tools.
2. The **Lasso Tools** make freehand, polygonal (straight-edged), and magnetic (snap-to) selections.



3. Select the **Polygonal Lasso Tool (L)**>draw around the element you wish to colour>when you have selected the element in its entirety you will see a fuzzy boundary.



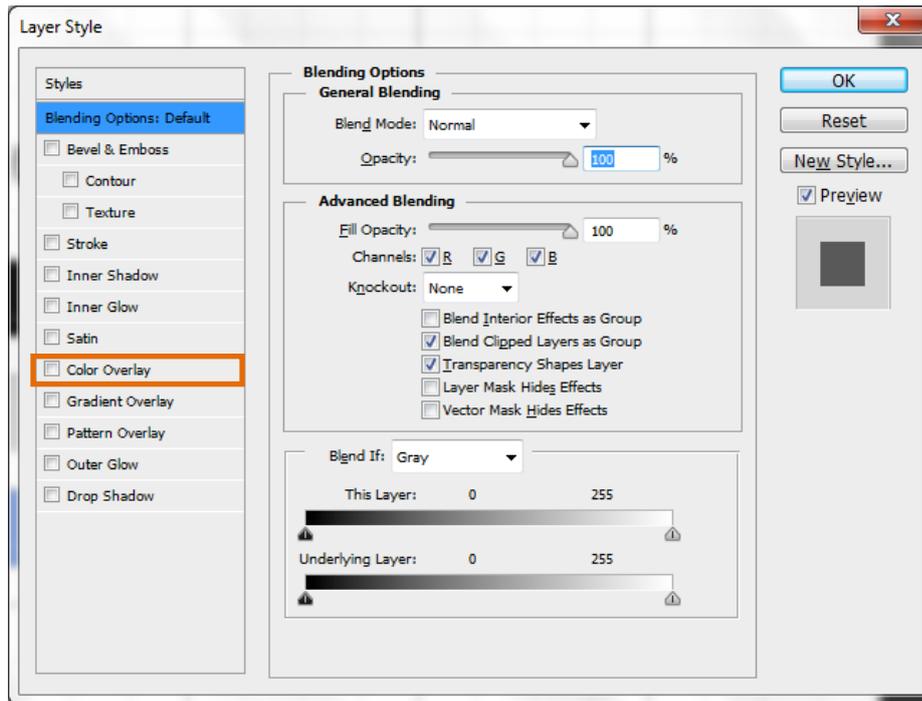
4. Hit **Shift+Ctrl+N>OK** to select a **New Layer** (Remember you want all additional detail to be on a different layer/s to your basemap/image. That way you can turn whatever features you want on/off by clicking on the **Eye Symbol**).
5. As before select the **Paint Bucket Tool (G)**>Select a colour as the Foreground Colour then click your selected element – it will change to your chosen colour.



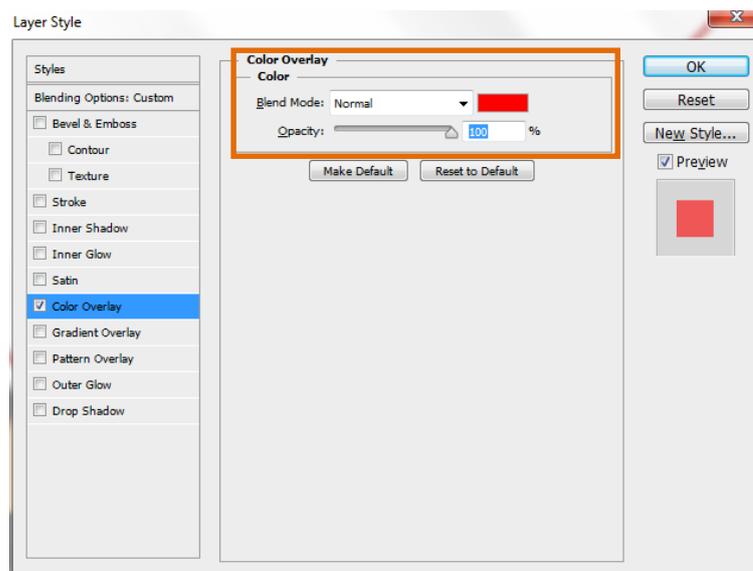
6. Unfortunately you will have to repeat this process for all of the elements that cannot be coloured up using the Magic Wand.

#### 4.4 Colour Overlays

1. It is possible to use **Colour Overlays** to change the original colour of selections made using the Magic Wand and Polygonal Lasso Tools.
2. In the **Layers Panel (F7)** double click on the black/grey area of the layer to open the **Layer Style Window**>click on **Colour Overlay**.



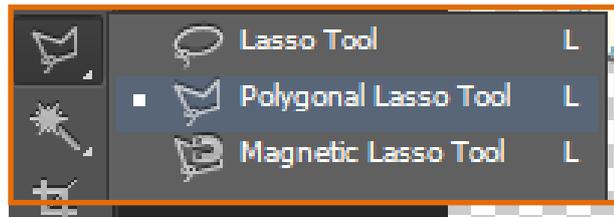
3. Click on the red rectangle and select a colour you wish to overlay.



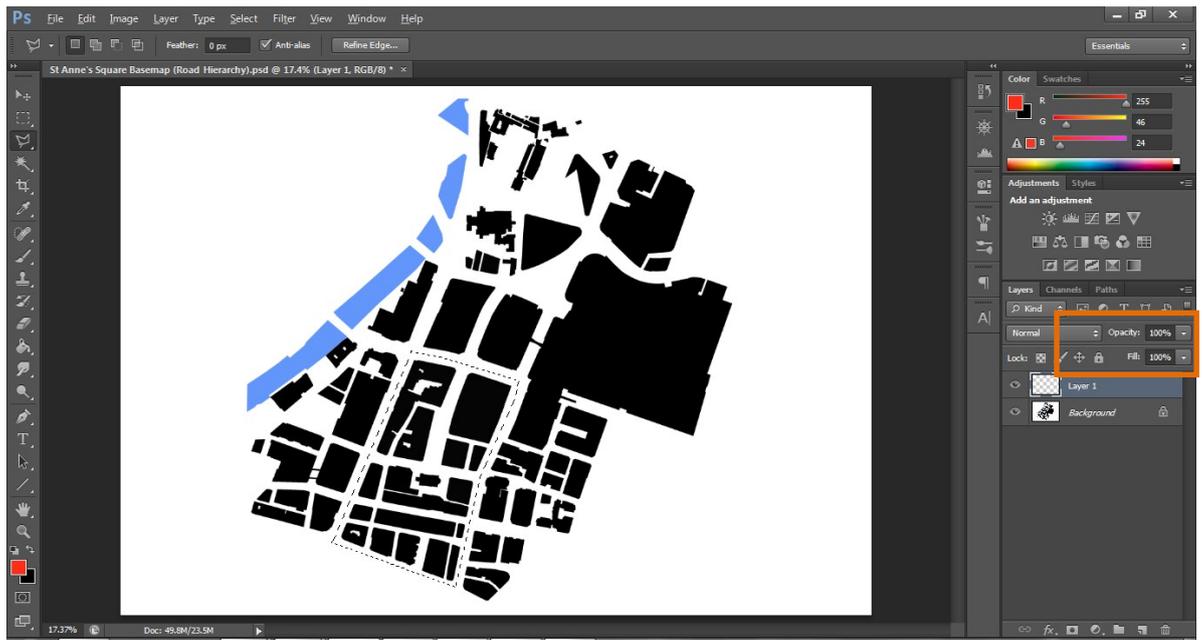
4. Should you wish to change the colours of any other elements on the image, simply repeat this process.

#### 4.5 Strokes and Opacity

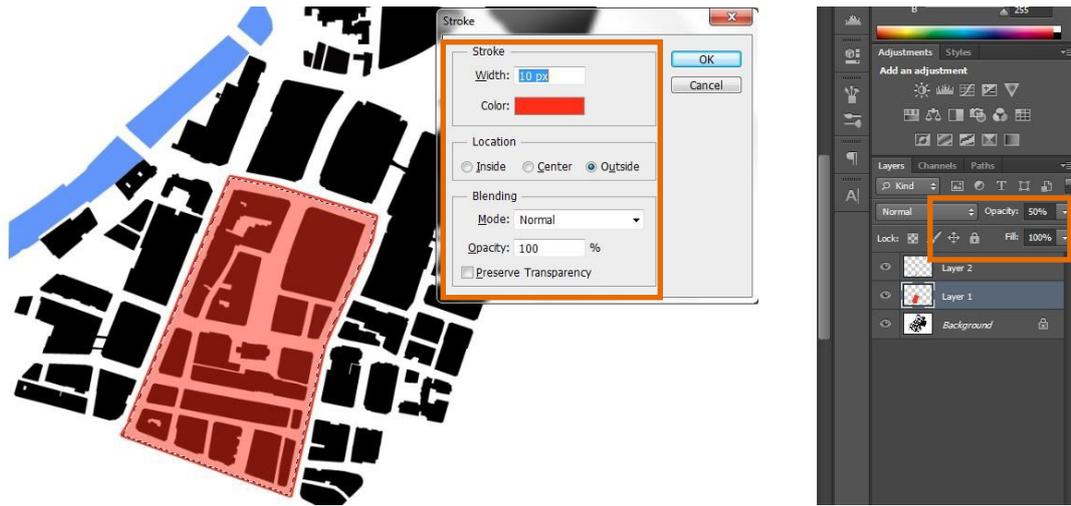
1. Select a **New Layer (Shift+Ctrl+N)** followed by the **Polygonal Lasso Tool (L)**.



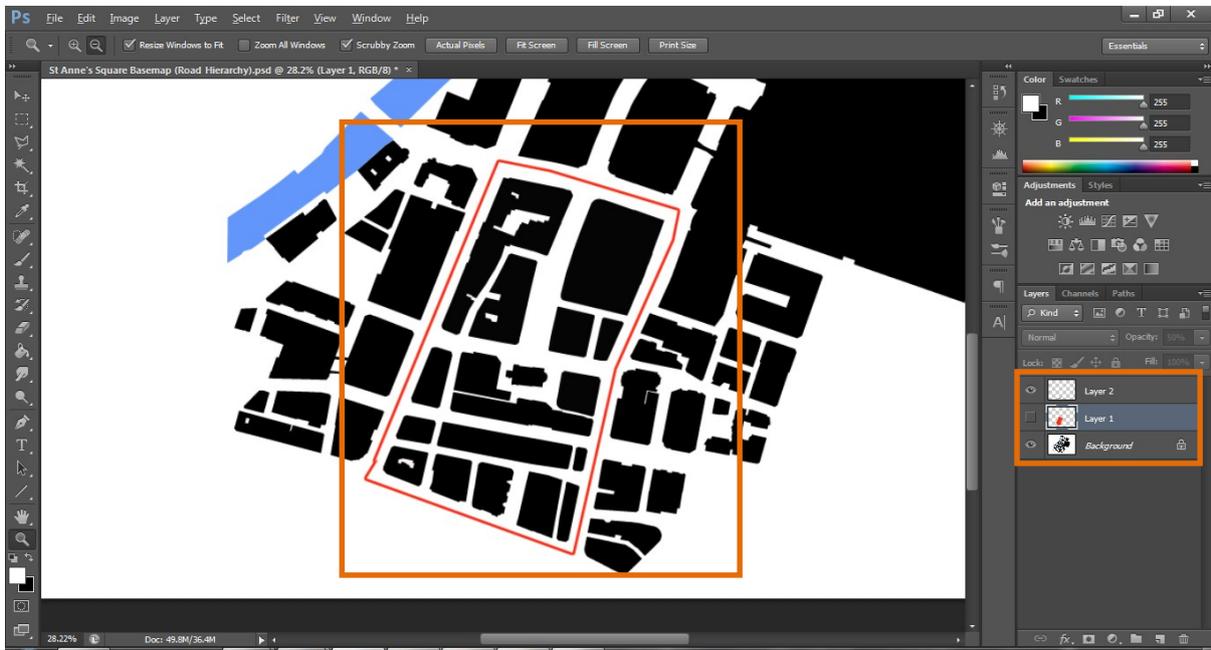
2. Draw around the edge of any area you wish (NB if the outline of the area you want to select is more complicated i.e. wavy use the **Magnetic Lasso Tool**. Be careful as it tends to jump).



3. You can now do two things – (1) you can paint your selection, lower the opacity and then add a stroke to create a boundary line **OR** (2) you can simply add a stroke to create a boundary line – both are powerful effects.
4. To do the first, select the **Paint Bucket Tool (G)**, then click your selected area, while the area is still selected click **New Layer>Edit>Stroke** (you can then change the width, colour and position of the Stroke)>go then to **Opacity** and reduce in this case **Layer 1 to 50%**, this should give you what is shown below.

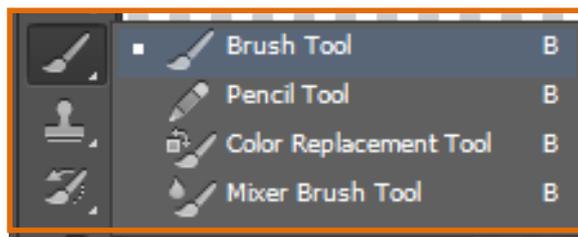


- To do the second, simply **turn off** (Eye Symbol) or **delete** Layer 1. You will end up with this:

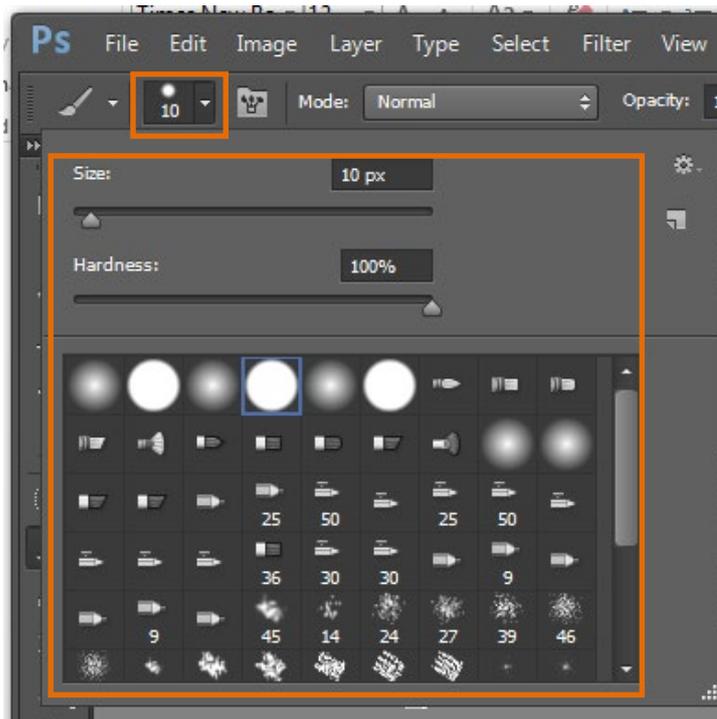


#### 4.6 Brush Tool and Editing Brushes

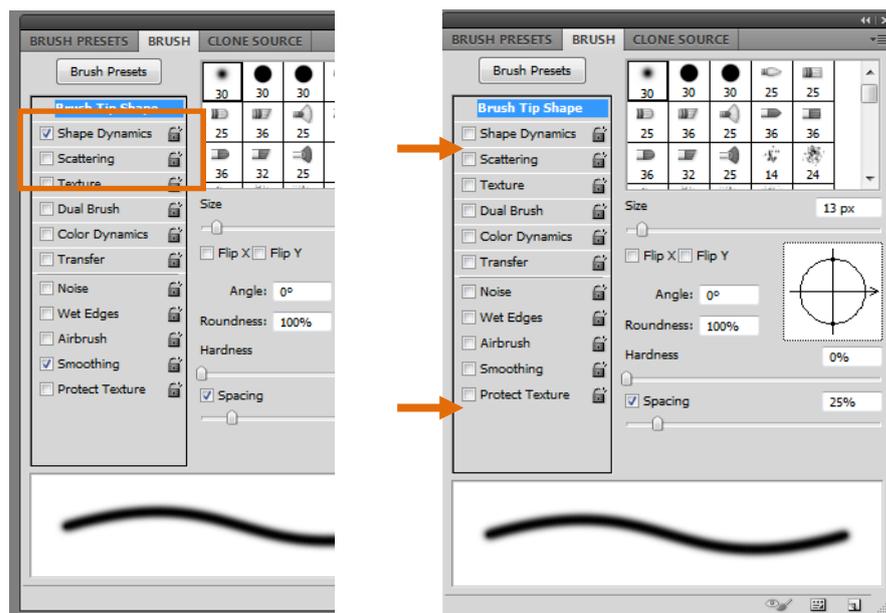
- Select the **Brush Tool (B)**>the Brush Tool is the most commonly used tool to paint additional detail onto of the image/basemap.



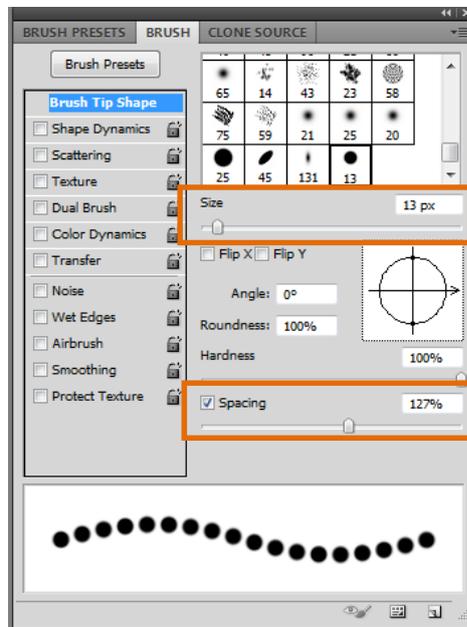
2. Click on **Brush Size**>you can change the size and style of the brush.



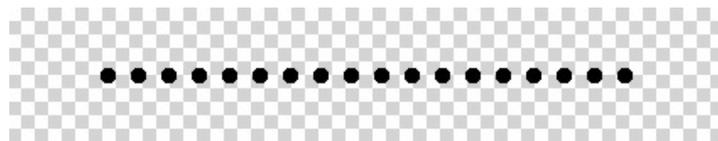
3. Unless you have CS6, Photoshop doesn't offer a dashed line option, nevertheless you can easily simulate them by **Editing** a brush in the **Brushes Palette**.
4. Open your brushes palette by going to **Window>Brush**. Once open, click on "**Brush Tip Shape**" within the **Brushes Palette** and select a very small brush.
5. Uncheck **Shape Dynamics** and **Smoothing**.



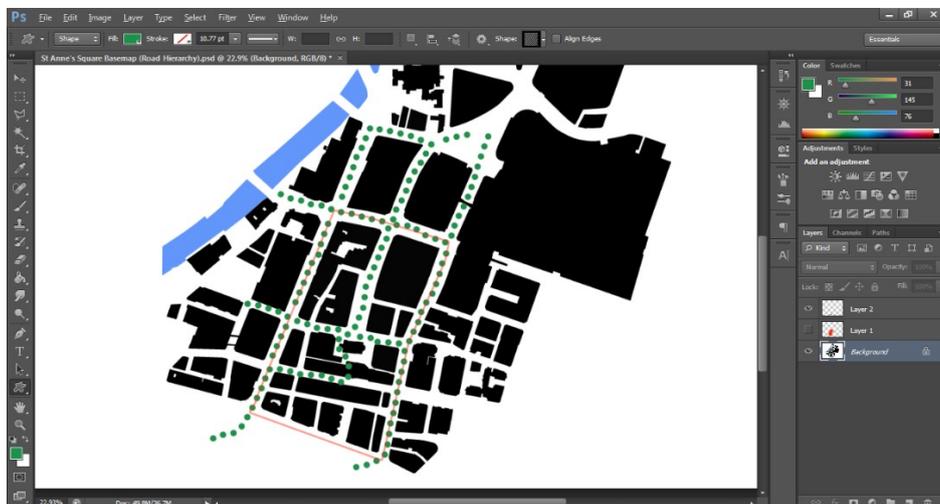
6. Select the **Size** and adjust the **Spacing** to create the dots. The size of the dot and the how much you adjust the spacing is entirely up to you. Play around with the other options.



7. Choose the **Brush Tool** in the **Tools Palette (B)** on the keyboard.
8. Hold shift if you want a perfectly straight line **OR** if you want something more organic let go of shift and go freehand.

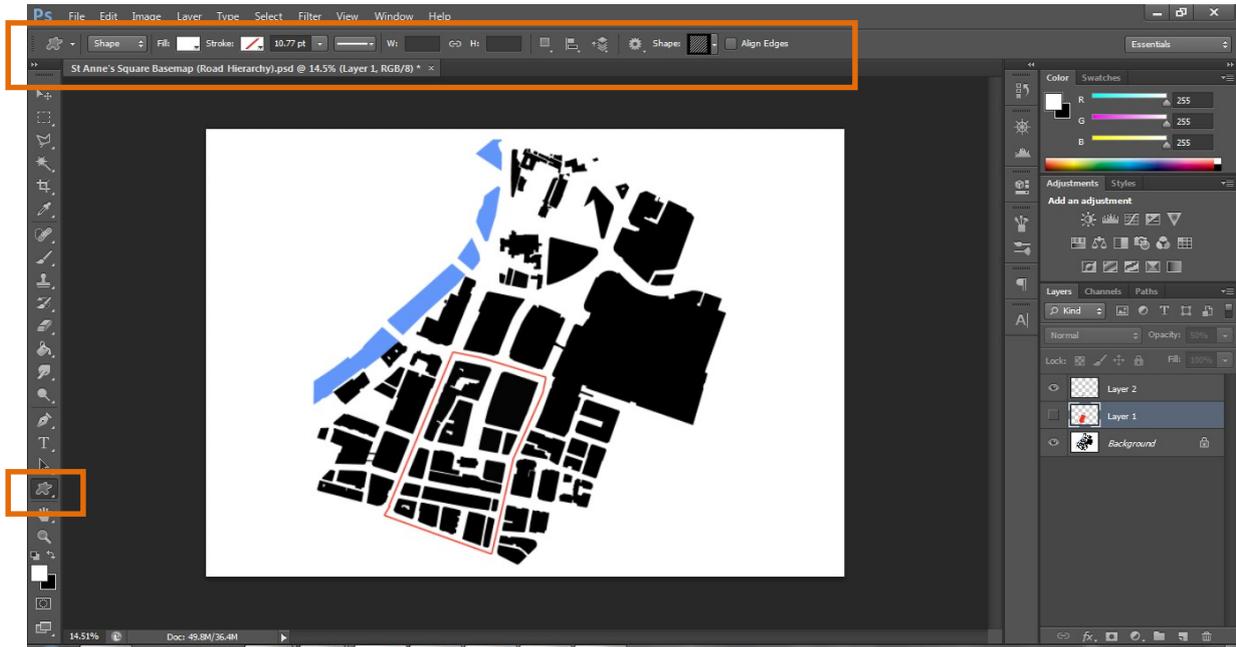


9. Again play around with **Colour** and **Opacity**.

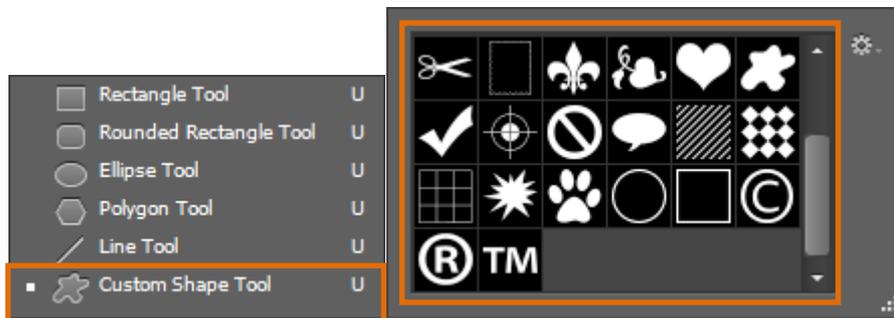


## 4.7 Shape Tools

### 1. Select Shape Tools.



2. With the shape Tool selected, a row of six icons appears in the **Options Bar**, with each icon representing a different Shape tool, select **Custom Shape Tool**.



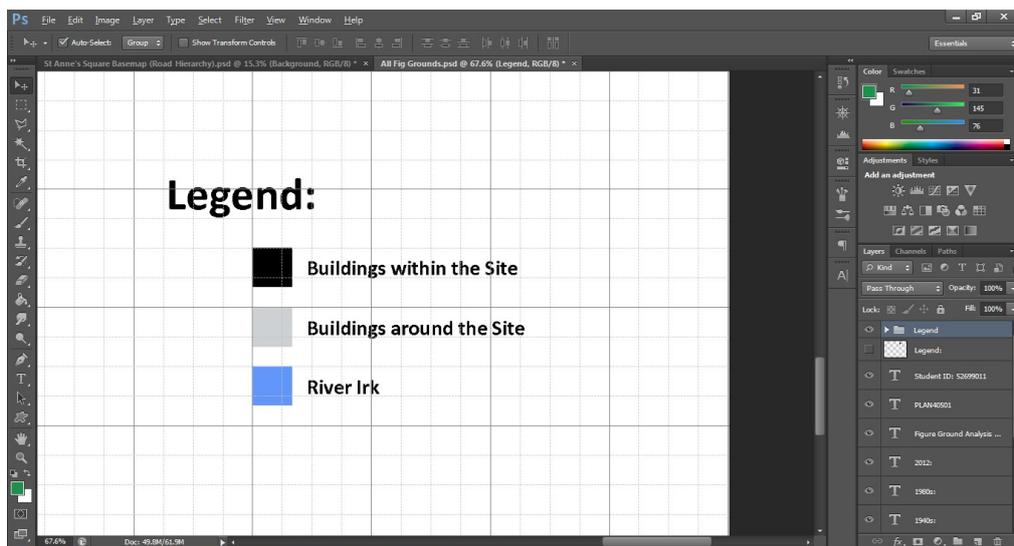
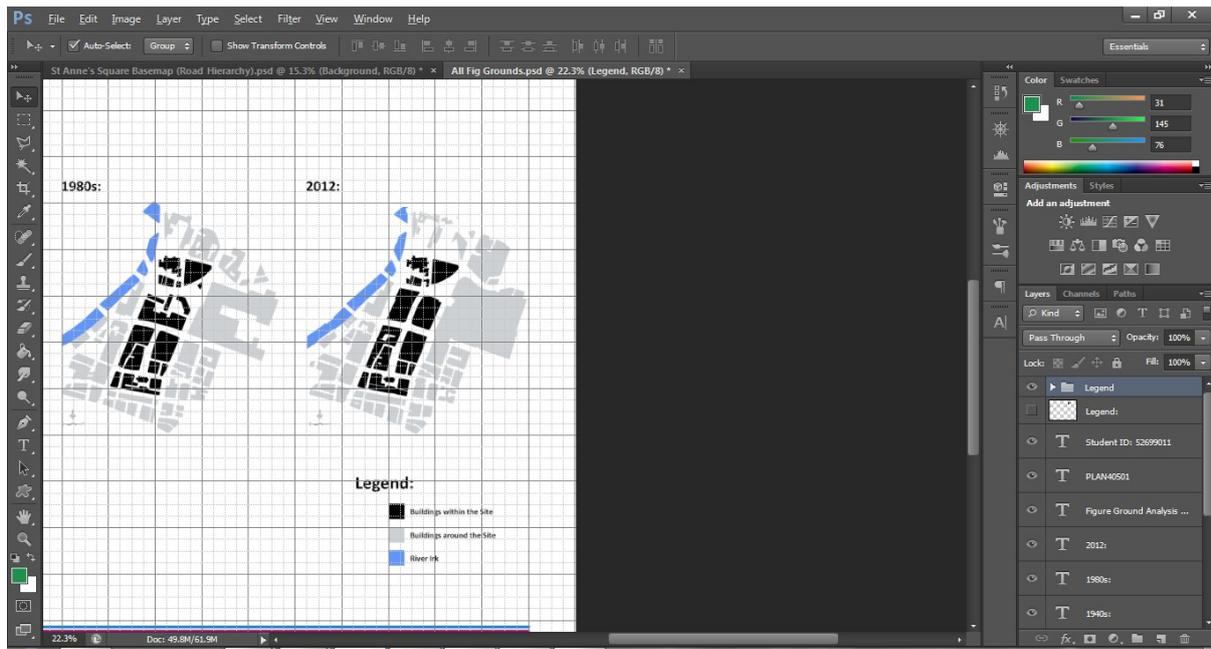
3. Mess around with different **Shapes>Colours>Weights>and Opacities**.



## 4.8 Grid, Transform and Text Tool

1. Use Grid to align and Ctrl T to scale your image/s (and indeed everything else contained on your page).

**Grid:**



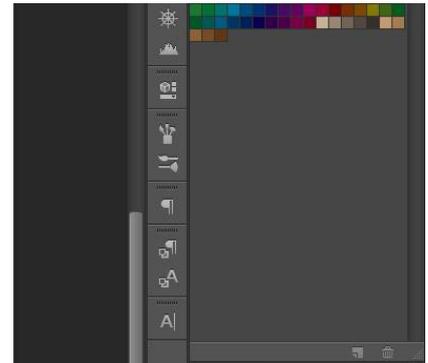
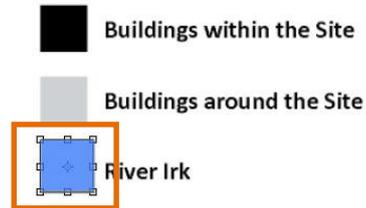
- 2 **View>Show>Grid** OR **Ctrl+'** – will cover your canvas in a Grid.
- 3 This grid will allow you to manage aligning and scaling of your graphics and pages.

### Transform:

- 4 For **Scaling** select **Ctrl+T (Transform)** on a layer/group of layers>click on any **corner** of the **boundary box**>hold **Shift** (this will ensure when you transform the layer it will keep the correct shape) and move your mouse to resize appropriately.

5. Play about with it to get a sense of what it does.

### Legend:



6. These tools are the same ones you will use to scale and layout your pages/work as a whole (see overleaf).



### Figure Ground Analysis from the 1890s to Present Day:



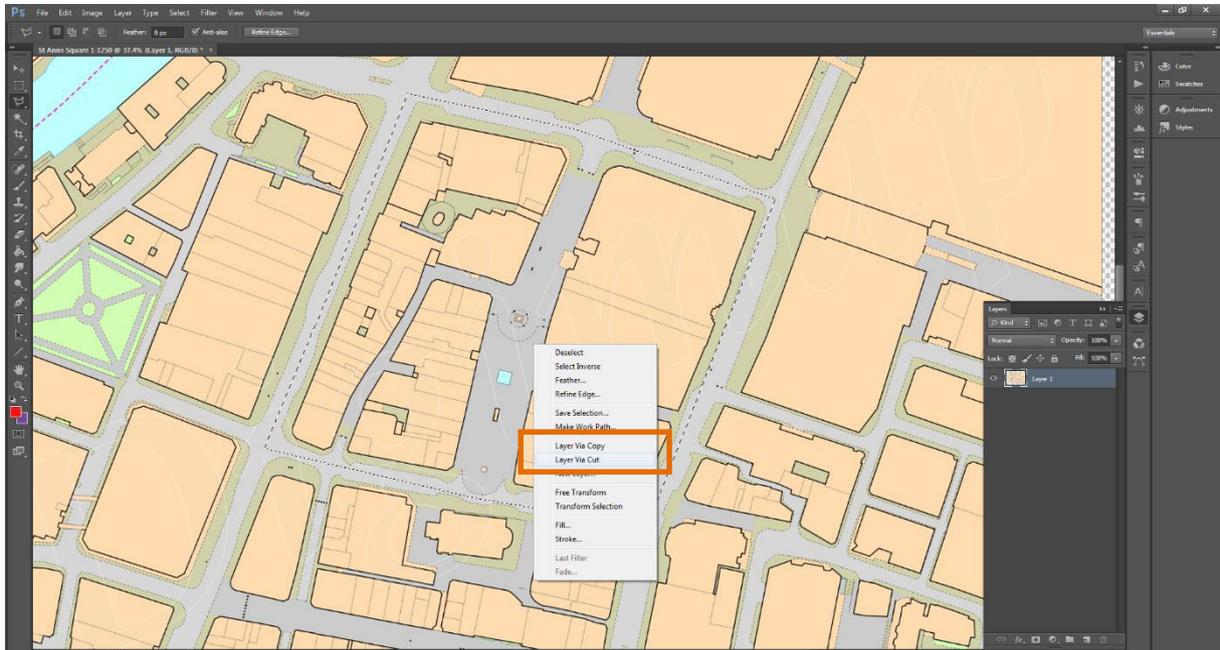
7. This page is put together using the same techniques listed above.

### Text:

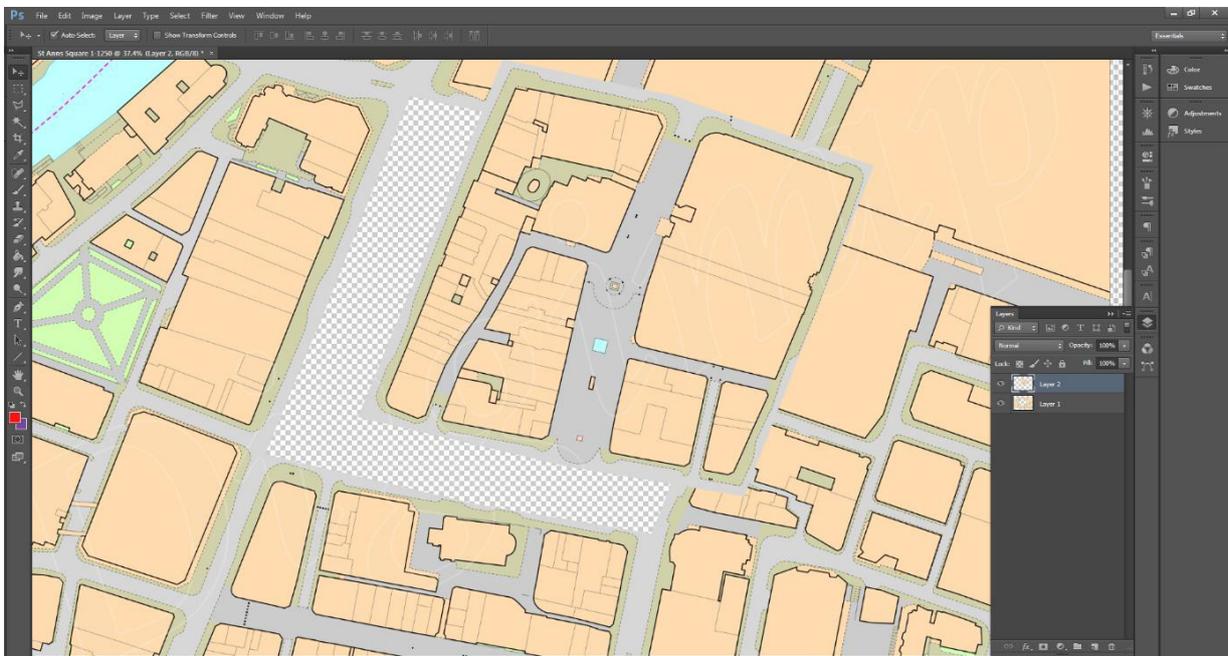
8. To add **Text**>Select (T) for the **Type Tool**>Draw a **Textbox**>**Enter Your Text**.

## 4.9 Layer via Cut and Layer via Copy

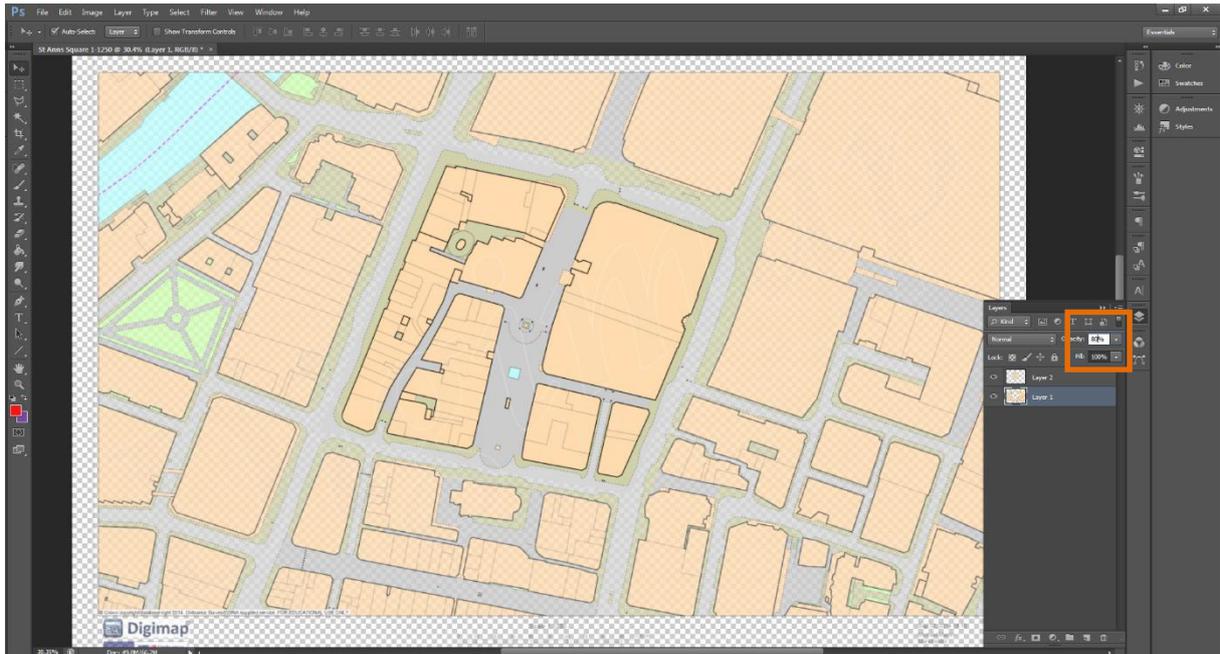
- 1 Use **Polygonal Lasso Tool** to select an area>right click on your selection>you will see the following Options Window:



- 2 Click either **Layer Via Cut/Layer Via Copy**. Layer Via Cut will cut out your selection and place it onto a New Layer. Layer Via Copy will copy your selection to a new layer.

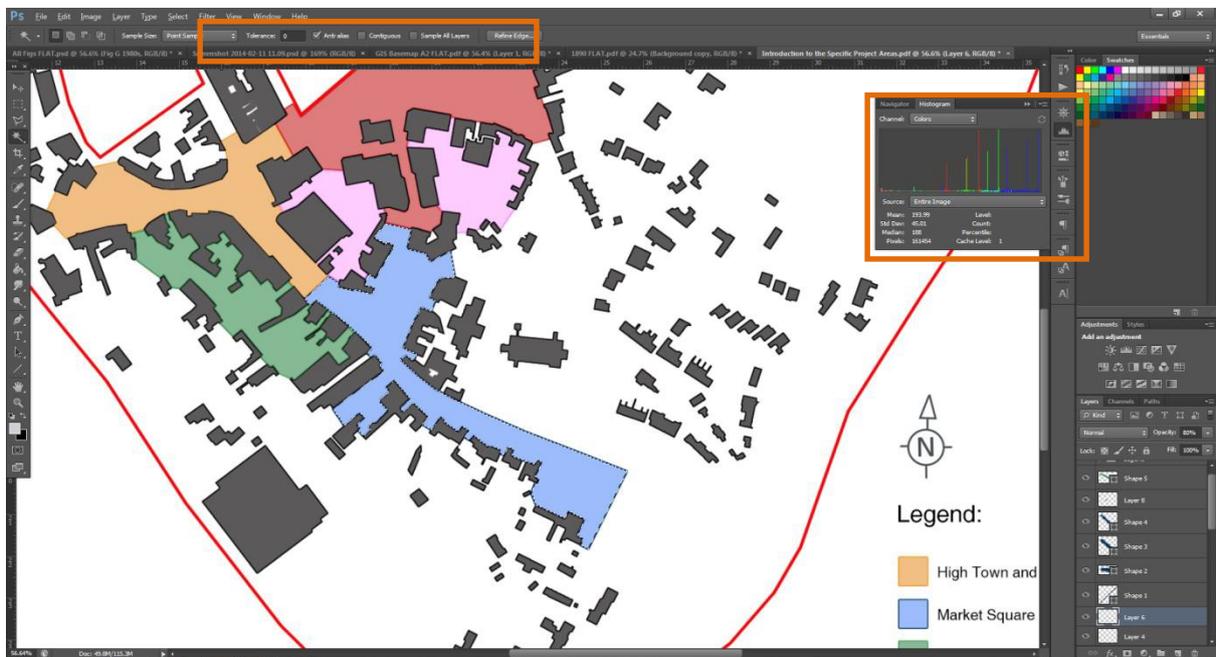


- 3 I have chosen **Layer Via Cut**>by changing the **Opacity** you can create interesting graphical distinctions.



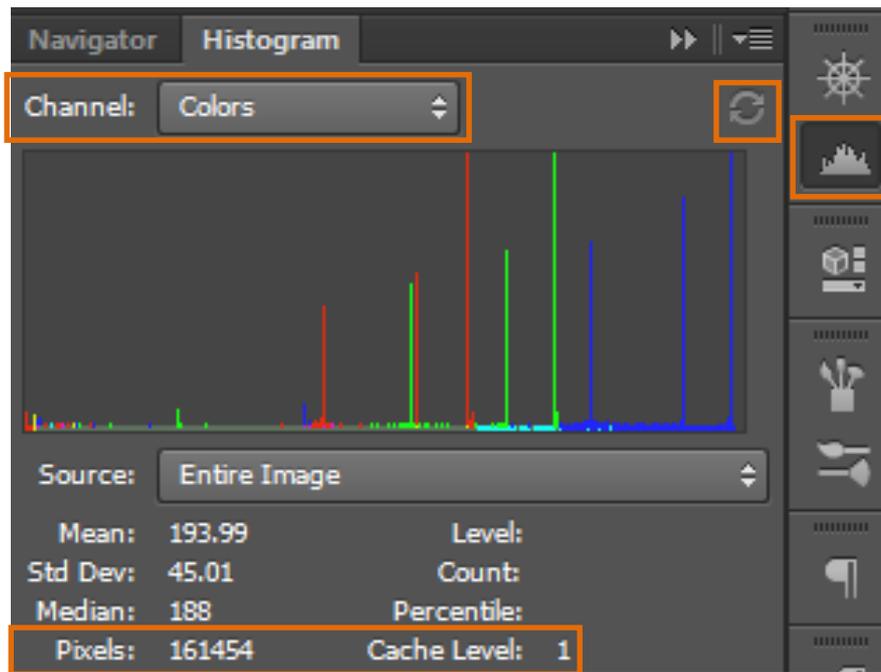
#### 4.10 Histogram

1. It is possible to calculate the percentage of land covered by a particular use (colour) in PS using **Histogram**.
2. Click **Window>Histogram**.

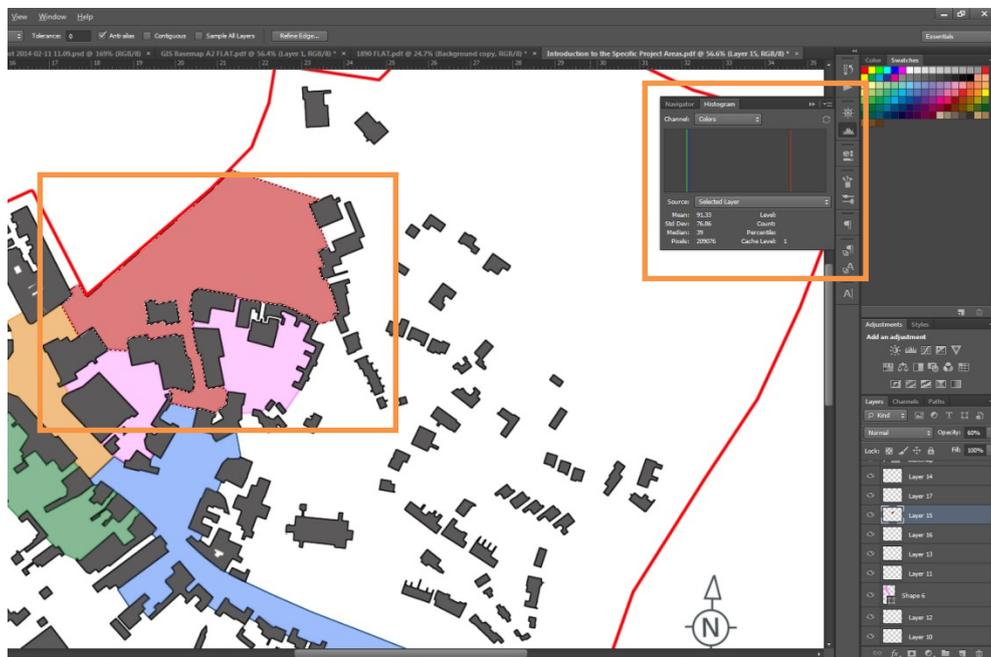


3. Use the **Magic Wand Tool (W)** (set **Tolerance at 0**; uncheck **Contiguous**) and select a colour, in this example Blue (Market Square and High Street).
4. Make sure for **Channel** you have selected **Colour** and for **Source**, **Entire Image**.

5. Each time you select a colour you will need to hit **Refresh** on the **Histogram**.



6. Make a note of the **Pixels** covered by each colour, so for blue in this example **161,454**.
7. Repeat these steps selecting **each** of the **different colours** and note down the **Pixel** totals.



8. For the above example there were five colours:
- o Blue – 161,454
  - o Green – 88,070
  - o Orange – 107,242

- o Red – 209,076
- o Pink (Combined) – 91,519

**Total (100%) = 657,361**

9. It is therefore possible to show, using the formula - Colour / Total x 100, that:

- o Blue covers - 24.56%
- o Green covers – 13.40%
- o Orange covers – 16.31%
- o Red covers – 31.81%
- o Pink covers – 13.92%

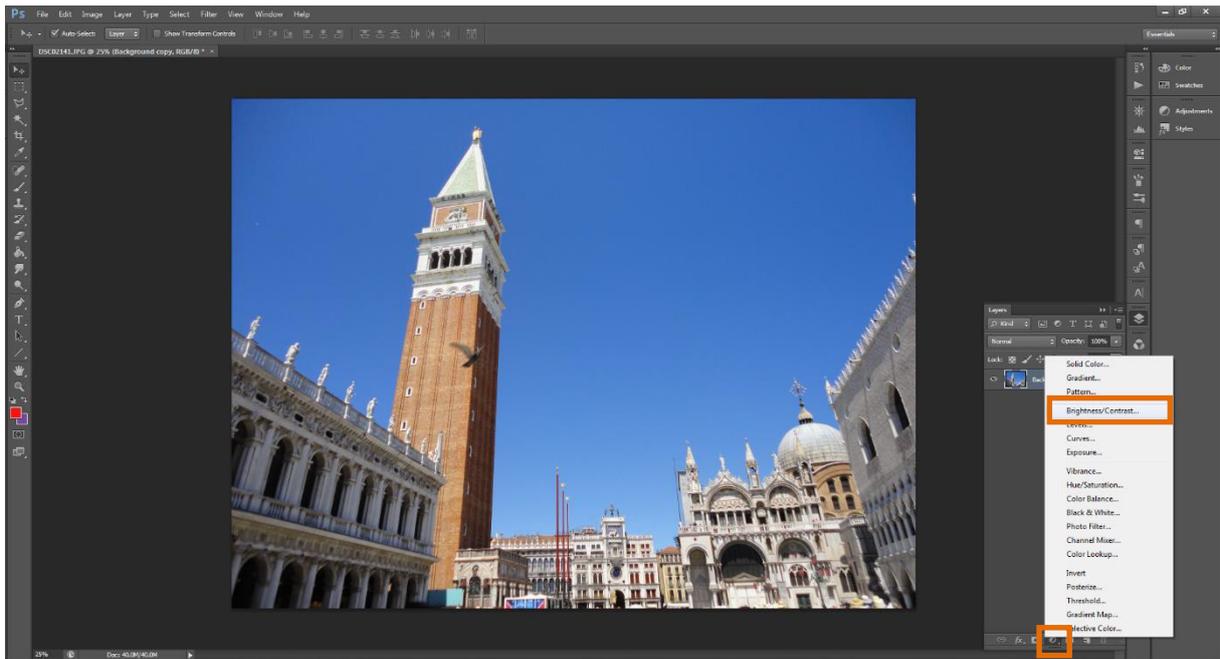
**Total = 100%.**

10. While these conclusions are not particularly exciting - **by following the approach outlined above you can calculate the land use percentages for your site** (you may also want to consider applying this approach to your historical maps were applicable).

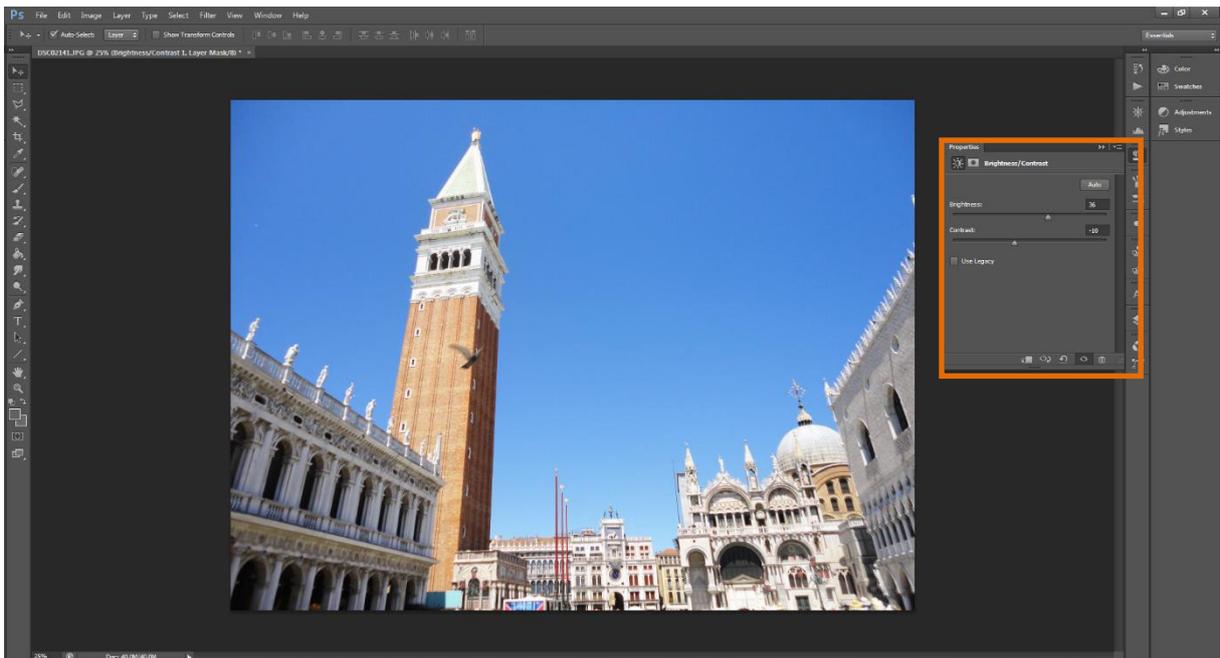
11. You can apply the same kind of Analysis to Listed Buildings or Building Type by simply calculating the % of a particular feature against the total number of units (excellent way to add depth to your analysis).

#### **4.11 Editing Photographs with Brightness/Contrast**

1. Photoshop is most commonly used to enhance photographs. In Planning and Urban Design, especially in the UK where pictures can often be overcast/dull, it is extremely important that the area you wish to renew, regenerate or develop appears in its best light.
2. Open a photograph>select **New Fill and Adjustment Layer**.



### 3. Select **Brightness/Contrast**.

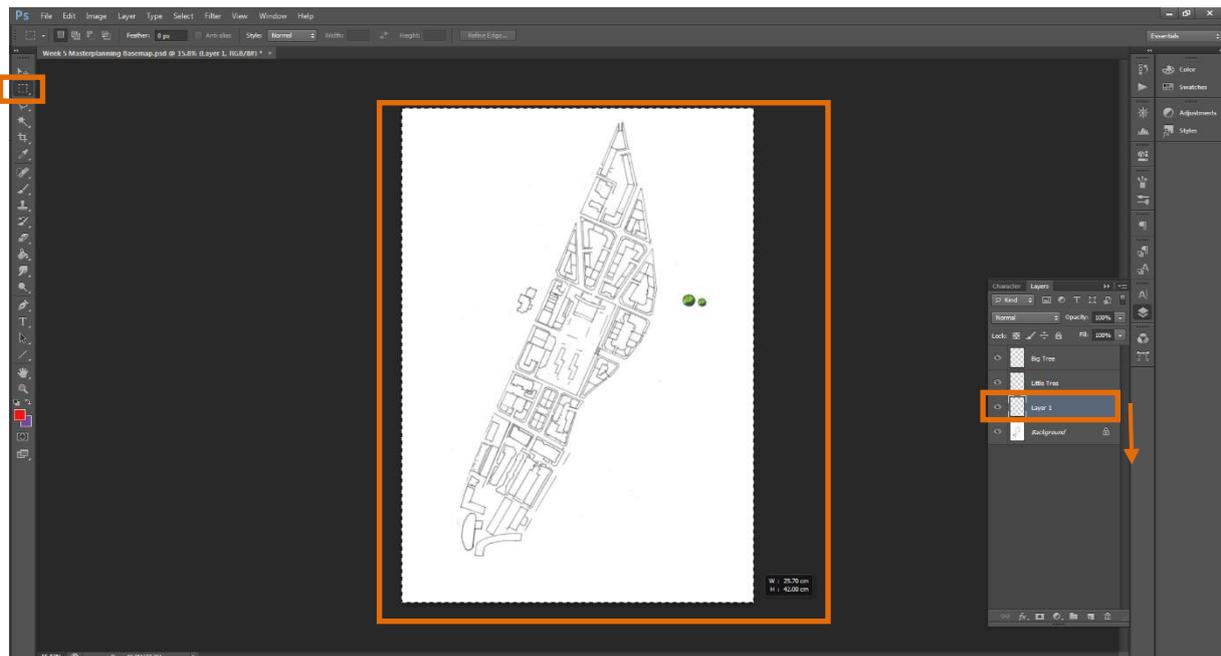


### 4. **Play around with the Brightness and Contrast Options**→you will see how they affect your picture (often improving it).

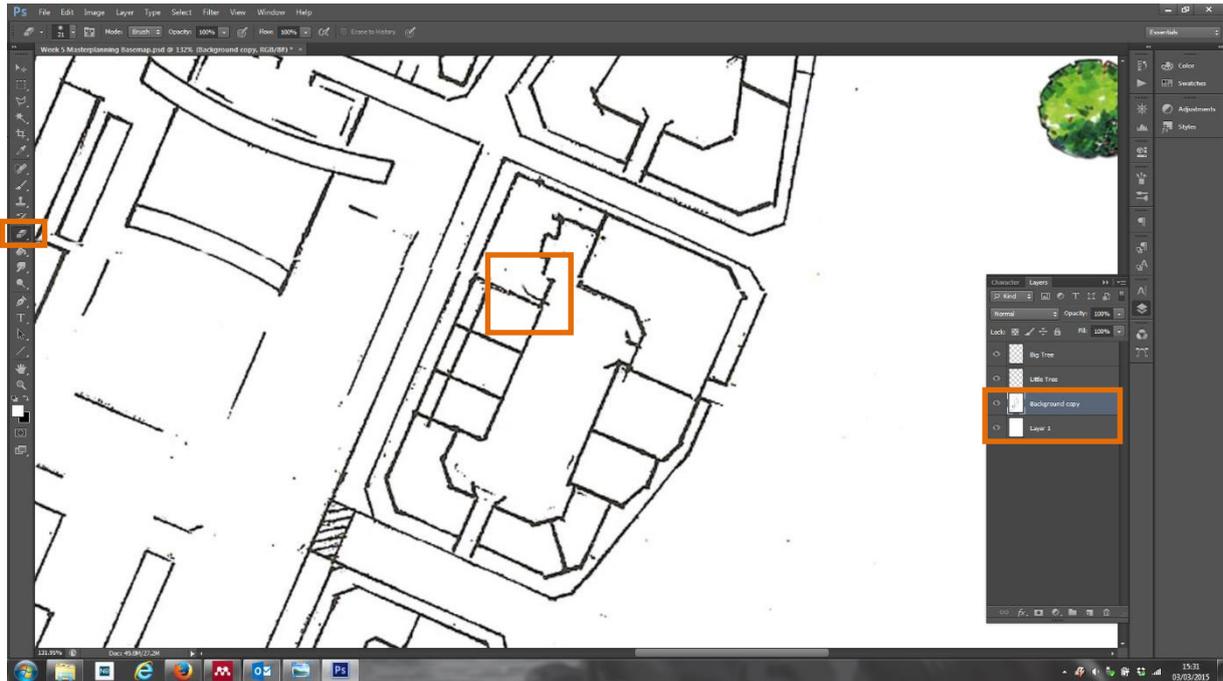
## 5. MASTERPLANNING IN PS

### 5.1 Preparing Scan, Erasing Drawing Marks and Colouring Up

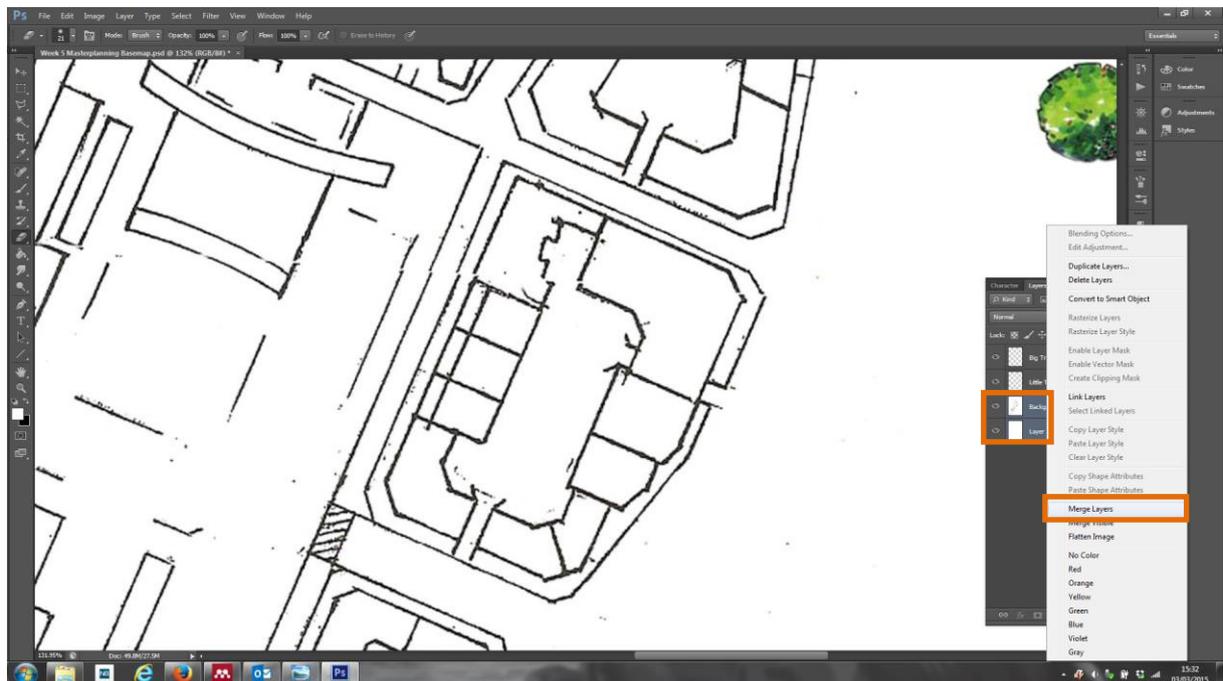
1. Use the **Magic Wand Tool (W)**>select the **scanned background** and **delete it** (edit tolerance to enhance selected area).
2. To **Erase** the scruffy drawing marks>select **New Layer (Shift+Ctrl+N)**>select **Rectangular Marquee Tool (M)**>draw a rectangle across your canvas.



3. Select **Paint Bucket (G)**>select **White** on the **Fill Window (X)** and click on the canvas>drag this layer directly below your background/basemap>then select the **background layer**>select the **Eraser Tool (E)**>rub out the drawing marks.



4. When you have completely gotten rid of all of the necessary drawing marks>merge the background with your white fill layer. To do this>select the background layer and white fill layer using **Shift>right click>select Merge Layers**.

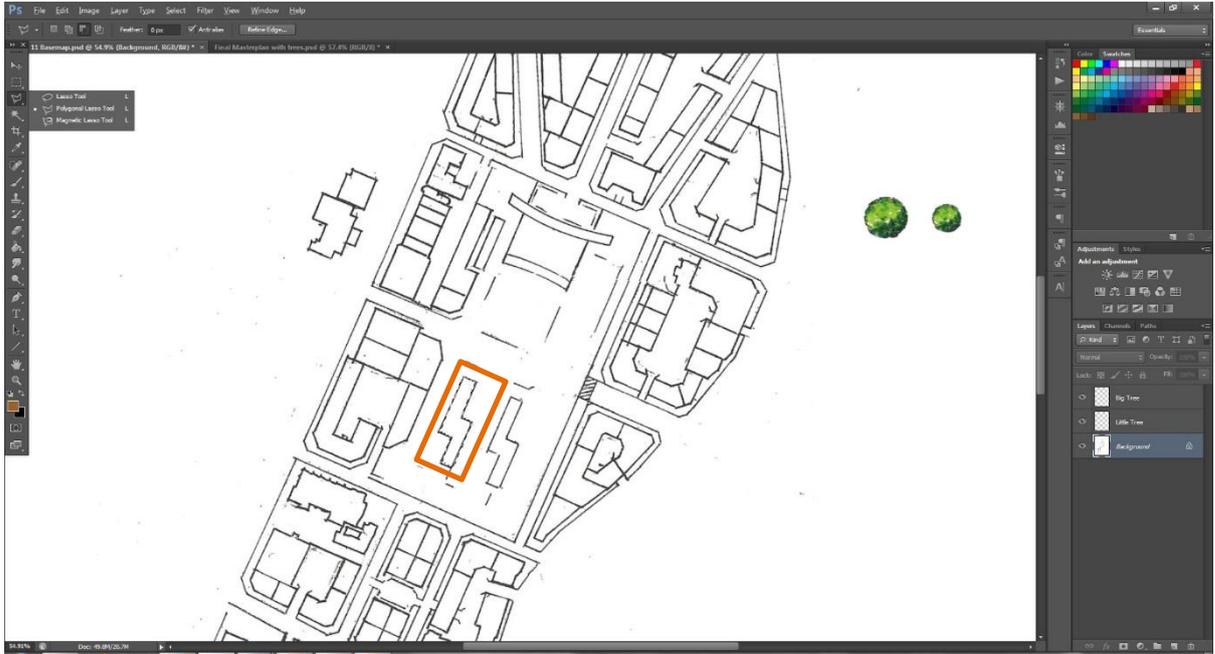


5. To colour up your masterplan use a combination of **Magic Wand Tool (W)** AND **Polygon Lasso Tool (L)** (drawing around necessary features). For information on the **Magic Wand Tool** see 4.2 and the **Polygon Lasso Tool** see 4.3.

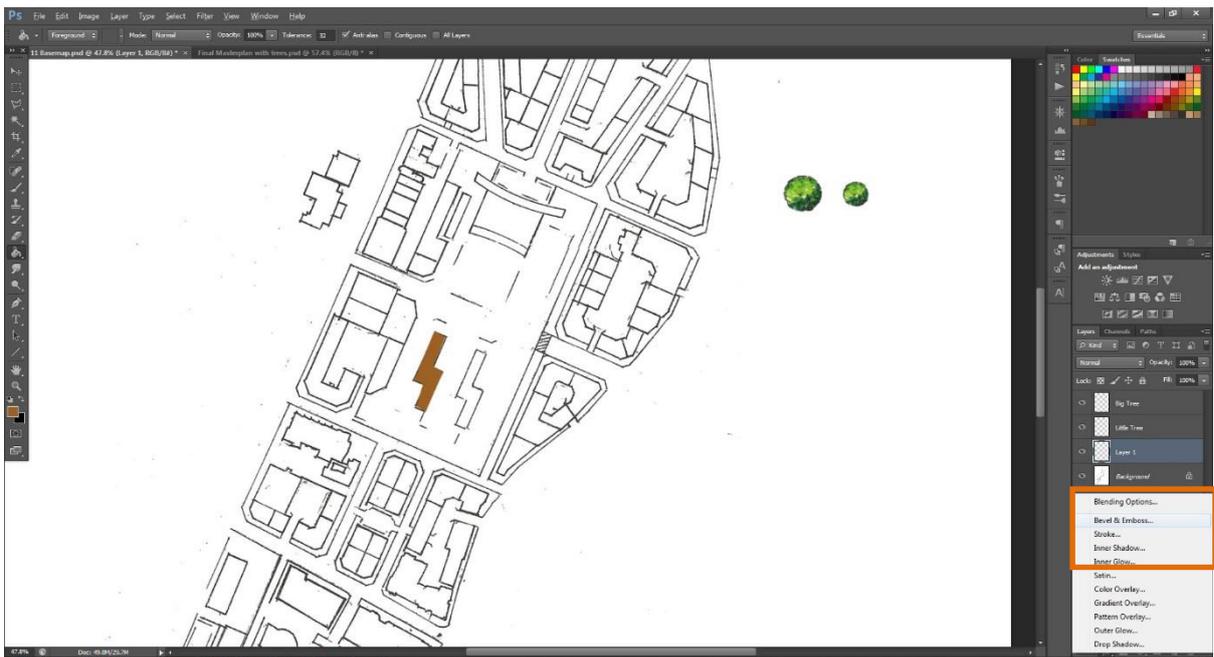
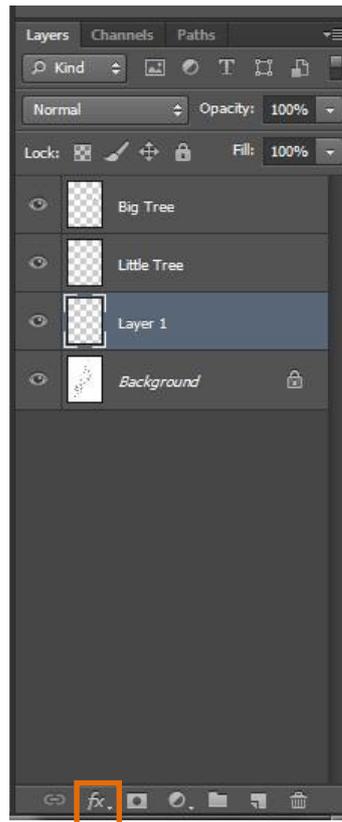
6. For each element>select **New Layer (Shift+Ctrl+N)**>select **Paint Bucket (G)** and click on highlighted area to **Fill (X)**.

## 5.2 Adding Textures

5. Use **Polygonal Lasso Tool** to select an area (in this case a planter).

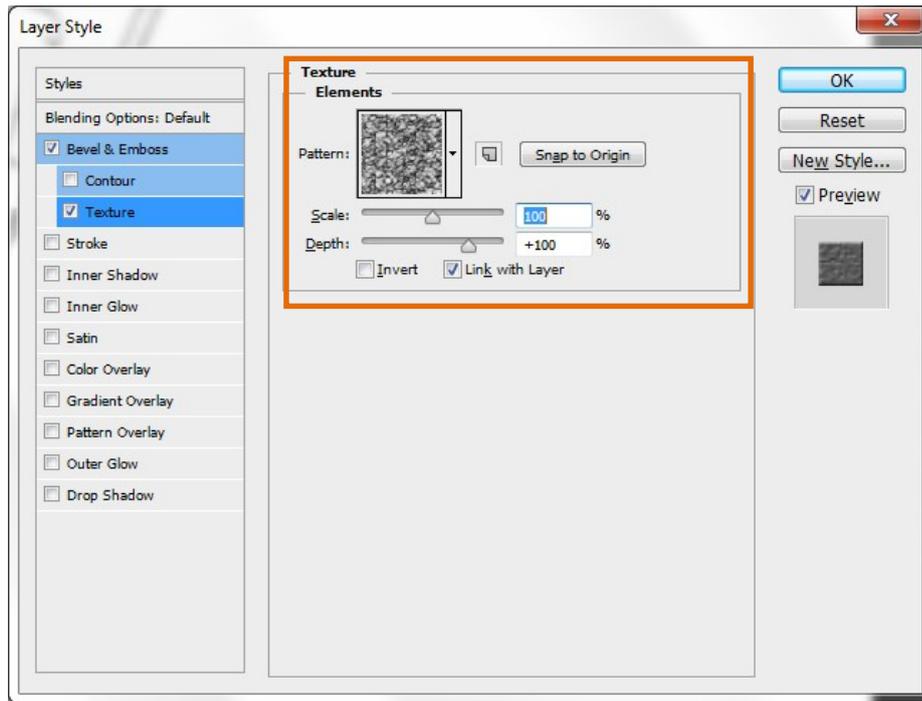


6. Select New Layer using **Shift+Ctrl+N**.
7. Use the **Paint Bucket Tool** to colour the selected area>pick a colour (in this case wood chippings) so brown.
8. Then go to **fx (below layers window) > Bevel & Emboss > Texture > Pattern**.

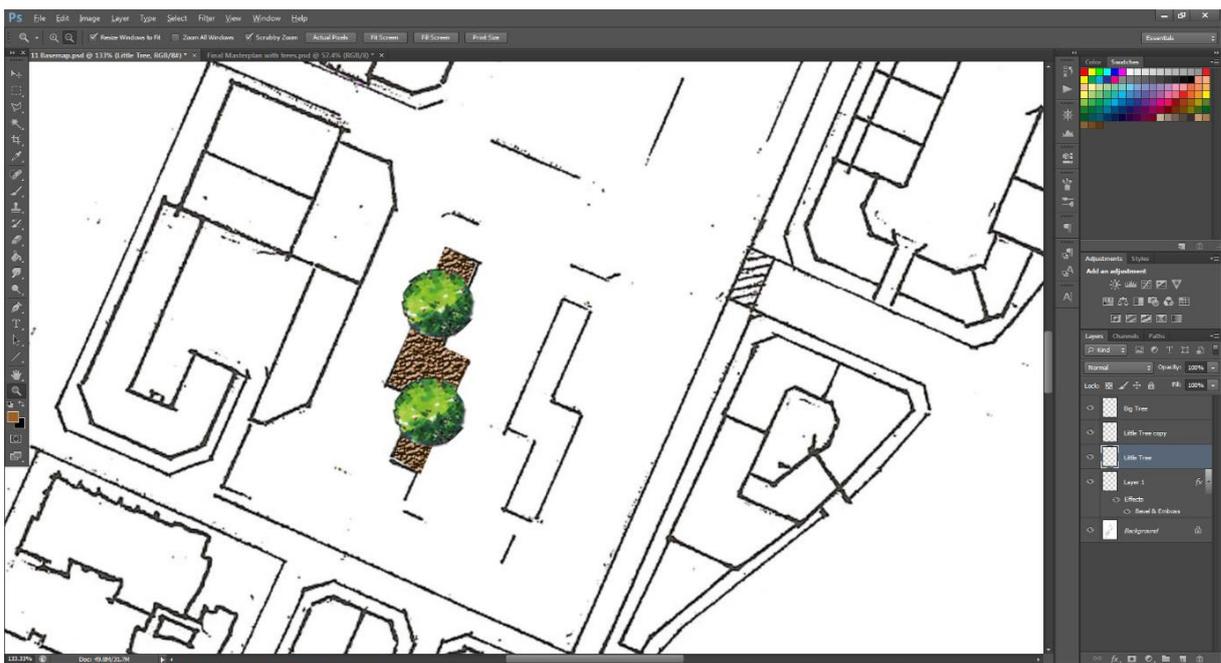


9. Pick whatever you feel is a suitable texture for what you want to show.

10. Adjust the **Scale** and **Depth** until you get the desired effect.



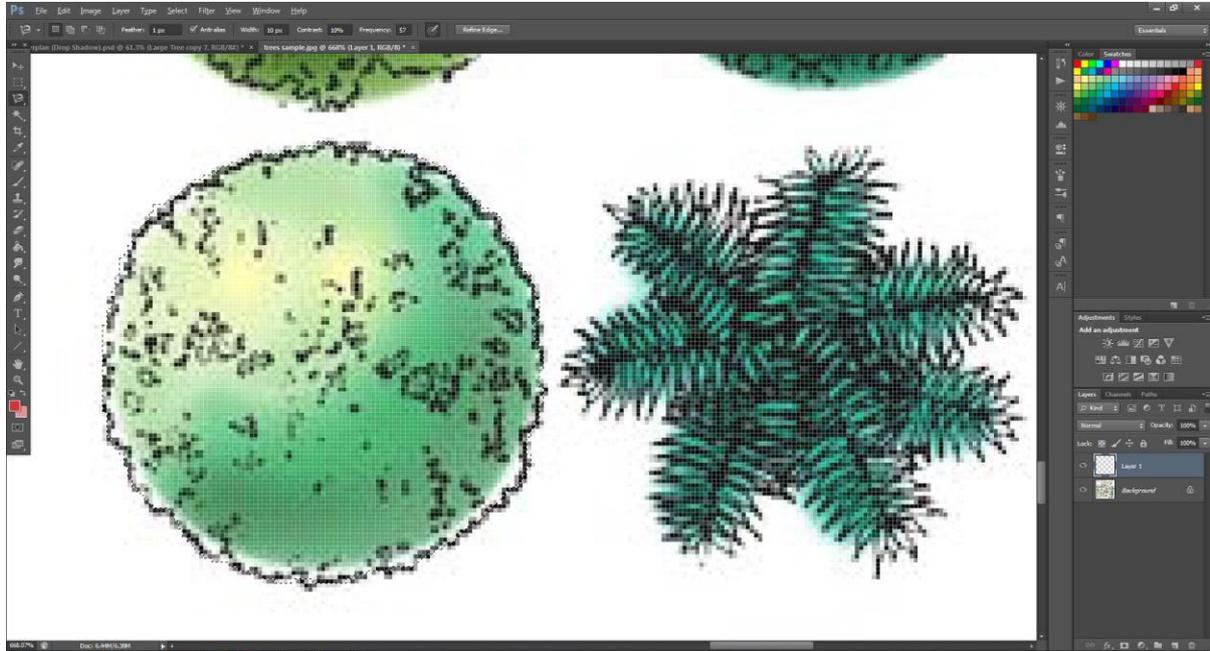
11. You should end up with something similar to below – just place your trees, job done:



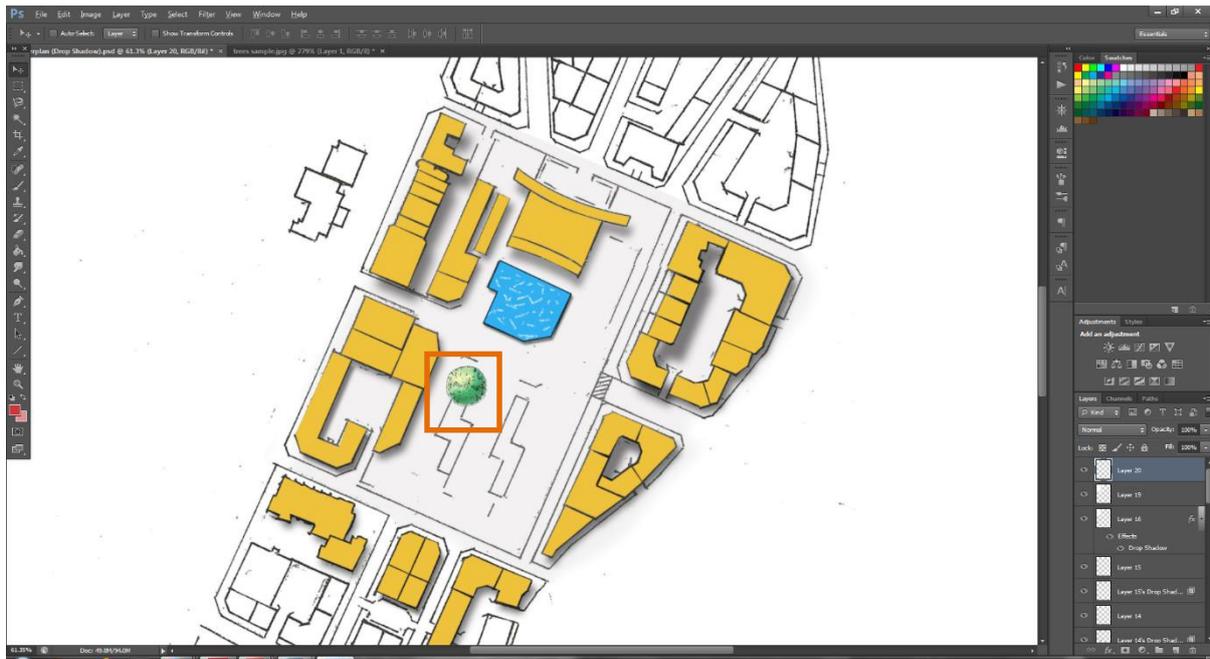
12. **NB:** You can create your own textures or download already made textures see <https://helpx.adobe.com/photoshop/using/layer-effects-styles.html>. **HOWEVER** *be careful with using this technique, it can very easily be overdone, subtle and simple is key!*

### 5.3 Adding Trees/Additional Details

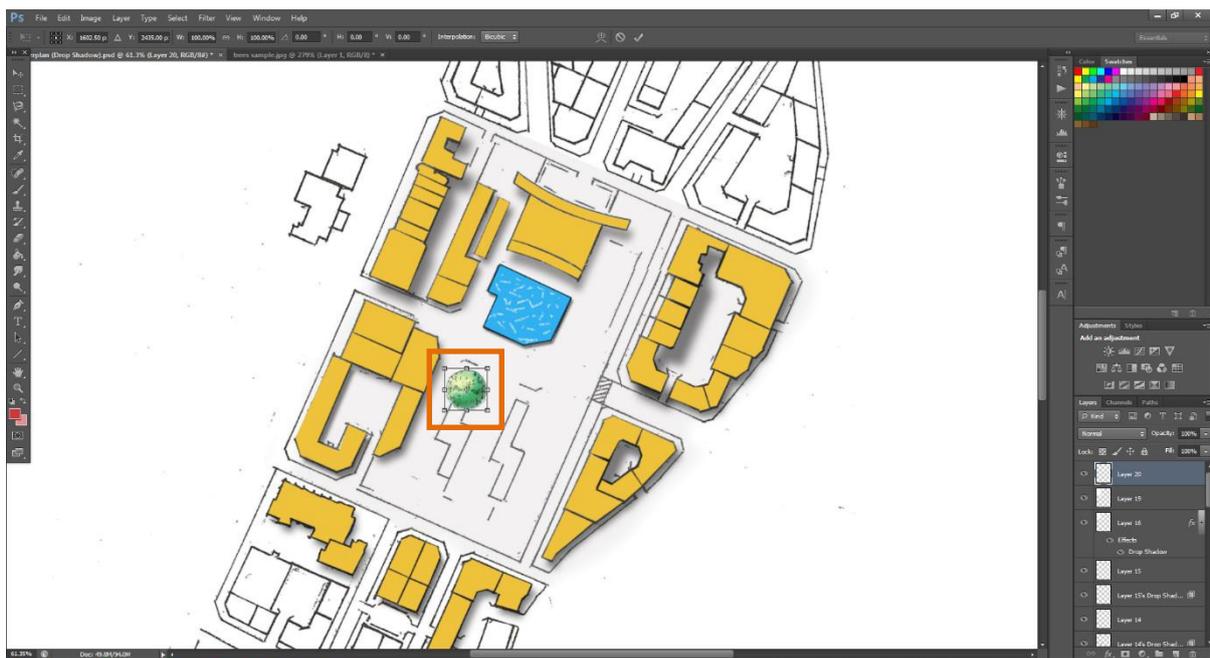
1. Click on and hold down Lasso on Toolbar – this will display the different Lasso Options>select the **Magnetic Lasso Tool (L)** and draw around the tree.



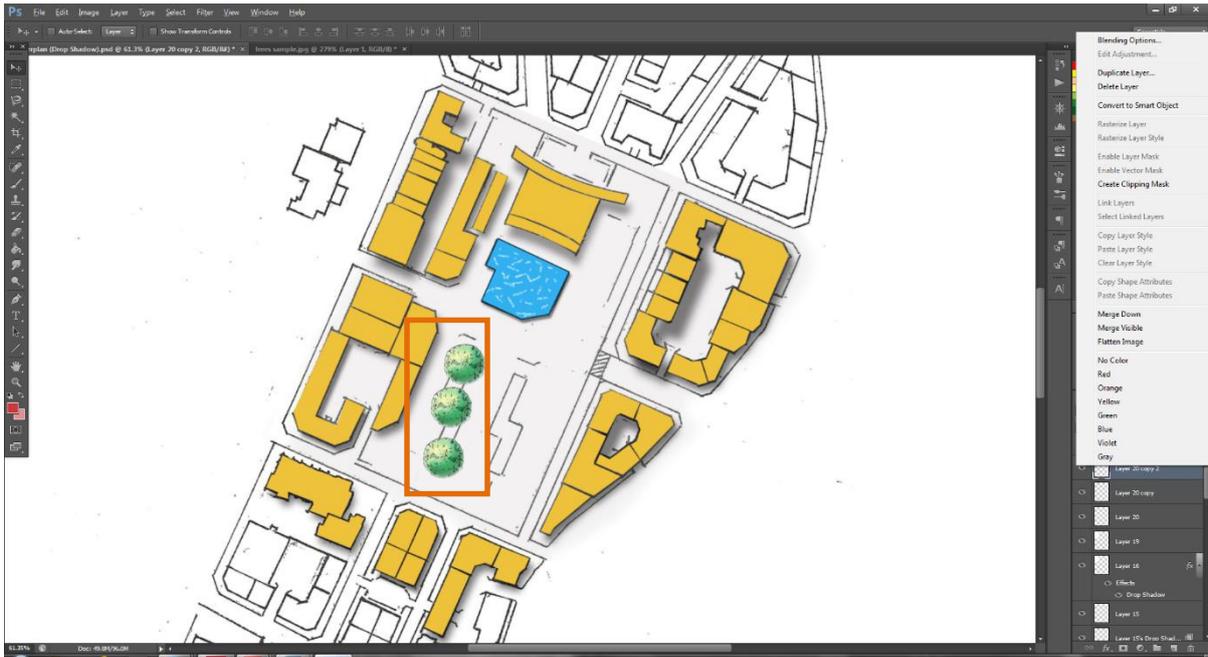
2. **Right Click** on your selection, choose **Layer Via Cut**.
3. Now you have your tree as a separate layer, click on the **Move Tool (V)**, drag the tree to the top of the screen hovering over your masterplan file (PS will switch to that document) when it appears simply move to the area where you want to place the tree and let go of click.



4. You may now need to resize your tree if so select **Ctrl+T** to **Transform/Resize** the layer.



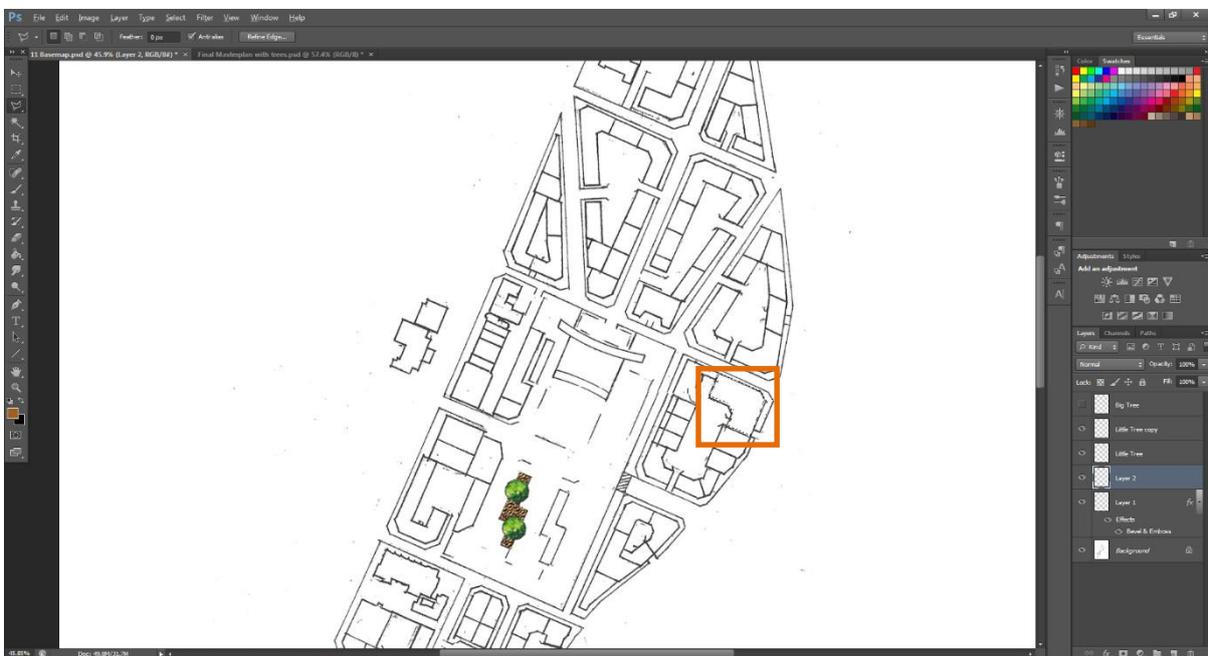
5. You may also need more than one tree, if so, right click on the layer in the layers window and select **Duplicate Layer>OK** – you can do this however many times you need to for as many trees as you would like.



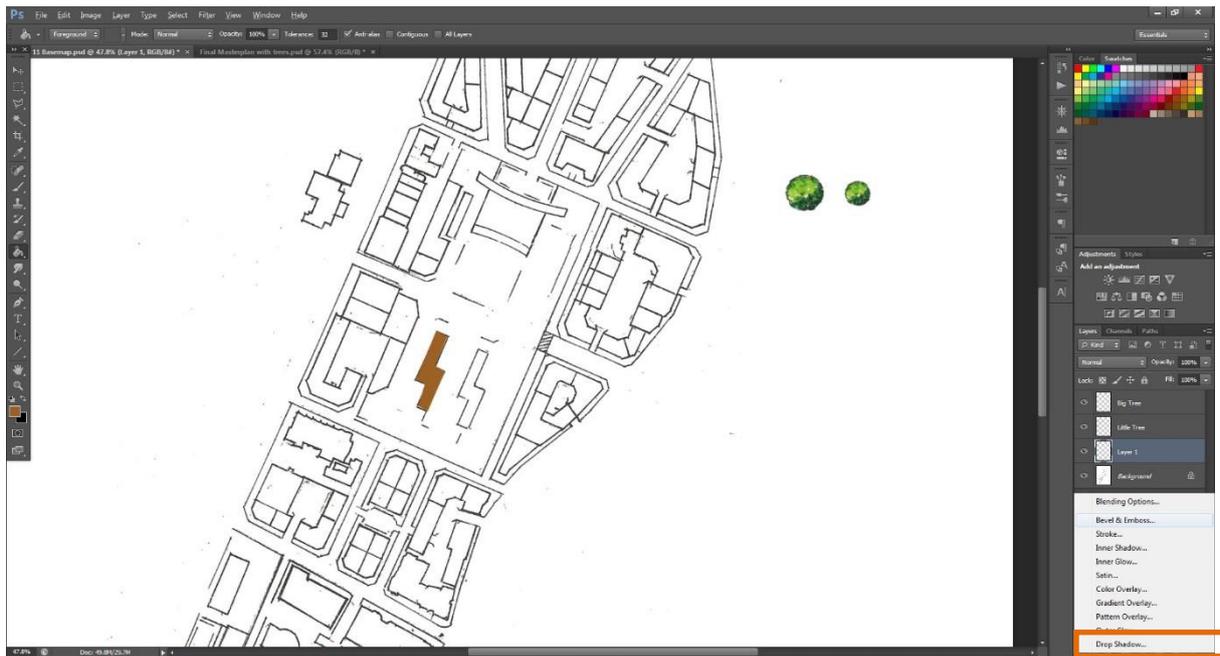
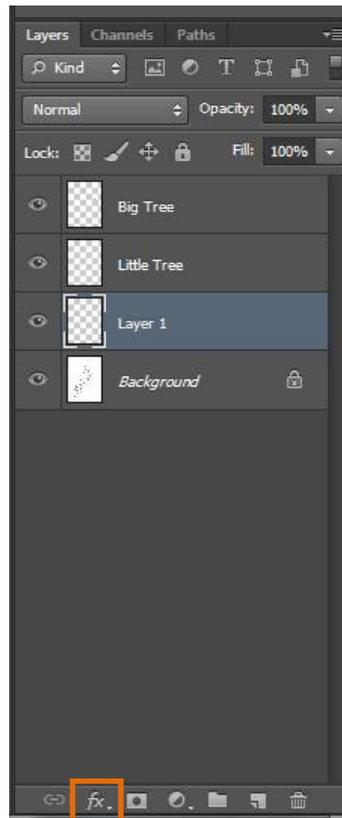
6. What is key here is that it doesn't just apply to trees – you will use these same techniques for all Ps work.

## 5.4 Adding Shadows

1. Use **Polygonal Lasso Tool (L)** OR **Magic Wand Tool (W)** to select any building.

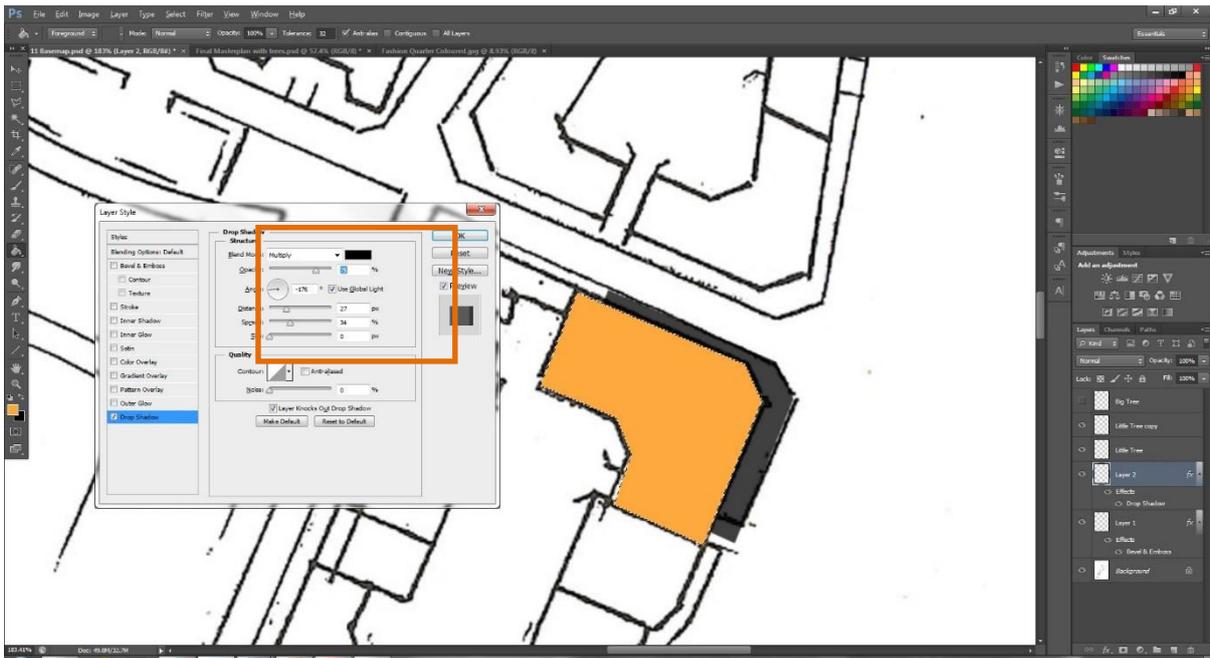


2. Select New Layer using **Shift+Ctrl+N**.
3. Use the **Paint Bucket Tool** to Colour the Selected Area>pick a colour.
4. Then go to **fx>Drop Shadow**.

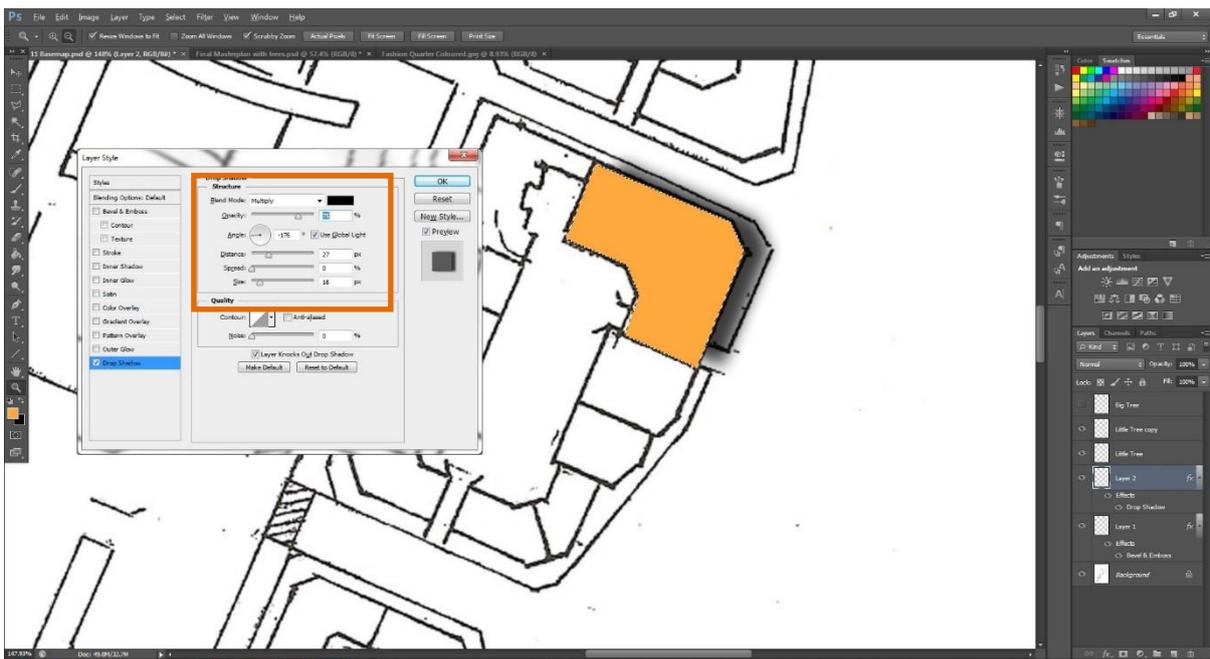


5. Make sure **Use Global Light** is ticked (the angle can be altered by clicking the wheel).
6. You can also adjust the **Opacity** (depending on your preference).
7. Most importantly change **Distance**, **Spread** and **Size** – changing these will allow you to create more realistic shadows; as shown by **A - B** (overleaf).

A



B

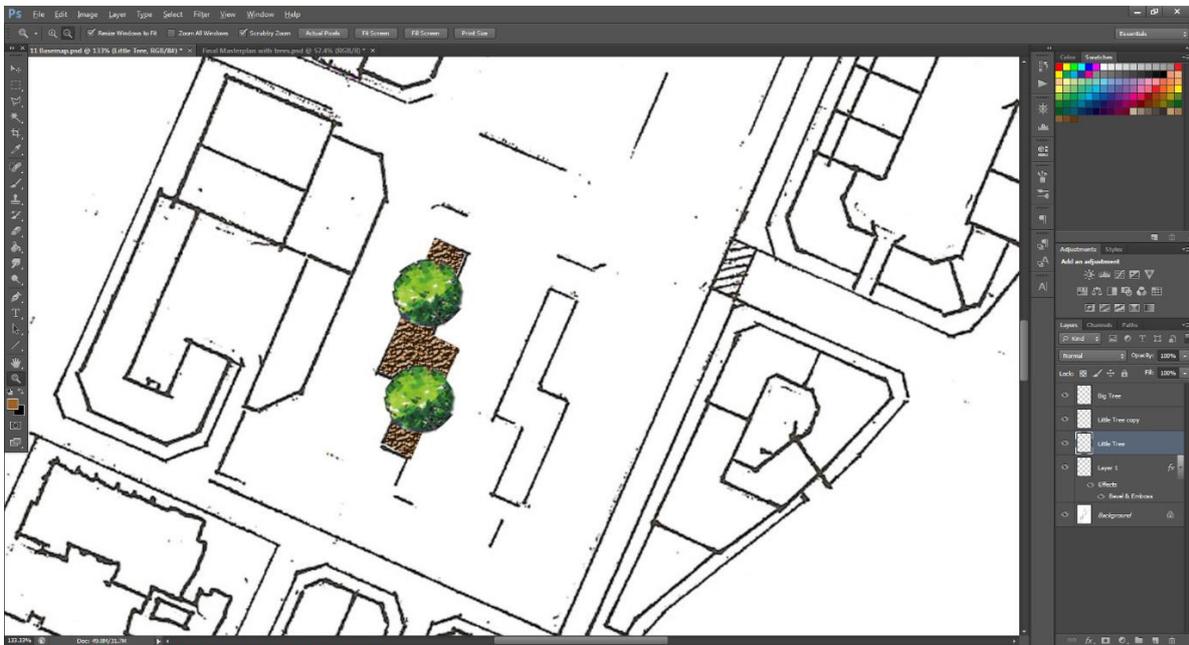


8. **NB:** How realistic you want to be with your shadow is up to you – for example you could adjust shadows based on different **1) Building heights, 2) Gables** and **3) Roofscapes**; all of this adds more realism to your Masterplan (see overleaf).

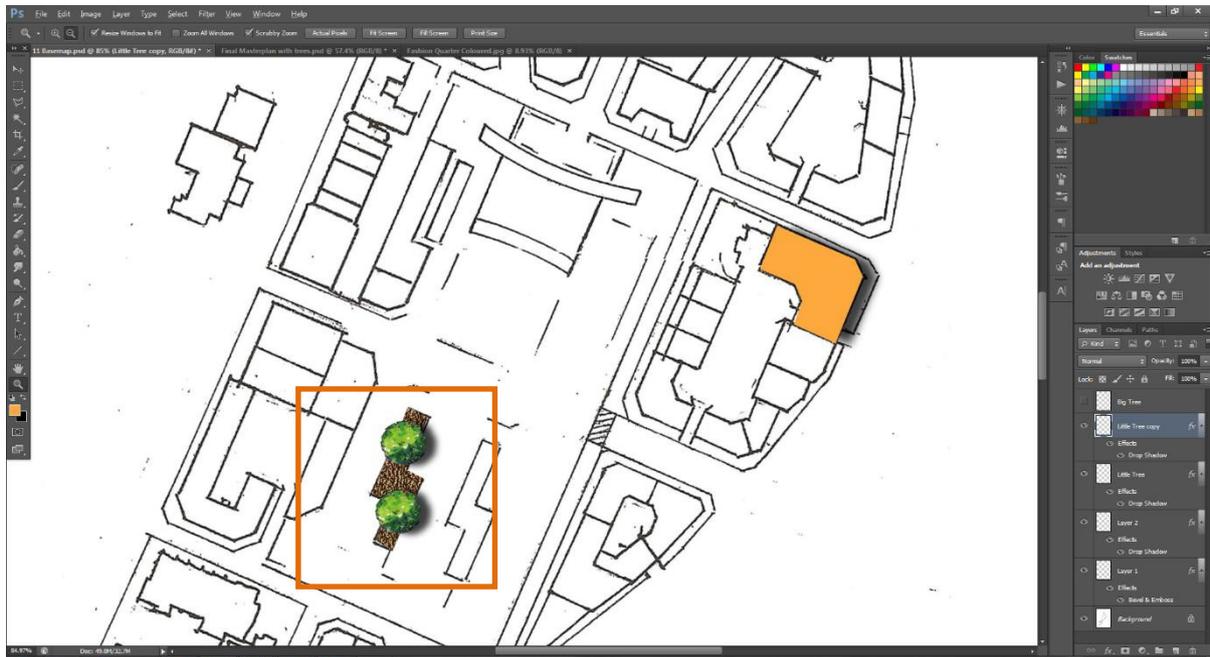
## URBED: Trent Basin



9. For your trees>simply **select Drop Shadow**>enter your **preferences** and click **OK**.



10. You should end up with this:



## 6. SAVING AND PRINTING IN PS

### 6.1 Saving

Saving your work correctly is an absolute must in PS, there is no point in spending days creating a fantastic piece of analysis/masterplan to then save it incorrectly and have an image which is pixelated! There are two formats you should save in – **PSD** and **PDF** (both formats can be opened in Illustrator and Indesign):

#### PSD

1. Hit **Shift+Ctrl+S** – this will bring up the save window.
2. Select **Adobe Photoshop PSD**>click **OK** on **Maximise Compatibility**.

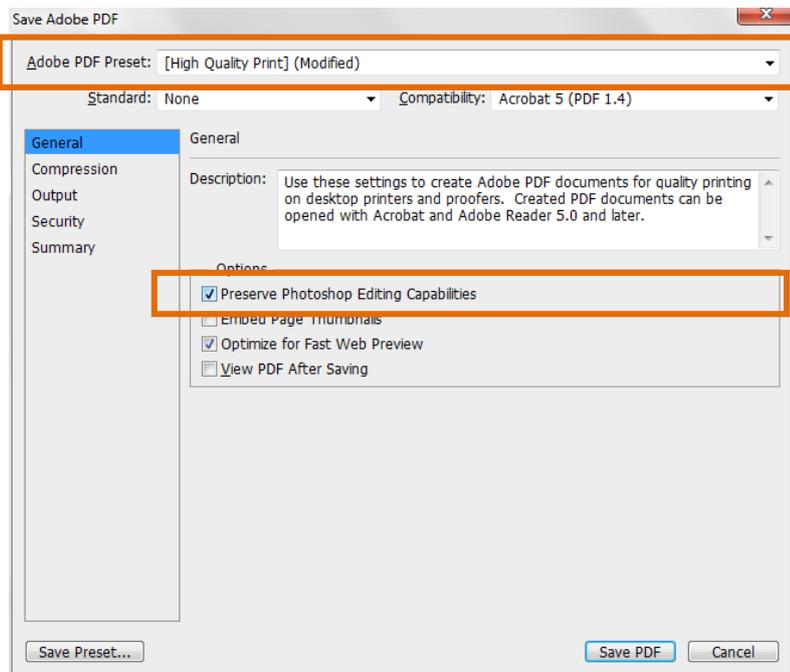


## PDF

1. Hit **Shift+Ctrl+S** – this will bring up the save window.
2. Select **Photoshop PDF**. An additional window will appear.



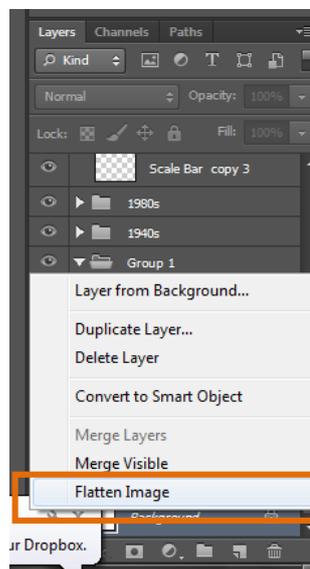
3. Select **High Quality Print** and tick **Preserve Photoshop Editing Capabilities** – if you **don't** you will lose all of your layers and end up with a **Locked Layer File**.



## 6.2 Printing

Save as a **Flattened File** when you are ready to **print** (make sure to save this as a different version than the original). You should save your **Flat** version in one of two formats – **PDF** or **JPEG**.

6.2.1 To **Flatten** a file **right click** on the bottom layer (typically background layer) and select **Flatten Image**.

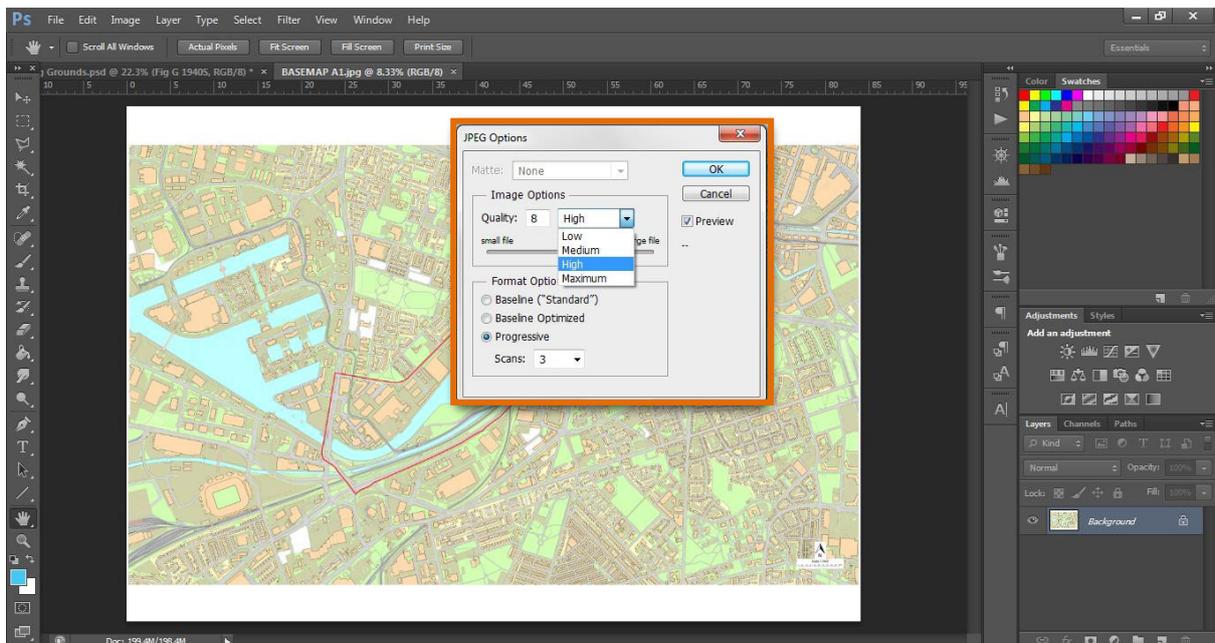


6.2.2 Once you have flattened your work hit Save As **Shift+Ctrl+S**. For PDF

6.2.3 Follow the same steps as above (7.1) except this time **do not tick Preserve Photoshop Editing Capabilities.**

**For JPEG**

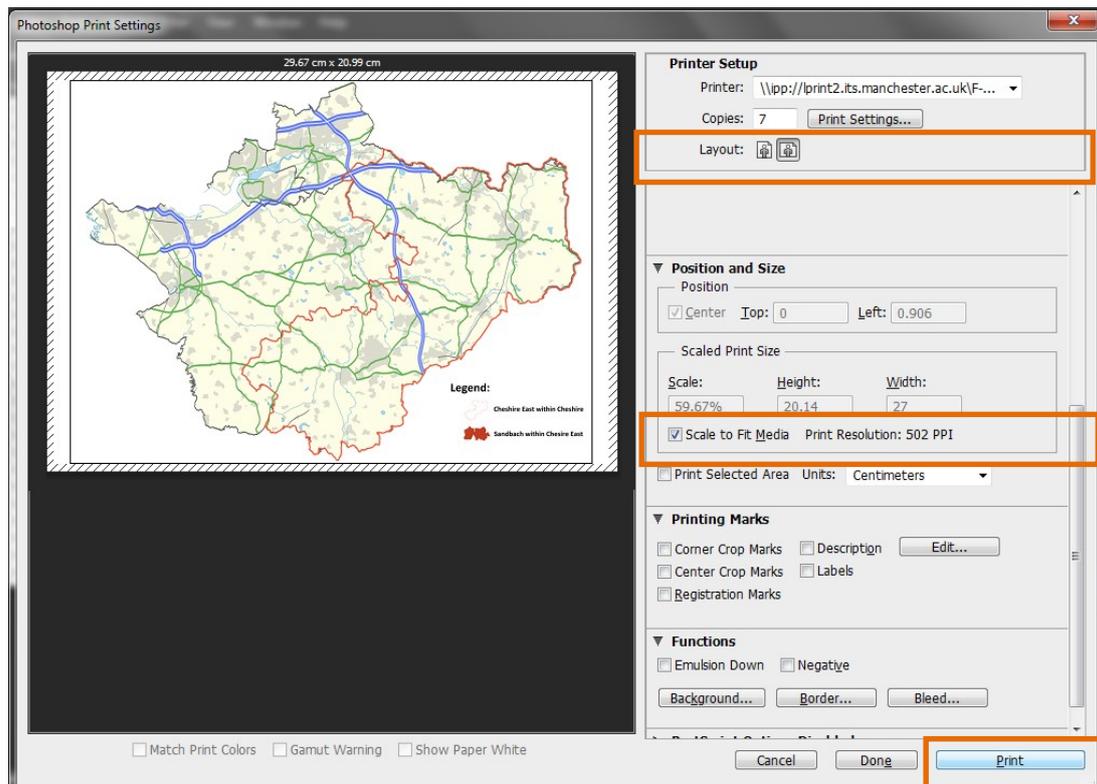
6.2.4 If you wish to save as a **Flattened JPEG**>select **JPEG**>make sure to select **at least High** on **JPEG Options**).



6.2.5 **Remember – you should only save as a Flattened file when you are ready to print.**

6.2.6 **ALWAYS** keep a backup **Unmerged** file which contains all of your layers/paths.

6.2.7 To **Print** select **Ctrl+P**>choose your **Layout**>click **Scale to Fit Media**>click **Print**<sup>1</sup>.



<sup>1</sup> Remember, by selecting **Fit to Page** you are changing the scale of the map. In this case the Map is 1:2500 at A2. It is therefore recommended to include 1:2500 @ A2 alongside your maps as this is the original scale.

## FURTHER INFORMATION

### Adobe Photoshop CS6 Help

#### 1. Photoshop Help – Tool Galleries

<http://helpx.adobe.com/photoshop/using/tools.html>

This is the official Adobe Ps Help webpage, it is a fantastic resource and for those who are new to Ps it is one I would highly recommend.

You can also search in a bid to find an answer to specific Ps issues (various links from Adobe Support and Community Help will be displayed to assist you).

#### 2. Official Adobe Ps Tutorials

<https://helpx.adobe.com/photoshop/tutorials.html>

Excellent Official Adobe Ps resource. Highly Recommended. Ignore 'CC' this simply means 'Creative Cloud' the latest version of the Adobe Creative Suite

#### 3. Adobe Photoshop YouTube Channel

<https://www.youtube.com/user/Photoshop>

This is the Official Adobe Ps YouTube Channel - robust resource with video based guidance.

#### 4. Adobe Photoshop Tutorials

<http://adobephotoshoptutorials.com/>

Despite the dated look and feel of this webpage, the content will be helpful.