

MUD-Lab Toolkit Figure Ground

Studying cities' urban typologies is a key to understand the physical structure of the city and how it has been changing overtime. This is a short handout about Figure Grounds, a key tool to simplify the city structure. It will introduce you the figure ground concept, why and how to use them and finally how to create them with Adobe Illustrator.

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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: Figure Ground*' accessible at www.seed.manchester.ac.uk/mudlab

1. INTRODUCTION

Figure-grounds are usually black and white, X-Ray like, drawn to scale illustrations that show building patterns. Buildings footprints are showed in solid black; they represent the "figure" of the pattern. Whereas the white space between them is the "ground". Figure ground represents a minimalist, but important, spatial analysis map can give useful information about the shape, scale, pattern and density of buildings, in addition to the nature of spaces created between them. This piece of analysis comes early, and its main aim is raising questions that can be explored further using different analytical tools.

Understanding this solid-void relationship is extremely useful in the analysis stage when analysing space features such as legibility, enclosure/exposure/, lost spaces and urban character. It can also inform the design and justify building patterns, size and orientation.

2. PRACTICAL EXAMPLES

Let us have a quick look at two figure grounds and try to derive space features.

Figure ground 1: Have a look at the figure ground below



General observation:

- It is relatively easy to identify the main paths between buildings. As those main paths are separating the area into clear sections, the solid-void relationship has created a legible, well defined main routes according to the figure ground. However, the minor routes are a bit more difficult to observe which might suggest a complex non-legible network of connected allies as in old city centres. This point needs to be explored further in legibility analysis for confirmation.



- Buildings are organized into groups according to their scale: large course grain (in red), medium grain (in grey) and fine grain (in red). The course grain is logically distributed along main streets. However, the some fine grain areas are clustered inside the medium grain. This particular observation needs further explorations with land use, serial vision and legibility analysis.



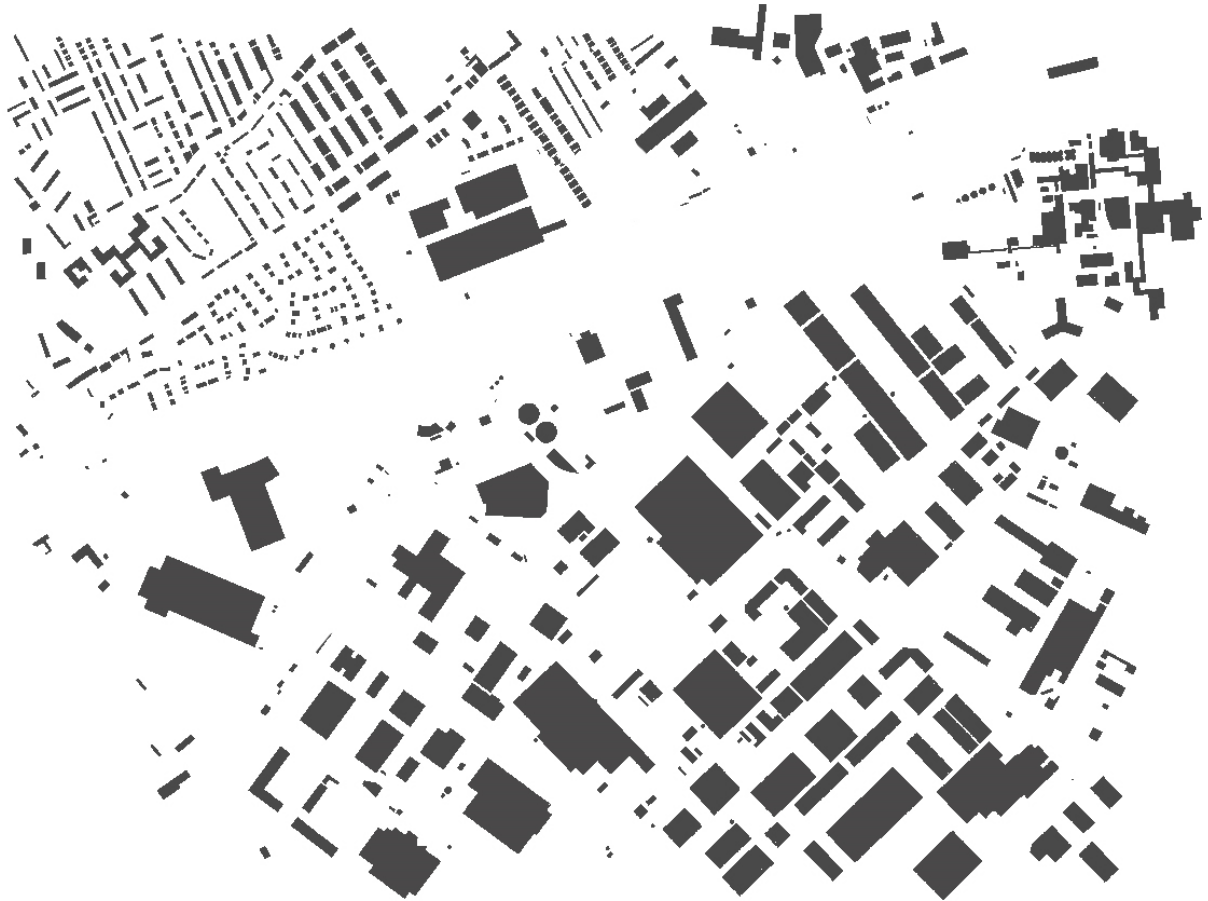
- The figure ground suggests that the urban space has many well connected spaces of different sizes that might resemble public squares. Again this needs further exploration using public space analysis, serial vision...etc.



As we can see from this example, the figure ground is a very useful technique to start simplifying the space and asking relevant questions. A full urban analysis is required (land use, building heights, movements, legibility analysis, character study...etc.) to see if the space is actually as reflected by the figure ground analysis. The combination of all these maps is what may lead to intellectual analysis. For example, if a legibility problem is identified during the legibility analysis, and if the figure ground suggests that that building patterns are not responsible for the illegible space, then you start to explore why the space is illegible focusing on other features such as landmarks, land use and urban characters. This will inform your design at a later stage.

Figure ground 2:

Try to identify the urban problems the figure ground below reveals.



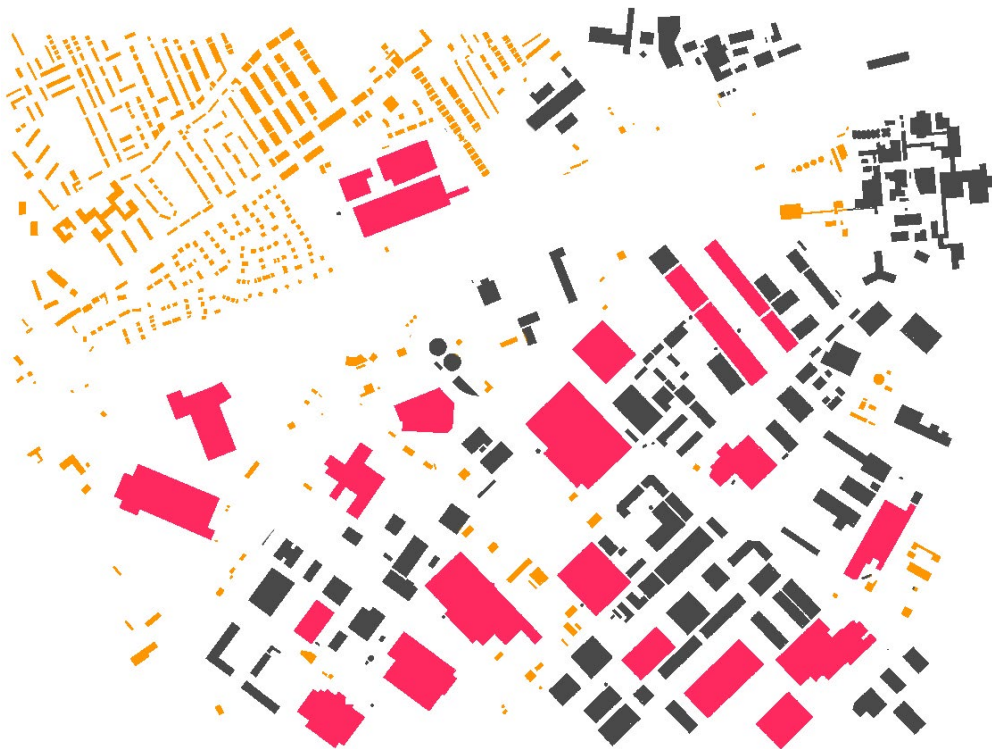
General observation:

- A large linear space, caused by a highway, divides the site into two parts. This may represent a barrier that interrupt the urban journey.
- This division has resulted in many badly defined lost spaces which usually create an illegible environment.
- There is a clear mix between buildings size. This can seriously affect the urban experience as the resulted spaces, usually, lack urba character.

The figure ground in this example may indicate clearly the problems of the space under study. However, as mentioned above, this must be complemented by a full urban analysis.



A large linear space divides the site and creates lost spaces.



An arbitrary mix of large, medume and small buildings at the souther part of the area.

3. HOW TO CREATE A FIGURE GROUND

There are many ways to create figure grounds including by hand, Photoshop, Illustrator or CAD. The easiest way to create a figure ground from a vector basemap, obtained from Digimap, is by Illustrator. However, if you have a raster image then Photoshop is quicker. In this section you will learn how to create a figure ground of your basemap by Adobe Illustrator. Please refer to Adobe Illustrator handout for more tutorials.

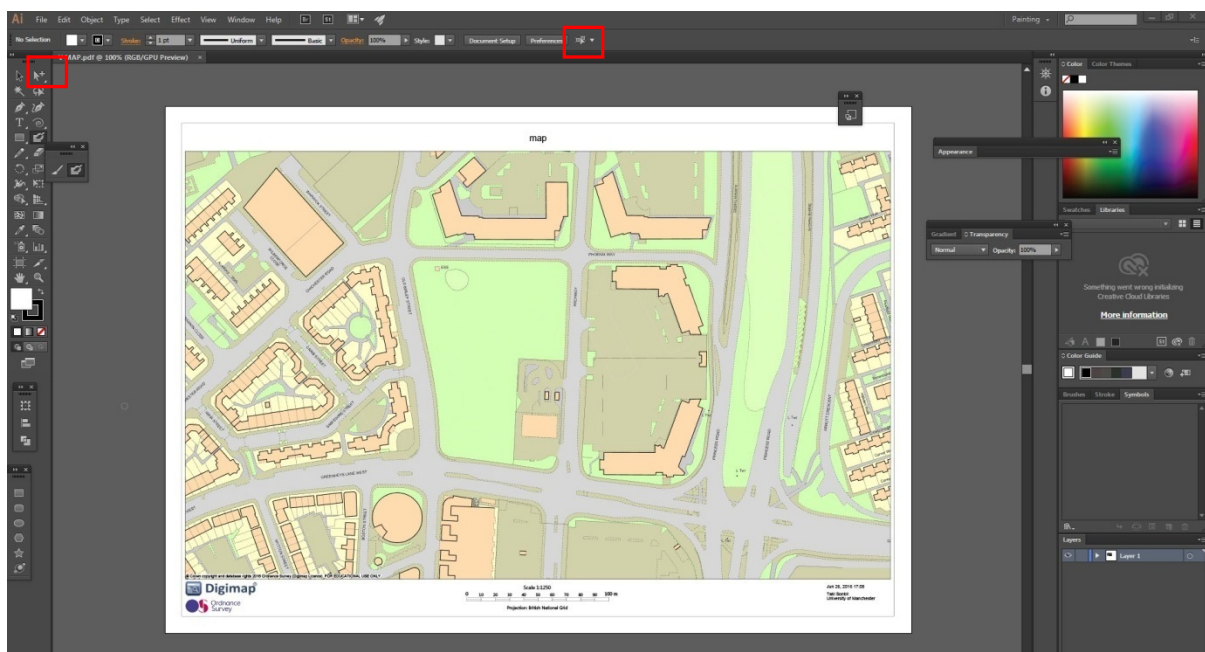
To create a figure ground by Adobe Illustrator, follow the following steps:

1-Open Adobe Illustrator

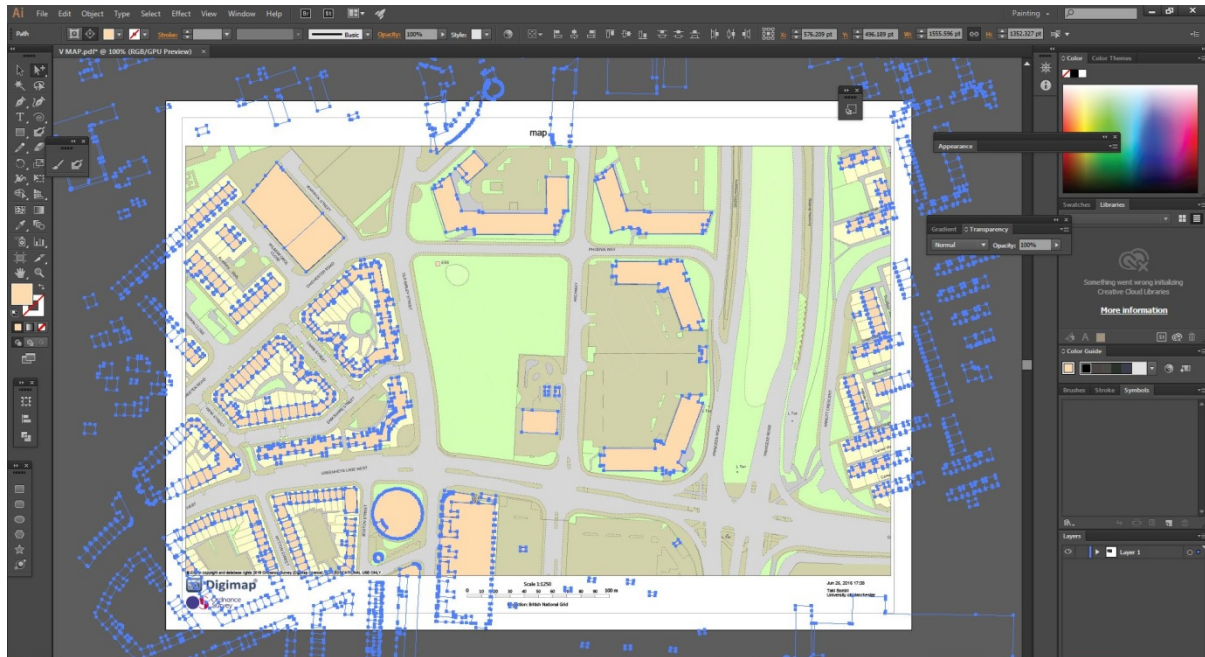
2-Drag your PDF basemap to illustrator working screen

3-Select the **Group Selection Tool**  or the **Direct Selection Tool** 

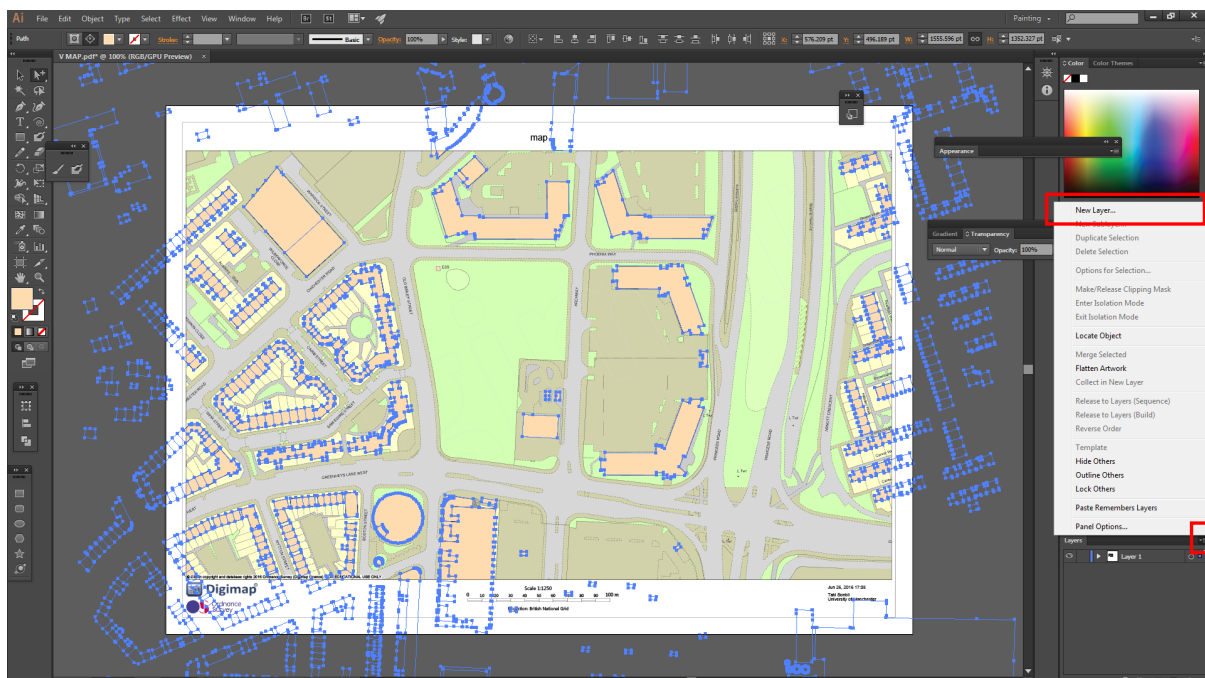
and make sure you click on **Select Similar Objects** from the action panel above. 



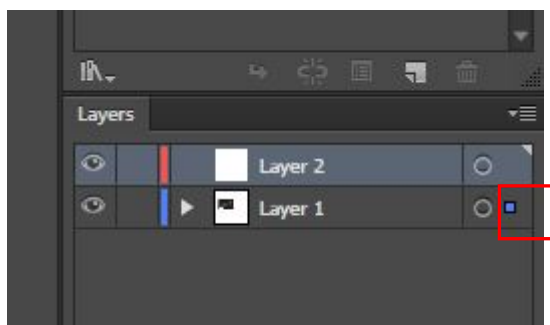
You should end up with this:



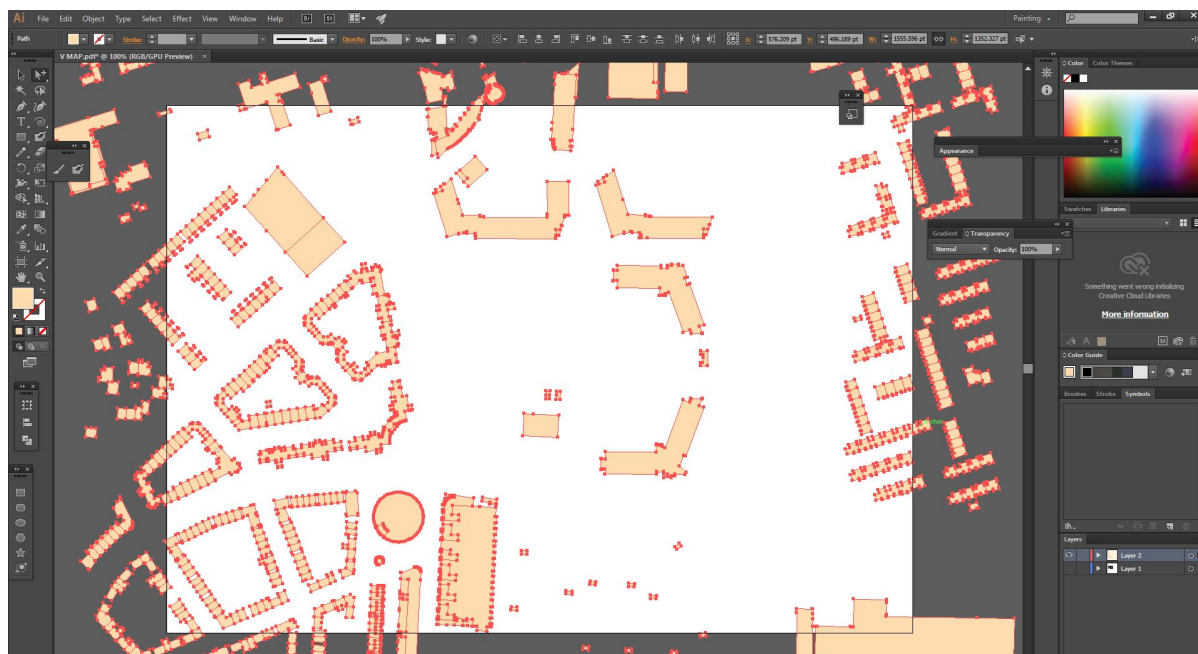
4- From the layers panel, create a new layer



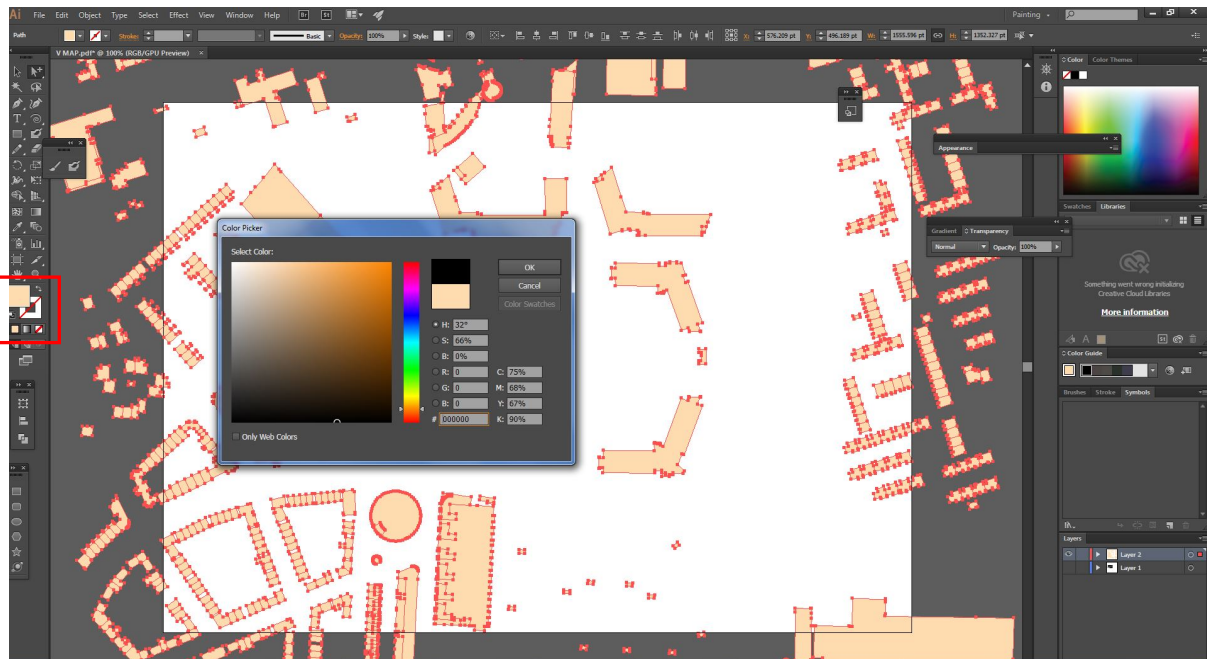
5- Hold **Alt** and drag the small blue square to the right of the original layer (**Indicates Selected Arts**) to the new layer. This will copy the selected objects to the new layer.



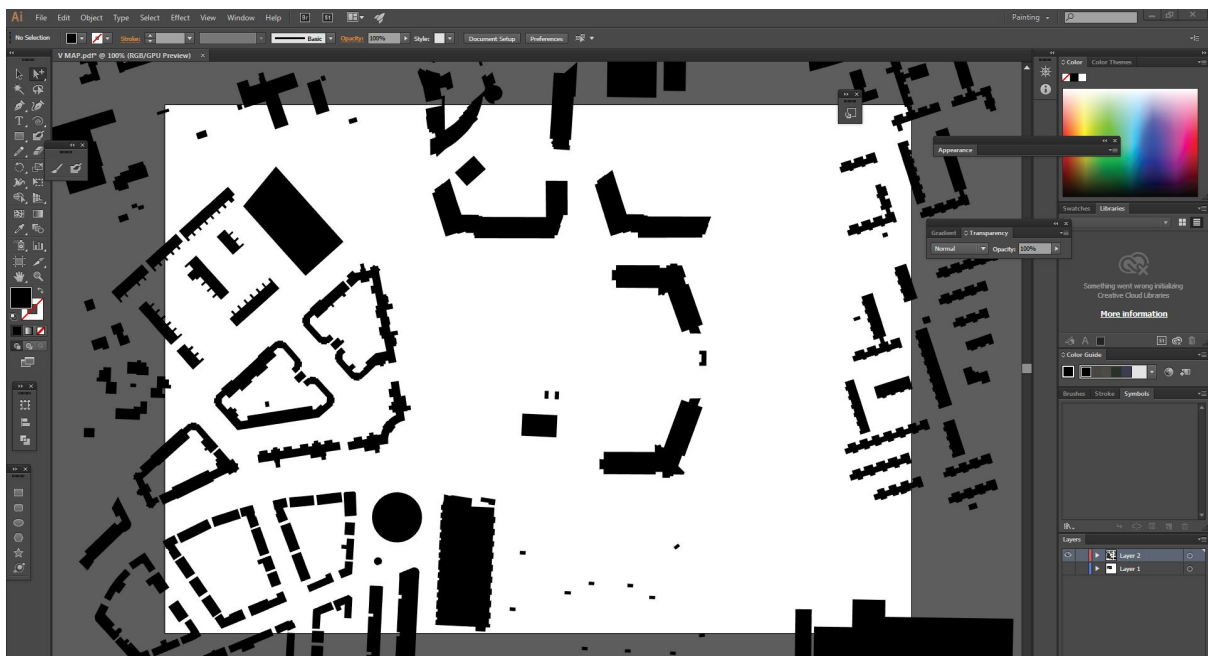
6- Turn off the original layer. You should end up with this:



7- Change the **Fill** colour to dark grey or black as below and hit OK.



You have created a figure ground. Give the figure ground a dark grey colour rather than black to make it more neutral as it will act as a basemap for many pieces of analysis.



8- Save your work: **File/Save as/PDF**

Notes:

Refer to **Adobe Illustrator** handout for a detailed review of the software and more exercises.

Refer to **Photoshop** handout to learn how to create a figure ground from a raster image with Photoshop.

