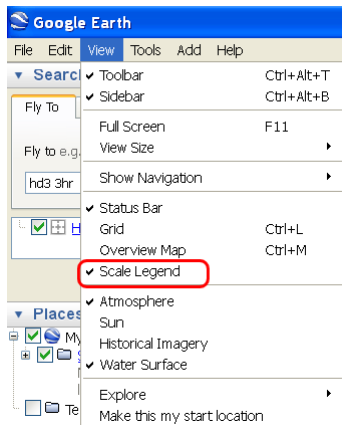# Google Earth Import with CONE10

Starting your TM drawing with road outlines

Starting a TM layout with a blank drawing can seem a daunting task, this tutorial describes the steps to take to load a satellite image of the area from Google Earth, scale it correctly and then trace outlines of the roads required.
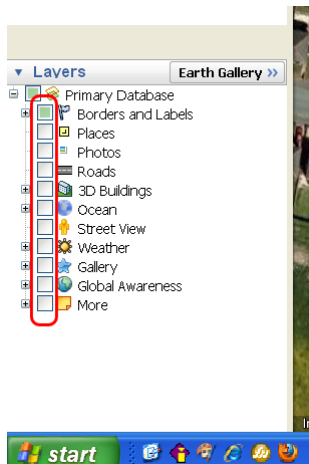
NOTE: we use Google earth for a variety of reasons, it IS NOT the same as using the website http://maps.google.co.uk in your internet browser.

First we need to check a few settings in your copy of Google Earth, this is a program that can be downloaded free from: http://earth.google.com/download-earth.html

1. check the scale bar is turned on, this is to enable us to scale the map correctly

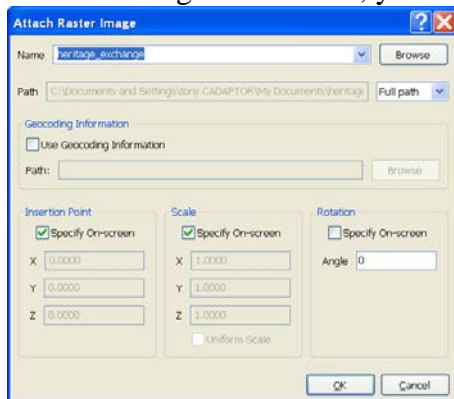2. Turn off all the unwanted overlay by un-checking the boxes:

3. After navigating to the area you wish to work in, save the screen using the option: File|Save|Save Image… then be sure to select save as type "jpeg Images (*.jpg)"

Inserting the Aerial Photo into CAD

Import the previously saved jpg format file using the menu option:
Insert|Attach Raster Image

After selecting the filename, you are prompted for position settings with the following dialog:

It is best to select the insertion point and scale checkboxes to "Specify On-screen" but ensure the rotation angle is set to 0 (zero).

Click the OK button at the bottom of the dialog & specify a position on-screen to insert the map, then, re-size the rectangle by dragging the cursor, then left clicking to place the raster photograph – it doesn't matter where as we're going to be re-scaling it and then you can decide its final position when it is the correct size.

Zoom into the bottom left corner of the raster image you have just inserted, and you will see the scale bar as shown below:

We now need to scale the map to its correct size. As with most operations in Bricscad, there is more than one way of calculating and scaling the drawing.

The following method has been added to CONE10 and works quickly and easily.
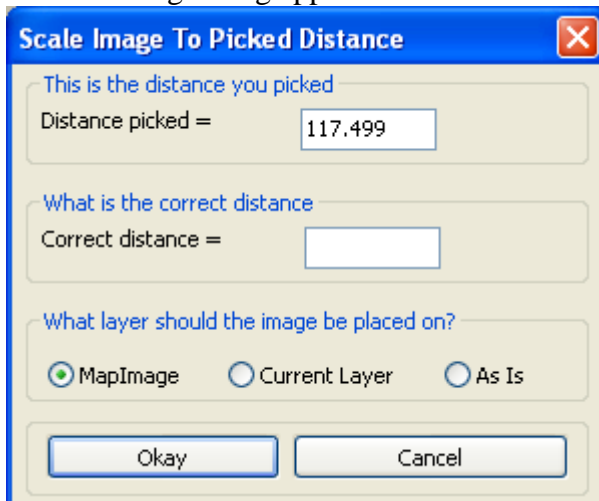
Scaling the Photograph to Actual Size

Select from the CONE10UK menu:
CONE10UK|Mapping Utilities|Scale Image To Picked Distance

The function will prompt you to "Select image to scale". Be sure to select the EDGE of the raster image on your drawing.

Next, you are asked to "Pick 2 points at each end of known distance on the image"
Select the "First point", then the "Second point".

The following dialog appears:

Enter the correct distance in the centre box, note this is the value shown on the annotated scale bar.

The final three radio buttons will change the drawing layer that the raster image is placed on

MapImage: CONE will create a new layer named "MapImage" and move the raster image to this layer. - use this option if you don't understand layers, or unless you want to handle layers yourself.
Current Layer: CONE will move the image to the current selected layer, regardless of the layer it is currently on.
As Is: CONE will leave the Raster Map Image on the layer it is on
– use this option if you have set up your own layers ad know what you are doing.

Selecting the "Okay" button will scale the image, and display in the command window the scale factor used.

You can now make measurements from the Raster image using the CAD menu option Tools|Inquiry|Distance:

CREATING LAYERS FOR KERBS

It is wise to draw the kerblines on their own layer, and separate layer to the Raster image for two reasons:
Drawing the Kerblines on a separate layer and using a bright colour enables you to see the kerbs as you trace them.
Having the Raster image on its own separate layer allows you to Freeze/Thaw the layer to hide the image and see just the kerb lines you have traced, without deleting the map.

DRAWING POLYLINES

Once you have the raster map scaled, you can quickly trace the kerblines using the Polyline tool. DO NOT use single segment lines – these cannot be smoothed later.

When tracing the kerbs, it is best to have the ESNAPs turned off (use the F3 key) and draw in a colour that contrasts with the raster map so is easy to see – e.g. magenta rather than black.

As you trace along straight(ish) kerblines, pick points say 5-10m apart this will ensure a smooth line.
As you get to corners and radius kerbs, select points closer together – maybe four to six points around a tight 90 degree curve. When you later "smooth" the polyline these close points will keep the curve near to the line you chose.

When tracing kerbs, if you are zoomed-in to see more detail, do not stop tracing at the edge of the screen, use the pan function (centre mouse button) to get to the next section to trace, and make one continuous polyline for each kerb.

FINAL - CHANGING LAYER DEFULTS

After tracing all the kerblines required, turn OFF the raster image layer by clicking on the layers pull-down list and toggling the SUN icon of the MapImage layer to be a snowflake. This freezes the layer and makes it invisible, note if this icon does not change, check that you do not have MapImage as the current layer, as it is impossible to FREEZE the current layer.

You can also change the colour of the traced kerbs – these should pick up their colour from the layer they are drawn on (colour setting as ByLayer), in the BricsCAD layer pull-down list, click on the colour swatch and select a new colour – mid to dark grey is a good compromise between visibility and contrast with your TM signs and labels.

It is also possible to smooth the traced kerblines, to prevent the tight corners looking like you drew round a 20 coin! Select the polyline you wish to smooth, then select Edit Polyline from either the right-click context sensitive menu, or the Modify|Edit Polyline pull-down menu item. From the Polyline Edit options menu, select **Spline** for a smoothed curve, or **Decurve** to put it back to straight segments