

## How to get a properly scaled background map image in EPANet

Note: The background map must have a scale included.

1. Using some method, save the background map image as a \*.bmp, \*.wmf, or \*.emf file.
2. Open a new project in EPANet. Set the Auto-Length option to On (Project menu – Defaults... -- Properties Tab, or you can right-click in the lower left corner).
3. Add the background map image you just saved to the project (View menu – Backdrop – Load...).
4. Zoom in to the map scale, and place 2 nodes at some convenient distance apart using the scale. Then, connect the nodes with a pipe, and check the pipe's length.
5. If the pipe length as determined by EPANet's Auto-Length function does not match the length according to the map scale do the following steps.
6. Determine the re-scaling factor necessary as the pipe length expected from the map scale divided by the length generated from Auto-Length. For example, if you placed 2 nodes exactly 1 mile apart using the map scale, and the subsequent pipe's length was 638 ft, the map needs to be re-scaled by  $5280 \text{ ft}/638 \text{ ft} = 8.28$ .
7. To re-scale the map, go to View – Dimensions... The default  $x$  and  $y$  coordinates for the lower left corner should be (0, 0) and for the upper right corner should be (10000, 10000). Multiply both coordinates of the upper right corner by your re-scaling factor. In the example from above, the new coordinates would be (82800, 82800). Also, go ahead and set the map units just below on the pop-up.
8. Try another pipe along the map scale and verify that Auto-Length determines the correct length.