

The background features a blue horizontal band across the middle. Above and below this band is a grey, semi-transparent mesh structure that resembles a complex, organic form, possibly a stylized skull or a modern architectural facade. The mesh is composed of many small, interconnected polygons.

Autodesk FormIt – Serious Conceptual Design and Analysis

Simon Whitbread

Premium Account Support Specialist BIM, Revit

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Agenda

- Introduction
- Tour of the interface
- Setting Location
- Importing... Stuff
- Modelling Tools
- What you need for Analysis
- Insight 360

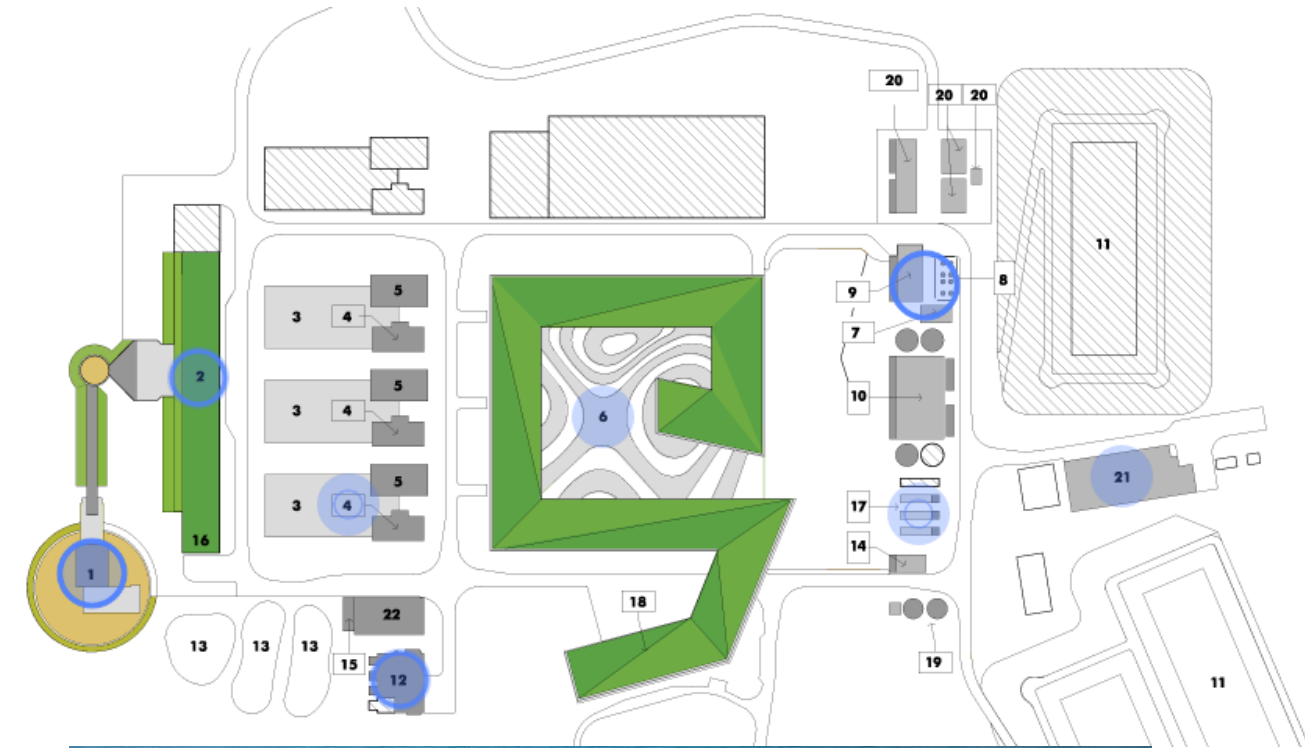
Introduction: Simon Whitbread

- Revit and BIM specialist for Enterprise customers at Autodesk
- Over 30 years' experience in Building Services & Architectural industries
- Previously with JASMAX Architects & BECA Consulting Engineers, New Zealand
- Revit User, Implementation Specialist, Teacher: Revit (all flavours)
- Author: Mastering Revit MEP 2011 – 2016, Learning Autodesk Revit MEP 2012 - 2014
- Speaker: AU. 2009-12, 2015, RTC Australasia, North America, Europe

Notable Projects



- Desal Plant, Wonthaggi, Melbourne
- Revit Architecture, Structure & MEP 2010
 - 29 Buildings
 - 6 discipline models per building (minimum)
 - Plant modelled in PDMS, linked to Revit via 3D DWG
 - Daily Coordination review in Navisworks
 - Completed and commissioned Dec 2012
 - Output 150Gl / pa (First publicly available water released March 2017)
 - Value: AUD\$3.5b (£1.8b / €2.4b)
- Reverse Osmosis (RO) Building
 - 170m x 170m x 40m
 - Approx. 6000 Sprinkler heads
 - Green roof supporting 100,000 plants
 - 20+ Revit Models
- Documentation
 - Drawing lists from combined site schedule
 - PDF's issued through Projectwise



Notable Projects

- Vodafone, Auckland
 - Pilot project already delivered in AutoCAD / 3DS
 - Models produced in:
 - Revit
 - AutoCAD Architectural Desktop
 - Microstation
 - Vectorworks
 - ArchiCAD
- NZI, Auckland
 - Revit Manager acting as support for design staff
 - Model produced in Revit 8.0

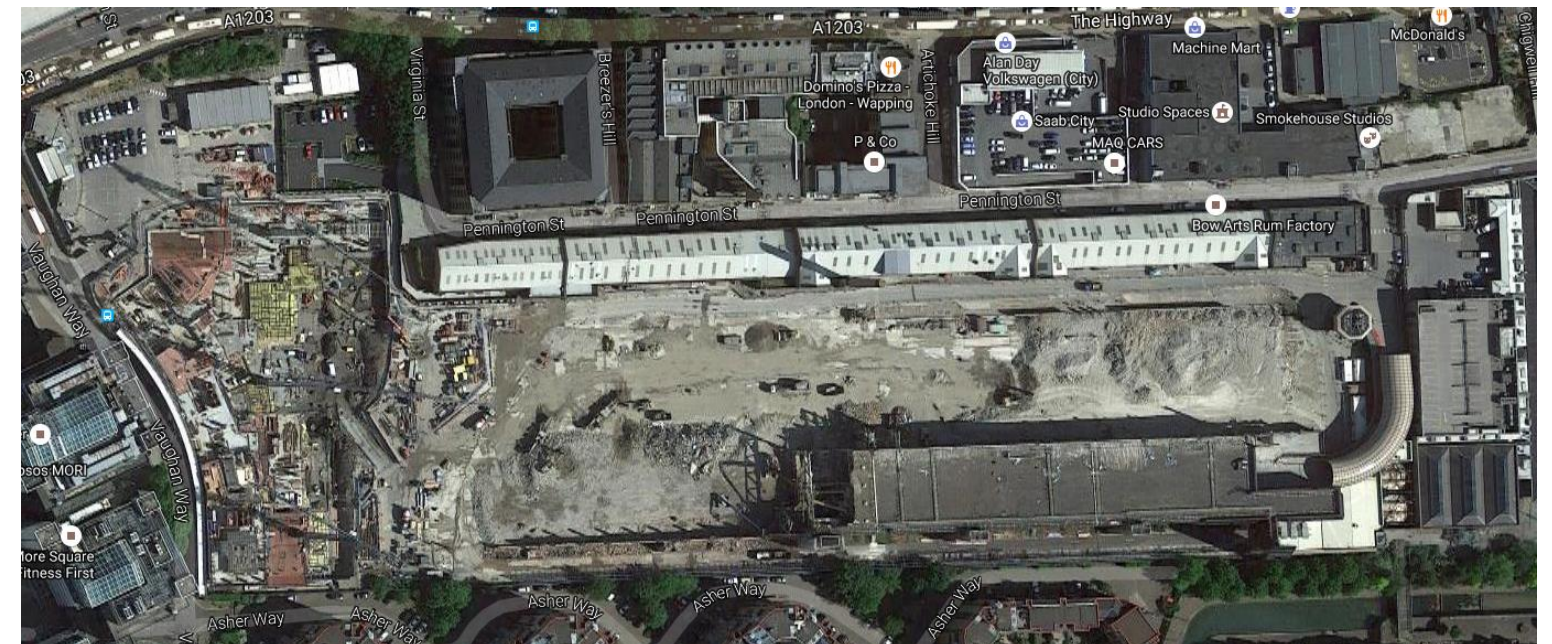


Notable Projects

- ‘Fortress Wapping’

- Mix of:
 - Manual coordinated drafting
 - 2D CAD AutoCAD r10
 - 3D Modelling Sonata
- Biggest issue: HV Cabling and Containment
 1. Design drawing signoff by customer
 2. Construction drawing signoff by customer
 3. Construction
 4. Customer condemns construction (doesn't like the installation)
 5. Demolish
 6. Start back at 1.
- Now its gone...

Balfour Kilpatrick

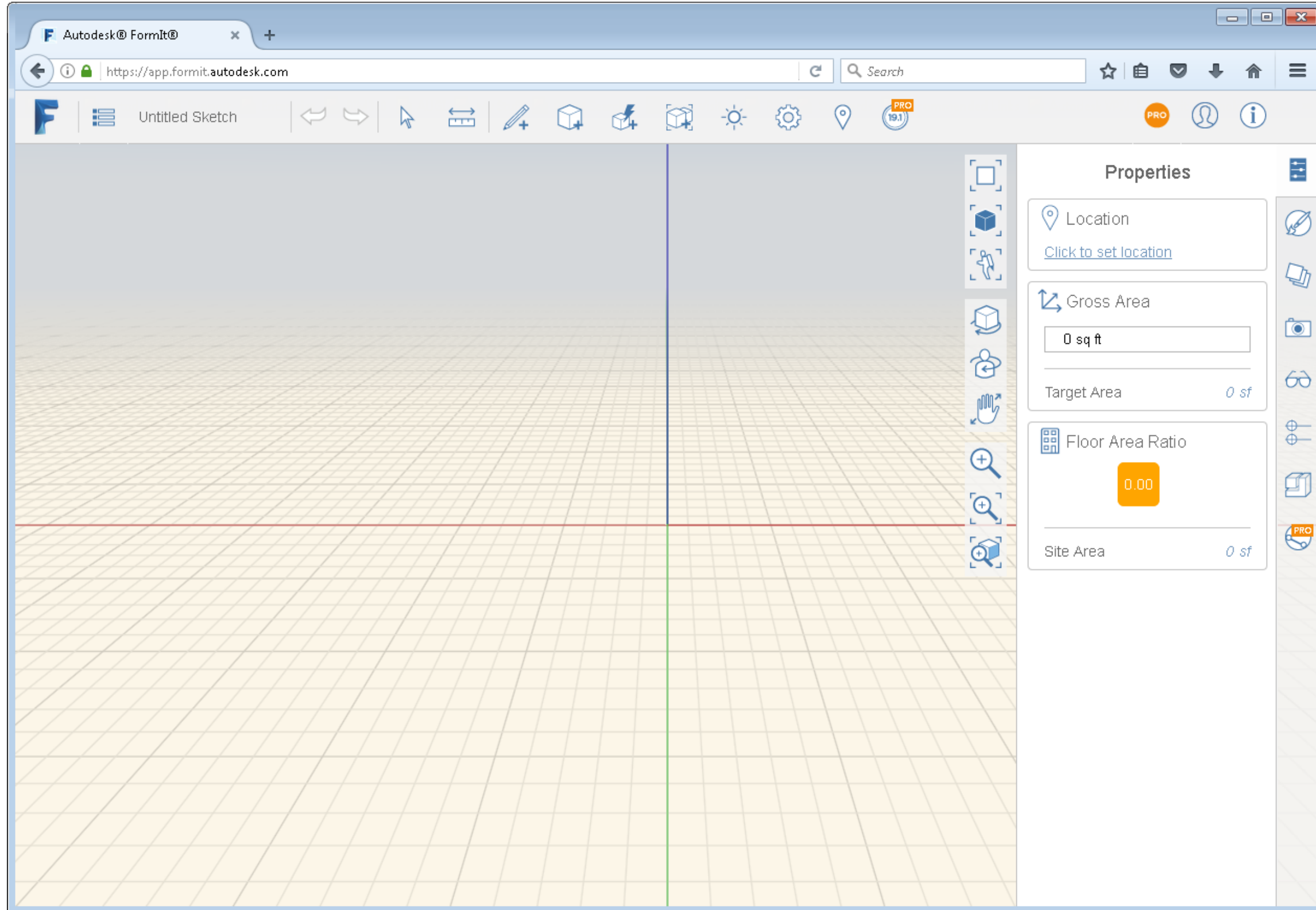


I am NOT an Architect

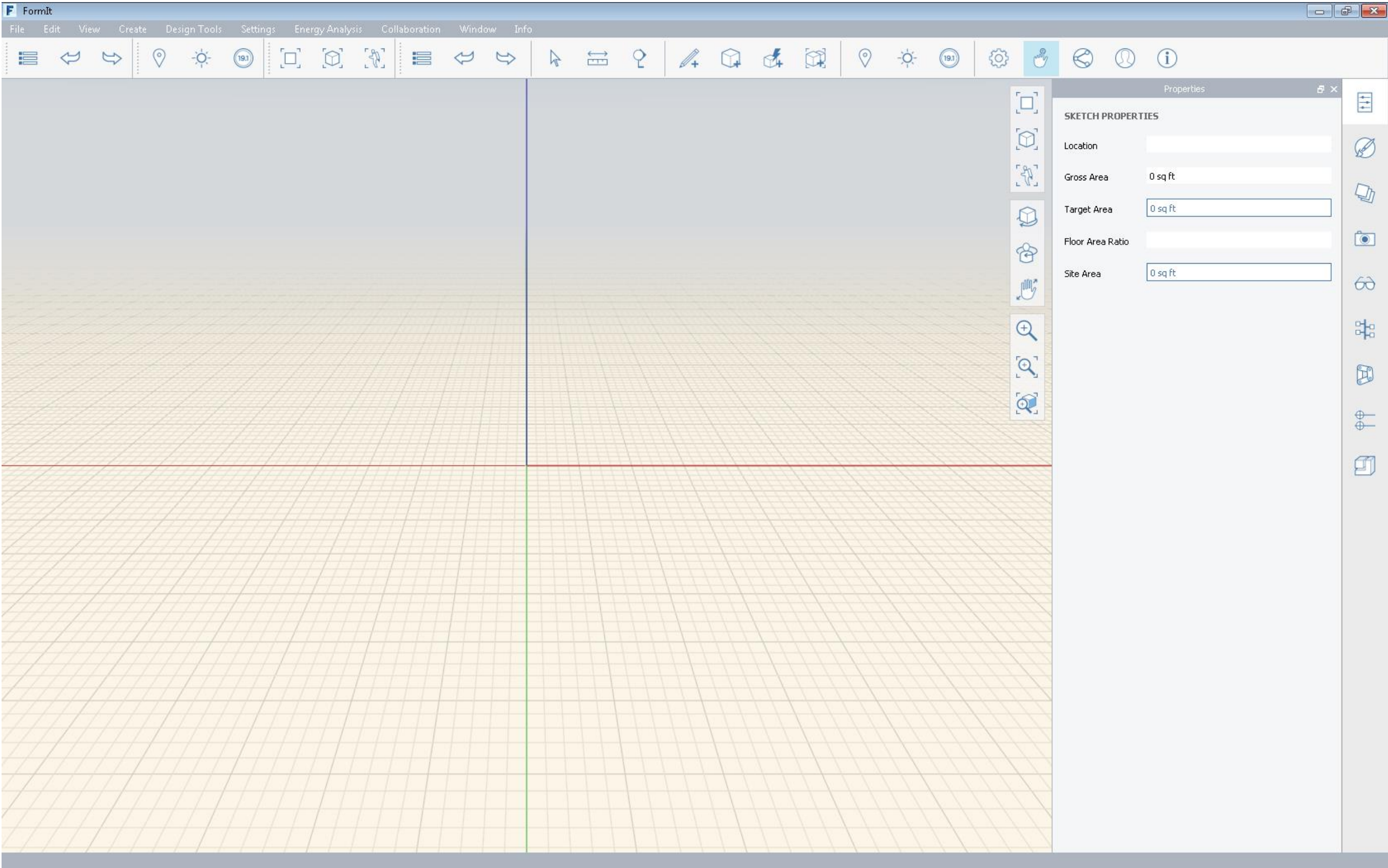
The background of the slide is a complex, abstract wireframe mesh. It consists of a dense network of thin, grey lines that form a series of interconnected, flowing shapes. These shapes resemble organic, cellular structures or perhaps a stylized representation of a complex surface like a sphere or a torus. The mesh is more densely packed in some areas and more sparse in others, creating a sense of depth and movement. The overall color palette is a mix of light greys and off-whites, giving it a clean, technical feel.

The Task: Build a Conceptual Analytical model in
Autodesk FormIt

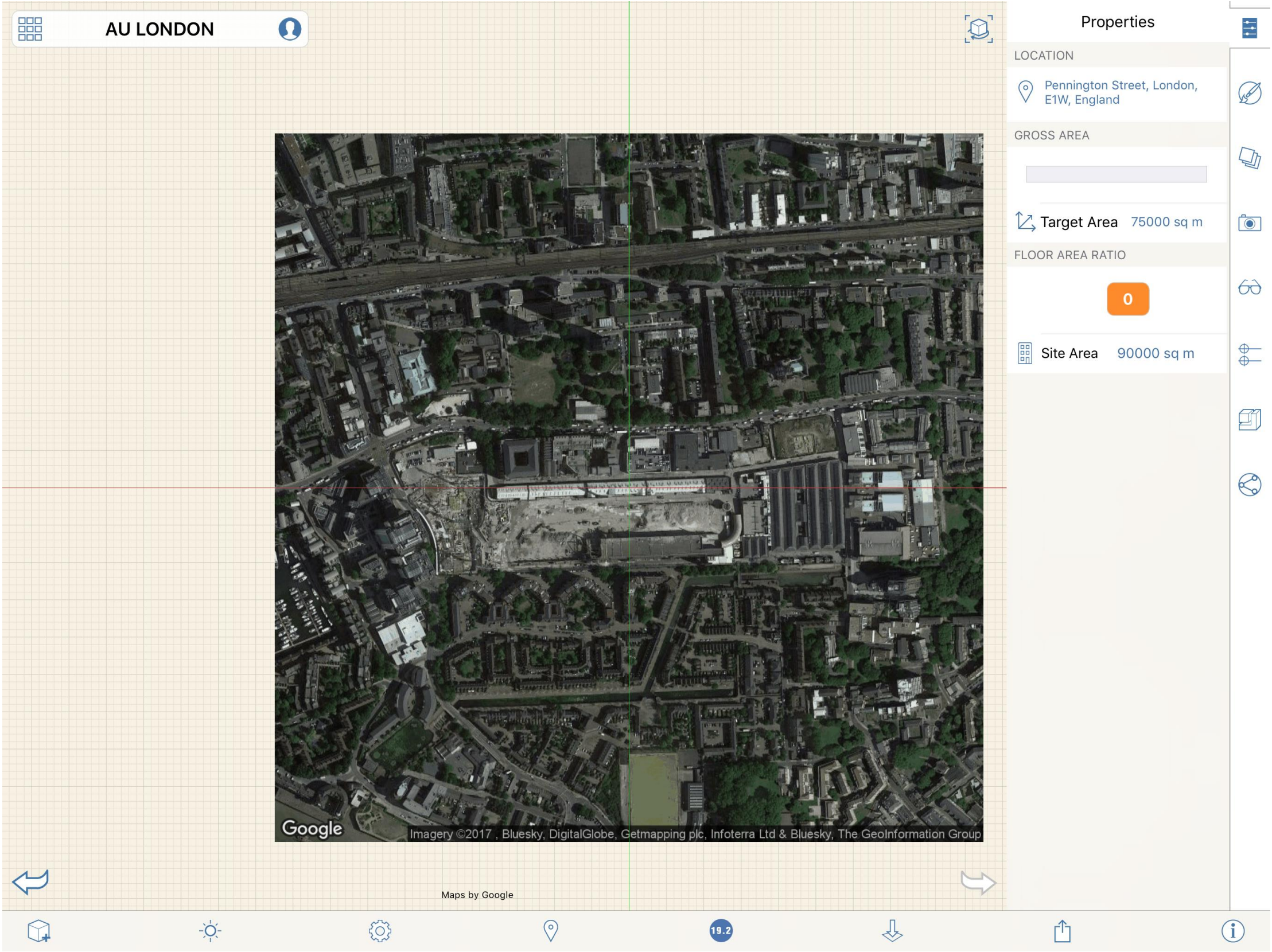
Tour of the interface - Web



Tour of the interface - Windows

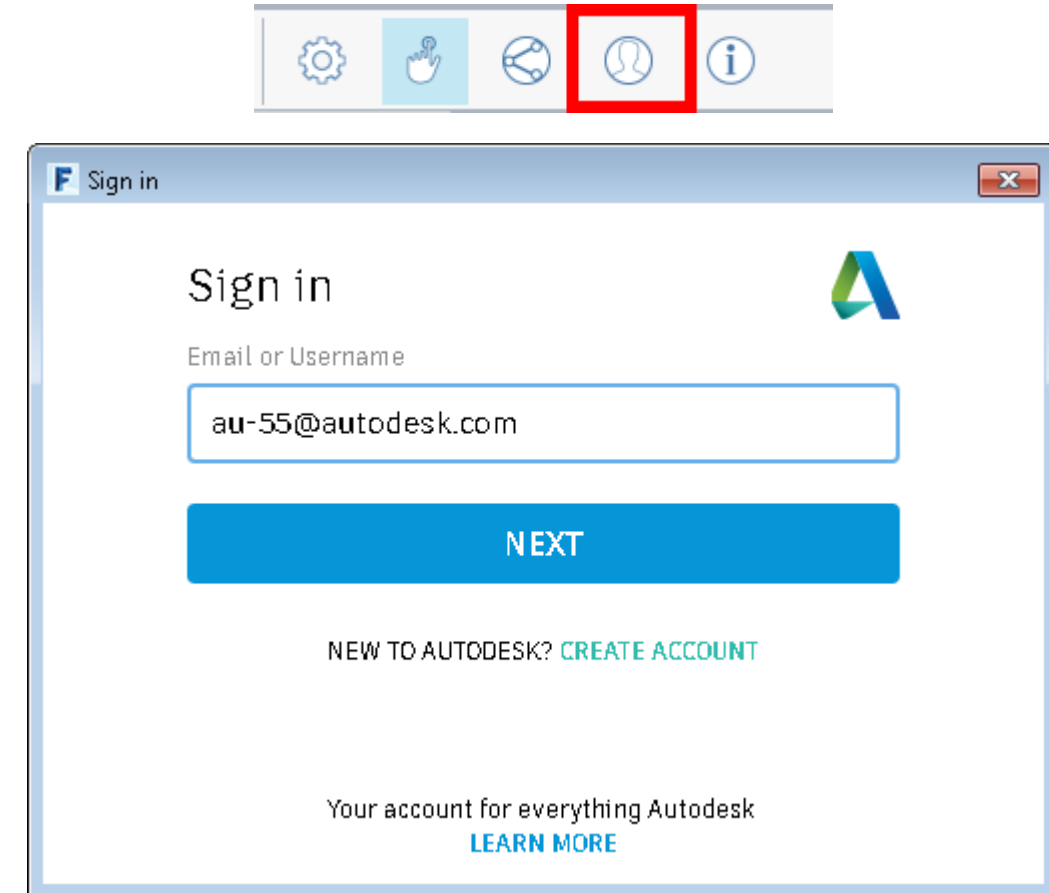


Tour of the interface - iPad



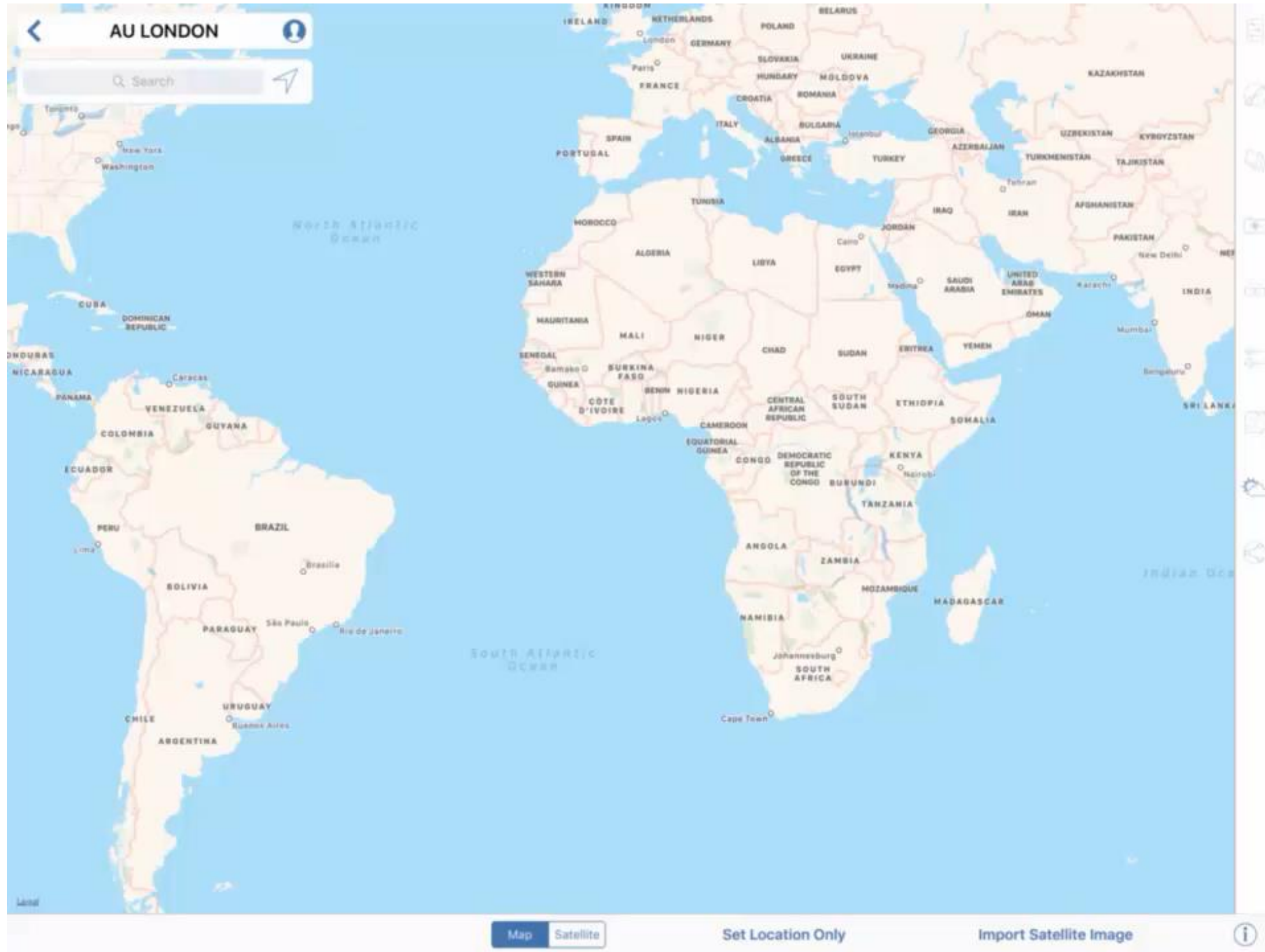
Sign in

- Sign in to Autodesk account using the id provided – You'll need it for the Pro features and Insight360



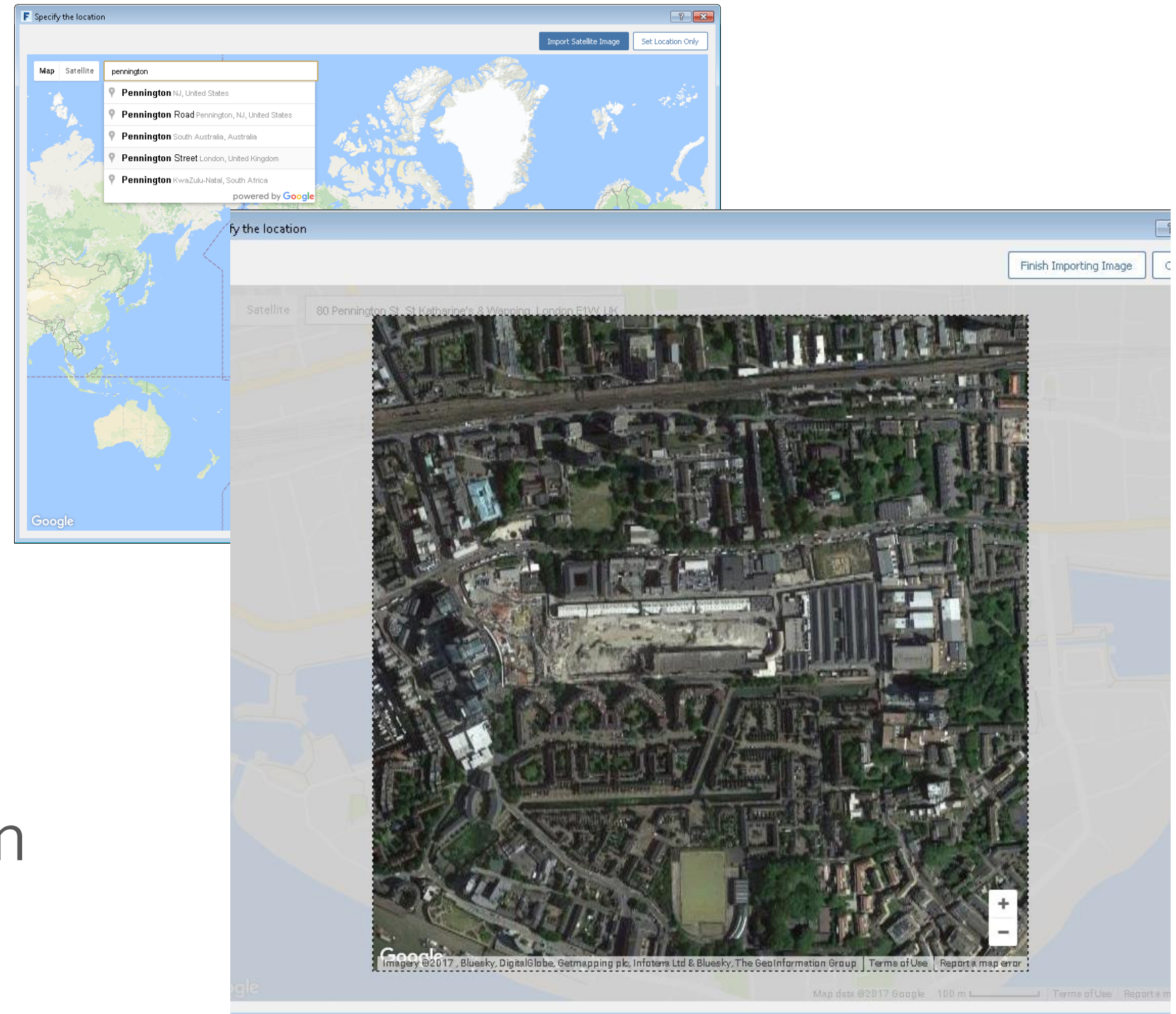
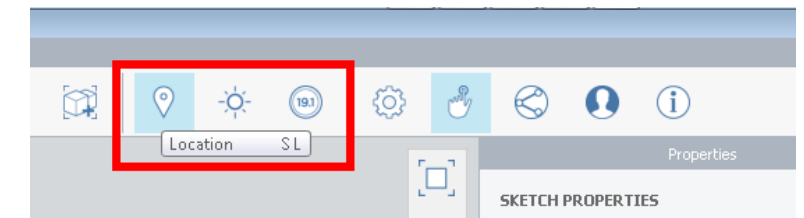
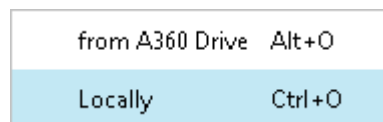
The image shows a software interface with a top navigation bar containing five icons: a gear, a hand, a network, a person, and an information icon. The person icon is highlighted with a red square. Below this is a 'Sign in' dialog box. The dialog box has a title bar with a close button. Inside, it says 'Sign in' with the Autodesk logo. Below that is a label 'Email or Username' and a text input field containing 'au-55@autodesk.com'. A blue 'NEXT' button is below the input field. At the bottom, it says 'NEW TO AUTODESK? [CREATE ACCOUNT](#)' and 'Your account for everything Autodesk' with a [LEARN MORE](#) link.

Set the Location

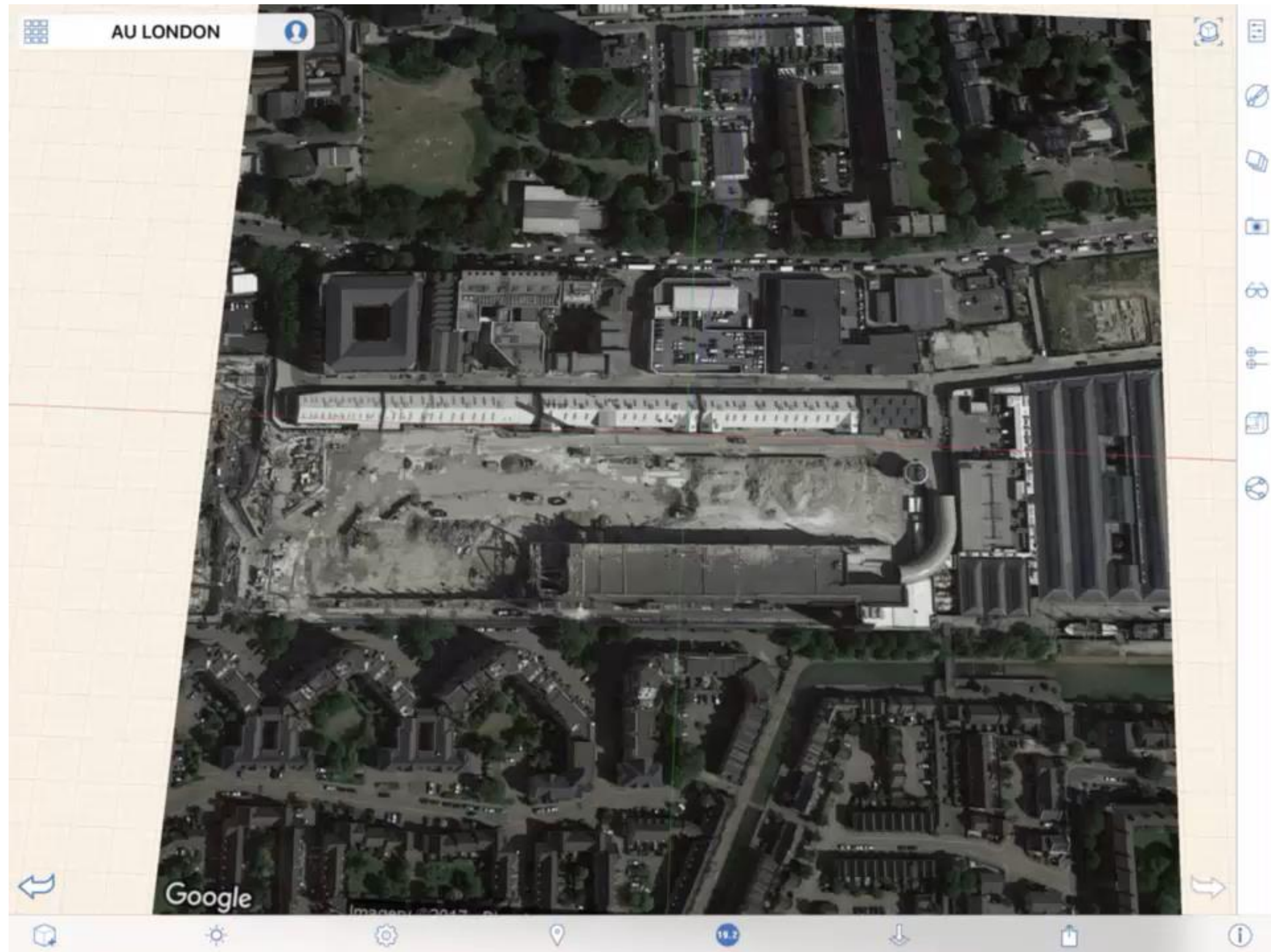


Set the Location

- Start typing the address: Pennington Street, London
- Then click on Import Satellite Image and zoom until you get something similar to this:
- Or open locally, file “AU London 01.axm”

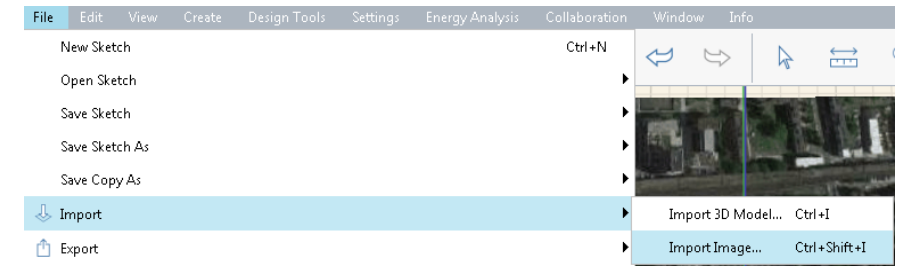
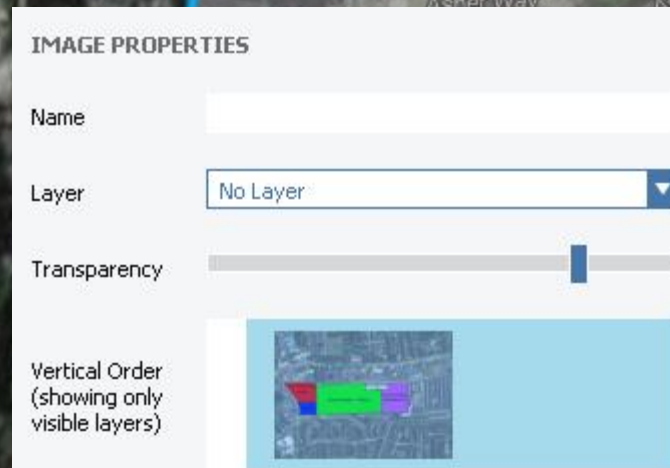
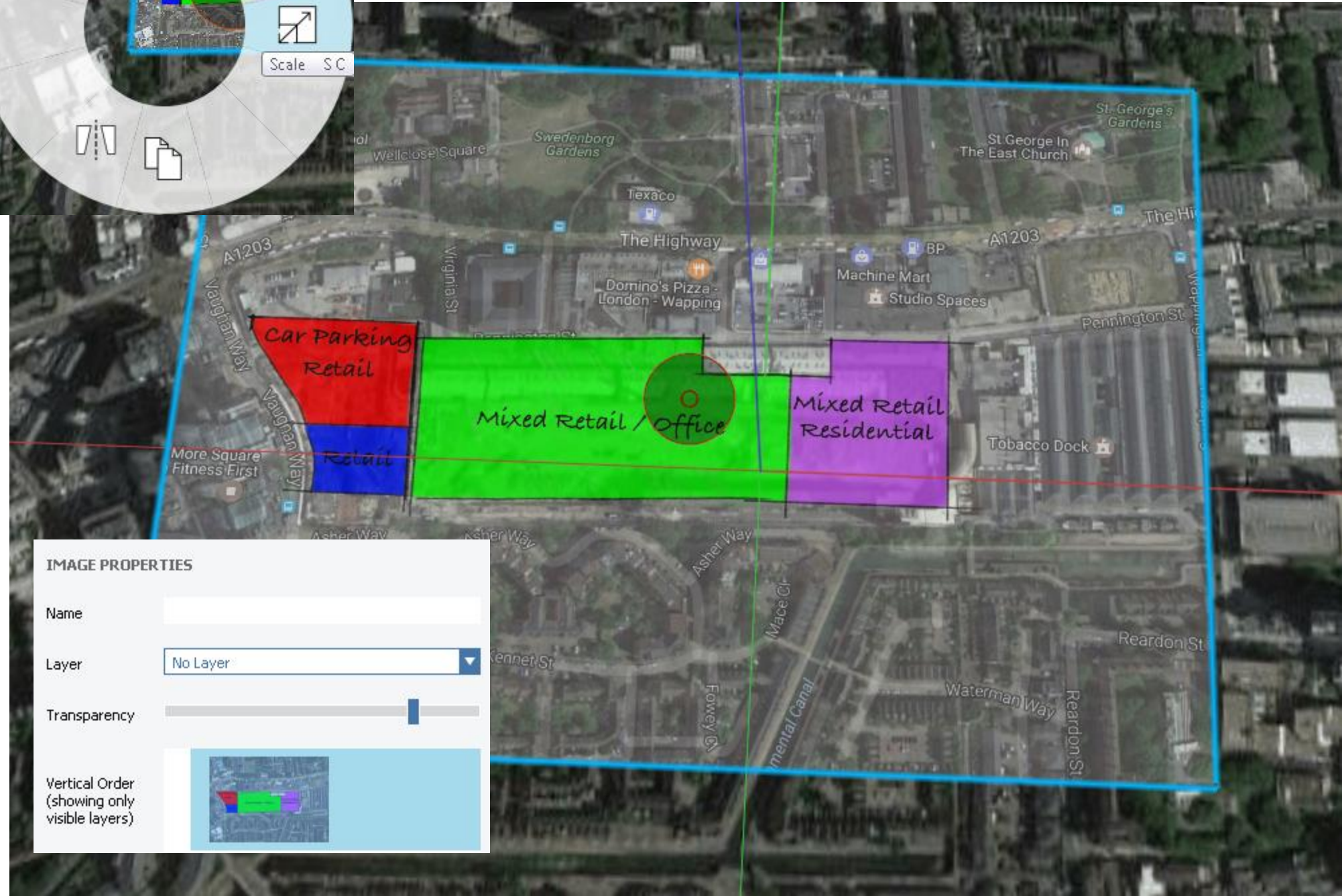


Import Artwork



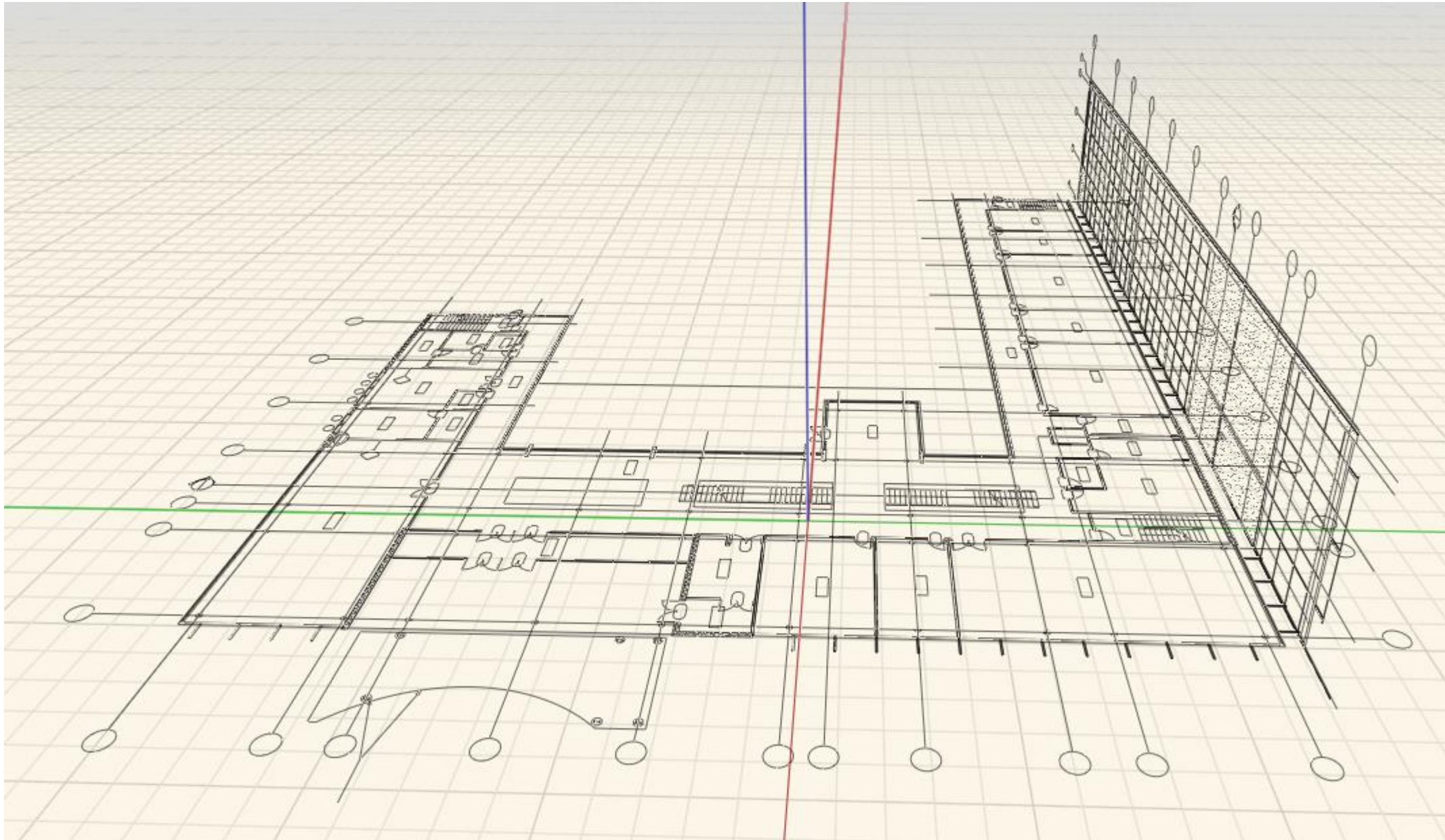
Import Artwork

- Import the image
“FullsizeRender.jpg”
- ‘Right mouse click’ and
select Scale:
- Scale and move the
image until it fits
the scheme
- Use the transparency
slider as a guide
- Or open locally, file
“AU London 02.axm”

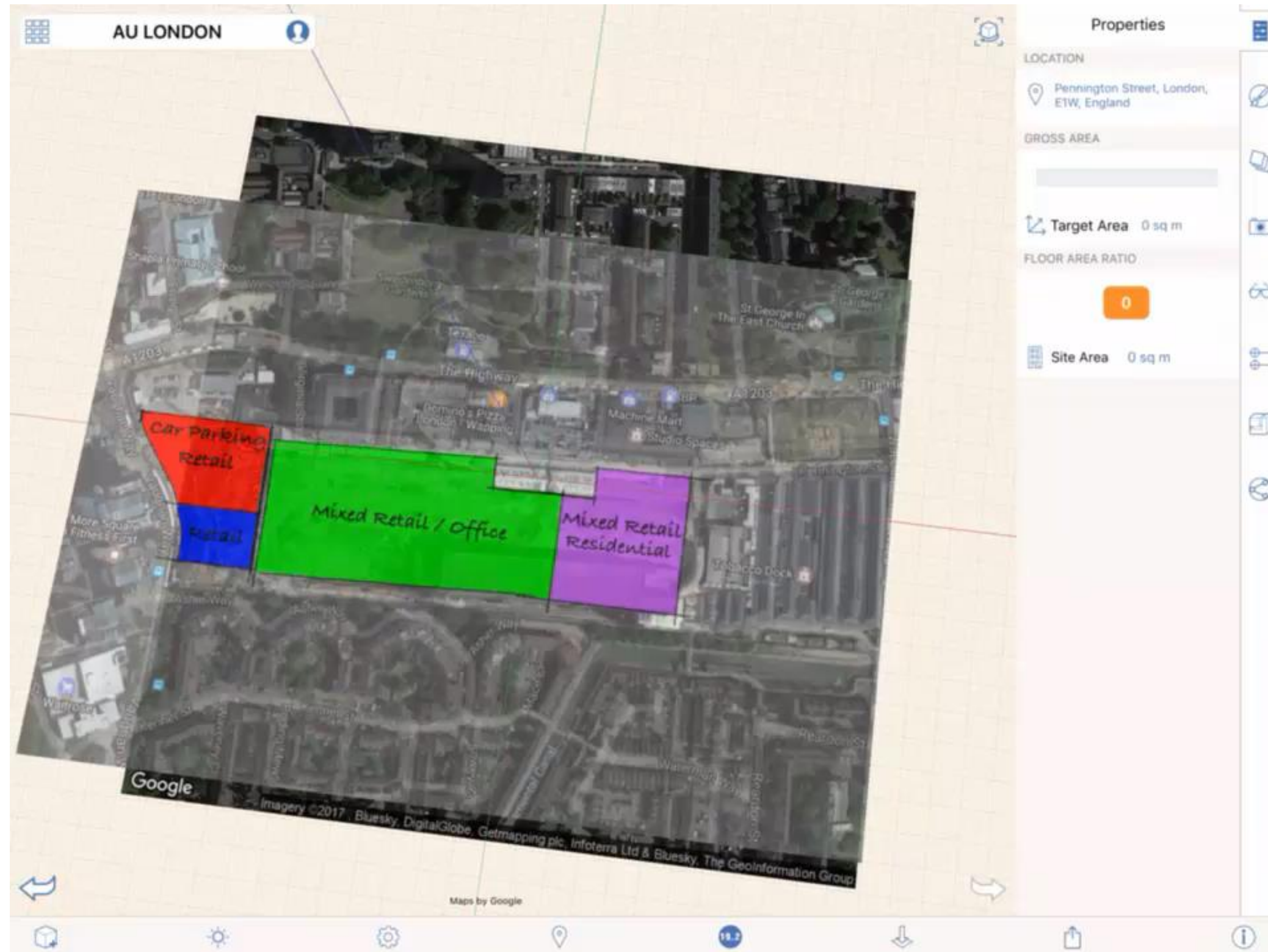


Import – for another session

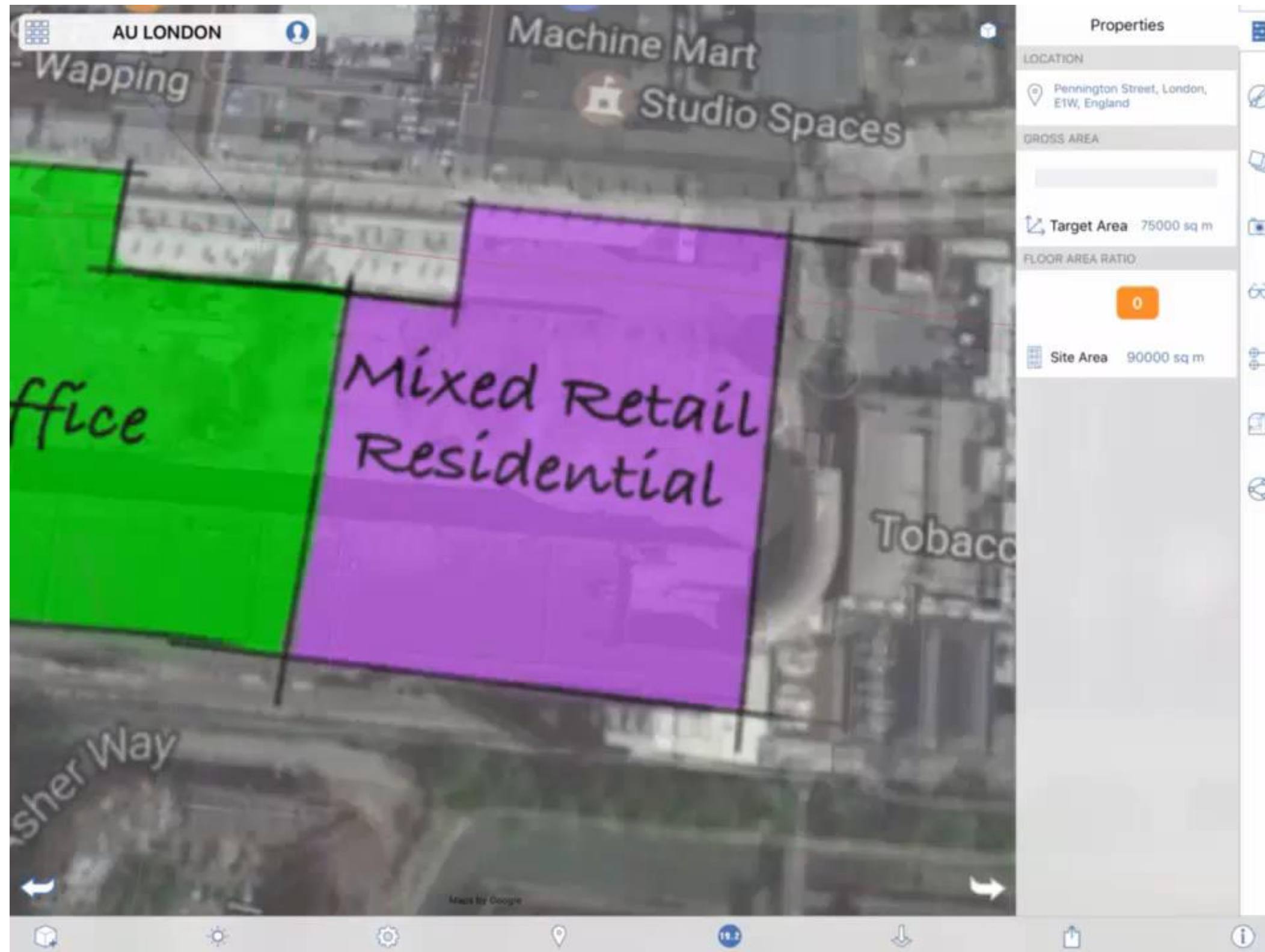
- New to FormIt: Importing DWG's – Just Sayin' !!



Set Targets for Site and Gross Floor Areas

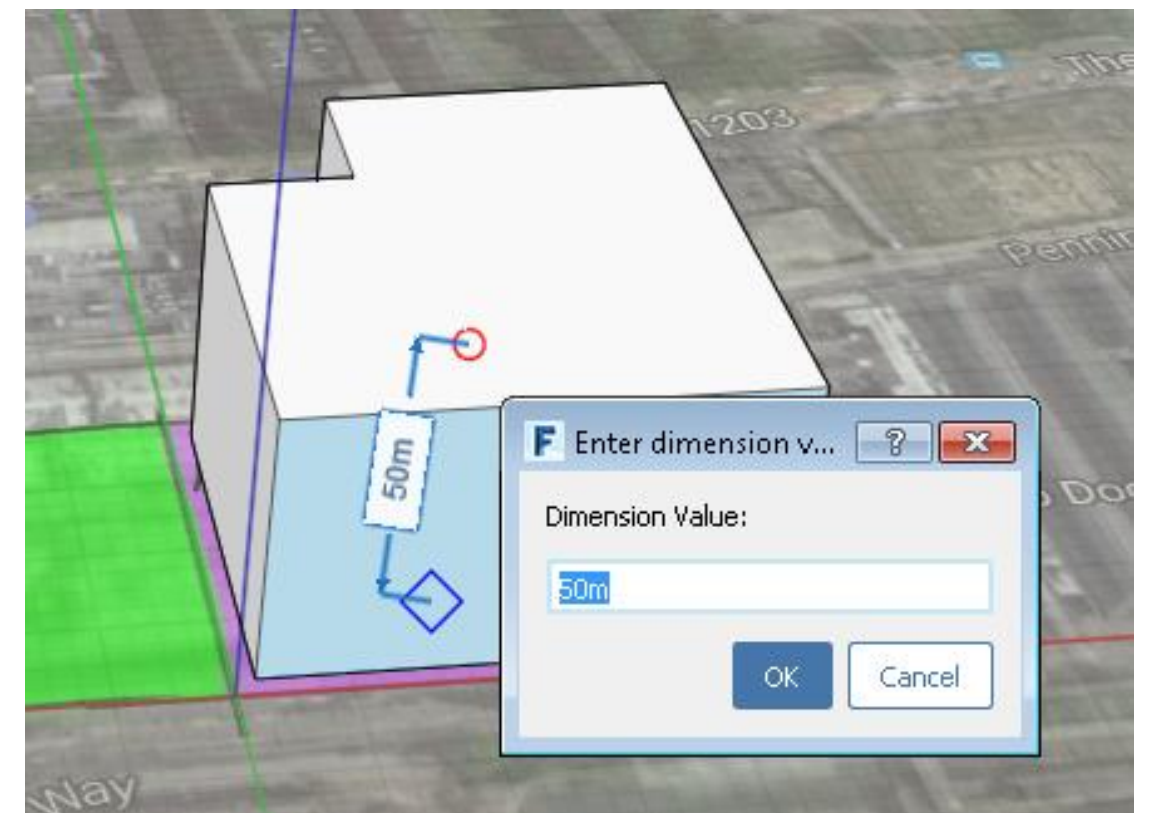
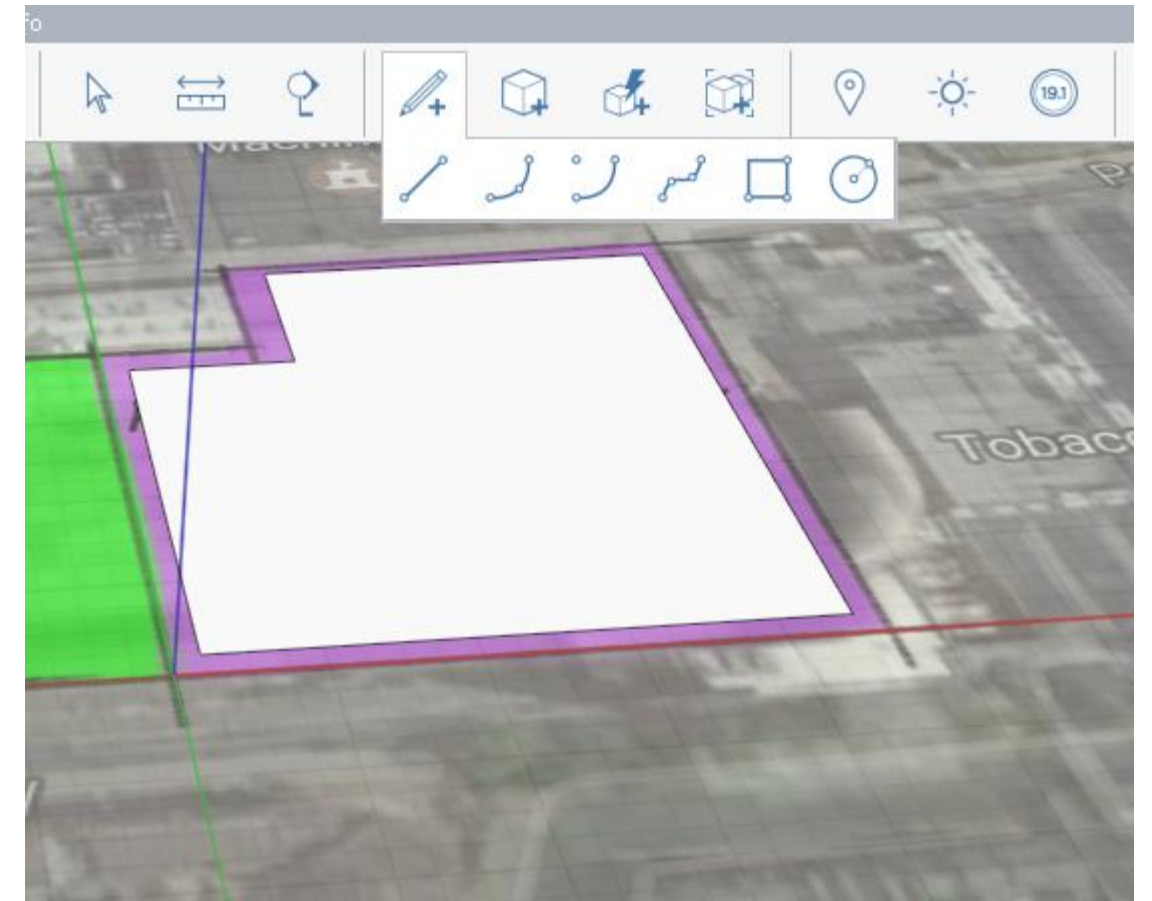


Start Modelling



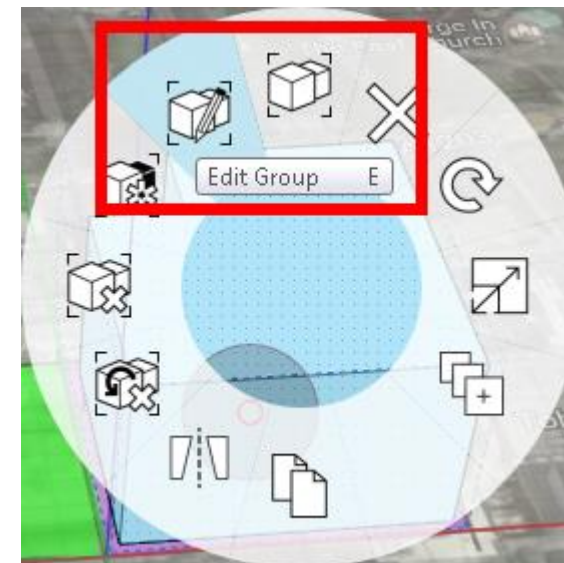
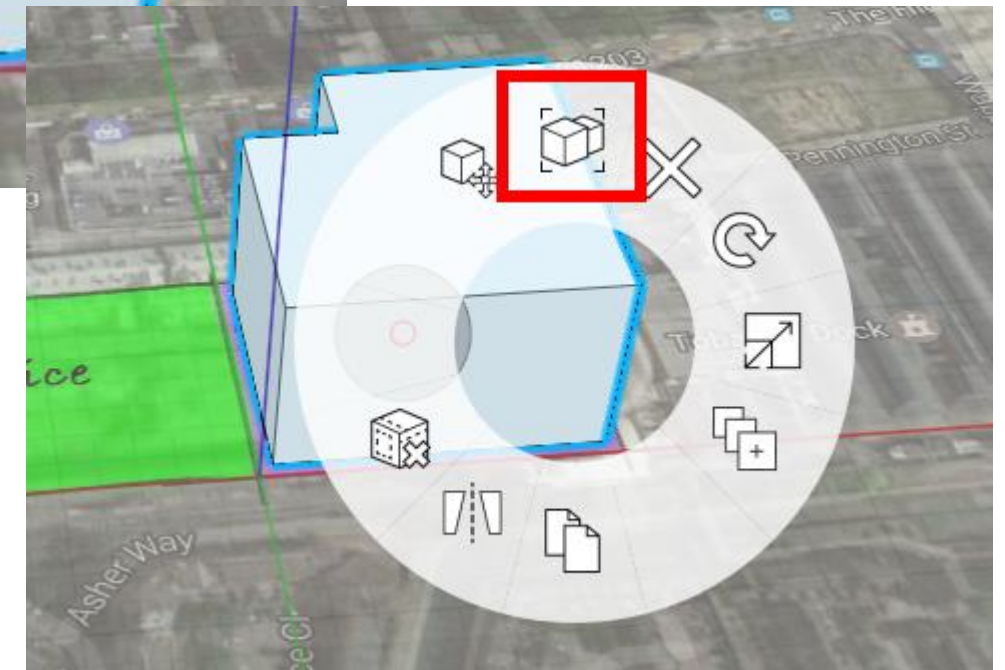
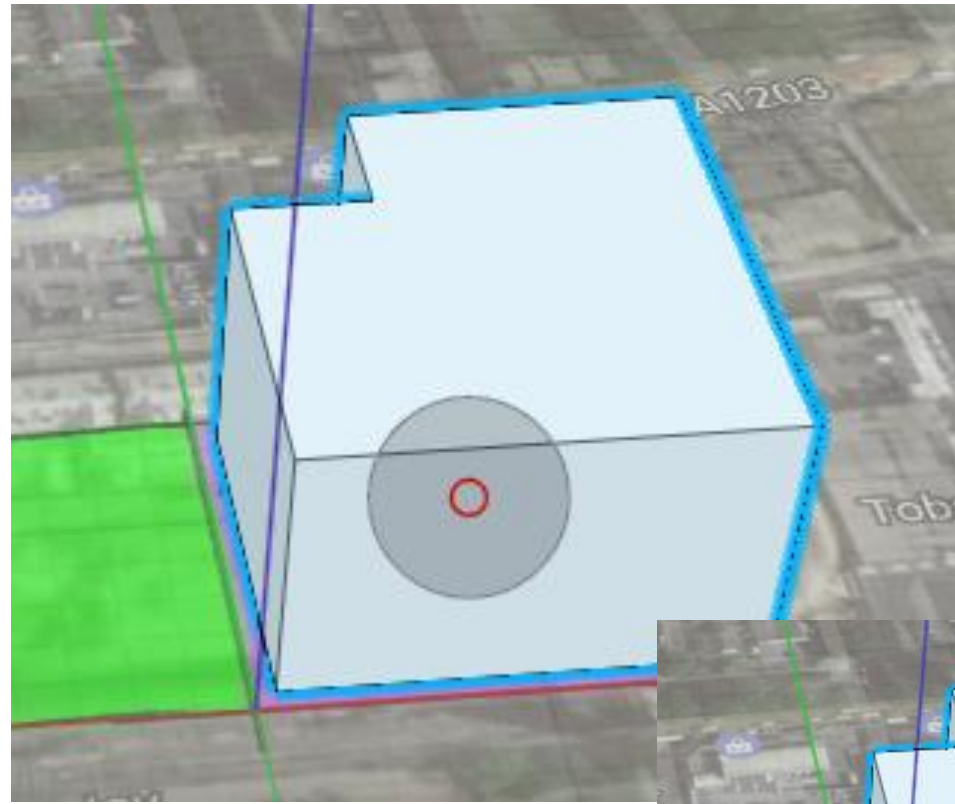
Start Modelling

- Use a combination of the modelling tools to first define the building footprint
- Then use the push/pull tool to drag the building height




Group

- Double click to select the form
- Right Mouse Click (RMC) and select Group
- Grouping is important if you want to take this through to Revit as a Mass with Mass floors
- RMC to Edit Group for naming



Group Name

- With the Group appropriately named
- Finish group editing 
- You can now define levels for the building
- And if necessary, add single or multiple levels with the level tool

Properties

INSTANCE PROPERTIES

Name

Group

Material

Layer

Volume

Area by Level ☐ Use levels

Properties

GROUP PROPERTIES

Name

Category

Name your Group, then set the category for the group. When you convert this file to Revit, this FormIt group will become a Revit family of the specified category.

Mass groups can't be nested in a non-mass group.

Area by Level 37,979 sq m

☒ Use levels

☒ Check All

☒ Level 5 7,595.76 sq m 14m

☒ Level 4 7,595.76 sq m 10.5m

☒ Level 3 7,595.76 sq m 7m

☒ Level 2 7,595.76 sq m 3.5m

☒ Level 1 7,595.76 sq m 0m

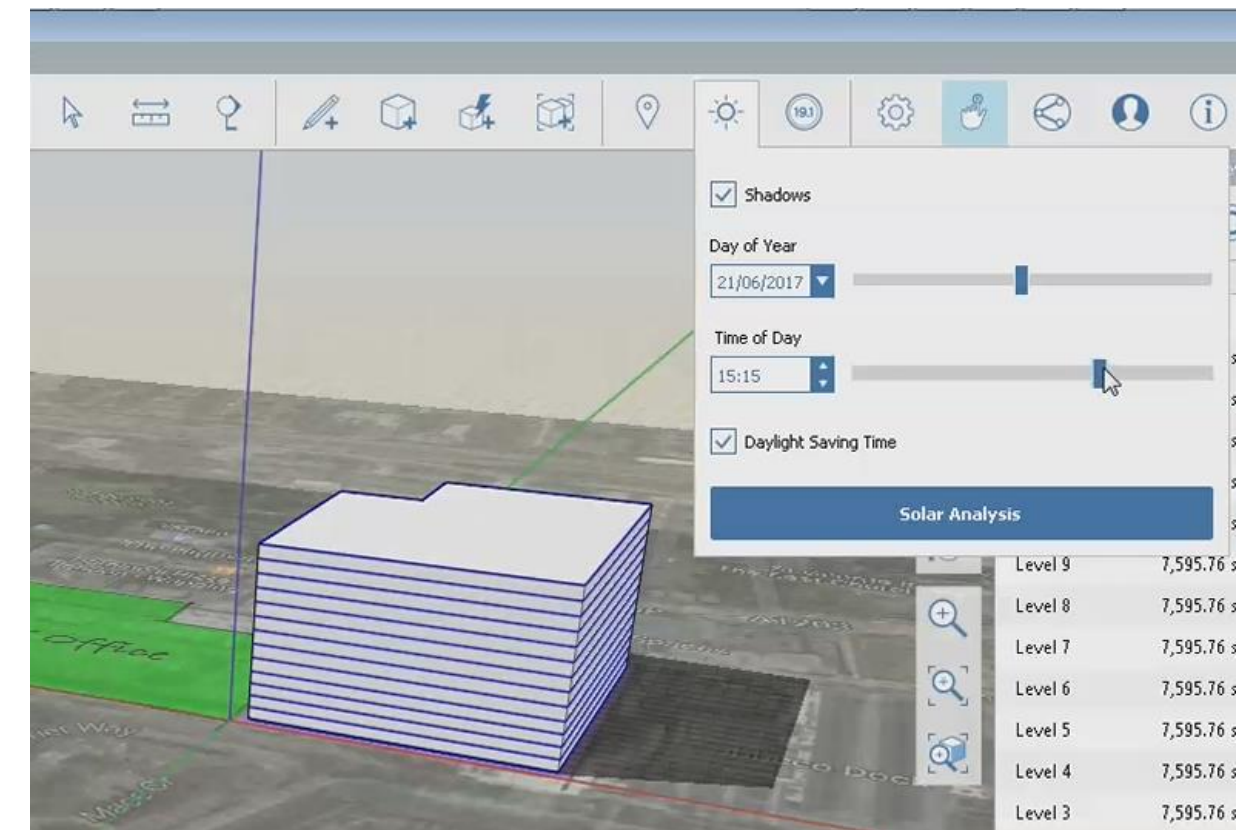
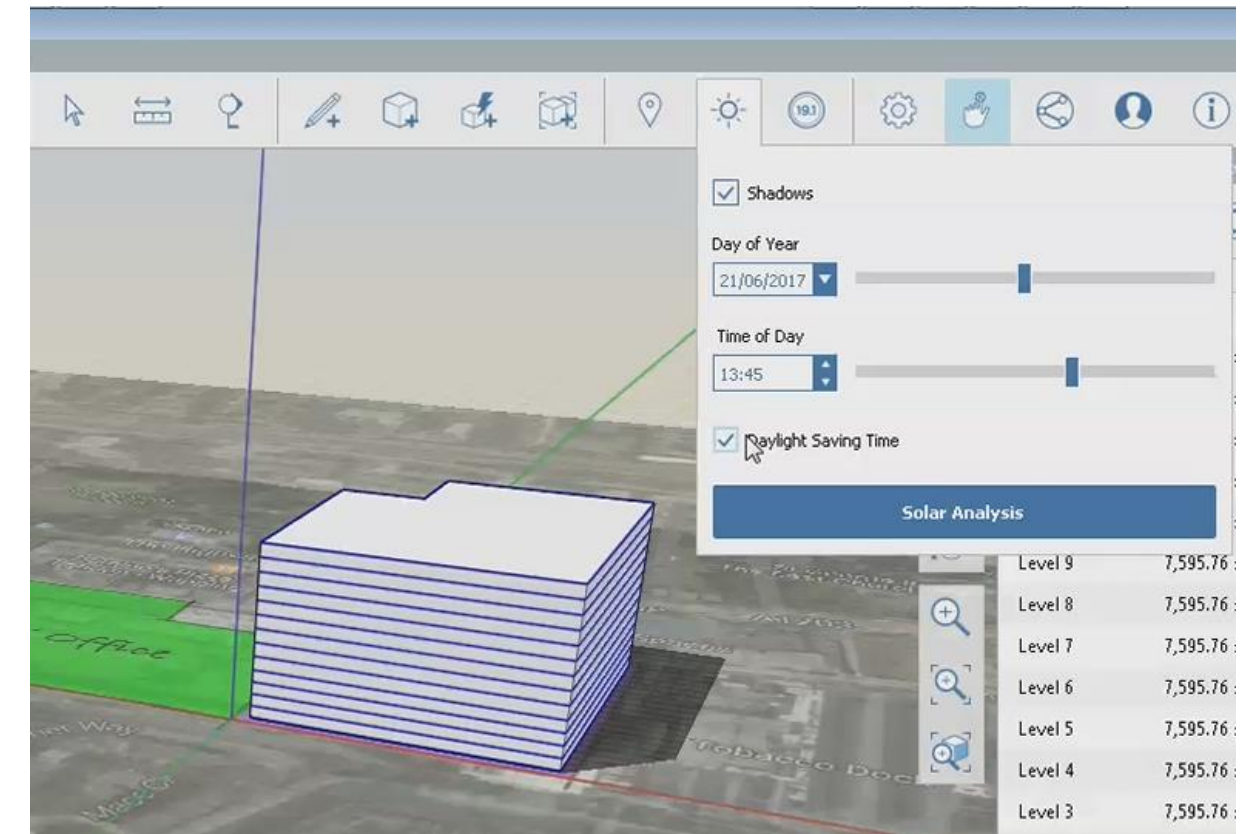
Levels

☒ ☒ ☐ ☐

Name	Area	Elevation
Level 5	7,595.76 sq m	14m
Level 4	7,595.76 sq m	10.5m
Level 3	7,595.76 sq m	7m
Level 2	7,595.76 sq m	3.5m
Level 1	7,595.76 sq m	0m

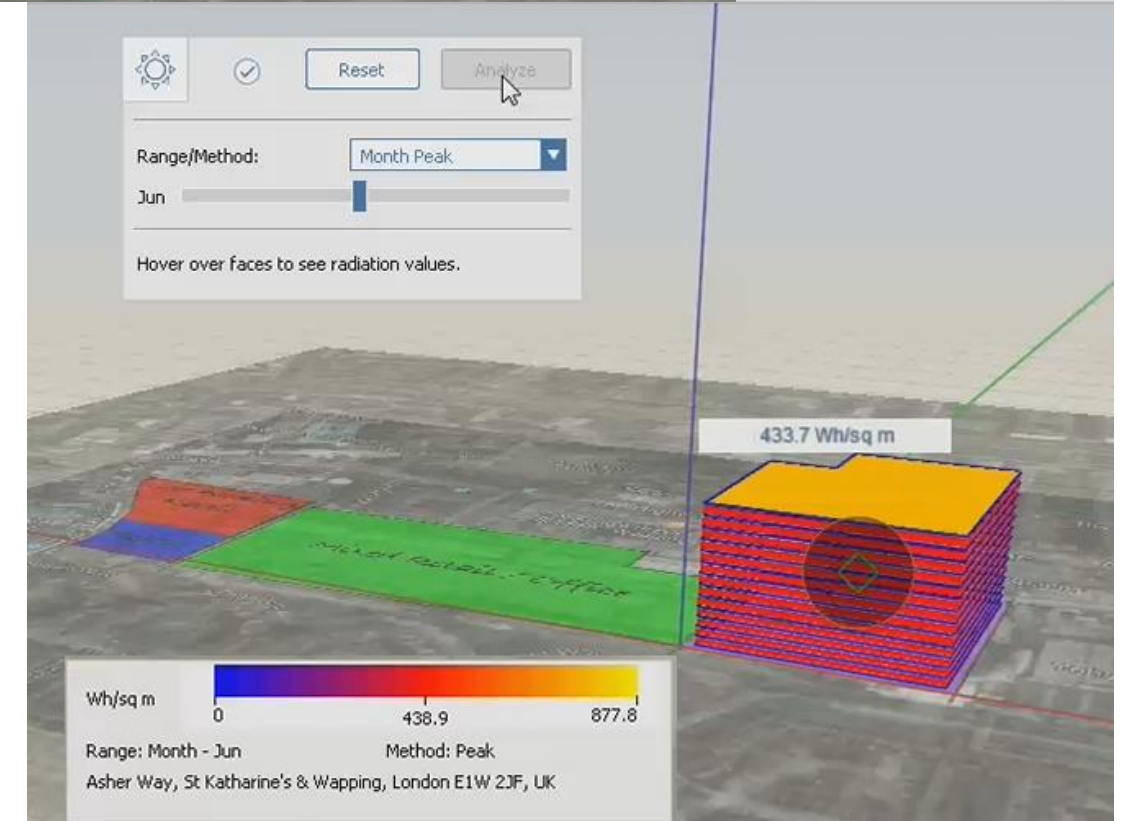
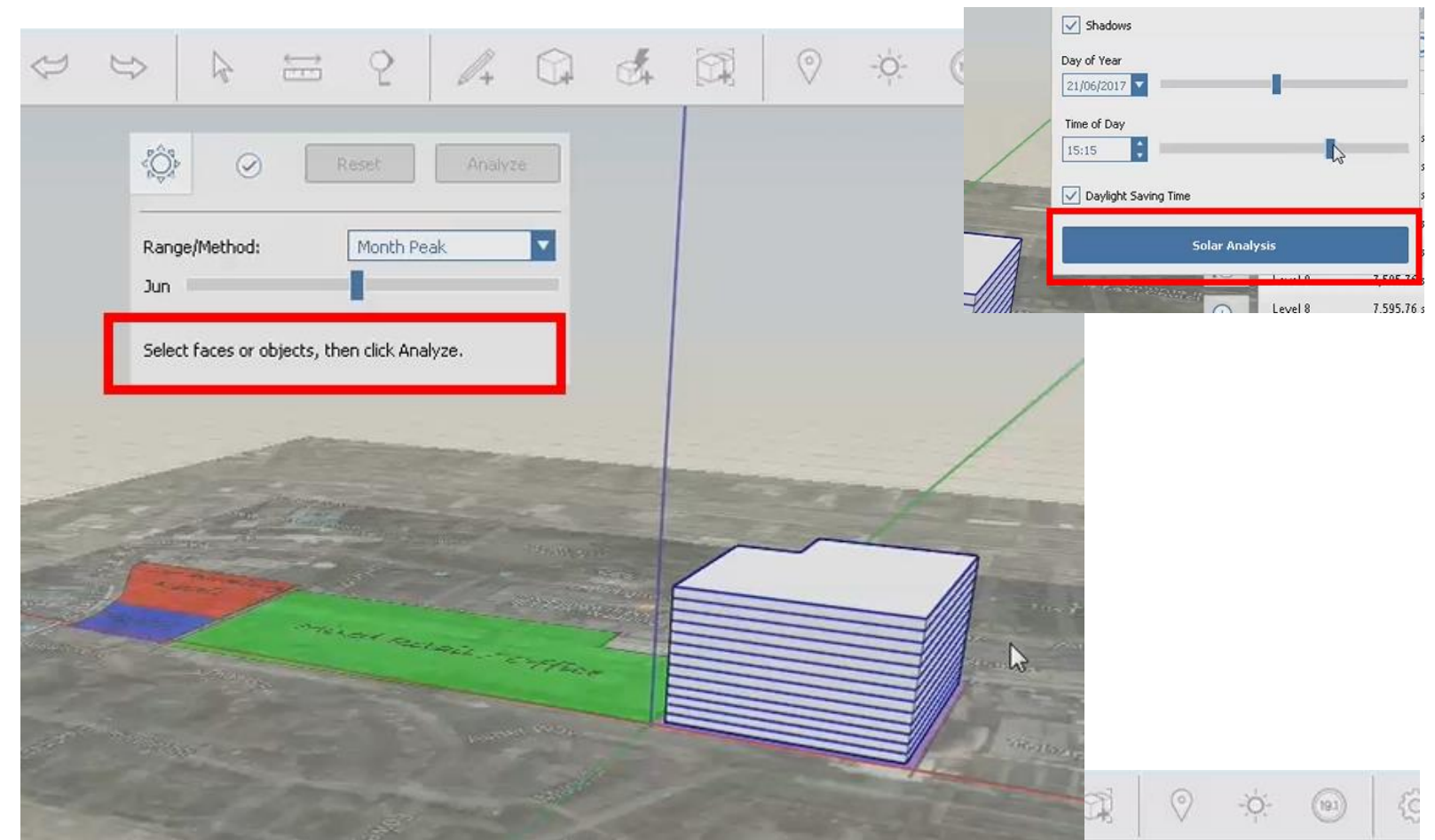
Analysis – Shadows

- From the Sun and Shadow button turn on Shadows and adjust date and year and notice the change in shadows – these can be measured against local settings



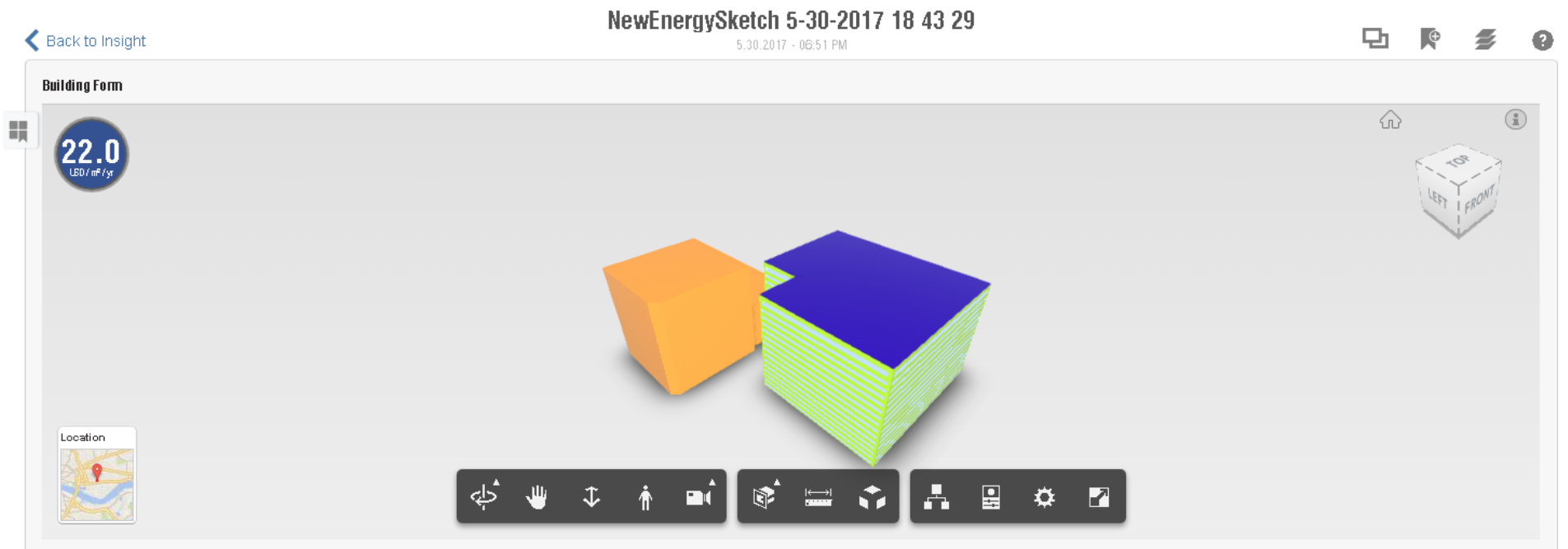
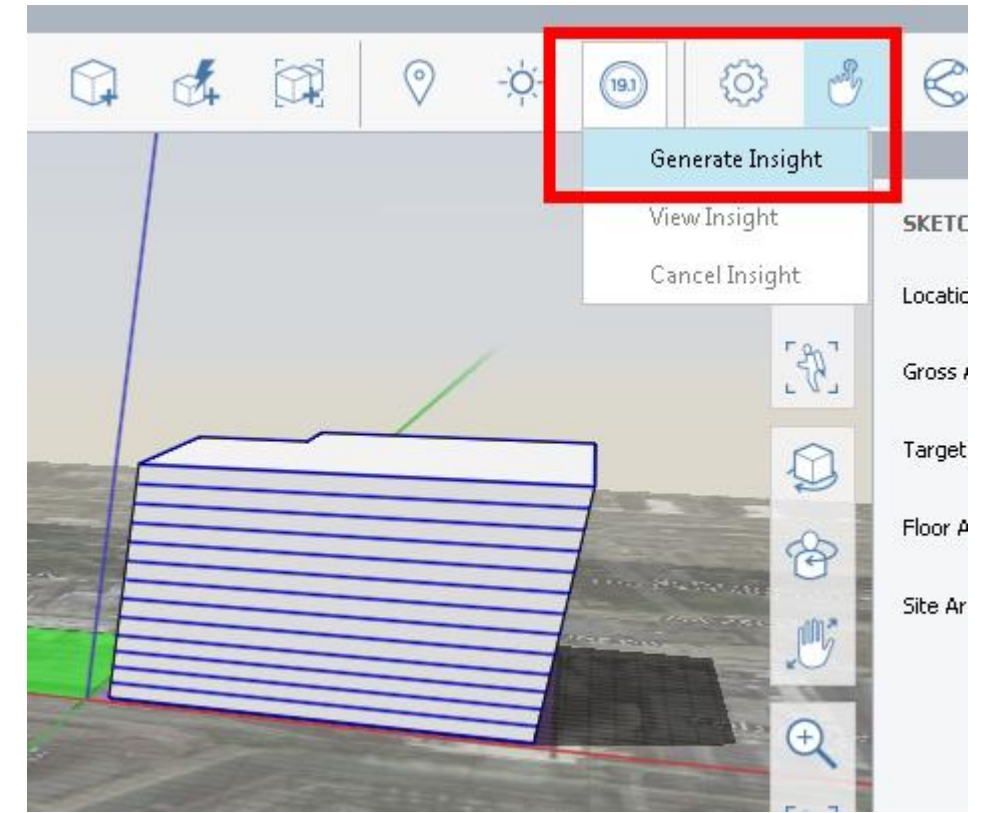
Analysis – Solar Gain

- From the Shadows dialog select Solar Analysis
- Select Faces or objects and then click Analyze
- Hover over faces to see values
 - this is an onscreen display only



Analysis – Insight 360

- Generate Insight
- View Insight by clicking on link of browsing to insight360.Autodesk.com
- Use the LMV to navigate the model



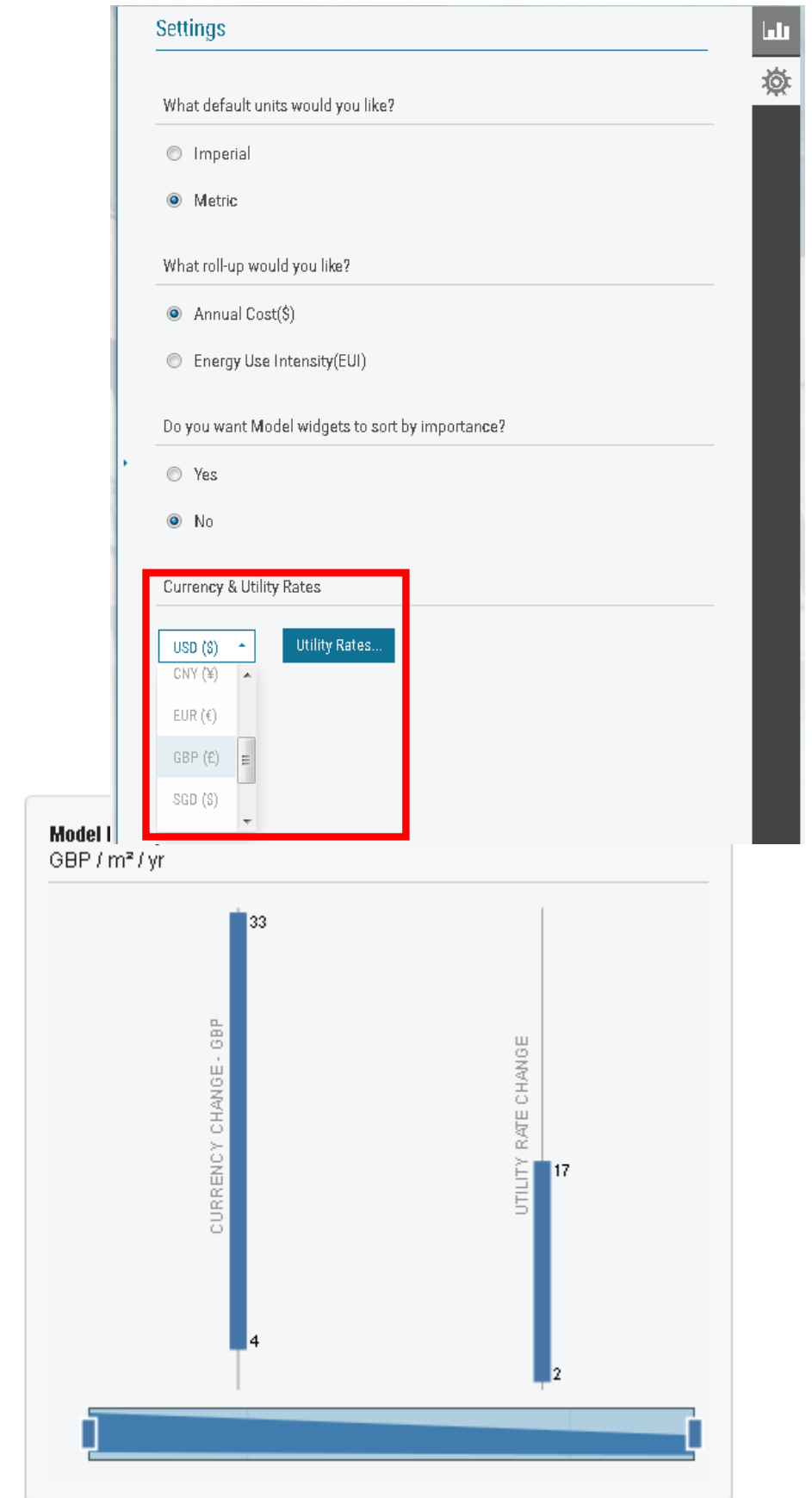
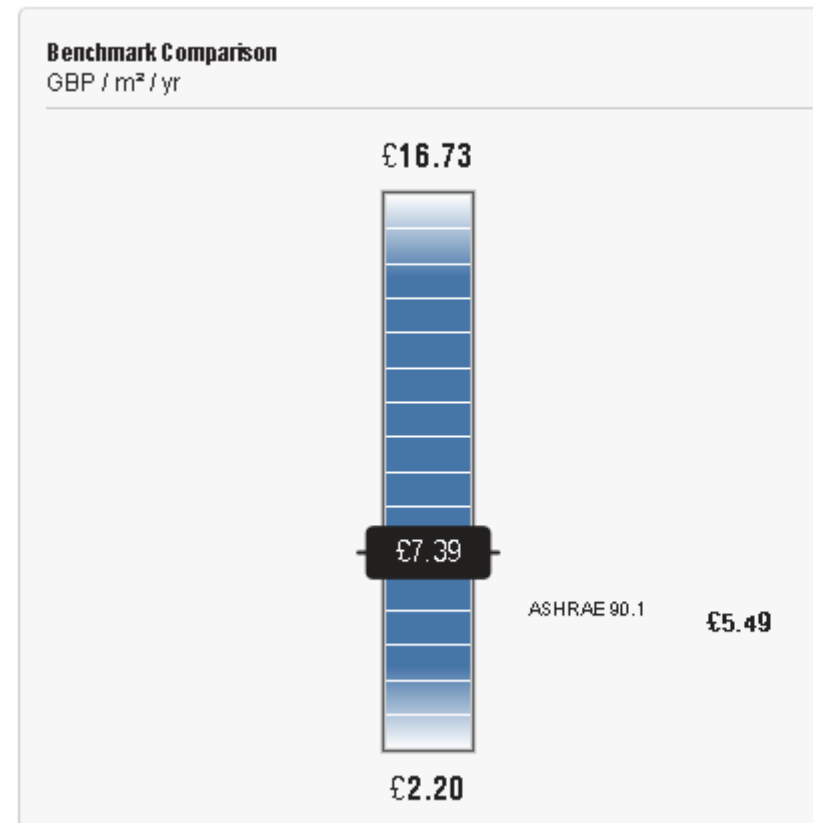
Analysis – Insight 360

- Edit construction methods / materials
- Review model history and energy consumption



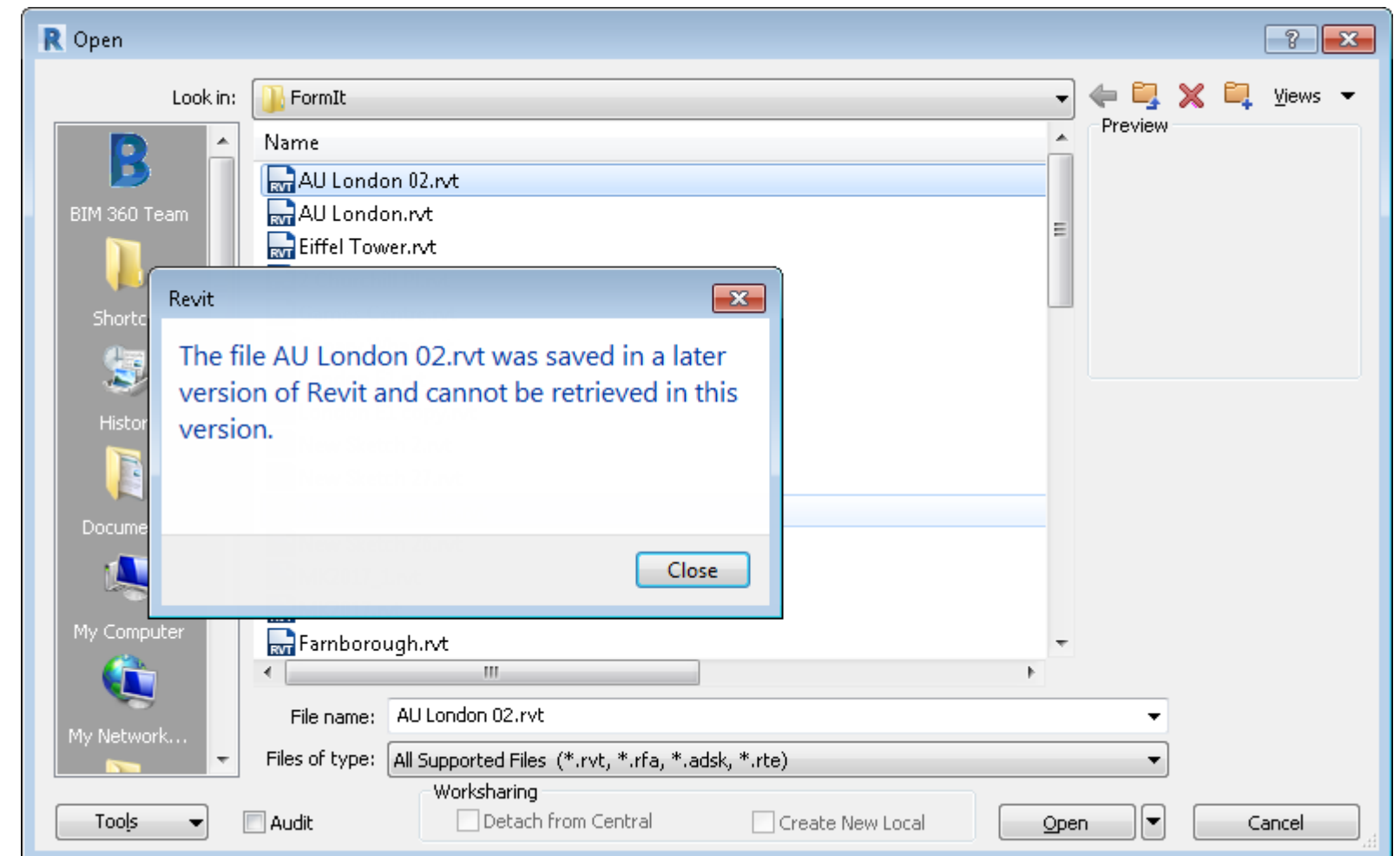
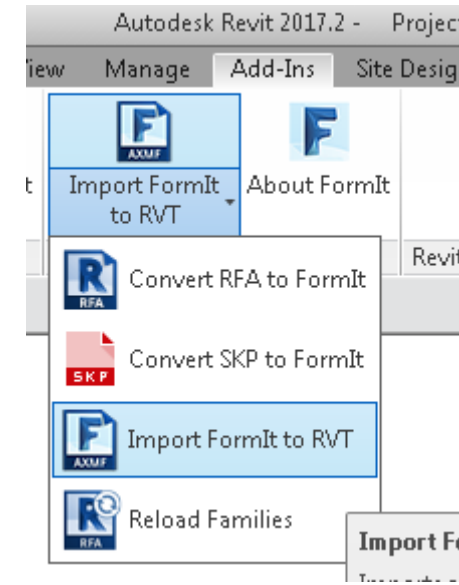
Analysis – Insight 360

- Edit Currency and Utility Rates for localised conditions
- Review model history and energy consumption



Gotchas!

- Using the FormIt Add-Ins will allow you to open a FormIt .AXM file into any version of Revit
- The Revit .RVT generated by FormIt is a 2018 format file



Additional Resources

- FormIt Friday Webinars: <https://formit.autodesk.com/page/formit-friday>
- FormIt Forums: <https://forums.autodesk.com/t5/formit/ct-p/141>
- YouTube: [FormIt Snippets](#)
- What's New: <https://formit.autodesk.com/page/release-notes>
- Final thought:
"You cannot accidentally assemble a database"

Thank you!

Questions?

