Autodesk FormIt – Serious Conceptual Design and Analysis

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Premium Account Support Specialist BIM, Revit

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

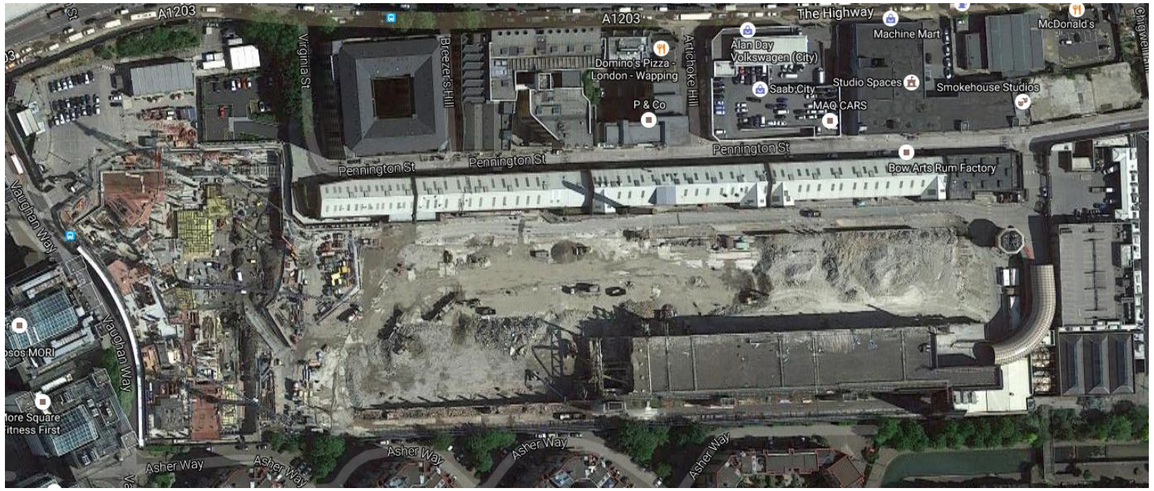
Notable Projects

- 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

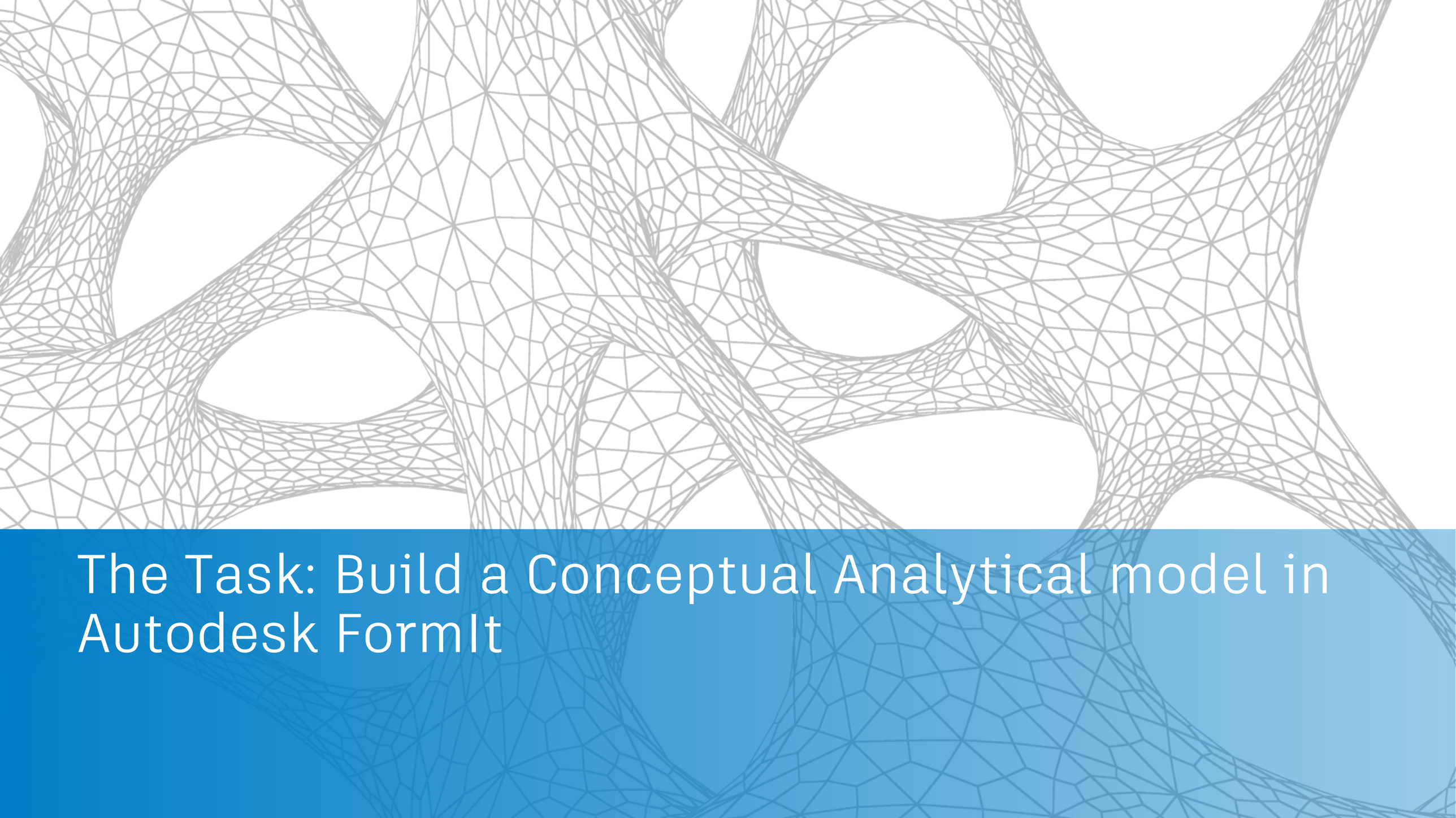
Notable Projects

Balfour Kilpatrick

- ‘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…

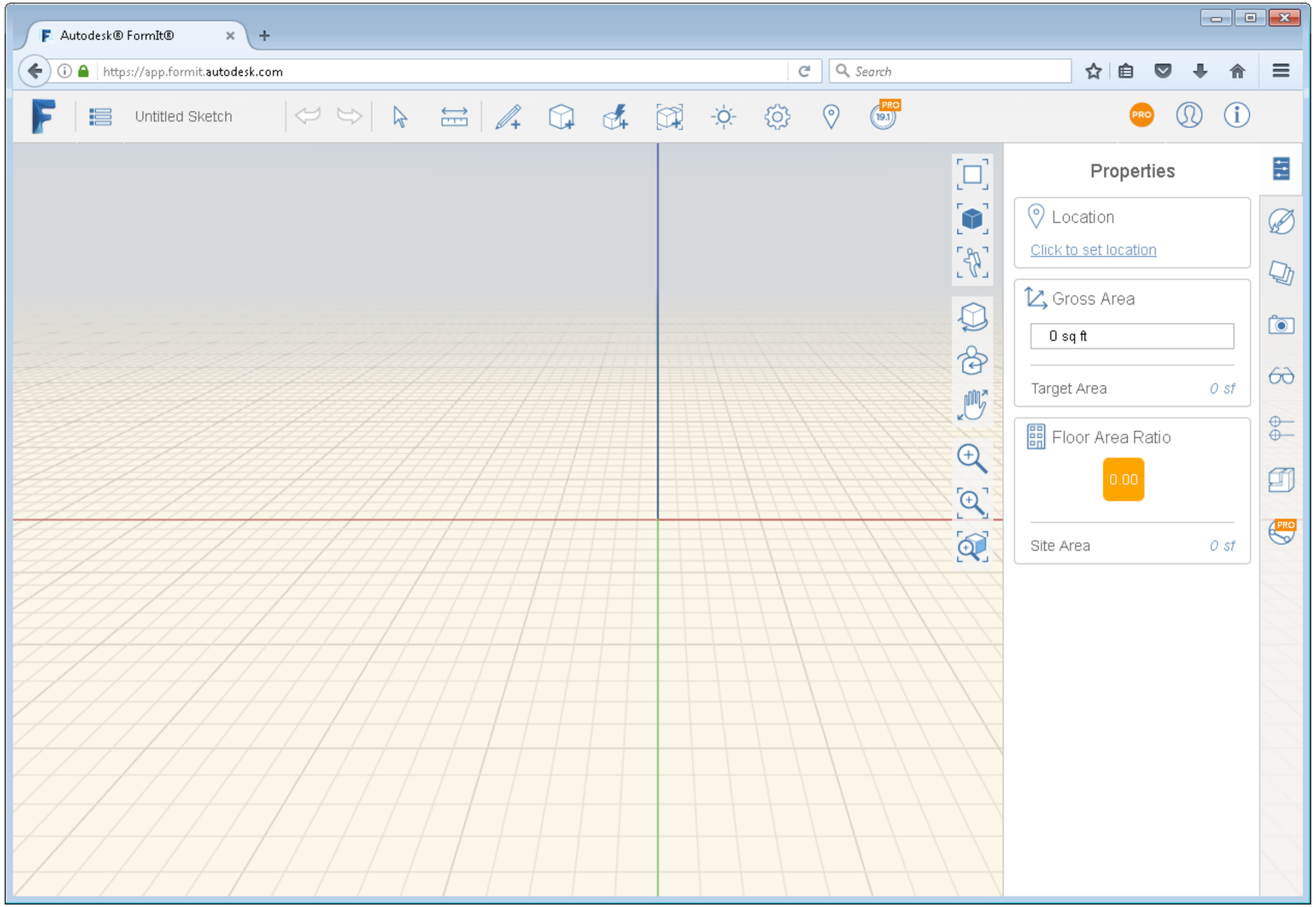


I am NOT an Architect

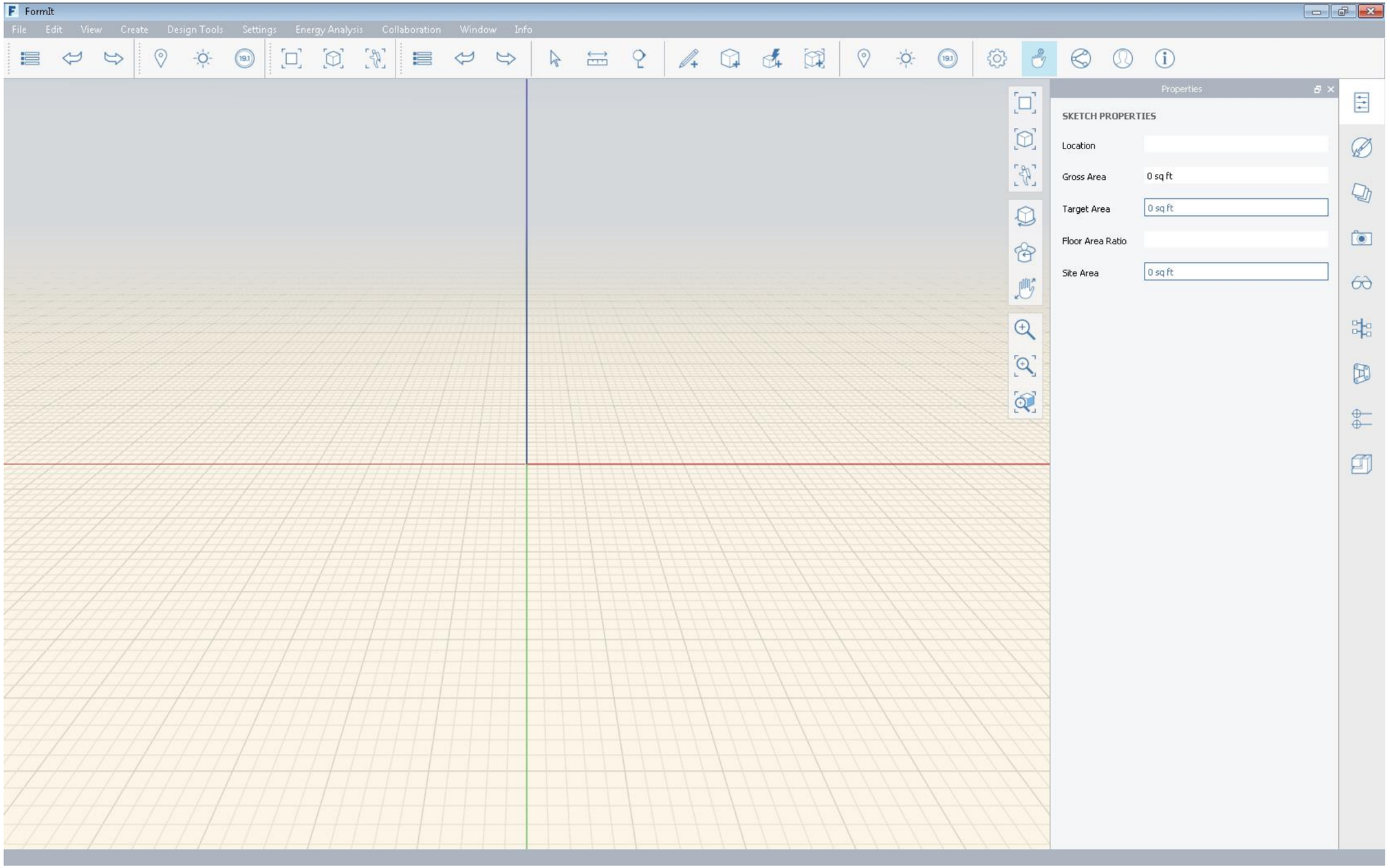


The Task: Build a Conceptual Analytical model in Autodesk FormIt

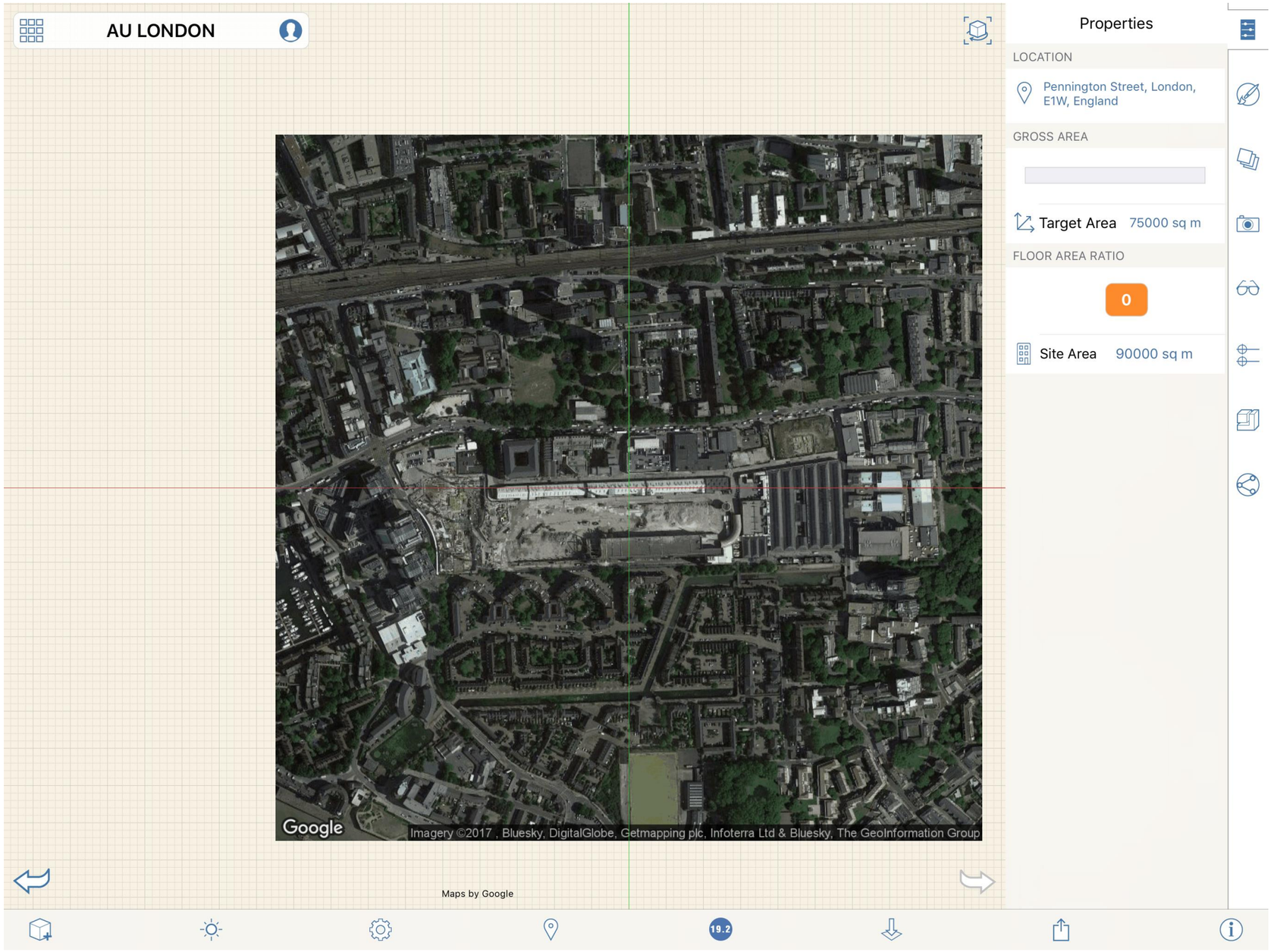
Tour of the interface - Web



Tour of the interface - Windows

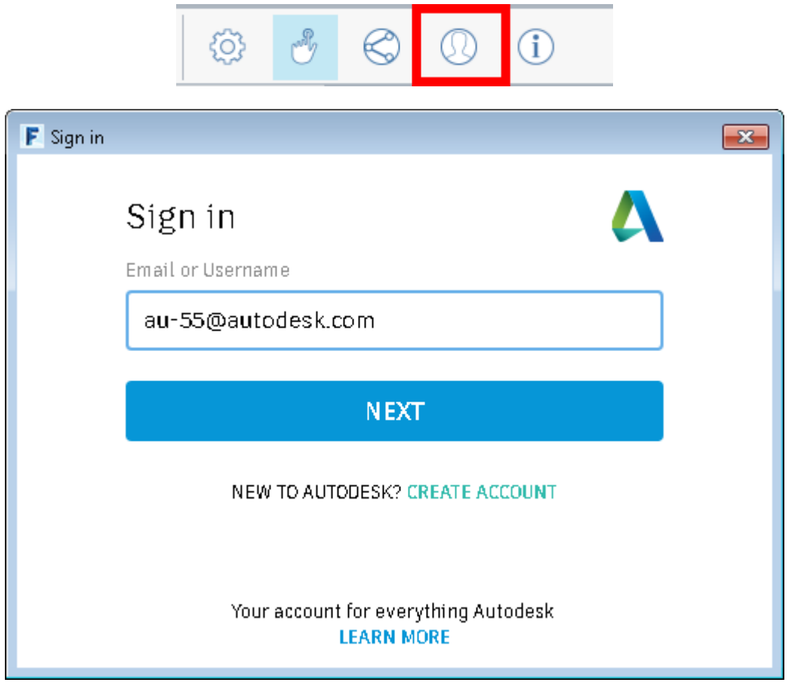


Tour of the interface - iPad

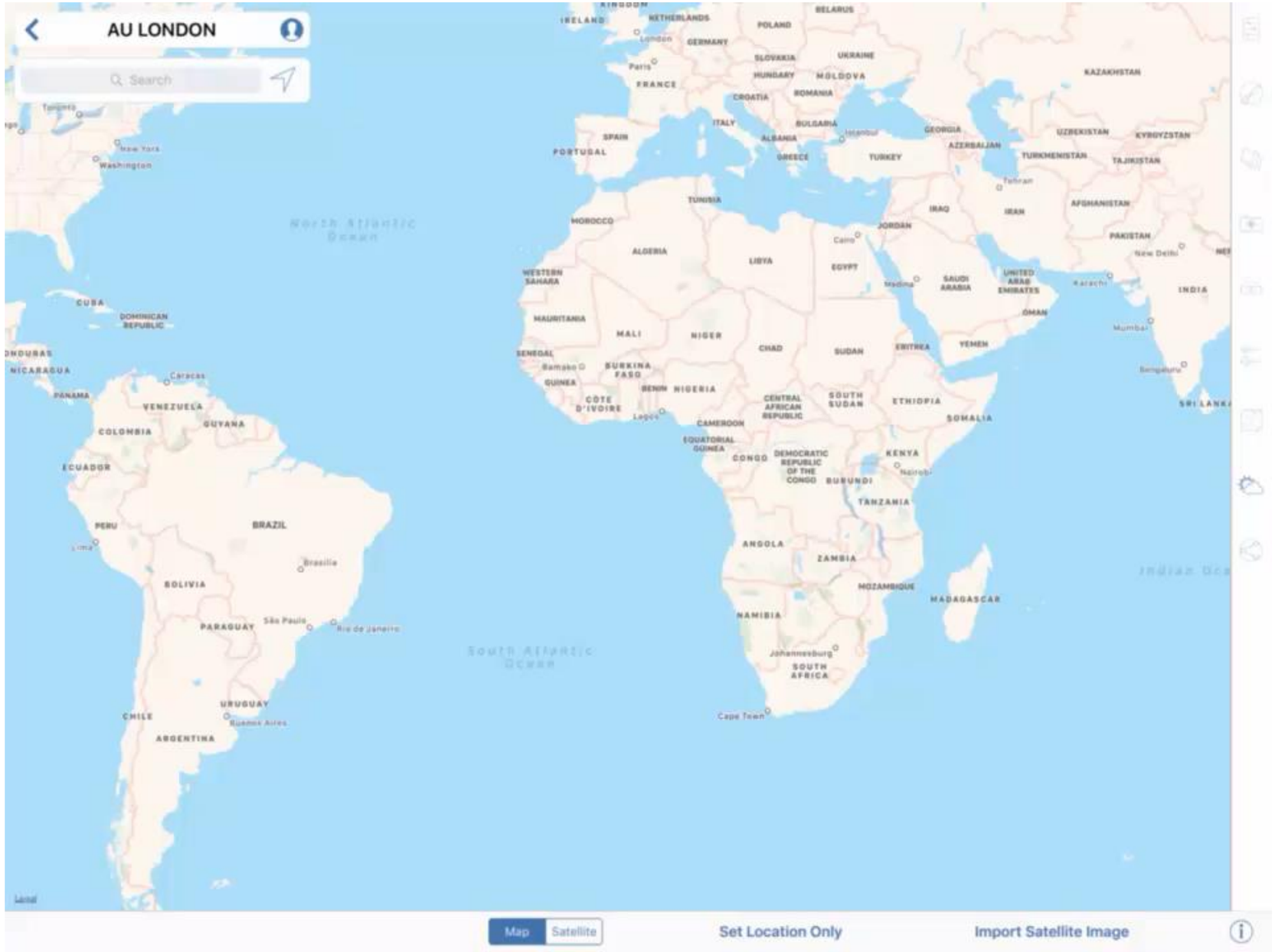


Sign in

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

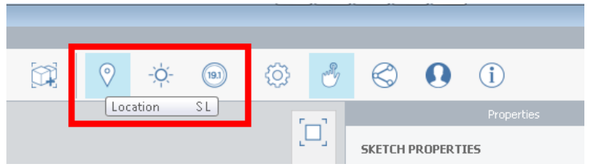


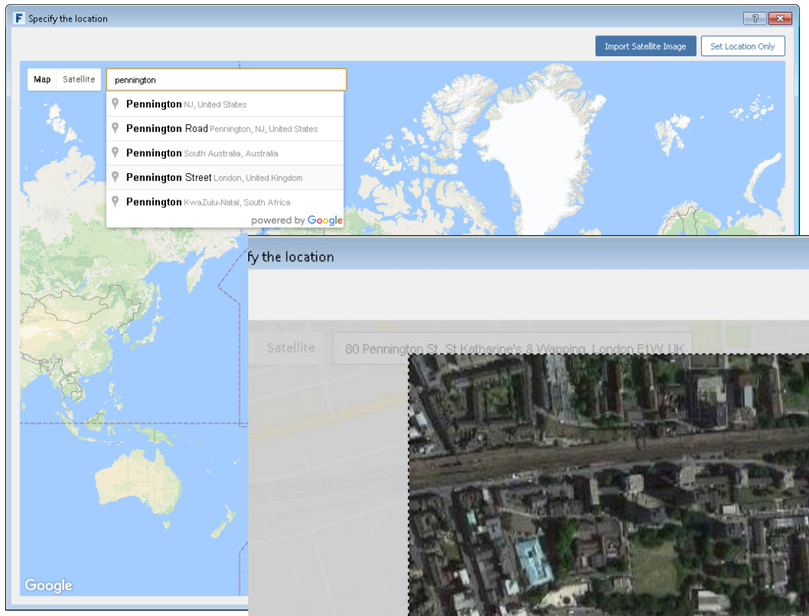
Set the Location

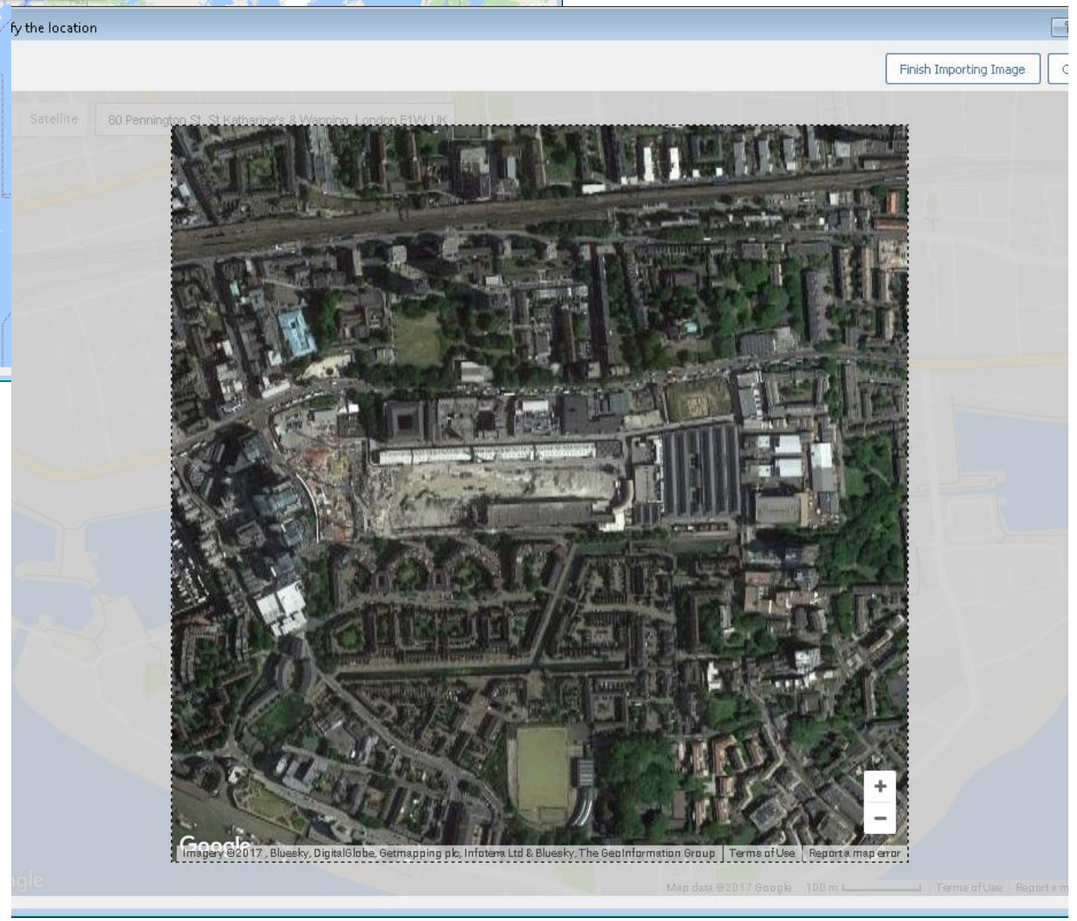


Set the Location

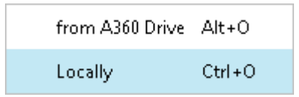
- Start typing the address: Pennington Street, London



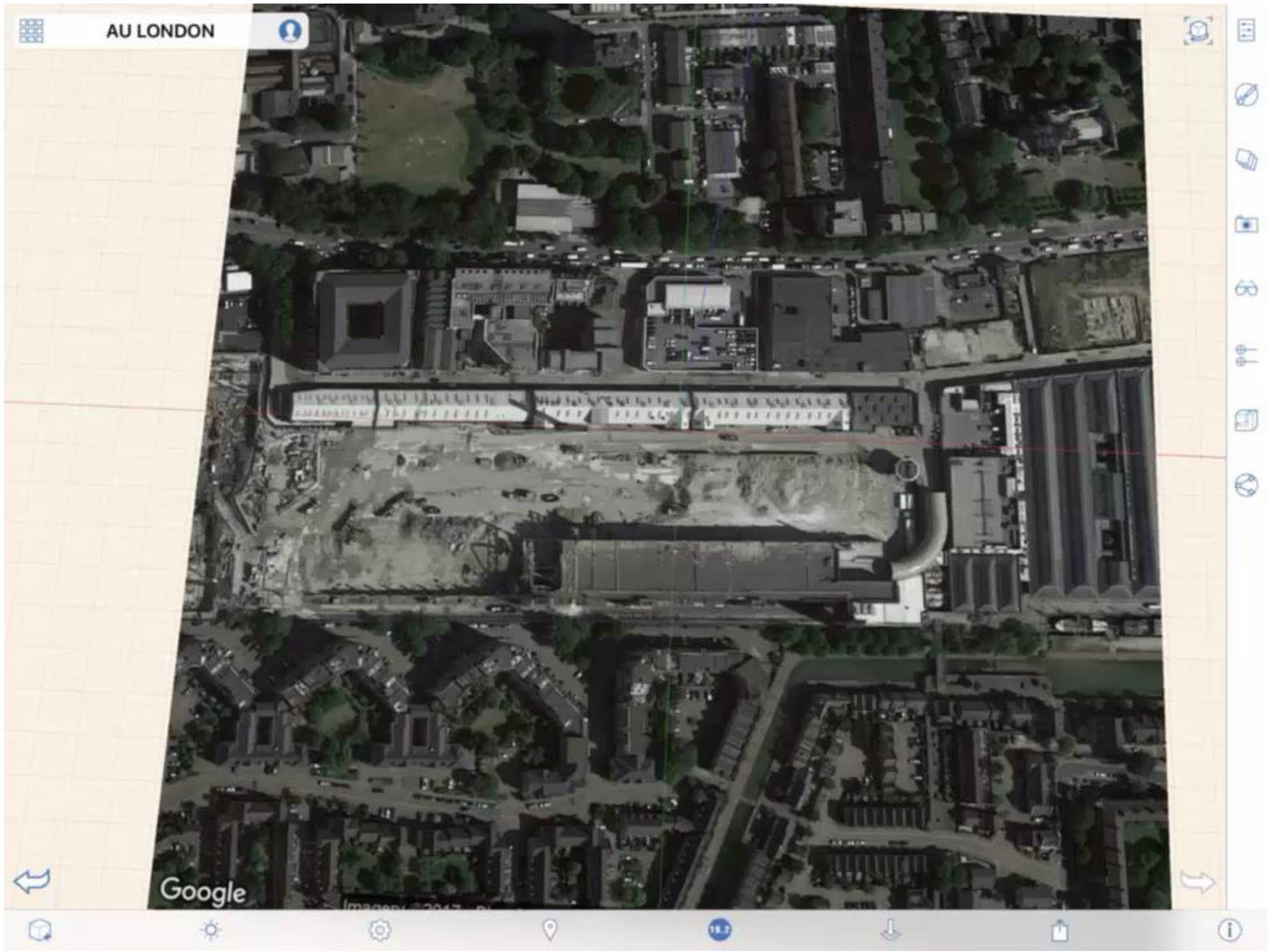




- Then click on Import Satellite Image and zoom until you get something similar to this:
- Or open locally, file “AU London 01.axm”

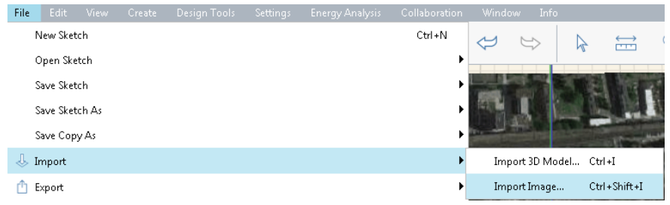


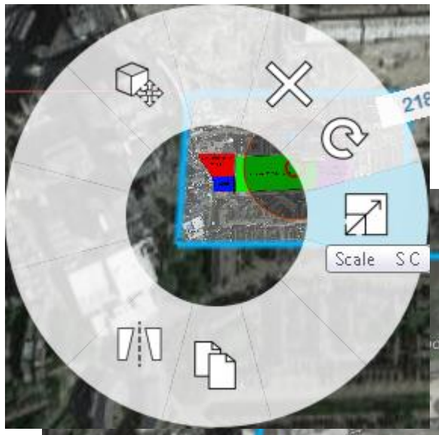
Import Artwork

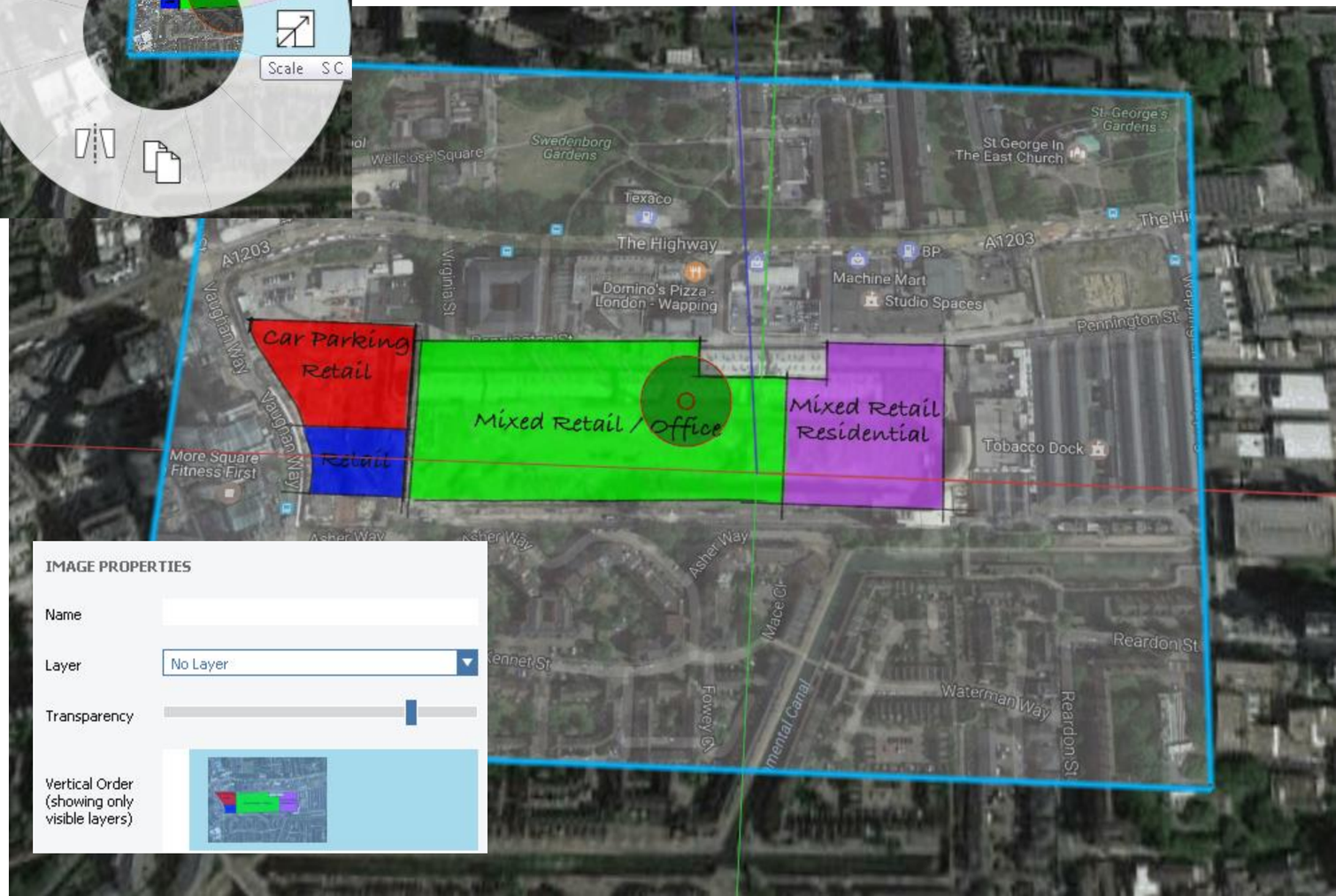


Import Artwork

- 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”

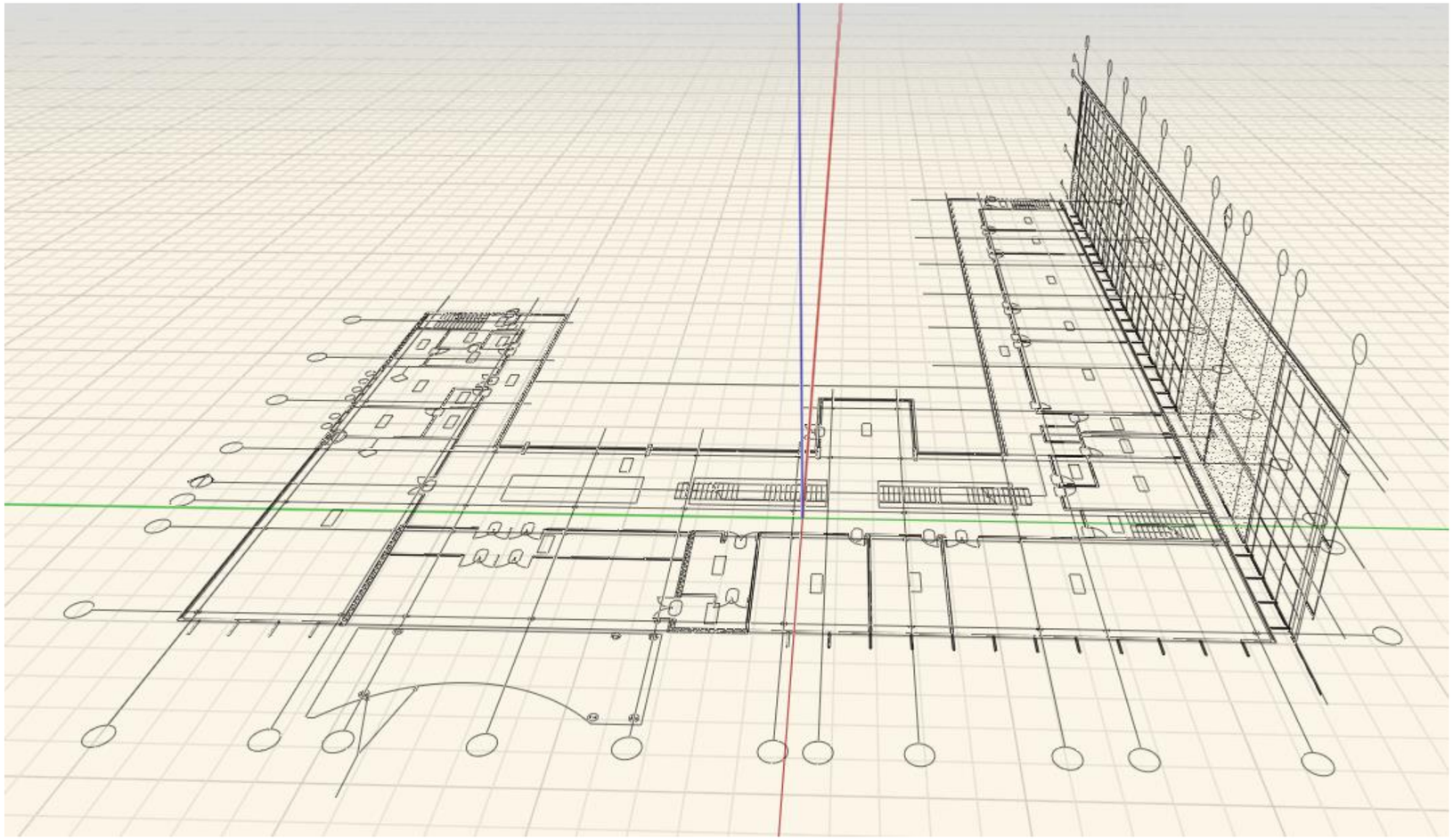




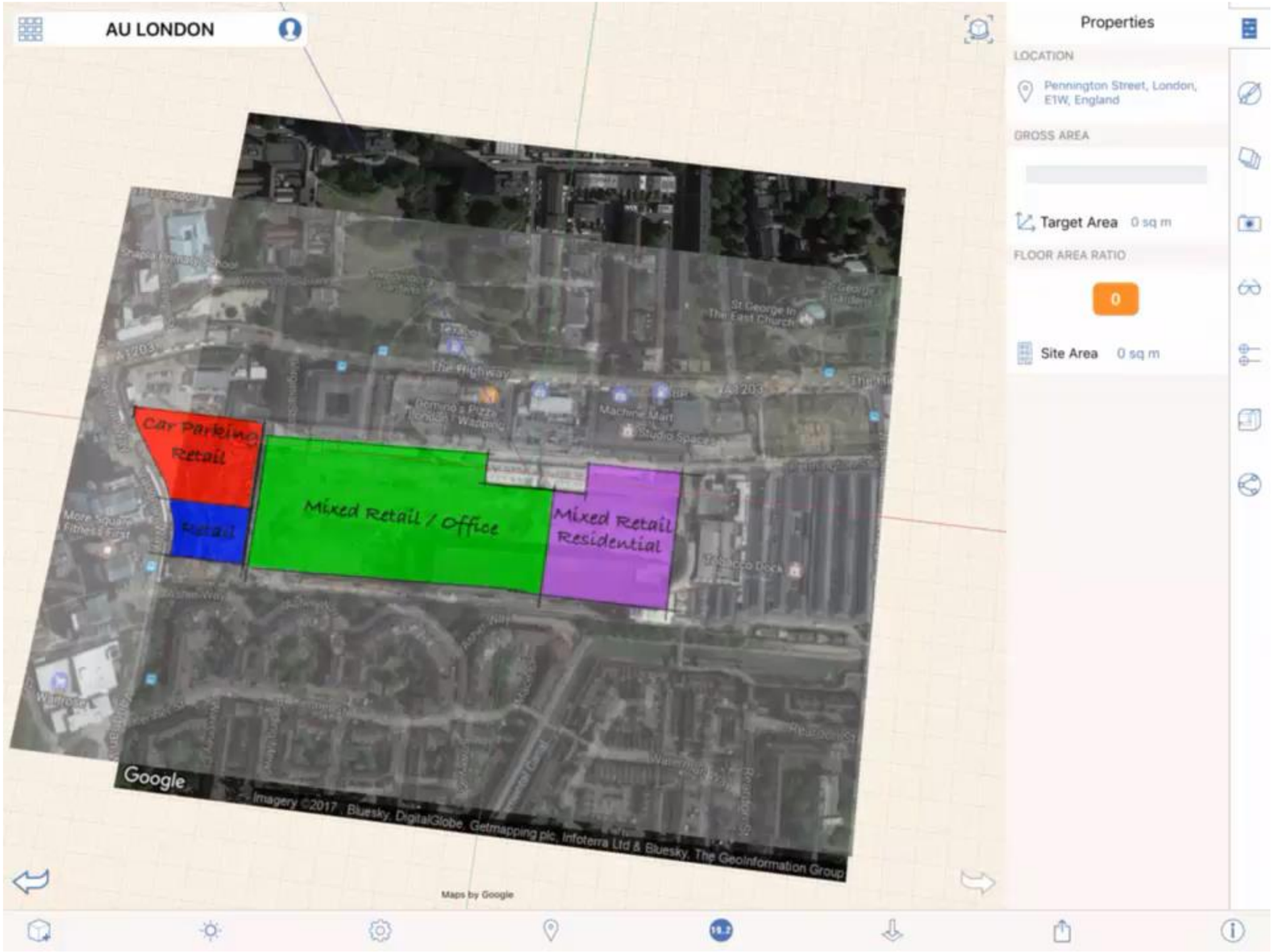


Import – for another session

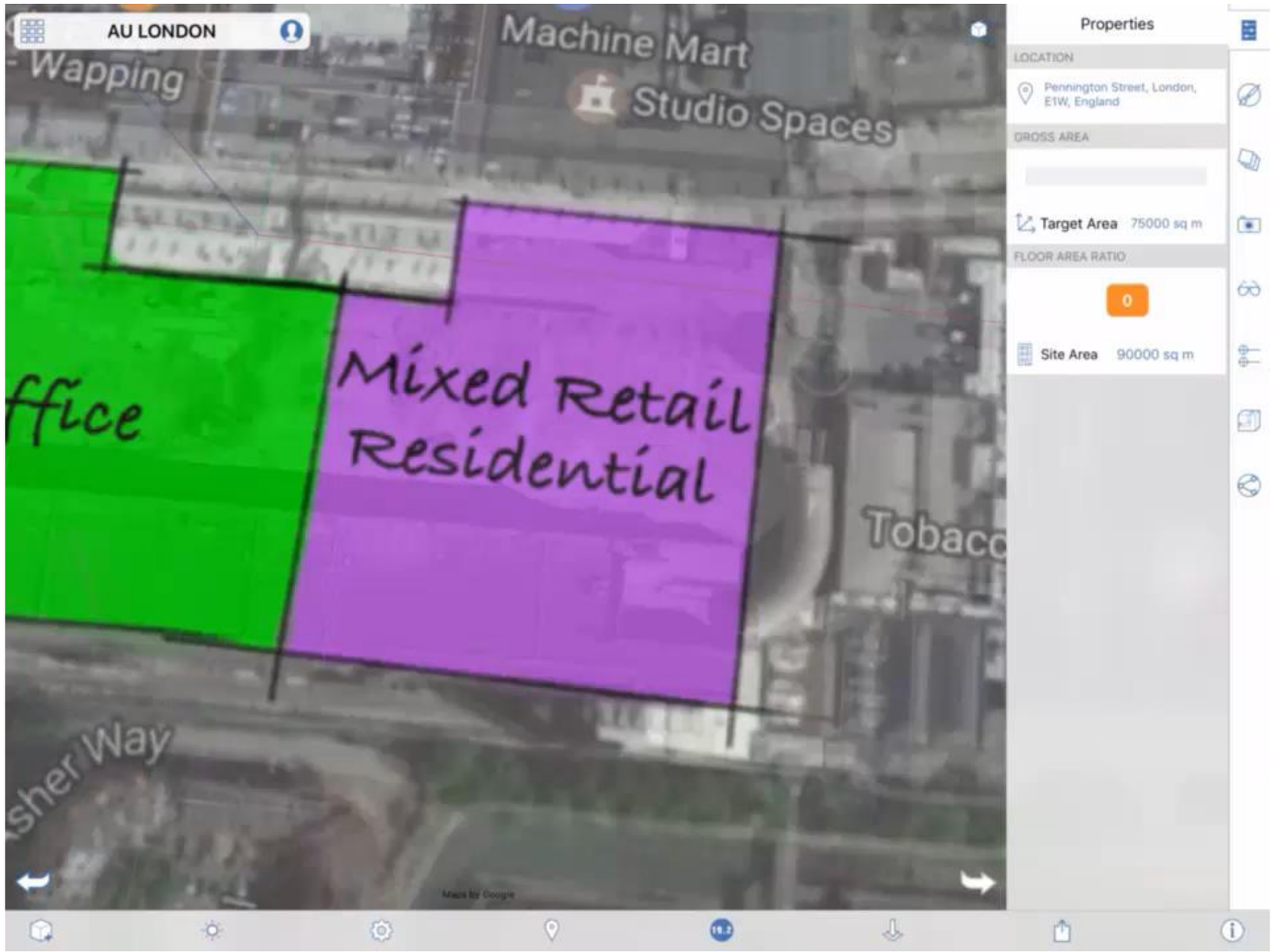
- New to FormIt: Importing DWG's – Just Sayin' !!



Set Targets for Site and Gross Floor Areas

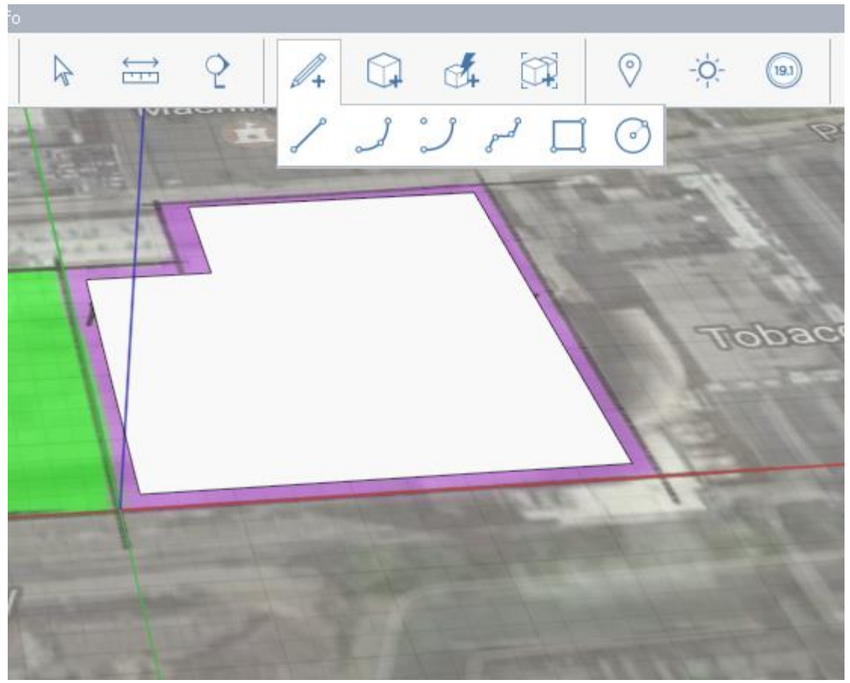


Start Modelling

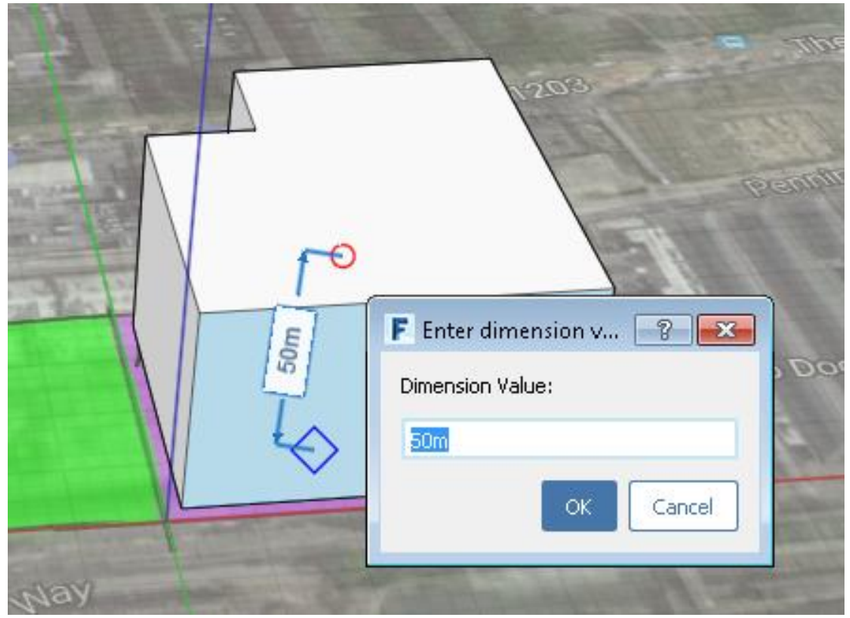


Start Modelling

- Use a combination of the modelling tools to first define the building footprint

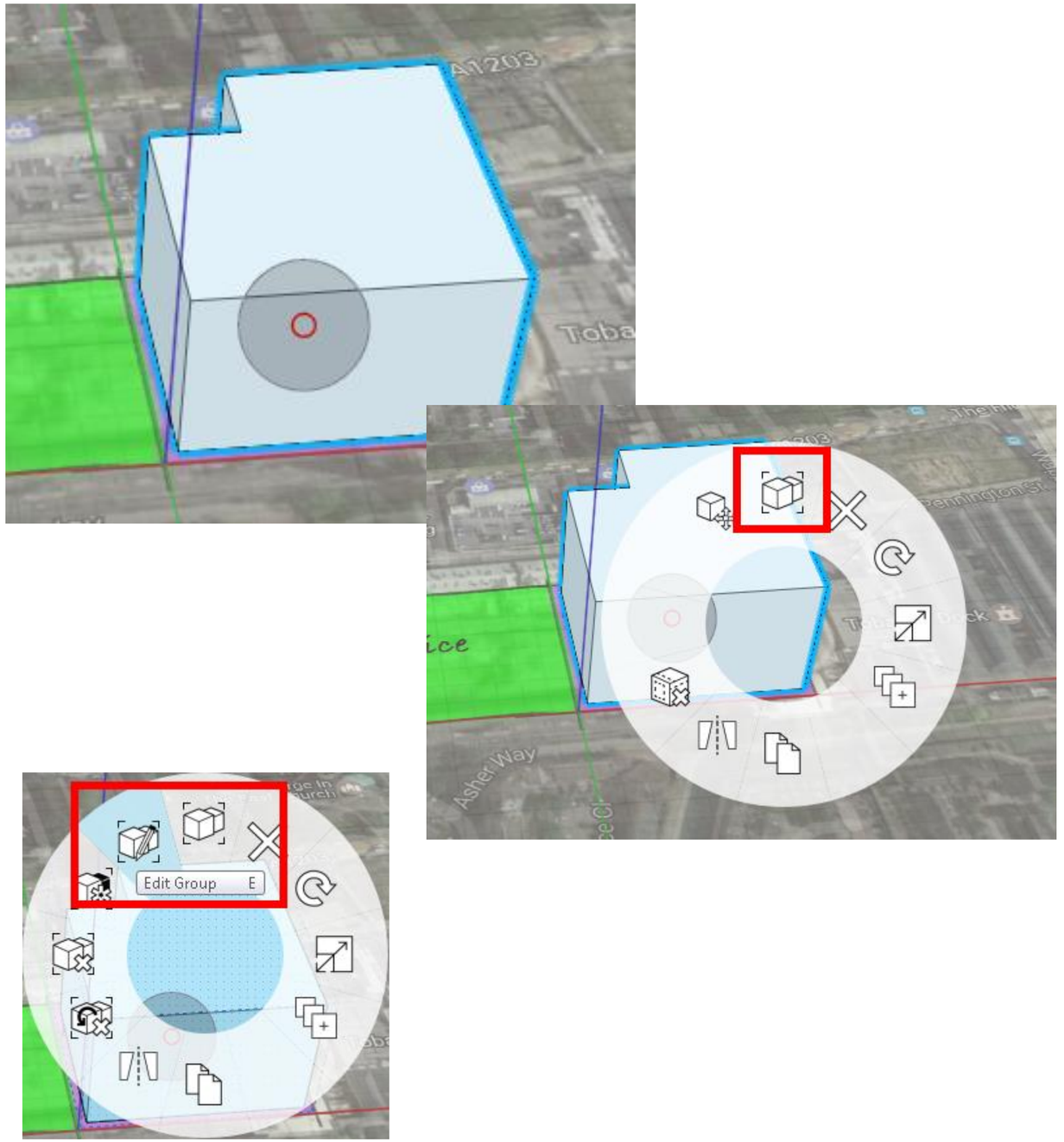


- Then use the push/pull tool to drag the building height



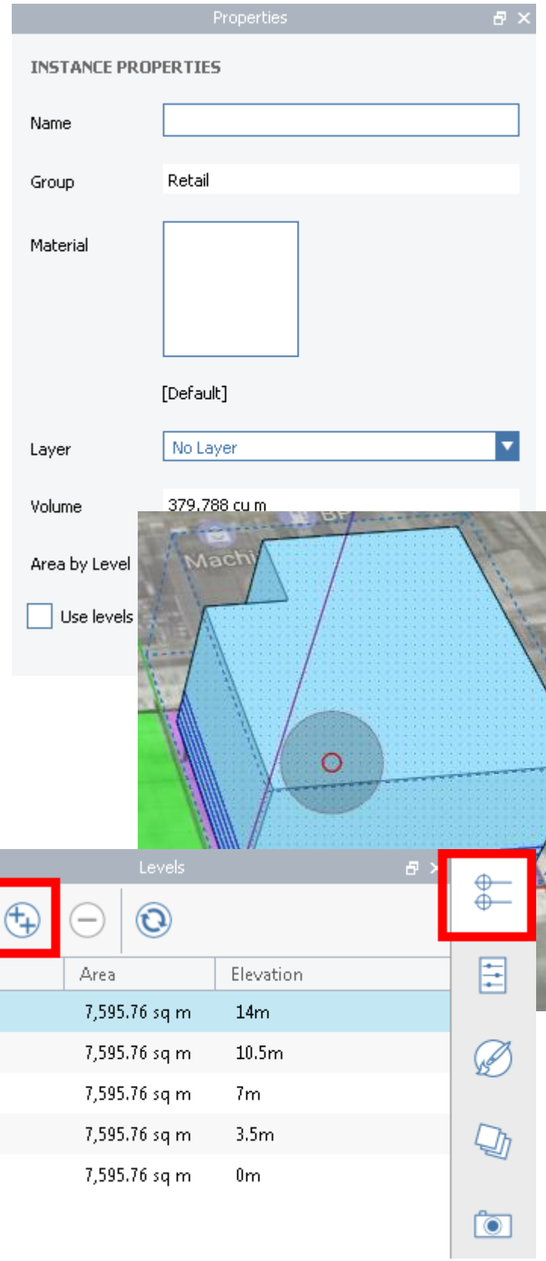
Group

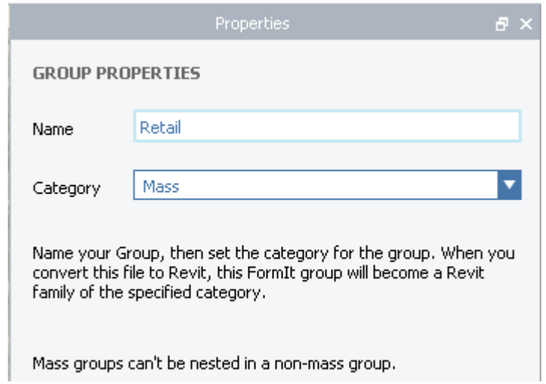
- Double click to select the form
- Right Mouse Click (RMC) and select Group
- Grouping is important if you want to take this through to Revit as a Mass with Mass floors
- RMC to Edit Group for naming

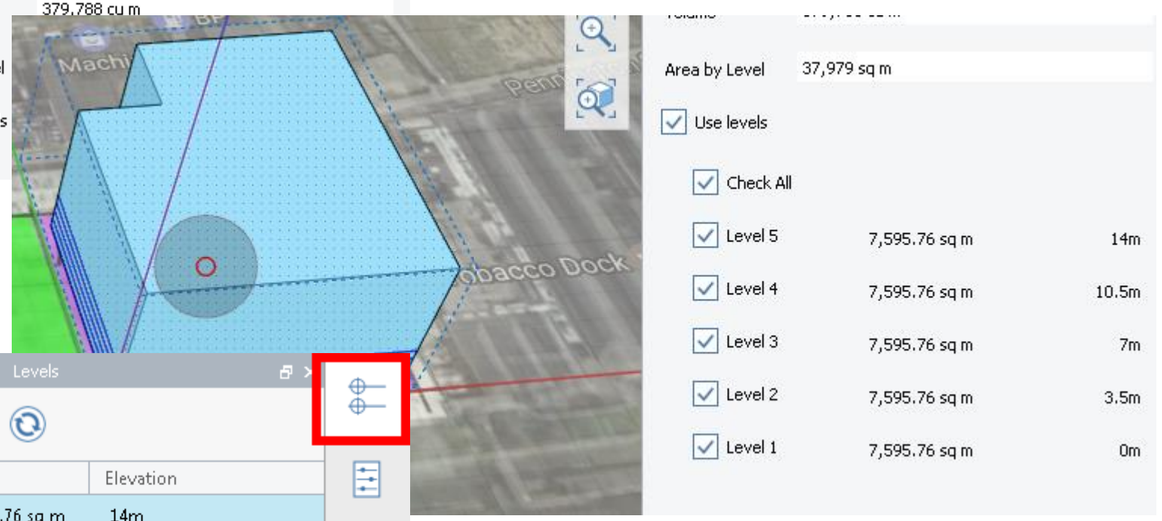


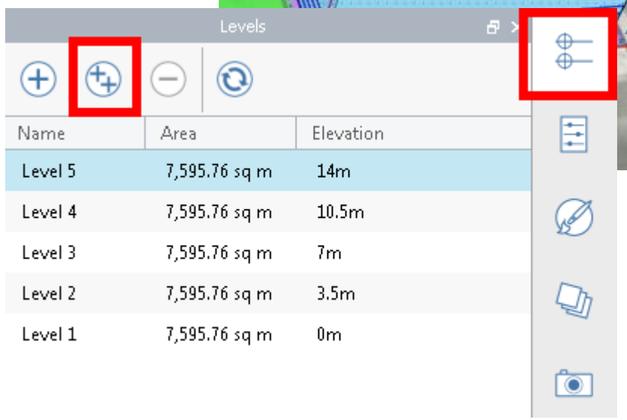
Group Name

- 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



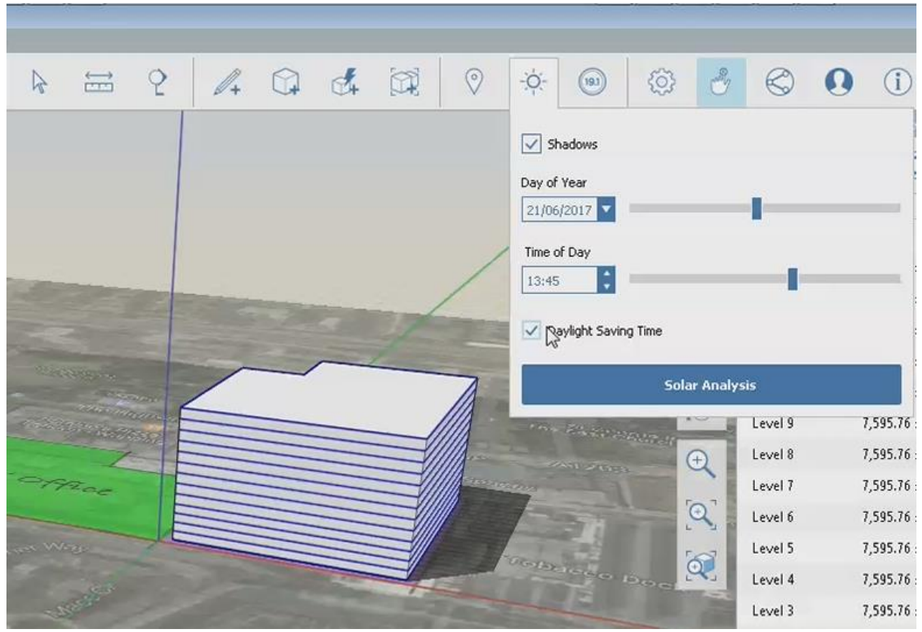


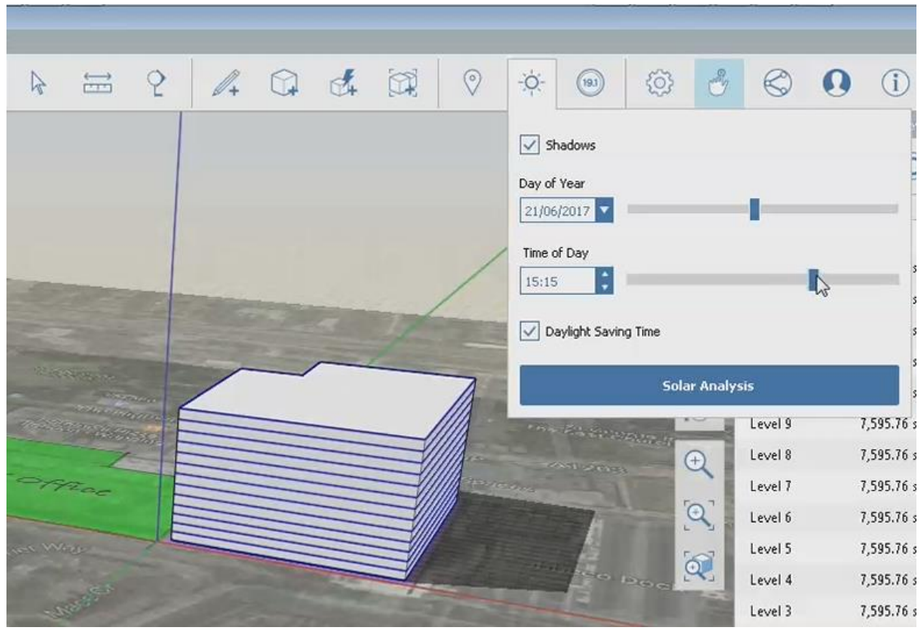




Analysis – Shadows

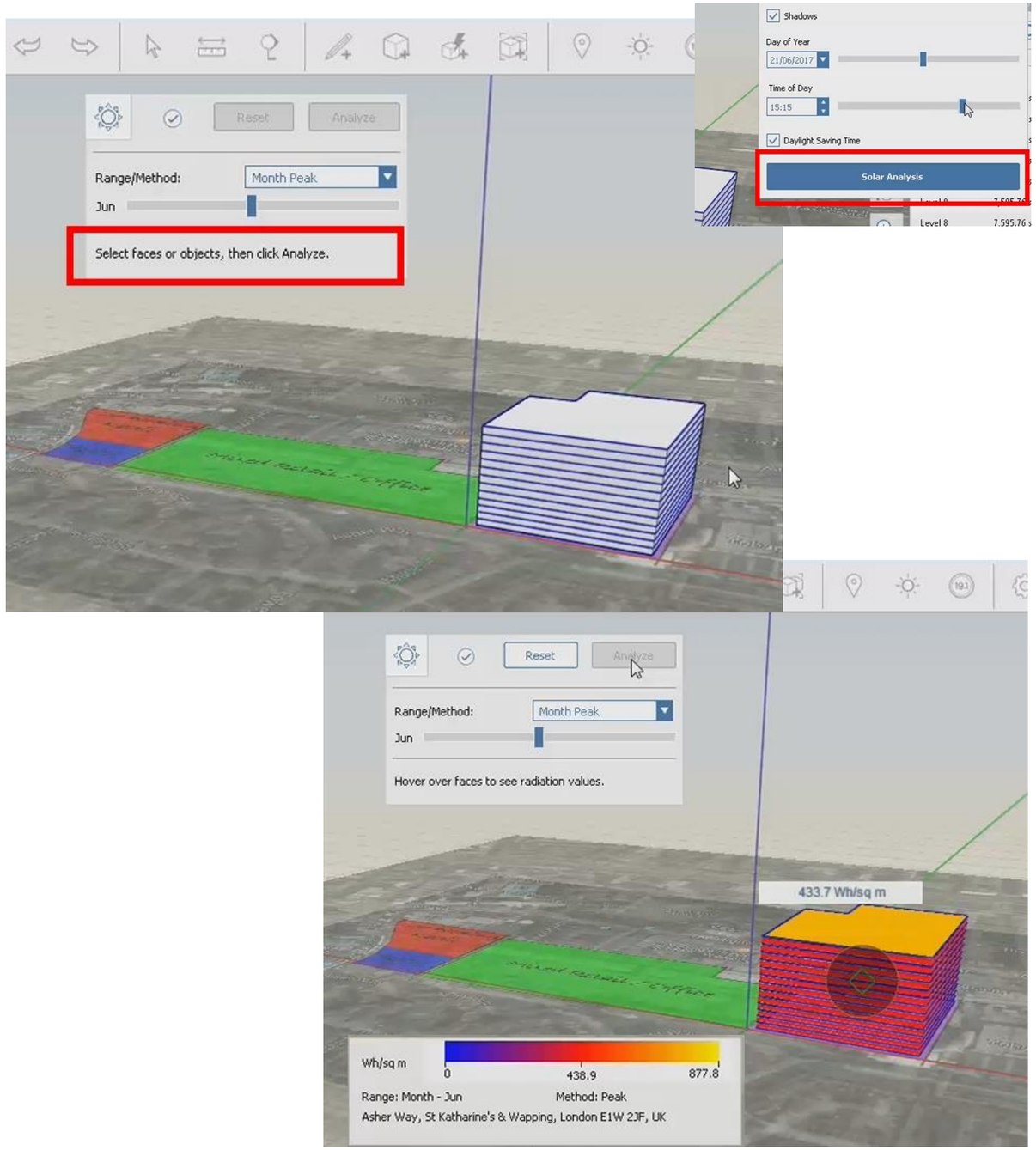
- From the Sun and Shadow button turn on Shadows and adjust date and year and notice the change in shadows – these can be measured against local settings





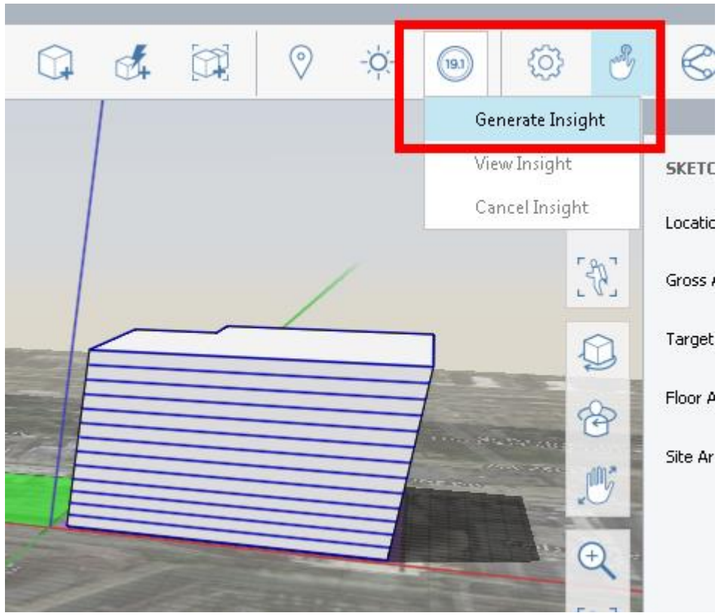
Analysis – Solar Gain

- 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

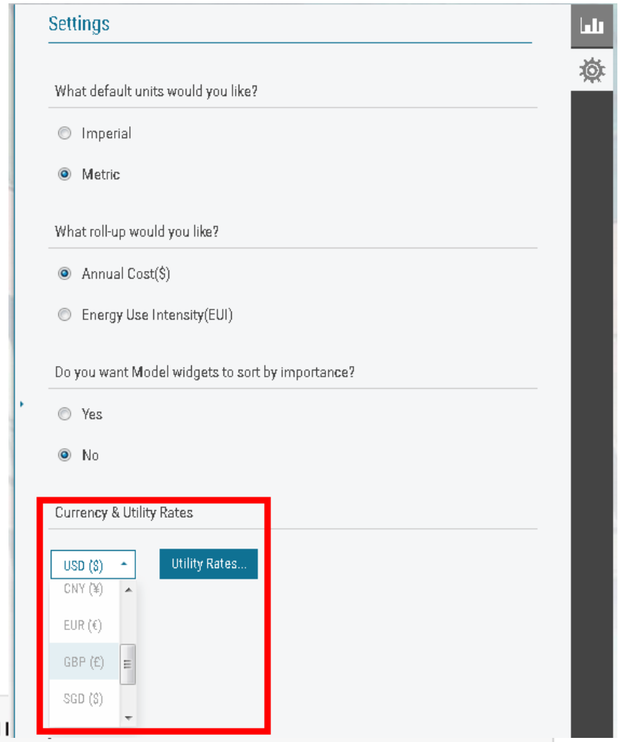
- Edit construction methods / materials

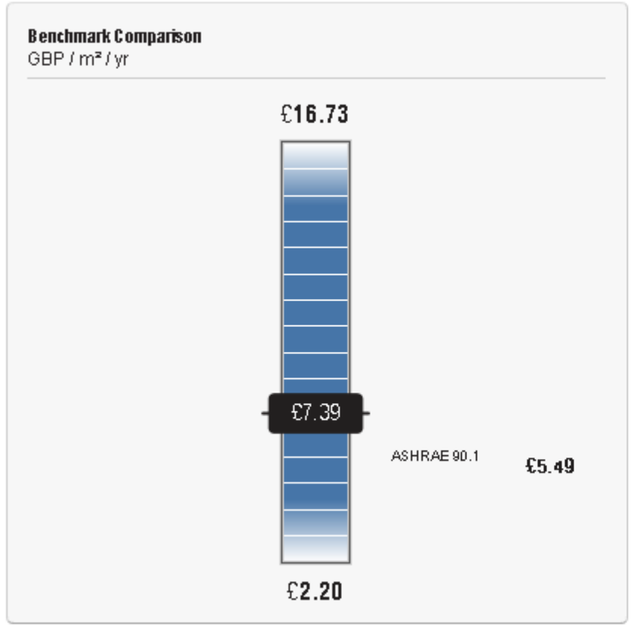
- Review model history and energy consumption

Analysis – Insight 360

- Edit Currency and Utility Rates for localised conditions

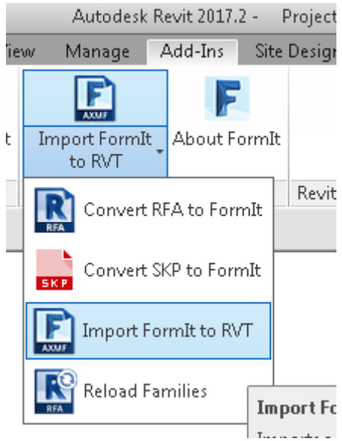
- Review model history and energy consumption



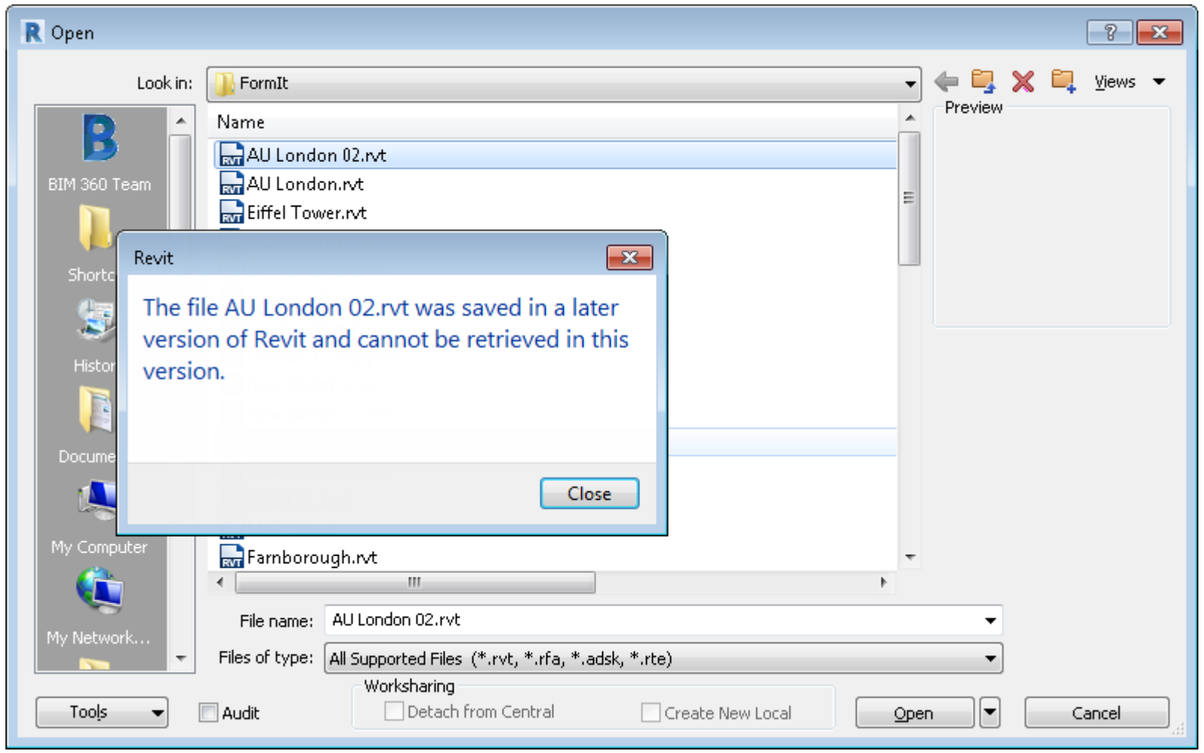


Gotchas!

- 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?

AUTODESK®

Make anything.