S113 - Creating Organic and Complex Models with Revit Architecture

Presented by

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Rm 155 from 10:00 – 11:00

Best Practices

- Massing studies are approached in one of two ways, **intuitively** or **formulaically**. Intuitive form making relies primarily on the sculptural intuition and sensibilities

  of the design team in order to iterate a particular form. Formulaic form making relies first on underlying mathematical rules which directly influence the reiteration of form – then on the aesthetic sensibilities of the design team.

- Whether creating form intuitively or formulaically, massing studies may be created within the Revit project environment or within the Family Editor and then placed within the project environment. Deciding which process is usually dependent on the level of repetition of a singular element. For example – if the element is intended to be used many, many times within a project, it may be helpful to create a particular form as a Family Component. This allows more rapid iteration of the overall form via the primary element.

- Whether the mass is being created intuitively or formulaically, it’s helpful to understand which forms are most approachable and flexible in Revit and which are perhaps best created in an external tool and then imported into Revit.

- **Intuitive Massing**

  Massing Forms can be created intuitively either within the project environment or within the family editor. Either approach can be successful for creating massing studies.

- 1. Consider creating **Component Family Masses** for unitized reiteration and deformation.

  They'll be modified in the Family Editor and reloaded into the Project.
- 2. Consider creating **In-Place Family Masses** for holistic, iterative form making.

  Particularly if independent and solid/void relationships need to be maintained. Voids created as in-place families will not affect solids created as component families.

- **Intuitive Massing**
- **Parametric Massing**
  - **Show example file**

- **BIM and Revit's Objective**

  Rationalize Geometry

  Rebuild Floor Plate profiles

  Formula based on specific rules Mullions

  Work and Add certain panels geometry

- **Best Practices**

  Massing works best with solid geometry

  Native Revit geometry is almost always solid.

  Closed solids from AutoCAD, Rhino, Inventor, or SketchUp (DWG, SAT and SKP files) will also work

  Small features or details are not what Massing is meant for.

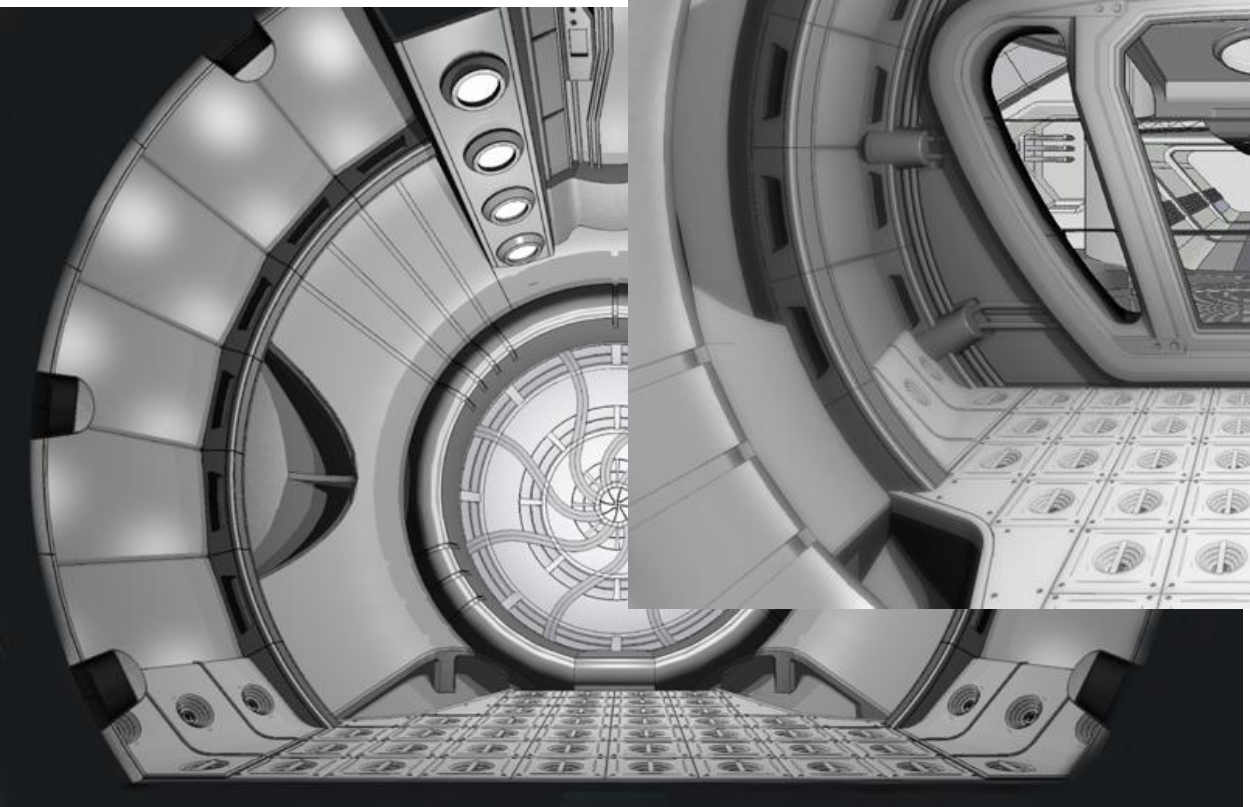
- **Things to Avoid**

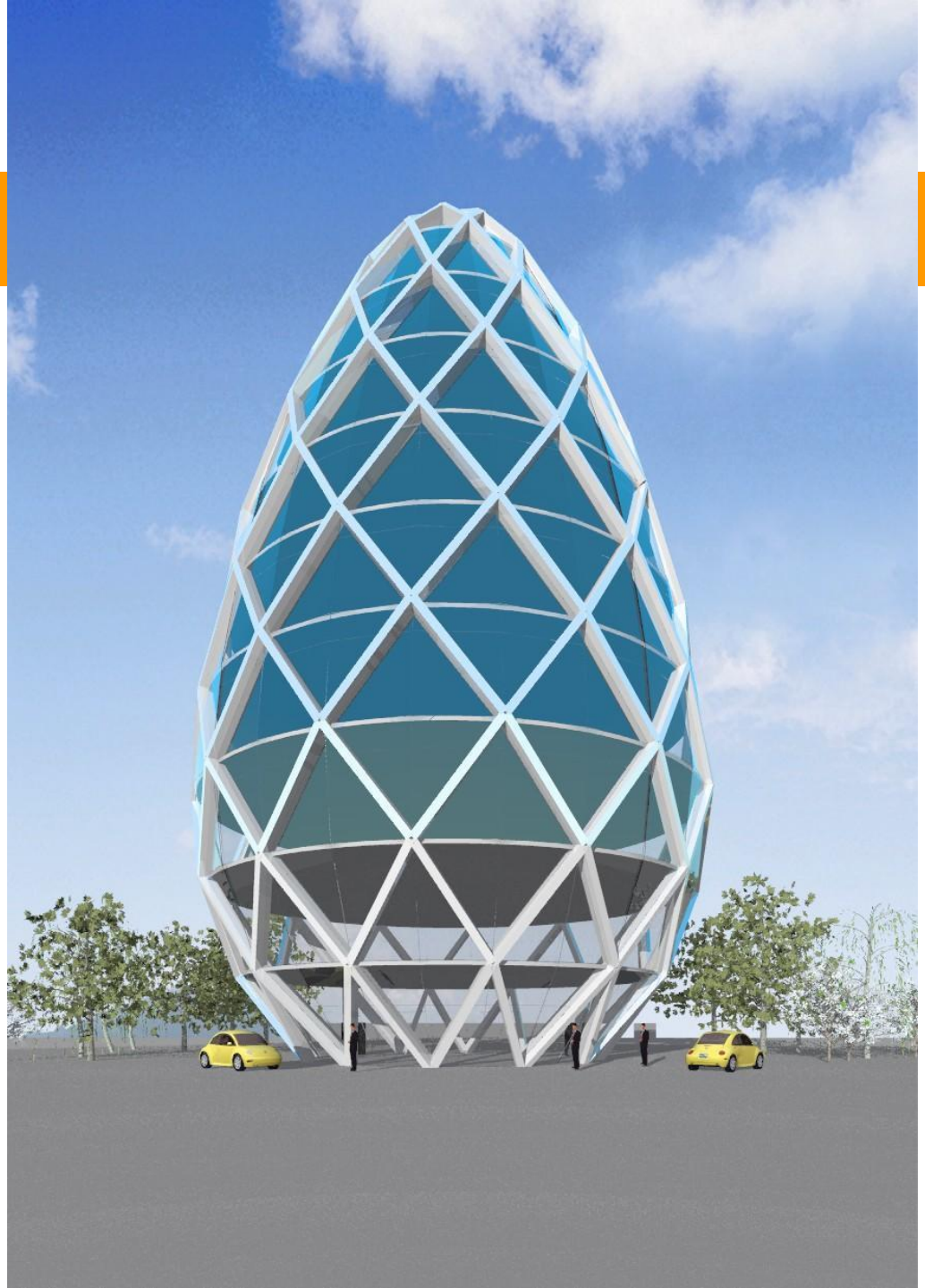
  Meshes are not Solids!!! Meshes (polymeshes, 3d faces) created in DWG, 3dsMax, 3dsViz, SketchUp, Maya or Rhino. Meshes will not work with the Massing Pick Face tools (Wall, Roof, Curtain System, and Floor) and they will not cut correctly in plan/section or report volumes or areas.

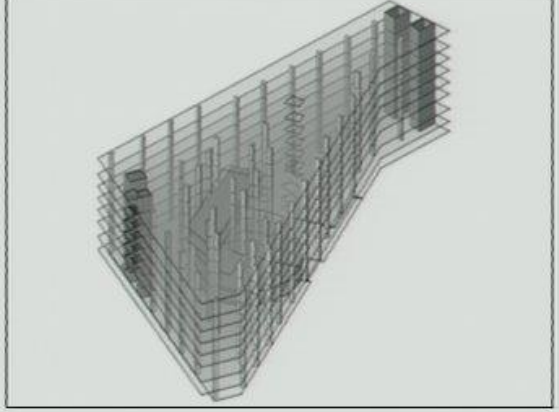
  There is a workaround to some cases.

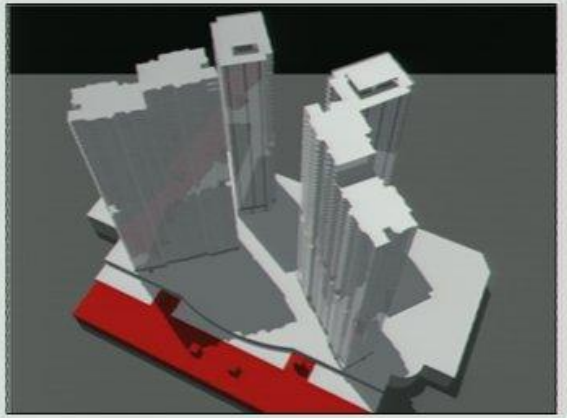
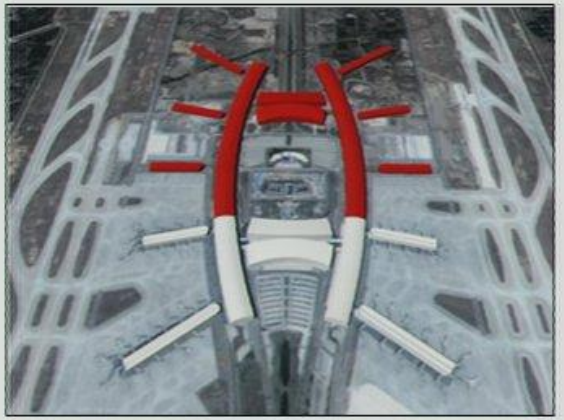
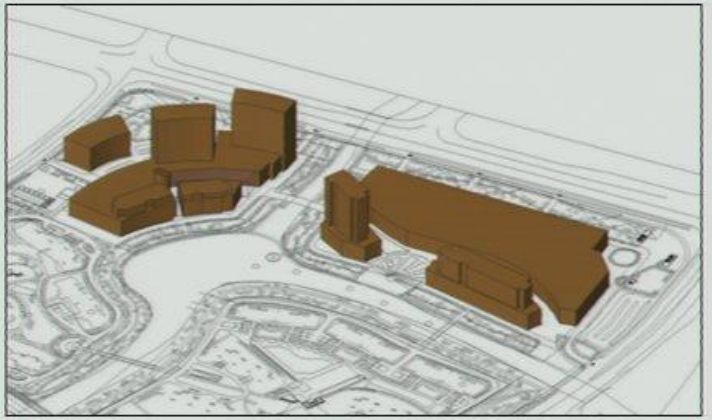
  Do not Overmodel. Do not add extra detail to Masses in Revit.

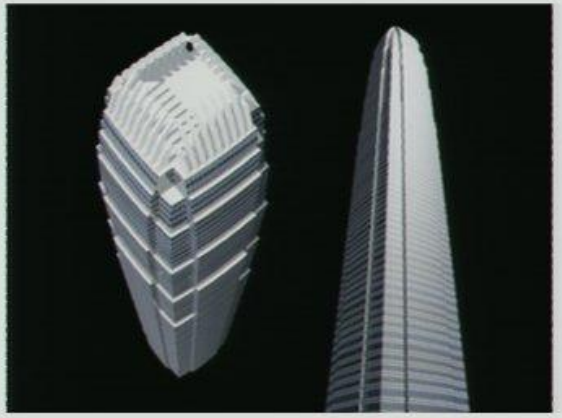
- **Complex Building models Samples**









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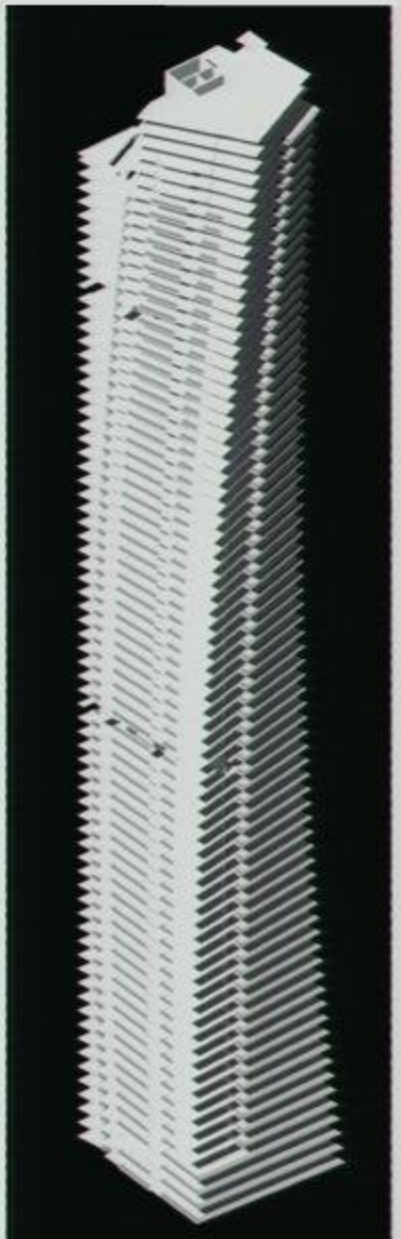

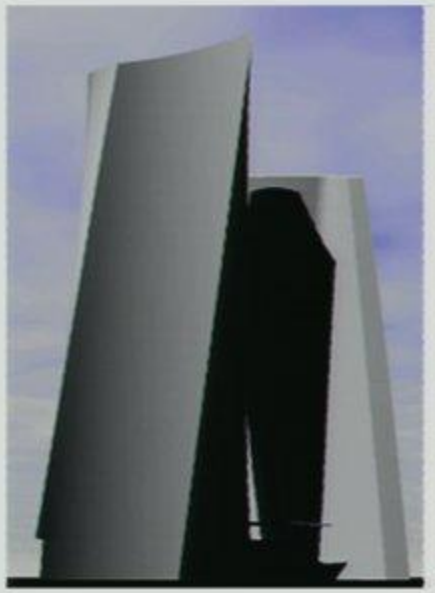

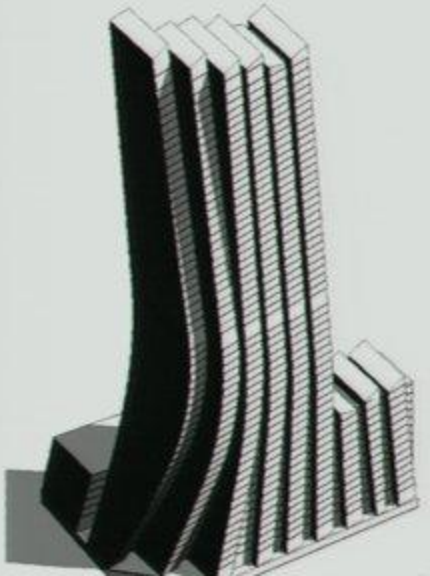

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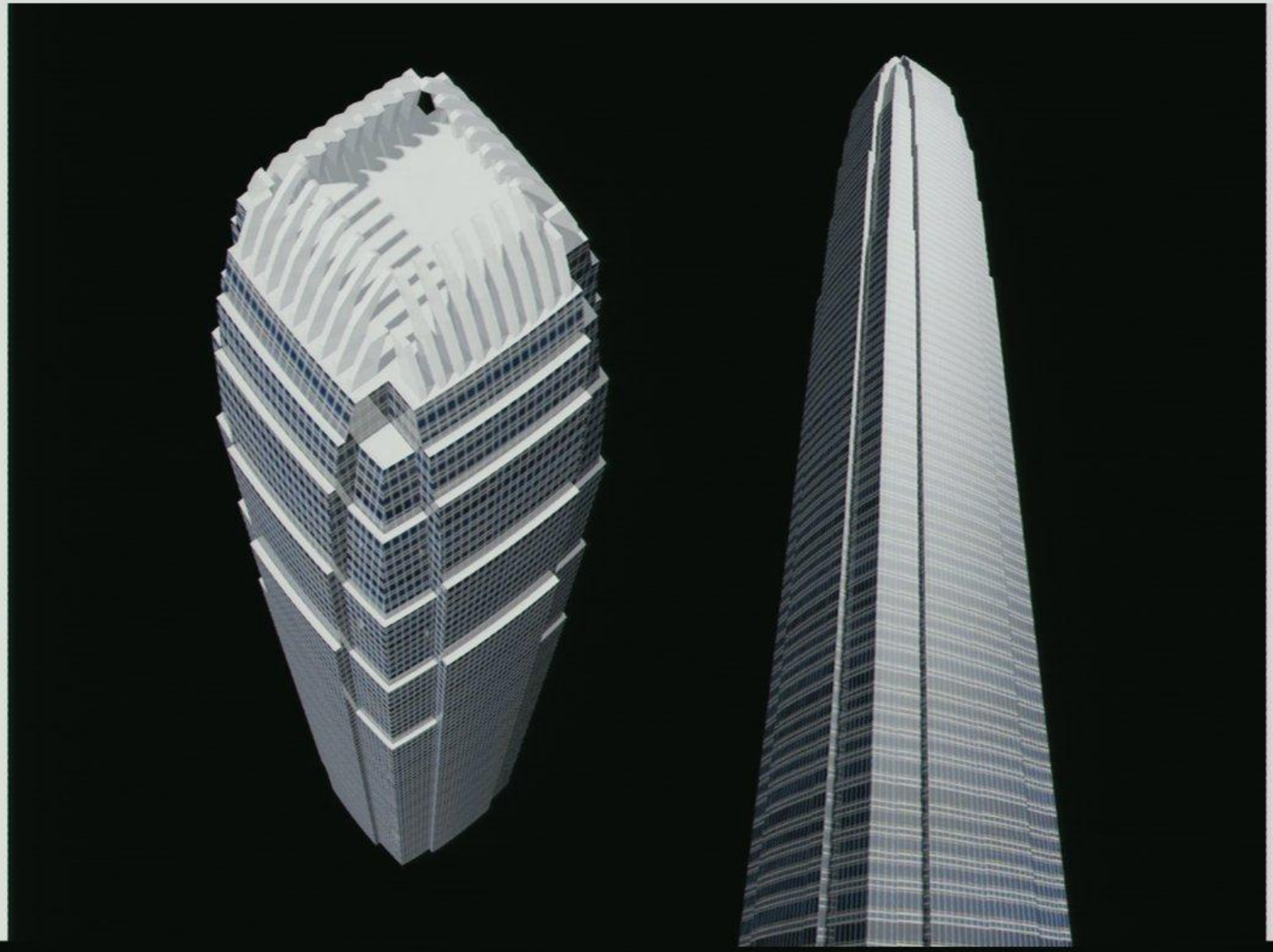

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QUESTIONS?

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