



Challenges we face with models

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Model Coordinates

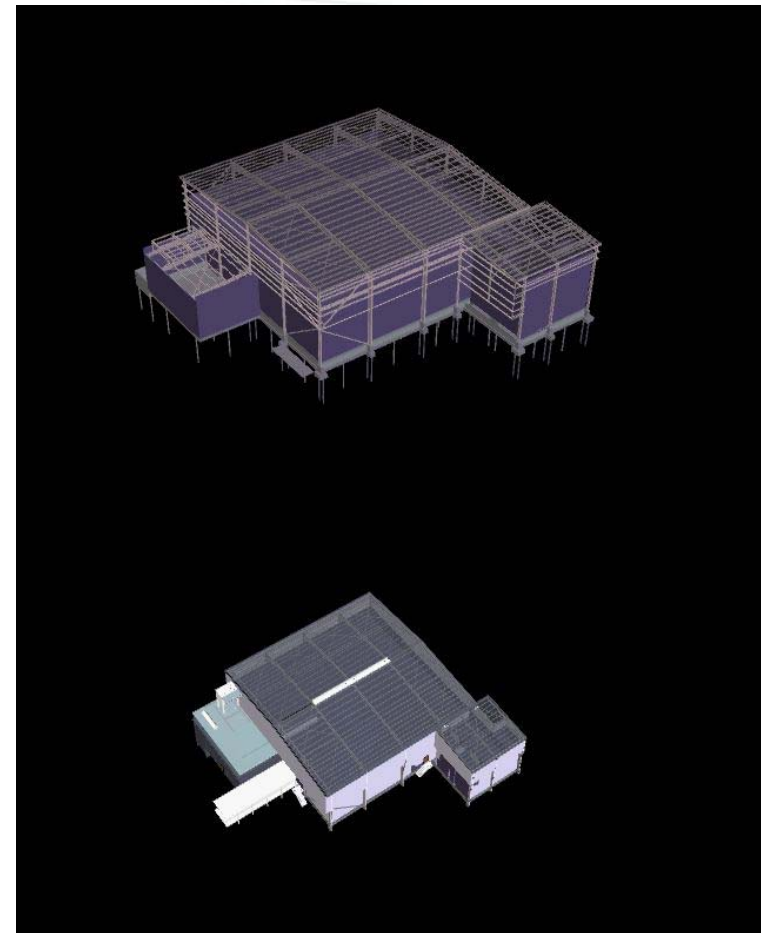


No one consultant takes responsibility for model Set out when no BMP has been put into place or no "BIM" deliverables set by client.

Find that MEP consultants wont start modelling till both Structural and Arch model are coordinated and aligned.

Find a mixture of consultant either use survey point or Project Base Point For level types.

If surveys Point levels are used coordinates can be setup later if survey information is not available at time of project start-up meaning documentation isn't delayed



Parameter	Value
Constraints	
Elevation Base	Project Base Point
Graphics	
Line Weight	Survey Point
Color	Black
Line Pattern	Solid
Symbol	<none>
Symbol at End 1 Default	<input type="checkbox"/>



Hosting Elements to Other Consultants Models

- Project team to be aware of any consultant hosting elements to other consultants model.
- Currently seeing delays in documentation due to hosted elements and the hosting element being deleted or edited without the other parties aware resulting in remodelling.
- Preferred option would be to host element to reference planes or levels to avoid rework or delays.

Model element Responsibility & Coordination

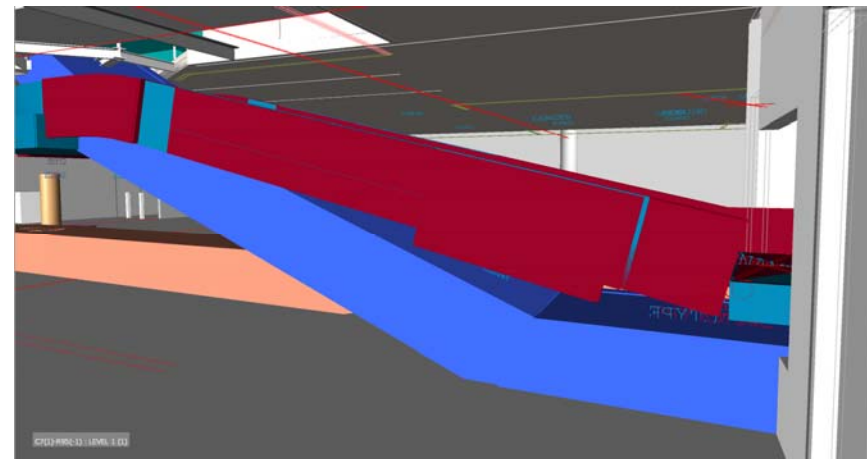


- Duplication of elements in models from consultants that aren't the ones responsible for the element
- We have had Multiple instances where a consultant has modelled plant equipment, conveyors etc graphically to better show on there plans. Structural & M.E.P consultants then coordinate of this rather than the Conveyor or Plant equipment supplier resulting in coordination issues.

1.1. Legend for Model Element Responsibilities Schedule

Colour Code	Discipline (BIM Element Owners Building Model)
Blue	Architect
Green	Aerodrome Planner
Yellow	Electrical – Building
Orange	Communications – Building
Grey	Civil Engineer – Building pad and pavements
Light Blue	Hydraulic - Building
Red	Fire – Building Wet Systems
Dark Orange	Mechanical - Building
Dark Green	Structural Engineer
Purple	Security Consultant
Dark Red	Conveyor Systems

Sanitary Fixtures	Blue	Blue	Blue	Blue					
Pipework	Blue	Blue	Blue	Blue					
Fire services	Red	Red	Red	Red					
ELECTRICAL									
Electrical fixtures	Yellow	Yellow	Yellow	Yellow					
Conveyors Equipment									
Conveyors	Dark Red	Dark Red	Dark Red	Dark Red					

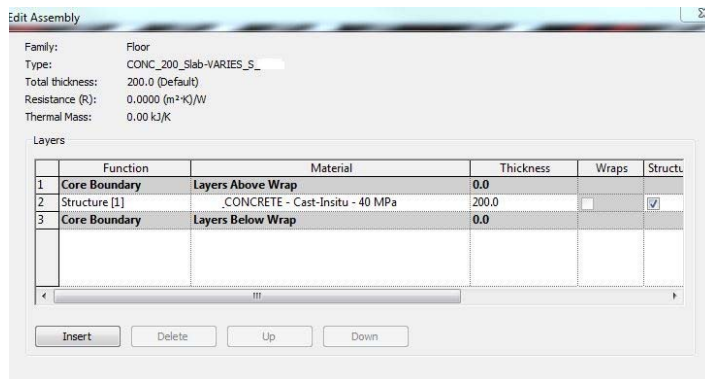


Non Graphical data associated to Elements



- Generally models are modelled to a LOD 300 level but the data attached is not easily extractable or no data at all
- Data in comments is not useful and not quantifiable.
- Non Graphical Elements need to be parameter based
- And most importantly it needs to be able to be available when translated over to an .IFC file.

Identity Data	
SIZE	500 DIA.
MAIN BARS	
LIGS	
COMMENTS	CONCRETE COLUMN FRL 2 Hrs, f _c = 40 MPa, REO RATE = 180 kg/m ³
Assembly Code	
Type Image	
Keynote	
Model	
Manufacturer	
Type Comments	
URL	
Description	
Cost	



2.3.3 LOD 300

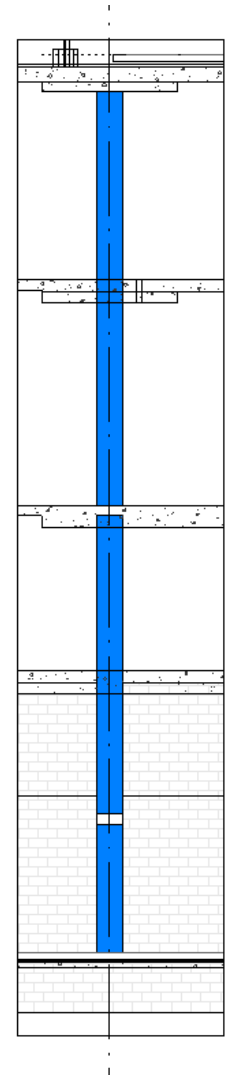
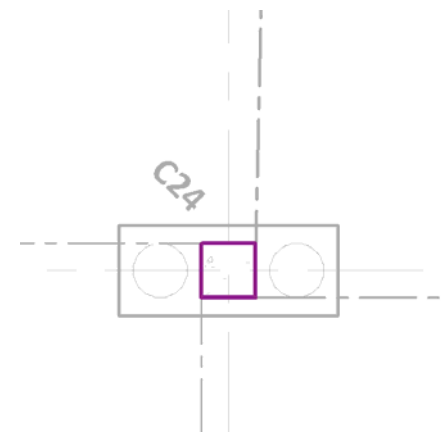
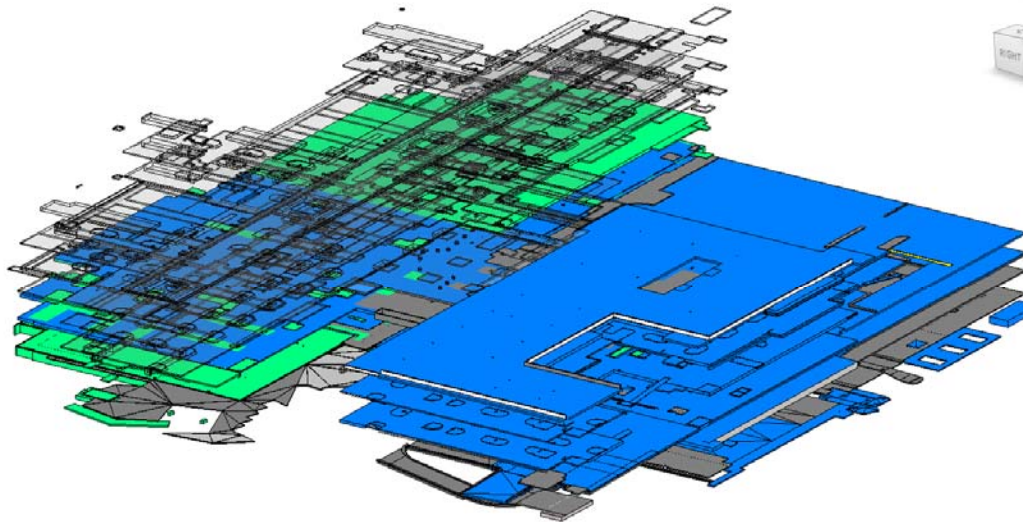
The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of quantity, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.

BIMForum interpretation: The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension call-outs. The project origin is defined and the element is located accurately with respect to the project origin.

Model Breakup



- Models need to be broken up as per construction mythology
- Slab Boundaries not modelled across multiple pour zones/construction joints or buildings
- Vertical Supports need to start and stop as per the construction mythology not run through levels.

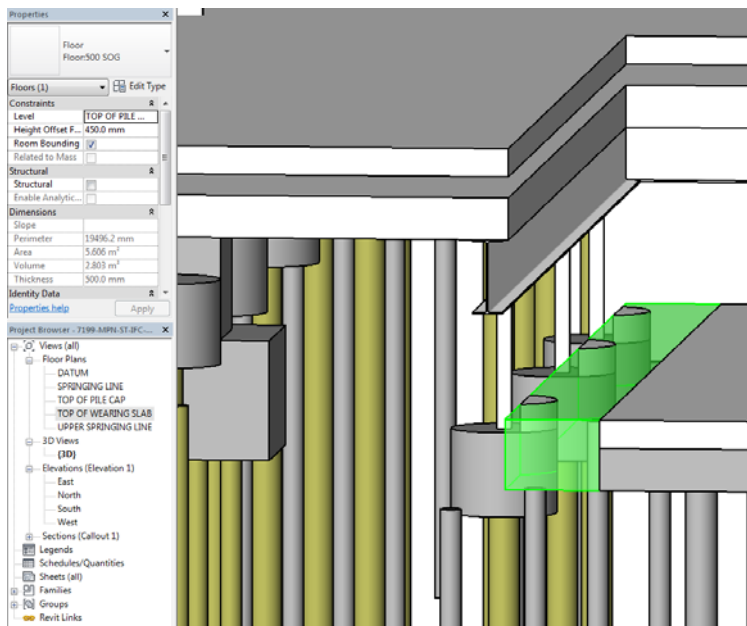


Naming Standards

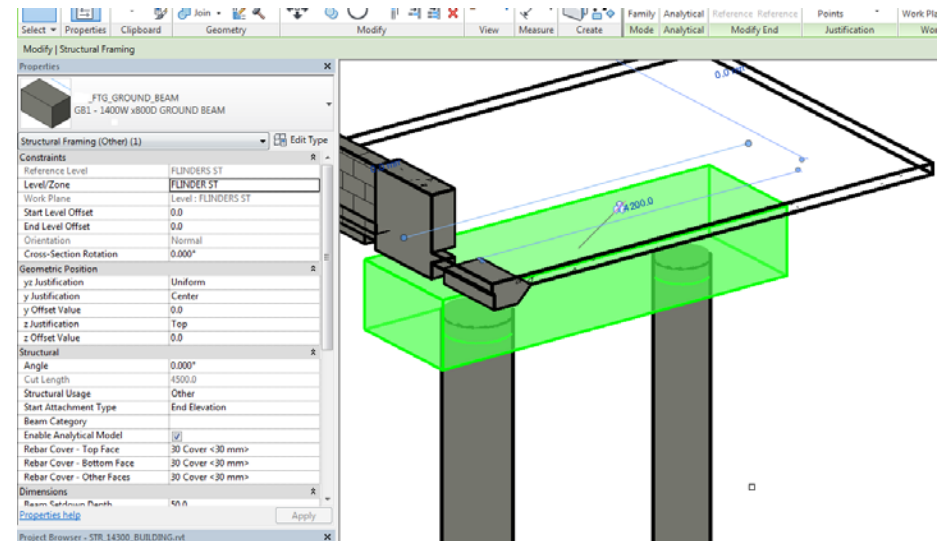


- Modelled Elements not aligning with what they represent.
- Naming to be clear and precise and easily identifiable
- Naming also need to carry through to IFC mapping

Not Preferred



Preferred



2.3.3 LOD 300

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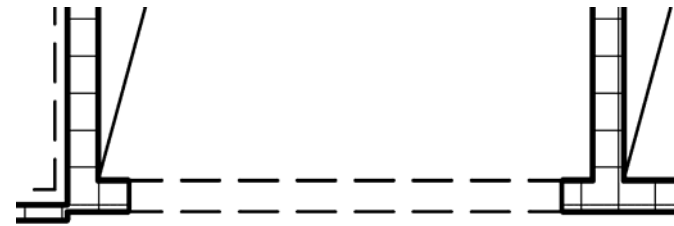
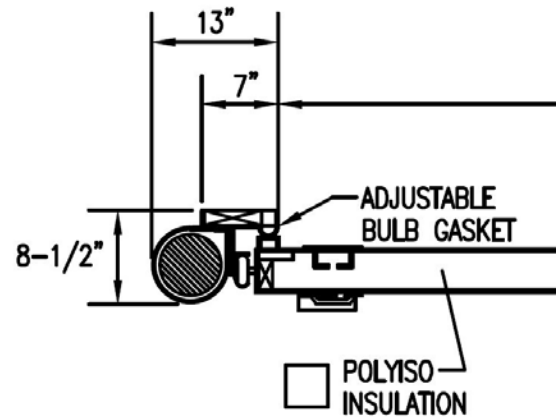
Level of Detail – Actual Detail vs model



Door Detail

vs

Model



- Families need to include spatial requirements for any related equipment if its not feasible to model the element to the detail required.
- This Allows size of rooms and coordination to take place a lot earlier then when finer door details are drawn up
- Since Revit documentation has become more standard we are noticing drawing standards overall declining

Single Modelled elements

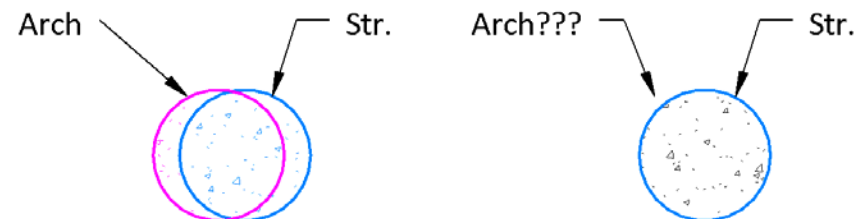


What we are seeing happening

- Structural Engineers models all Structure.
- Architect Link via view and calls up type & defines set out.

Our Issues with this

- Can't run clash detection: If we have 20 columns we can run clash detection and if we get 20 clashes back we know the columns are coordinated
- We take on the design risk of the project not being coordinated



Model vs Standard Details



- Standard Details get updated but model remains the same.

