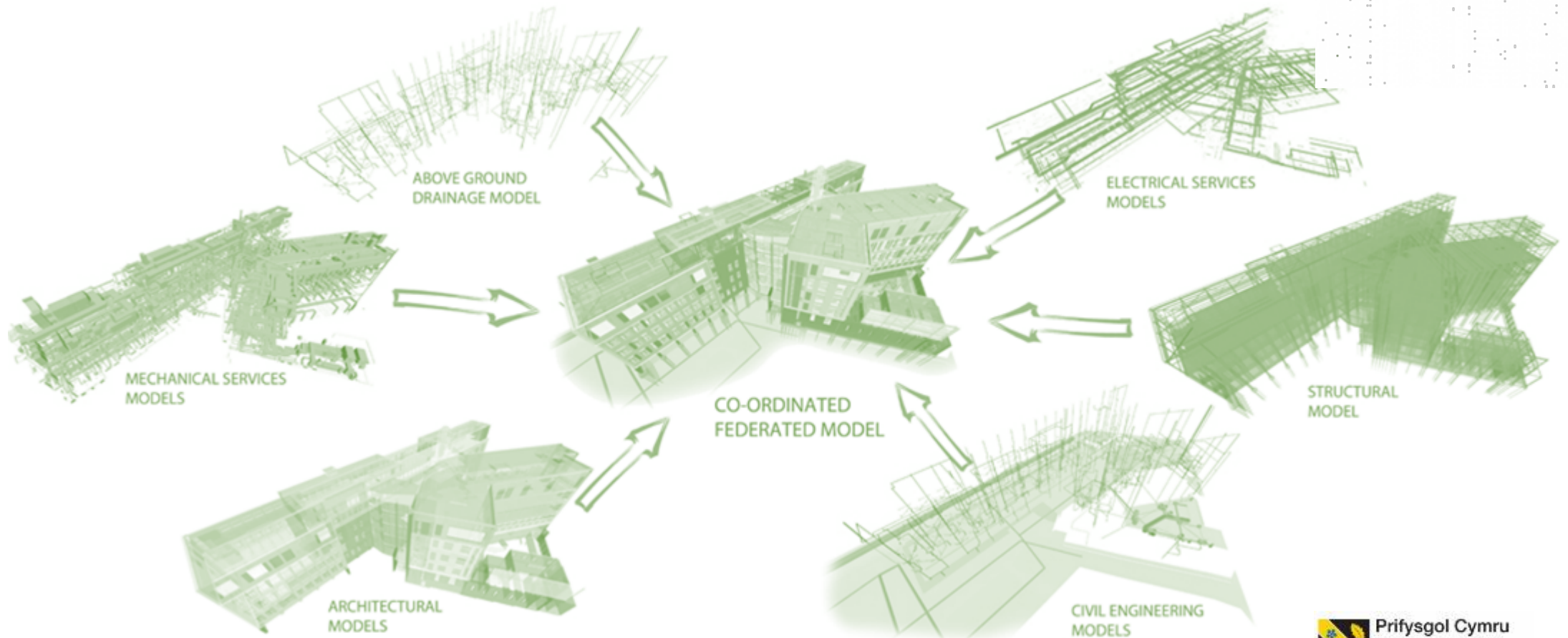


Building Information Modelling

NEW



www.onecreativeenvironment.com

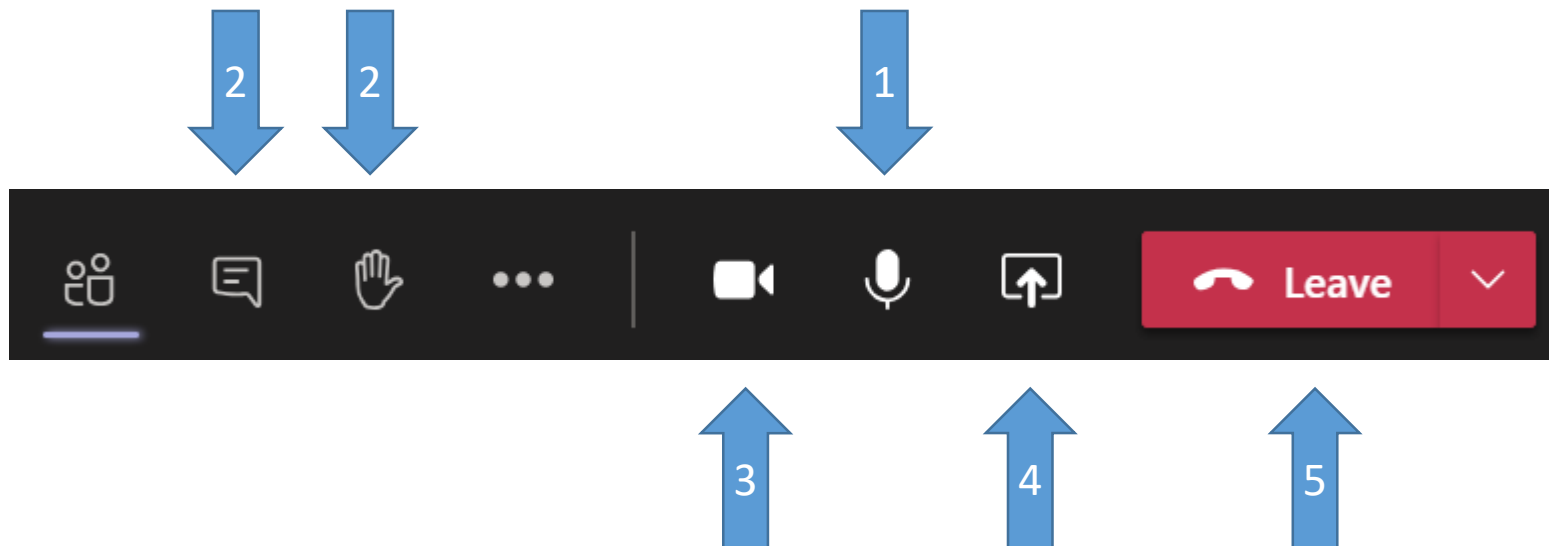
Week 4:

- Revit Basics +
- Structural
- Advanced Modelling & Introduction to Collaboration



MS TEAMS HOUSEKEEPING

1. Mute your Microphone
2. Use Chat to Ask Questions or Put your hand Up
3. If you have a poor connection switch off Camera
4. I may ask you to share your screen.
5. When the lecture ends please hang up



Search

Activity

Chat

Teams

Assignments

Calendar

Calls

Files

Apps

Help

< All teams

ACBA 5010 BIM 2020-2...

General

Wk 01

Wk 02

Wk 03

Wk 04

Wk 05

Wk 06

Wk 07

Wk 08

Wk 09

General

General

> Class Materials

Name

Modified

Modified By

Assignments

January 28

Gavin Traylor

BIM TitleBlocks

January 28

Gavin Traylor

Class Exercises

January 28

Gavin Traylor

L4 Revision Videos

January 12

Gavin Traylor

Lecture Notes

January 28

Gavin Traylor

Sample BIM Documents

February 4

Gavin Traylor

Moodle - Reading List

← → ↺ 🔒 https://moodle.uwtsd.ac.uk/course/view.php?id=8122

Home My Modules Moodle Archives English (en)

BIM (ACBA5010)

Home > My modules > ACBA5010

Announcements

ExLibris
Leganto Online Resource List

☐ Open all ☒ Close all

Instructions: Clicking on the section name will show / hide the section.

1

Module

W ACBA5010

2

Assessment Briefs 2020/2021

3

Turnitin Submission Links 2020/21

BIM (ACBA 5010)
DRAFT ACBA5010 (2020-20) 12 items in 2 sections

LISTS LIST SENT NEW SECTION ADD ITEMS +

Essential reading (8)
Material which is an essential part of the course and students are expected to draw on as a core part of their learning. Must be available from the library and should be available online.

BOOK BIM handbook : a guide to building information modeling for owners, managers designers, engineers, and contractors
Eastman, Charles M., 2nd ed., Chichester; Hoboken, N.J. : Wiley , 2011., Total Pages xiv, 626 p. :
Essential
Complete Available at Y Fforwm Main Collection : 690.028 BIM

WEBSITE Little Book of BIM 2020
BSI, BSI, 2020
British Standard Institution - Guide to BIM documentation. Essential for all students
Essential
Complete Check availability >

WEBSITE NBS BIM Library
NBS, NBS, NA
NBS BIM Library of BIM Objects
Essential
Sent Check availability >

BOOK Building information modeling for dummies
Mordue, Stefan., Philp, David.; Swaddle, Paul., Chichester, England ; John Wiley & Sons Ltd, 2016., Total Pages 1 online resource (356 p.)
Essential
Complete Check availability >

BOOK BIM and construction management : proven tools, methods, and workflows
Gardner, Paul.; Rensselaer, Peter McNeil; Bore, David.; Andriacchi, Andrew.; Baker, 2015., Total Pages 1 online resource (444 p.)

Suggested Reading List

Francis Ching (2015) *Architectural Graphics*

BSi (2019) *The Little Book of BIM*

BSi (2019) *Introduction to the New International Standard ISO 19650*

Eastman C, Teicholz P, Sacks R and Liston K (2011)
BIM Handbook: A Guide to BIM for Owners, Managers, Designers, Engineers & Contractors. Hoboken: John Wiley & Sons Inc.

Mordue S Swaddle P and Philp D (2015). *Building Information Modelling for Dummies*. Chichester: John Wiley & Sons Ltd.

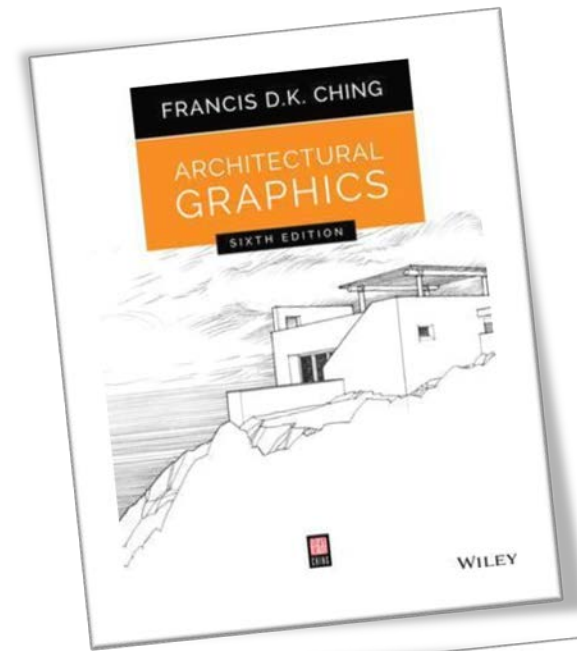
NBS National BIM Library

The BIM HUB: BIM Journal

<https://academy.autodesk.com/>

Revit Tutorials - Youtube.

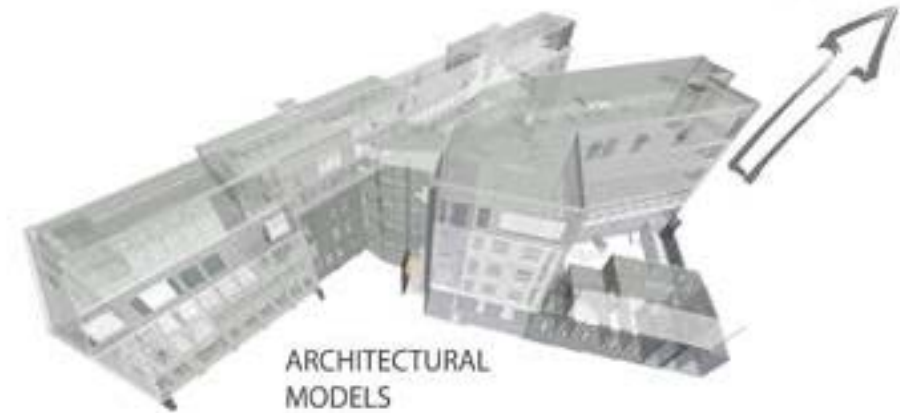
<https://bimblog.house/> Dan Rossiter (BSi)



Key BIM Standards, ISO and PAS – refer to 'Little Book of BIM' guide

How can we create data rich intelligent models?

Tools such as Revit enable intelligent 3D Modelling that can be linked into a BIM Process.



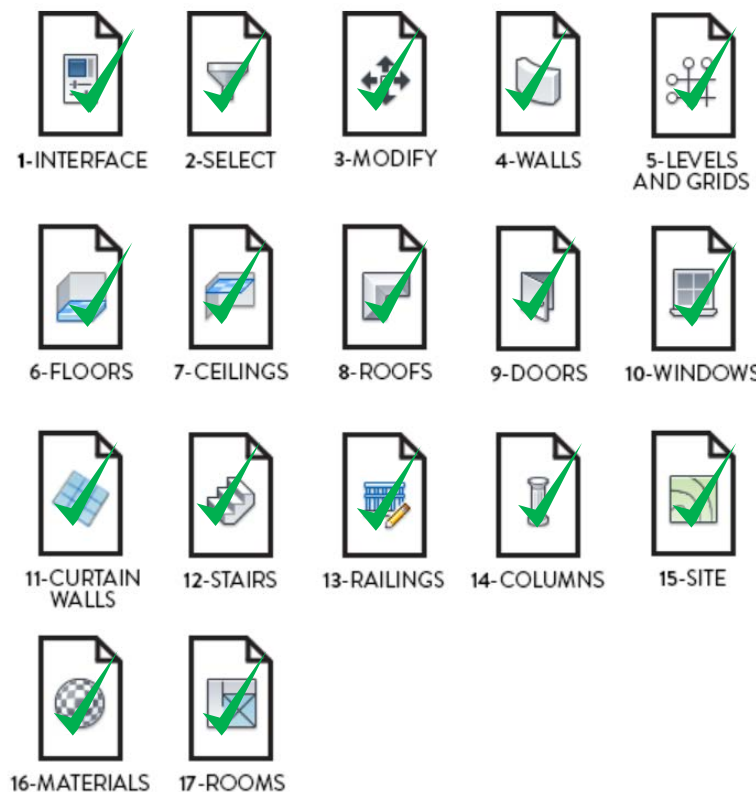
Remember a Revit Model alone is not BIM



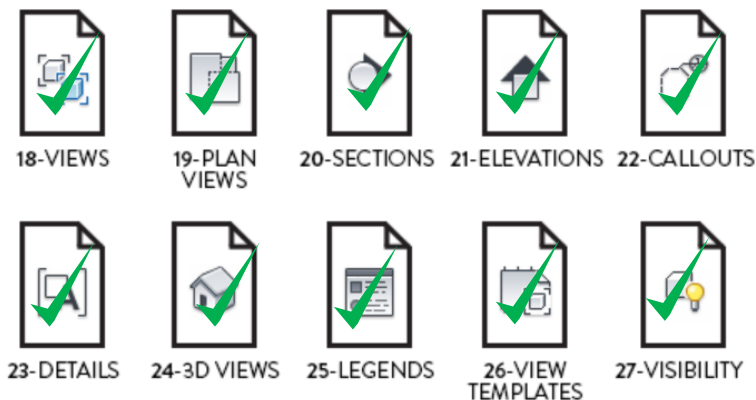
https://www.autodesk.com/education/edu-software/overview?_ga=2.119678017.834319708.1600961686-1615692111.1593105833&sorting=featured&page=1

AUTODESK® REVIT® the basics

PART 1: MODEL



PART 2: VIEWS

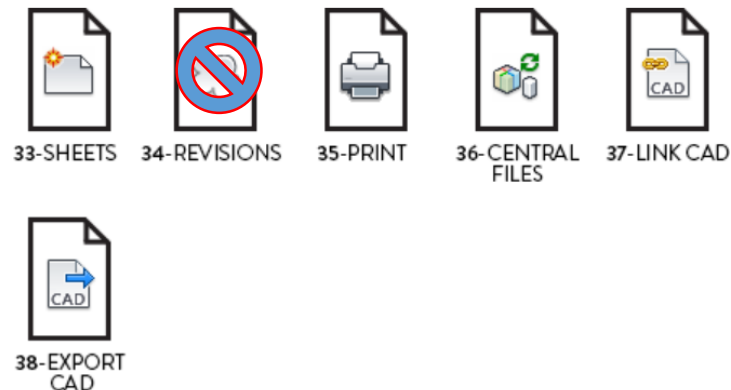


PART 3: ANNOTATE

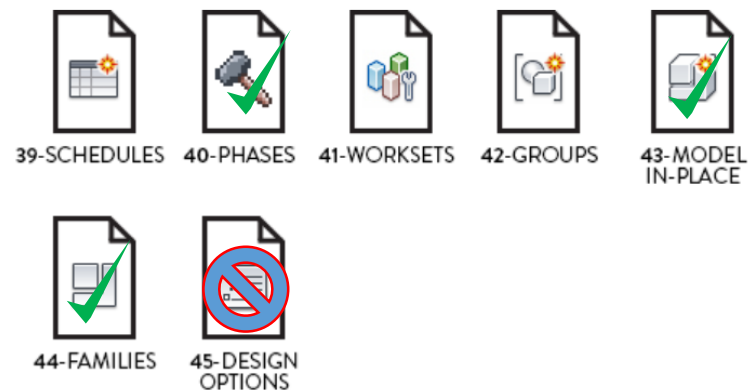


Covered in notes:

PART 4: PUBLISH AND COLLABORATE



PART 5: ADVANCED TOOLS



<https://revitpure.com/basics>

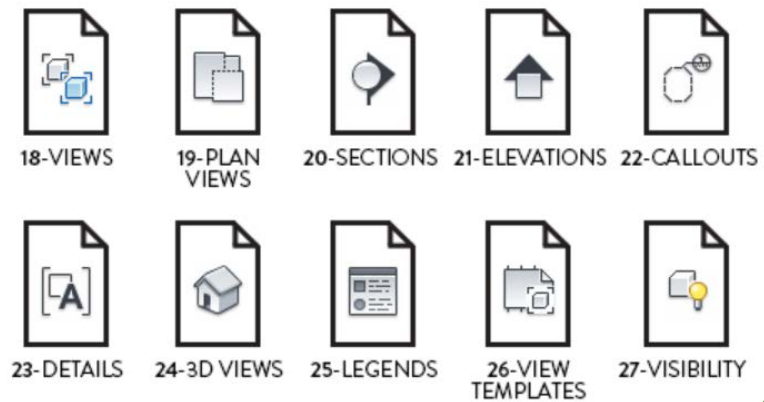
<https://academy.autodesk.com/>

the basics: plus

PART 1: MODEL



PART 2: VIEWS



PART 5: ADVANCED TOOLS



- Creating Schedules for pricing
- Phased Works
- Central Models / Worksets / Federated Models
- Families
- Advanced Modelling: Sweeps Reveals and Model In Place
- Collaboration and interoperability
- VR Visualisation

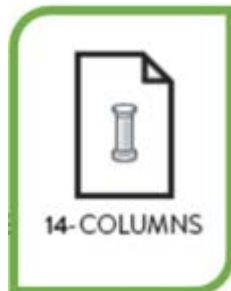
PART 4: PUBLISH AND COLLABORATE



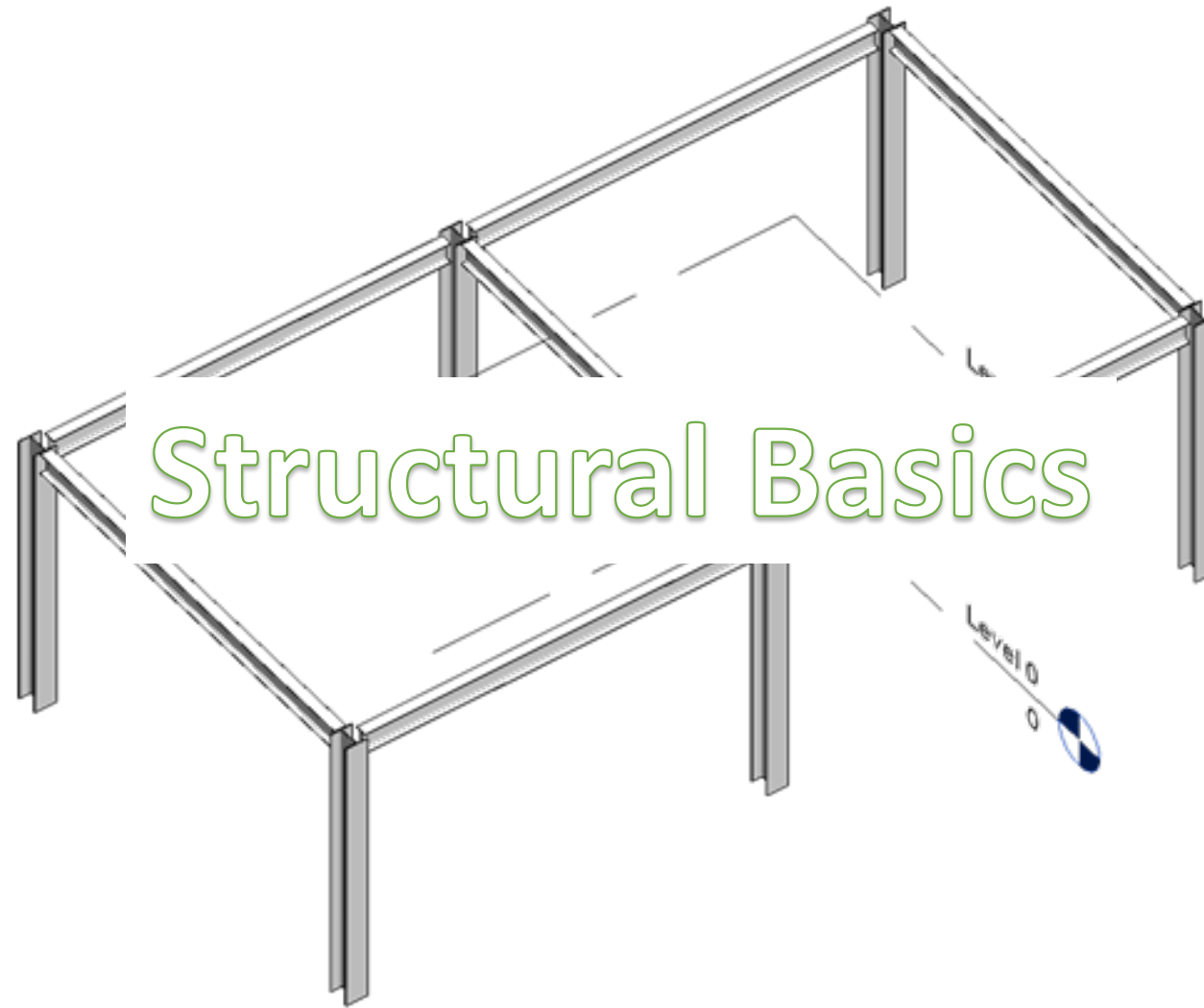
PART 5: ADVANCED TOOLS

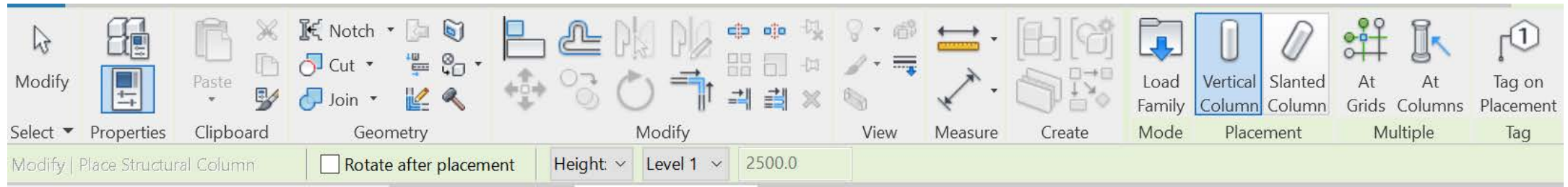


- Creating Schedules for pricing
- Phased Works
- Central Models / Worksets / Federated Models
- Families
- Advanced Modelling: Sweeps Reveals and Model In Place
- *Collaboration and interoperability*
- *VR Visualisation*



Structural Basics:
Columns, Beams, bracing and connections.
Foundations: Pile, Raft, Strip



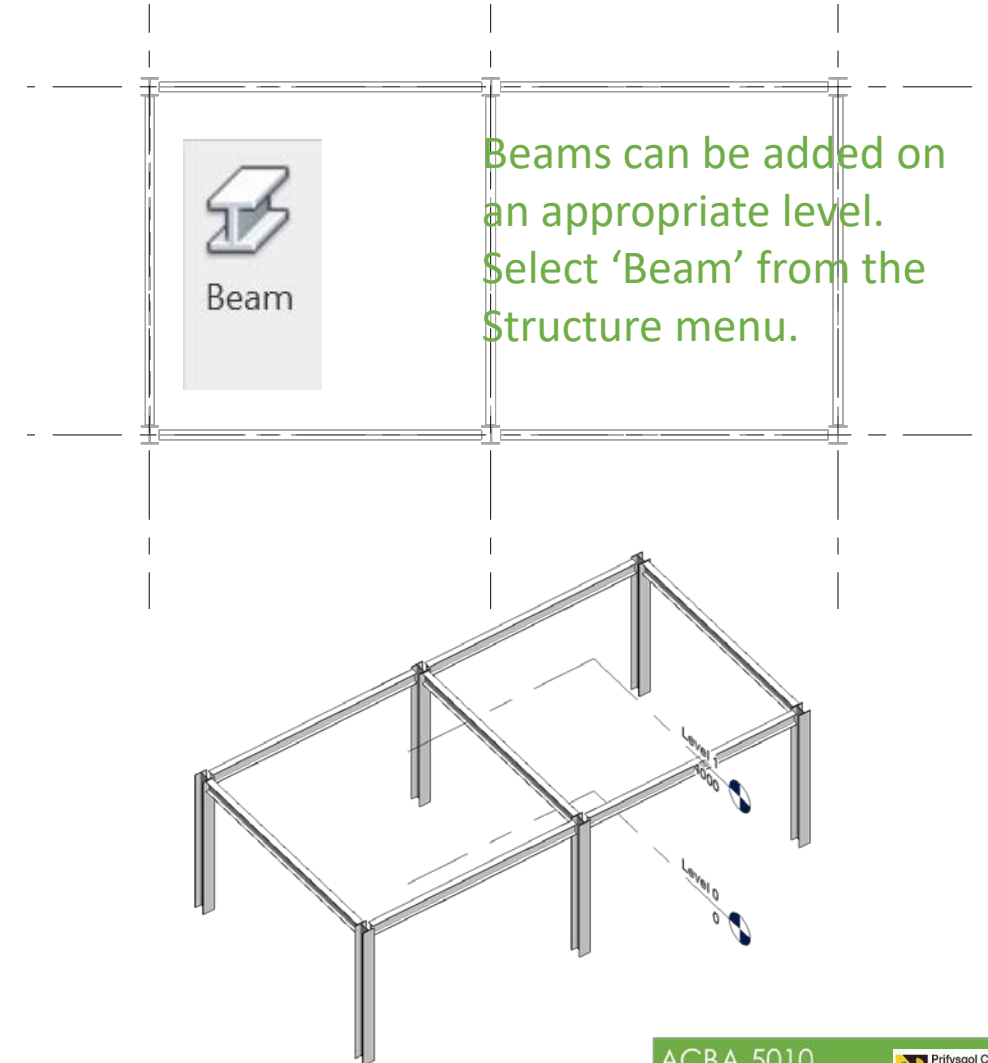
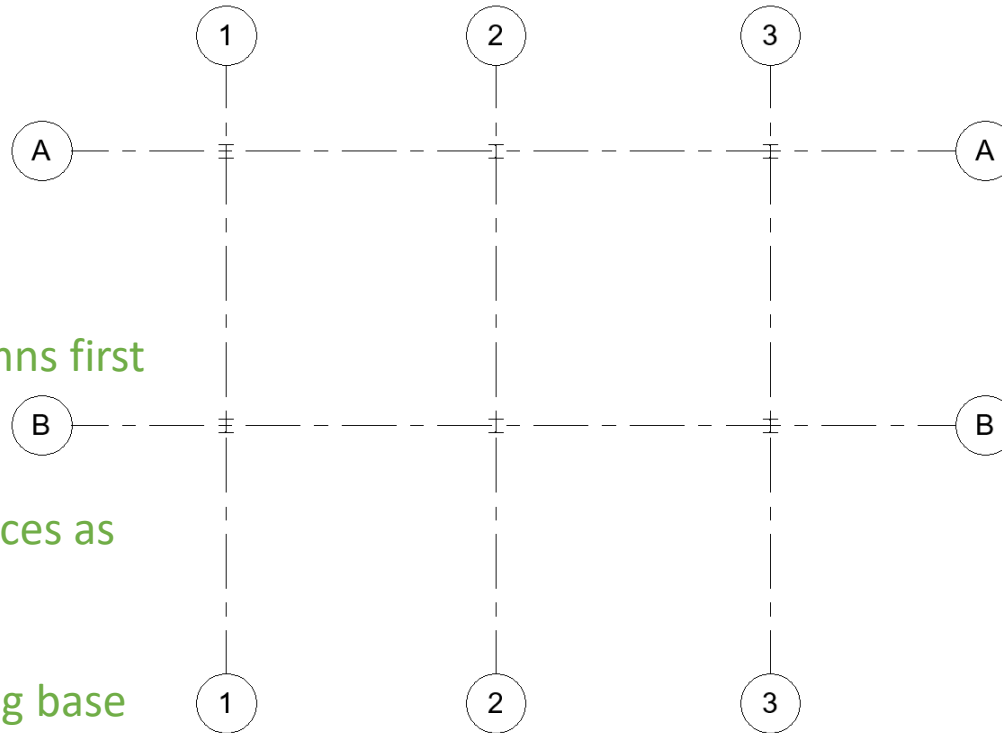


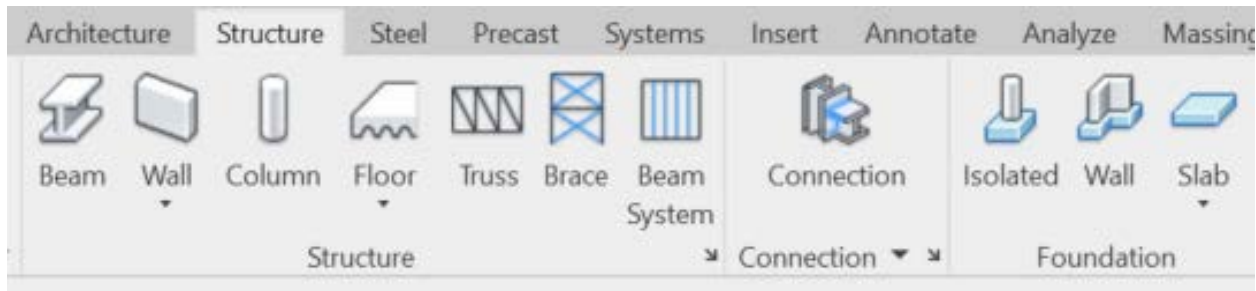
Before placing Columns first start with a GRID

Rename grid references as appropriate.

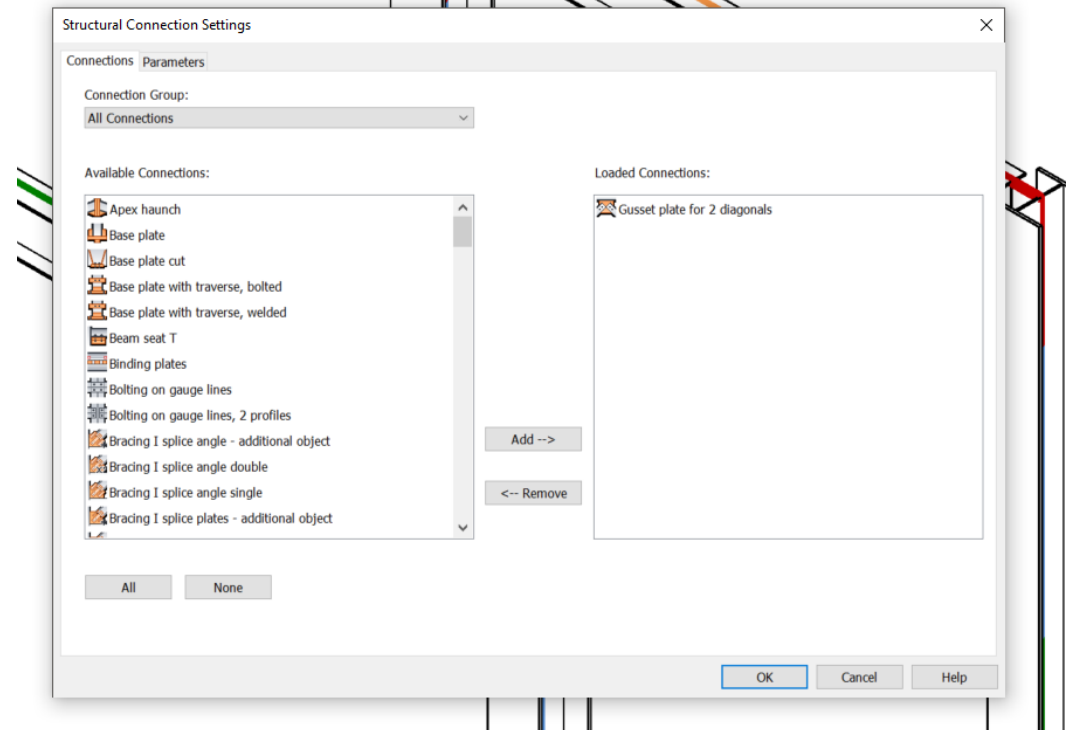
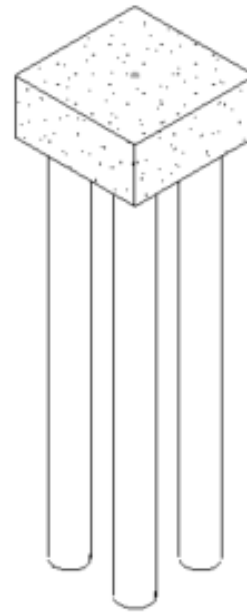
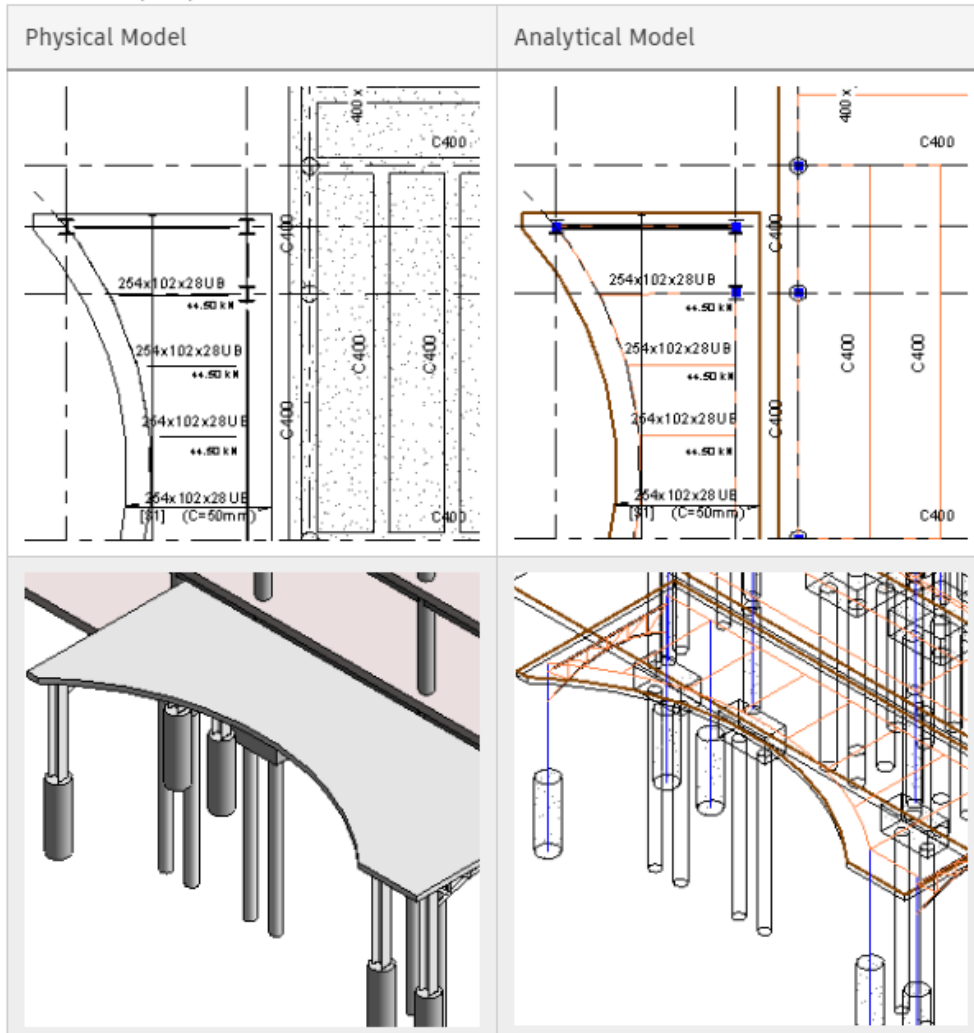
Click Column - noting base level in the properties palette.

In the sub menu select 'Height' and Top Constraint (eg Level 1)



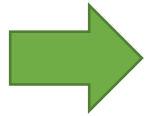
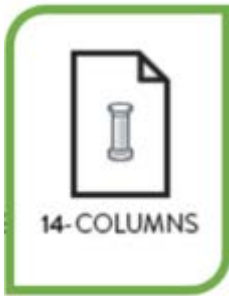


Structural Elements can be created from the Structures Tab. When using the Structural template you are able to view structural elements in both Physical and Analytical mode. Analytical mode can help understand the properties of the structure and element can be set to specific design parameters.

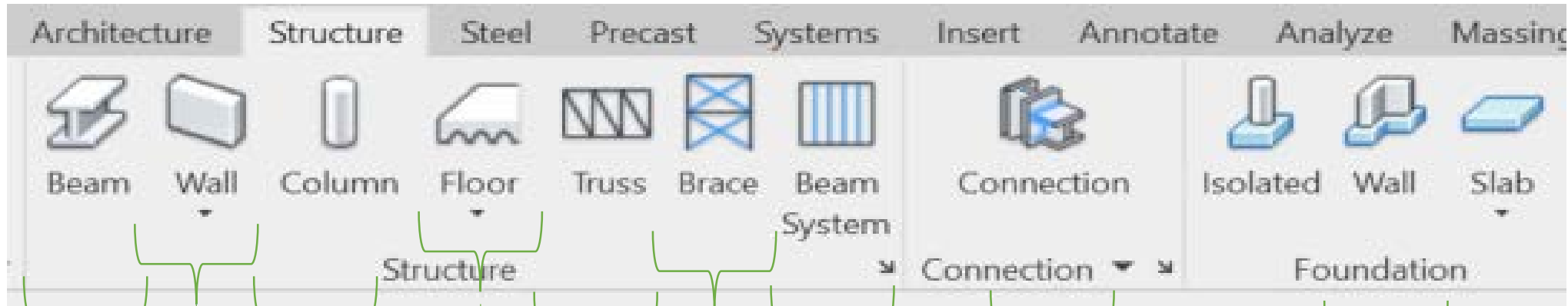


For more on Analytics see the AutoDesk Knowledge Hub;

<https://knowledge.autodesk.com/support/revit-products/learn-explore/caas/CloudHelp/cloudhelp/2021/ENU/Revit-Analyze/files/GUID-05CA5628-12C6-456C-B0B9-D922D22B67D0-htm.html>



Structural Basic:
Columns, Beams, bracing and connections.
Foundations: Pile, Raft, Strip



Structural
Beams

Structural
Columns

Structural
Walls - Cores

Structural
Floors

Truss Systems

Bracing

For larger areas of
Beams a system can
be created

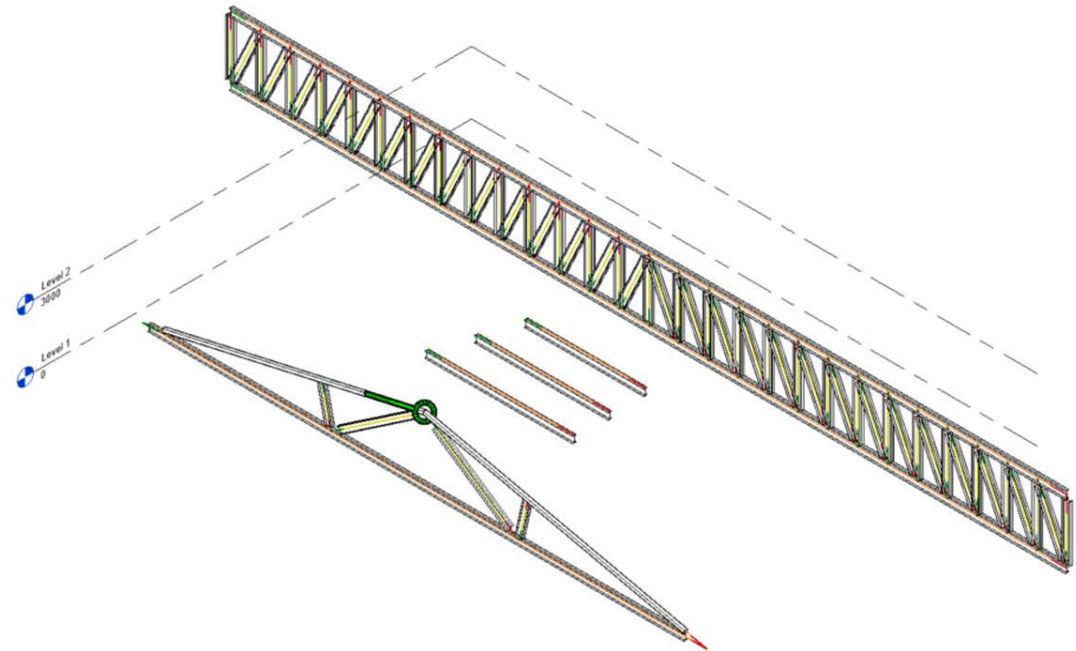
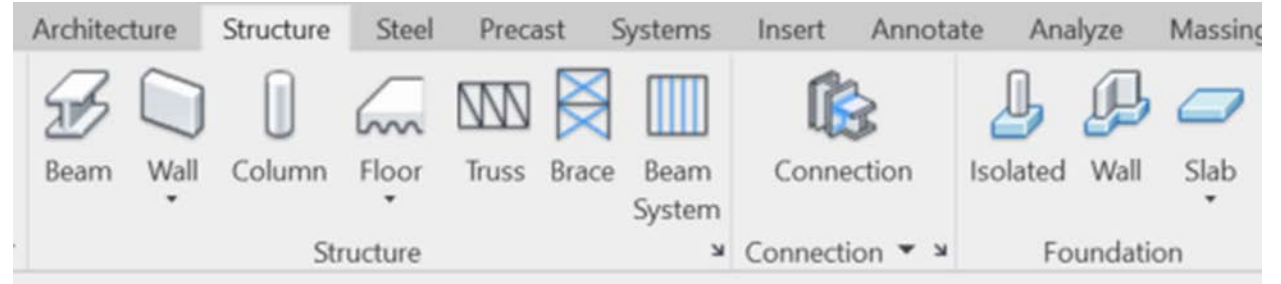
Connections can
loaded and junctions
edited to suit

Foundation types
to suit. Pad, pile,
strip, raft etc.

Structural Basics Class Exercise

Start a New Project and use the 'Metric – Structural Template'

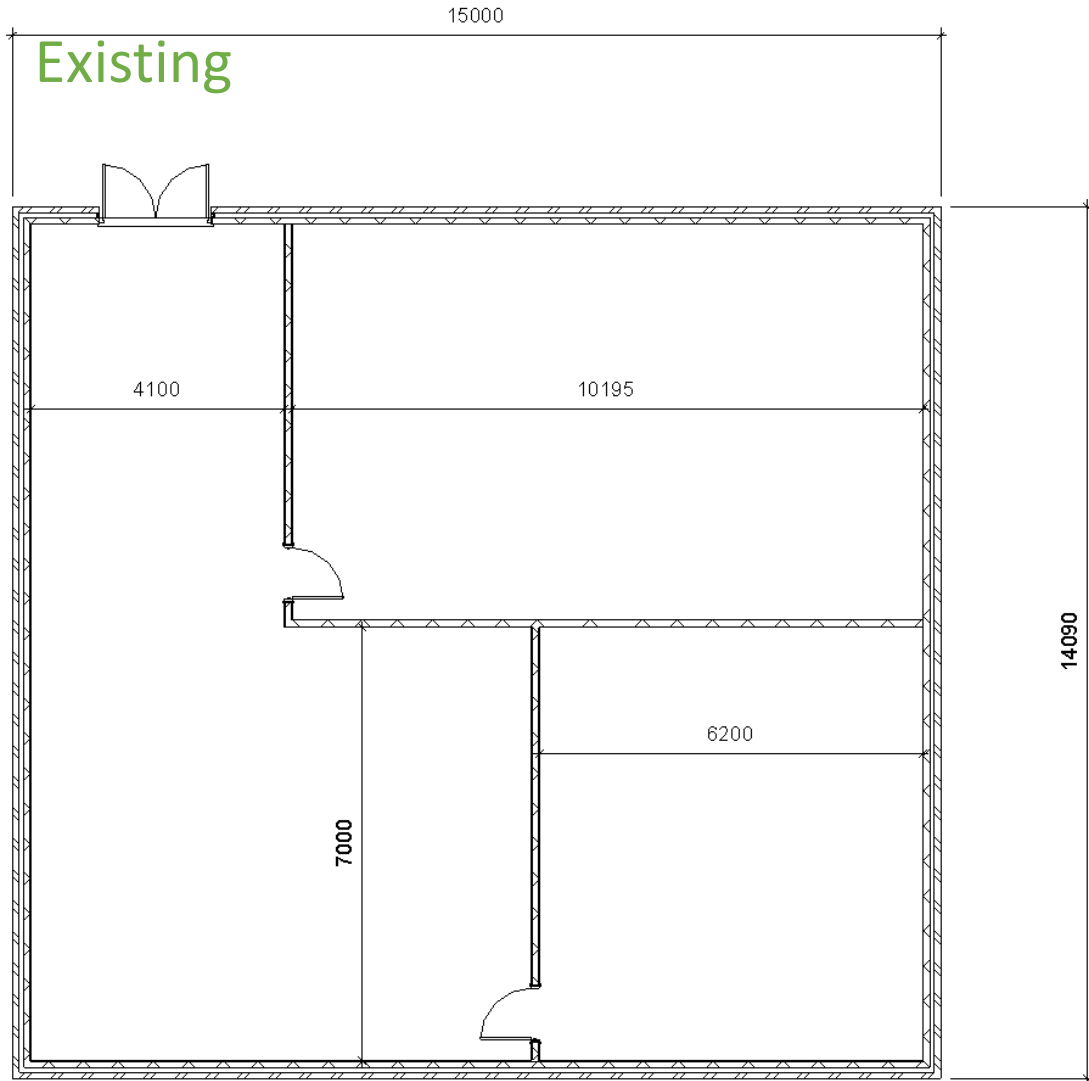
- Draw columns and beams and change the connection details.
- Draw some walls, and place a strip footings underneath
- Draw a raft foundation and apply an edge strip to each side.
- Draw A beam system – 20m wide by 10m deep.
- Draw a 3 Pile foundation.
- Draw a Fink truss



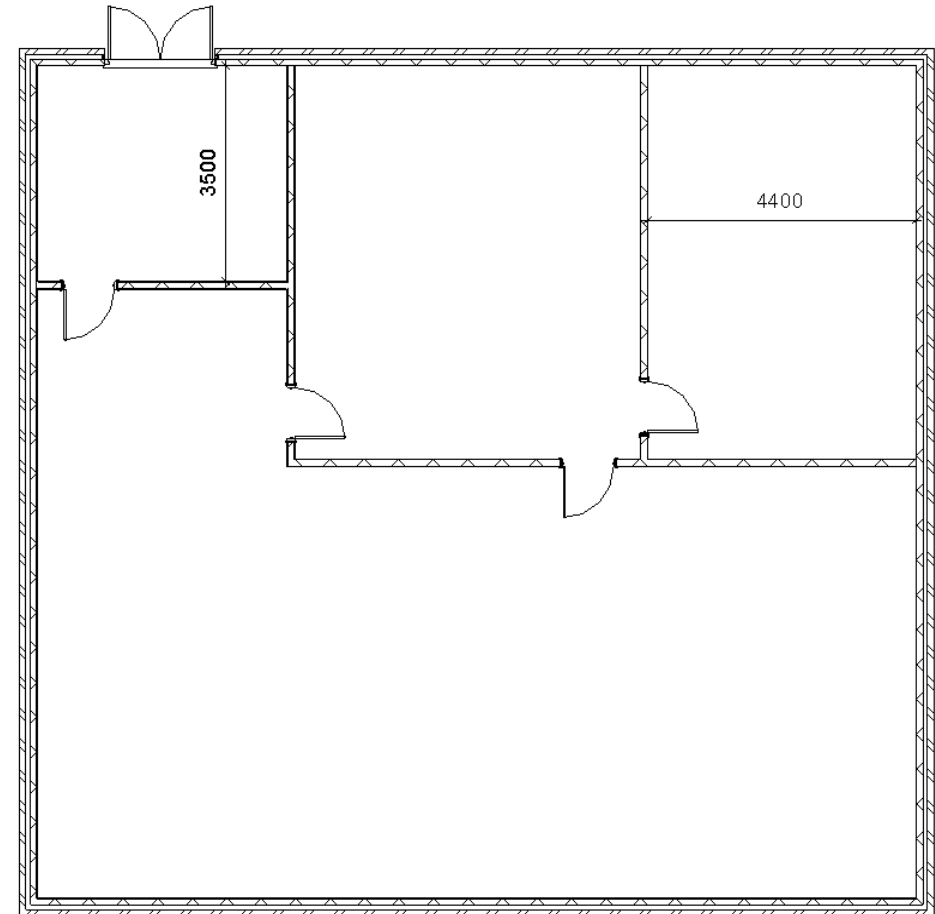
Phasing in Revit

Revit enables you to show both existing and proposed plans using Phasing.

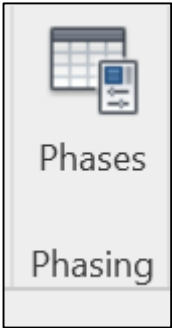
Exercise 4



Proposed



Manage



Phasing

Project Phases Phase Filters Graphic Overrides

PAST

	Name	Description
1	Existing	
2	New Construction	

Insert

Before

After

Combine with:

Previous

Next

Phasing

Project Phases Phase Filters Graphic Overrides

	Filter Name	New	Existing	Demolished	Temporary
1	Show All	By Category	Overridden	Overridden	Overridden
2	Show Complete	By Category	By Category	Not Displayed	Not Displayed
3	Show Demo + New	By Category	Not Displayed	Overridden	Overridden
4	Show New	Overridden	Overridden	Overridden	Not Displayed
5	Show Previous + Demo	Not Displayed	Overridden	Overridden	Not Displayed
6	Show Previous + New	By Category	Overridden	Not Displayed	Not Displayed
7	Show Previous Phase	Not Displayed	Overridden	Not Displayed	Not Displayed

New Delete

OK Cancel Apply Help

Phasing

Project Phases Phase Filters Graphic Overrides

Phase Status	Projection/Surface		Cut		Halftone	Material
	Lines	Patterns	Lines	Patterns		
Existing				Hidden	☐	Phase - Exist
Demolished				Hidden	☐	Phase - Demo
New					☐	Phase - New
Temporary					☐	Phase - Temporary

OK Cancel Apply Help

Phasing in Revit

Revit enables you to show both existing and proposed plans using Phasing Filters and Graphical Overrides

Existing

Floor Plan

Floor Plan: Level 0 existing floor plan

Edit Type

Depth Clipping

No clip

Identity Data

View Template

<None>

View Name

Level 0 existing floor p...

Dependency

Independent

Title on Sheet

Referencing Sheet

Referencing Detail

Phasing

Phase Filter

Show All

Phase

Existing

Proposed

Floor Plan

Floor Plan: Level 0 proposed floor pl...

Edit Type

Depth Clipping

No clip

Identity Data

View Template

<None>

View Name

Level 0 proposed floo...

Dependency

Independent

Title on Sheet

Referencing Sheet

Referencing Detail

Phasing

Phase Filter

Show Complete

Phase

New Construction

Works Plan

Floor Plan

Floor Plan: Level 0 works plan

Edit Type

Depth Clipping

No clip

Identity Data

View Template

<None>

View Name

Level 0 works plan

Dependency

Independent

Title on Sheet

Referencing Sheet

Referencing Detail

Phasing

Phase Filter

Show New

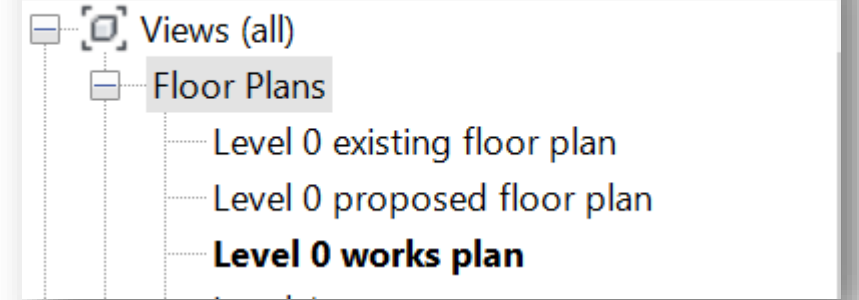
Phase

New Construction

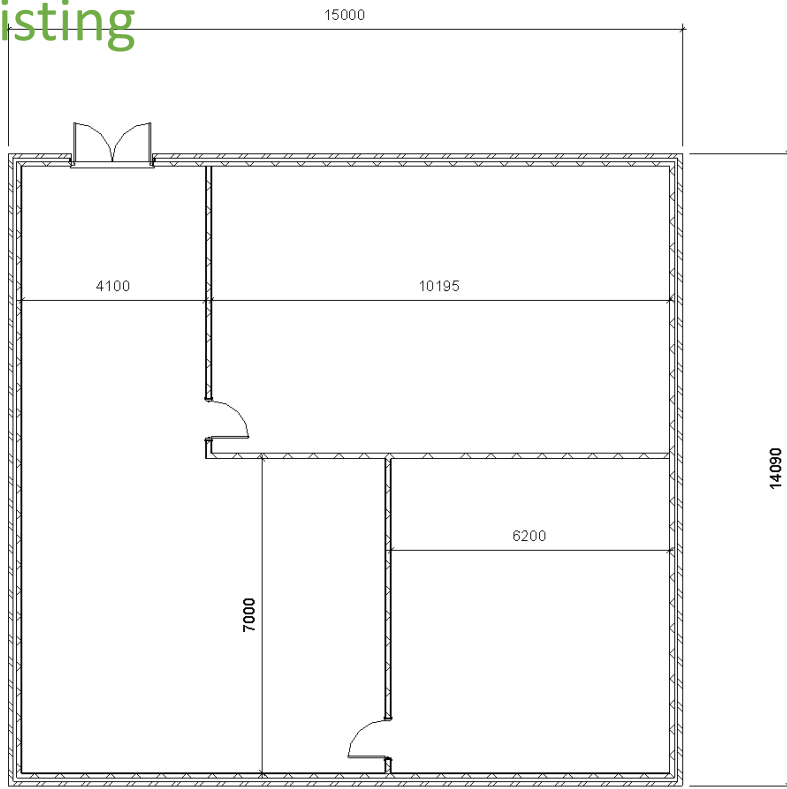
Phasing in Revit

Revit enables you to show both existing and proposed plans using Phase Filters and Graphical Overrides

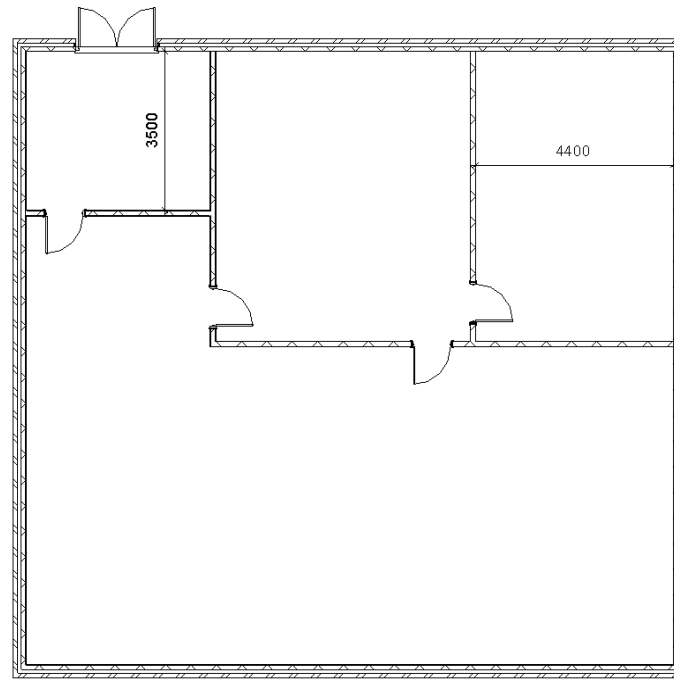
Project Browser - Project1 - Introduction to Phasi...



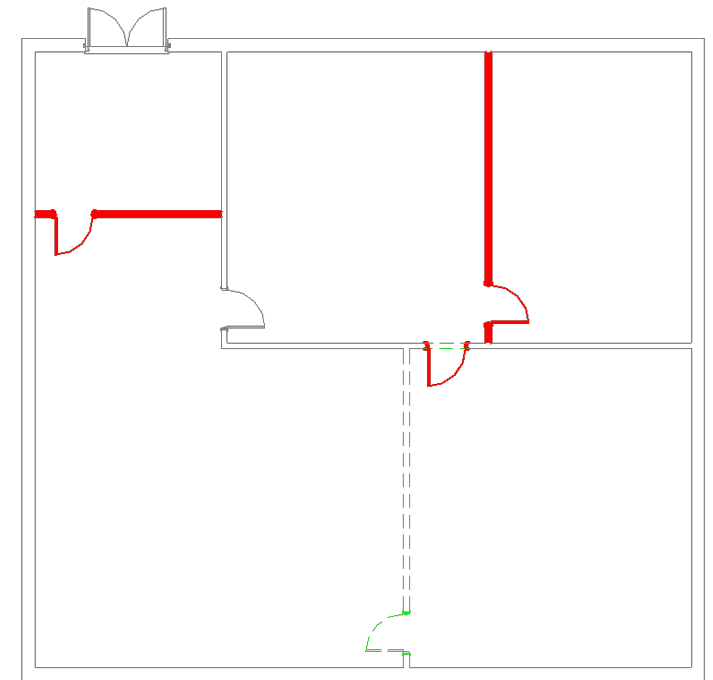
Existing



Proposed



Works Plan



Exercise 5

PHASING:

2 storey Office block refurbishment and extension.

Remove existing WC from ground and first floor to creating work open plans office space. New WCs and Kitchen /breakout facilities on both floors of the extension.

3 new offices access corridor and conference room to south elevation with conference room.

Set up your levels in Elevation view.

Distance between levels of 3500mm

Set up Phasing (existing proposed and works plans)

Set up Grids

Assumptions:

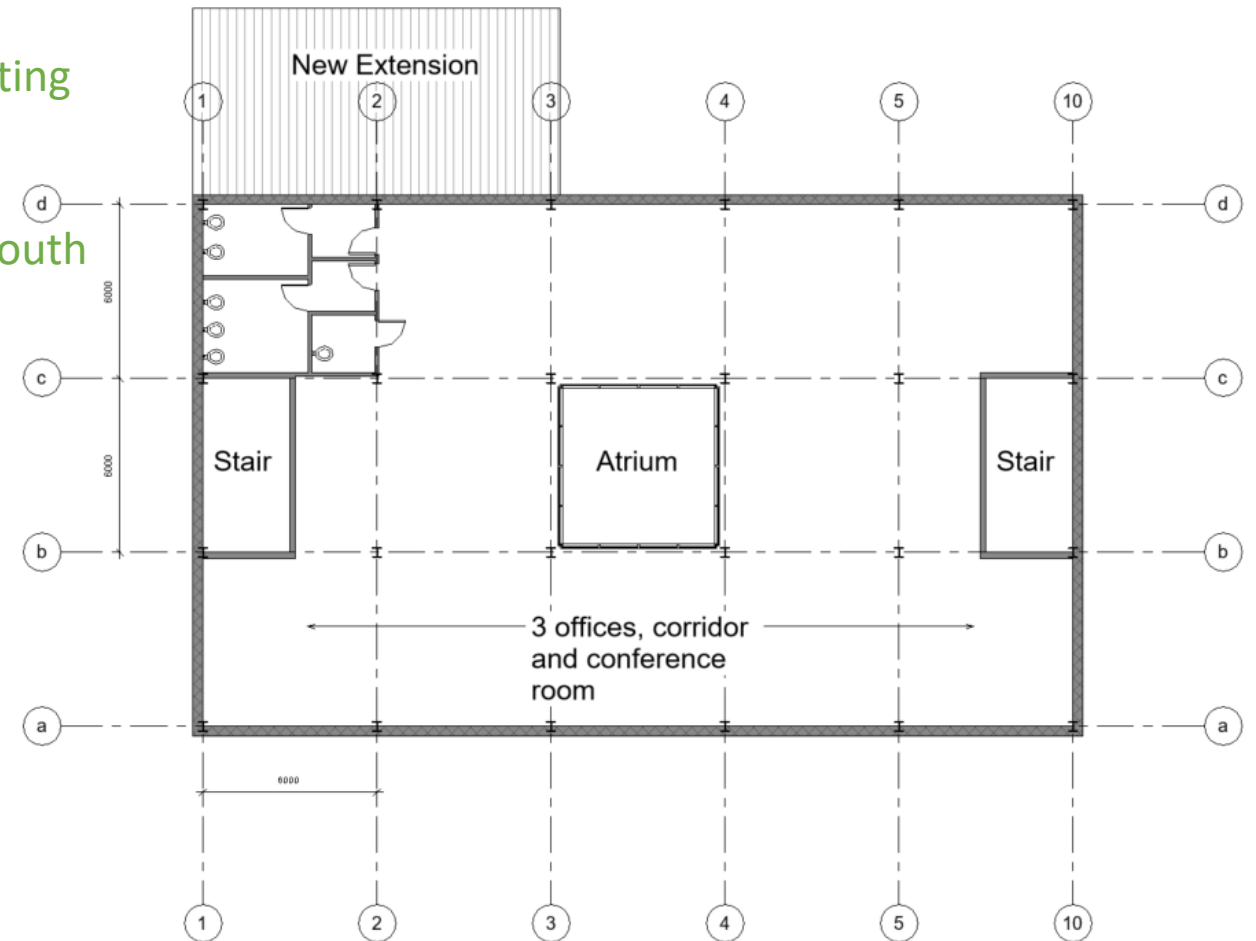
External walls your choice.

Flat roof. External Windows distributed evenly per bay.

Framed structure with columns at 6m centres

Staircase at either end with central glazed atrium.

Apply, room names, legends, grids. create plans, section and elevation views. 3D views existing and proposed





PART 4: PUBLISH AND COLLABORATE



33-SHEETS



34-REVISIONS



35-PRINT



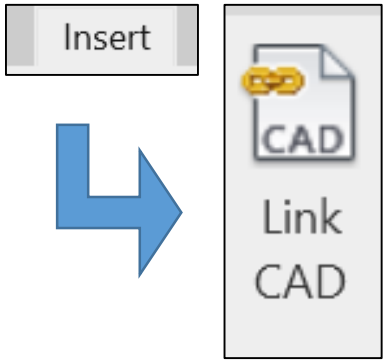
36-CENTRAL
FILES



37-LINK CAD



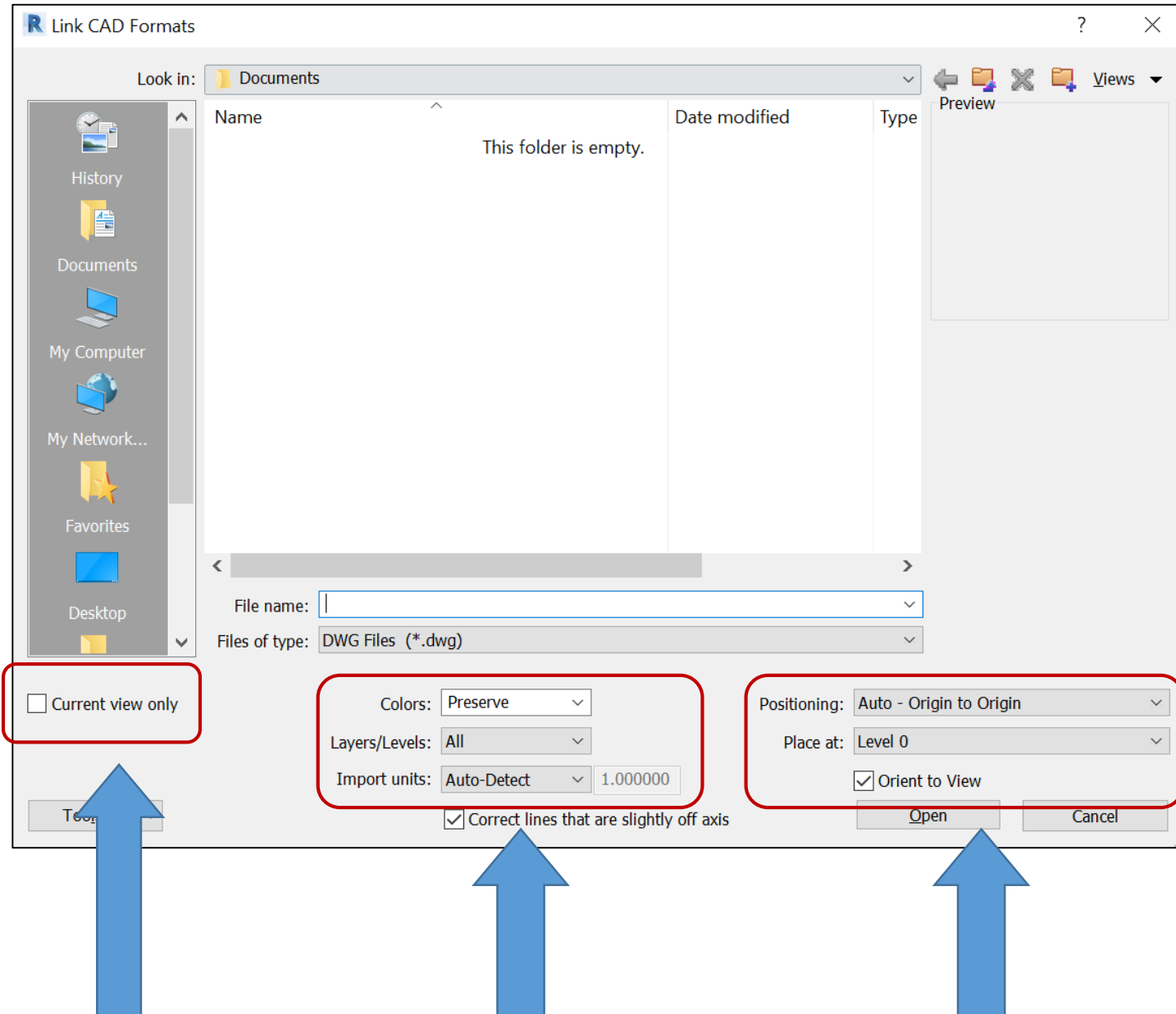
38-EXPORT
CAD



CAD files

Cad files can be linked to Revit through the Insert Menu.

Check the fields highlighted before importing files.



Manage Links

RevitIFCCAD FormatsDWF MarkupsPoint CloudsTopography

Link Name	Status	Positions Not Saved	Size	Saved Path	Path Type
OSMAP BoatHouse.dwg	Loaded	☐	161.9 K	C:\Users\g.traylor\OneDrive - Univer	Relative

Save Positions

Reload From...

Reload

Unload

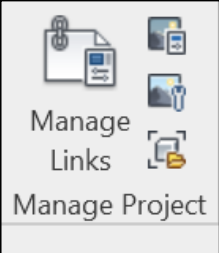
Import

☒ Preserve graphic overrides

OK

C

Manage Links to unload / load updated linked files



Visibility of Links from Visibility / Graphics – Imported Categories. CAD Layers can be switched on and off.

Visibility/Graphic Overrides for Floor Plan: Site

Model CategoriesAnnotation CategoriesAnalytical Model CategoriesImported CategoriesFilters

☒ Show imported categories in this view

If a category is unchecked, it will not be visible.

Visibility	Projection / Surface		Half-tone
	Lines	Patterns	
☒ Imports in Families	Override...		☐
☒ OSMAP BoatHouse.dwg			☐
☒ 0			
☒ Building_Line_Division			
☒ Building_Line_Outline			
☒ Buildings_Or_Structure_T...			
☒ General_Feature_Line			
☒ General_Surface_Line			
☒ General_Surface_Text			
☒ Inland_Water_Line			
☒ Inland_Water_Text			
☒ Landform_Line_Bottom_...			
☒ Landform_Line_Top_Of_...			
☒ Road_Or_Track_Line_Pub...			
☒ Road_Or_Track_Text_Roa...			
☒ Roadside_Text			
☒ Structure_Text			
☒ Terrain_and_Height_Poin...			
☒ Terrain_and_Height_Text			

All

None

Invert

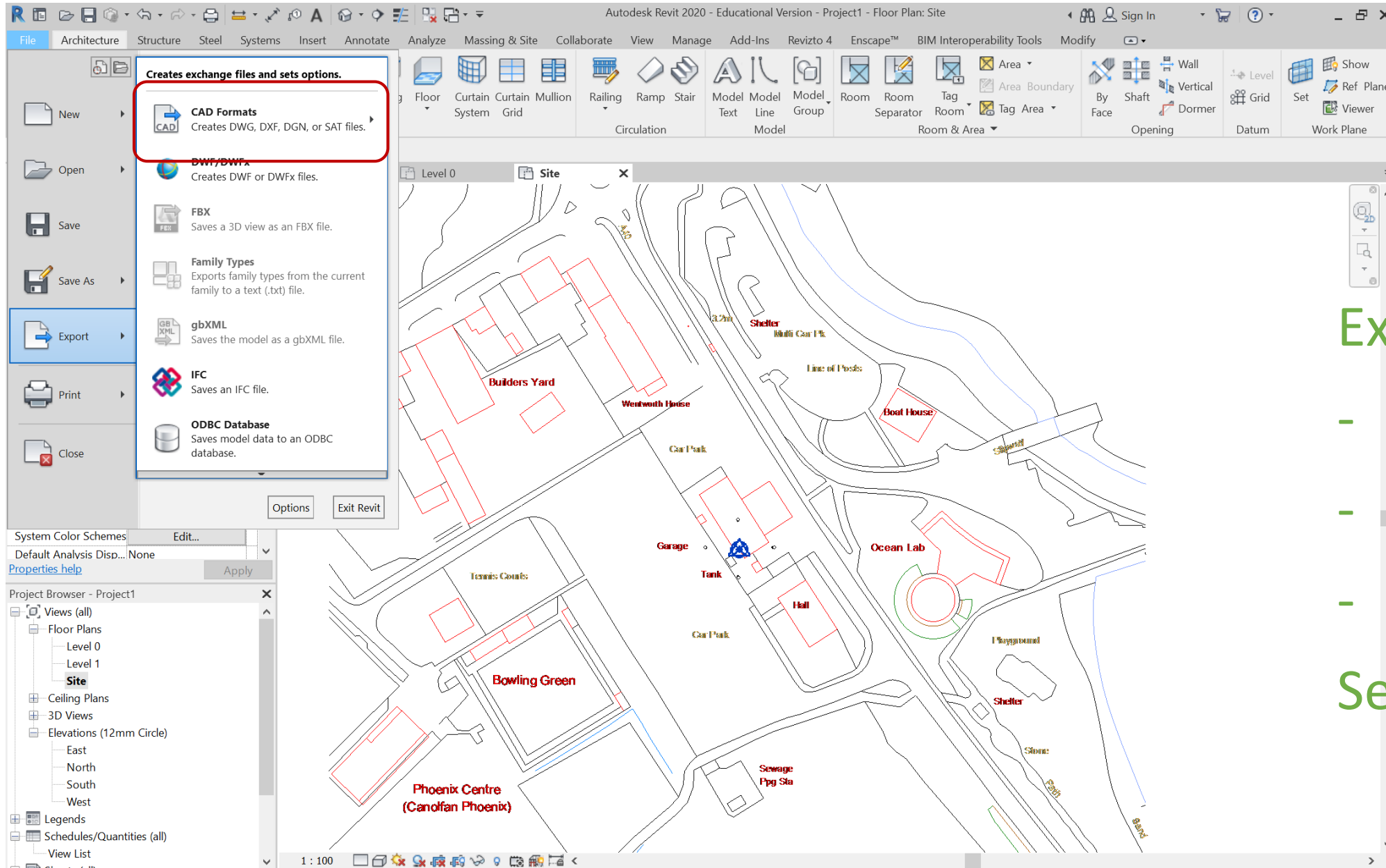
Expand All

Categories that are not overridden are drawn according to this project's Imported Object Style settings.

Object Styles...

OK

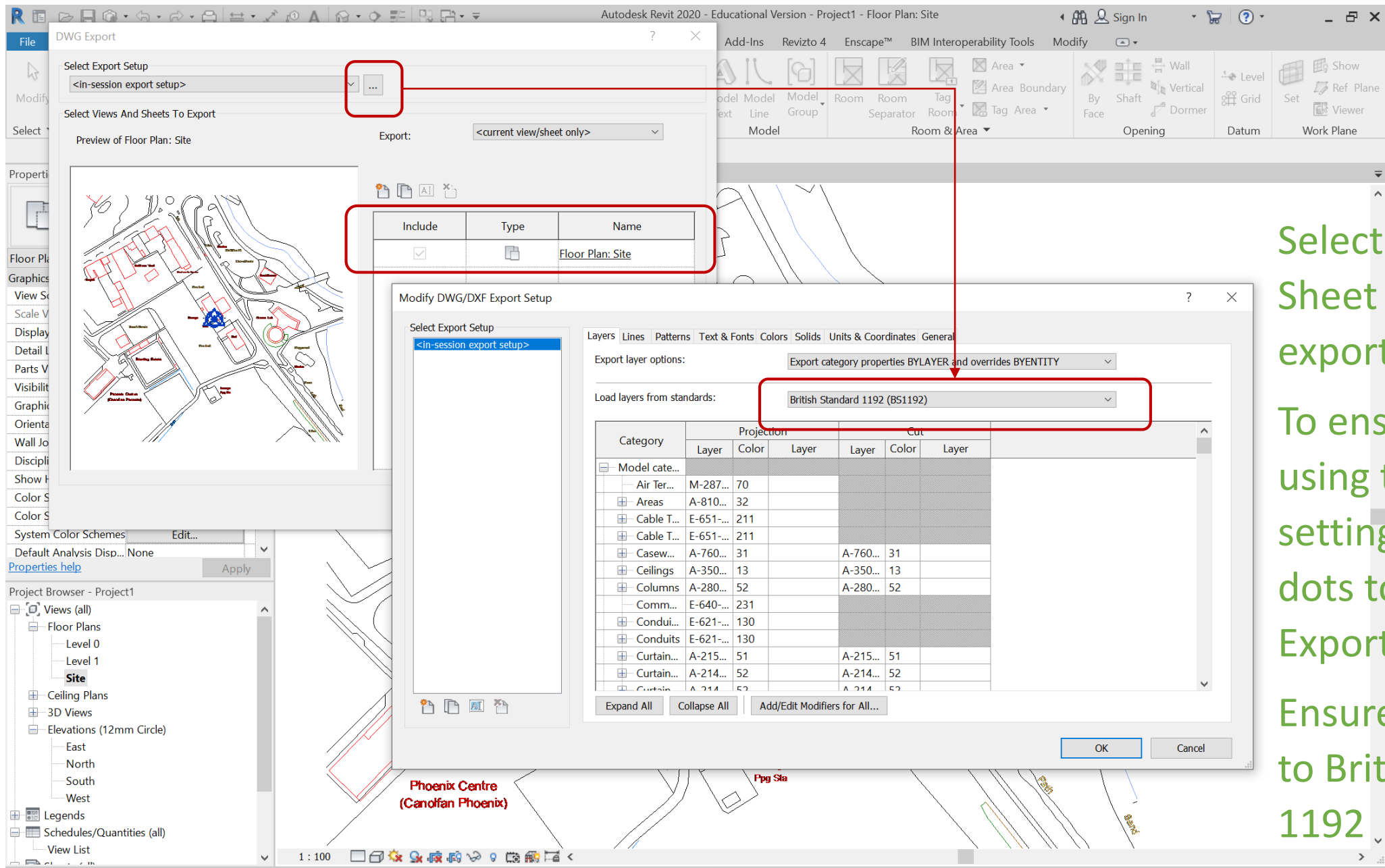
Cancel



38-EXPORT
CAD

Exporting Files

- File
 - Export
 - CAD Formats
- Select DWG



Select the View / Sheet you wish to export.

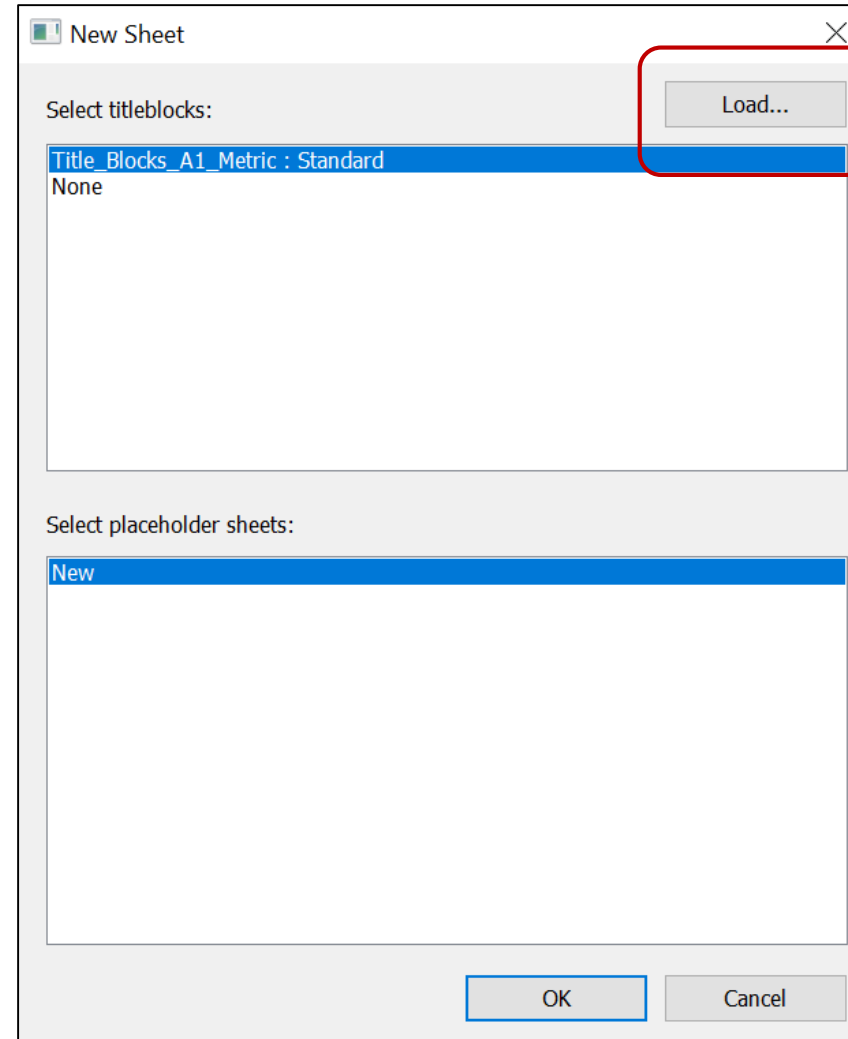
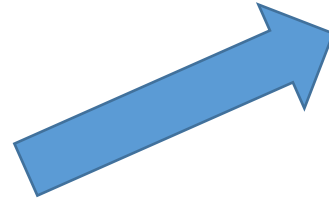
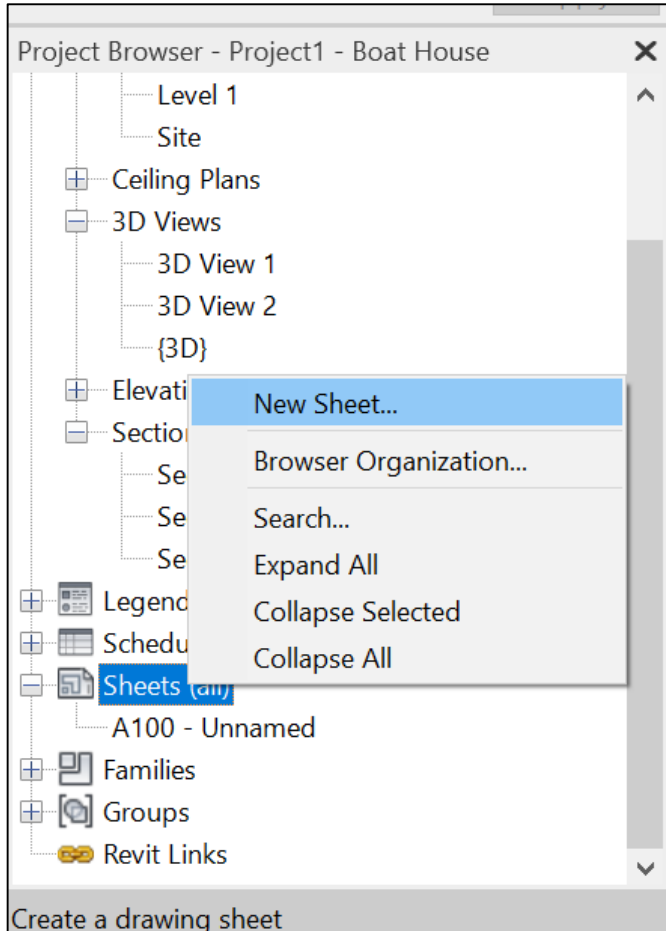
To ensure you are using the correct settings click the 3 dots to open the Export settings.

Ensure Layers are set to British Standards 1192



33-SHEETS

Download the UWTSD titleblock



Load a titleblock

PART 4: PUBLISH AND COLLABORATE



33-SHEETS



34-REVISIONS



35-PRINT



36-CENTRAL
FILES



37-LINK CAD



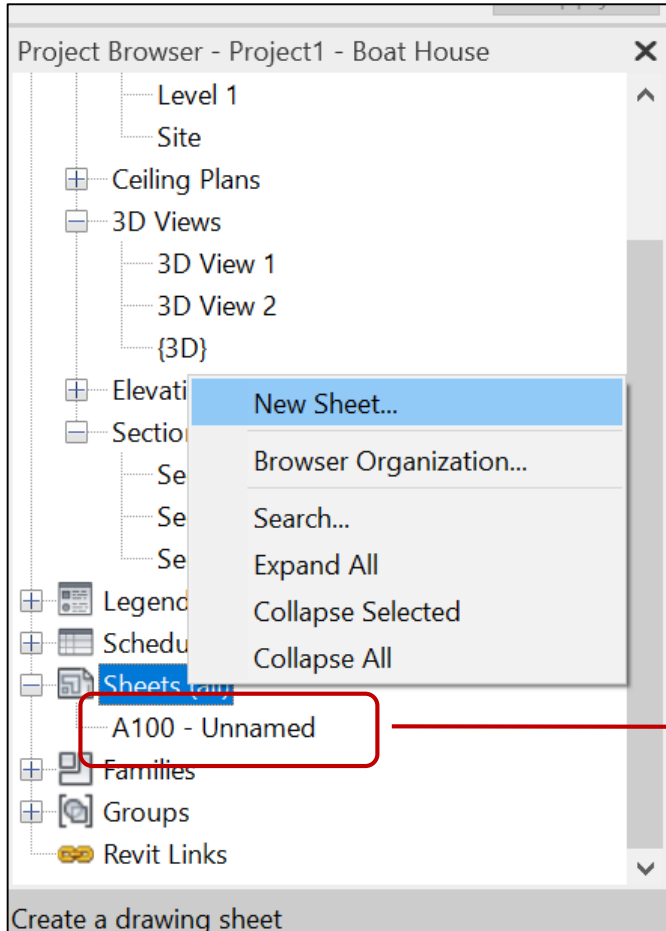
38-EXPORT
CAD



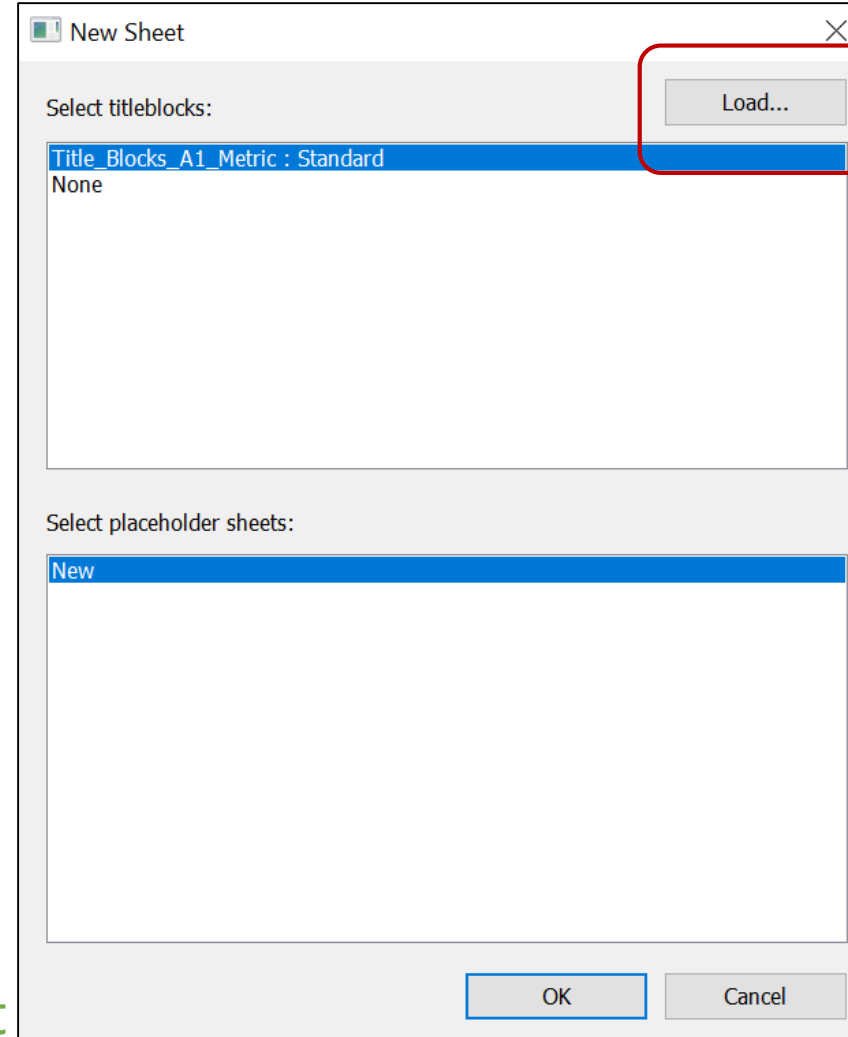
33-SHEETS

Download the UWTSD Splash Page and Titleblock from Teams

Right Click on Sheets
and select New Sheet



Right Click &
Delete
AutoDesk
Default sheet



Load:
Splash Page

Note:
Many practices use
a Splash Page to
hold common data
about the Model.

Project Name: Boat House Fishg

UPRN Code: 5010

Originator Code: UWTSD

Role Code: Designer

Drawn By: Author

Checked By: Checker

Date: 02/18/21

Project Status: S0

C:\Users\g.traylor\OneDrive - University of Wales Trinity Saint David\01 Lectures 2020-21\ACBA 5010 - BIM\01 Lecture notes\Boathouse deec2020.rvt

Prifysgol Cymru

5010

ACBA 5010

LEVEL 5

A

BIM

Project Name: Boat House Fishguard

UPRN Code: 5010

Originator Code: UWTSD

Role Code: Designer

Drawn By: Author

Checked By: Checker

Date: 02/18/21

Project Status: S0

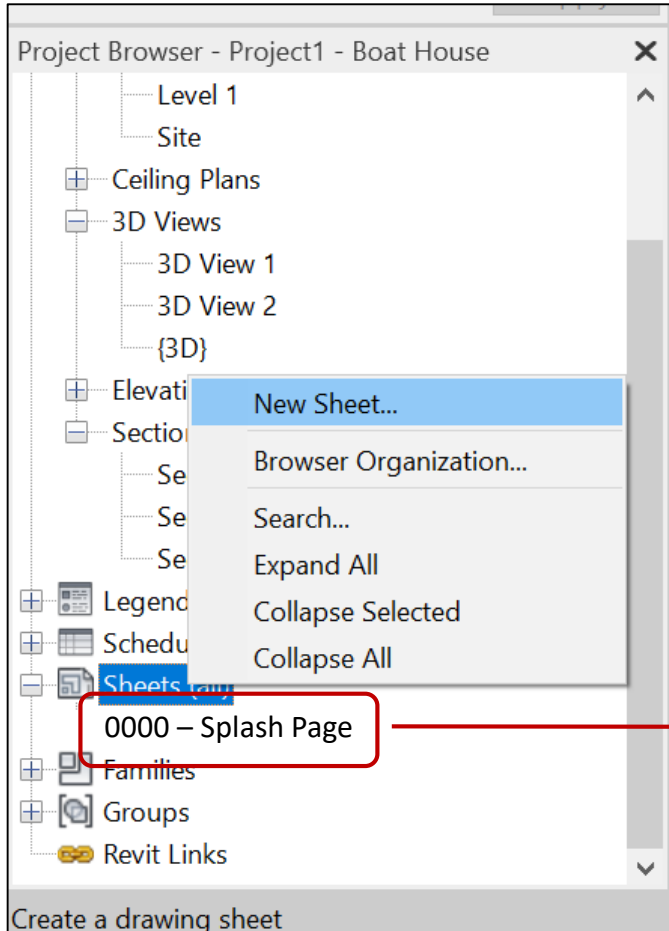
C:\Users\g.traylor\OneDrive - University of Wales Trinity Saint David\01 Lectures 2020-21\ACBA 5010 - BIM\01 Lecture notes\Boathouse deec2020.rvt

These common
BIM fields will be
transferred to all
new sheets

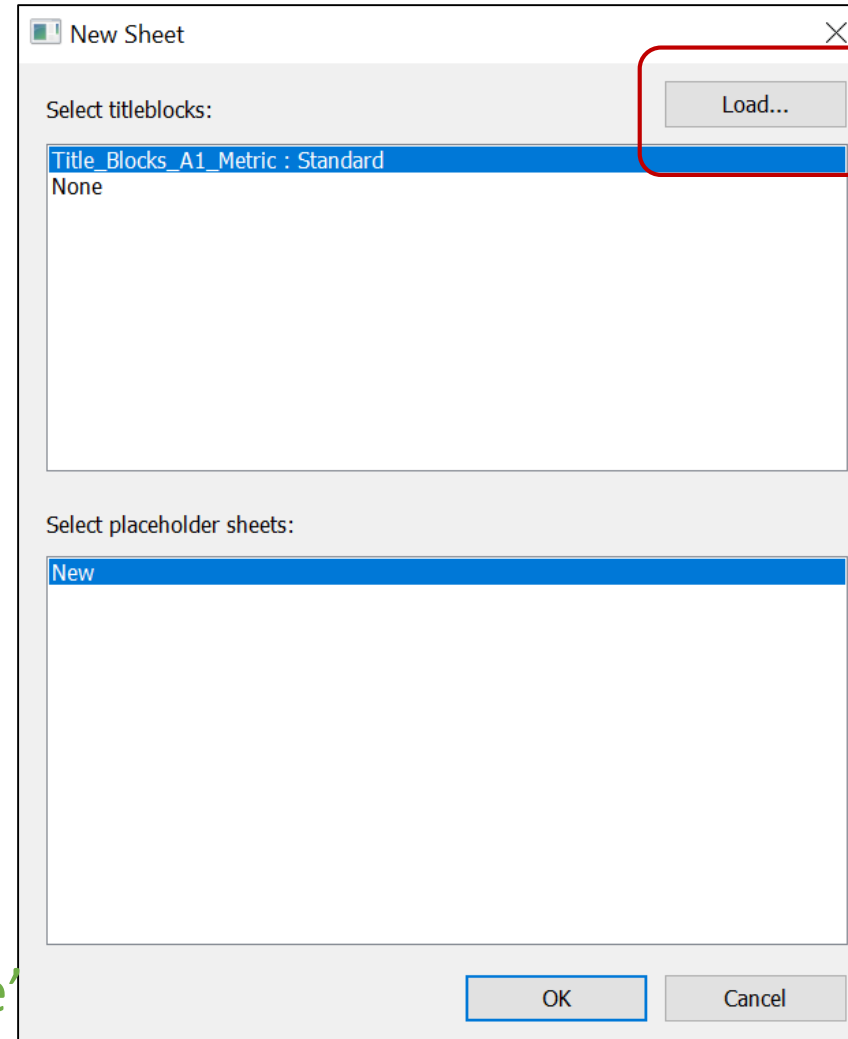


33-SHEETS

Right Click on Sheets
and select New Sheet



Right Click
and Rename
'0000'
'Splash Page'



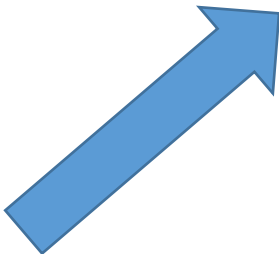
Load:
UWTSD titleblock



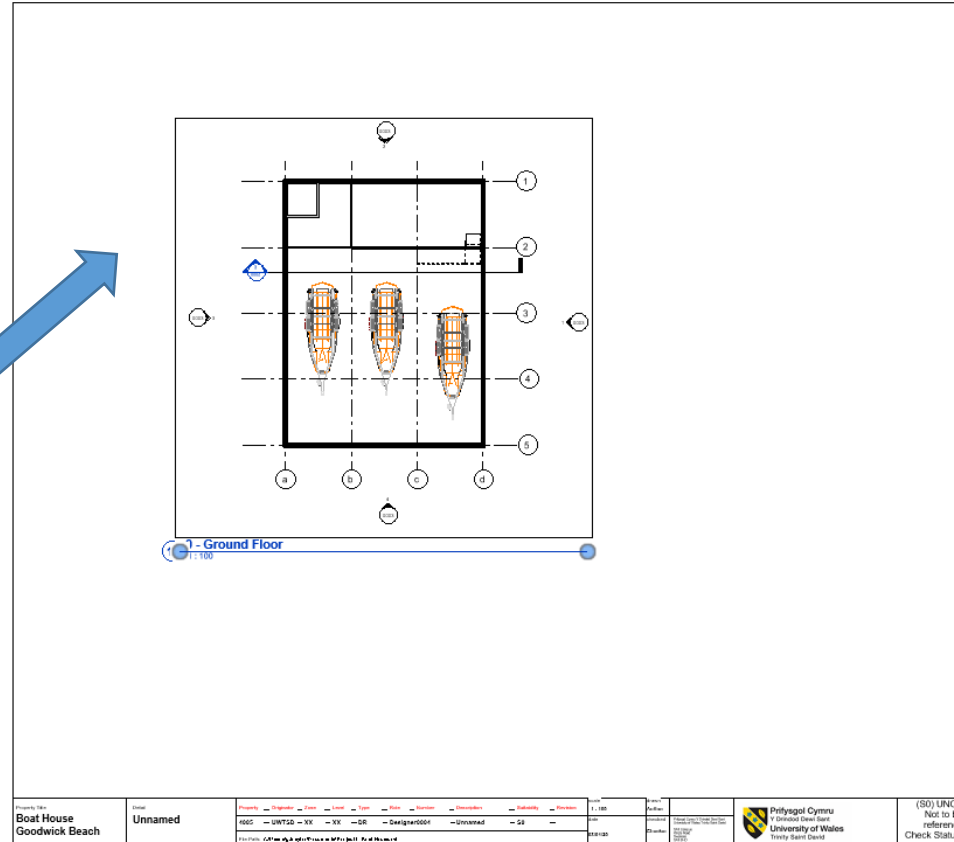
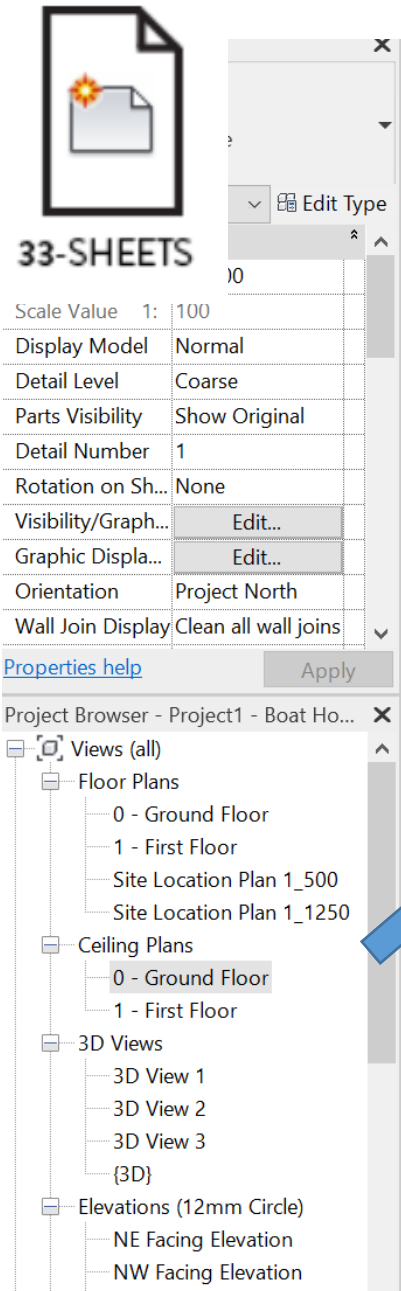
33-SHEETS

Fields can be filled in to suit the drawing

Property	Originator	Zone	Level	Type	Role	Number	Description	Suitability	Revision
4005	UWTSD	XX	XX	DR	Designer	0004	Unnamed	S0	
File Path: C:\Users\g.traylor\Documents\Project1 - Boat House.rvt									



Property Title	Detail	Property	Originator	Zone	Level	Type	Role	Number	Description	Suitability	Revision	ICB01	Author	 Prifysgol Cymru Y Ddodol Dewi Sant University of Wales Trinity Saint David	(S0) UNCONTROLLED Not to be used as a reference document Check Status Before Quoting	Notified Notes	
Boat House Goodwick Beach	Unnamed	4005	UWTSD	XX	XX	DR	Designer	0004	Unnamed	S0		25/04/22	27/05/22				Checker
		File Path: C:\Users\hmc\Documents\Project - Boat House\A															



Drag and drop Views from the Project Browser onto the sheet.

Note: A view can only appear on one sheet. If you want a view to appear on more than one sheet you have to duplicate the view (right click on the view – duplicate with detailing)



Scale 1 : 100

Identity Data

Dependency	Independent
------------	-------------

Referencing Sh...

Referencing De...

Current Revisio...

Current Revisio...

Current Revisio...

Current Revisio...

Current Revisio...

[Properties help](#)

Apply

Project Browser - Project1 - Boat Ho... X

..... NW Facing Elevation

-----SE Facing Elevation

SW Facing Elevation

 Sections (Building Section)

Section 1

Section 1 - Callout 1

  Legends

 Schedules/Quantities (all)

Door Schedule

Room Schedule

[View List](#)

 Sheets (all)

0000 - Spl

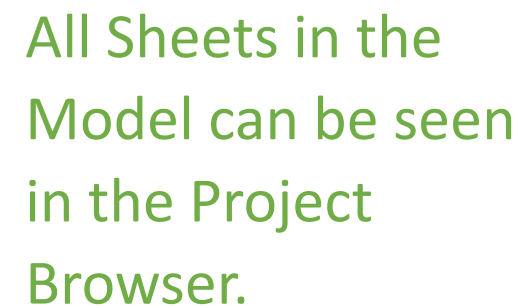
0001 - Site Location

0002 - Plans and Sec

0003 - Elevations & Views

  Families

Groups



PART 5: ADVANCED TOOLS



39-SCHEDULES



40-PHASES



41-WORKSETS



42-GROUPS



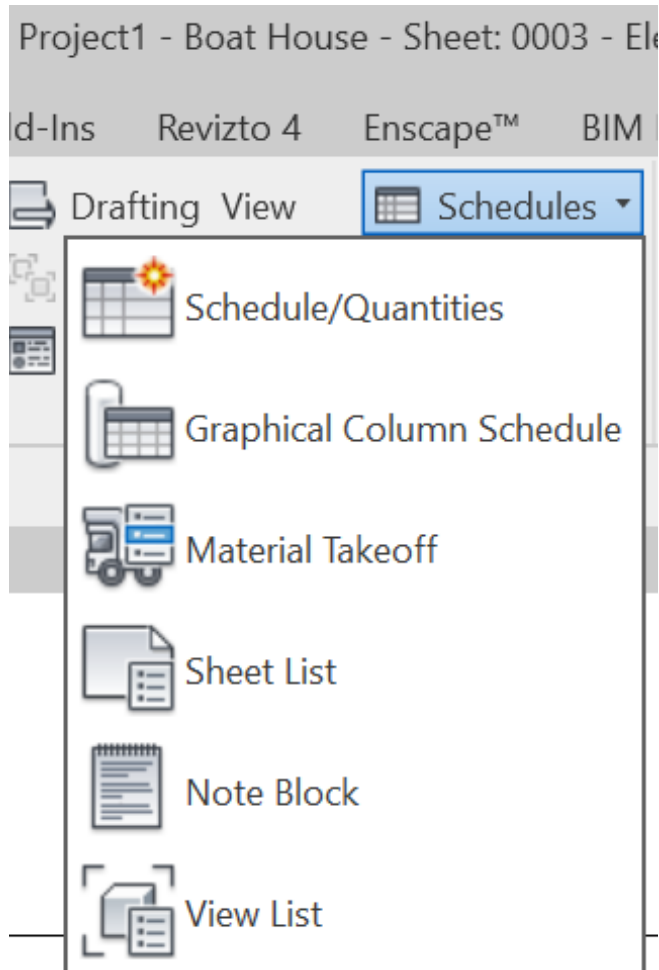
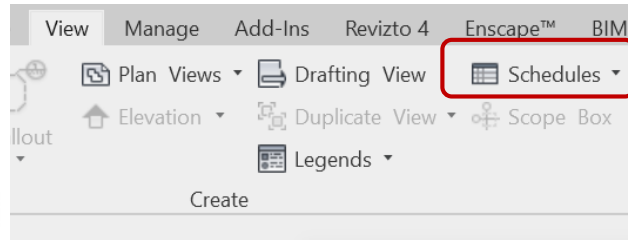
43-MODEL
IN-PLACE



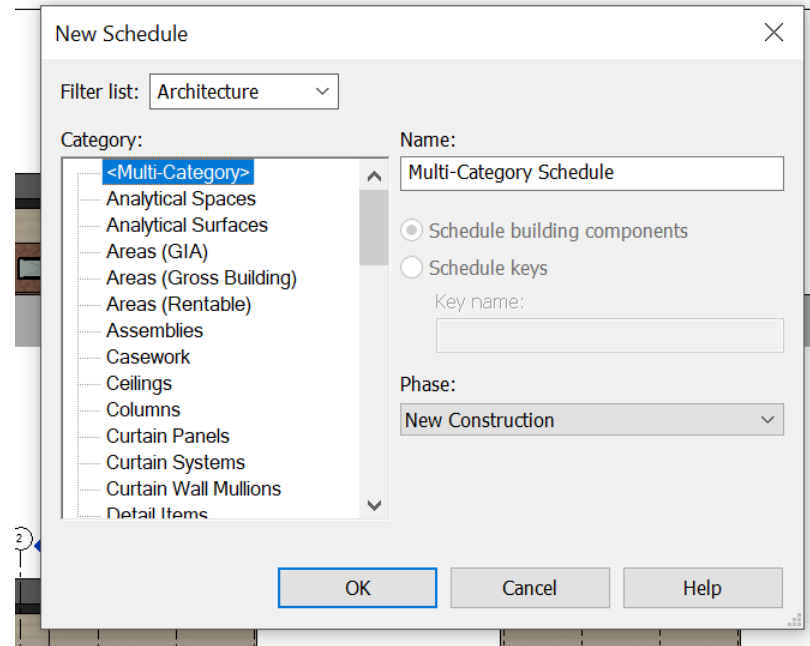
44-FAMILIES



45-DESIGN
OPTIONS

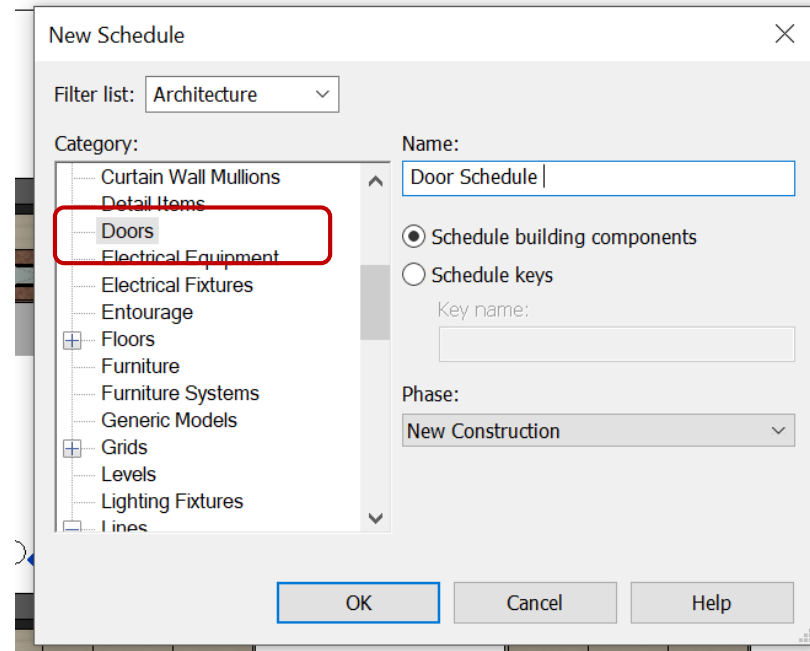


Schedule
types



Schedules can be
created from the
View Menu

Different type of
schedules can be
generated.



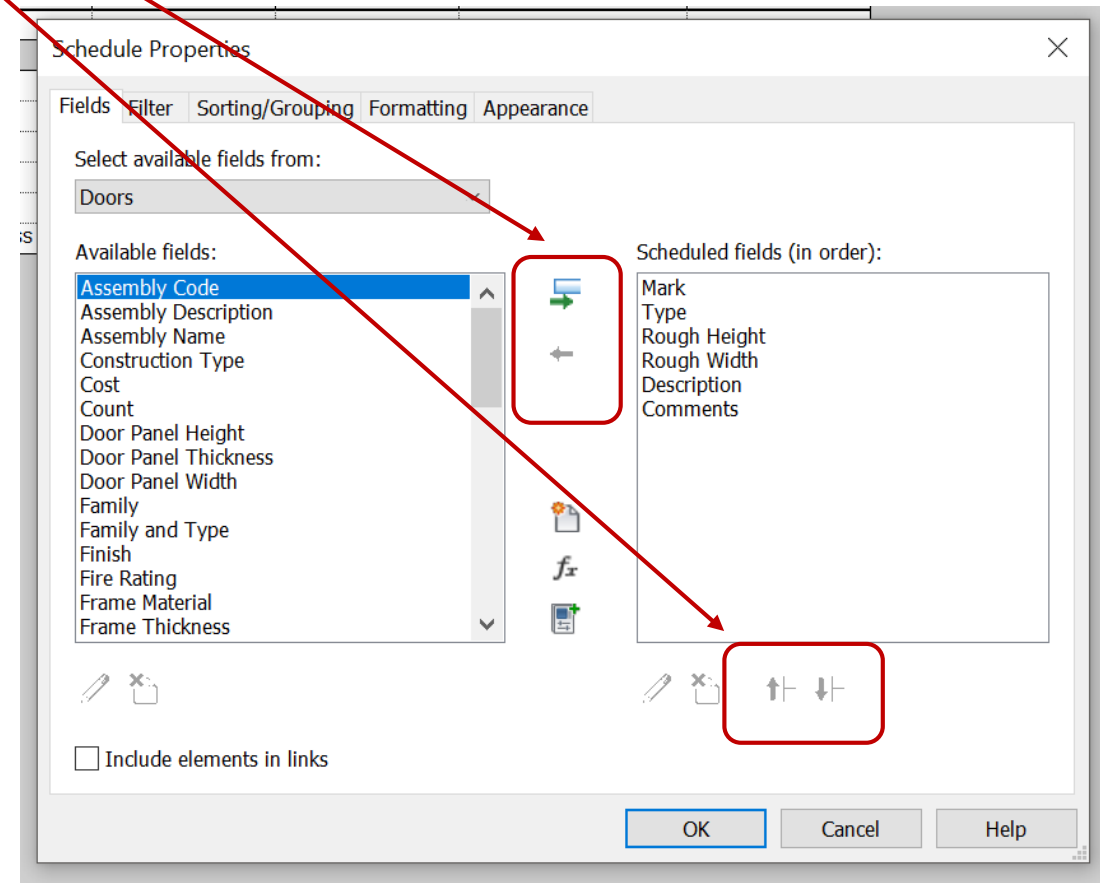
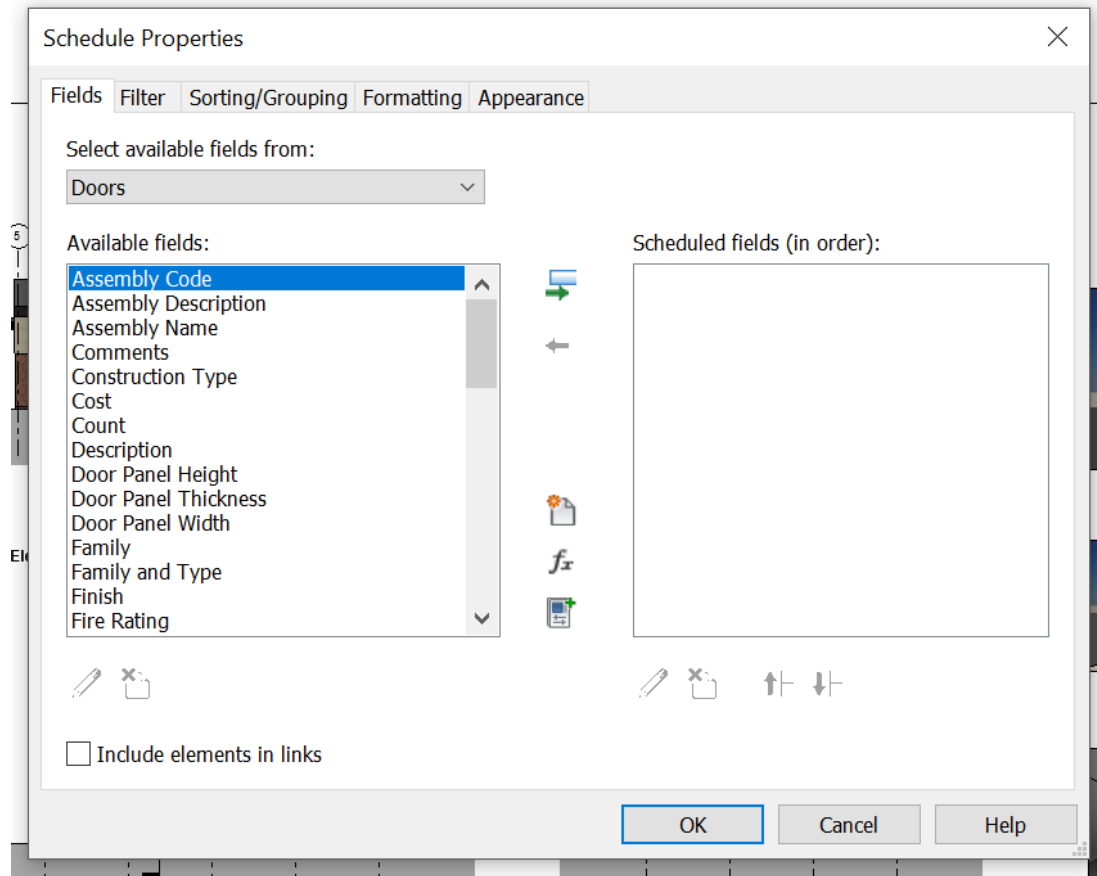
Select Schedule
/Quantities to
create a New
Schedule

In the Category
select your
schedule type



39-SCHEDULES

In the Schedule Properties Dialogue box 'Add' the Fields for the schedule.
Add and Remove Fields
Change order of the Fields





39-SCHEDULES

Edits and
formatting

Properties

Schedule

Schedule: Door Schedule Edit Type

View Name Door Schedule

Dependency Independent

Phasing

Phase Filter Show All

Phase New Construction

Other

Fields Edit...

Filter Edit...

Sorting/Groupi... Edit...

Formatting Edit...

Appearance Edit...

Properties help Apply

Project Browser - Project1 - Boat Ho...

- NW Facing Elevation
- SE Facing Elevation
- SW Facing Elevation
- Sections (Building Section)
 - Section 1
 - Section 1 - Callout 1
- Legends
- Schedules/Quantities (all)
 - Door Schedule**
 - Room Schedule
 - View List

0003 - Elevations & Views Door Schedule X

<Door Schedule>

A	B	C	D	E	F
Mark	Type	Rough Height	Rough Width	Description	Comments
DG01a	3000x2200mm 2	2200	3000		
DG01b	3000x2200mm 2	2200	3000		
DG01c	3000x2200mm 2	2200	3000		
DG02	1010x2110mm	2110	1010	Internal Single Door	
DG03	1010x2110mm	2110	1010	Internal Single Door	
DG04	Glass_Panel-12mm_Thickness				Glazed with manefe

Your Schedule will now appear in the Project Browser.

You can add Schedules to sheet just like any other view



'Multi Category Material Takeoff' Schedules can be produced. Cost of materials can be applied and totals calculated.

39-SCHEDULES

Schedule

Schedule: Multi-Category Edit Type

Identity Data

View Template <None>

View Name Multi-Category ...

Dependency Independent

Phasing

Phase Filter Show All

Phase New Construction

Other

Fields Edit...

Filter Edit...

Sorting/Groupi... Edit...

Formatting Edit...

[Properties help](#) Apply

Project Browser - Project1 - Boat Ho...

- {3D}
- Elevations (12mm Circle)
 - NE Facing Elevation
 - NW Facing Elevation
 - SE Facing Elevation
 - SW Facing Elevation
- Sections (Building Section)
 - Section 1
 - Section 1 - Callout 1
- Legends
- Schedules/Quantities (all)
 - Door Schedule
 - Multi-Category Material Takeoff**

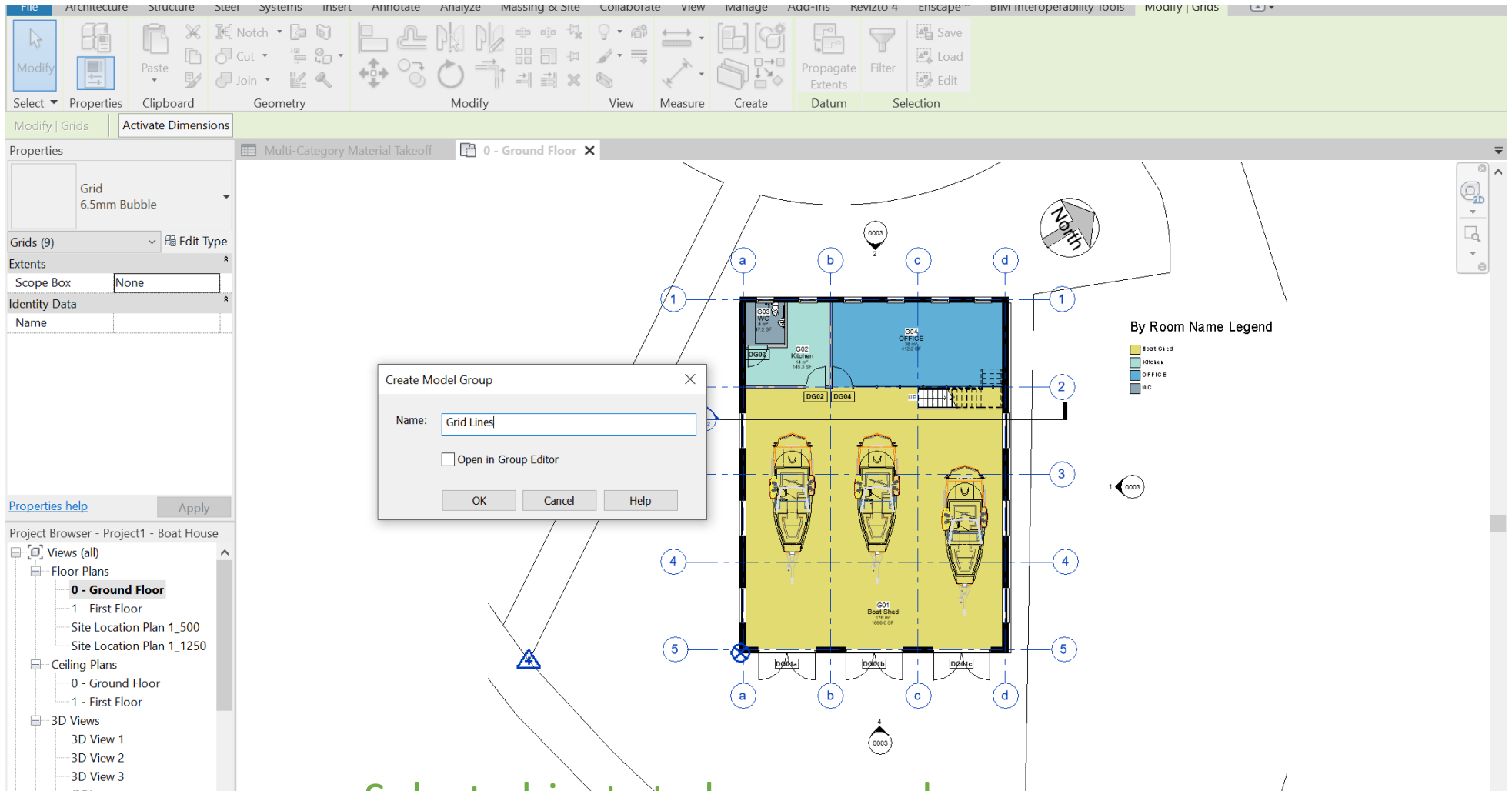
<Multi-Category Material Takeoff>								
A	B	C	D	E	F	G	H	I
Family and Type	Material: Name	Material: Description	Material: Manufactur	Material: Area	Material: Volume	Material: Cost	Material: Com	Cost of Materials
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Fiberglass Batt	Fiberglass batt insulation	Celotex	36 m²	2.73 m³	5.00		£182.01
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Plaster	Plaster	British Gypsum	36 m²	0.46 m³	4.00		£145.61
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Concrete Masonry Units _Low Density	Concrete masonry units	Forterra	36 m²	3.64 m³	1.00		£36.4
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Brick, Dark Blend, Running	Common Brick, Running, Dark	Instock Facing	36 m²	3.73 m³	20.00		£728.03
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Fiberglass Batt	Fiberglass batt insulation	Celotex	47 m²	3.56 m³	5.00		£237.15
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Plaster	Plaster	British Gypsum	47 m²	0.59 m³	4.00		£189.72
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Concrete Masonry Units _Low Density	Concrete masonry units	Forterra	47 m²	4.74 m³	1.00		£47.43
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Brick, Dark Blend, Running	Common Brick, Running, Dark	Instock Facing	47 m²	4.86 m³	20.00		£948.59
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Fiberglass Batt	Fiberglass batt insulation	Celotex	21 m²	1.55 m³	5.00		£103.5
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Plaster	Plaster	British Gypsum	21 m²	0.26 m³	4.00		£82.8
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Concrete Masonry Units _Low Density	Concrete masonry units	Forterra	21 m²	2.07 m³	1.00		£20.7
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Brick, Dark Blend, Running	Common Brick, Running, Dark	Instock Facing	21 m²	2.12 m³	20.00		£414
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Fiberglass Batt	Fiberglass batt insulation	Celotex	47 m²	3.49 m³	5.00		£232.8
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Plaster	Plaster	British Gypsum	47 m²	0.58 m³	4.00		£186.24
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Concrete Masonry Units _Low Density	Concrete masonry units	Forterra	47 m²	4.66 m³	1.00		£46.56
Basic Wall: Wall-Ext_102Bwk-75Ins-100LBk-12P	Brick, Dark Blend, Running	Common Brick, Running, Dark	Instock Facing	47 m²	4.77 m³	20.00		£931.19
Basic Wall: Wall-Int_12P-100Bk-12P	Concrete Masonry Units	Concrete masonry units	Forterra	10 m²	0.98 m³	36.00		£354.26
Basic Wall: Wall-Int_12P-100Bk-12P	Plaster	Plaster	British Gypsum	20 m²	0.25 m³	4.00		£78.73
Basic Wall: Wall-Int_12P-100Bk-12P	Concrete Masonry Units	Concrete masonry units	Forterra	12 m²	1.23 m³	36.00		£443.53
Basic Wall: Wall-Int_12P-100Bk-12P	Plaster	Plaster	British Gypsum	25 m²	0.31 m³	4.00		£98.56
Basic Wall: Wall-Int_12P-100Bk-12P	Concrete Masonry Units	Concrete masonry units	Forterra	6 m²	0.65 m³	36.00		£232.69
Basic Wall: Wall-Int_12P-100Bk-12P	Plaster	Plaster	British Gypsum	13 m²	0.16 m³	4.00		£51.71
Basic Wall: Wall-Int_12P-100Bk-12P	Concrete Masonry Units	Concrete masonry units	Forterra	3 m²	0.34 m³	36.00		£124.09
Basic Wall: Wall-Int_12P-100Bk-12P	Plaster	Plaster	British Gypsum	7 m²	0.09 m³	4.00		£27.58
Doors_Sgl_Glass_1: Glass_Panel-12mm_Thickness	Glass	Soda Lime Glass	Pilkingtons	3 m²	0.02 m³	29.00		£86.74
Doors_Sgl_Glass_1: Glass_Panel-12mm_Thickness	Metal - Aluminum		Senior Aluminium	2 m²	0.02 m³	1.00		£1.74
Doors_IntSgl: 1010x2110mm	Door - Panel		Leaderflush	4 m²	0.07 m³	14.00		£56.59
Doors_IntSgl: 1010x2110mm	Door - Handle		Dorma	0 m²	0.00 m³	34.00		£1.21
Doors_IntSgl: 1010x2110mm	Door - Frame/Mullion (1)		Leaderflush	2 m²	0.02 m³	56.00		£119.54
Doors_IntSgl: 1010x2110mm	Door - Architrave		Leaderflush	2 m²	0.01 m³	4.00		£7.02
Doors_IntSgl: 1010x2110mm	Door - Panel		Leaderflush	4 m²	0.07 m³	14.00		£56.59
Doors_IntSgl: 1010x2110mm	Door - Handle		Dorma	0 m²	0.00 m³	34.00		£1.21
Doors_IntSgl: 1010x2110mm	Door - Frame/Mullion (1)		Leaderflush	2 m²	0.02 m³	56.00		£119.54
Doors_IntSgl: 1010x2110mm	Door - Architrave		Leaderflush	2 m²	0.01 m³	4.00		£7.02



42-GROUPS



Objects
can be
Grouped
in Revit.
These are
similar to
Blocks in
AutoCAD



Select objects to be grouped
and Click the Group Button
& Name your Group

File Architecture Structure Steel Systems Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Revit 4 Enscape™ BIM Interoperability Tools Modify | Model Groups

Modify Select Properties Clipboard Geometry Modify View Measure Create Edit Ungroup Link Group

Modify | Model Groups Activate Dimensions

Properties Multi-Category Material Takeoff 0 - Ground Floor

Model Group Grid Lines

Model Groups (1) Edit Type

Constraints Reference Level 0 - Ground Floor Origin Level Offset 1500.0

Properties help Apply

Project Browser - Project1 - Boat Ho... Views (all) Floor Plans 0 - Ground Floor 1 - First Floor Site Location Plan 1_500 Site Location Plan 1_1250 Ceiling Plans 0 - Ground Floor 1 - First Floor 3D Views 3D View 1 3D View 2

Once objects are group a dashed blue line will appear when they are selected.

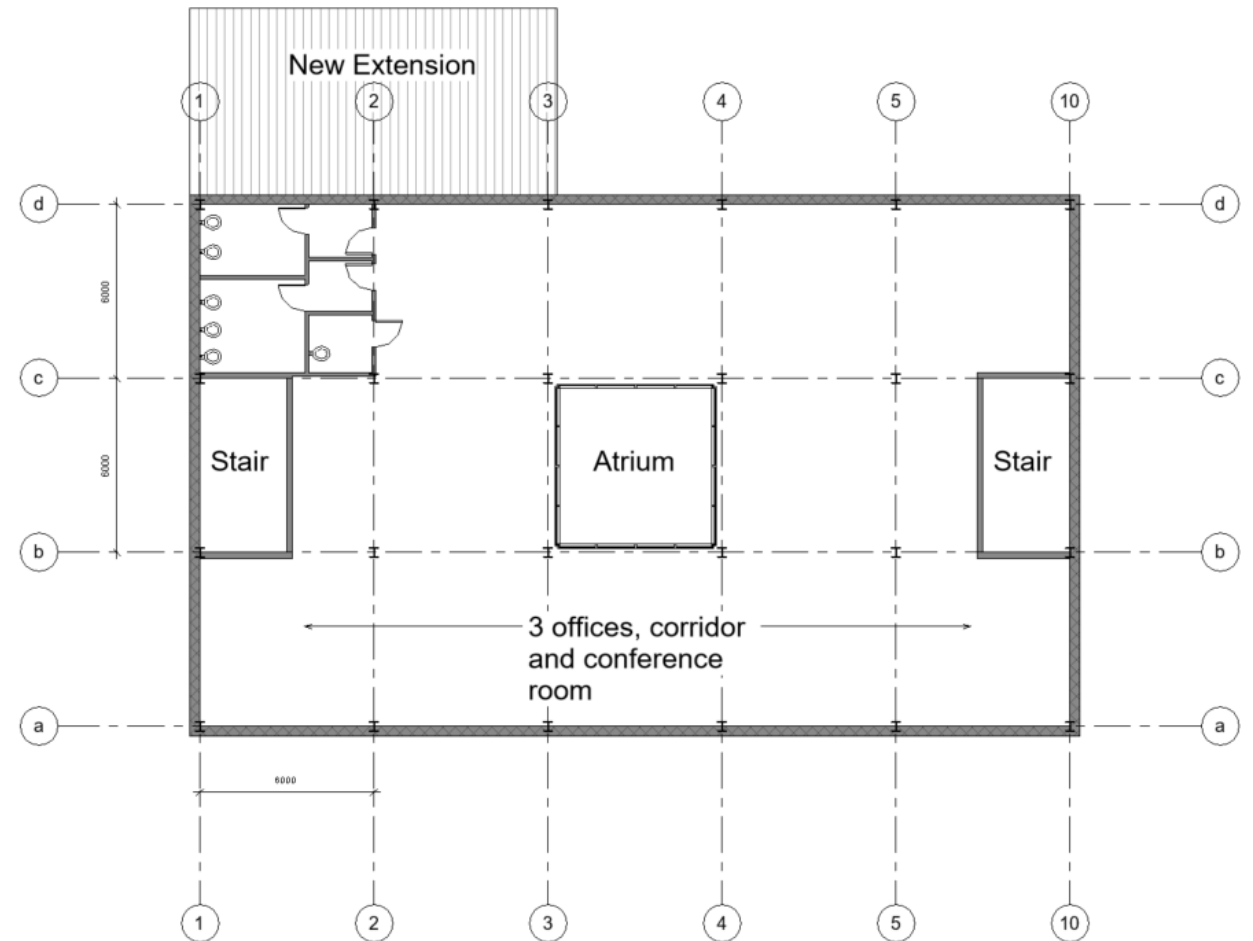
Additional Edits are now available for the Group.

By Room Name Legend

- Boat Shed
- Kitchen
- Office
- WC

Exercise 5 cont...

- ADD SHEETS
- ADD GROUPS
- ADD A DOOR SCHEDULE
- ADD A MULTI CATEGORY SCHEDULE



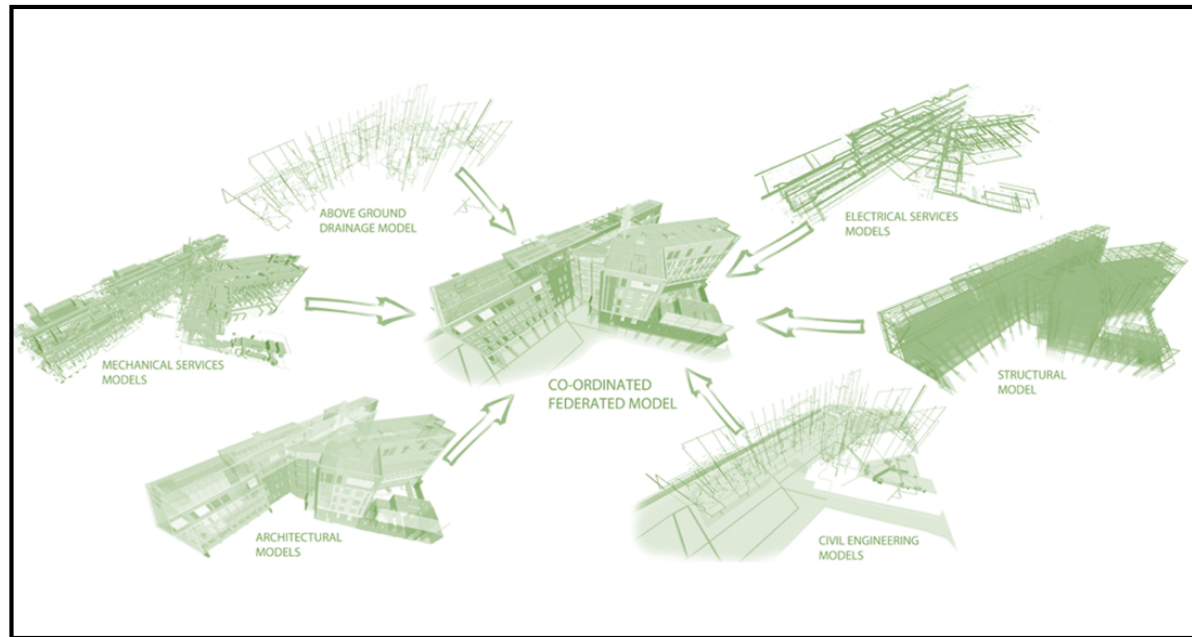


36-CENTRAL
FILES

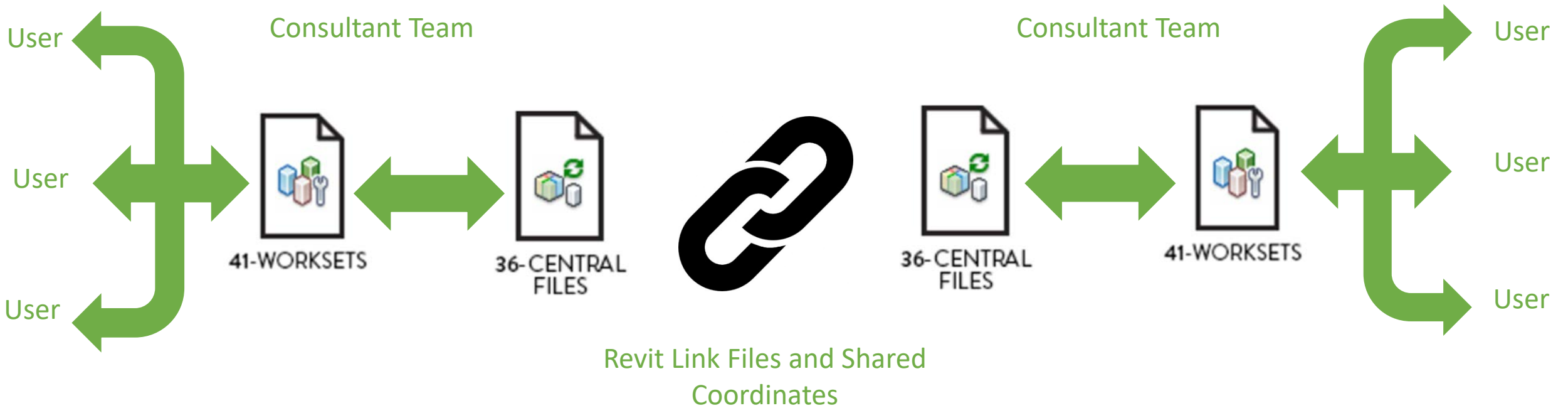
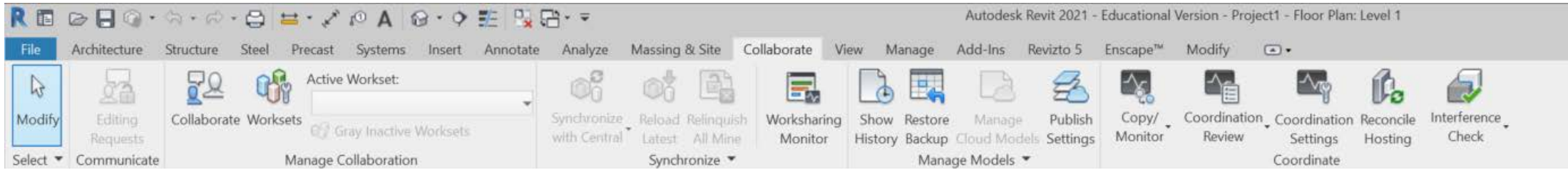
Collaboration

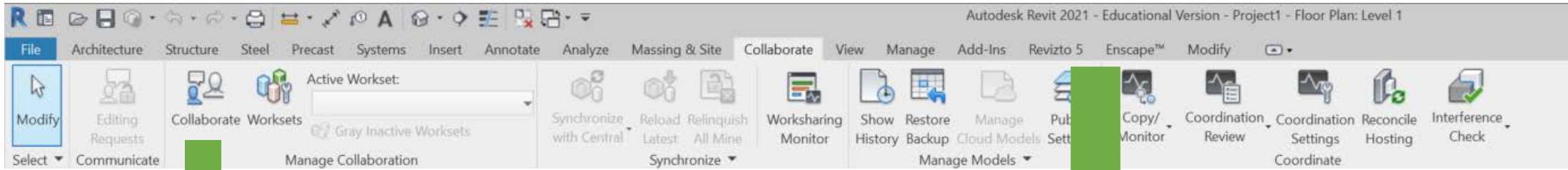


41-WORKSETS



Revit Link Files and Shared Coordinates



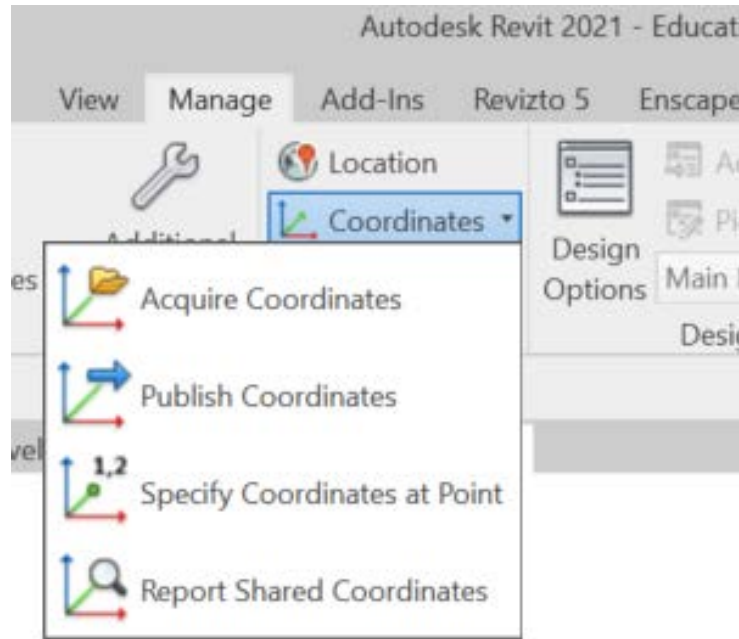


Creates a Central Model.
Server based (network)
Or
Cloud Based (BIM 360)

Plug Ins are also available
for 3rd party Collaborative
platforms. Such as Revizto



Revit Link Files and Shared Coordinates



It is important that coordinates are agreed at the outset of a Project. Revit Link files can share Coordinates



Agreed Coordinates can be specified in the BEP

