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Journey to the Revit Land

Mike Hacker
Group CAD Development Manager

May 2010

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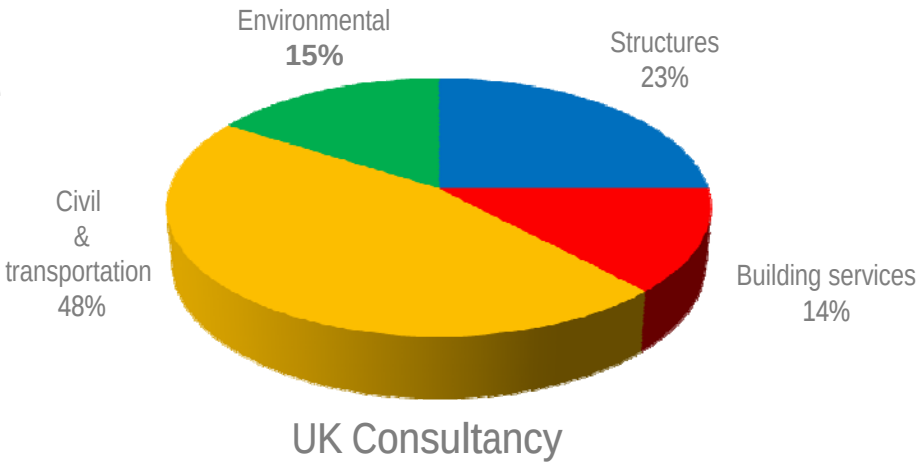
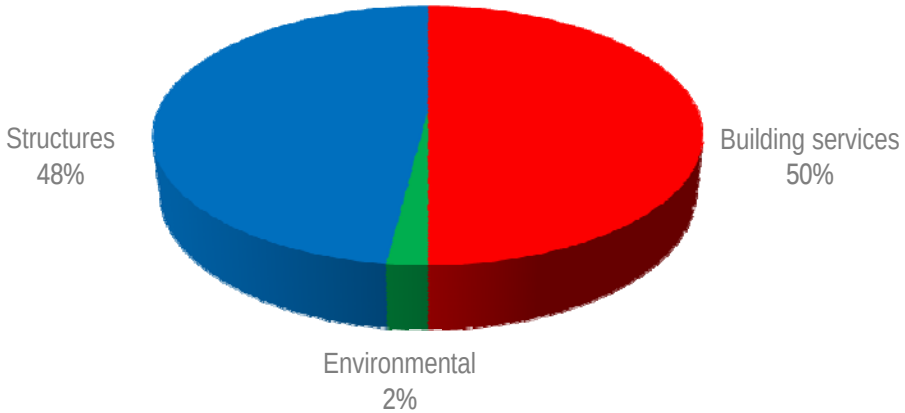
waterman overview

- International engineering and environmental company providing multi-disciplinary consultancy services to the property, infrastructure, energy and environmental markets around the world.
- Founded in 1952
- Floated on the Stock Market in 1988
- £122m annual turnover (FY09)
- Over 30% International revenue
- 41 offices worldwide operating in 15 countries



UK Consultancy



International Consultancy

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world-class consultancy services

Our Revit Timeline (UK)

Revit “Early Adopters” in 2000

Pre Autodesk. 2 Licenses.

July 2006 - 5 “Revit Structure 3”

October 2006 - 12 “Revit Structure 4”

June 2007 - 12 “Revit Structure 2008”

Currently have 39 “Revit Structure” + 2 “Revit MEP”

Our Revit Timeline (International)

3 “Revit Structure” in Moscow

2 “Revit Structure” in Warsaw

15 “Revit Structure” + 11 “Revit MEP”
+ 3 “Revit Architecture” in Dubai

5 “Revit Structure” + 3 “Revit MEP”
in Australia

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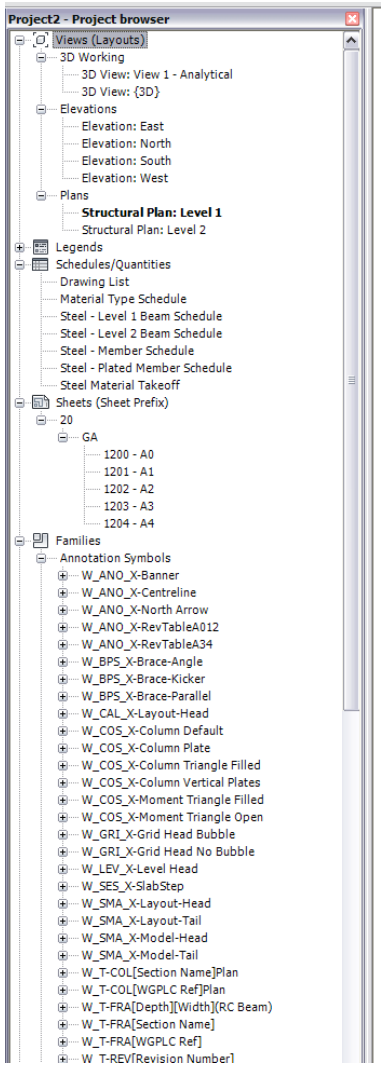
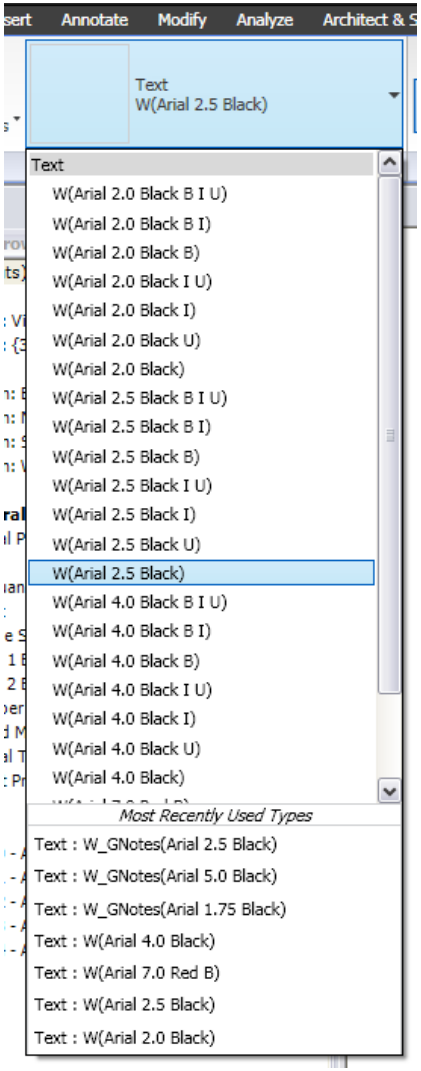
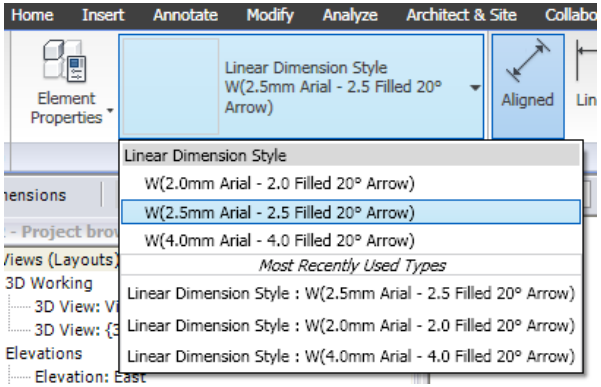
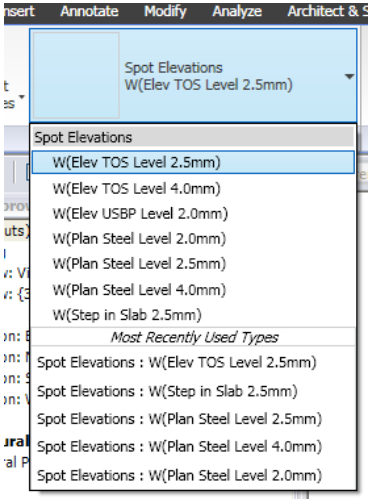
Customisation

Template









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Customisation

Re-Written most Out of the Box Structural Families

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Structural Column — Revit Family Library

Code	Material	Code	Family Name	Description	Library Folder	File Name	Status	Date Issued	Notes
COL	Concrete	C-	Circular	Circular Concrete Column	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Column	W_COL_C-Circular	Issued	06/04/10	Updated
COL	Concrete	C-	LCOL	Concrete L Column	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Column	W_COL_C-LCOL	Issued	06/04/10	Updated
COL	Concrete	C-	Rectangular	Rectangular Concrete Column	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Column	W_COL_C-Rectangular	Issued	06/04/10	Updated
COL	Concrete	C-	SCIRC	Semi-Circular Concrete Column	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Column	W_COL_C-SCIRC	Issued	06/04/10	Updated
COL	Concrete	C-	TEE	Tee Shaped Concrete Column	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Column	W_COL_C-TEE	Issued	06/04/10	Updated

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Structural Framing — Revit Family Library

Code	Material	Code	Family Name	Description	Library Folder	File Name	Status	Date Issued	Notes
FRA	Concrete	C-	Lbeam	Concrete Beam with Nib incorporated	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Framing	W_FRA_C-Lbeam	Issued	06/04/10	NEW !!
FRA	Concrete	C-	Rectangular Beam	Rectangular Concrete Beam	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Framing	W_FRA_C-Rectangular Beam	Issued	01/05/09	
FRA	Concrete	C-	Rectangular Taper Beam	Tapered Rectangular Concrete Beam	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Framing	W_FRA_C-Rectangular Taper Beam	Issued	08/10/09	
FRA	Concrete	C-	SlabThk-Trapezoid	Trapezoidal Slab Thickening	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Framing	W_FRA_C-SlabThk-Trapezoid	Issued	01/05/09	
FRA	Steel	S-	ASB	Asymmetric Beam	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Framing	W_FRA_S-ASB	Issued	09/03/10	All development to the Symbolic Line has been removed (ie Lateral Offset) due to some serious knock on effects.

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Tag — Revit Fa

Code	Material	Code	Family Name	Description	Library Folder	File Name	Status	Date Issued	No
T-COL	Tag		[Section Name](CO)Plan	Steel Section Size Tag - Column Over (for Plans - Rotating)	\MasterDocs\CAD\Revit\Waterman Library\Families\Annotations\Tags\ Structural Column	W_T-COL_[Section Name](CO)Plan	Issued	04/09/09	
T-COL	Tag		[Section Name](CS)Plan	Steel Section Size Tag - Column Stops (for Plans - Rotating)	\MasterDocs\CAD\Revit\Waterman Library\Families\Annotations\Tags\ Structural Column	W_T-COL_[Section Name](CS)Plan			
T-COL	Tag		[Section Name](CU)Plan	Steel Section Size Tag - Column Under (for Plans - Rotating)	\MasterDocs\CAD\Revit\Waterman Library\Families\Annotations\Tags\ Structural Column	W_T-COL_[Section Name](CU)Plan			
T-COL	Tag		[Section Name]Elevation	Steel Section Size Tag (for Elevations)	\MasterDocs\CAD\Revit\Waterman Library\Families\Annotations\Tags\ Structural Column	W_T-COL_[Section Name]Elevation			
T-COL	Tag		[Section Name]Plan	Steel Section Size Tag (for Plans - Rotating)	\MasterDocs\CAD\Revit\Waterman Library\Families\Annotations\Tags\ Structural Column	W_T-COL_[Section Name]Plan			
T-COL	Tag		[Type Name]Plan	Type Name Tag (for Plans - Rotating)	\MasterDocs\CAD\Revit\Waterman Library\Families\Annotations\Tags\ Structural Column	W_T-COL_[Type Name]Plan			
T-COL	Tag		[WGPLC Ref](CO)Plan	Waterman Steel Reference Tag - Column Over (for Plans - Rotating)	\MasterDocs\CAD\Revit\Waterman Library\Families\Annotations\Tags\ Structural Column	W_T-COL_[WGPLC Ref](CO)Plan			

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Structural Foundation — Revit Family Library

Code	Material	Code	Family Name	Description	Library Folder	File Name	Status	Date Issued	Notes
FOU	Concrete	C-	Circular Pile	Circular Concrete Pile	\MasterDocs\CAD\Revit\Waterman Library\Families\Structural Foundation	W_FOU_C-Circular Pile	Issued	22/04/10	Updated due to problem with hidden line when printed.
							Issued	09/02/10	NEW
							Issued	09/03/10	Can now have zero embedment.
							Issued	09/03/10	Can now have zero embedment.
							Issued	09/03/10	Can now have zero embedment.
							Issued	09/03/10	Can now have zero embedment.
							Issued	09/03/10	Can now have zero embedment.

Page 1 of 4

Structural Foundation Page 1 of 2

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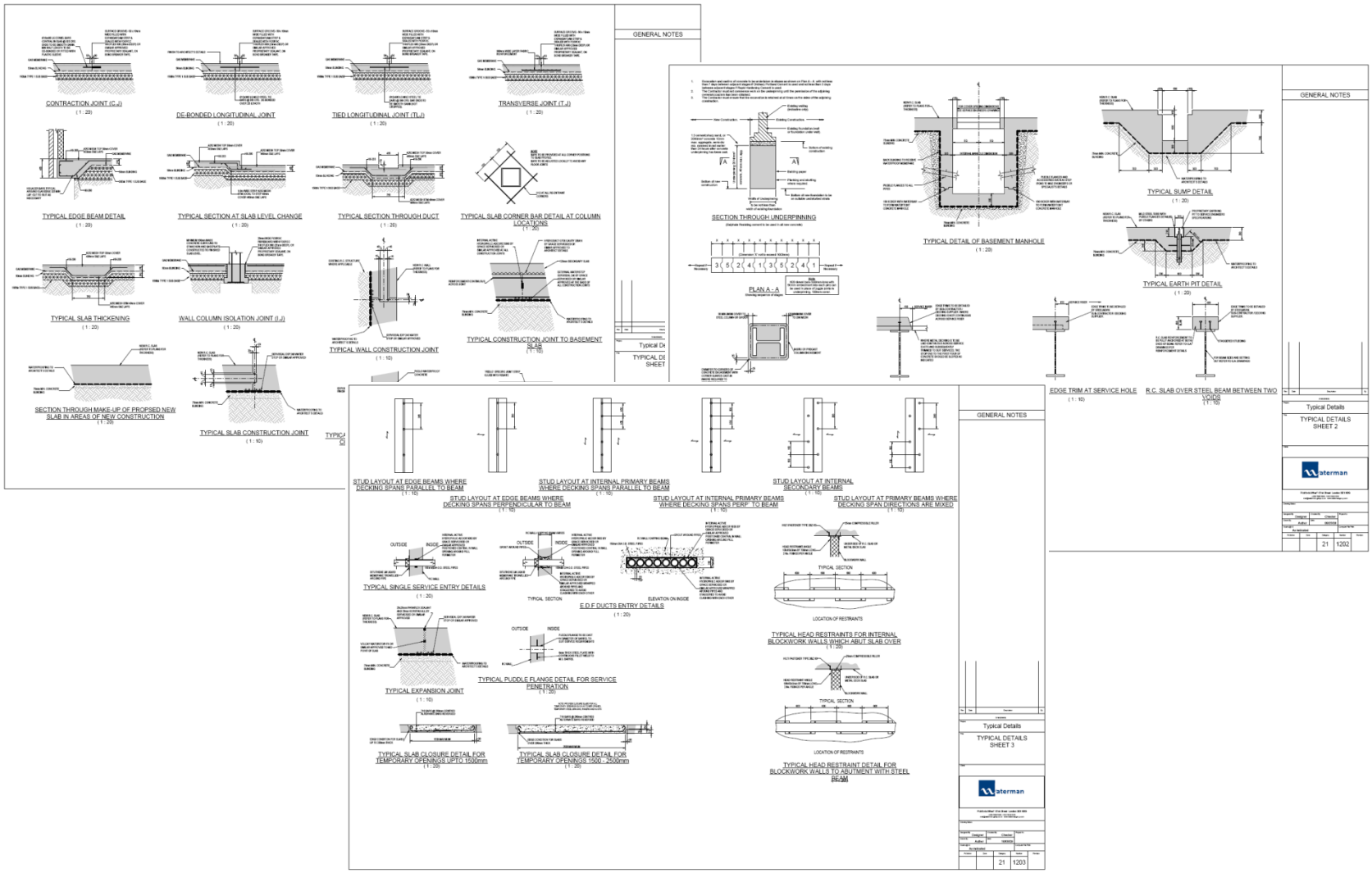
Detail Item — Revit Family Library

Code	Material	Code	Family Name	Description	Library Folder	File Name	Status	Date Issued	Notes
DET	Steel	S-	ASB	Asymmetric Beam Detail	\MasterDocs\CAD\Revit\Waterman Library\Families\Detail Items	W_DET_S-ASB	Issued	10/06/09	
DET	Steel	S-	ASPC	Plate Column Detail	\MasterDocs\CAD\Revit\Waterman Library\Families\Detail Items	W_DET_S-ASPC	Issued	26/10/09	
DET	Steel	S-	ASPG	Asymmetric Plate Girder	\MasterDocs\CAD\Revit\Waterman Library\Families\Detail Items	W_DET_S-ASPG	Issued	26/10/09	
DET	Steel	S-	CHS	Circular Hollow Section Detail	\MasterDocs\CAD\Revit\Waterman Library\Families\Detail Items	W_DET_S-CHS	Issued	10/06/09	
DET	Steel	S-	EA	Equal Angle Detail	\MasterDocs\CAD\Revit\Waterman Library\Families\Detail Items	W_DET_S-EA	Issued	10/06/09	
DET	Steel	S-	FLT	Flat Section Detail	\MasterDocs\CAD\Revit\Waterman Library\Families\Detail Items	W_DET_S-FLT	Issued	10/06/09	
DET	Steel	S-	PFC	Parallel Flange Detail	\MasterDocs\CAD\Revit\Waterman Library\Families\Detail Items	W_DET_S-PFC	Issued	10/06/09	

Customisation

Library of Typical Details



Project Examples

Cardinal Wiseman School - Ealing

Bentley House

Retained Façade new structure behind.

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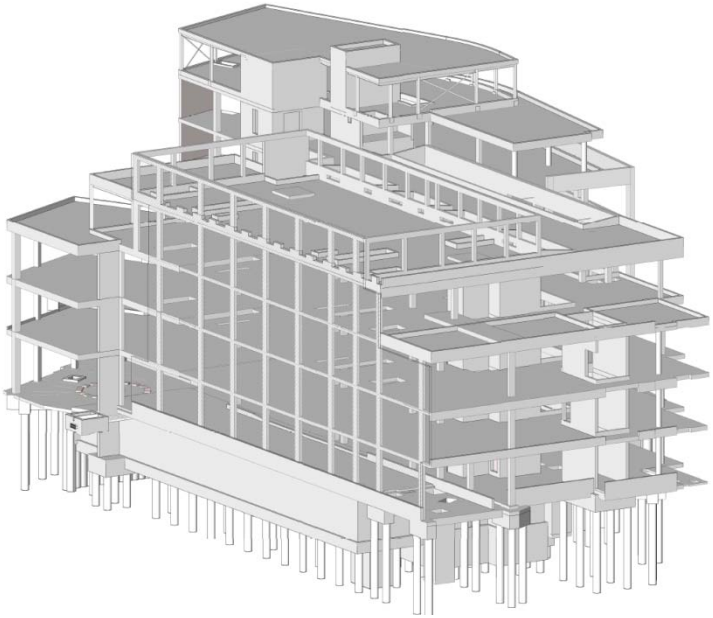
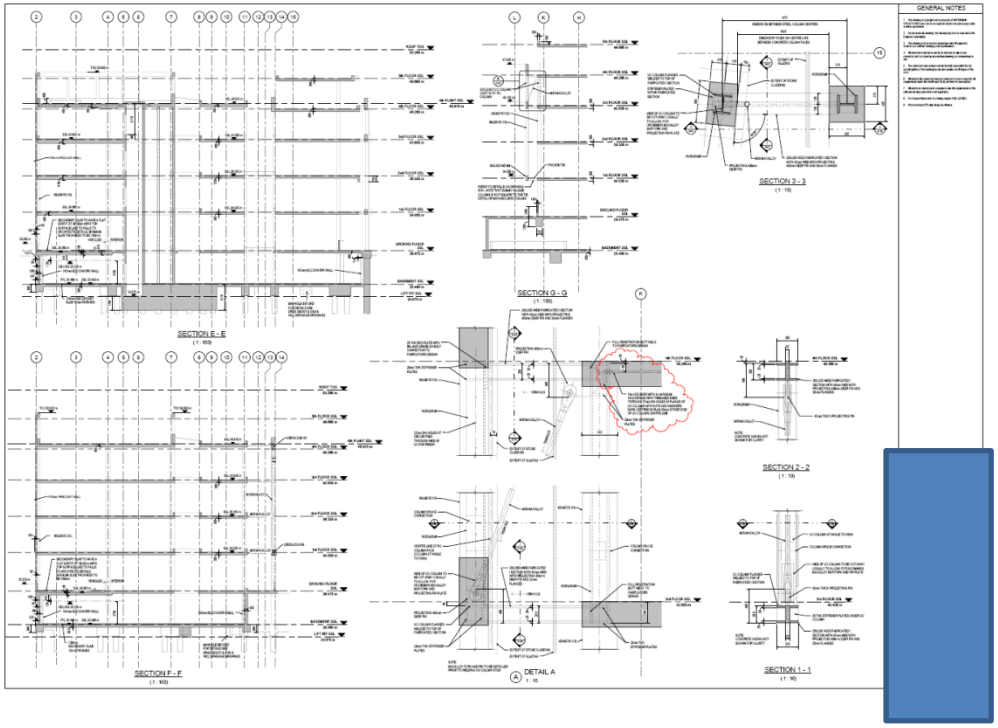
Westminster Court Marylebone Road London

New Magistrates Court Building

Concrete Frame with Post Tensioned upper slabs and steel roof plant room





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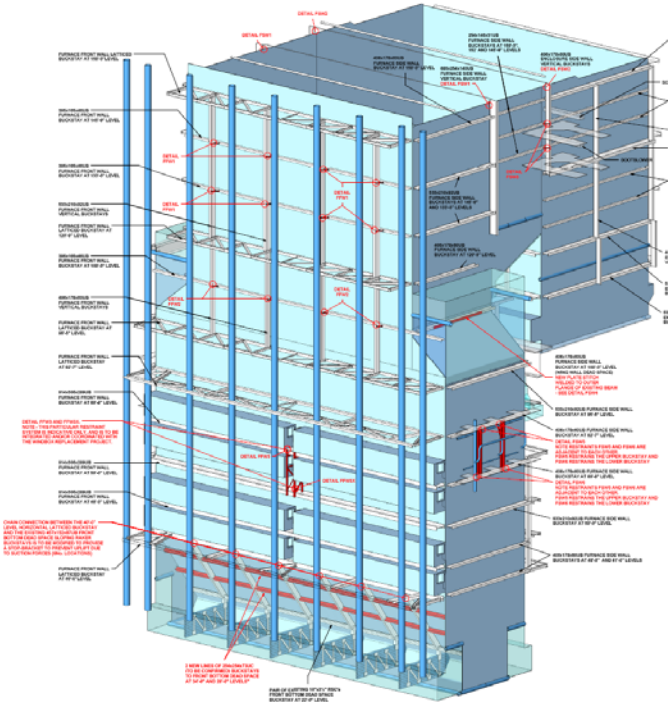
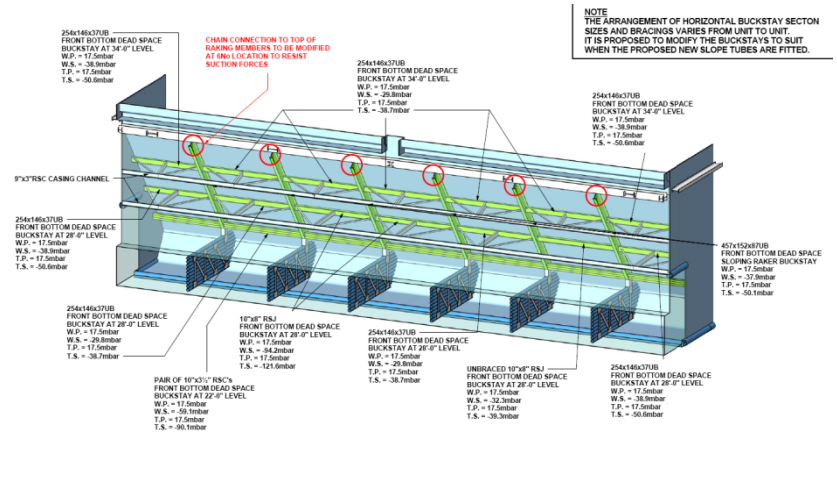
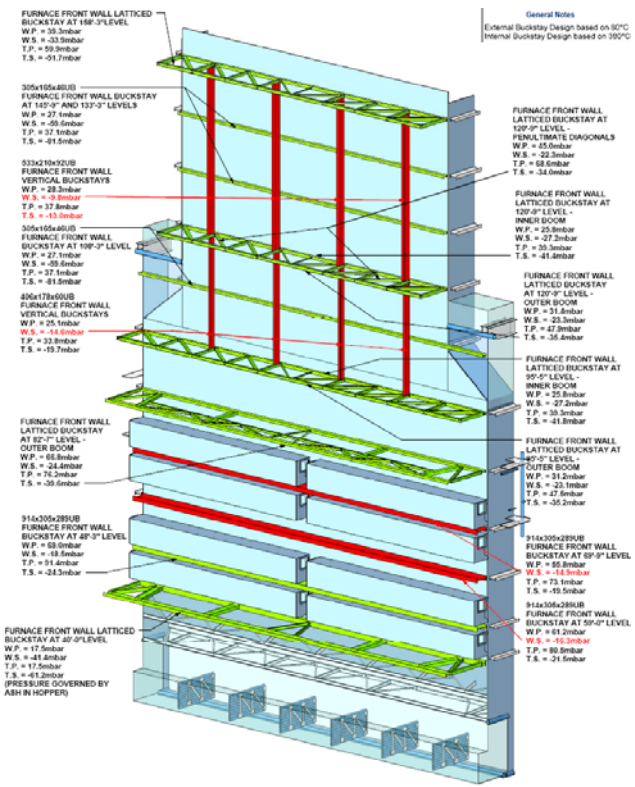
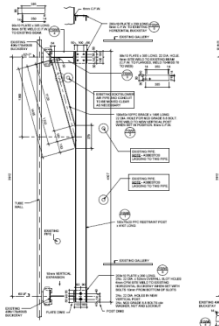
Power Stations



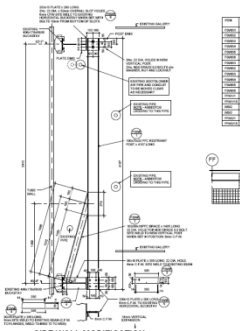
Strengthened Furnace Front Wall (With Side Wall "B" - Side Wall "A" Similar)





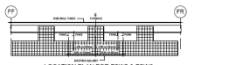


SIDE WALL MODIFICATION DETAIL FSW5 ("A" & "B" SIDES)
1:15

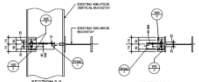


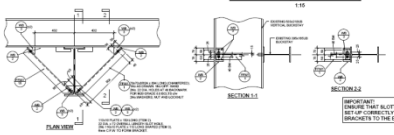
SIDE WALL MODIFICATION DETAIL FSW6 ("A" & "B" SIDES)
1:15

MATERIAL LIST

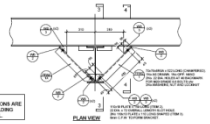


LOCATION PLAN FOR FSW5 & FSW6
(1 : 50)
"A" SIDE AND "B" SIDE SIMILAR





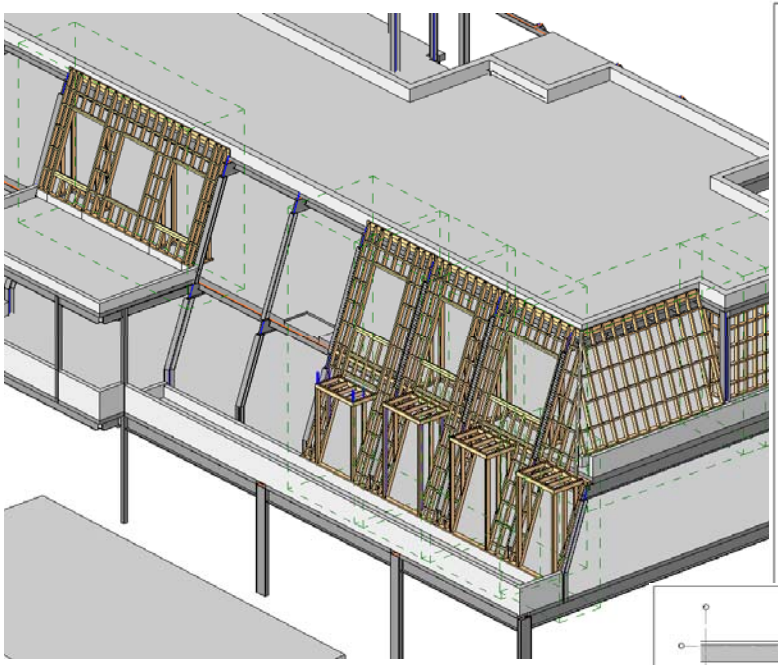
FURNACE FRONT WALL MODIFICATION DETAIL FFW1 (145'-9" AND 133'-3" LEVELS)
1:10

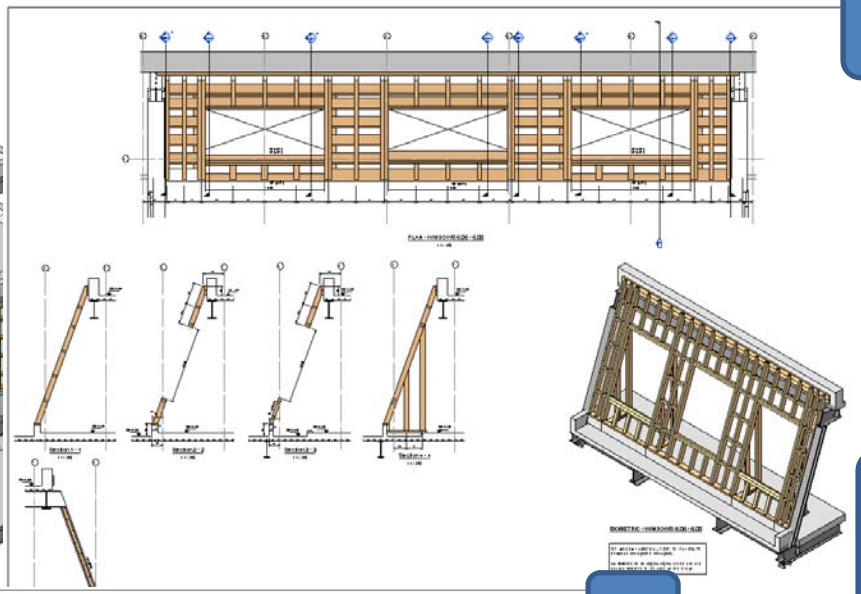


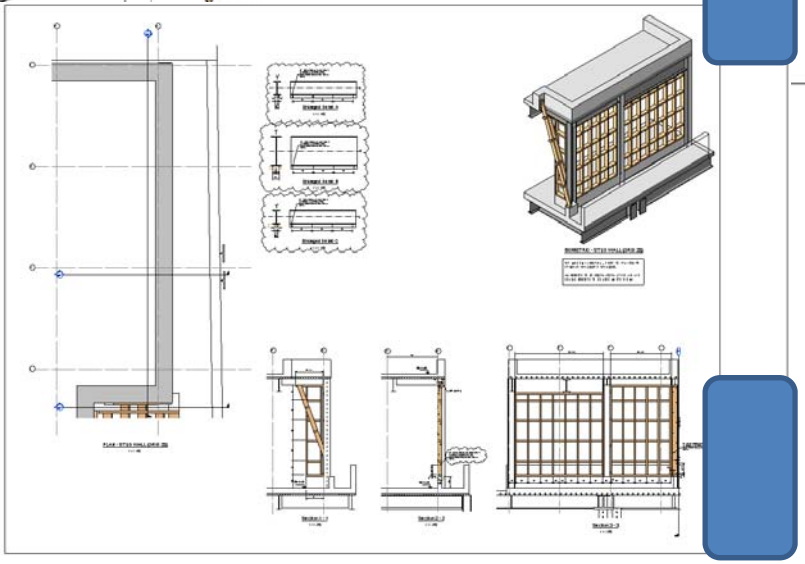
FURNACE FRONT WALL MODIFICATION DETAIL FFW2 (108'-3" LEVEL)
1:10

Sackville Street

Mansard Roof Timber Support



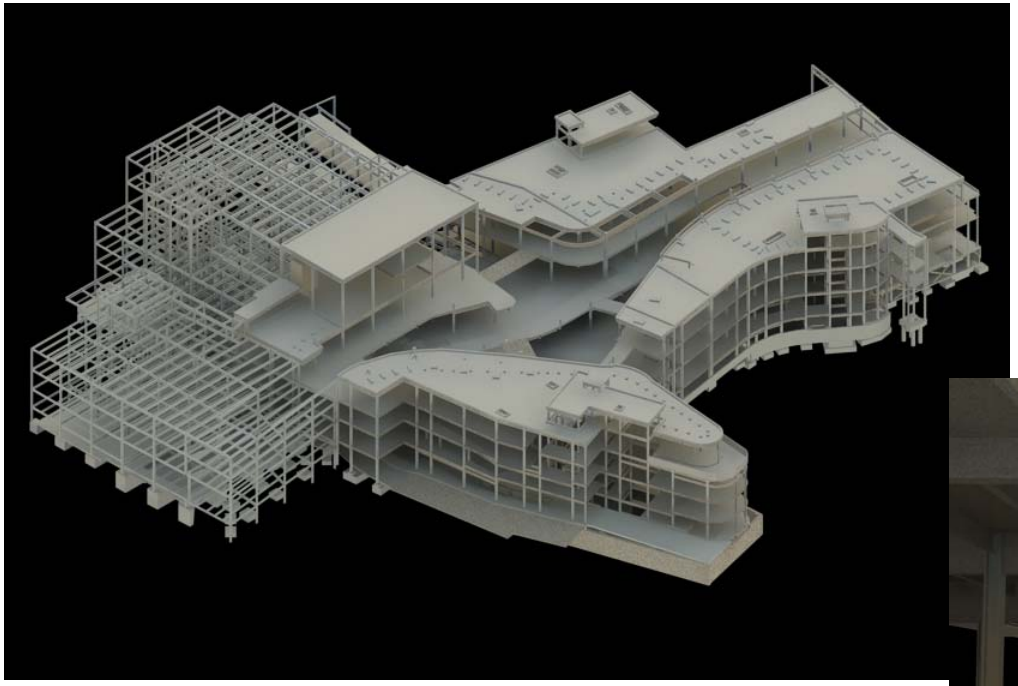


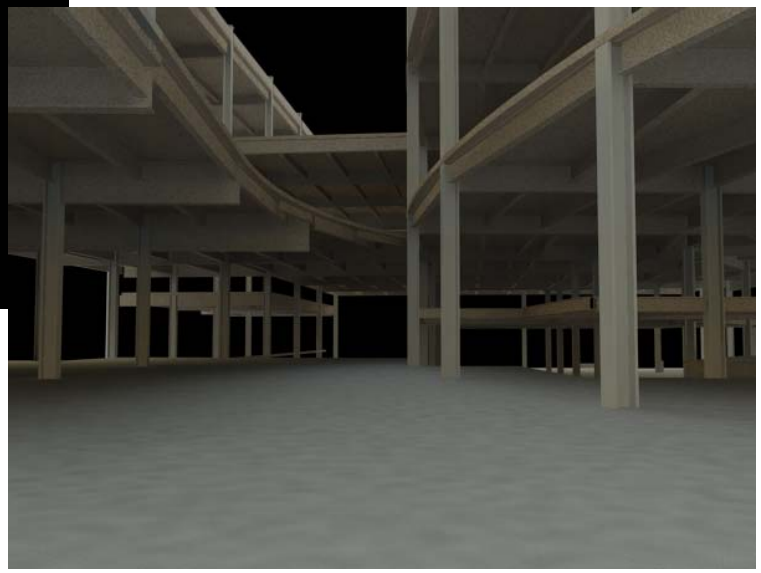


Trinity, Leeds City Centre

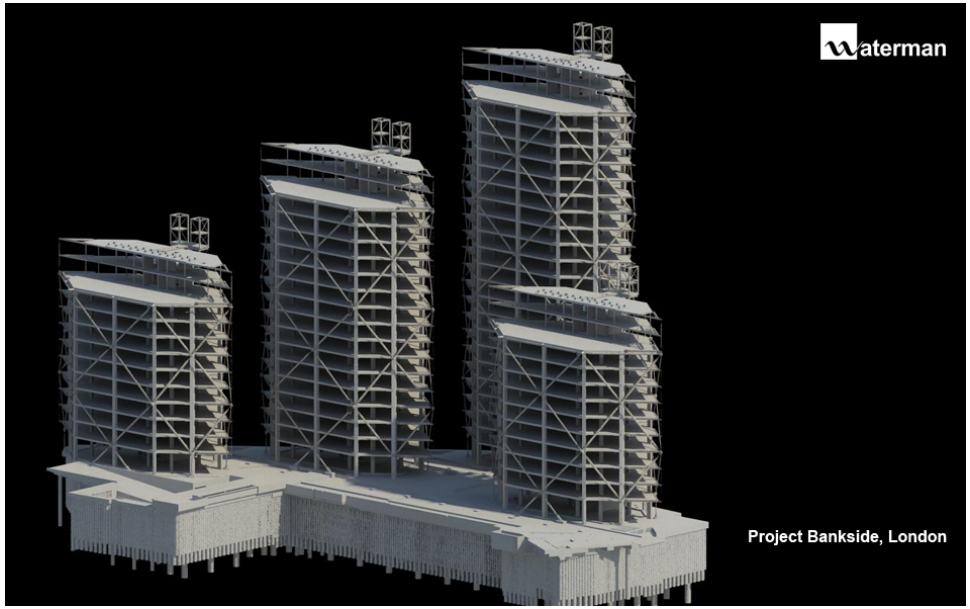
50 000 m^2 Retail

5 models of between 40 – 100 mb



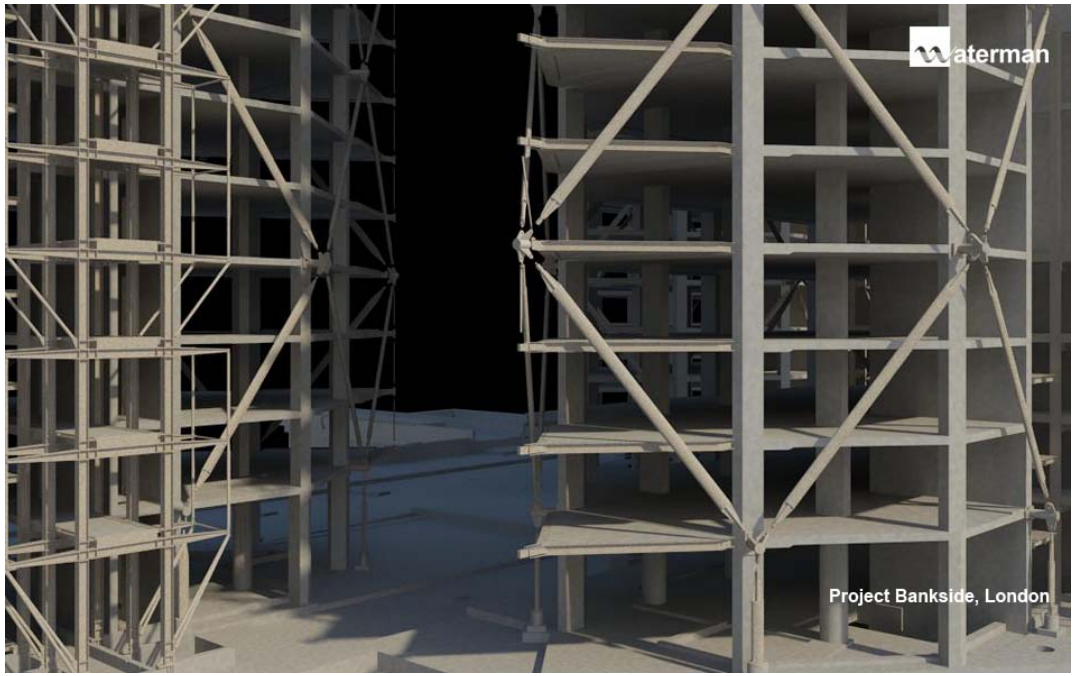


Bankside



Started in RS2008
Currently in RS2009

<u>Grd & Basement</u>
400 Views 80 Sheets
60mb
<u>Block A</u>
700 Views 100 Sheets
125mb
<u>Block B</u>
470 Views 60 Sheets
135mb
<u>Block C</u>
500 Views 70 Sheets
140mb
<u>Block D</u>
400 Views 50 Sheets
140mb
<u>Block E</u>
55 Views 10 Sheets
11mb



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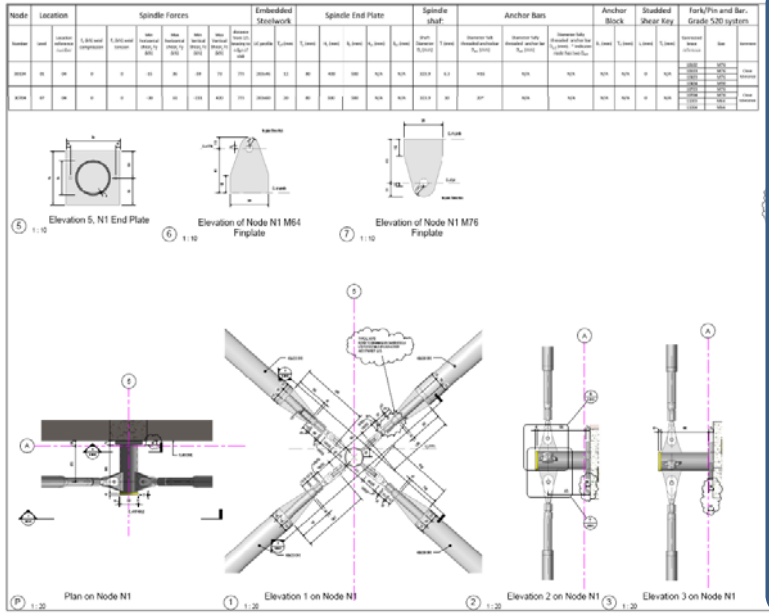
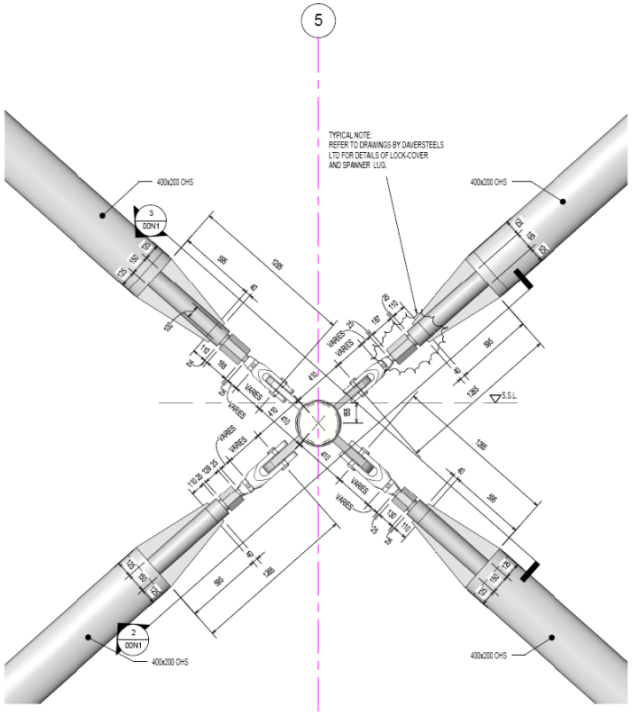
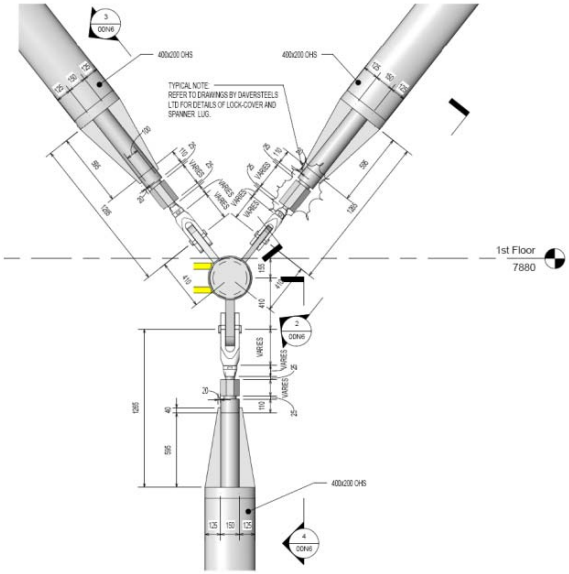
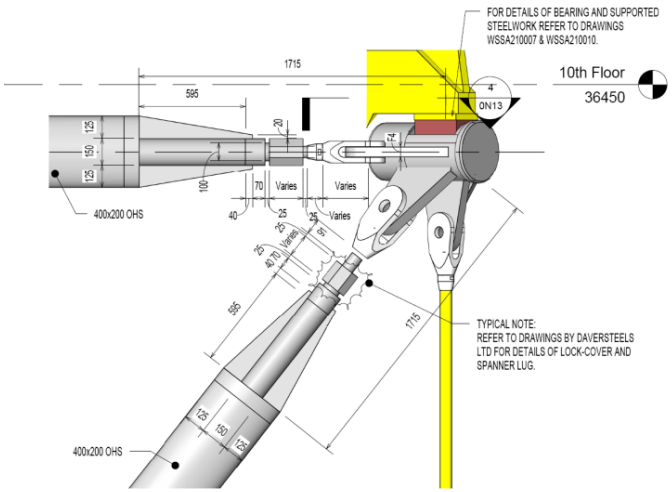
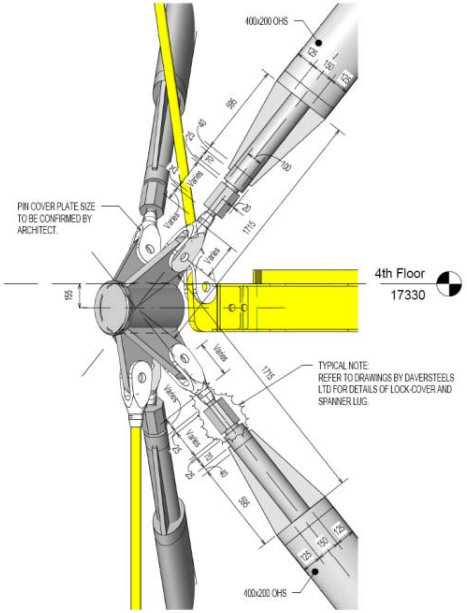
Bankside











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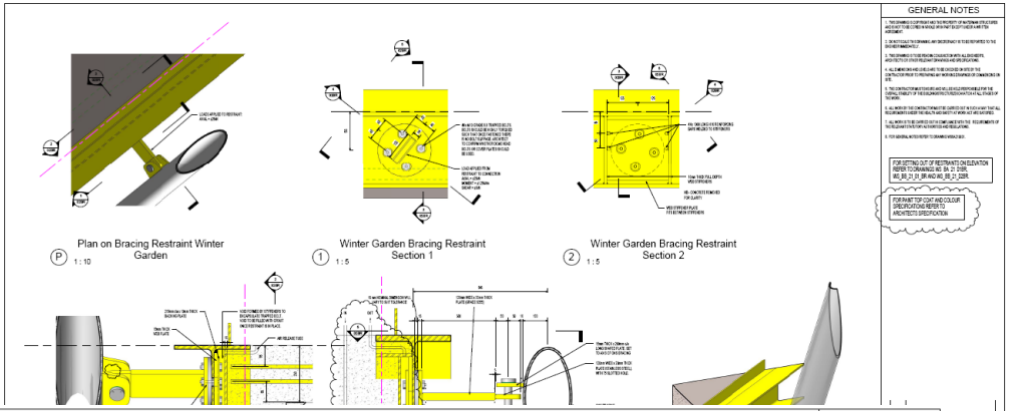
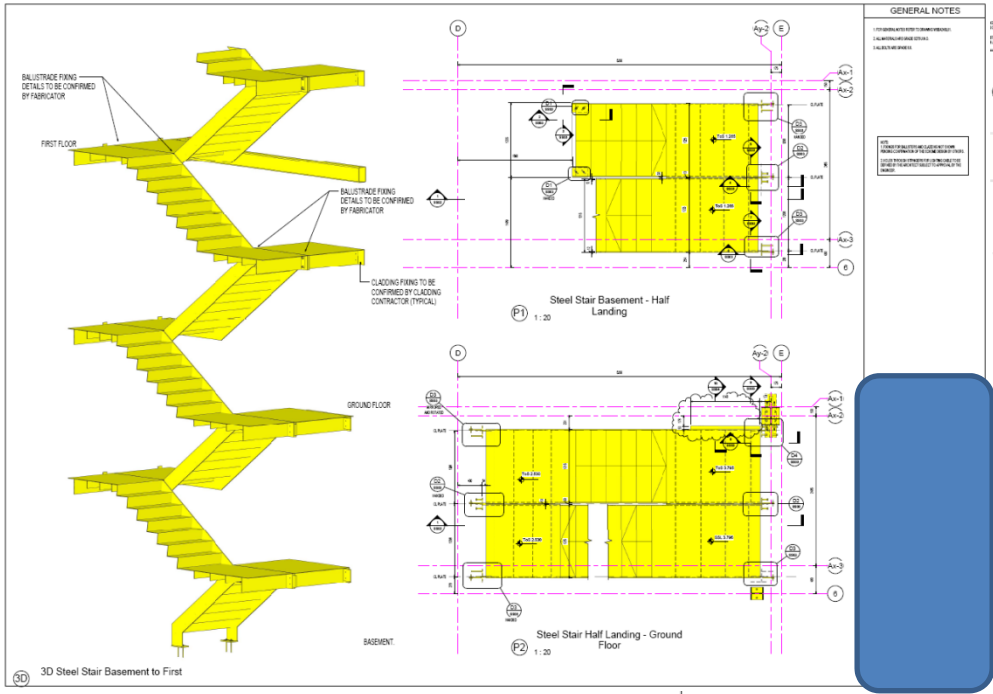
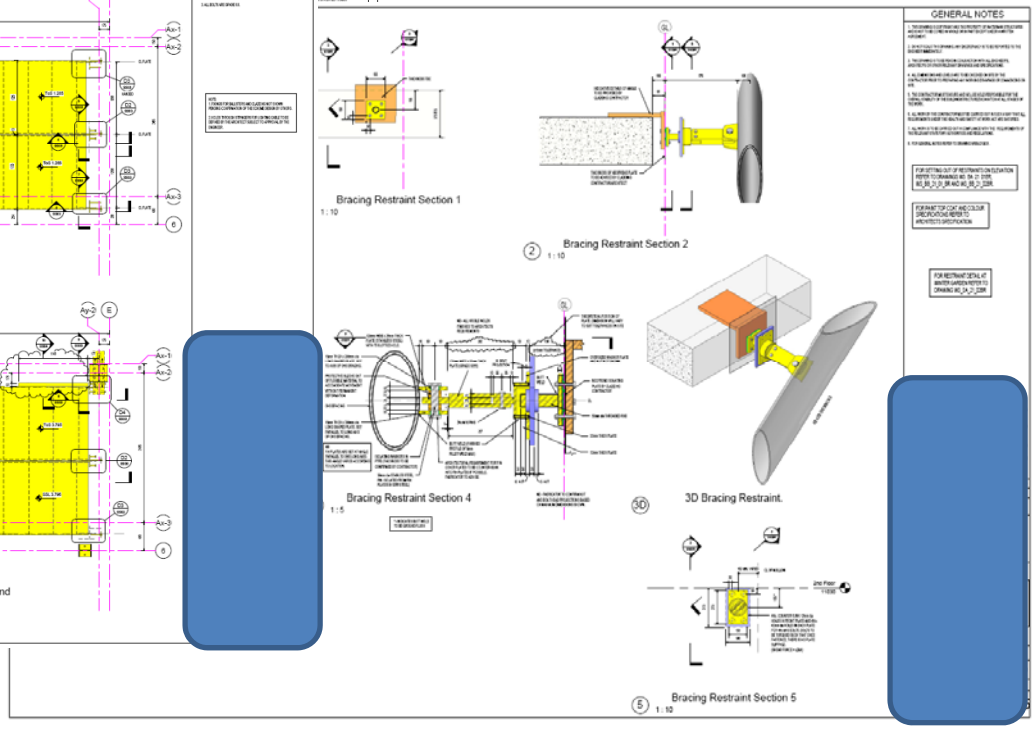
Bankside


GENERAL NOTES
Plan on Bracing Restraint Winter Garden
Winter Garden Bracing Restraint Section 1
Winter Garden Bracing Restraint Section 2


GENERAL NOTES
BALUSTRADE FIXING DETAILS TO BE CONFIRMED BY FABRICATOR
FIRST FLOOR
BALUSTRADE FIXING DETAILS TO BE CONFIRMED BY FABRICATOR
CLADDING FIXING TO BE CONFIRMED BY CLADDING CONTRACTOR (TYPICAL)
Steel Stair Basement - Half Landing
GROUND FLOOR
BASEMENT
Steel Stair Half Landing - Ground Floor
3D Steel Stair Basement to First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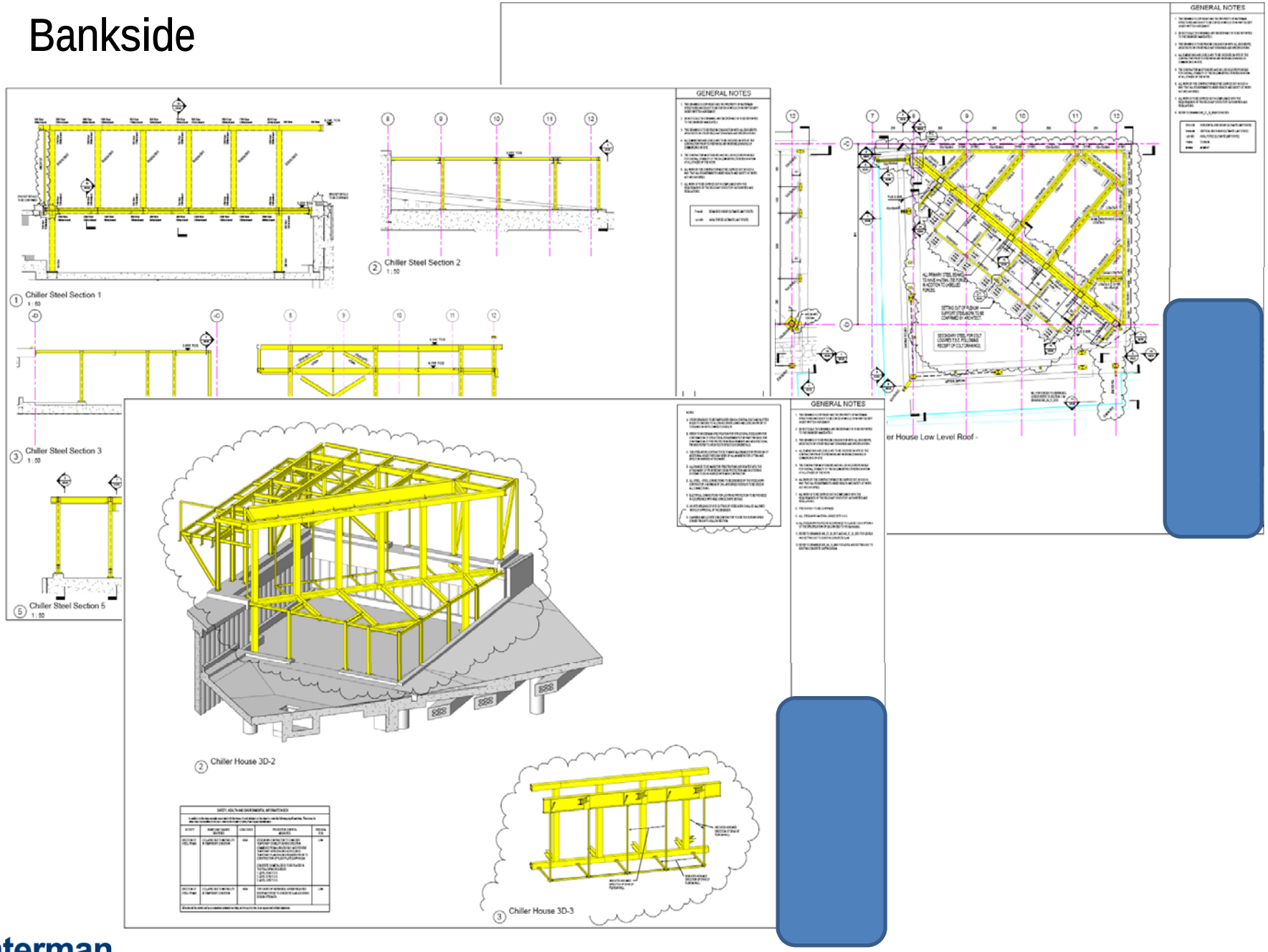
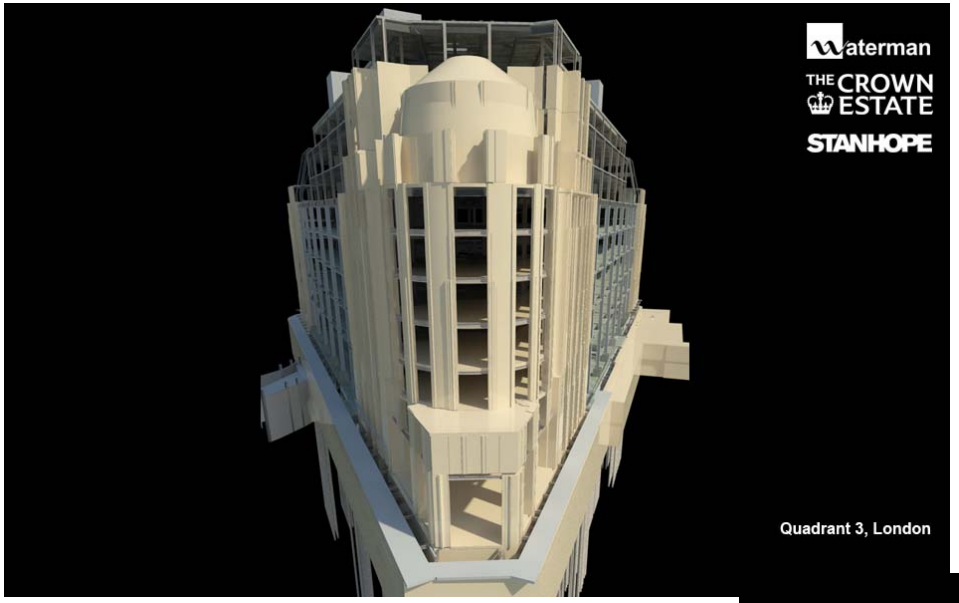
Bracing Restraint Section 1
Bracing Restraint Section 2
Bracing Restraint Section 4
3D Bracing Restraint.
Bracing Restraint Section 5

Bankside


GENERAL NOTES
Chiller Steel Section 1
1 : 50
Chiller Steel Section 2
1 : 50
Chiller Steel Section 3
1 : 50
Chiller Steel Section 5
1 : 50
er House Low Level Roof -
Chiller House 3D-2
Chiller House 3D-3

Quadrant 3, London



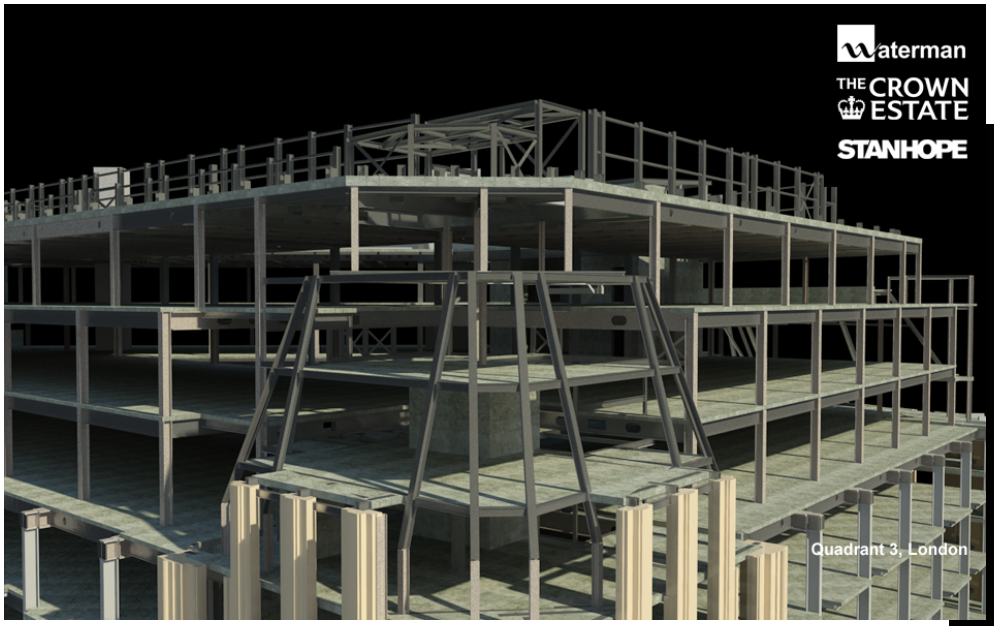
330 mb

1100 Views 160 Sheets

Started in RS4

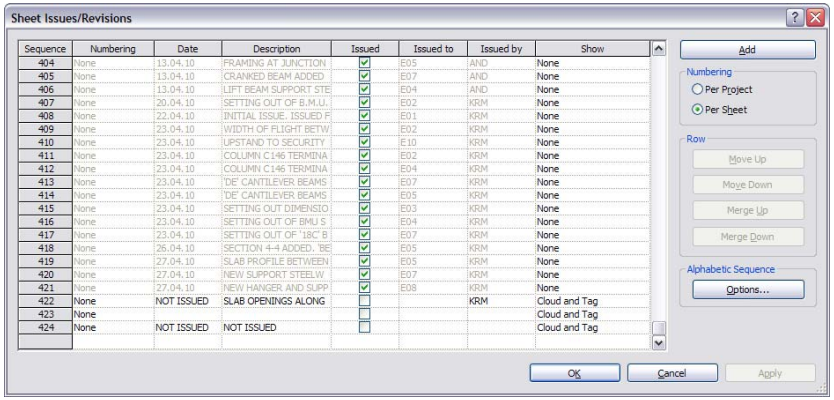
Currently in RS2010

Quadrant 3, London



430 Revisions

300 in the last 9 Months



Sheet Issues/Revisions

Sequence	Numbering	Date	Description	Issued	Issued to	Issued by	Show
404	None	13.04.10	FRAMING AT JUNCTION	☑	E05	AND	None
405	None	13.04.10	CRANKED BEAM ADDED	☑	E07	AND	None
406	None	13.04.10	LIFT BEAM SUPPORT STE	☑	E04	AND	None
407	None	20.04.10	SETTING OUT OF B.M.U.	☑	E02	KRM	None
408	None	22.04.10	INITIAL ISSUE. ISSUED F	☑	E01	KRM	None
409	None	23.04.10	WIDTH OF FLIGHT BETW	☑	E02	KRM	None
410	None	23.04.10	UPSTAND TO SECURITY	☑	E10	KRM	None
411	None	23.04.10	COLUMN C146 TERMINA	☑	E02	KRM	None
412	None	23.04.10	COLUMN C146 TERMINA	☑	E04	KRM	None
413	None	23.04.10	'DE' CANTILEVER BEAMS	☑	E07	KRM	None
414	None	23.04.10	'DE' CANTILEVER BEAMS	☑	E05	KRM	None
415	None	23.04.10	SETTING OUT DIMENSIO	☑	E03	KRM	None
416	None	23.04.10	SETTING OUT OF BMU S	☑	E04	KRM	None
417	None	23.04.10	SETTING OUT OF '18C' B	☑	E07	KRM	None
418	None	26.04.10	SECTION 4-4 ADDED. 'BE	☑	E05	KRM	None
419	None	27.04.10	SLAB PROFILE BETWEEN	☑	E05	KRM	None
420	None	27.04.10	NEW SUPPORT STEELW	☑	E07	KRM	None
421	None	27.04.10	NEW HANGER AND SUPP	☑	E08	KRM	None
422	None	NOT ISSUED	SLAB OPENINGS ALONG	☐		KRM	Cloud and Tag
423	None			☐			Cloud and Tag
424	None	NOT ISSUED	NOT ISSUED	☐			Cloud and Tag

Add

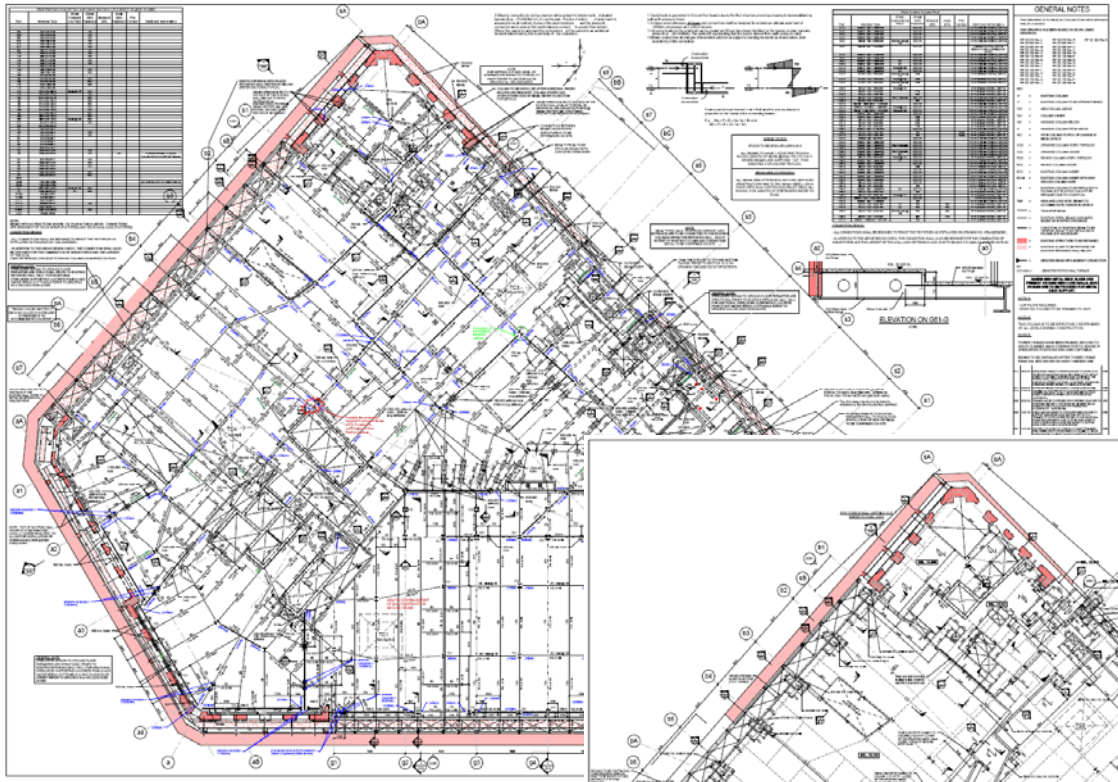
Numbering
- Per Project
- Per Sheet

Row
- Move Up
- Move Down
- Merge Up
- Merge Down

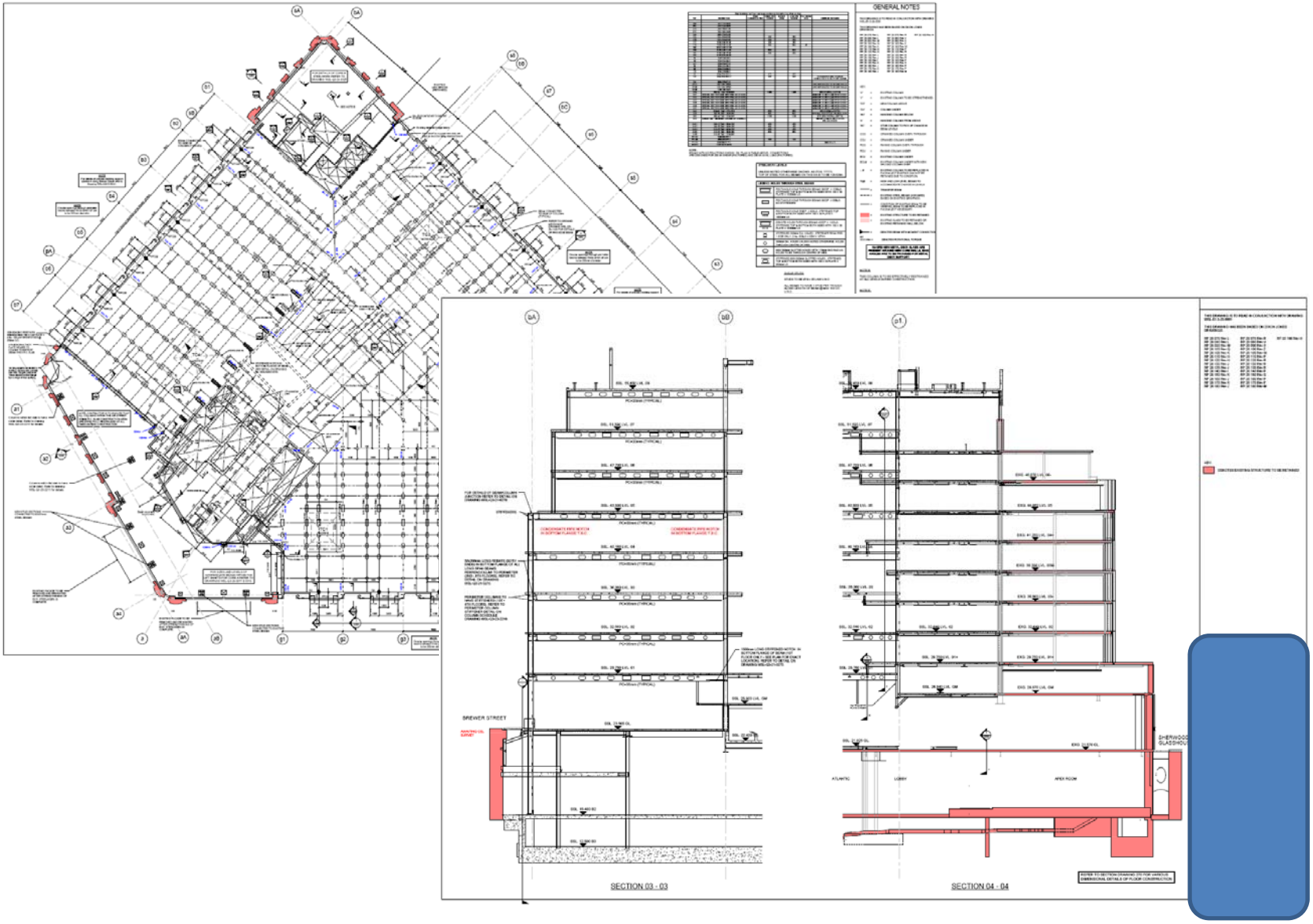
Alphabetic Sequence
- Options...

OK | Cancel | Apply

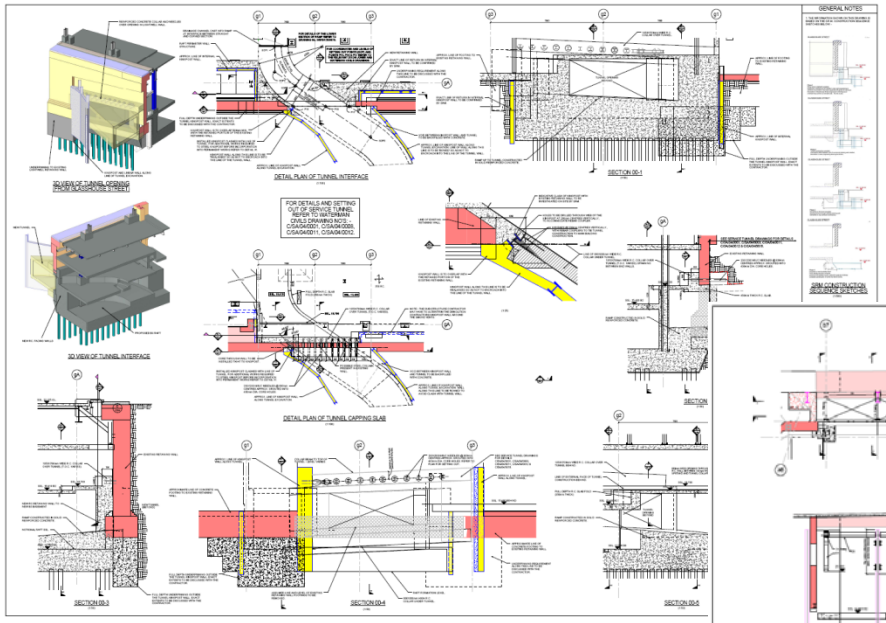
Quadrant 3, London

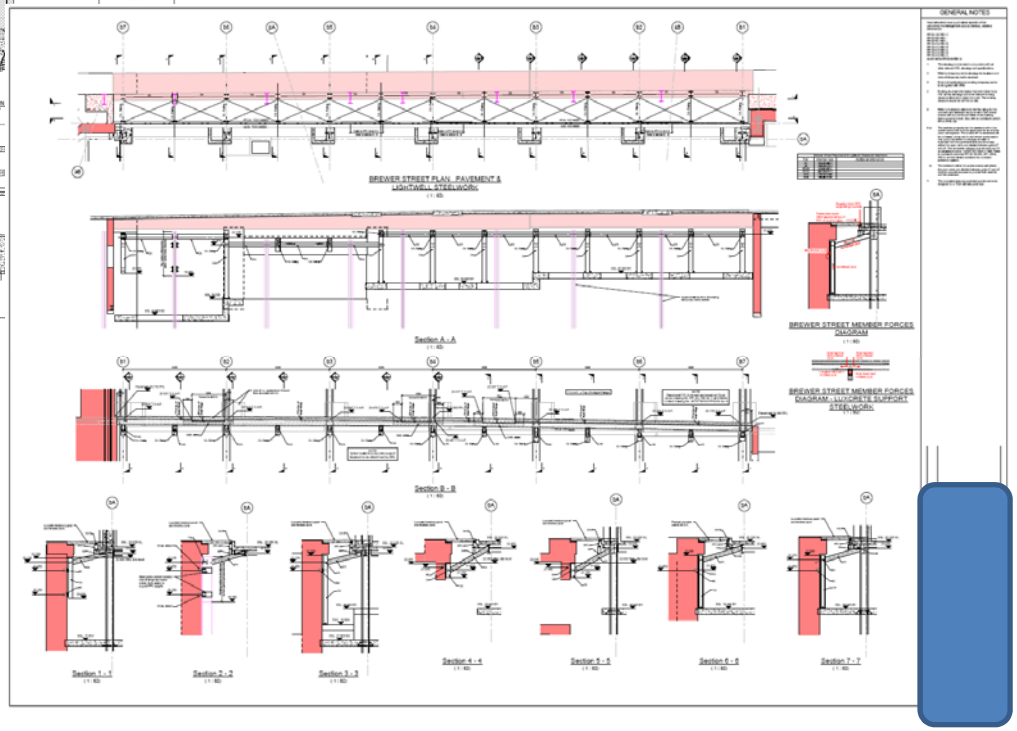


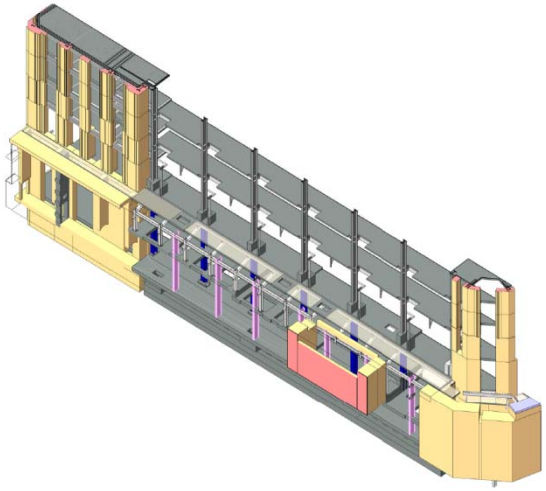
Quadrant 3, London



Quadrant 3, London







Thank you for listening

Any Questions ?