

Project No. 24130

No. 790 HIGH ROAD - DIAL HOUSE

CALCULATION REPORT

Oct-24

Rev. -

Revision :	Status:	Date:	Prepared by:	Checked and Approved by:
-	Stage 4	11.10.24	Effiom Esua, Senior Engineer <i>BEng MSc</i>	Bola Ogunmefun, Director <i>MEng CEng FStructE</i>

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Approved for issue by:				EE											
Issued To															
Role	Name	Company													
Client															
Architect				e	e	e	e								
QS															
M+E															
Contractor			e	e	e	e	e								
Reason: Preliminary (P), Tender (T), Construction (C), Information (X)			P	P	P	P	C								
Format of Issue: Email (E), Hard Copy (H), CD/DVD (D), FTP site (F)			E	E	E	E	E								

1 - BASIS OF DESIGN

Calculation Title **BASIS OF DESIGN**

Reference Documents

Engineer
EE

Checked by
BAO

Date
Mar-21

Checked Date

Page Number

PROJECT DESCRIPTION

Tisserin appointed Tisserin Engineers to design the necessary structure to allow for the internal alterations to a listed building.

DEAD AND IMPOSED LOADS

FLOOR/ ROOF

kPa

PITCHED ROOF

	Gk	Qk
Tiles, Battern & Felt	0.55	
Rafters	0.2	
Ceiling + Services	0.15	
H: Live		0.60
TOTAL (UNFACTORED)	0.9	0.6

FLAT ROOF

	Gk	Qk
Asphalt Waterproof	0.45	
Timber joist	0.2	
Ceiling + Services	0.15	
H: Live		0.60
TOTAL (UNFACTORED)	0.8	0.6

TERRACE

	Gk	Qk
Floor Finish	0.2	
Structure	2.4	
Ceiling + Services	0.25	
A3: Terrace		2.50
TOTAL (UNFACTORED)	2.85	-

FLOOR

	Gk	Qk
Floor Finishes	0.2	
75mm Screed	1.8	
Beam & Block	2.4	
Ceiling & Services	0.25	
Moveable Partitions	0.5	
B1: Office		3.00
TOTAL (UNFACTORED)	5.15	3

WALLS

WALL

EXTERNAL TIMBER WALL

	Gk
Tiles	0.5
Timber ply/ boards	0.2
Timber studs	0.2
Plasterboard	0.2

TOTAL (UNFACTORED) 1.10

INTERNAL TIMBER WALL

	Gk
25mm Plasterboard	0.2
215 Brick	4.3
25mm Plasterboard	0.2

TOTAL (UNFACTORED) 4.65

337 EXT. MASONRY

	Gk
Render	0.2
337 Brick	6.7
Plasterboard	0.2

TOTAL (UNFACTORED) 7.14

WIND LOADS

LOCATION; LONDON

BASIC WIND SPEED

21.4 m/s

SITE ALTITUTED

20 M

DISTANCE INTO TOWN

5 kN

MATERIAL SPECIFICATION

PROPOSED STRUCTURAL STEEL	S355
NEW STRUCTURAL TIMBER JOIST	C24
NEW STRUCTURAL TIMBER STUDS	C16
ASSUMMED EXISTINGTIMBER JOISTS	C16

FIRE AND DURABILITY

The fire rating to the domestic building is anticipated to be 30 minutes. Fire protection to Architect's detail.

All steelwork shall be coated with intumescent paint.

All external steelwork to be hot dipped galvanized.

All external exposed timber to be minimum durability class 2.

GEOTECHNICAL PARAMETERS

Allowable ground bearing pressure assumed to be 100kN/m². According to The British Geological Survey we anticipate London Clay to underly the site though it is unknown to what depth this strata extends to. We also anticipate there being made ground fill underlying the site and will conservatively assume 500mm depth of made ground.

DEFLECTION LIMITS

TIMBER (VERTICAL DEFLECTION)

FINAL DEFLECION (Gk+Qk)	SPAN/250 (NO GREATER THAN 25mm)
INSTATANEOUS DEFLECION (Gk+Qk)	SPAN/360

STEEL (VERTICAL DEFLECTION)

IMPOSED LOAD carrying or over brittle finishes	SPAN/500 (NO GREATER THAN 10mm)
IMPOSED LOAD non brittle finishes	SPAN/360 (NO GREATER THAN 15mm)
TOTAL DEAD & IMPOSED LOAD	SPAN/250 (NO GREATER THAN 25mm)

STEEL (HORIZONTAL DEFLECTION)

WIND BRITTLE FINISHES	HEIGHT/500
WIND BRITTLE FINISHES	HEIGHT/300

Calculation Title **BASIS OF DESIGN**

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Engineer
EE

Checked by
BAO

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Mar-21

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VIBRATION LIMITS

Steel Vertical fundamental frequency 4.5Hz
Timber vertical fundamental frequency

DISPROPORTIONATE COLLAPSE

The proposed building is for office use and as it does not exceed 4 storeys according to Building Regulations Approved Document A table 11, there building falls under 2a Lower Risk Group.

REFERENCES

BS EN 1990 Basis of EC3
BS EN 1991 Actions EC5
BS EN 1993 Design of Steel Structures
BS EN 1995 Design of Timber Structures
BS EN 1996 Design of Masonry Structures
STRUCTURAL ENGINEER'S POCKET BOOK (3RD ED.)
STEEL FOR LIFE BLUEBOOK
Building Regulations Approved Document A

TIMBER NOTES:

• ALL NEW SOFT WOOD TIMBER TO BE GRADE C24, AND PRESSURE INPREGNATED (TANALISED) WITH CUT ENDS TREATED BEFORE FIXING U.N.O.

• TIMBER CONNECTIONS TO HAVE PROPRIETY GAVANISED STEEL FIXINGS.

• ALL PROPRIETY ITEMS, FIXINGS, STRAPS, ANGLES OR OTHERWISE ARE TO BE USED IN ACCORDANCE WITH MANUFACTURERS' DETAILS

TIMBER JOISTS

• ALL TIMBER JOIST TO BE FIXED WITH 18mm THICK EXTERIOR GRADED PLYWOOD EXTERIOR FACE SCREW FIXED @ 400c/c. U.N.O.

• PROVIDE FULL DEPTH TIMBER BLOCKING PIECES BETWEEN RAFTERS & JOISTS AT SUPPORT AND MID SPAN. DEPTH OF BLOCKING PIECES TO SUIT RAFTER

• ALL TIMBER RACKING PANELS TO HAVE AT LEAST ONE 15MM PLYWOOD FIXED TO EXTERIOR FACE STUDS @150C/C AND NO FURTHER THAN A QUARTER OF THE STUD LENGTH FROM EITHER THE TOP OR BOTTOM OF THE STUD NOTCHES: (ALL TIMBER FLOORS)

UNLESS SPECIFICALLY AGREED WITH STRUCTURAL ENGINEER, NOTCHES TO COMPLY WITH THE FOLLOWING DIMENSIONS:

• NOTCHES NOT EXCEEDING 0.125 OF THE DEPTH OF THE JOIST.

• ANY NOTHCES IS ALLOWED IN A ZONE INCLUDED BETWEEN 0.07 AND 0.25 OF THE SPAN FROM THE SUPPORT.

HOLES: (ALL TIMBER FLOORS)

UNLESS SPECIFICALLY AGREED WITH STRUCTURAL ENGINEER, HOLES TO COMPLY WITH THE FOLLOWING DIMENSIONS:

• TO BE DRILLED AT MID DEPTH OF THE TIMBER FLOOR JOIST.

• ANY HOLE IS ALLOWED IN A ZONE INCLUDED BETWEEN 0.25L AND 0.4L, WHERE L IS THE CLEAR SPAN OF THE JOIST.

• MAXIMUM DIAMETER NOT EXCEEDING 0.25 OF THE DEPTH OF THE JOIST.

• MINIMUM SPACING BETWEEN HOLES TO BE THREE DIAMETERS (CENTRE TO CENTRE).

• IF ANY NOTHCES OR HOLES ARE OUTSIDE THE ZONE SPECIFIED ABOVE OR IF THEY ARE DEEPER/BIGGER THAN SPECIFIED ABOVE, NOTIFY THE STRUCTURAL ENGINEER FOR GUIDANCE.

STEELWORK NOTES:

• ALL STRUCTURAL STEELWORK TO BE GRADE S275 UNLESS OTHERWISE STATED. HOLLOW SECTIONS TO BE GRADE S355.

• ALL STEELWORK TO BE BLAST CLEANED TO SA2.5 AND SHOP APPLIED PRIMER WITH 80 MICRONS ZINC PHOSPHATE AND TOUCHED UP ON SITE. STEEL BEAM IN EXTERNALL LOCATIONS E.G. GROUND BEAM TO ALSO HAVE 100 MICRONS HIGH BUILD EPOXY MIO APPLIED.

• ALL WELDS TO BE MINIMUM 6mm FULL PROFILE FILLET WELDS. U.N.O.

• ALL CONNECTIONS TO HAVE A MINIMUM OF 4No. M16 GRADE 8.8 BOLTS.

• FABRICATION OF STEELWORK MUST NOT COMMENCE UNTIL TISSERIN HAS SEEN AND REVIEWED THE DETAIL FABRICATION DRAWINGS. ALLOW 5 WORKING DAYS FOR DRAWING REVIEW.

• ALL STEELWORK MUST BE MARKED WITH THE CE MARKINGS

STRUCTURAL CONCRETE NOTES:

• ALL CONCRETE STRUCTURE TO BE CONSTRUCTED IN ACORDANCE WITH THE NATIONAL STRUCTURAL CONCRETE SPECIFICATION FOR BUILDING CONSTRION (NSCS) EDITION 4, UNLESS NOTED OTHERWISE.

• ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH BS EN 1992 AND THE UK NATIONAL ANNEX.

• ALL CONCRETE TO BE GRADE C30/37. IN ADDITION, FOUNDATIONS TO HAVE 0.6 MAXIMUM W/C RATIO, MINIMUM CEMENT CONTENT OF 280kg/m³.

• ALL STRUCTURAL MASS CONCRETE WITHIIN THE GROUND TO BE C25/30.

• ALL OTHER MASS CONCRETE AND BINDING TO BE GEN 3.

• REINFORCEMENT TO BE IN ACORDANCE WITHBS 4449, BS 4482, BS 4483 or BS 6744.

• CUTTING AND BENDING OF REINFORCEMENT TO BS 8666.

• SOURCE OF REINFORCEMENT: COMPANIES HOLDING VALID CERTIFICATES OF APPROVAL FOR PRODUCT CONFORMITY ISSUED BY THE UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS (CARES).

• GRADE FOR ALL REINFORCEMENT SHALL BE B5000B.

• CONTRACTOR SHALL TAKE 3No. SAMPLES OF CONCRETE FROM EACH CONCRETE DE;LIEVERY TO BE CUBE TESTED AT 28 DAYS. RESULTS TO BE SENT TO TISSERIN.

• SETTING OUT OF STRUCTURES TO BE IN ACCORDANCE WITH BS EN 5964-1.

• SOME PERMITTED GEOMETRIC TOLERANCE FROM THE NSCS ARE NOTED BELOW. CONTRACTOR MUST REFER TO THE NSCS FOR ALL TOLERANCES. TOLERANCES ARE NOT CUMULATIVE

-DEVIATION ON PLAN = MAX 10mm

-VERTICALITY OF STRUCTURE (COLUMN OR WALL): HEIGHT OF ELEMENT, H.WHERE H IS EQUAL OR LESS THAN 10M= LARGER OF 15MM OR H/400 H>10m =THE LARGER OF 25mm OF H/600

-LEVEL PER STOREY: PERMITTED DEVEIATION =+/- 10mm

- DISTANCE BETWEEN ADJACENT STRUCTURE. +/- 20mm PF L/600 BUT NOT MORE THAN 40mm.

-POSTION OF SLAB EGDE=+/- 10mm

info@tisserin.co.uk TISSERINENGINEERS	Project 790 HIGH ROAD - DIAL HOUSE	Sketch No. 24130 - 600		
	Title CONSTRUCTION NOTES	Scale 1:50	Drawn by EE	Rev P01

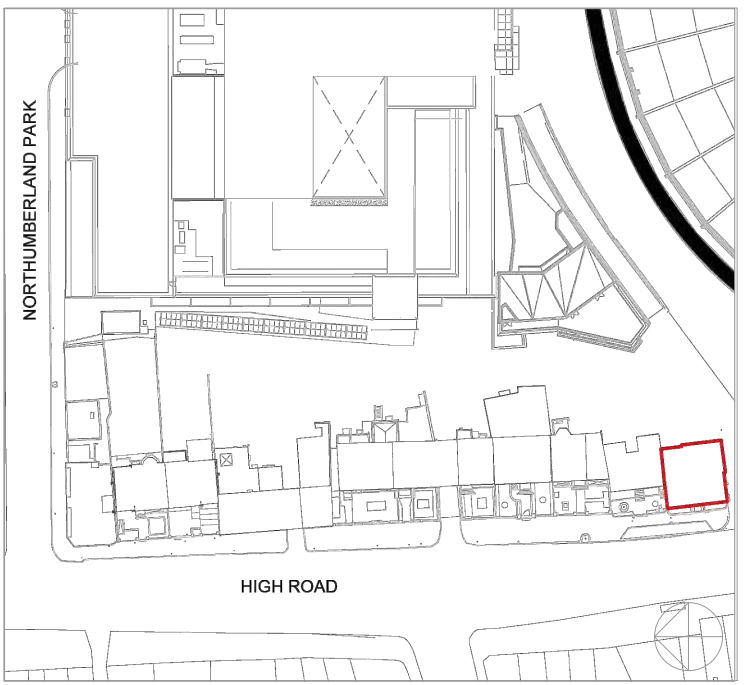
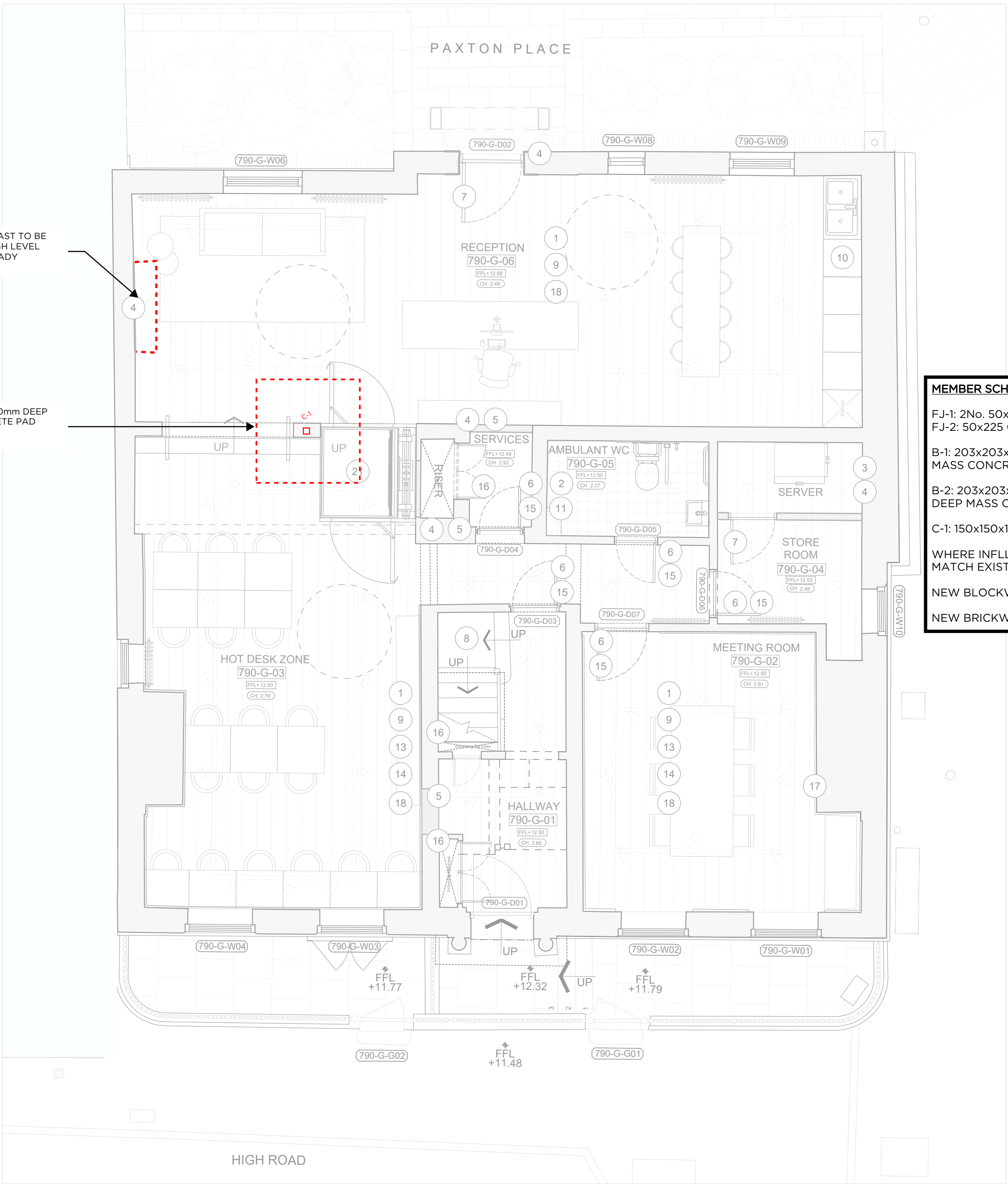
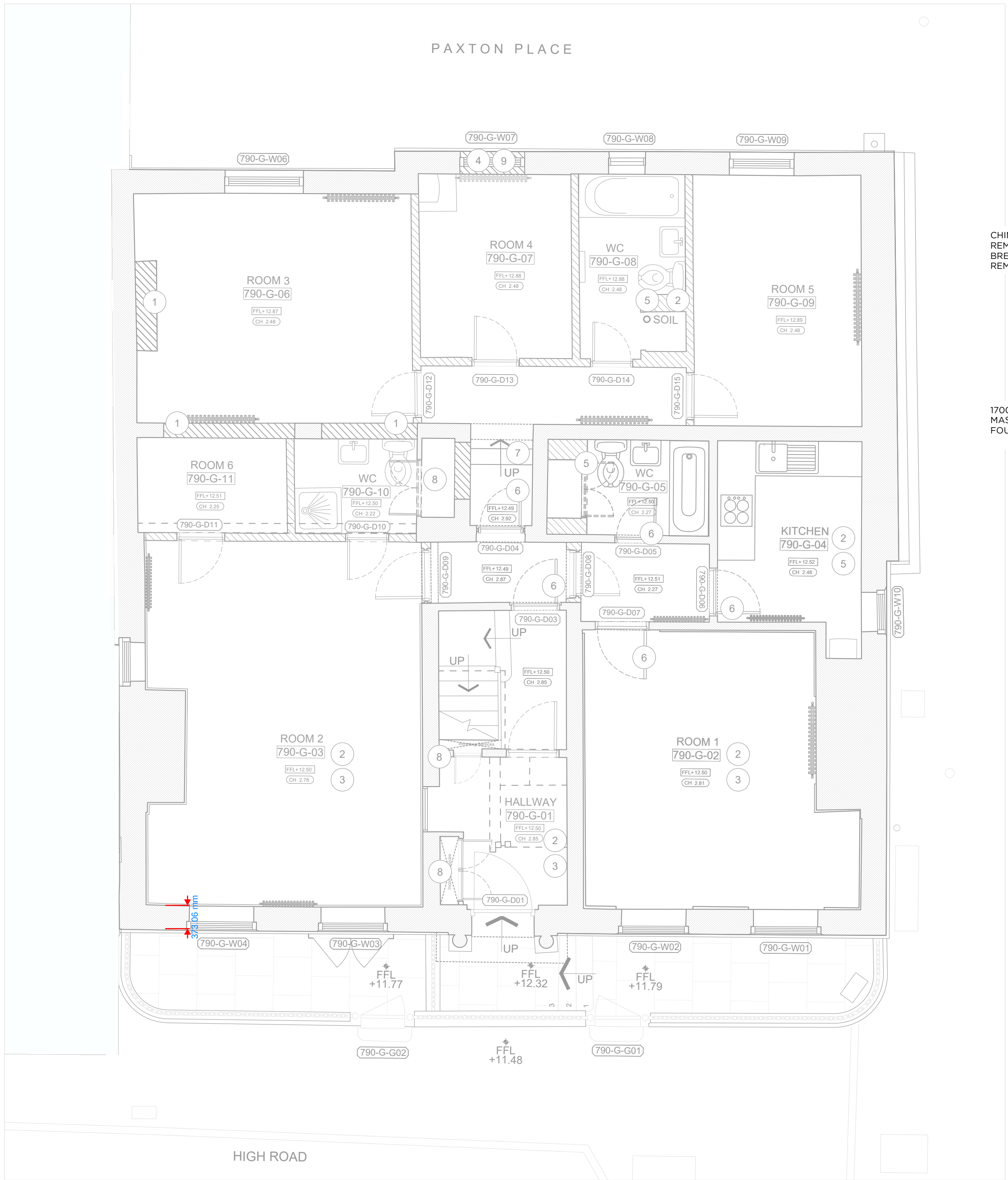
MASONRY NOTES:

- EXISTING MASONRY WALLS TO BE REPOINTED AND MADE GOOD BY MAIN CONTRACTOR WHERE NECESSARY.
- MASONRY TO BE IN ACCORDANCE WITH BS5628, MORTAR MIX 1:1:6 MIX. U.N.O BRICKS TO BE CLASS 3 FROST RESISTANT WITH LOW SOLUBLE SALT CONTENT.
- ALL STRUCTURAL BLOCKWORK FOR THE REAR EXTENSION TO BE MEDIUM DENSE WITH COMPRESSIVE STRENGTH 7N BLOCK. MORTAR DESIGNATION (iii) ABOVE DPC & (i) BELOW DPC.
- BRICK TO BLOCK CAVITY WALL TIES TO BE STAIFIX RT2 TYPE 2 WALL TIES WITH INSULATION RETAINING CLIPS. MAXIMUM CAVITY WIDTH TO BE 125mm FOR NEW CONSTRUCTION. ALL WALL TIES TO BE INSTALLED TO MANUFACTURER'S DETAILS.) WALL TIES TO BE PROVIDED @900c/c HORIZONTAL x 450c/c VERTICAL STAGGERED. AT VERTICAL EDGES OF AN OPENING, VERTICAL CENTRES SHOULD BE REDUCED TO 300c/c, NOT LOCATED MORE THAN 225 FROM EDGE.
- OUTER LEAF MASONRY TO BE TIED TO STEEL COLUMNS USING SDB WALL TIES BY ANCON WITH ISOLATION PAD OR SIMILAR BETWEEN MILD STEEL AND STAINLESS STEEL.

GENERAL NOTES:

STANDARD ABBREVIATIONS
FFL FINISHED FLOOR LEVEL
SSL STRUCTURAL SLAB LEVEL
RC REINFORCED CONCRETE
BWK BRICKWORK
BLK BLOCKWORK
DRG DRAWINGS
BBS BAR BENDING SCHEDULE
NTS NOT TO SCALE
SOP SETTING OUT POINT
TOS TOP OF STEEL

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	790 HIGH ROAD - DIAL HOUSE		24130 - 601		
	Title		Scale	Drawn by	Rev
	CONSTRUCTION NOTES		1:50	EE	P01



KEY PLAN

NOTES:

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All other design team elements, where indicated have been imported from the consultant's drawings and reference should be made to the individual consultant's drawings for exact setting out, size and type of component.

Discrepancies and/or ambiguities within this drawing, between it and information given elsewhere, must be reported immediately to the architect for clarification before proceeding.

All works are to be carried out in accordance with the latest British Standards and Codes of Practice.

MEMBER SCHEDULE:

FJ-1: 2No. 50x225 C24 FLOOR JOISTS @400mm CRS.
FJ-2: 50x225 C24 FLOOR JOISTS @400mm CRS.

B-1: 203x203x46 UC STEEL BEAM WITH 350mm BEARING ONTO 500x215x140mm DEEP MASS CONCRETE PADSTONES.

B-2: 203x203x46 UC STEEL BEAM WITH 300mm BEARING ONTO 440x215x140mm DEEP MASS CONCRETE PADSTONES.

C-1: 150x150x10 SHS STEEL POST.

WHERE INFLLING MASONRY. DO NOT MIX BLOCKWORK AND BRICKWORK, WIDTH TO MATCH EXISTING. REFER TO CONSTRUCTION NOTES FOR FURTHER INFORMATION.

NEW BLOCKWORK TO BE MINIMUM 7.3 N/mm² COMPRESSIVE STRENGTH.

NEW BRICKWORK TO BE MINIMUM 20 N/mm² COMPRESSIVE STRENGTH.

01 No. 790 EXISTING S/O GROUND FLOOR PLAN
82000 Scale 1:50

02 No. 790 PROPOSED GROUND FLOOR PLAN
82000 Scale 1:50

- General notes:
- Protect all existing surfaces and windows adjacent work areas which are to be retained.
 - Drawings to be read in conjunction with all other drawings, specifications, project documents and consultant information.
 - Existing M&E shown indicatively. Carefully strip out all existing services unless stated otherwise and make good.

Strip Out notes:

- General notes:
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 - Carry out compartmentation work in line with the fire engineer's report. To be developed further.
 - All floors to be upgraded in terms of fire performance.

N.B: Rear Landscaping forms a part of separate Planning and Listed Building Consent Application but are shown here for completeness.
N.B: Loose furniture shown indicatively. Subject to tenant fit-out.

- KEY
- Demolition walls/modern partitions
 - Proposed walls/modern partitions
 - Demolition
 - Proposed
 - New ceiling
 - Dismantle for later reinstatement
 - Loose furniture shown indicatively

DATE	AH	FOR PLANNING & LBC	S.2	P1
05.09.2024	CHK	DESCRIPTION	STA	NO.
REVISION HISTORY				



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Health and Safety

Refer to relevant Construction (Design and Management) documents where applicable. The Contractor shall plan, manage and monitor the works inclusive of temporary access stability. Any works that are found to be unstable in the temporary state are to be reported directly to the structural engineer and Main Contractor/ Package Manager in order to provide immediate temporary support. Check on site prior to commencement of works/fabrication etc.

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TISSERIN ENGINEERS

Project

790 HIGH ROAD - DIAL HOUSE

Title

FOUNDATION FLOOR GA

Sketch No.

24130 - 090

Scale

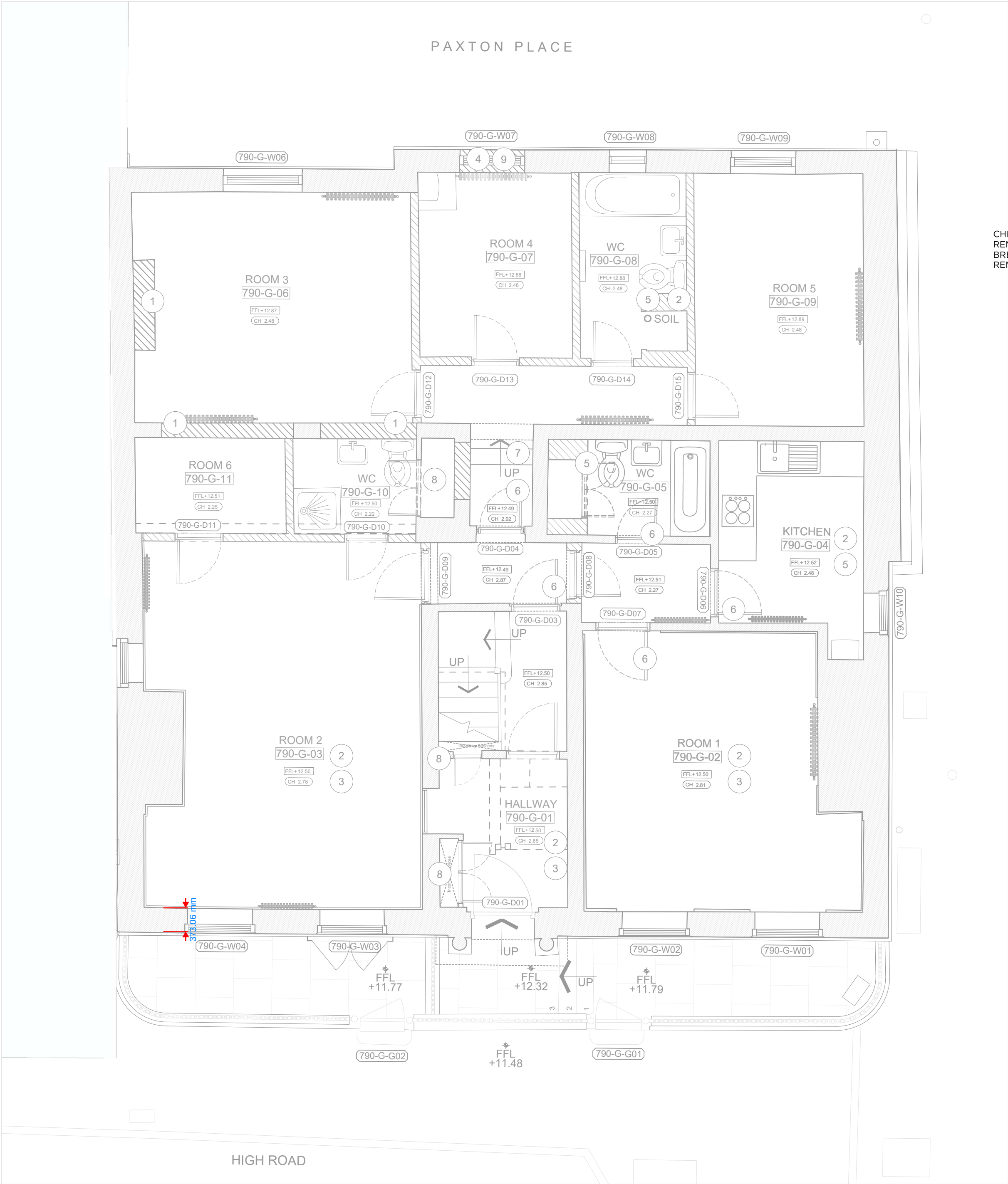
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Drawn by

EE

Rev

P01

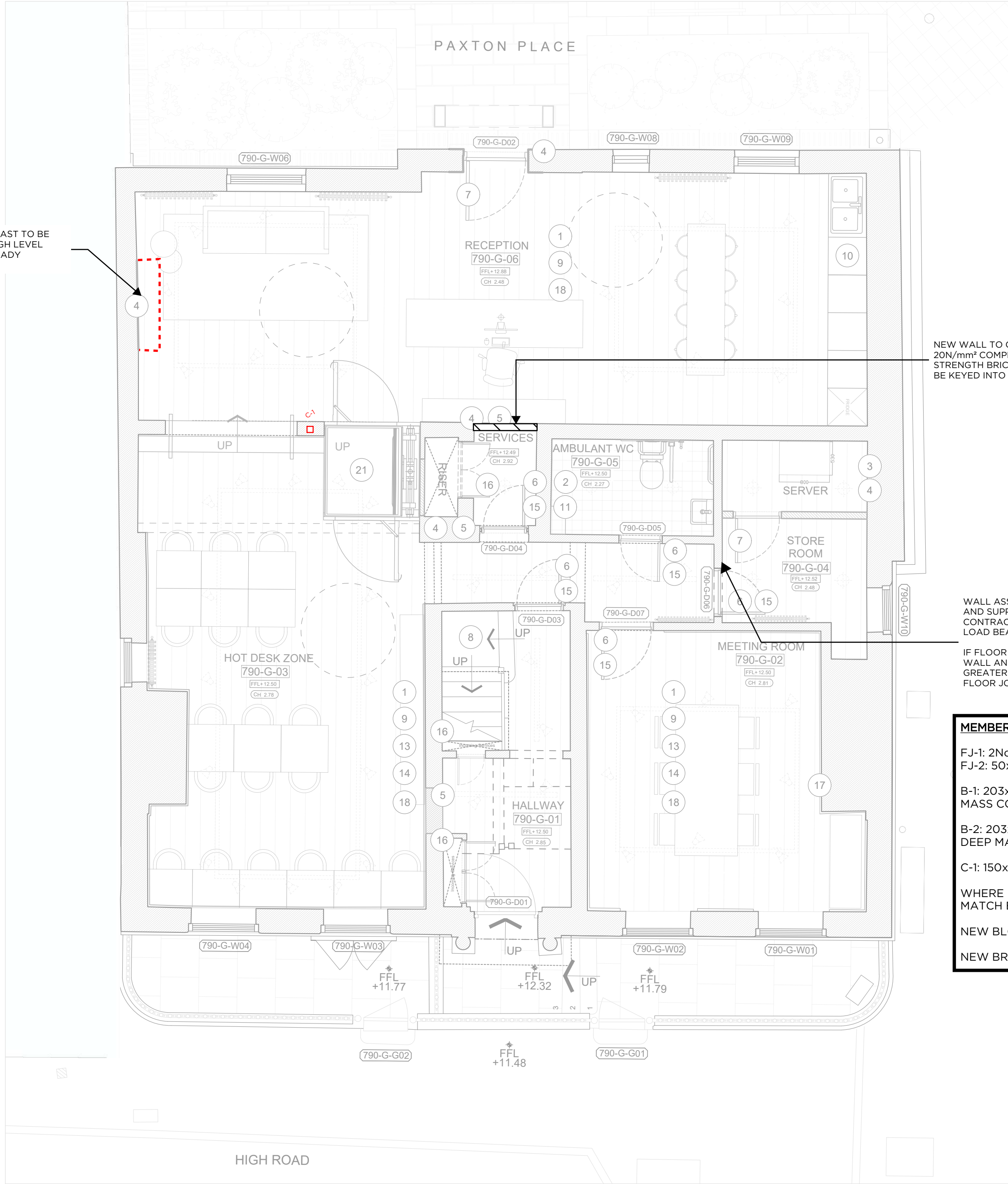


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Strip Out notes:

1. Carefully remove render below/adjacent to all proposed doors. Refurbish



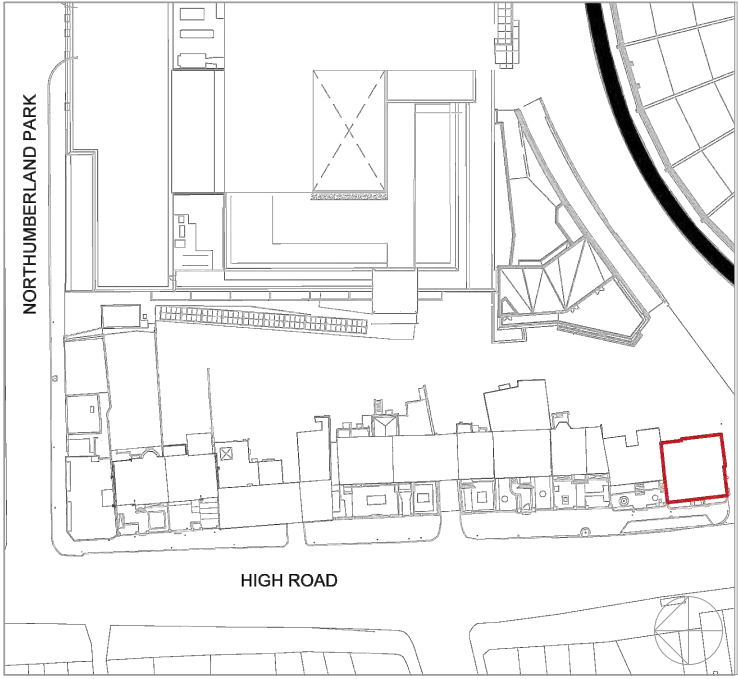
02 No. 790 PROPOSED GROUND FLOOR PLAN
82000 Scale 1:50

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 - Carry out compartmentation work in line with the fire engineer's report. To be developed further.
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Proposed notes:

N.B: Rear Landscaping forms a part of separate Planning and Listed Building Consent Application but are shown here for completeness.
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Except for Planning purposes, figured dimensions only are to be taken from this drawing. All dimensions are in millimetres unless otherwise stated.

All dimensions shall be checked on site prior to works commencing.

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

See that all works on this drawing will be carried out by a competent contractor, working in accordance with an approved method statement.

WALL ASSUMED TO BE LOAD BEARING AND SUPPORTING FLOOR JOISTS. CONTRACTOR TO CONFIRM WHETHER LOAD BEARING AND ADVISE TISSERIN.

IF FLOOR JOISTS NOT BEARING ONTO WALL AND FLOOR JOISTS SPAN GREATER THAN 3.7m, STRENGTHEN FLOOR JOISTS.

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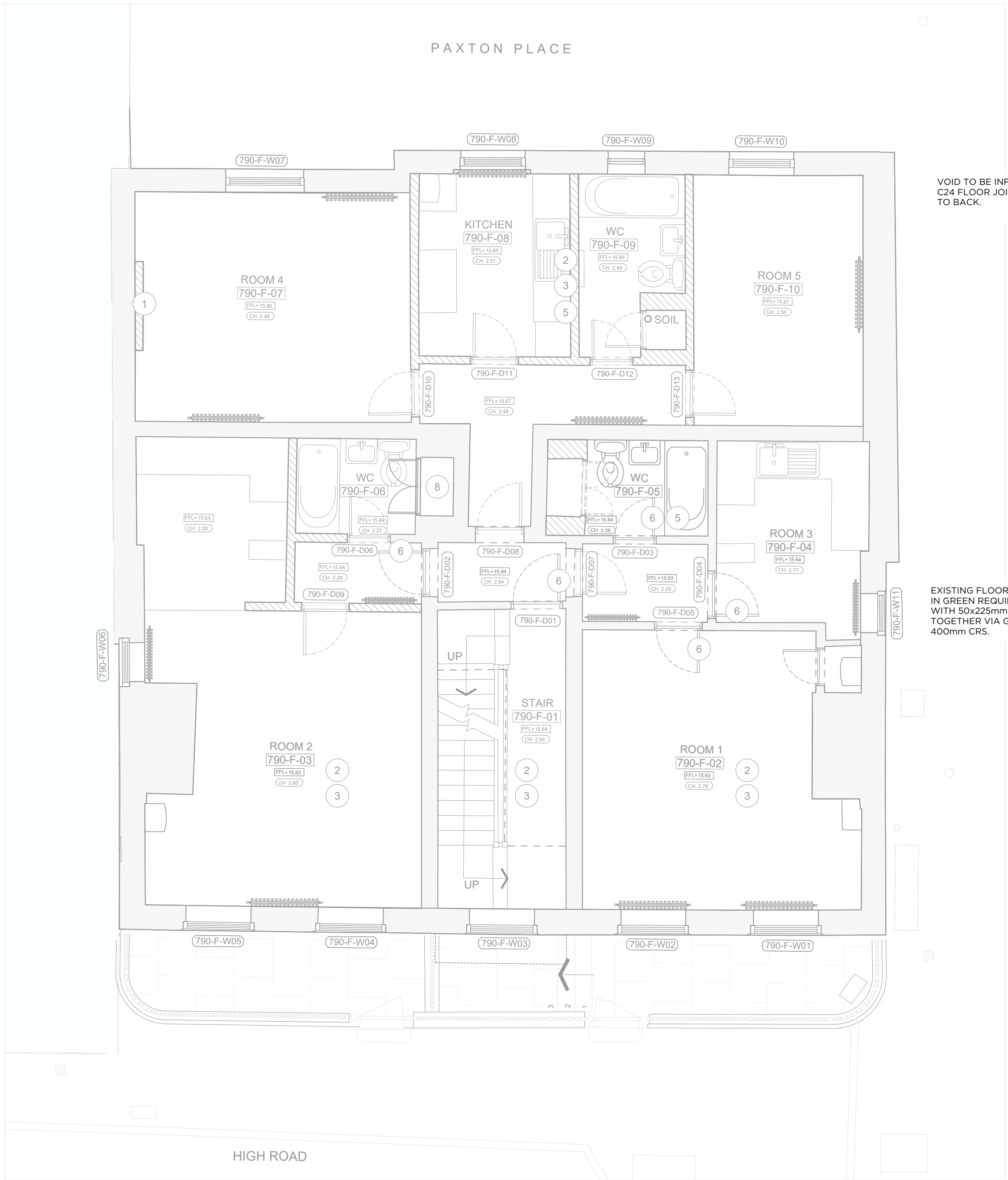
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Health and Safety

Refer to relevant Construction (Design and Management) documents where applicable. The Contractor shall plan, manage and monitor the works inclusive of temporary works, access, and stability. Any works that are found to be unstable in the temporary state are to be supported by the structural engineer and Main Contractor/ Package Manager in order to provide temporary support. Check on site prior to commencement of works/fabrication etc.

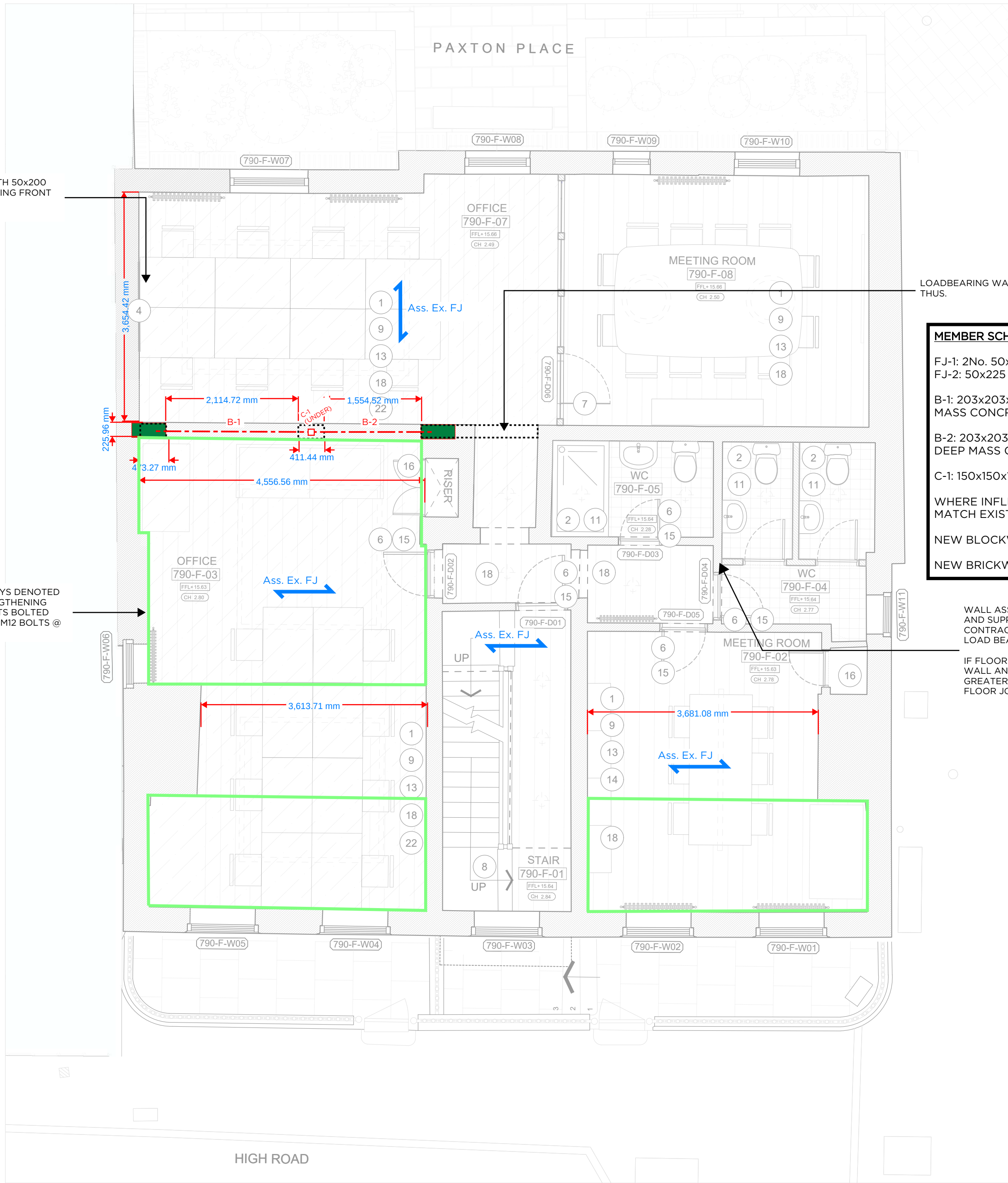


01 No. 790 EXISTING S/O FIRST FLOOR PLAN
82001 Scale 1:50

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Strip Out notes:



02 No. 790 PROPOSED FIRST FLOOR PLAN
82001 Scale 1:50

General notes:

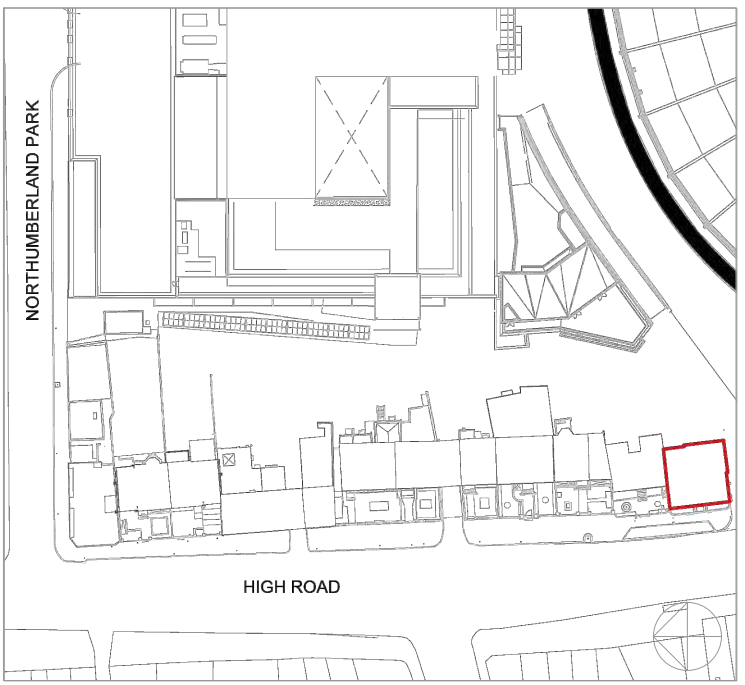
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TISSERIN ENGINEERS

Project
790 HIGH ROAD - DIAL HOUSE
Title
FIRST FLOOR GA

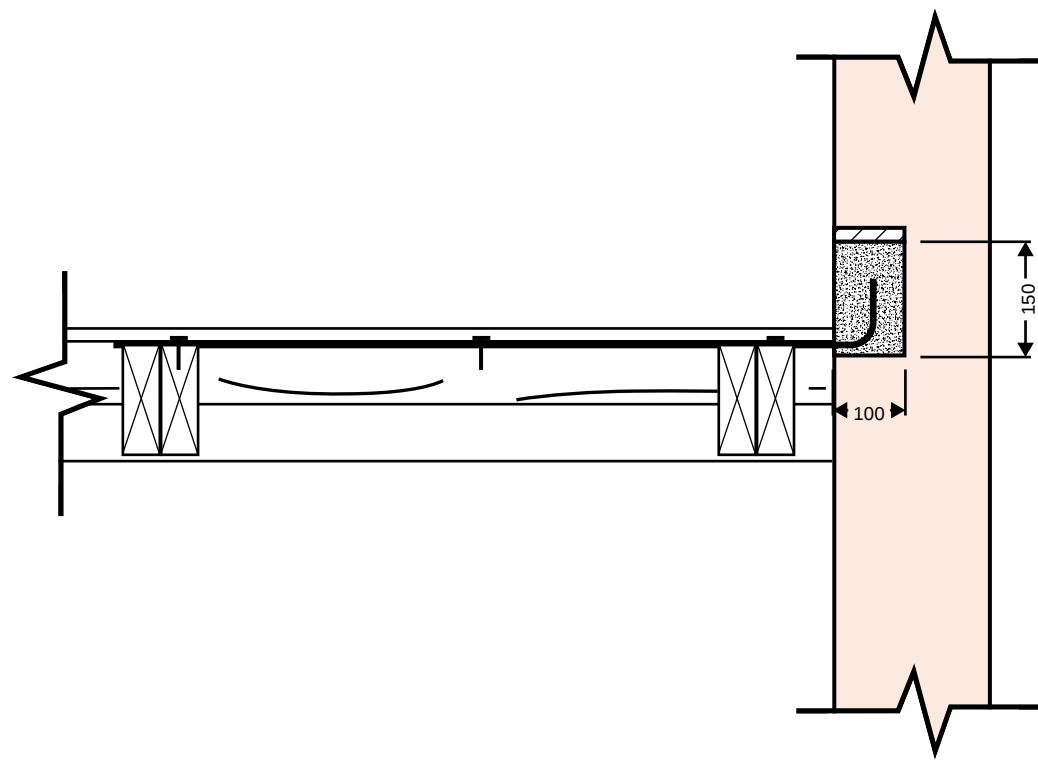
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24130 - 101

Scale
1:50

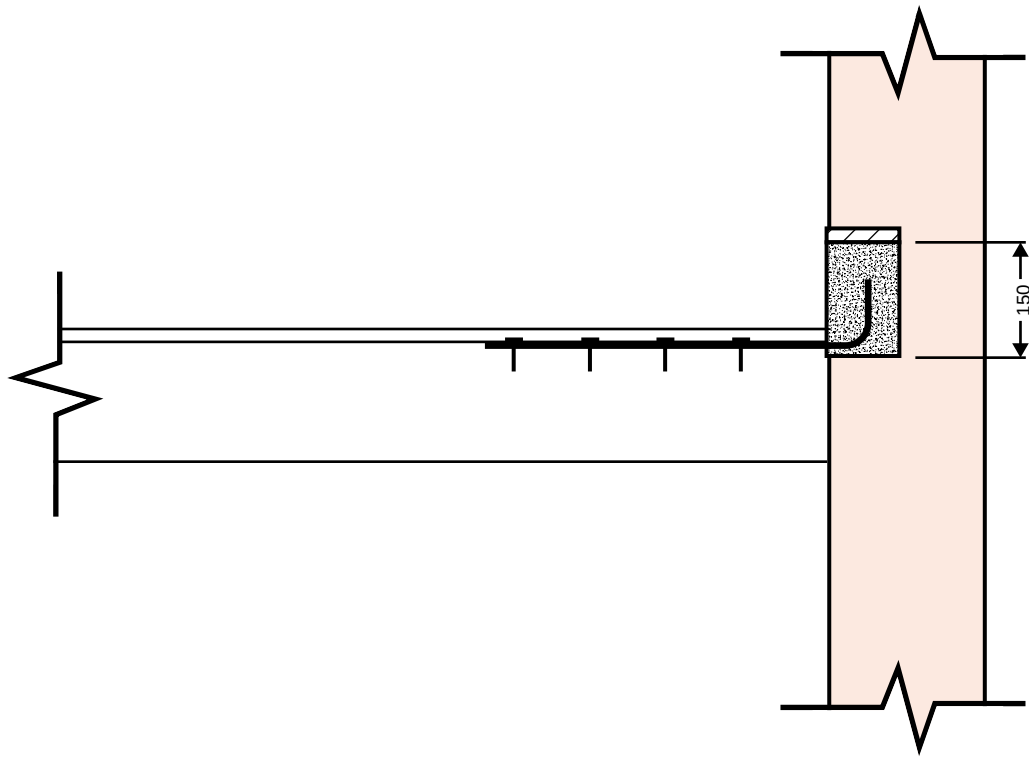
Drawn by
EE

Rev
P01

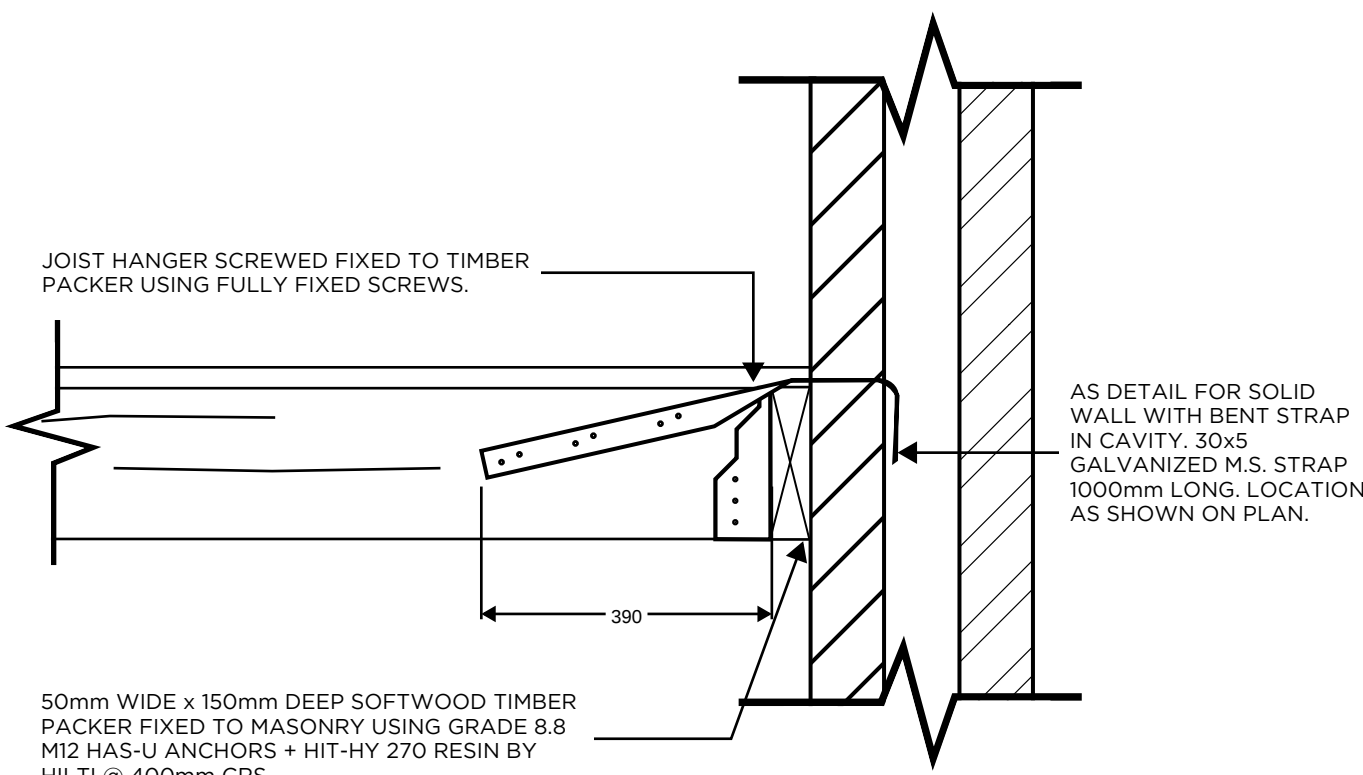
P01



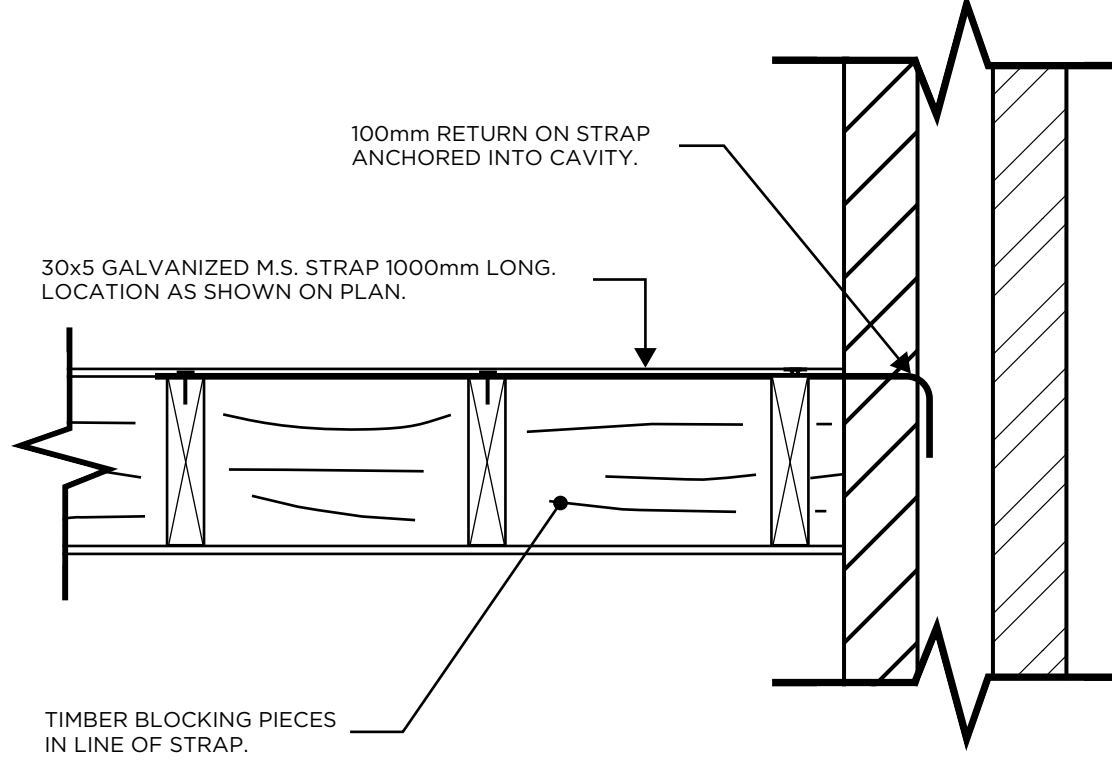
TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PARALLEL TO EXISTING MASONRY WALL
SCALE 1:10



TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PERPENDICULAR TO EXISTING MASONRY WALL
SCALE 1:10



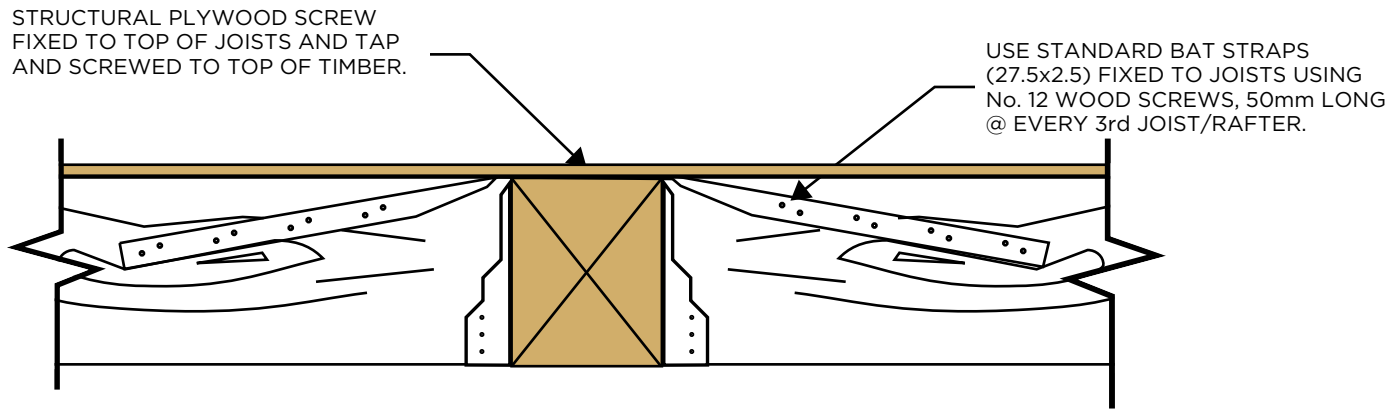
TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PARALLEL TO NEW CAVITY WALL
SCALE 1:10



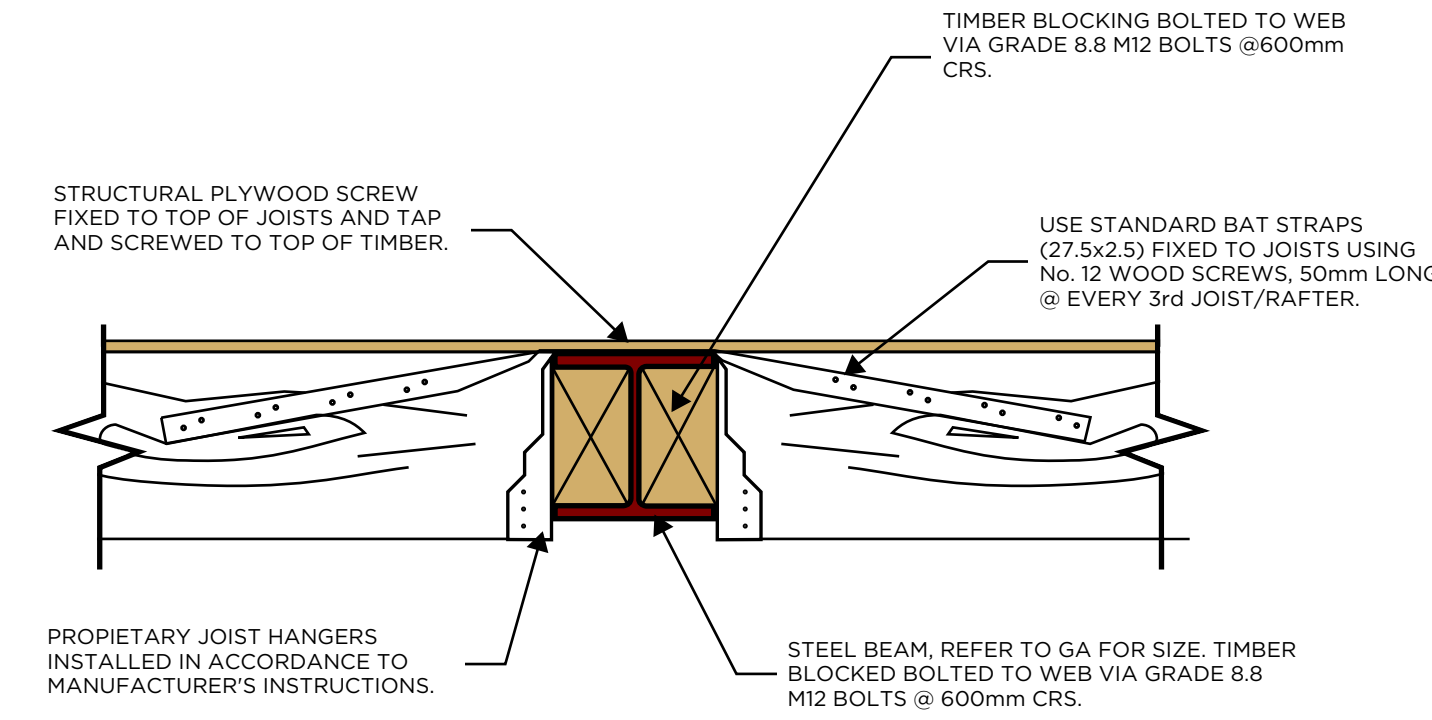
TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PARALLEL TO NEW CAVITY WALL
SCALE 1:10

NOTES:

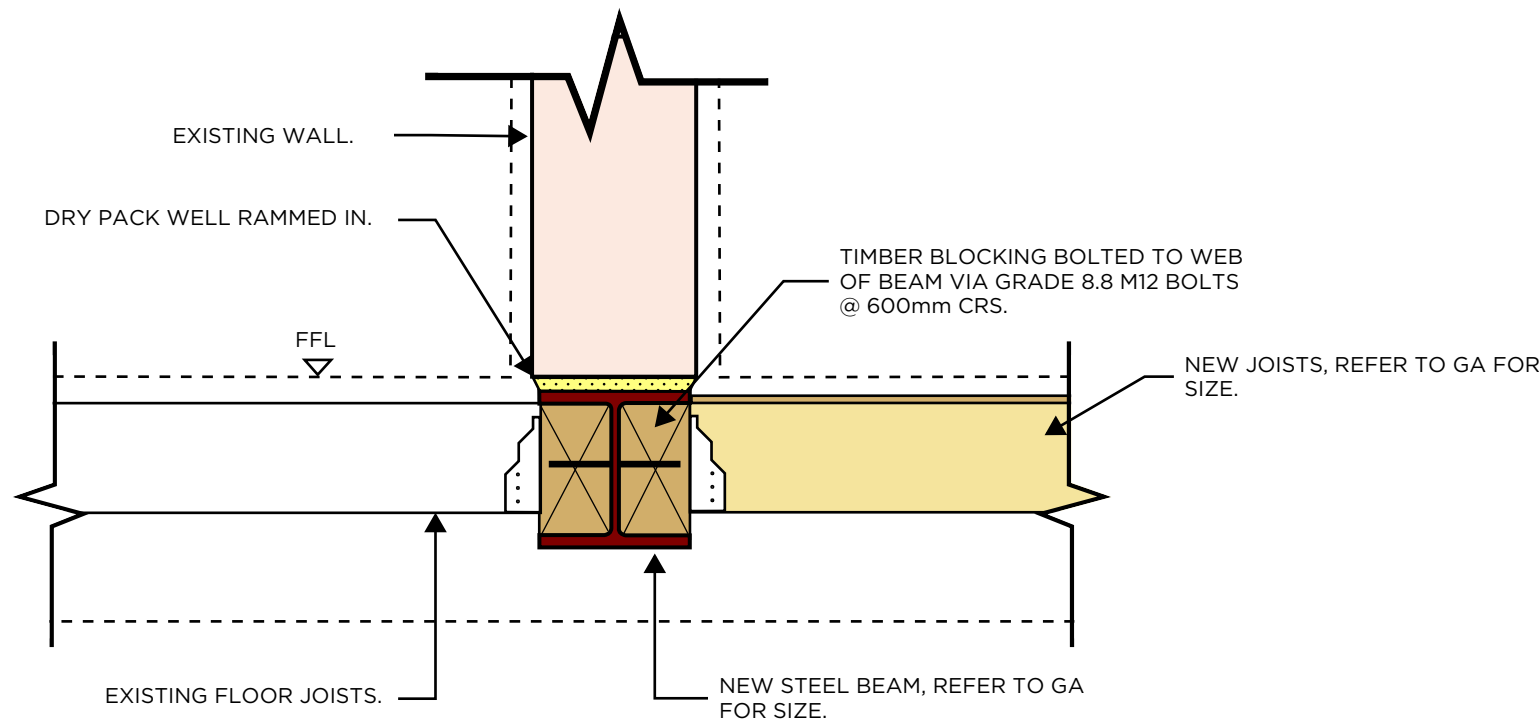
- STEELWORK TO BE HOT DIPPED GALVANIZED, REFER TO CONSTRUCTION NOTES FOR FURTHER DETAILS.
- STEEL TO STEEL CONNECTIONS BY OTHERS, LOADS GIVEN ARE UNFACTORED.
V = SHEAR kN
- EXTERNAL EXPOSED TIMBER TO BE DURABILITY CLASS 2. CLASS 2 TIMBER TYPES HAVE A LIFE EXPECTANCY ABOVE GROUND OF 15-25 YEARS. EXAMPLE RED CEDAR, YEWE.
- WATERPROOFING, DPM, DPC, FINISHES AND FIREPROOFING TO ARCHITECT'S DETAILS.
- = MASONRY TO JOISTS: STANDARD DUTY GALVANISED BAT STRAPS. STRAPS TO TIE THE JOIST TO THE MASONRY @ EVERY 3RD JOIST (OR 1200mm CRS.). BY EXPAMET OR SIMILAR APPROVED.
- = STEEL TO JOISTS: LIGHT DUTY GALVANISED BAT STRAPS. STRAPS TO TIE THE JOIST TO THE STEEL @ EVERY 3RD JOIST (OR 1200mm CRS.). BY EXPAMET OR SIMILAR APPROVED.
- = TIMBER TO JOISTS: STANDARD DUTY GALVANISED BAT STRAPS. STRAPS TO TIE THE JOIST TO THE STUDS @ EVERY 3RD JOIST (OR 1200mm CRS.). BY EXPAMET OR SIMILAR APPROVED.



TYPICAL TIMBER JOISTS TO TIMBER BEAM
CONNECTION
SCALE 1:10

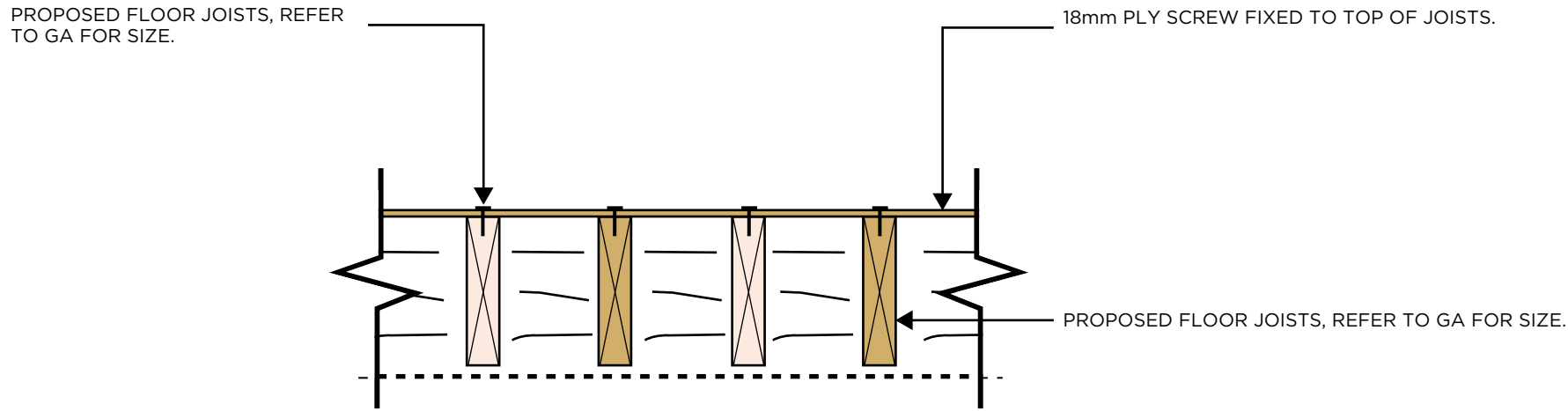


TYPICAL TIMBER JOISTS TO STEEL BEAM CONNECTION
SCALE 1:10

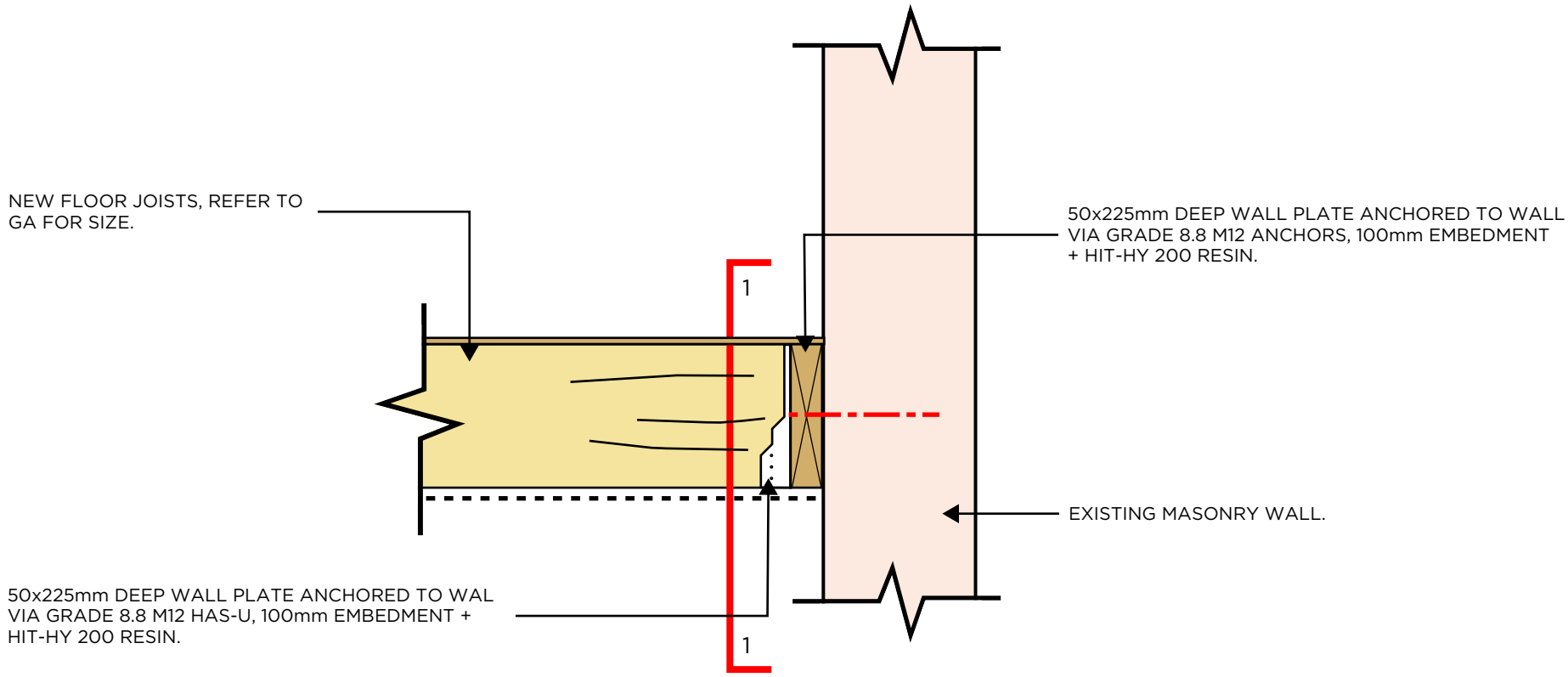


TYPICAL BEAM SOLID WALL SUPPORT DETAIL
SCALE 1:10

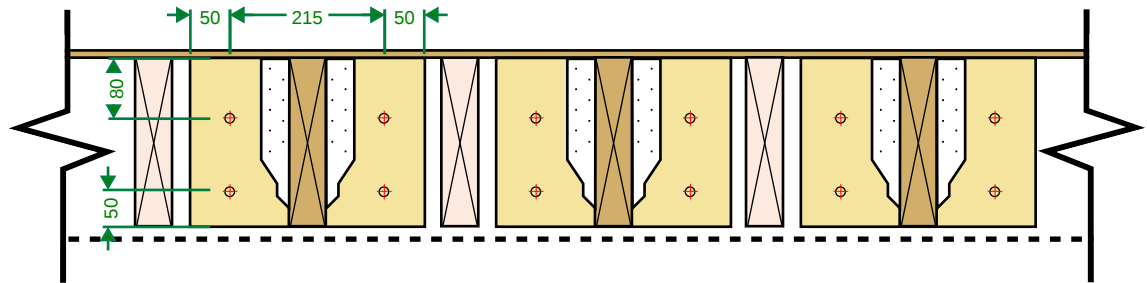
SECTION DETAILS
 • JOISTS MAY BE PRESENT ONE OR BOTH SIDE(S) OF BEAM.
 • JOIST LEVEL IS INDICATIVE, THEY MAY BE ADJUSTED TO SUIT REQUIREMENTS ON SITE. BEAMS MAY BE PLACES UNDER JOISTS.
 • DRY PACKING ONLY REQUIRED WHEN WALL IS EXISTING.
 • IF A 2/3 OVERLAP CANNOT BE ADOPTED, PROVIDE 10mm THK. TOP PLATE.



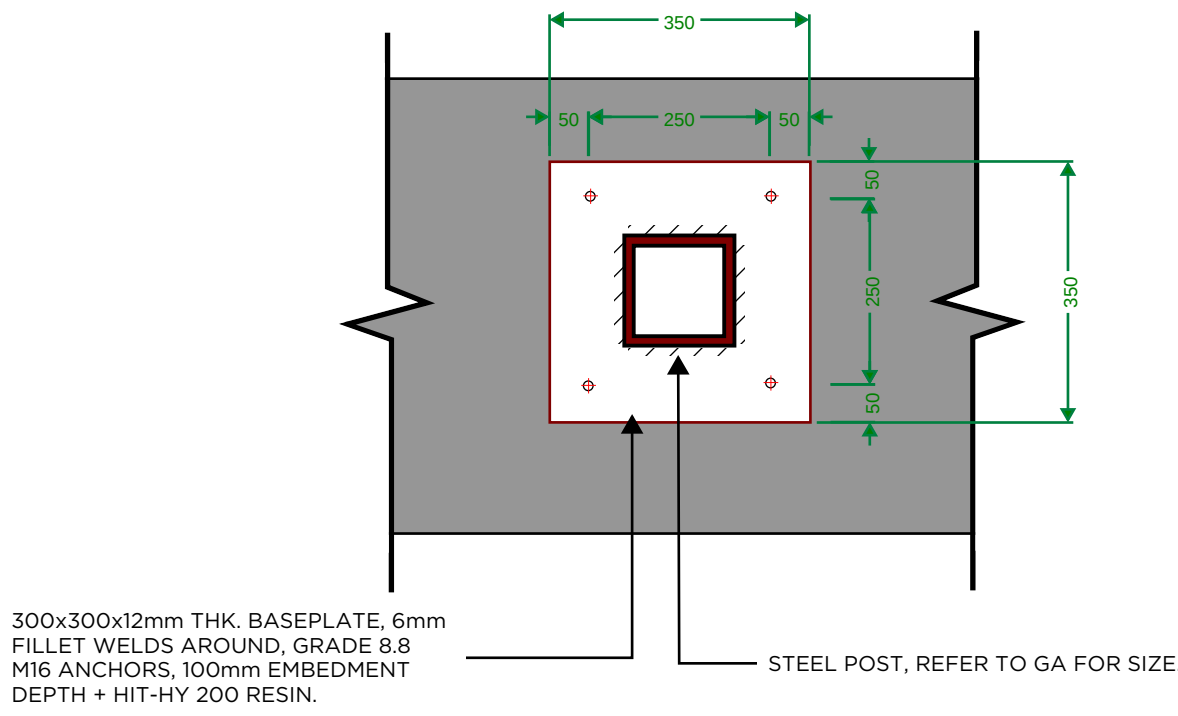
TYPICAL FLOOR STRENGTHENING DETAIL
SCALE 1:10



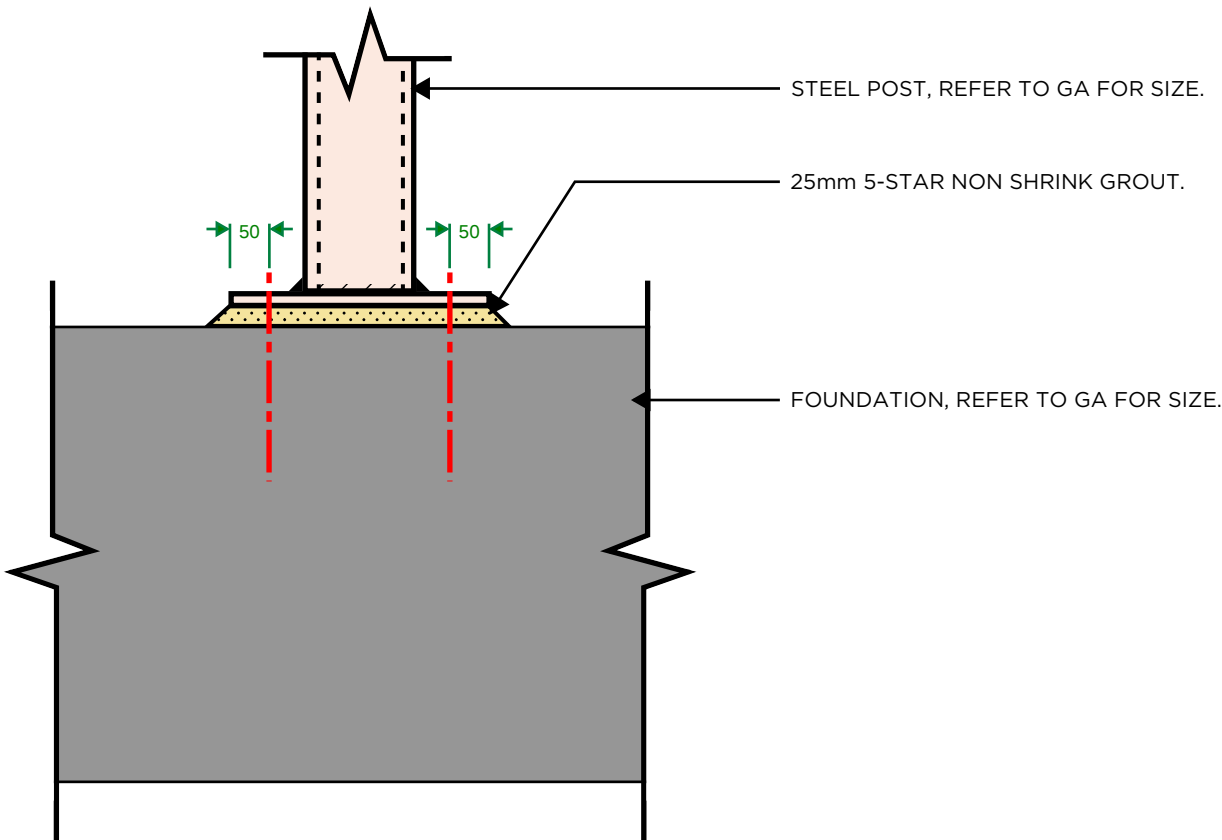
NEW FLOOR JOISTS TO WALL DETAIL
SCALE 1:10



SECTION 1-1
SCALE 1:10



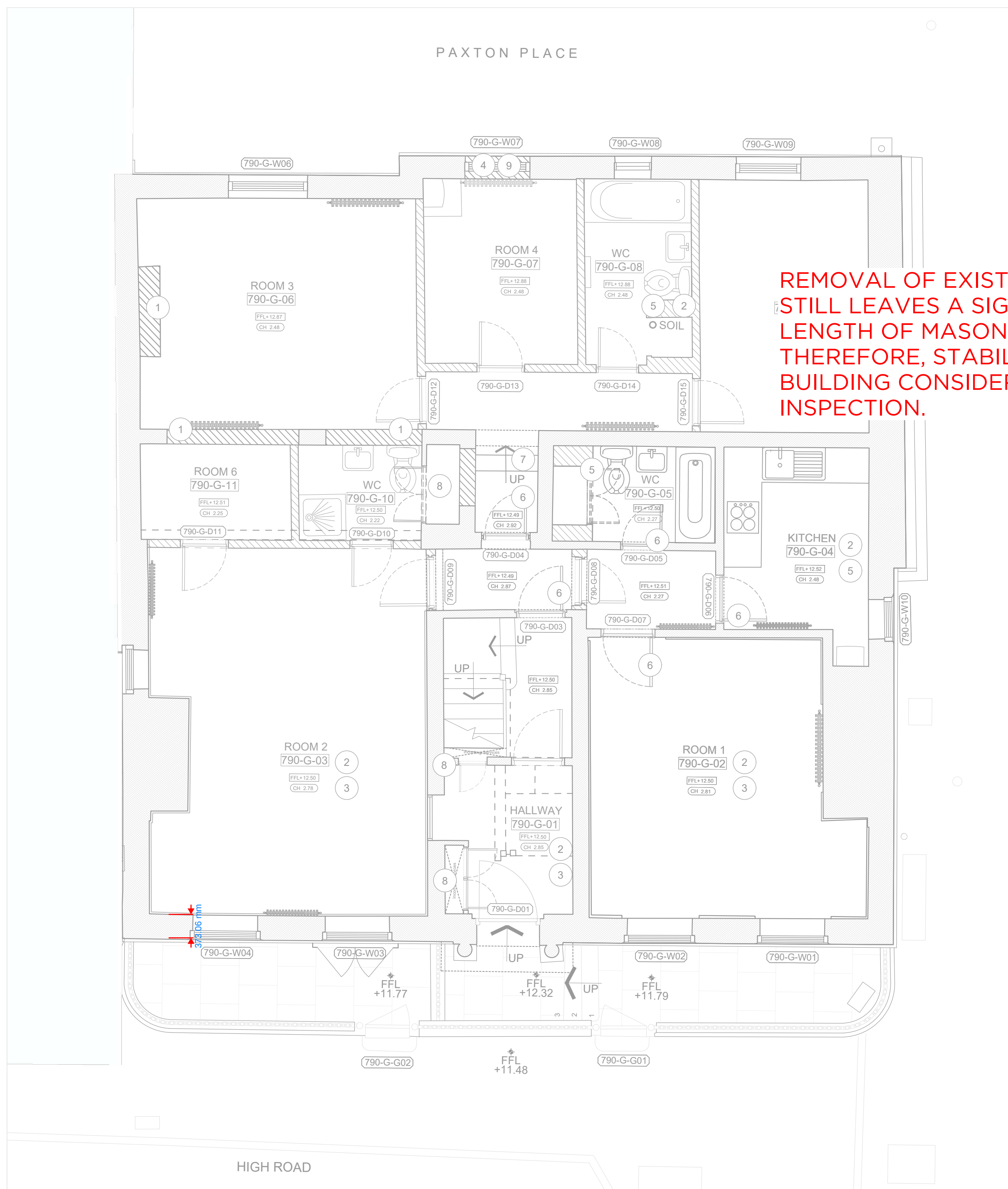
TYPICAL POST WALL TIE DETAIL
SCALE 1:10



TYPICAL POST BASEPLATE DETAIL
SCALE 1:10

2 - STABILITY

STABILITY WALLS HIGHLIGHTED.



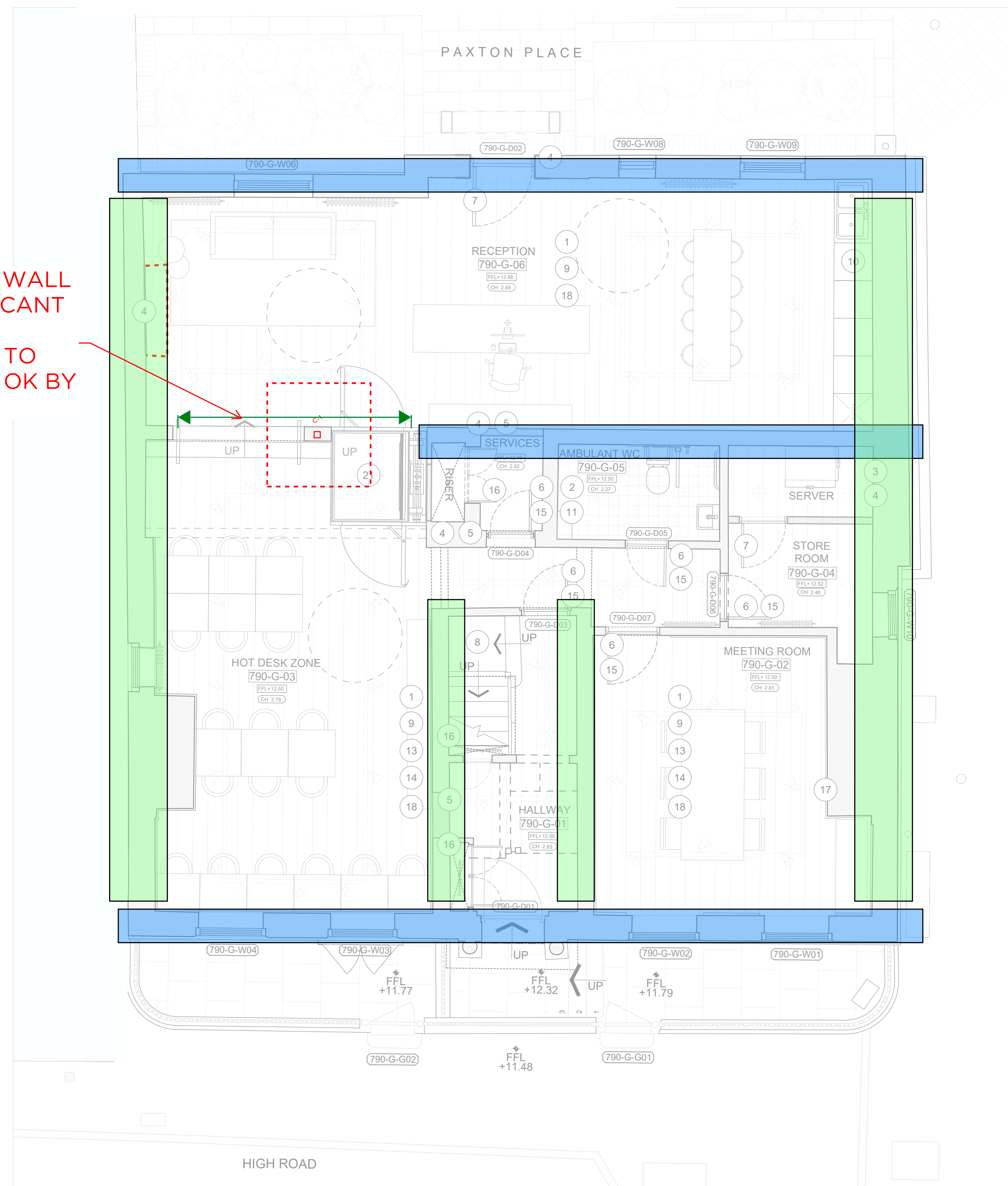
01 No. 790 EXISTING S/O GROUND FLOOR PLAN
82000 Scale 1:50

General notes:

- Protect all existing surfaces and windows adjacent work areas which are to be retained.
- Drawings to be read in conjunction with all other drawings, specifications, project documents and consultant information.
- Existing M&E shown indicatively. Carefully strip out all existing services unless stated otherwise and make good.

Strip Out notes:

1. Carefully remove modern brickwork/partition to suit proposed design. Refer to drawings for location and extent.
2. Carefully lift uneven historic floorboards where existing to assess condition of structure beneath. Allow like for like repairs. Existing boards to be documented, recorded, and set aside to store for later re-use.
3. Skirting - carefully dismantle skirting where present and set aside to store for repair and later reinstatement.
4. Allow to create opening as shown to suit proposed design.
5. Carefully strip modern services/downpipes where redundant without affecting C18th fabric.
6. Doors - carefully dismantle door, record condition, number and set aside for repair and later reinstatement.
7. Carefully strip out modern steps. Extent as shown.
8. Existing incoming services. Allow for inspection and consolidate.
9. Allow to remove window complete. Allow to remove vegetation complete including roots.
10. Strip out 1 no. step to the terrace.
11. Carefully remove modern dado without damaging historic fabric.



02	No. 790 PROPOSED GROUND FLOOR PLAN	
82000		Scale 1:50

General notes:

- Protect all exist surfaces and windows adjacent work areas which are to be retained.
- Drawings to be read in conjunction with all other drawings, specifications, project documents and consultant information.
- Existing M&E shown indicatively. Make good fixing holes and existing fabric where services removed to match existing adjacent. Allow to provide new column radiators to suit engineer's report. To be developed further.
- Carry out compartmentation work in line with the fire engineer's report. To be developed further.
- All floors to be upgraded in terms of fire performance.

Proposed notes:

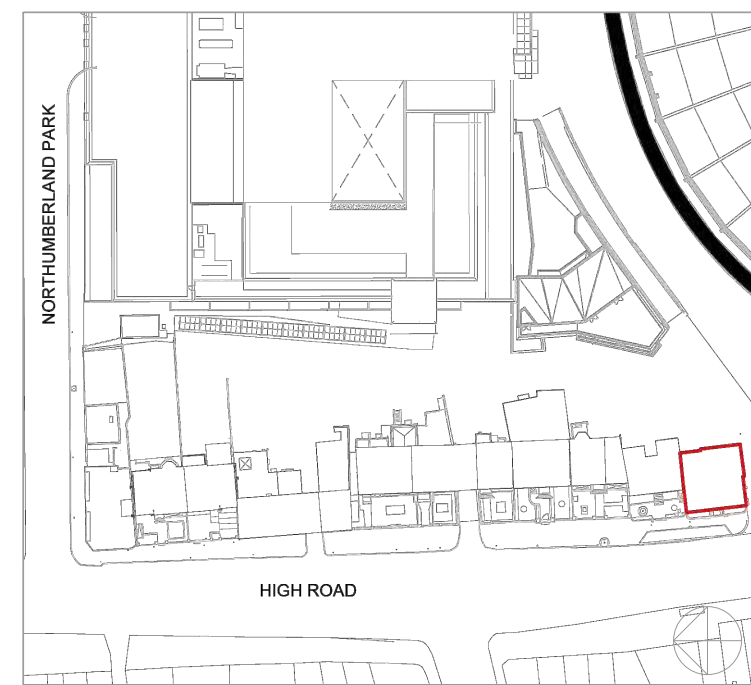
1. Floor Type 1 : Timber: Reinstate existing floor boards. Allow for new boards where missing. Subject to opening up, allow for ply and lino where historic finishes missing.
2. Floor Type 2 : New Tiles to suit proposed design.
3. Allow for new floor and associated structure to SE's detail where missing.
4. Make good opening following removal of brickwork/modern partition. Allow to infill opening as existing adjacent to suit proposed design. Scope as shown.
5. New internal partition to suit proposed design. Scope as shown.
6. Existing Door - Repair, fire rate, and renew ironmongery as necessary. Refer to door schedule for further information.
7. New Door - New door to suit proposed design.
8. Existing staircase: allow to hand scrub and clean using turpentine. Allow like for like repairs as necessary and make good.
9. Allow to redecorate existing paneling/paint/wallpaper.
10. Kitchen - Allow to install contemporary kitchen fittings without affecting the C18th fabric. Refer to proposed room elevations for further details.
11. WC - Allow to install contemporary sanitary fittings without affecting the C18th fabric. Refer to proposed room elevations for further details.
12. Allow for new entrance bronze toned metal canopy.

- N.B: Rear Landscaping forms a part of separate Planning and Listed Building Consent Application but are shown here for completeness.
N.B: Loose furniture shown indicatively. Subject to tenant fit-out.

KEY

- Demolition walls/modern partitions
- Proposed walls/modern partitions
- Demolition
- Proposed
- New ceiling
- Dismantle for later reinstatement
- Loose furniture shown indicatively

13. Skirting - Reinstall existing skirting. Repair/replace where missing or rotted.
14. Cornices - Replace sections of cornices where missing. Allow to reinstate all missing cornices to Ground and First floor to match original historic setting.
15. Architraves - Make good/replace sections of architrave where missing. Profile to match existing adjacent where present.
16. Cupboards - Repair and ease out door and ironmongery where existing. Replace where missing or rotted.
17. Dado - Allow to rebuild missing dado to match existing adjacent. Scope as shown.
18. New suspended LED track lighting or surface mounted linear/downlight as shown. To be developed further with MEP engineer.
19. Allow to rebuild new steps to roof terrace to suit Part M and K requirements.
20. Carefully clean existing paving stones. Allow to replace chipped/ cracked tiles as necessary.
21. Allow for new platform lift. Scope as shown.
22. Allow for new ceiling. Scope as shown.



KEY PLAN

NOTES:

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Except for Planning purposes, figured dimensions only are to be taken from this drawing.
All dimensions are in millimetres unless otherwise stated.
All dimensions shall be checked on site prior to works commencing.

Any discrepancies shall be reported to the Architect.
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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

REVISION HISTORY



A: 5 Rochester Mews - London - SE1 1 9JB
T: 020 7267 8332
W: f3architects.com
E: info@f3architects.com

Health and Safety

Refer to relevant Construction (Design and Management) documentation where applicable. The Contractor shall plan, manage and monitor the works inclusive of temporary erection stability. Any works that are found to be unstable in the temporary state are to be reported directly to the structural engineer and Main Contractor/ Package Manager in order to provide safe temporary support. Check on site prior to commencement of works/fabrication etc.

Project

NO. 790 HIGH ROAD - DIAL HOUSE

NO. 790 HIGH ROAD
LONDON
N17 0BX

Title

STRIP OUT + PROPOSED GROUND FLOOR PLAN

Drawn By	Scale	Paper	Project No.
LJ	1 : 50	A1	220329

Status	Revision
STAGE 3 - PLANNING & LBC	S2.P1

Drawing no
NTDH-F3A-ZZ-00-GA-A-82000

3 - SECOND FLOOR

Calculation Title Existing Joists

Reference Documents

EC 5

Engineer

EE

Checked by

Date

Oct-24

Checked Date

Page Number

Dimensions

Width 50 mm L 3800 mm Span type Simply Supported

Height 225 mm Le 3800 mm Bearing 100 mm

Iy Sectio 5E+07 mm⁴ Area 11250 mm² Wy 4E+05

Properties

Grade C 16 N/mm² EO,g,mean 8000 N/mm²EO,05 5400 N/mm² GO,05 690 N/mm²

Service Class 1

Loading

Dead 1.00 kPA Live 2.40 kPA Spacing 0.4 m

Live load type Cat B (office)

Slenderness

Critical stress 16 N/mm² lumba rel 1 kcrit 0.8K factors k_h 1.1 k_{sys} 1Lateral Torsional
Buckling To be checked

Design Checks

	M _d	stress	k _{mod}	fd	
1) 1.35Gk	1.0	2.3	0.60	7	33%
2) 1.35Gk+1.5Qk _{long}		0	0.70	8.1	0%
3) 1.35Gk+1.5Qk _{med}	3.6	8.5	0.80	9.2	92%
3) 1.35Gk+1.5Qk _{short}		0	0.90	10	0%
5) 1.35Gk+1.5Qk3+1.5ψQk2		0	1.10	13	0%

Shear

	V _d	k _{mod}	fv	
1) 1.35Gk	1.0	0.1	0.60	1.3 11%
2) 1.35Gk+1.5Qk _{long}		0	0.70	1.5 0%
3) 1.35Gk+1.5Qk _{med}	3.8	0.5	0.80	1.7 29%
3) 1.35Gk+1.5Qk _{short}		0	0.90	1.9 0%
5) 1.35Gk+1.5Qk3+1.5ψQk2		0	1.10	2.4 0%

Bearing Stress

	width	R _d	k _{mod}	f _{c,90,d}	
1) 1.35Gk	50	1	0.2	0.6	2.10 8%
2) 1.35Gk+1.5Qk _{long}			0	0.70	2.45 0%
3) 1.35Gk+1.5Qk _{med}	3.8	0.6	0.80	2.80	21%
3) 1.35Gk+1.5Qk _{short}		0	0.90	3.15	0%
5) 1.35Gk+1.5Qk3+1.5ψQk2		0	1.10	3.85	0%

Project

Dial House

Job Number

24130

Calculation Title Existing Joists

Reference Documents

EC 5

Engineer

EE

Checked by

Date

Oct-24

Checked Date

Page Number

Deflection (SIMPLY SUPPORTED)

Instantaneous span/depth 360

Final span/depth 250

Instantaneous	Bending + Shear		Total (mm)
Dead	2.9 +	0.11	3
Live	6.9 +	0.27	7.1
	Allowable	10.56 mm	10.1 96%

Final	kdef		Total (mm)
Dead	0.60		4.8
Live	0.18		8.4
	Allowable	15.20 mm	13.2 87%

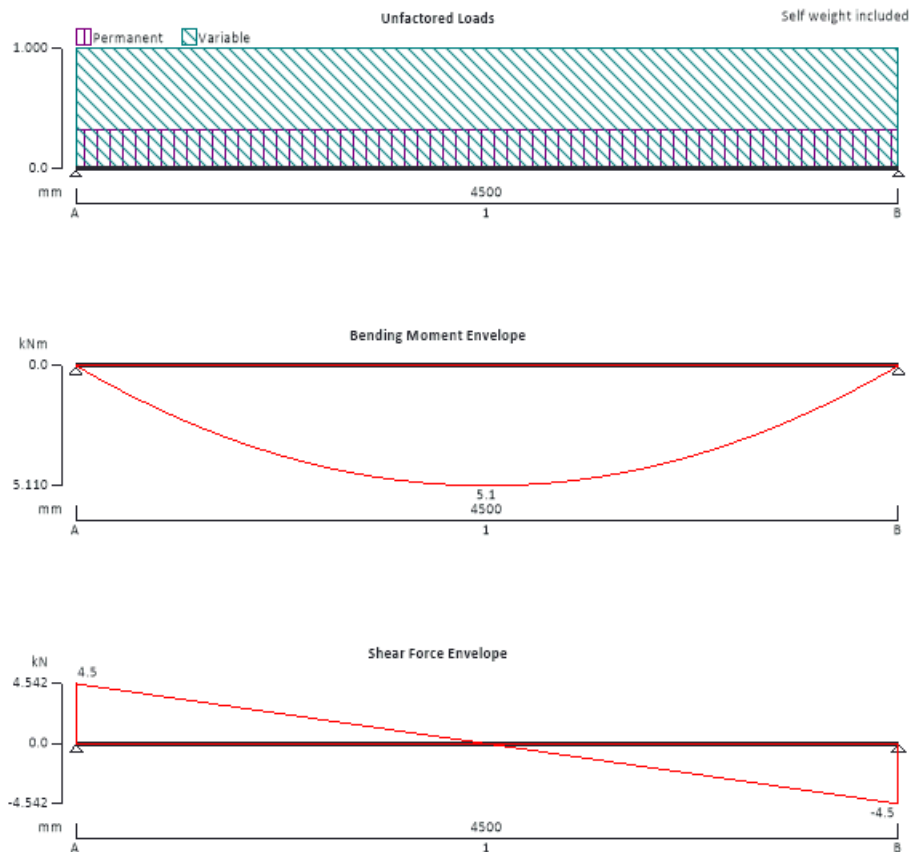
Existing 50X225 C16 Joists okay for up to 3.8m

Project Dial House				Job no. 24130	
Calcs for Existing Floor Joist Check				Start page no./Revision 1	
Calcs by EE	Calcs date 11/10/2024	Checked by	Checked date	Approved by	Approved date

TIMBER BEAM ANALYSIS & DESIGN TO EN1995-1-1:2004

In accordance with EN1995-1-1:2004 + A2:2014 and Corrigendum No.1 and the UK National Annex incorporating National Amendment No.1

Tedds calculation version 1.7.04



Applied loading

Beam loads

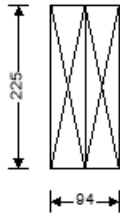
Floor Gk: 0.8×0.4
Floor Gk: 0.25×0.4

Permanent self weight of beam × 1
Permanent full UDL 0.320 kN/m
Variable full UDL 1.000 kN/m

Analysis results

Design moment	M = 5.110 kNm	Design shear	F = 4.542 kN
Total load on member	W _{tot} = 9.085 kN		
Reactions at support A	R _{A_max} = 4.542 kN	R _{A_min} = 4.542 kN	
Unfactored permanent load reaction at support A	R _{A_Permanent} = 0.865 kN		
Unfactored variable load reaction at support A	R _{A_Variable} = 2.250 kN		
Reactions at support B	R _{B_max} = 4.542 kN	R _{B_min} = 4.542 kN	
Unfactored permanent load reaction at support B	R _{B_Permanent} = 0.865 kN		
Unfactored variable load reaction at support B	R _{B_Variable} = 2.250 kN		

Project Dial House				Job no. 24130	
Calcs for Existing Floor Joist Check				Start page no./Revision 2	
Calcs by EE	Calcs date 11/10/2024	Checked by	Checked date	Approved by	Approved date



Timber section details

Breadth of section	$b = 47 \text{ mm}$	Depth of section	$h = 225 \text{ mm}$
Number of sections	$N = 2$	Breadth of member	$b_b = 94 \text{ mm}$
Timber strength class	C16		

Member details

Service class of timber	1	Load duration	Medium-term
Length of span	$L_{s1} = 4500 \text{ mm}$		
Length of bearing	$L_b = 100 \text{ mm}$		

Compression perpendicular to grain - cl.6.1.4

Design compressive stress	$\sigma_{c,90,d} = 0.483 \text{ N/mm}^2$	Design compressive strength	$f_{c,90,d} = 1.354 \text{ N/mm}^2$
<i>PASS - Design compressive strength exceeds design compressive stress at bearing</i>			

Bending - cl 6.1.6

Design bending stress	$\sigma_{m,d} = 6.443 \text{ N/mm}^2$	Design bending strength	$f_{m,d} = 9.846 \text{ N/mm}^2$
<i>PASS - Design bending strength exceeds design bending stress</i>			

Shear - cl.6.1.7

Applied shear stress	$\tau_d = 0.481 \text{ N/mm}^2$	Permissible shear stress	$f_{v,d} = 1.969 \text{ N/mm}^2$
<i>PASS - Design shear strength exceeds design shear stress</i>			

Deflection - cl.7.2

Deflection limit	$\delta_{lim} = 14.000 \text{ mm}$	Total final deflection	$\delta_{fin} = 13.941 \text{ mm}$
<i>PASS - Total final deflection is less than the deflection limit</i>			

4 - FIRST FLOOR

Calculation Title Existing Joists

Reference Documents

EC 5

Engineer

EE

Checked by

Date

Oct-24

Checked Date

Page Number

Dimensions

Width 50 mm L 3800 mm Span type Simply Supported

Height 225 mm Le 3800 mm Bearing 100 mm

Iy Sectio 5E+07 mm⁴ Area 11250 mm² Wy 4E+05

Properties

Grade C 16 N/mm² EO,g,mean 8000 N/mm²EO,05 5400 N/mm² GO,05 690 N/mm²

Service Class 1

Loading

Dead 1.00 kPA Live 2.40 kPA Spacing 0.4 m

Live load type Cat B (office)

Slenderness

Critical stress 16 N/mm²

lumba rel 1

kcrit 0.8

K factors k_h 1.1k_{sys} 1Lateral Torsional
Buckling To be checked

Design Checks

	M _d	stress	k _{mod}	fd	
1) 1.35Gk	1.0	2.3	0.60	7	33%
2) 1.35Gk+1.5Qk _{long}		0	0.70	8.1	0%
3) 1.35Gk+1.5Qk _{med}	3.6	8.5	0.80	9.2	92%
3) 1.35Gk+1.5Qk _{short}		0	0.90	10	0%
5) 1.35Gk+1.5Qk3+1.5ψQk2		0	1.10	13	0%

Shear

	V _d		k _{mod}	fv	
1) 1.35Gk	1.0	0.1	0.60	1.3	11%
2) 1.35Gk+1.5Qk _{long}		0	0.70	1.5	0%
3) 1.35Gk+1.5Qk _{med}	3.8	0.5	0.80	1.7	29%
3) 1.35Gk+1.5Qk _{short}		0	0.90	1.9	0%
5) 1.35Gk+1.5Qk3+1.5ψQk2		0	1.10	2.4	0%

Bearing Stress

	width				
	R _d		k _{mod}	f _{c,90,d}	
1) 1.35Gk	1	0.2	0.6	2.10	8%
2) 1.35Gk+1.5Qk _{long}		0	0.70	2.45	0%
3) 1.35Gk+1.5Qk _{med}	3.8	0.6	0.80	2.80	21%
3) 1.35Gk+1.5Qk _{short}		0	0.90	3.15	0%
5) 1.35Gk+1.5Qk3+1.5ψQk2		0	1.10	3.85	0%

Project

Dial House

Job Number

24130

Calculation Title Existing Joists

Reference Documents

EC 5

Engineer

EE

Checked by

Date

Oct-24

Checked Date

Page Number

Deflection (SIMPLY SUPPORTED)

Instantaneous span/depth 360

Final span/depth 250

Instantaneous	Bending + Shear		Total (mm)
Dead	2.9 +	0.11	3
Live	6.9 +	0.27	7.1
	Allowable	10.56 mm	10.1 96%

Final	kdef		Total (mm)
Dead	0.60		4.8
Live	0.18		8.4
	Allowable	15.20 mm	13.2 87%

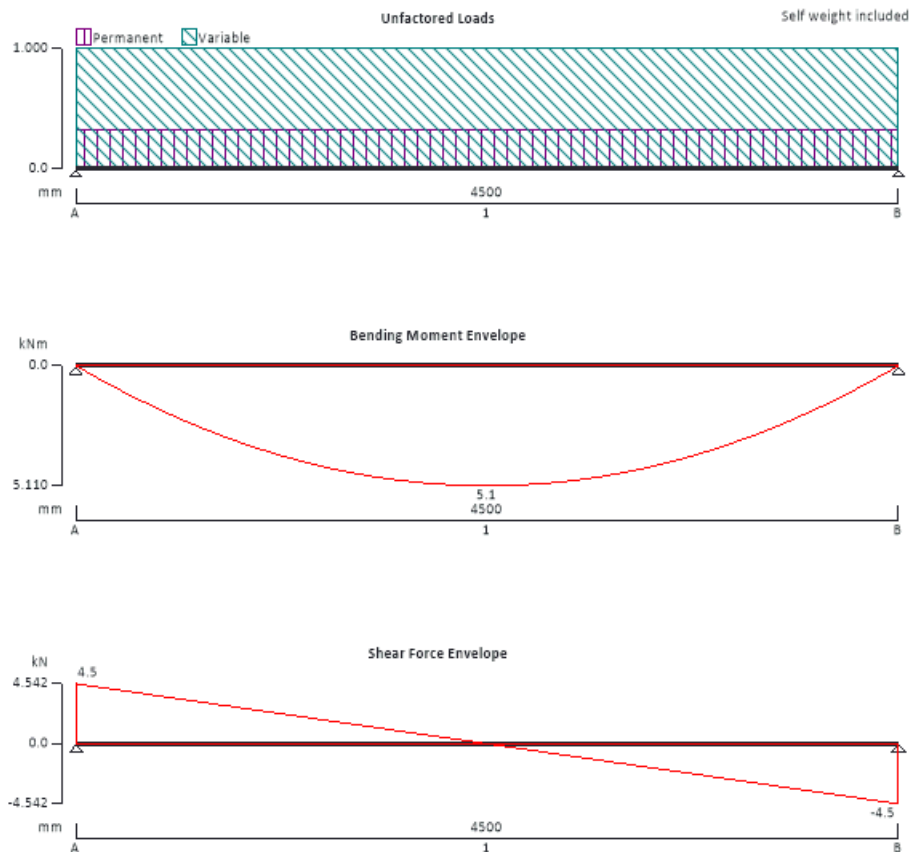
Existing 50X225 C16 Joists okay for up to 3.8m

Project Dial House				Job no. 24130	
Calcs for Existing Floor Joist Check				Start page no./Revision 1	
Calcs by EE	Calcs date 11/10/2024	Checked by	Checked date	Approved by	Approved date

TIMBER BEAM ANALYSIS & DESIGN TO EN1995-1-1:2004

In accordance with EN1995-1-1:2004 + A2:2014 and Corrigendum No.1 and the UK National Annex incorporating National Amendment No.1

Tedds calculation version 1.7.04



Applied loading

Beam loads

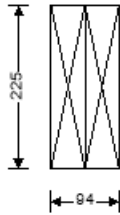
Floor Gk: 0.8×0.4
Floor Gk: 0.25×0.4

Permanent self weight of beam × 1
Permanent full UDL 0.320 kN/m
Variable full UDL 1.000 kN/m

Analysis results

Design moment	M = 5.110 kNm	Design shear	F = 4.542 kN
Total load on member	W _{tot} = 9.085 kN		
Reactions at support A	R _{A_max} = 4.542 kN	R _{A_min} = 4.542 kN	
Unfactored permanent load reaction at support A		R _{A_Permanent} = 0.865 kN	
Unfactored variable load reaction at support A		R _{A_Variable} = 2.250 kN	
Reactions at support B	R _{B_max} = 4.542 kN	R _{B_min} = 4.542 kN	
Unfactored permanent load reaction at support B		R _{B_Permanent} = 0.865 kN	
Unfactored variable load reaction at support B		R _{B_Variable} = 2.250 kN	

Project Dial House				Job no. 24130	
Calcs for Existing Floor Joist Check				Start page no./Revision 2	
Calcs by EE	Calcs date 11/10/2024	Checked by	Checked date	Approved by	Approved date



Timber section details

Breadth of section	$b = 47 \text{ mm}$	Depth of section	$h = 225 \text{ mm}$
Number of sections	$N = 2$	Breadth of member	$b_b = 94 \text{ mm}$
Timber strength class	C16		

Member details

Service class of timber	1	Load duration	Medium-term
Length of span	$L_{s1} = 4500 \text{ mm}$		
Length of bearing	$L_b = 100 \text{ mm}$		

Compression perpendicular to grain - cl.6.1.4

Design compressive stress	$\sigma_{c,90,d} = 0.483 \text{ N/mm}^2$	Design compressive strength	$f_{c,90,d} = 1.354 \text{ N/mm}^2$
<i>PASS - Design compressive strength exceeds design compressive stress at bearing</i>			

Bending - cl 6.1.6

Design bending stress	$\sigma_{m,d} = 6.443 \text{ N/mm}^2$	Design bending strength	$f_{m,d} = 9.846 \text{ N/mm}^2$
<i>PASS - Design bending strength exceeds design bending stress</i>			

Shear - cl.6.1.7

Applied shear stress	$\tau_d = 0.481 \text{ N/mm}^2$	Permissible shear stress	$f_{v,d} = 1.969 \text{ N/mm}^2$
<i>PASS - Design shear strength exceeds design shear stress</i>			

Deflection - cl.7.2

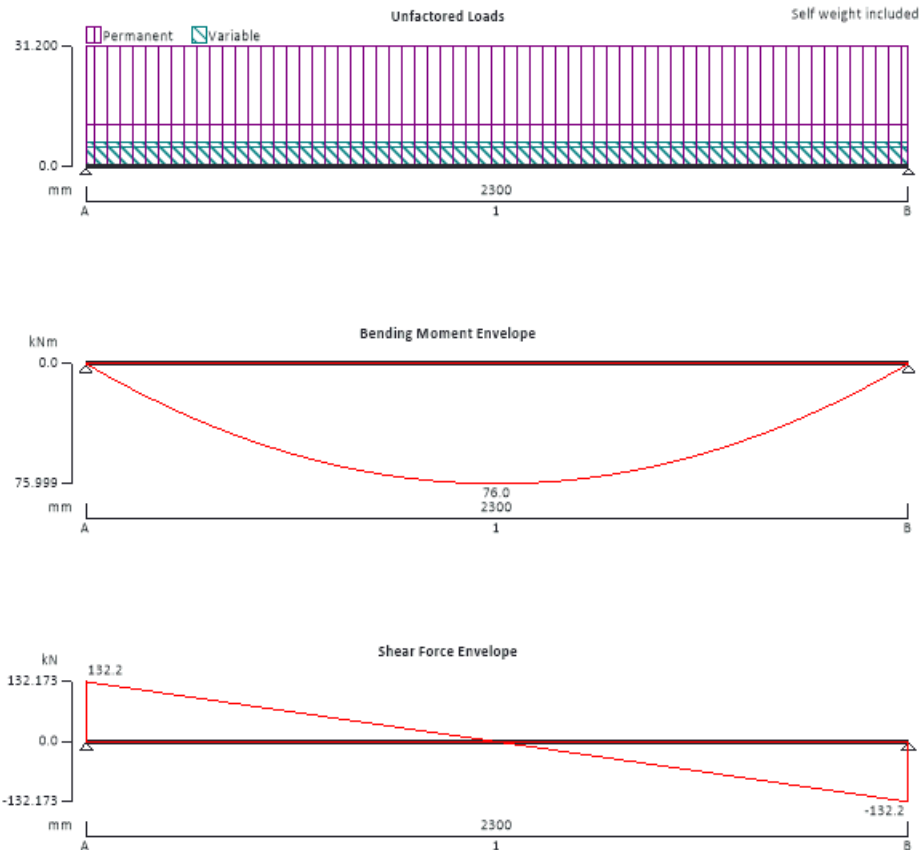
Deflection limit	$\delta_{lim} = 14.000 \text{ mm}$	Total final deflection	$\delta_{fin} = 13.941 \text{ mm}$
<i>PASS - Total final deflection is less than the deflection limit</i>			

Project				Job no.	
Dial House				24130	
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Calcs by	Calcs date	Checked by	Checked date	Approved by	Approved date
EE	11/10/2024				

STEEL BEAM ANALYSIS & DESIGN (EN1993-1-1:2005)

In accordance with EN1993-1-1:2005 incorporating Corrigenda February 2006 and April 2009 and the UK national annex

TEDDS calculation version 3.0.14



Support conditions

Support A

Vertically restrained

Rotationally free

Support B

Vertically restrained

Rotationally free

Applied loading

Beam loads

Permanent self weight of beam $\times 1$

Roof Gk - $1\text{kpa} \times 1.5/2$ - Permanent full UDL 0.75 kN/m

Roof Qk - $0.6\text{kpa} \times 1.5/2$ - Variable full UDL 0.45 kN/m

Terrace Gk - $5.15\text{kpa} \times 4.2/2$ - Permanent full UDL 10.8 kN/m

Terrace Qk - $2.5\text{kpa} \times 4.2/2$ - Variable full UDL 5.25 kN/m

2nd Floor Gk - $5.15\text{kpa} \times 4.2/2$ - Permanent full UDL 10.8 kN/m

2nd Floor Qk - $3\text{kpa} \times 4.2/2$ - Variable full UDL 6.3 kN/m

1st Floor Gk - $5.15\text{kpa} \times 4.2/2$ - Permanent full UDL 10.8 kN/m

1st Floor Qk - $3\text{kpa} \times 4.2/2$ - Variable full UDL 6.3 kN/m

215 Brick Wall Gk - 4.65×6.7 - Permanent full UDL 31.2 kN/m

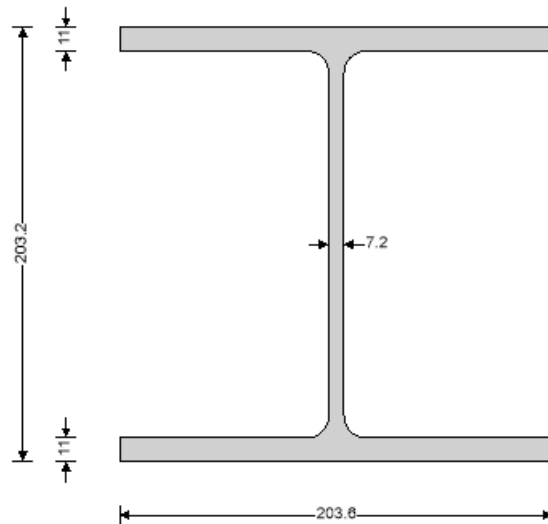
Project Dial House				Job no. 24130	
Calcs for B-1.1				Start page no./Revision 2	
Calcs by EE	Calcs date 11/10/2024	Checked by	Checked date	Approved by	Approved date

Analysis results

Maximum moment	$M_{max} = 76 \text{ kNm}$	$M_{min} = 0 \text{ kNm}$
Maximum shear	$V_{max} = 132.2 \text{ kN}$	$V_{min} = -132.2 \text{ kN}$
Deflection	$\delta_{max} = 3.2 \text{ mm}$	$\delta_{min} = 0 \text{ mm}$
Maximum reaction at support A	$R_{A_max} = 132.2 \text{ kN}$	$R_{A_min} = 132.2 \text{ kN}$
Unfactored permanent load reaction at support A	$R_{A_Permanent} = 74.5 \text{ kN}$	
Unfactored variable load reaction at support A	$R_{A_Variable} = 21 \text{ kN}$	
Maximum reaction at support B	$R_{B_max} = 132.2 \text{ kN}$	$R_{B_min} = 132.2 \text{ kN}$
Unfactored permanent load reaction at support B	$R_{B_Permanent} = 74.5 \text{ kN}$	
Unfactored variable load reaction at support B	$R_{B_Variable} = 21 \text{ kN}$	

Section details

Section type **UC 203x203x46 (BS4-1)** Steel grade **S355**



Section classification **Class 2**

Check shear - Section 6.2.6

Design shear force	$V_{Ed} = 132 \text{ kN}$	Design shear resistance	$V_{c,Rd} = 347.9 \text{ kN}$
<i>PASS - Design shear resistance exceeds design shear force</i>			

Check bending moment - Section 6.2.5

Design bending moment	$M_{Ed} = 76 \text{ kNm}$	Des.bending resist.moment	$M_{c,Rd} = 176.6 \text{ kNm}$
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Slenderness ratio for lateral torsional buckling

LTB slenderness ratio	$\bar{\lambda}_{LT} = 0.435$	Limiting slenderness ratio	$\bar{\lambda}_{LT,0} = 0.400$
$\bar{\lambda}_{LT} > \bar{\lambda}_{LT,0}$ - Lateral torsional buckling cannot be ignored			

Design resistance for buckling - Section 6.3.2.1

Des.buckling resist.moment	$M_{b,Rd} = 176.6 \text{ kNm}$	<i>PASS - Design buckling resistance moment exceeds design bending moment</i>	
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Check vertical deflection - Section 7.2.1

Consider deflection due to permanent and variable loads

Limiting deflection	$\delta_{lim} = 4.6 \text{ mm}$	Maximum deflection	$\delta = 3.157 \text{ mm}$
<i>PASS - Maximum deflection does not exceed deflection limit</i>			

Project Dial House				Job no. 24130	
Calcs for B-1.1 Bearing				Start page no./Revision 1	
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MASONRY BEARING DESIGN

In accordance with EN1996-1-1:2005 + A1:2012, incorporating Corrigenda February 2006 and July 2009 and the UK National Annex.

Tedds calculation version 1.0.14

Summary table

Load	Local concentration		Spreader		Utilisation	
	Design force	Resistance	Design stress	Resistance		
1	121.8 kN	161.6 kN	2.04 N/mm ²	2.15 N/mm ²	0.948	Pass

Masonry panel details

Panel length	L = 4000 mm	Panel height	h = 2700 mm
Load bearing leaf thickness	t = 215 mm	Effective height	h _{ef} = 2700 mm
Effective thickness	t _{ef} = 215 mm		

Masonry material details

Unit type	Clay - Group 1		
Mean masonry strength	f _b = 17.0 N/mm ²	Specific weight of units	γ = 18 kN/m ³
Mortar type	M4 - General Purpose	Mortar strength	f _m = 4.0 N/mm ²
Characteristic strength	f _k = 5.51 N/mm ²		

Design compressive strength of masonry

Category of manufacturing	Category II	Class of execution control	Class 2
Partial factor for material	γ _M = 3.00	Design strength of masonry	f _d = 1.84 N/mm ²

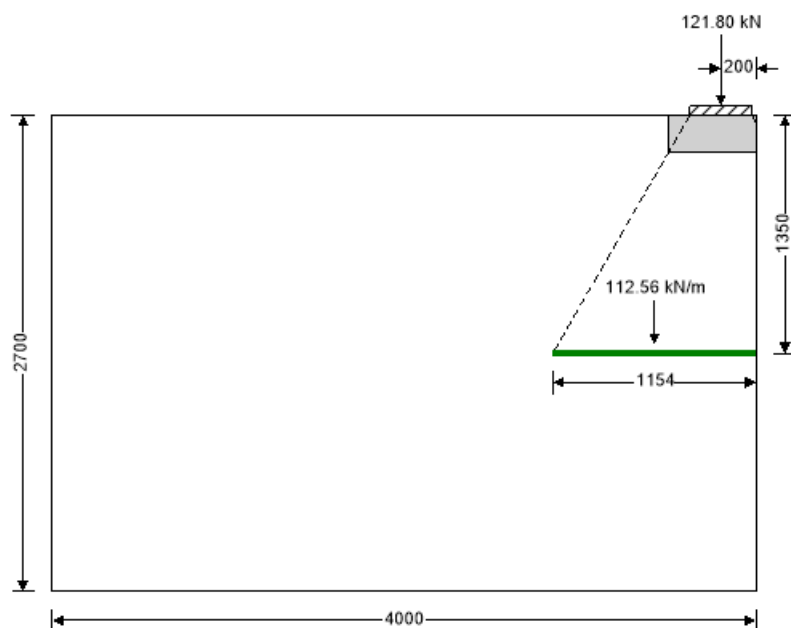
Partial safety factors for design loads

Permanent partial factor	γ _{FG} = 1.35	Variable partial factor	γ _{FQ} = 1.50
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Slenderness ratio of masonry wall - Section 5.5.1.4

Slenderness ratio limit	λ _{lim} = 27	Slenderness ratio	λ = 12.6
<i>PASS - Slenderness ratio is less than slenderness limit</i>			

Concentrated Load 1 details - B-1.1 Reaction



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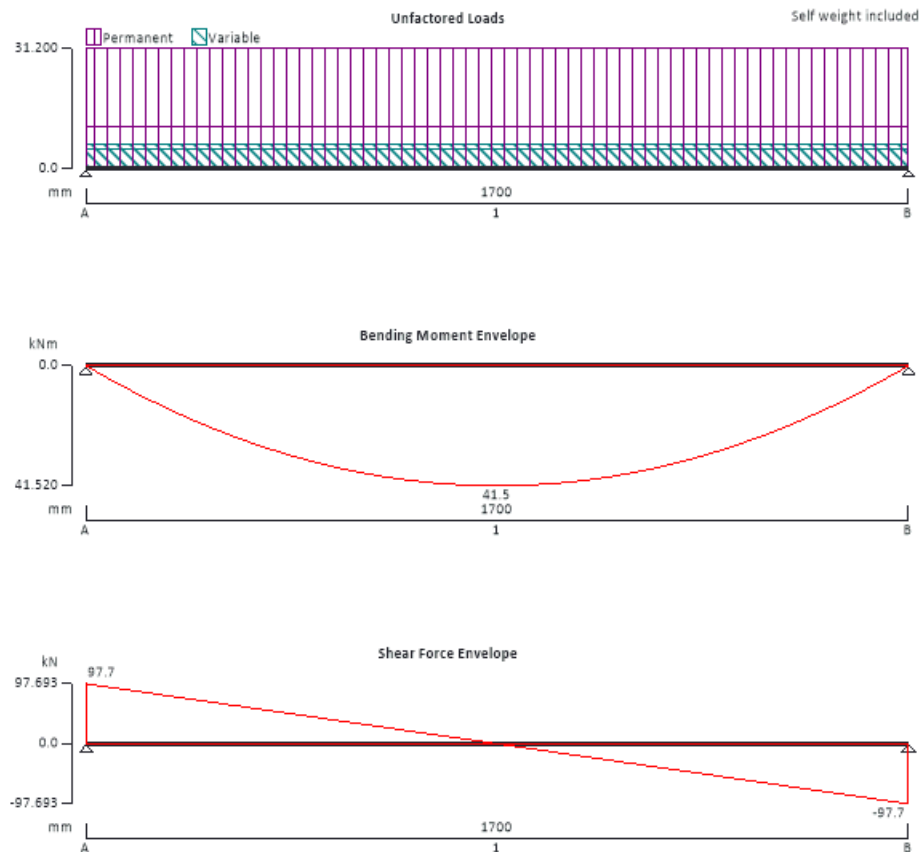
Permanent load	$G_{kc1} = 68.00 \text{ kN}$	Variable load	$Q_{kc1} = 20.00 \text{ kN}$
Eccentricity of load	$e_{c1} = 5 \text{ mm}$	Length of load	$L_{c1} = 350 \text{ mm}$
Width of load	$W_{c1} = 215 \text{ mm}$	Height of load	$h_{c1} = 2700 \text{ mm}$
Distance to right edge	$r_{11} = 25 \text{ mm}$	Distance to nearest edge	$a_{11} = 25 \text{ mm}$
Walls subjected to concentrated loads - Section 6.1.3			
Design concentrated load	$N_{Edc1} = 121.80 \text{ kN}$	Design resistance	$N_{Rdc1} = 161.58 \text{ kN}$
<i>PASS - Design resistance exceeds applied concentrated load</i>			
Design of spreader beam			
Type of spreader	Concrete padstone	Type of load	Point load
Length of spreader	$L_{sp1} = 500 \text{ mm}$	Width of spreader	$W_{sp1} = 215 \text{ mm}$
Height of spreader	$h_{sp1} = 215 \text{ mm}$	Eccentricity of load	$e_{sp1} = 5 \text{ mm}$
Modulus of elasticity	$E_{sp1} = 29962 \text{ N/mm}^2$	Maximum moment	$M_{Edsp1} = 6.97 \text{ kNm}$
Maximum shear	$V_{Edsp1} = 66.13 \text{ kN}$	Allowable stress	$\sigma_{Rdsp1} = 2.15 \text{ N/mm}^2$
Design stress	$\sigma_{Edsp1} = 2.04 \text{ N/mm}^2$	<i>PASS - Design stress under spreader is less than the allowable bearing stress</i>	
Walls subjected to mainly vertical loading - Section 6.1.2			
Vertical load at mid-height	$N_{Ed1} = 112.56 \text{ kN/m}$	Design resistance	$N_{Rd1} = 313.83 \text{ kN/m}$
<i>PASS - Design value of vertical resistance exceeds applied vertical load</i>			

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B-1.2				1	
Calcs by	Calcs date	Checked by	Checked date	Approved by	Approved date
EE	11/10/2024				

STEEL BEAM ANALYSIS & DESIGN (EN1993-1-1:2005)

In accordance with EN1993-1-1:2005 incorporating Corrigenda February 2006 and April 2009 and the UK national annex

TEDDS calculation version 3.0.14



Support conditions

Support A

Vertically restrained

Rotationally free

Support B

Vertically restrained

Rotationally free

Applied loading

Beam loads

Permanent self weight of beam $\times 1$

Roof Gk - $1\text{kpa} \times 1.5/2$ - Permanent full UDL 0.75 kN/m

Roof Qk - $0.6\text{kpa} \times 1.5/2$ - Variable full UDL 0.45 kN/m

Terrace Gk - $5.15\text{kpa} \times 4.2/2$ - Permanent full UDL 10.8 kN/m

Terrace Qk - $2.5\text{kpa} \times 4.2/2$ - Variable full UDL 5.25 kN/m

2nd Floor Gk - $5.15\text{kpa} \times 4.2/2$ - Permanent full UDL 10.8 kN/m

2nd Floor Qk - $3\text{kpa} \times 4.2/2$ - Variable full UDL 6.3 kN/m

1st Floor Gk - $5.15\text{kpa} \times 4.2/2$ - Permanent full UDL 10.8 kN/m

1st Floor Qk - $3\text{kpa} \times 4.2/2$ - Variable full UDL 6.3 kN/m

215 Brick Wall Gk - 4.65×6.7 - Permanent full UDL 31.2 kN/m

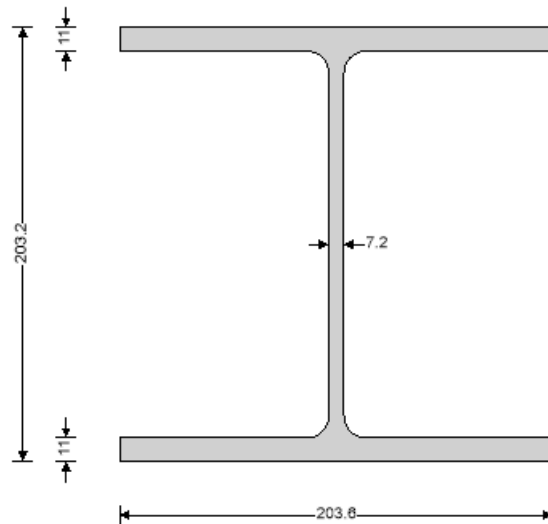
Project Dial House				Job no. 24130	
Calcs for B-1.2				Start page no./Revision 2	
Calcs by EE	Calcs date 11/10/2024	Checked by	Checked date	Approved by	Approved date

Analysis results

Maximum moment	$M_{max} = 41.5 \text{ kNm}$	$M_{min} = 0 \text{ kNm}$
Maximum shear	$V_{max} = 97.7 \text{ kN}$	$V_{min} = -97.7 \text{ kN}$
Deflection	$\delta_{max} = 0.9 \text{ mm}$	$\delta_{min} = 0 \text{ mm}$
Maximum reaction at support A	$R_{A_max} = 97.7 \text{ kN}$	$R_{A_min} = 97.7 \text{ kN}$
Unfactored permanent load reaction at support A	$R_{A_Permanent} = 55.1 \text{ kN}$	
Unfactored variable load reaction at support A	$R_{A_Variable} = 15.6 \text{ kN}$	
Maximum reaction at support B	$R_{B_max} = 97.7 \text{ kN}$	$R_{B_min} = 97.7 \text{ kN}$
Unfactored permanent load reaction at support B	$R_{B_Permanent} = 55.1 \text{ kN}$	
Unfactored variable load reaction at support B	$R_{B_Variable} = 15.6 \text{ kN}$	

Section details

Section type **UC 203x203x46 (BS4-1)** Steel grade **S355**



Section classification **Class 2**

Check shear - Section 6.2.6

Design shear force	$V_{Ed} = 98 \text{ kN}$	Design shear resistance	$V_{c,Rd} = 347.9 \text{ kN}$
<i>PASS - Design shear resistance exceeds design shear force</i>			

Check bending moment - Section 6.2.5

Design bending moment	$M_{Ed} = 41.5 \text{ kNm}$	Des.bending resist.moment	$M_{c,Rd} = 176.6 \text{ kNm}$
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Slenderness ratio for lateral torsional buckling

LTB slenderness ratio	$\bar{\lambda}_{LT} = 0.331$	Limiting slenderness ratio	$\bar{\lambda}_{LT,0} = 0.400$
$\bar{\lambda}_{LT} < \bar{\lambda}_{LT,0}$ - Lateral torsional buckling can be ignored			
<i>PASS - Design bending resistance moment exceeds design bending moment</i>			

Check vertical deflection - Section 7.2.1

Consider deflection due to permanent and variable loads

Limiting deflection	$\delta_{lim} = 3.4 \text{ mm}$	Maximum deflection	$\delta = 0.942 \text{ mm}$
<i>PASS - Maximum deflection does not exceed deflection limit</i>			

5 - COLUMN

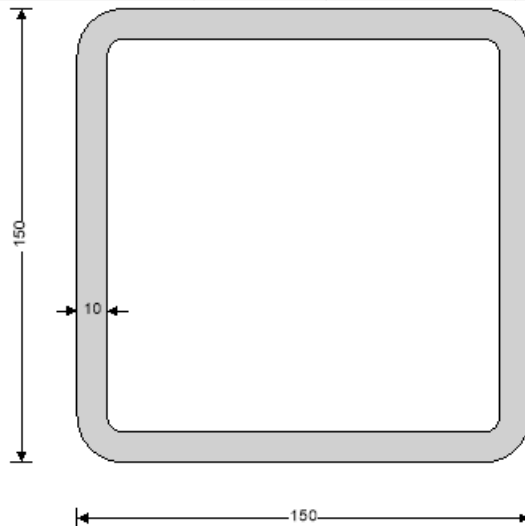
STEEL COLUMN DESIGN (EN1993-1-1:2005)

In accordance with EN1993-1-1:2005 incorporating Corrigenda February 2006 and April 2009 and the UK national annex

Tedds calculation version 1.1.08

Design summary

Description	Unit	Provided	Required	Utilisation	Result
Axial compression	kN	1950	232	0.119	PASS
Bending resistance (y-y)	kNm	102	23	0.228	PASS
Combined bending & axial	kNm	102	23	0.228	PASS
Buckling in compression	kN	981	232	0.237	PASS
Buckling in bending	kNm	102	23	0.228	PASS
Combined buckling				0.323	PASS



SHS 150x150x10.0 (Tata Steel Celsius (Gr355 Gr420))

Section depth, h, 150 mm

Section breadth, b, 150 mm

Mass of section, Mass, 43.1 kg/m

Section thickness, t, 10 mm

Area of section, A, 5493 mm²

Radius of gyration about y-axis, i_y , 56.818 mm

Radius of gyration about z-axis, i_z , 56.818 mm

Elastic section modulus about y-axis, $W_{el,y}$, 236428 mm³

Elastic section modulus about z-axis, $W_{el,z}$, 236428 mm³

Plastic section modulus about y-axis, $W_{pl,y}$, 286049 mm³

Plastic section modulus about z-axis, $W_{pl,z}$, 286049 mm³

Second moment of area about y-axis, I_y , 17732098 mm⁴

Second moment of area about z-axis, I_z , 17732098 mm⁴

Column details

Column section	SHS 150x150x10.0	Steel grade	S355H
Yield strength	$f_y = 355 \text{ N/mm}^2$	Ultimate strength	$f_u = 470 \text{ N/mm}^2$
Modulus of elasticity	$E = 210 \text{ kN/mm}^2$	Shear modulus	$G = 80.8 \text{ kN/mm}^2$

Column geometry

Major axis buckling length	$L_y = 2700 \text{ mm}$	Minor axis buckling length	$L_z = 2700 \text{ mm}$
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The column is not part of a sway frame in the direction of the minor axis

The column is not part of a sway frame in the direction of the major axis

Column loading

Axial load	$N_{Ed} = 232 \text{ kN}$ (Compression)		
Major axis moment at end 1	$M_{y,Ed1} = 0.0 \text{ kNm}$	Major axis moment at end 2	$M_{y,Ed2} = 23.2 \text{ kNm}$
		Major axis bending is single curvature	
Minor axis moment at end 1	$M_{z,Ed1} = 0.0 \text{ kNm}$	Minor axis moment at end 2	$M_{z,Ed2} = 0.0 \text{ kNm}$
Major axis shear force	$V_{y,Ed} = 0 \text{ kN}$	Minor axis shear force	$V_{z,Ed} = 0 \text{ kN}$

Buckling length for flexural buckling - Major axis

End restraint factor	$K_y = 1.000$	Buckling length	$L_{cr,y} = 2700 \text{ mm}$
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Buckling length for flexural buckling - Minor axis

End restraint factor $K_z = 2.000$ Buckling length $L_{cr,z} = 5400$ mm

Section classification (Table 5.2)

Web classification **1** Flange classification **1**
The section is class 1

Resistance of cross section (cl. 6.2)

Shear - Minor axis (cl. 6.2.6)

Design shear force $V_{z,Ed} = 0.0$ kN Plastic shear resistance $V_{pl,z,Rd} = 562.9$ kN
PASS - Shear resistance exceeds the design shear force
 $V_{z,Ed} \leq 0.5 \times V_{pl,z,Rd}$ - No reduction in f_y required for bending/axial force

Shear - Major axis (cl. 6.2.6)

Design shear force $V_{y,Ed} = 0.0$ kN Plastic shear resistance $V_{pl,y,Rd} = 562.9$ kN
PASS - Shear resistance exceeds the design shear force
 $V_{y,Ed} \leq 0.5 \times V_{pl,y,Rd}$ - No reduction in f_y required for bending/axial force

Compression (cl. 6.2.4)

Design force $N_{Ed} = 232$ kN Design resistance $N_{c,Rd} = 1950$ kN
PASS - The compression design resistance exceeds the design force

Bending - Major axis (cl. 6.2.5)

Design bending moment $M_{y,Ed} = 23.2$ kNm Design resistance $M_{c,y,Rd} = 101.5$ kNm
PASS - The bending design resistance exceeds the design moment

Combined bending and axial force (cl. 6.2.9)

Bending - Major axis (cl. 6.2.9.1)

Design bending moment $M_{y,Ed} = 23.2$ kNm Modified design resistance $M_{N,y,Rd} = 101.5$ kNm
PASS - Bending resistance in presence of axial load exceeds design moment

Buckling resistance (cl. 6.3)

Axial buckling resistance

Flexural buck resist about y $N_{b,y,Rd} = 1718.8$ kN Flexural buck resist about z $N_{b,z,Rd} = 980.8$ kN
Min. buckling resistance $N_{b,Rd} = 980.8$ kN
PASS - The axial load buckling resistance exceeds the design axial load

Buckling resistance moment (cl.6.3.2.1)

Design bending moment $M_{y,Ed} = 23.2$ kNm Design buckling resistance mt $M_{b,Rd} = 101.5$ kNm
Lat. torsional buck length fact $K_{LT} = 1.00$
PASS - The design buckling resistance moment exceeds the maximum design moment

Combined bending and axial compression (cl. 6.3.3)

Section utilisation $UR_{B,1} = 0.280$ Section utilisation $UR_{B,2} = 0.323$
PASS - The buckling resistance is adequate

6 - FOUNDATION

FOUNDATION ANALYSIS

In accordance with EN1997-1:2004 + A1:2013 incorporating corrigendum February 2009 and the UK National Annex incorporating corrigendum No.1

Tedds calculation version 3.3.05

Summary table

Description	Unit	Allowable	Actual	Utilisation	Result
Base pressure	kN/m ²	100	86.4	0.864	Pass
Concrete projection	mm	1202	650	0.541	Pass

Pad foundation details

Length of foundation

$L_x = 1700$ mm

Width of foundation

$L_y = 1700$ mm

Depth of foundation

$h = 1000$ mm

Depth of soil over foundation

$h_{soil} = 200$ mm

Level of water

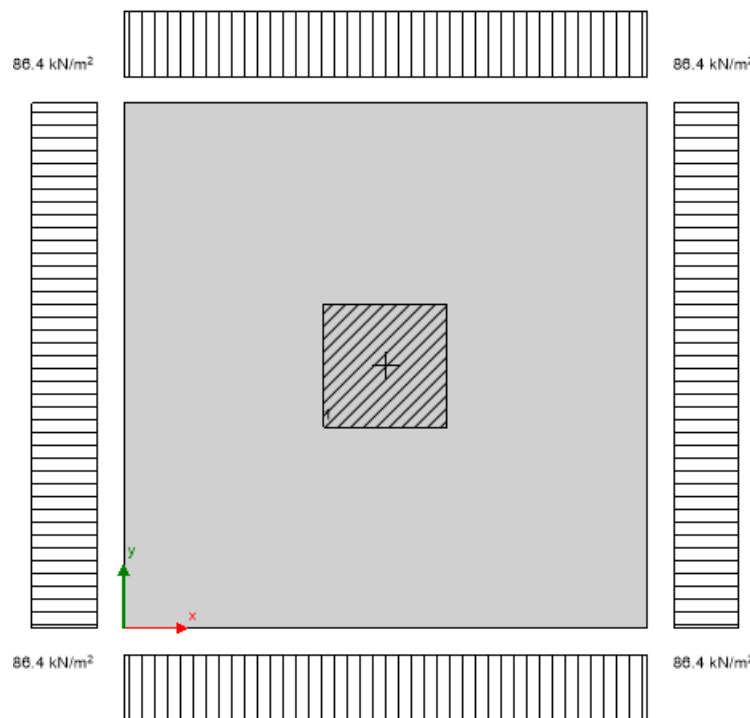
$h_{water} = 0$ mm

Density of water

$\gamma_{water} = 9.8$ kN/m³

Density of concrete

$\gamma_{conc} = 25.0$ kN/m³



Column no.1 details

Length of column

$l_{x1} = 400$ mm

Width of column

$l_{y1} = 400$ mm

position in x-direction

$x_1 = 850$ mm

position in y-direction

$y_1 = 850$ mm

Soil properties

Density of soil

$\gamma_{soil} = 18.0$ kN/m³

Net ultimate bearing pressure

$n_r = 100$ kN/m²

Friction angle

$\delta_k = 20$ deg

Foundation loads

Self weight

$F_{swt} = 25.0$ kN/m²

Soil weight

$F_{soil} = 3.6$ kN/m²

Column no.1 loads

Permanent axial load

$F_{Gz1} = 130.0$ kN

Variable axial load

$F_{Qz1} = 37.0$ kN

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Bearing resistance (Section 6.5.2)

Forces on foundation

Force in z-direction $F_{dz} = 249.7$ kN

Moments on foundation

Moment in x-direction $M_{dx} = 212.2$ kNm

Moment in y-direction $M_{dy} = 212.2$ kNm

Eccentricity of base reaction

Eccentricity in x-axis $e_x = 0$ mm

Eccentricity in y-axis $e_y = 0$ mm

Eccentricity of base reaction

Eccentricity in x-axis $e_x = 0$ mm

Eccentricity in y-axis $e_y = 0$ mm

Pad base pressure

$q_1 = 86.4$ kN/m²

$q_2 = 86.4$ kN/m²

$q_3 = 86.4$ kN/m²

$q_4 = 86.4$ kN/m²

Minimum base pressure

$q_{min} = 86.4$ kN/m²

Maximum base pressure

$q_{max} = 86.4$ kN/m²

Presumed bearing capacity

Presumed bearing capacity $P_{bearing} = 100.0$ kN/m²

PASS - Presumed bearing capacity exceeds design base pressure

Design approach 1

Partial factors on actions - Combination1

Partial factor set A1

Permanent action $\gamma_G = 1.35$

Variable action $\gamma_Q = 1.50$

Partial factors for spread foundations - Combination1

Resistance factor set R1

Bearing $\gamma_{R,v} = 1.00$

Sliding $\gamma_{R,h} = 1.00$

Forces on foundation

Force in z-direction $F_{dz} = 342.6$ kN

Moments on foundation

Moment in x-direction $M_{dx} = 291.2$ kNm

Moment in y-direction $M_{dy} = 291.2$ kNm

Eccentricity of base reaction

Eccentricity in x-direction $e_x = 0$ mm

Eccentricity in y-direction $e_y = 0$ mm

Effective area of base

Effective length $L'_x = 1700$ mm

Effective width $L'_y = 1700$ mm

Effective area $A' = 2.890$ m²

Pad base pressure

Design base pressure $f_{dz} = 118.5$ kN/m²

Design approach 1

Partial factors on actions - Combination2

Partial factor set A2

Permanent action $\gamma_G = 1.00$

Variable action $\gamma_Q = 1.30$

Partial factors for spread foundations - Combination2

Resistance factor set R1

Bearing $\gamma_{R,v} = 1.00$

Sliding $\gamma_{R,h} = 1.00$

Forces on foundation

Force in z-direction $F_{dz} = 260.8$ kN

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Moments on foundation

Moment in x-direction $M_{dx} = 221.6 \text{ kNm}$ Moment in y-direction $M_{dy} = 221.6 \text{ kNm}$

Eccentricity of base reaction

Eccentricity in x-direction $e_x = 0 \text{ mm}$ Eccentricity in y-direction $e_y = 0 \text{ mm}$

Effective area of base

Effective length $L'_x = 1700 \text{ mm}$ Effective width $L'_y = 1700 \text{ mm}$
Effective area $A' = 2.890 \text{ m}^2$

Pad base pressure

Design base pressure $f_{dz} = 90.2 \text{ kN/m}^2$

FOUNDATION DESIGN

In accordance with EN1992-1-1:2004 + A1:2014 incorporating corrigenda January 2008, November 2010 and January 2014 and the UK National Annex incorporating National Amendment No.1 and No.2

Tedds calculation version 3.3.05

Concrete details (Table 3.1 - Strength and deformation characteristics for concrete)

Concrete strength class $C16/20$ Char.comp.cylinder strength $f_{ck} = 16 \text{ N/mm}^2$
Partial factor for concrete $\gamma_c = 1.50$ Maximum aggregate size $h_{agg} = 20 \text{ mm}$
Design compressive strength $f_{cd} = 17.0 \text{ N/mm}^2$ Design tensile strength, plain $f_{ctd,pl} = 0.7 \text{ N/mm}^2$

Strip and pad footings (Section 12.9.3)

Projection from face $a = 650 \text{ mm}$ Maximum projection from face $a_{max} = 1202 \text{ mm}$

PASS - Projection from the column face doesn't exceed permissible limit for plain concrete

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	Calcs for SPREADER BEAM ALTERNATIVE TO PAD				Start page no./Revision	
	Calcs by EE	Calcs date 11/10/24	Checked by	Checked date	Approved by	Approved date

	Try 1.8m longer spreader Total Load @ SLS = 150 kN Check brick footing for crushing Footing width = 150 kN Allowable stress = 0.43 N/mm² Service stress = $150 \times 10^3 / 600 \times 1800$ = 0.41 N/mm² Allowable stress = 0.43 N/mm² > Service stress = 0.41 N/mm² Therefore OK Check deflection UDL = $150 / 1.8$ = 83 kN/m Cantilever Length, say = $1.8 / 2$ = 0.9m Allowable deflection = $900 / (500 / 2)$ = 3.6mm Deflection = $WL^3 / 8EI = (0.9 \times 83) \times (0.9^3) \times 10^{12} / 8 \times 210000 \times 4600$ = 0.7mm Allowable Deflection = 3.6 mm > Deflection = 0.7 mm Therefore OK Bending OK by inspection <u>PROVIDE 1.8m LONG 203x203x46 UC SPREADER BEAM</u>	
--	--	--

TIMBER NOTES:

• ALL NEW SOFT WOOD TIMBER TO BE GRADE C24, AND PRESSURE INPREGNATED (TANALISED) WITH CUT ENDS TREATED BEFORE FIXING U.N.O.

• TIMBER CONNECTIONS TO HAVE PROPRIETY GAVANISED STEEL FIXINGS.

• ALL PROPRIETY ITEMS, FIXINGS, STRAPS, ANGLES OR OTHERWISE ARE TO BE USED IN ACCORDANCE WITH MANUFACTURERS' DETAILS

TIMBER JOISTS

• ALL TIMBER JOIST TO BE FIXED WITH 18mm THICK EXTERIOR GRADED PLYWOOD EXTERIOR FACE SCREW FIXED @ 400c/c. U.N.O.

• PROVIDE FULL DEPTH TIMBER BLOCKING PIECES BETWEEN RAFTERS & JOISTS AT SUPPORT AND MID SPAN. DEPTH OF BLOCKING PIECES TO SUIT RAFTER

• ALL TIMBER RACKING PANELS TO HAVE AT LEAST ONE 15MM PLYWOOD FIXED TO EXTERIOR FACE STUDS @150C/C AND NO FURTHER THAN A QUARTER OF THE STUD LENGTH FROM EITHER THE TOP OR BOTTOM OF THE STUD NOTCHES: (ALL TIMBER FLOORS)

UNLESS SPECIFICALLY AGREED WITH STRUCTURAL ENGINEER, NOTCHES TO COMPLY WITH THE FOLLOWING DIMENSIONS:

• NOTCHES NOT EXCEEDING 0.125 OF THE DEPTH OF THE JOIST.

• ANY NOTHCES IS ALLOWED IN A ZONE INCLUDED BETWEEN 0.07 AND 0.25 OF THE SPAN FROM THE SUPPORT.

HOLES: (ALL TIMBER FLOORS)

UNLESS SPECIFICALLY AGREED WITH STRUCTURAL ENGINEER, HOLES TO COMPLY WITH THE FOLLOWING DIMENSIONS:

• TO BE DRILLED AT MID DEPTH OF THE TIMBER FLOOR JOIST.

• ANY HOLE IS ALLOWED IN A ZONE INCLUDED BETWEEN 0.25L AND 0.4L, WHERE L IS THE CLEAR SPAN OF THE JOIST.

• MAXIMUM DIAMETER NOT EXCEEDING 0.25 OF THE DEPTH OF THE JOIST.

• MINIMUM SPACING BETWEEN HOLES TO BE THREE DIAMETERS (CENTRE TO CENTRE).

• IF ANY NOTHCES OR HOLES ARE OUTSIDE THE ZONE SPECIFIED ABOVE OR IF THEY ARE DEEPER/BIGGER THAN SPECIFIED ABOVE, NOTIFY THE STRUCTURAL ENGINEER FOR GUIDANCE.

STEELWORK NOTES:

• ALL STRUCTURAL STEELWORK TO BE GRADE S275 UNLESS OTHERWISE STATED. HOLLOW SECTIONS TO BE GRADE S355.

• ALL STEELWORK TO BE BLAST CLEANED TO SA2.5 AND SHOP APPLIED PRIMER WITH 80 MICRONS ZINC PHOSPHATE AND TOUCHED UP ON SITE. STEEL BEAM IN EXTERNALL LOCATIONS E.G. GROUND BEAM TO ALSO HAVE 100 MICRONS HIGH BUILD EPOXY MIO APPLIED.

• ALL WELDS TO BE MINIMUM 6mm FULL PROFILE FILLET WELDS. U.N.O.

• ALL CONNECTIONS TO HAVE A MINIMUM OF 4No. M16 GRADE 8.8 BOLTS.

• FABRICATION OF STEELWORK MUST NOT COMMENCE UNTIL TISSERIN HAS SEEN AND REVIEWED THE DETAIL FABRICATION DRAWINGS. ALLOW 5 WORKING DAYS FOR DRAWING REVIEW.

• ALL STEELWORK MUST BE MARKED WITH THE CE MARKINGS

STRUCTURAL CONCRETE NOTES:

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• ALL CONCRETE TO BE GRADE C30/37. IN ADDITION, FOUNDATIONS TO HAVE 0.6 MAXIMUM W/C RATIO, MINIMUM CEMENT CONTENT OF 280kg/m³.

• ALL STRUCTURAL MASS CONCRETE WITHIIN THE GROUND TO BE C25/30.

• ALL OTHER MASS CONCRETE AND BINDING TO BE GEN 3.

• REINFORCEMENT TO BE IN ACORDANCE WITHBS 4449, BS 4482, BS 4483 or BS 6744.

• CUTTING AND BENDING OF REINFORCEMENT TO BS 8666.

• SOURCE OF REINFORCEMENT: COMPANIES HOLDING VALID CERTIFICATES OF APPROVAL FOR PRODUCT CONFORMITY ISSUED BY THE UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS (CARES).

• GRADE FOR ALL REINFORCEMENT SHALL BE B5000B.

• CONTRACTOR SHALL TAKE 3No. SAMPLES OF CONCRETE FROM EACH CONCRETE DE;LIEVERY TO BE CUBE TESTED AT 28 DAYS. RESULTS TO BE SENT TO TISSERIN.

• SETTING OUT OF STRUCTURES TO BE IN ACCORDANCE WITH BS EN 5964-1.

• SOME PERMITTED GEOMETRIC TOLERANCE FROM THE NSCS ARE NOTED BELOW. CONTRACTOR MUST REFER TO THE NSCS FOR ALL TOLERANCES. TOLERANCES ARE NOT CUMULATIVE

-DEVIATION ON PLAN = MAX 10mm

-VERTICALITY OF STRUCTURE (COLUMN OR WALL): HEIGHT OF ELEMENT, H.WHERE H IS EQUAL OR LESS THAN 10M= LARGER OF 15MM OR H/400 H>10m =THE LARGER OF 25mm OF H/600

-LEVEL PER STOREY: PERMITTED DEVEIATION =+/- 10mm

- DISTANCE BETWEEN ADJACENT STRUCTURE. +/- 20mm PF L/600 BUT NOT MORE THAN 40mm.

-POSTION OF SLAB EGDE=+/- 10mm

info@tisserin.co.uk

TISSERINENGINEERS

Project

790 HIGH ROAD - DIAL HOUSE

Title

CONSTRUCTION NOTES

Sketch No.

24130 - 600

Scale

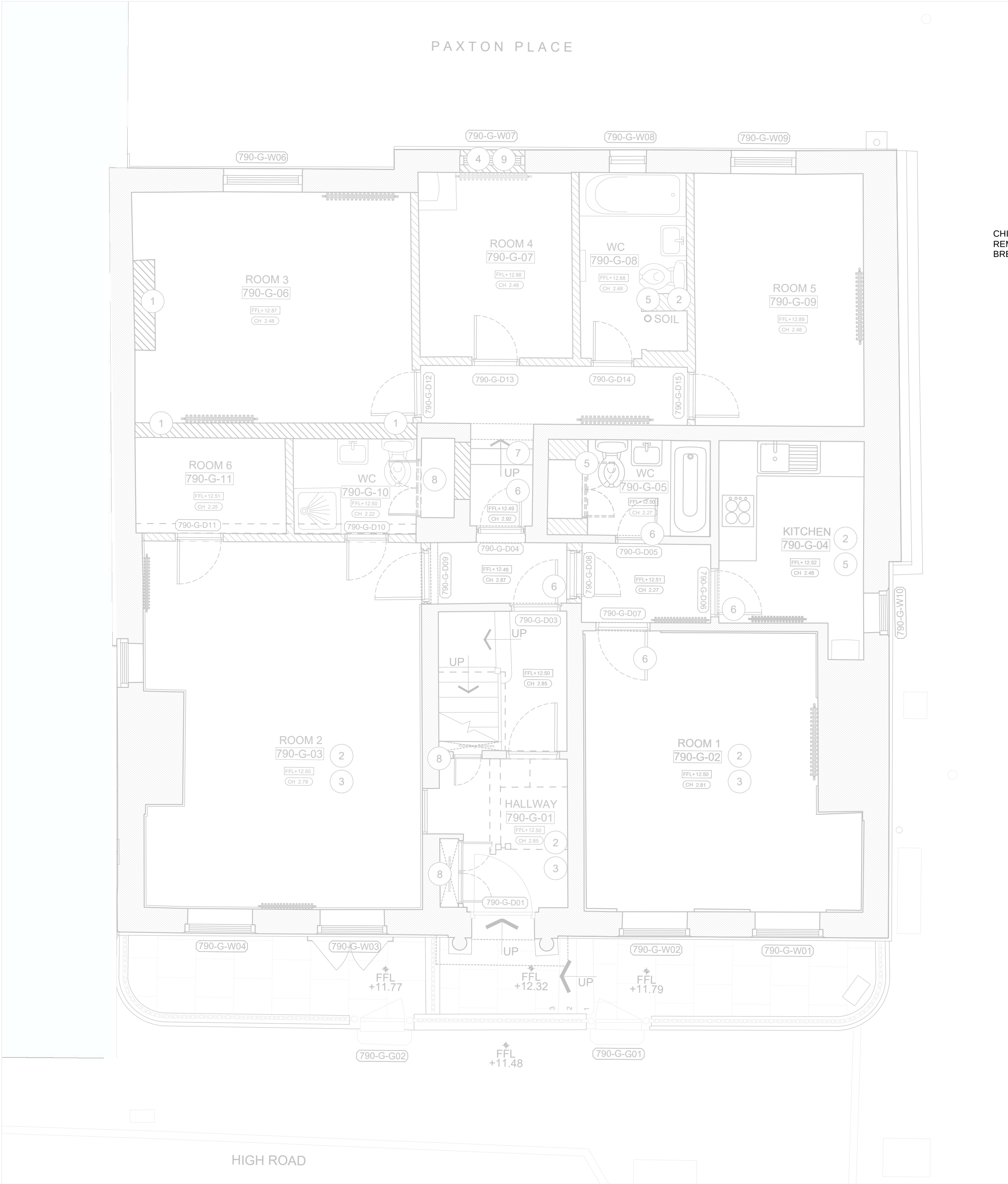
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Drawn by

EE

Rev

P01

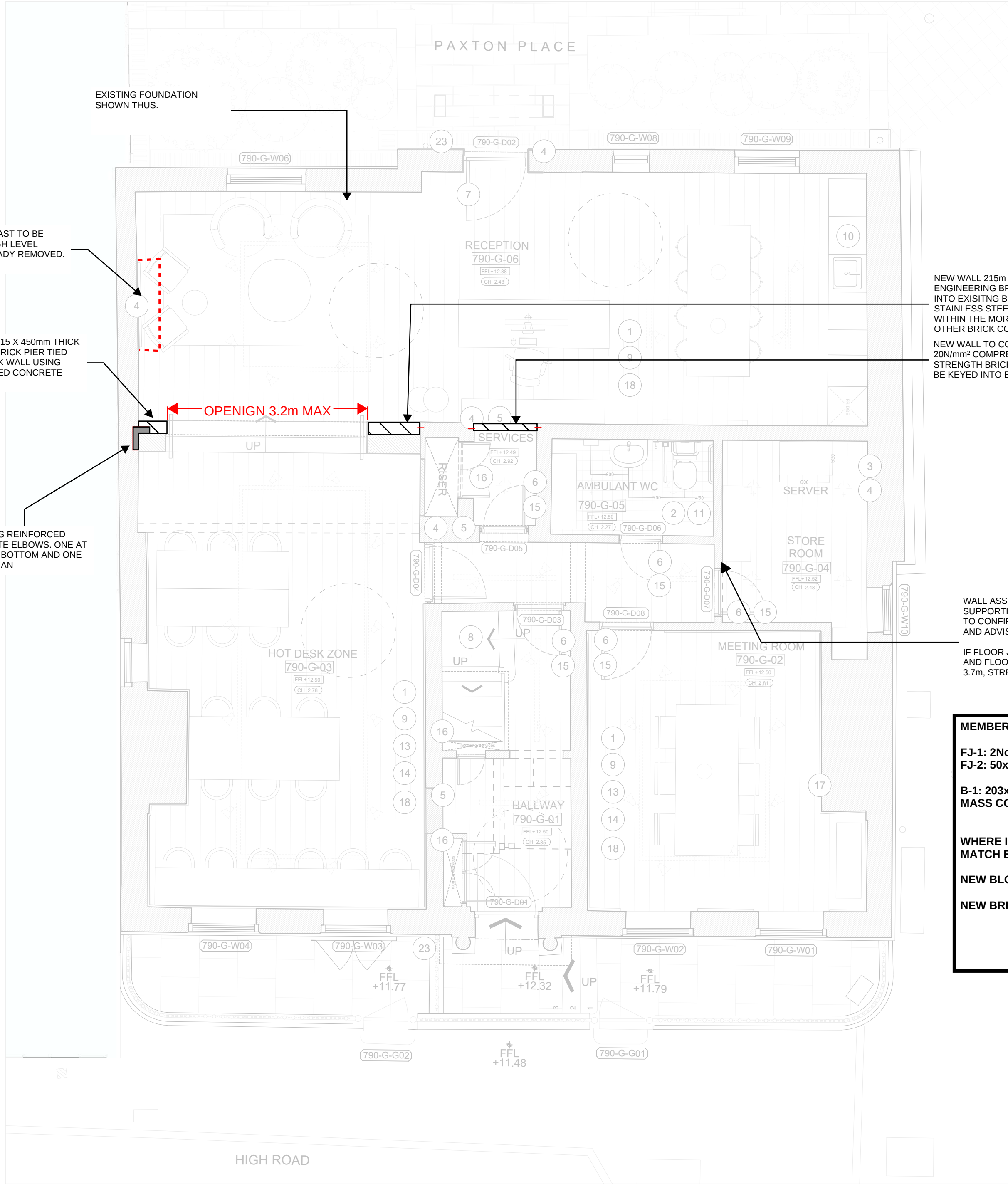


01 No. 790 EXISTING S/O GROUND FLOOR PLAN
82000 Scale 1:50

- General notes:
- Protect all existing surfaces and windows adjacent work areas which are to be retained.
 - Drawings to be read in conjunction with all other drawings, specifications, project documents and consultant information.
 - Existing M&E shown indicatively. Carefully strip out all existing services unless stated otherwise and make good.

Strip Out notes:

4. Conflicts resolve under below/over/both to be agreed before. Defects



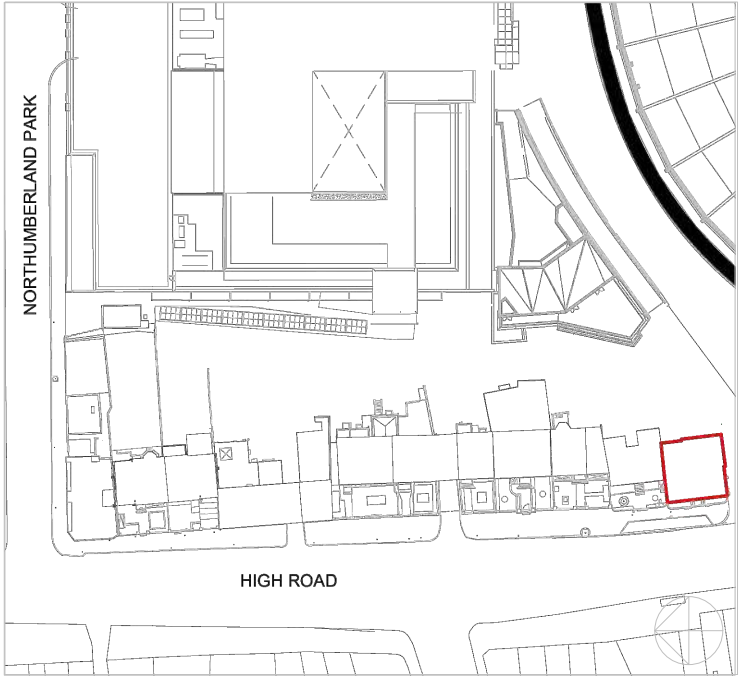
02 No. 790 PROPOSED GROUND FLOOR PLAN
82000 Scale 1:50

- General notes:
- Protect all existing surfaces and windows adjacent work areas which are to be retained.
 - Drawings to be read in conjunction with all other drawings, specifications, project documents and consultant information.
 - Existing M&E shown indicatively. Make good fixing holes and existing fabric where services removed to match existing adjacent. Allow to provide new column radiators to MEP Engineer's detail. To be developed further.
 - Carry out compartmentation work in line with the fire engineer's report. To be developed further.
 - All floors to be upgraded in terms of fire performance.

Proposed notes:

N.B: Rear Landscaping forms a part of separate Planning and Listed Building Consent Application but are shown here for completeness.
N.B: Loose furniture shown indicatively. Subject to tenant fit-out.

- KEY
- Demolition walls/modern partitions
 - Proposed walls/modern partitions
 - Demolition
 - Proposed
 - New ceiling
 - Dismantle for later reinstatement
 - Loose furniture shown indicatively



KEY PLAN

NOTES:

This drawing is copyright and owned by F3 Architects LLP and is for use on this site only unless irrevocably stated otherwise.
> NOT SCALE This drawing (printed or electronic version), Contractors must check all dimensions on site.
Other design team elements, where indicated have been imported from the consultant's drawings and reference should be made to the individual consultant's drawings for exact setting, size and type of component.
Discrepancies and/or omissions within this drawing, between it and information given elsewhere, must be reported immediately to the architect for clarification before proceeding. All works are to be carried out in accordance with the latest British Standards and Codes of Practice unless specifically directed in the specification.
Responsibility for the reproduction of this drawing in any format, lies with the recipient to check that all information has been replicated in full and is correct when compared to the original paper or electronic image. Graphical representations of equipment on this drawing are approximations only. Please refer to specifications and/or details for actual sizes and/or specific construction information.
This original document is issued for the purpose indicated in the title block and contains information of a confidential nature. Further copies and circulation will be strictly in accordance with the confidentiality agreement under the contract. This original must be destroyed or returned to the originator.
Levels shown have been interpolated from drawn information received from a third party and F3 Architects do not warrant the accuracy of that information. It is the responsibility of the Main Contractor to check all information contained within this drawing prior to work being carried out. Any discrepancies or ambiguities within this drawing, between it and the existing site, must be reported immediately to the Design Team before proceeding. The boundary redline shown is indicative.
Except for Planning purposes, figured dimensions only are to be taken from this drawing. All dimensions are in millimetres unless otherwise stated.
All dimensions shall be checked on site prior to works commencing.
Any discrepancies shall be reported to the Architect.
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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
All work on this drawing will be carried out by a competent contractor, working in accordance with the relevant health and safety regulations and standards.

WALL ASSUMED TO BE LOAD BEARING AND SUPPORTING FLOOR JOISTS, CONTRACTOR TO CONFIRM WHETHER LOAD BEARING AND ADVISE TISSERIN.

IF FLOOR JOISTS NOT BEARING ONTO WALL AND FLOOR JOISTS SPAN GREATER THAN 3.7m, STRENGTHEN FLOOR JOISTS.

MEMBER SCHEULE:
FJ-1: 2No. 50x225 C24 FLOOR JOISTS @400mm CRS.
FJ-2: 50x225 C24 FLOOR JOISTS @400mm CRS.
B-1: 203x203x60 UC STEEL BEAM WITH 350mm BEARING ONTO 500x215x140mm DEEP MASS CONCRETE PADSTONES.
WHERE INFILLING MASONRY, DO NOT MIX BLOCKWORK AND BRICKWORK. WIDTH TO MATCH EXISTING. REFER TO CONSTRUCTION NOTES FOR FURTHER INFORMATION.
NEW BLOCKWORK TO BE MINIMUM 7.3 N/mm² COMPRESSIVE STRENGTH.
NEW BRICKWORK TO BE MINIMUM 20 N/mm² COMPRESSIVE STRENGTH.

DATE	AH	FOR PLANNING & LBC	S.2	#1
22.10.2024	CHK	DESCRIPTION	STA	NO.

REVISION HISTORY



A: 5 Rochester Mews - London - SE1 1JH
T: 020 7267 6332
W: f3architects.com
E: info@f3architects.com

Health and Safety
Refer to relevant Construction (Design and Management) documents where applicable. The Contractor shall plan, manage and monitor the works inclusive of temporary access and stability. Any works that are found to be unstable in the temporary state are to be supported directly to the structural engineer and Main Contractor/Package Manager in order to provide a safe temporary support. Check on site prior to commencement of works/fabrication etc.

info@tisserin.co.uk
TISSERIN ENGINEERS

Project
790 HIGH ROAD - DIAL HOUSE
Title
GROUND FLOOR GA

Sketch No.
24130 - 100

Scale
1:50

Drawn by
EE

Rev
P05

Rev
P02

Rev
P03

Strip Out notes:

KEY

- Demolition walls/modern partitions
- Proposed walls/modern partitions
- Demolition
- Proposed
- New ceiling
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N.B: Rear Landscaping forms a part of separate Planning and Listed Building Consent Application but are shown here for completeness.
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KEY PLAN

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Discrepancies between information within this drawing, between all information given elsewhere, and/or between this drawing and the architect for clarification before proceeding.

All works are to be carried out in accordance with the latest British Standards and Codes of Practice unless specifically directed in the schedule.

Contractors are responsible for ensuring drawing is up to date, lists the relevant to check that all information has been replicated in full and is correct when compared to the original paper electronic image. Graphical representations of equipment on this drawing are approximations and are not intended to be used for any calculations or to replace for actual sizes and/or specific contractor information.

This original document is issued for the purpose indicated in the title block and contains no contractual statements or conditions. Further copies and circulation will be strictly in accordance with the confidentiality agreement under the contract. This original must be destroyed or returned to the originator.

Levels shown have been interpreted from drawn information received from a third party and F3 Architects do not warrant the accuracy of that information. It is the responsibility of the Main Contractor to ensure that the information is correct and that the levels are correct.

Any discrepancies or ambiguities within this drawing, between it and the existing site, must be referred to the Design Team before proceeding. The boundary between shown is indicative.

Except for Planning purposes, drawing dimensions only are to be taken from this drawing. All dimensions are in millimetres unless otherwise stated.

All dimensions shall be checked against the actual site conditions and works commencing.

Any discrepancies shall be reported to the Architect.

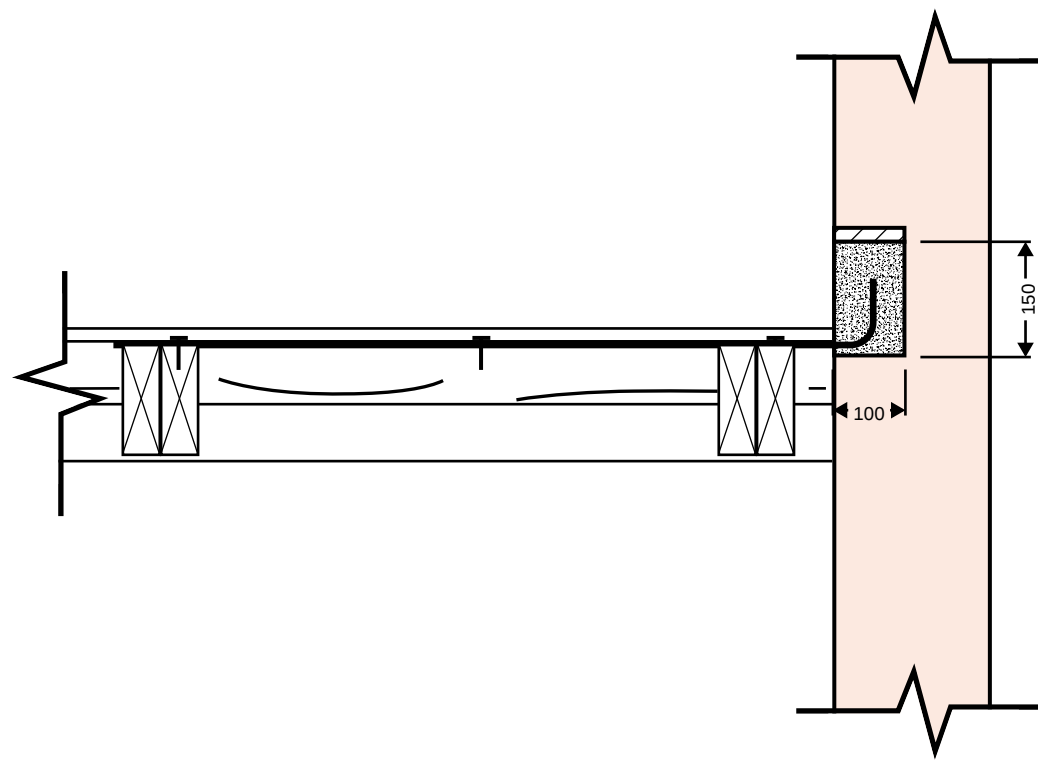
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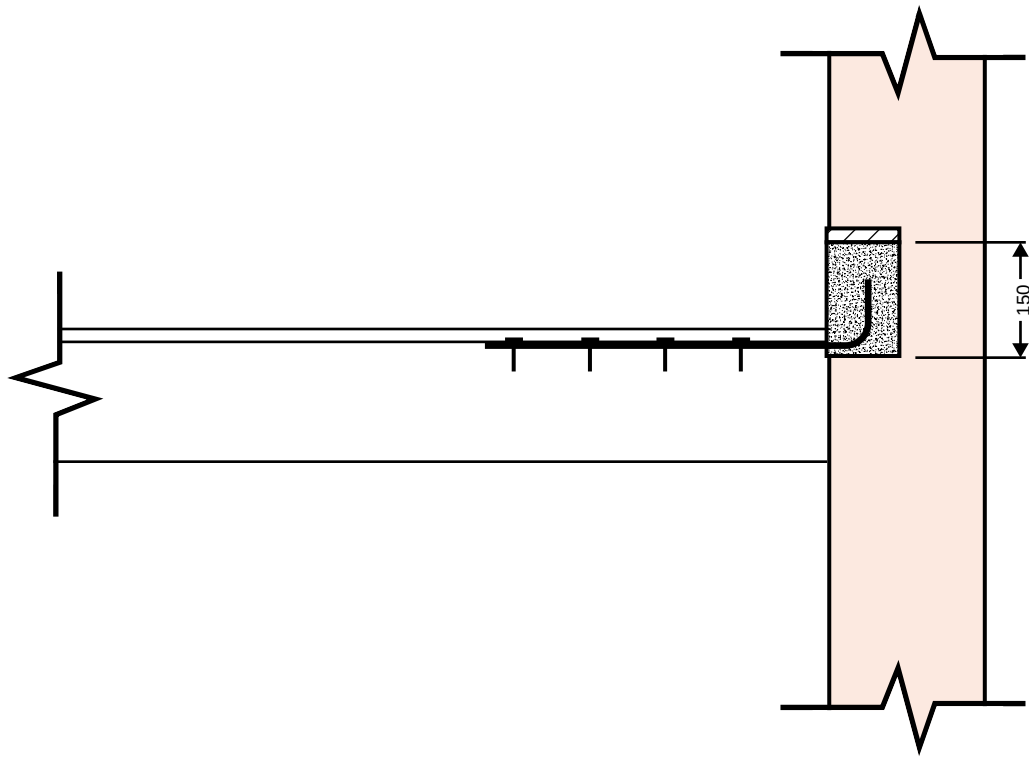
A: 5 Rochester Mews - London - NW1 9JB
T: 020 7267 8332
W: f3architects.com
E: info@f3architects.com

Health and Safety

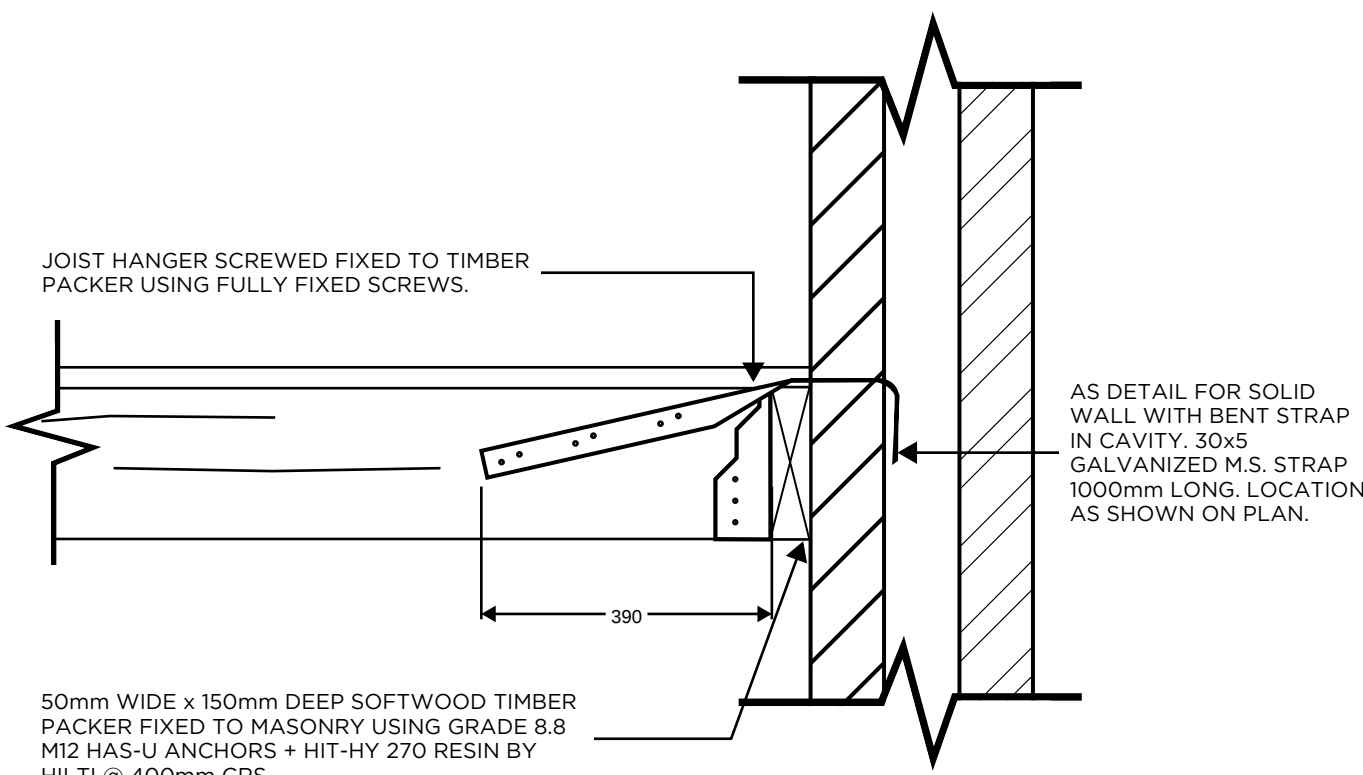
Refer to relevant Construction (Design and Management) documentation where applicable. The Contractor shall plan, manage and monitor the works inclusive of temporary erection stability. As they are found to be unstable in the temporary state are to be reported directly to the structural engineer and Main Contractor/ Package Manager in order to provide safe temporary works. The site must be kept clear of any debris and materials.



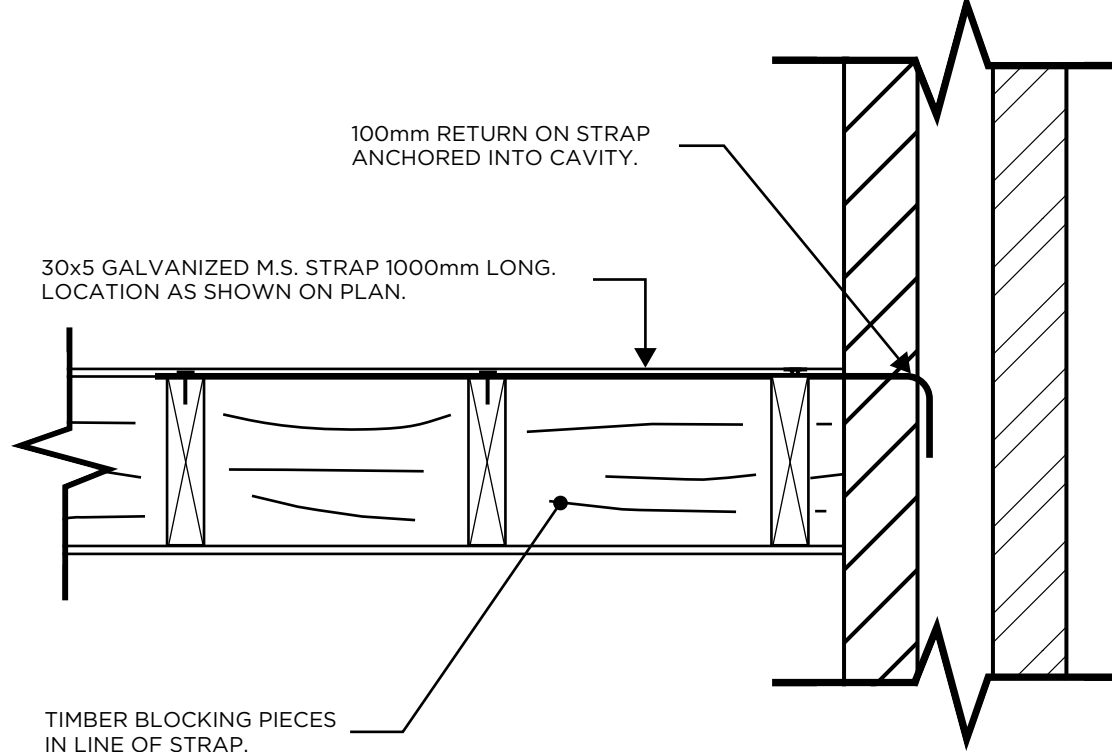
TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PARALLEL TO EXISTING MASONRY WALL
SCALE 1:10



TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PERPENDICULAR TO EXISTING MASONRY WALL
SCALE 1:10



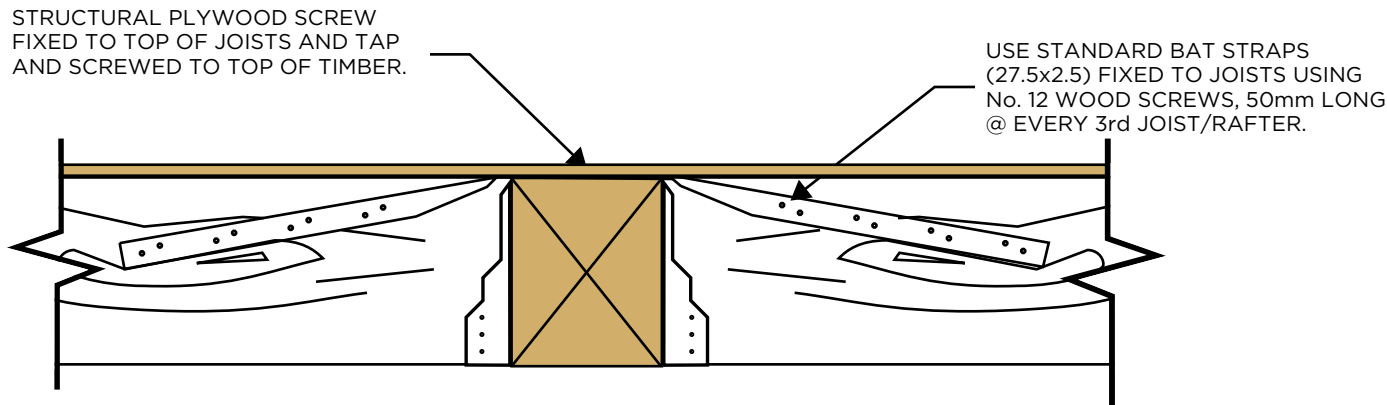
TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PARALLEL TO NEW CAVITY WALL
SCALE 1:10



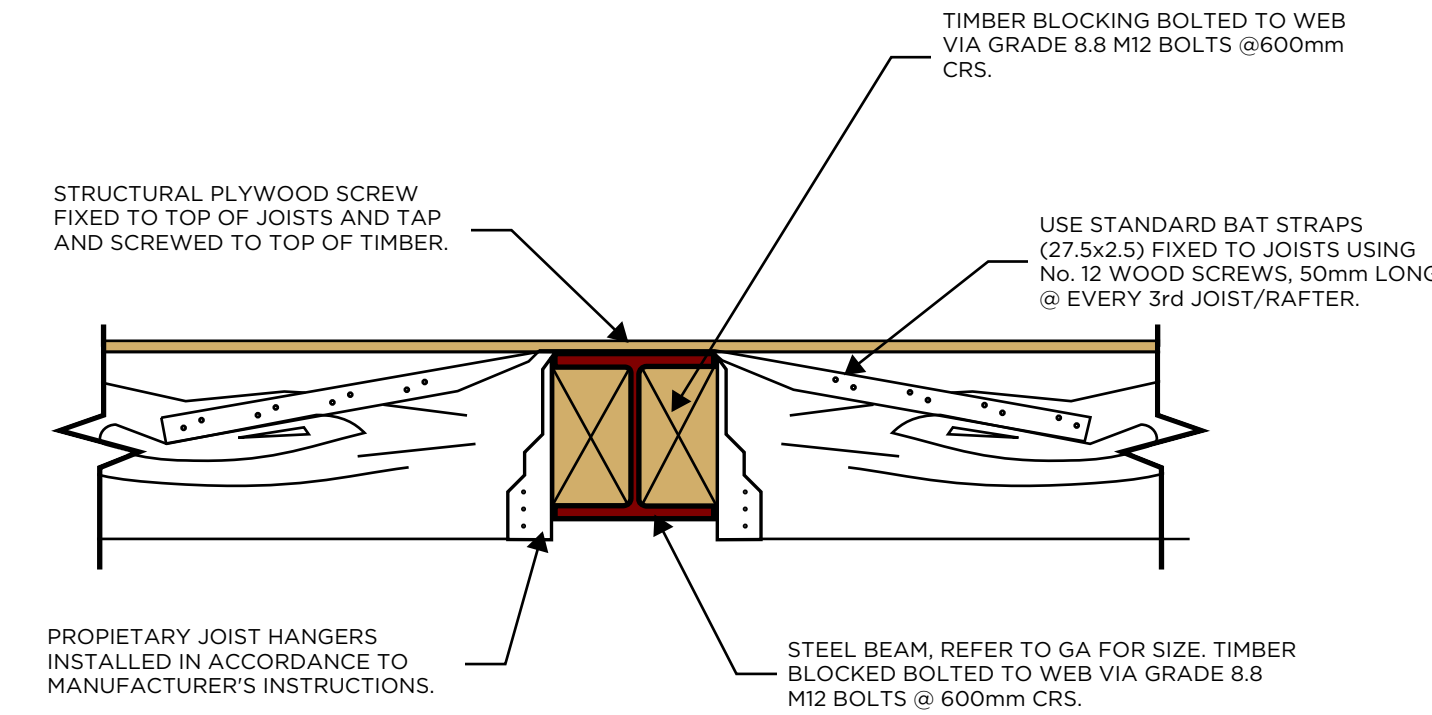
TYPICAL RESTRAINT STRAP DETAILS: JOISTS
PARALLEL TO NEW CAVITY WALL
SCALE 1:10

NOTES:

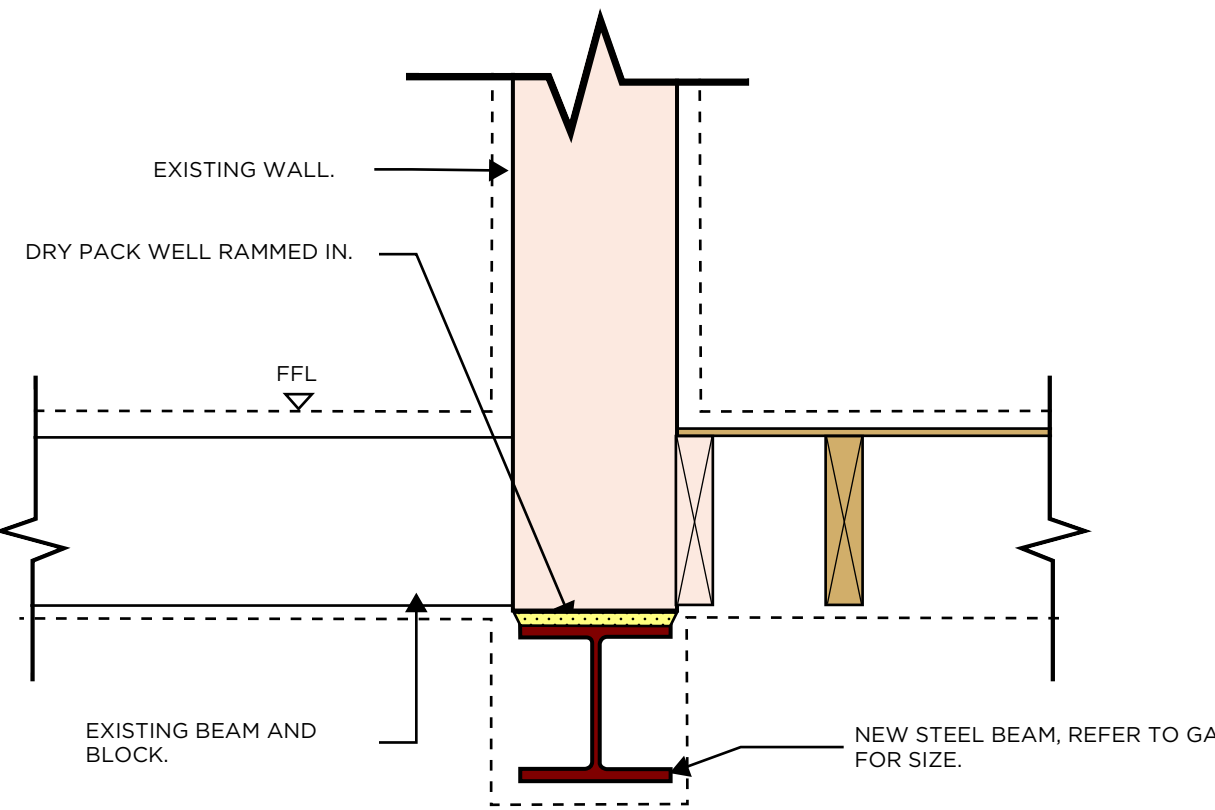
- STEELWORK TO BE HOT DIPPED GALVANIZED, REFER TO CONSTRUCTION NOTES FOR FURTHER DETAILS.
- STEEL TO STEEL CONNECTIONS BY OTHERS, LOADS GIVEN ARE UNFACTORED.
V = SHEAR kN
- EXTERNAL EXPOSED TIMBER TO BE DURABILITY CLASS 2. CLASS 2 TIMBER TYPES HAVE A LIFE EXPECTANCY ABOVE GROUND OF 15-25 YEARS. EXAMPLE RED CEDAR, YEWE.
- WATERPROOFING, DPM, DPC, FINISHES AND FIREPROOFING TO ARCHITECT'S DETAILS.
- = MASONRY TO JOISTS: STANDARD DUTY GALVANISED BAT STRAPS. STRAPS TO TIE THE JOIST TO THE MASONRY @ EVERY 3RD JOIST (OR 1200mm CRS.). BY EXPAMET OR SIMILAR APPROVED.
- = STEEL TO JOISTS: LIGHT DUTY GALVANISED BAT STRAPS. STRAPS TO TIE THE JOIST TO THE STEEL @ EVERY 3RD JOIST (OR 1200mm CRS.). BY EXPAMET OR SIMILAR APPROVED.
- = TIMBER TO JOISTS: STANDARD DUTY GALVANISED BAT STRAPS. STRAPS TO TIE THE JOIST TO THE STUDS @ EVERY 3RD JOIST (OR 1200mm CRS.). BY EXPAMET OR SIMILAR APPROVED.



TYPICAL TIMBER JOISTS TO TIMBER BEAM
CONNECTION
SCALE 1:10

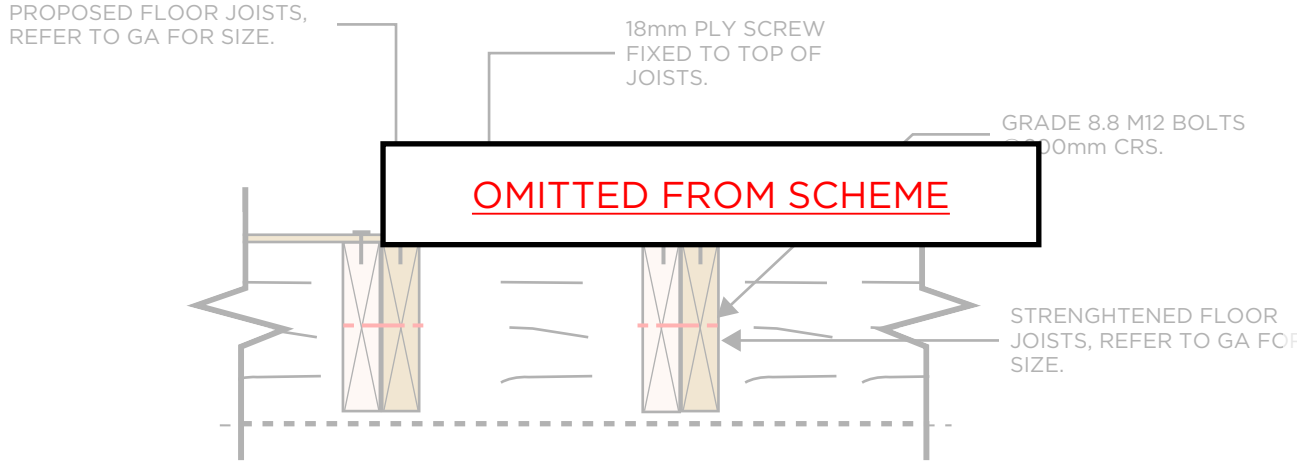


TYPICAL TIMBER JOISTS TO STEEL BEAM CONNECTION
SCALE 1:10

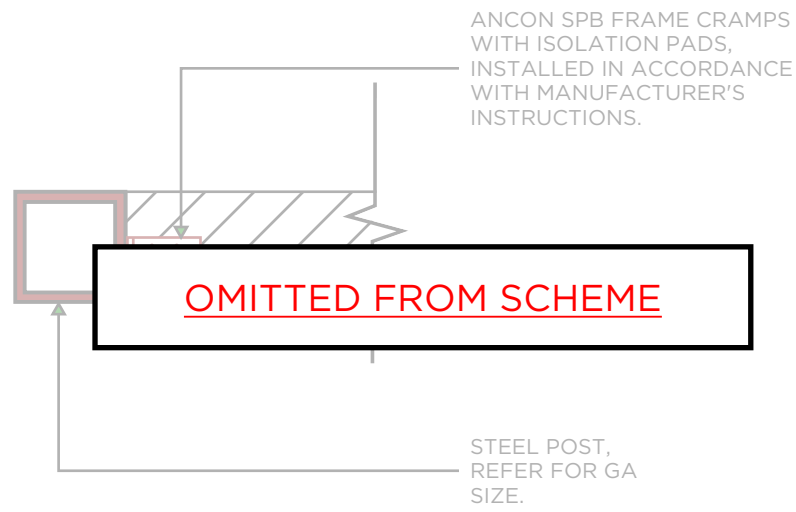


TYPICAL BEAM SOLID WALL SUPPORT DETAIL
SCALE 1:10

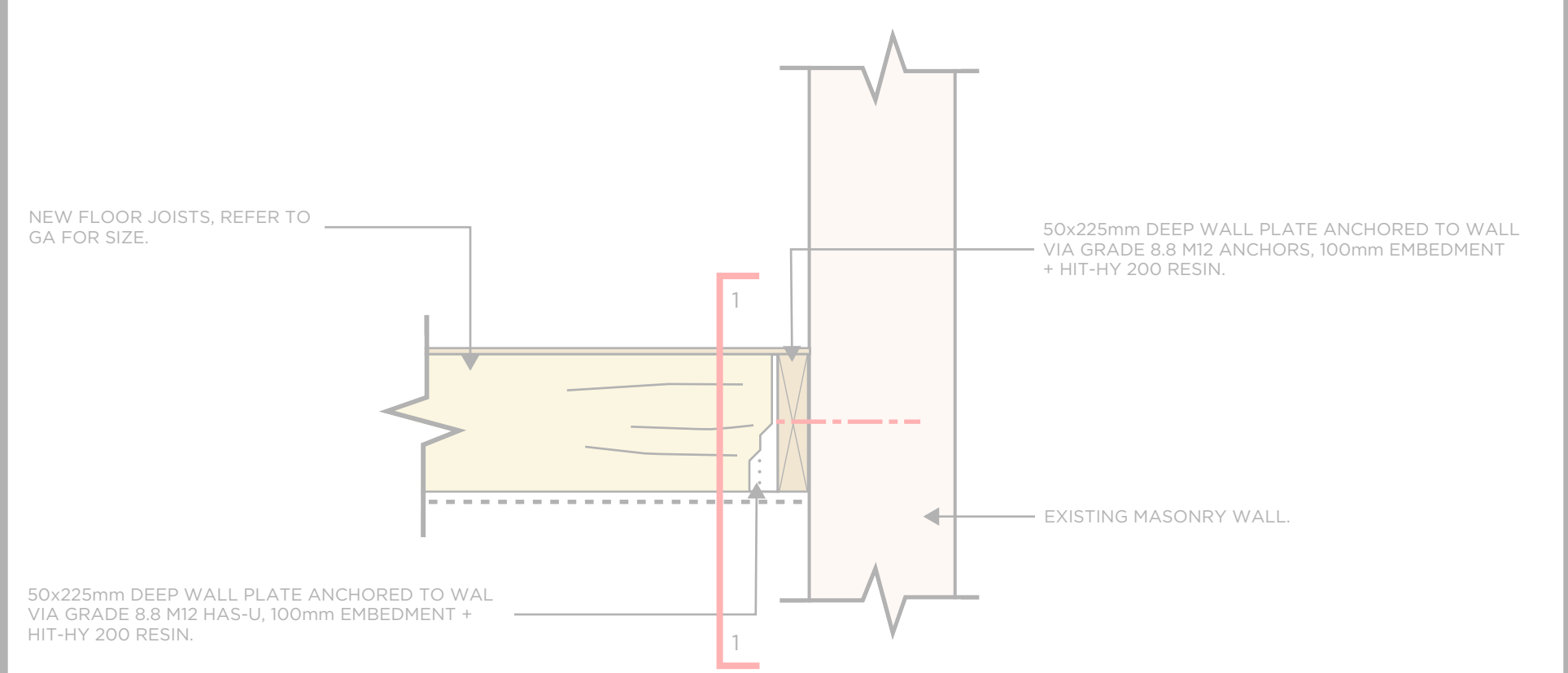
- SECTION DETAILS
- JOISTS MAY BE PRESENT ONE OR BOTH SIDE(S) OF BEAM.
 - JOIST LEVEL IS INDICATIVE, THEY MAY BE ADJUSTED TO SUIT REQUIREMENTS ON SITE. BEAMS MAY BE PLACES UNDER JOISTS.
 - DRY PACKING ONLY REQUIRED WHEN WALL IS EXISTING.
 - IF A 2/3 OVERLAP CANNOT BE ADOPTED, PROVIDE 10mm THK. TOP PLATE.
 - LEVEL OF BEAM SUBJECT TO ARCHITECT'S



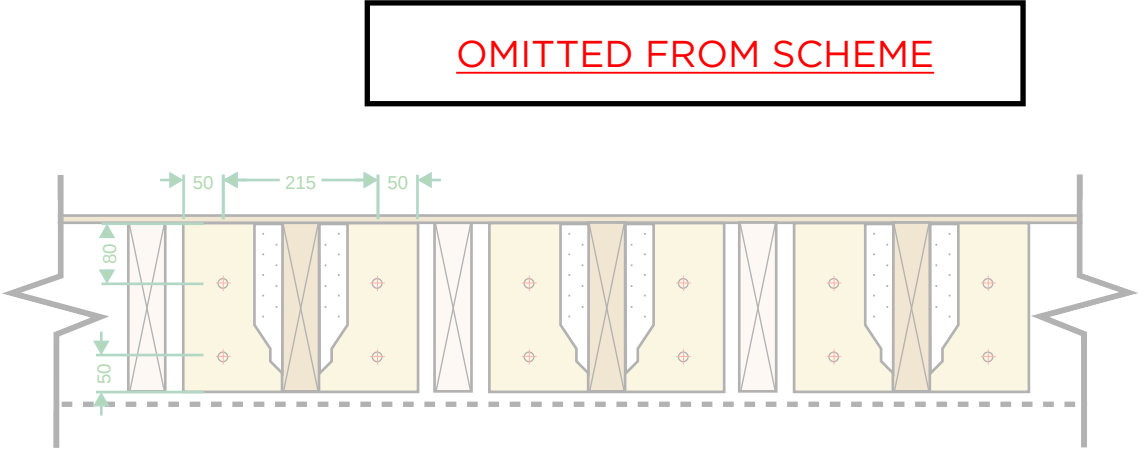
TYPICAL FLOOR STRENGTHENING DETAIL
SCALE 1:10



TYPICAL POST WALL TIE DETAIL
SCALE 1:10

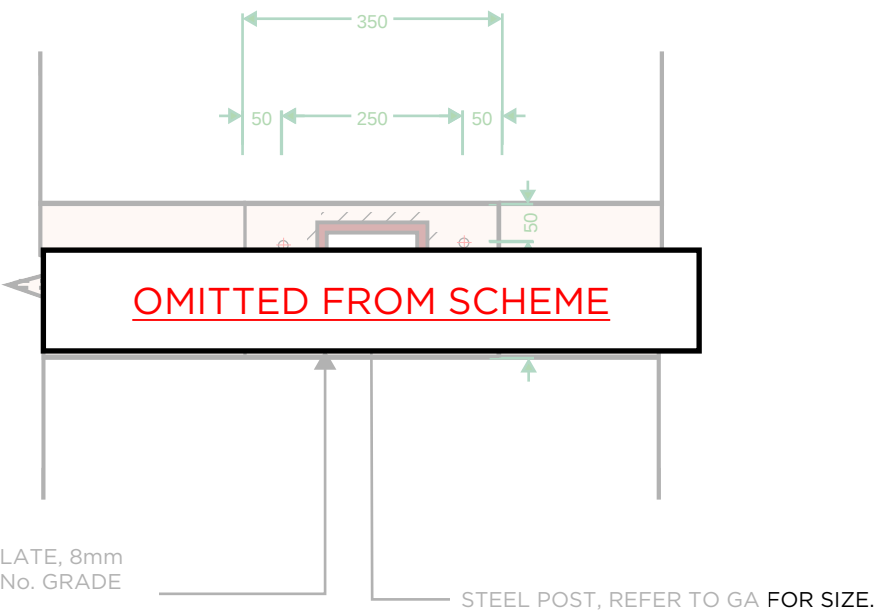
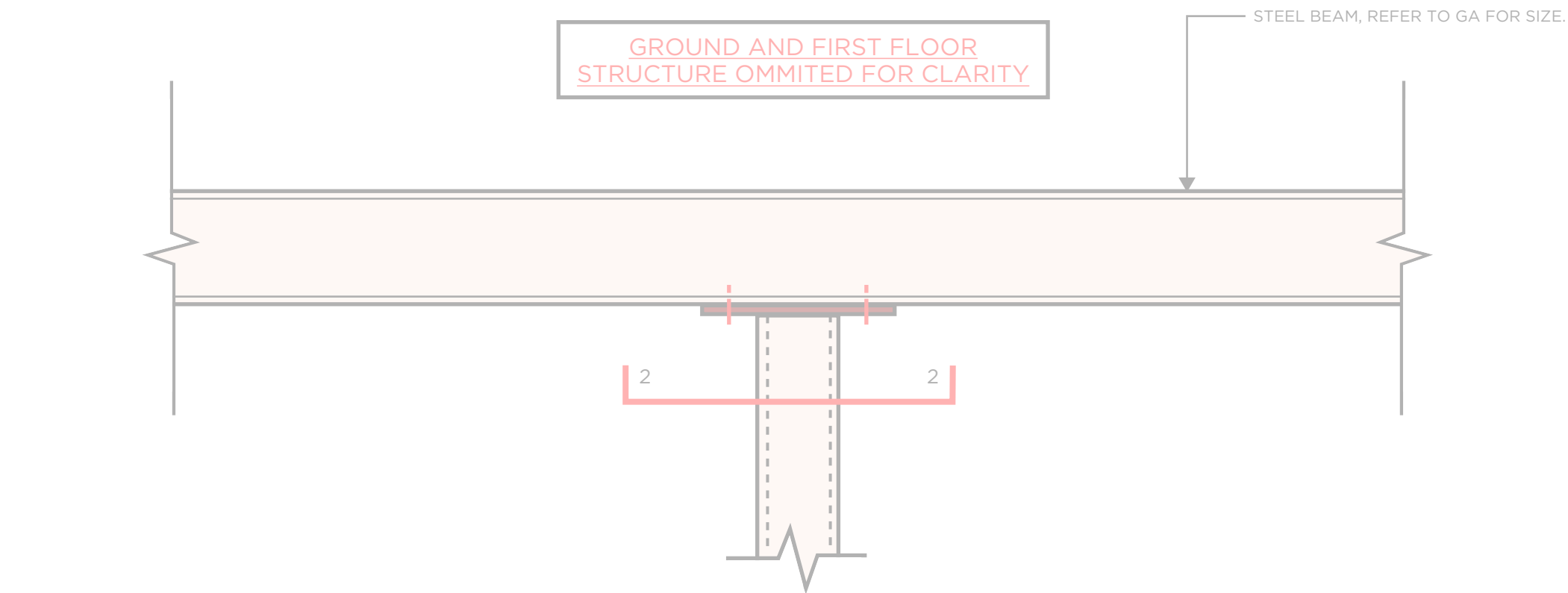


NEW FLOOR JOISTS TO WALL DETAIL
SCALE 1:10

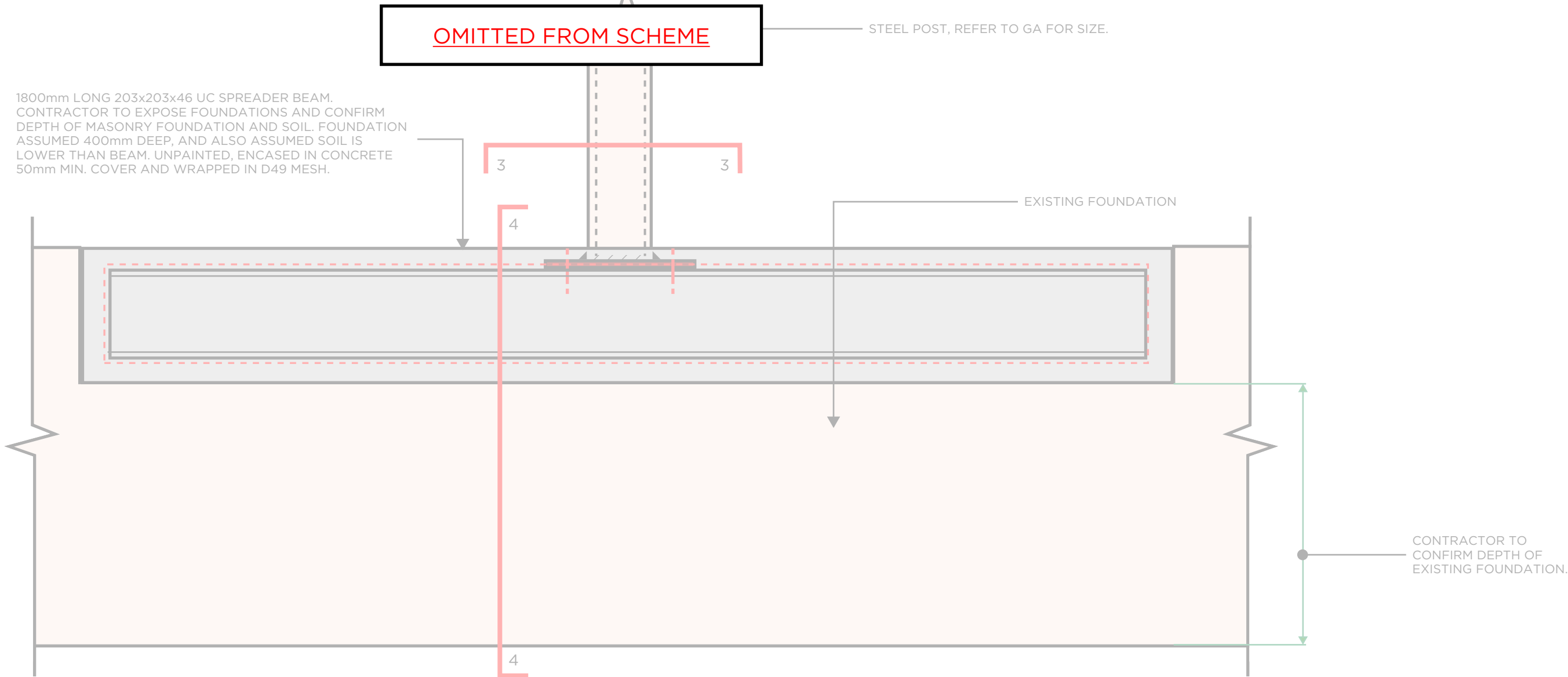


SECTION 1-1
SCALE 1:10

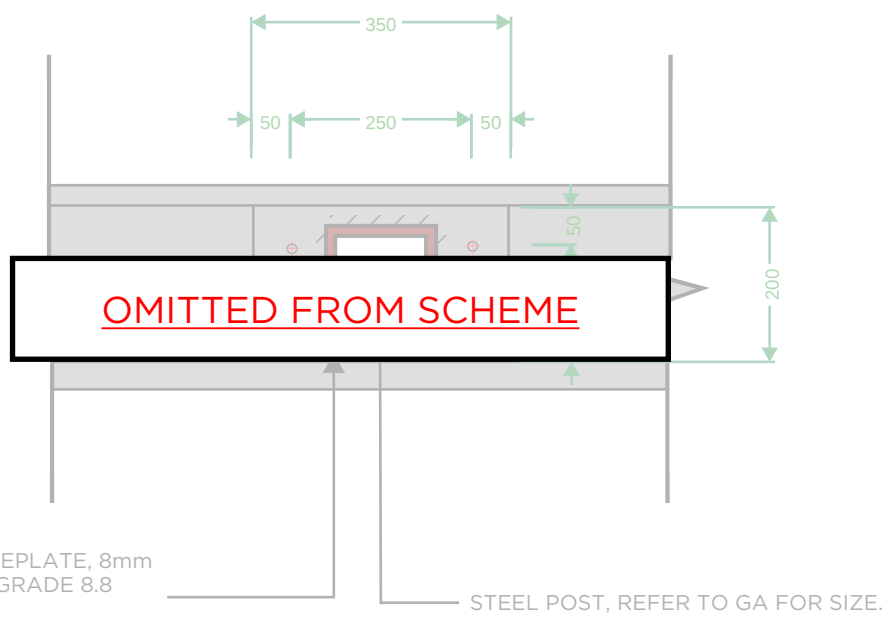
DETAIL ONLY APPLICABLE AS AN
ALTERNATIVE TO WHERE "TYPICAL FLOOR
STRENGTHENING DETAIL" IS NOT FEASIBLE.



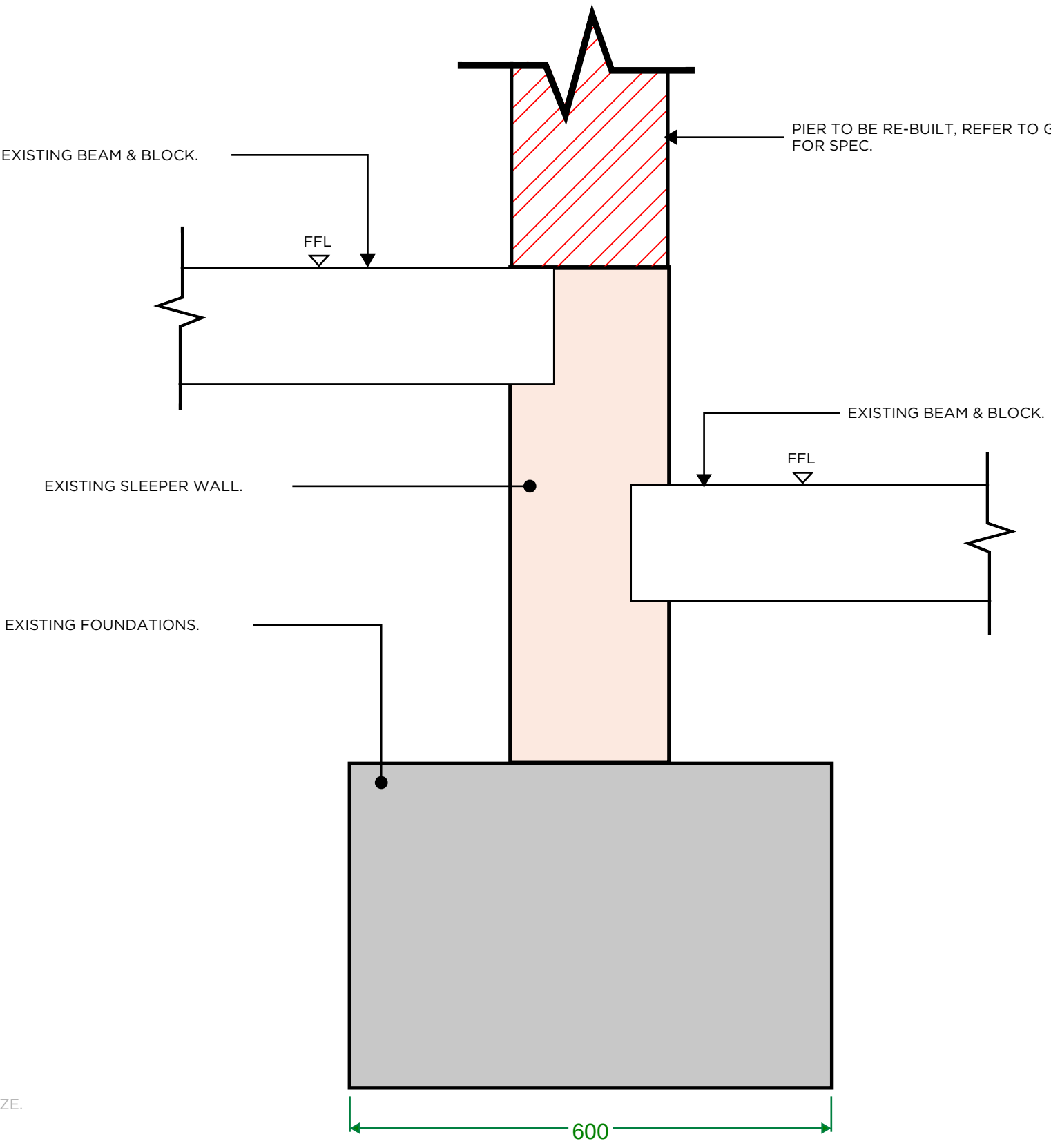
SECTION 2-2
SCALE 1:10



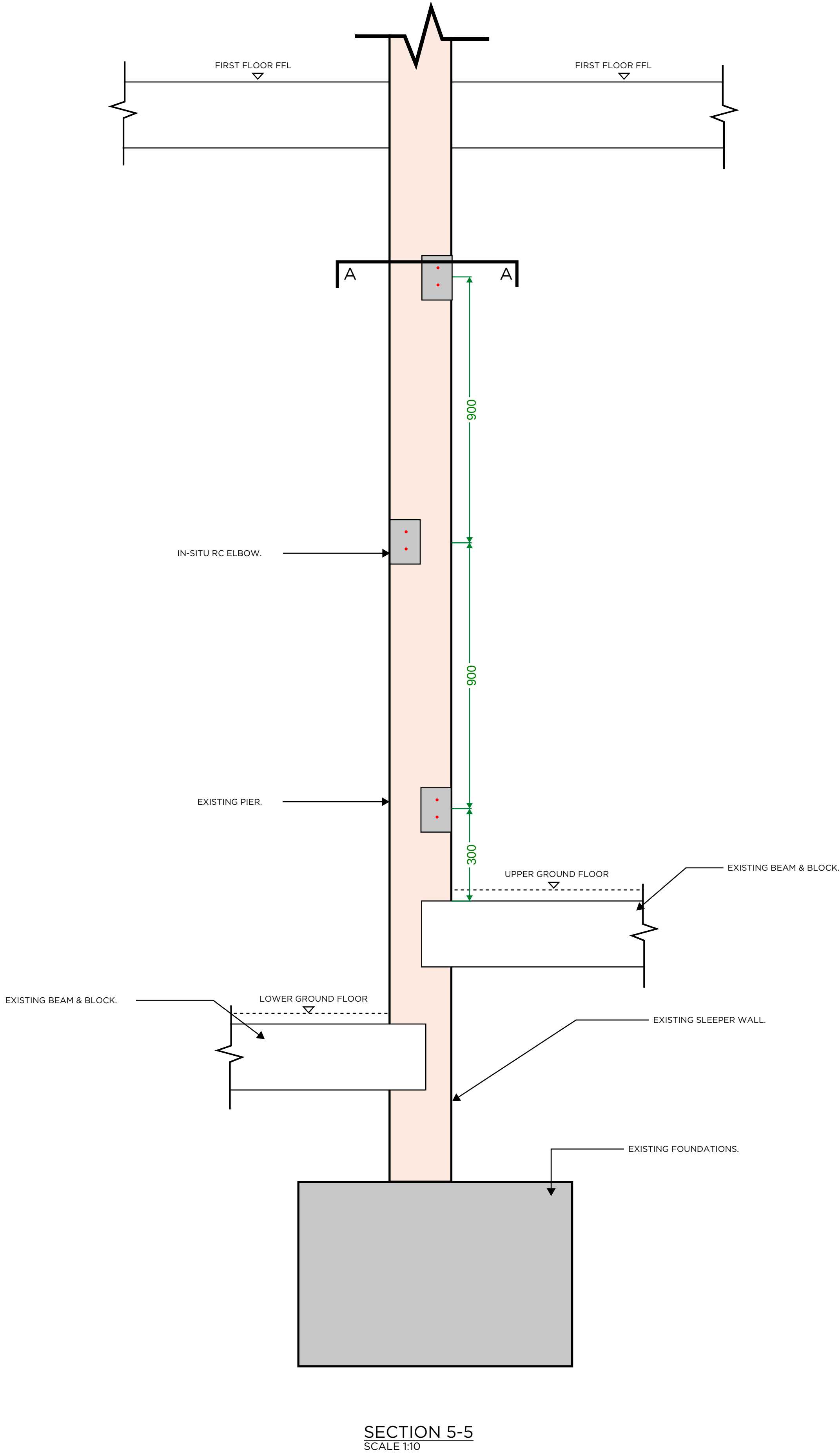
BEAM B-1 TO C-1 DETAIL
SCALE 1:10



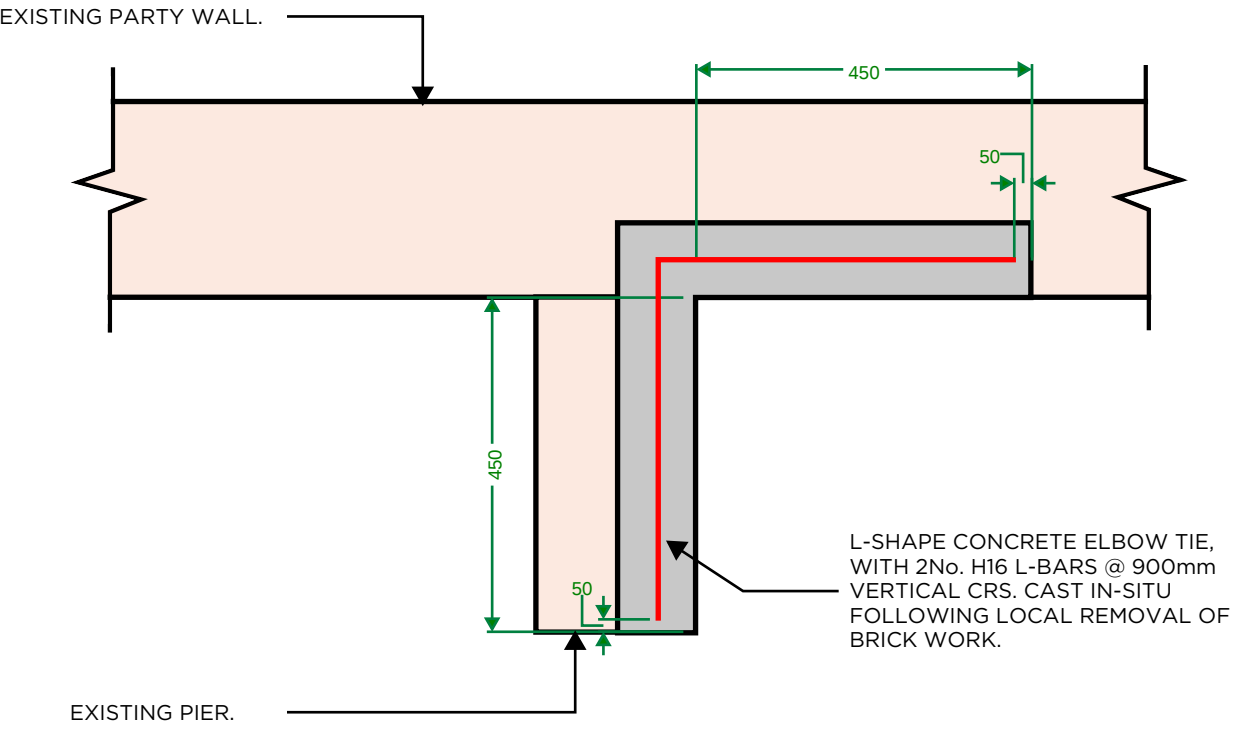
SECTION 3-3
SCALE 1:10



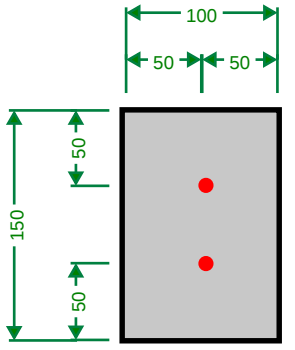
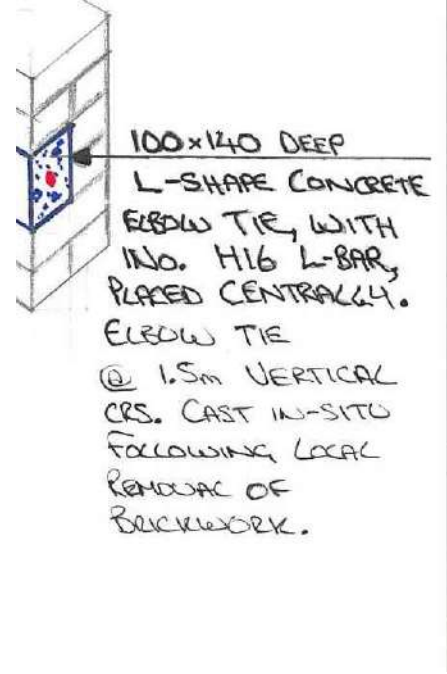
SECTION 4-4
SCALE 1:10



SECTION 5-5
SCALE 1:10



SECTION A-A
SCALE 1:10



IN-SITU RC ELBOW
SCALE 1:5

Project		Sketch No.		
790 HIGH ROAD - DIAL HOUSE		24130 - 132		
Title		Scale	Drawn by	Rev
CONSTRUCTION DETAILS 3		1:50	EE	P01

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• ALL TIMBER RACKING PANELS TO HAVE AT LEAST ONE 15MM PLYWOOD FIXED TO EXTERIOR FACE STUDS @150C/C AND NO FURTHER THAN A QUARTER OF THE STUD LENGTH FROM EITHER THE TOP OR BOTTOM OF THE STUD NOTCHES: (ALL TIMBER FLOORS)

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• ALL OTHER MASS CONCRETE AND BINDING TO BE GEN 3.

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• CUTTING AND BENDING OF REINFORCEMENT TO BS 8666.

• SOURCE OF REINFORCEMENT: COMPANIES HOLDING VALID CERTIFICATES OF APPROVAL FOR PRODUCT CONFORMITY ISSUED BY THE UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS (CARES).

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TISSERINENGINEERS

Project

790 HIGH ROAD - DIAL HOUSE

Title

CONSTRUCTION NOTES

Sketch No.

24130 - 600

Scale

1:50

Drawn by

EE

Rev

P01

MASONRY NOTES:

- EXISTING MASONRY WALLS TO BE REPOINTED AND MADE GOOD BY MAIN CONTRACTOR WHERE NECESSARY.
- MASONRY TO BE IN ACCORDANCE WITH BS5628, MORTAR MIX 1:1:6 MIX. U.N.O BRICKS TO BE CLASS 3 FROST RESISTANT WITH LOW SOLUBLE SALT CONTENT.
- ALL STRUCTURAL BLOCKWORK FOR THE REAR EXTENSION TO BE MEDIUM DENSE WITH COMPRESSIVE STRENGTH 7N BLOCK. MORTAR DESIGNATION (iii) ABOVE DPC & (i) BELOW DPC.
- BRICK TO BLOCK CAVITY WALL TIES TO BE STAIFIX RT2 TYPE 2 WALL TIES WITH INSULATION RETAINING CLIPS. MAXIMUM CAVITY WIDTH TO BE 125mm FOR NEW CONSTRUCTION. ALL WALL TIES TO BE INSTALLED TO MANUFACTURER'S DETAILS.) WALL TIES TO BE PROVIDED @900c/c HORIZONTAL x 450c/c VERTICAL STAGGERED. AT VERTICAL EDGES OF AN OPENING, VERTICAL CENTRES SHOULD BE REDUCED TO 300c/c, NOT LOCATED MORE THAN 225 FROM EDGE.
- OUTER LEAF MASONRY TO BE TIED TO STEEL COLUMNS USING SDB WALL TIES BY ANCON WITH ISOLATION PAD OR SIMILAR BETWEEN MILD STEEL AND STAINLESS STEEL.

GENERAL NOTES:

STANDARD ABBREVIATIONS
FFL FINISHED FLOOR LEVEL
SSL STRUCTURAL SLAB LEVEL
RC REINFORCED CONCRETE
BWK BRICKWORK
BLK BLOCKWORK
DRG DRAWINGS
BBS BAR BENDING SCHEDULE
NTS NOT TO SCALE
SOP SETTING OUT POINT
TOS TOP OF STEEL

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	790 HIGH ROAD - DIAL HOUSE		24130 - 601		
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TIMBER NOTES:

• ALL NEW SOFT WOOD TIMBER TO BE GRADE C24, AND PRESSURE INPREGNATED (TANALISED) WITH CUT ENDS TREATED BEFORE FIXING U.N.O.

• TIMBER CONNECTIONS TO HAVE PROPRIETY GAVANISED STEEL FIXINGS.

• ALL PROPRIETY ITEMS, FIXINGS, STRAPS, ANGLES OR OTHERWISE ARE TO BE USED IN ACCORDANCE WITH MANUFACTURERS' DETAILS

TIMBER JOISTS

• ALL TIMBER JOIST TO BE FIXED WITH 18mm THICK EXTERIOR GRADED PLYWOOD EXTERIOR FACE SCREW FIXED @ 400c/c. U.N.O.

• PROVIDE FULL DEPTH TIMBER BLOCKING PIECES BETWEEN RAFTERS & JOISTS AT SUPPORT AND MID SPAN. DEPTH OF BLOCKING PIECES TO SUIT RAFTER

• ALL TIMBER RACKING PANELS TO HAVE AT LEAST ONE 15MM PLYWOOD FIXED TO EXTERIOR FACE STUDS @150C/C AND NO FURTHER THAN A QUARTER OF THE STUD LENGTH FROM EITHER THE TOP OR BOTTOM OF THE STUD NOTCHES: (ALL TIMBER FLOORS)

UNLESS SPECIFICALLY AGREED WITH STRUCTURAL ENGINEER, NOTCHES TO COMPLY WITH THE FOLLOWING DIMENSIONS:

• NOTCHES NOT EXCEEDING 0.125 OF THE DEPTH OF THE JOIST.

• ANY NOTHCES IS ALLOWED IN A ZONE INCLUDED BETWEEN 0.07 AND 0.25 OF THE SPAN FROM THE SUPPORT.

HOLES: (ALL TIMBER FLOORS)

UNLESS SPECIFICALLY AGREED WITH STRUCTURAL ENGINEER, HOLES TO COMPLY WITH THE FOLLOWING DIMENSIONS:

• TO BE DRILLED AT MID DEPTH OF THE TIMBER FLOOR JOIST.

• ANY HOLE IS ALLOWED IN A ZONE INCLUDED BETWEEN 0.25L AND 0.4L, WHERE L IS THE CLEAR SPAN OF THE JOIST.

• MAXIMUM DIAMETER NOT EXCEEDING 0.25 OF THE DEPTH OF THE JOIST.

• MINIMUM SPACING BETWEEN HOLES TO BE THREE DIAMETERS (CENTRE TO CENTRE).

• IF ANY NOTHCES OR HOLES ARE OUTSIDE THE ZONE SPECIFIED ABOVE OR IF THEY ARE DEEPER/BIGGER THAN SPECIFIED ABOVE, NOTIFY THE STRUCTURAL ENGINEER FOR GUIDANCE.

STEELWORK NOTES:

• ALL STRUCTURAL STEELWORK TO BE GRADE S275 UNLESS OTHERWISE STATED. HOLLOW SECTIONS TO BE GRADE S355.

• ALL STEELWORK TO BE BLAST CLEANED TO SA2.5 AND SHOP APPLIED PRIMER WITH 80 MICRONS ZINC PHOSPHATE AND TOUCHED UP ON SITE. STEEL BEAM IN EXTERNALL LOCATIONS E.G. GROUND BEAM TO ALSO HAVE 100 MICRONS HIGH BUILD EPOXY MIO APPLIED.

• ALL WELDS TO BE MINIMUM 6mm FULL PROFILE FILLET WELDS. U.N.O.

• ALL CONNECTIONS TO HAVE A MINIMUM OF 4No. M16 GRADE 8.8 BOLTS.

• FABRICATION OF STEELWORK MUST NOT COMMENCE UNTIL TISSERIN HAS SEEN AND REVIEWED THE DETAIL FABRICATION DRAWINGS. ALLOW 5 WORKING DAYS FOR DRAWING REVIEW.

• ALL STEELWORK MUST BE MARKED WITH THE CE MARKINGS

STRUCTURAL CONCRETE NOTES:

• ALL CONCRETE STRUCTURE TO BE CONSTRUCTED IN ACORDANCE WITH THE NATIONAL STRUCTURAL CONCRETE SPECIFICATION FOR BUILDING CONSTRION (NSCS) EDITION 4, UNLESS NOTED OTHERWISE.

• ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH BS EN 1992 AND THE UK NATIONAL ANNEX.

• ALL CONCRETE TO BE GRADE C30/37. IN ADDITION, FOUNDATIONS TO HAVE 0.6 MAXIMUM W/C RATIO, MINIMUM CEMENT CONTENT OF 280kg/m³.

• ALL STRUCTURAL MASS CONCRETE WITHIIN THE GROUND TO BE C25/30.

• ALL OTHER MASS CONCRETE AND BINDING TO BE GEN 3.

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