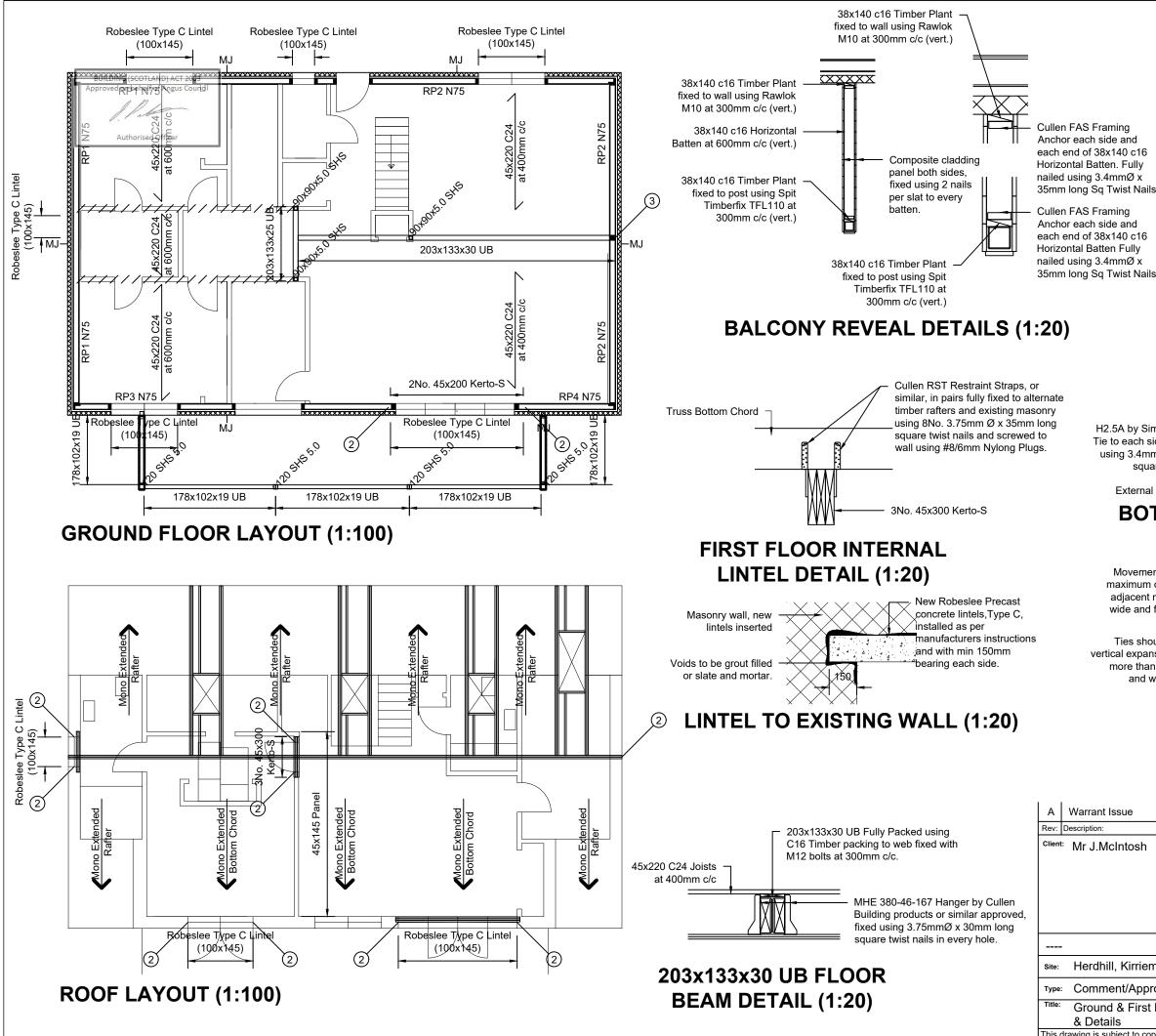
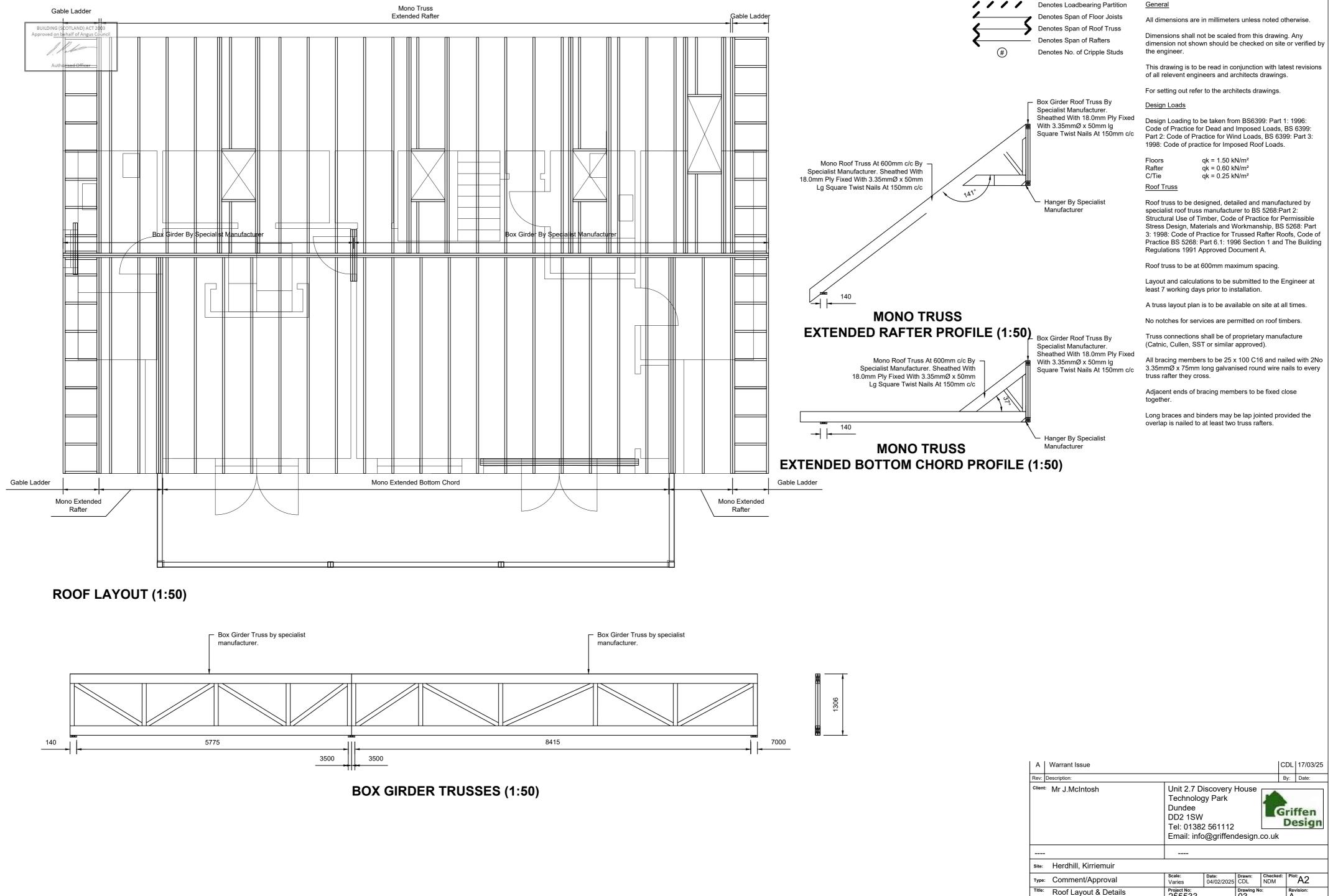


	General								
ncrete block	All dimensions are	in millimeters unless noted otherwise.							
signation (i) ete blocks with		not be scaled from this drawing. Any wn should be checked on site or verified by							
ation (iii)		be read in conjunction with latest revisions neers and architects drawings.							
For setting out refer to the architects drawings.									
ndation given onry below	Design Loads								
f BS 1243. izontally and	Code of Practice for Part 2: Code of Pra	be taken from BS6399: Part 1: 1996: or Dead and Imposed Loads, BS 6399: actice for Wind Loads, BS 6399: Part 3: ctice for Imposed Roof Loads.							
ties per m².	Floors Rafter C/Tie	qk = 1.50 kN/m² qk = 0.60 kN/m² qk = 0.25 kN/m²							
	Foundations								
	Concrete to be designed in accordance with BS 8110.								
thk bolts	Foundations to be taken down to suitable bearing strata of CLAY (red/brown), capable of providing 150 kN/m ² permissible bearing pressure at 600mm below external ground level. Engineer to inspect formation level prior to commencement of pour.								
120mm Sq or plates	Structural concrete to be grade C35.								
	Trench fill concrete to be grade C15 lean mix concrete.								
	Selected backfill material to be laid and compacted in 150mm thk layers.								
k bolts 20mm Sq	Hardcore shall consist of clean hard stone or course hard gravel free from organic or foreign matter and capable of passing a 75mmØ ring in every direction.								
plates	All existing foundations conflicting with the positions of the new foundations are to be removed.								
hk									
ng									
	Sq e C35 Pad Foundat cement bottom, 40r								

	CDL 17/03/25					
		By:	Date:			
osh	Unit 2.7 Di Technolog Dundee DD2 1SW Tel: 01382 Email: info	De	fen sign			
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Approval	Scale: Varies	Date: 04/02/2025	Drawn: CDL	Checke NDM	d: Plo	^t A2
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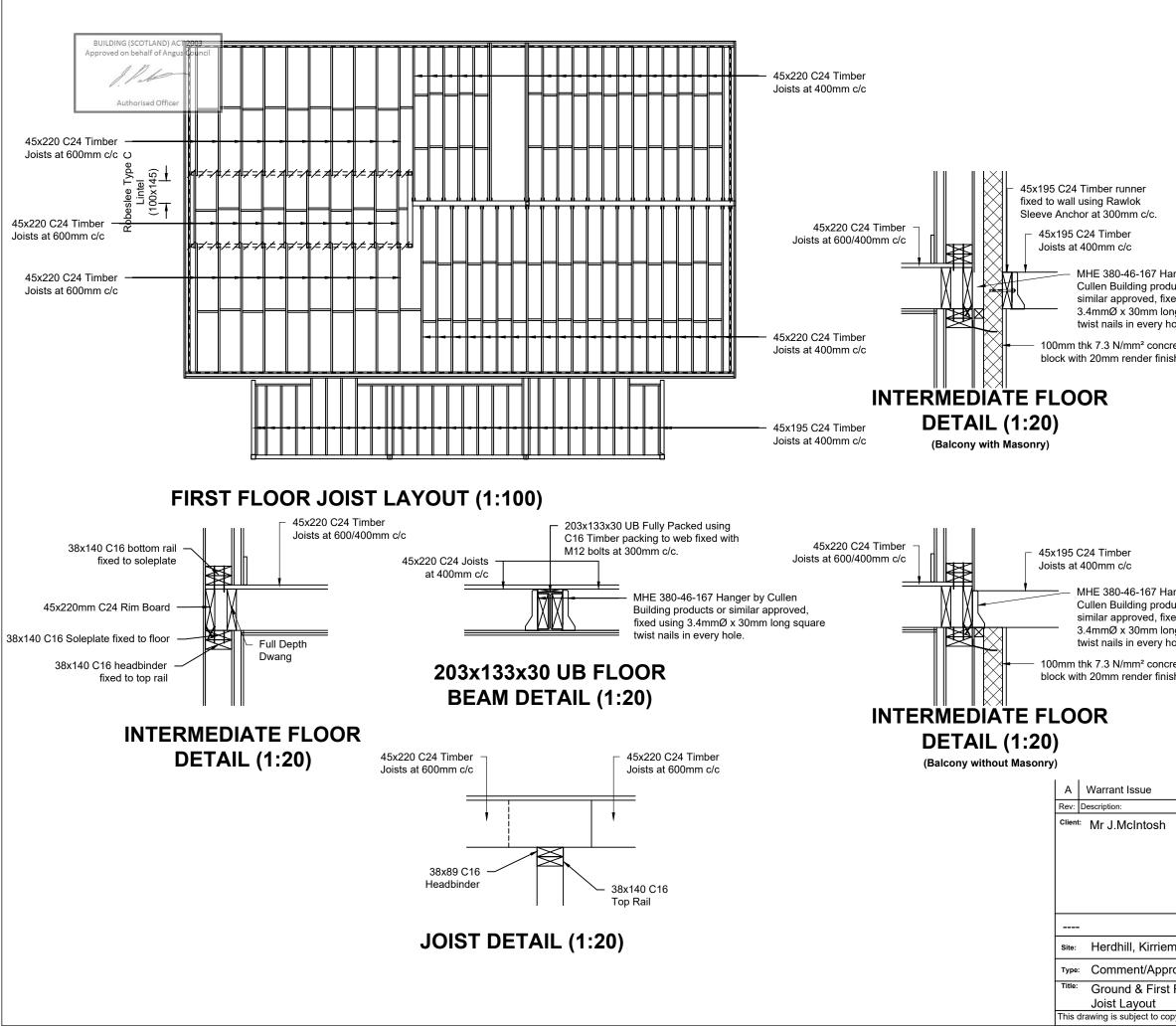


	General								
	All dime	nsions are	in millimete	rs unless r	noted ot	herwise.			
	Dimensions shall not be scaled from this drawing. Any dimension not shown should be checked on site or verified by the engineer.								
cullen FAS Framing	This drawing is to be read in conjunction with latest revisions of all relevent engineers and architects drawings.								
nchor each side and ach end of 38x140 c16	For setting out refer to the architects drawings.								
lorizontal Batten. Fully	Design Loads								
ailed using 3.4mmØ x 5mm long Sq Twist Nails.	Design I	Design Loading to be taken from BS6399: Part 1: 1996:							
cullen FAS Framing nchor each side and ach end of 38x140 c16	Part 2: 0	Code of Practice for Dead and Imposed Loads, BS 639 Part 2: Code of Practice for Wind Loads, BS 6399: Par 1998: Code of practice for Imposed Roof Loads.							
lorizontal Batten Fully ailed using 3.4mmØ x 5mm long Sq Twist Nails.	Floors Rafter C/Tie		qk = 1.50 k qk = 0.60 k qk = 0.25 k	N/m²					
	1		Denot	tes Loadbe	earing P	artition			
20)			- Denot	tes Span o	f Floor	Joists			
,	4		Denot	tes Span o	f Roof 1	Truss			
	\leftarrow			tes Span o					
Bottom Cho	ord –	(#)	Deno	tes No. of (Cripple	Studs			
nate nry									
http://www.second by Simpson Strong Tie to each side, fully fixed using 3.4mmØ x35mm lg square twist nails.	N	_ ₩	at 12	nm lg Culle 00mm c/c f ifacturer's g	fully fixe	ed to			
External Timber Pane	। - [\geq							
BOTTOM	сно	RD T		IBER					
FRAM									
				')					
Movement joint to be lo		\ X							
maximum of 6.0m from adjacent movement joir									
wide and filled to outer waterproof n									
Ties should be fixed e		Č							
vertical expansion joints spa	aced at n	ot 🔨							
more than 300mm verti and within 225mm									
MOVE						1.20)			
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Title: Ground & First Floor Layou		Project No: 255533		Drawing No: 02		Revision: A			
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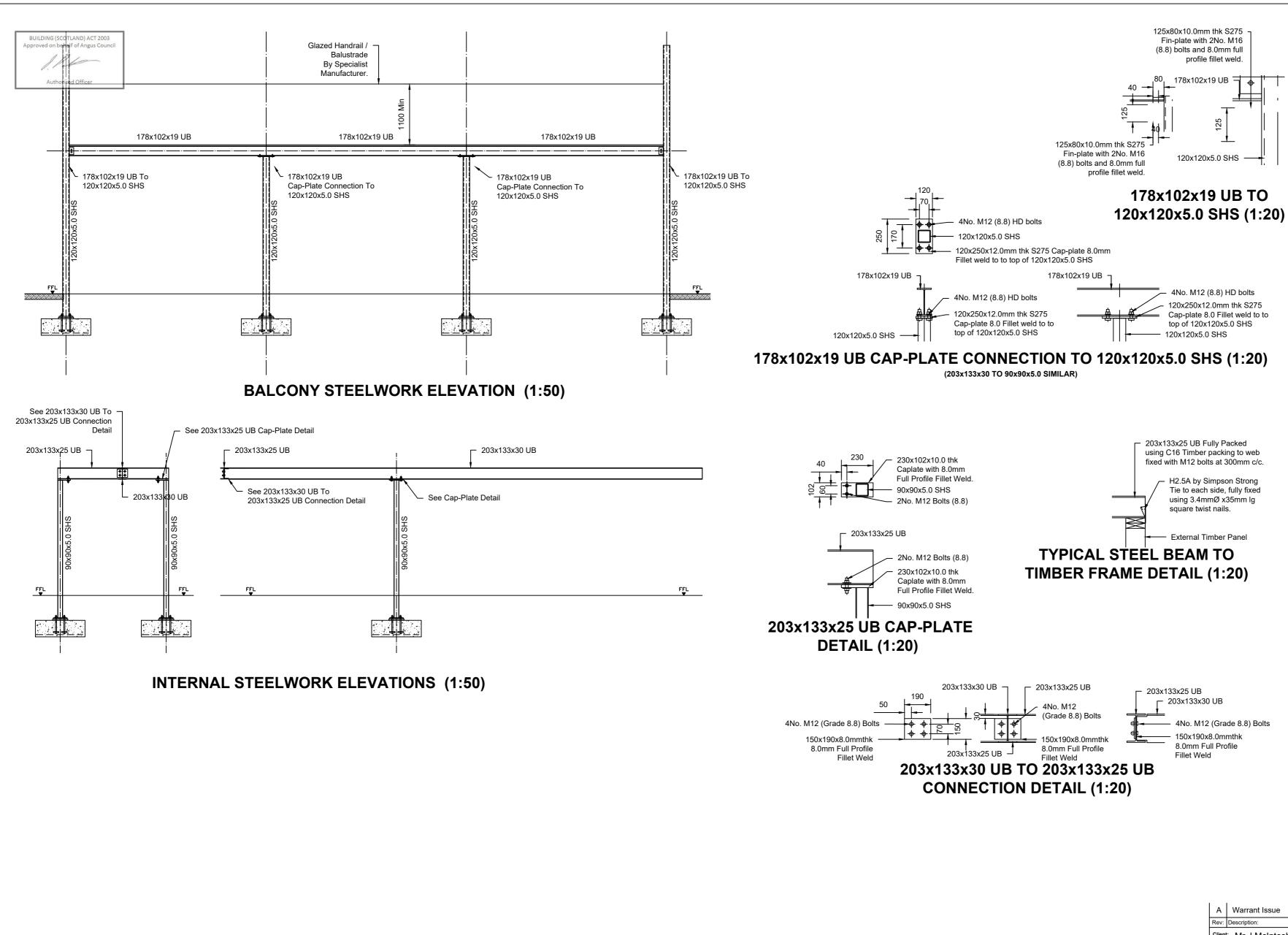
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Site:	Herdhill, Kirriemuir							
Type:	Comment/Approval	Scale: Varies	Date: 04/02/2025	Drawn: CDL	Checked: NDM	Plot	A2	
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		or setting out refer to the architects drawings. mber Specification											
	Studs Externa Interna			0 C16 at 60 C16 at 600		;							
	Floor Joists 1F - 45x220 C24 Joists at 400/600mm c/c. Spans and Spacing as noted on plan.												
anger by lucts or	Lintels Externa Interna												
ed using ng square nole. rete sh.	Cripple Externa		Span ·	< 1.81m 2N < 1.81m 2N al: 2No		0 C16							
	Solepla	oleplate fixings to be Spit SC9-60 At 400mm c/c.											
	Holding down straps to be Cullen ST-PFS-50 at each end of panel, each side of openings or at 1800mm c/c.												
	600mm to stud nails as 3 cours sides c 300mm	n Horz s usir s sup ses be of wind n verti	z. centr ng 3.35 plied by elow top dow an ical cer	len FT-50 a es (4.4/m²) mmØ x 50r / manufactr o of brickwr d door ope ntres and w uired at eac	. Wall tie nm long a urer. Top ork. Ties nings spa ithin 225	s to be f annular row of t should b aced at i mm of th	ixed ring s ies s oe fix not m ne jar	directly shank hould be ted at the nore than mbs. This					
anger by lucts or ted using ng square lole. rete sh.													
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General

All dimensions are in millimeters unless noted otherwise.

Dimensions shall not be scaled from this drawing. Any dimension not shown should be checked on site or verified by the engineer.

This drawing is to be read in conjunction with latest revisions of all relevent engineers and architects drawings.

For setting out refer to the architects drawings. <u>Steelwork</u>

The structural steelwork shall be in accordance with "The National Structural Steelwork Specification for Building Construction 4th Edition"

All steelwork to be Grade S355 (U.N.O.) to BS 10025 (BS EN 10210 for hollow sections) and designed in accordance with BS5950 "The Structural Use of Steel in Building". All dimensions and tolerances shall comply with the standards shown in Table 2.1 of The National Structural Steelwork Specification.

The Steelworker shall produce accurate and detailed shop drawings for fabrication and erection purposes which must be submitted to the Engineer for comment before fabrication.

All bolted connections to be formed using Grade 8.8 sheradized hexagonal bolts and nuts in accordance with BS3692.

All welding to be in accordance with BS5135.

Steelwork contractor to be responsible for all temporary bracing necessary to maintain the plumb, line, level and stability of the steel framework during erection.

Bracing connections to comprise 2 No. minimum M16 8.8 bolts per connection and 6.0mm minimum thickness end connecting plates with 50mm minimum end distance and 30mm minimum edge distance. 6.0mm full profile fillett weld. Members to be set out at connections to ensure that bracing and column centrelines are co-linear.

All Steelwork to be shot blast to Swedish Standard SA 2.5 and 75 microns of single pack zinc phosphate primer applied in one coat.

Balustrade & Handrail Performance Specification

Design loadings: to be taken from bs en 1991-1-1:2002 and the uk na to bs en 1991-1-1:2002 table na.8 sub-category (c3) at a height of 1.1m above finished floor or ground level.

Design requirement: the design of the balustrades and handrails are restricted to the deflection limits determined from the structural design code for the relevant material or 25mm, whichever is smaller.

The balustrades and handrails are to be designed for use in an internal / external environment and for a 50 year design life.

Refer to the architect's specification for details of the fire performance criteria.

The building risk classification where required should be taken as 1b.

Balustrade & Handrail Performance Specification

All drawings to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

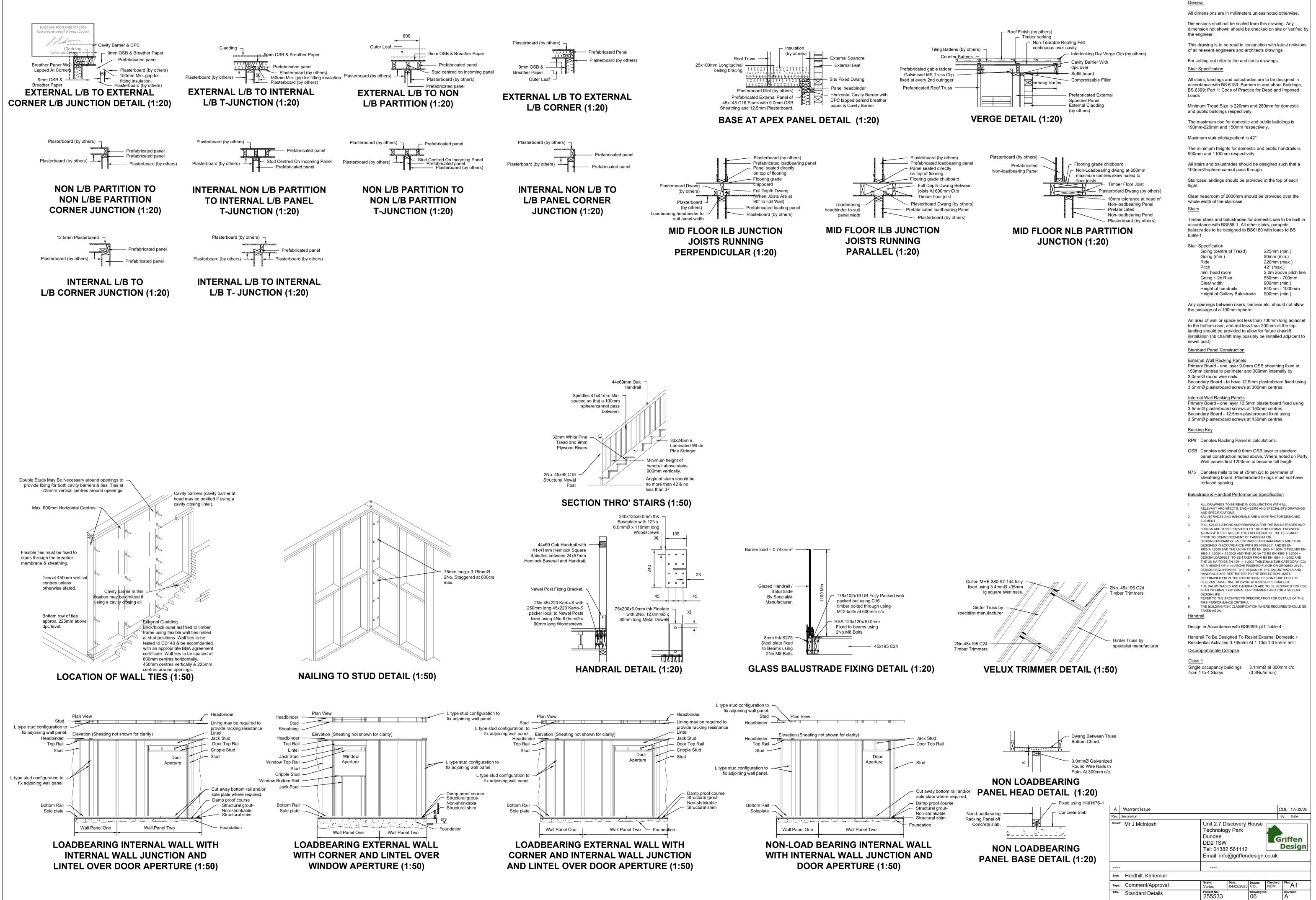
Balustrades and handrails are a contractor designed element.

Full calculations and drawings for the balustrades and fixings are to be provided to the structural engineer, along with details of the experience of the designer, prior to commencement of fabrication.

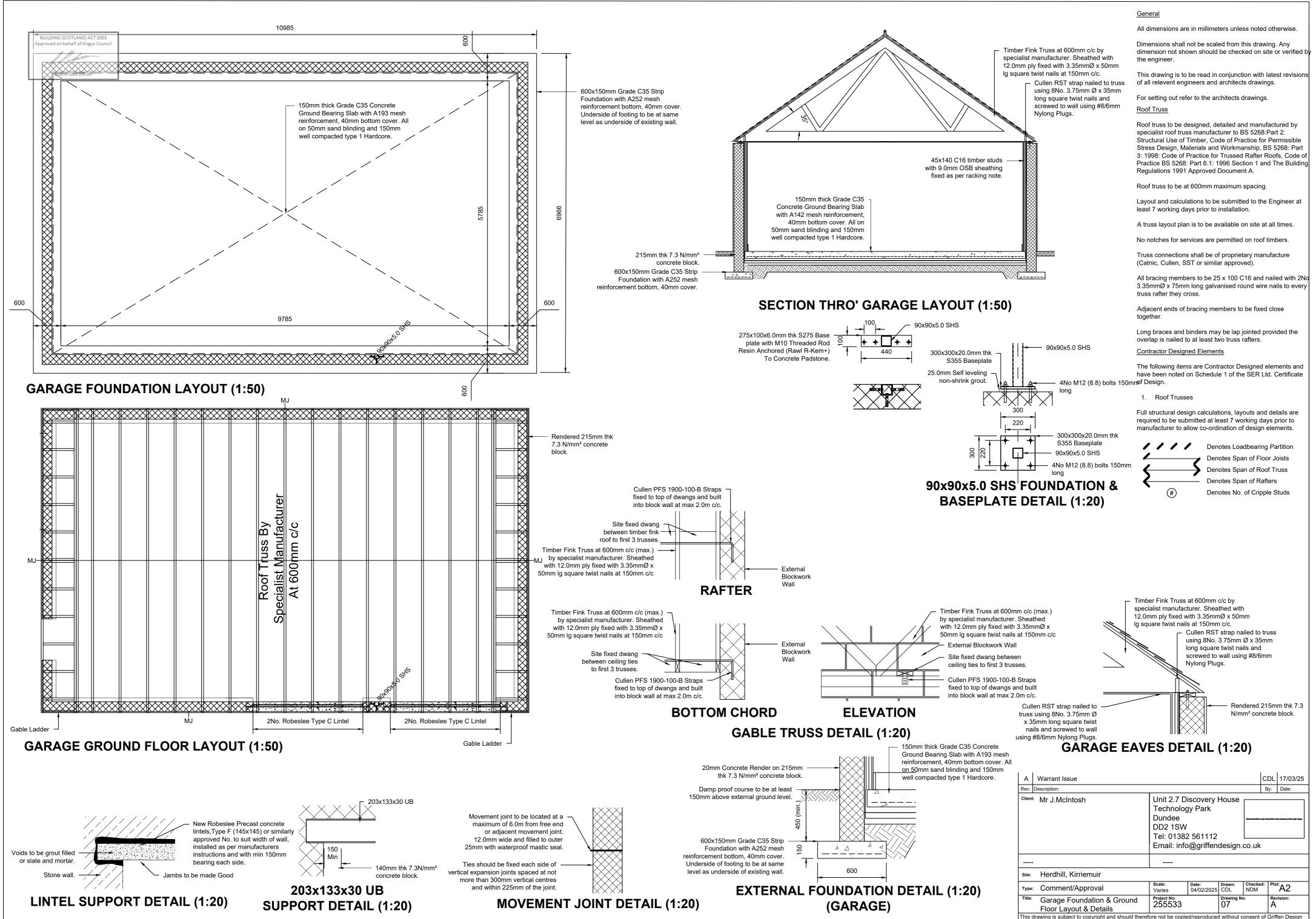
Design standards: balustrades and handrails are to be designed in accordance with bs 6180:2011 and bs en

1993-1-1:2005 and the uk na to bs en 1993-1-1:2004 [steel]/bs en 1995-1-1:2004 + a1:2008 and the uk na to bs en 1995-1-1:2004 +

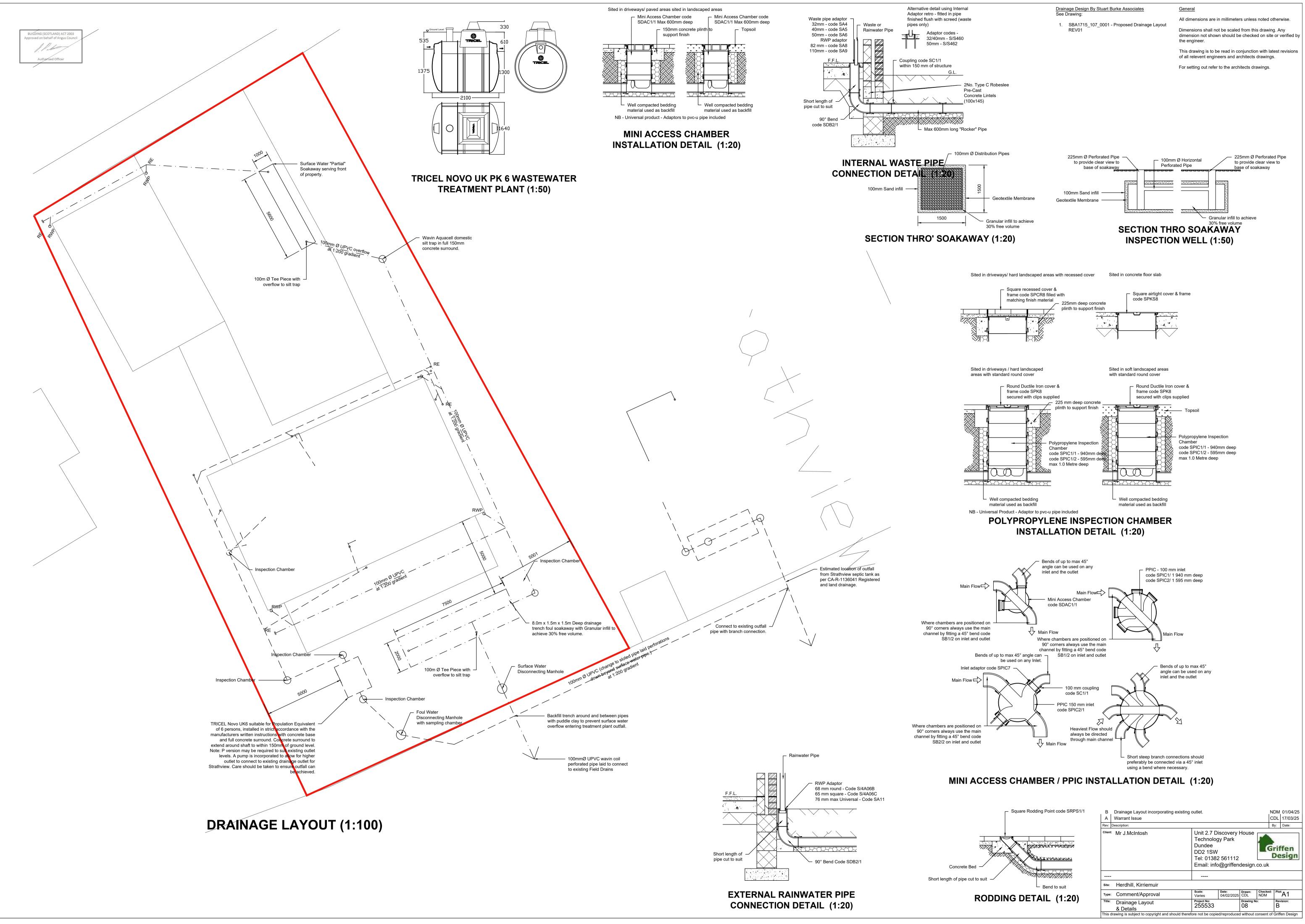
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Elevations		2024.39		С	С	С									
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Nail ange Scrae active

Gun Nails (Pastode Electro Galv'd or Equal & Approved)

3.10 x 75mm Smooth Shank Type I Authorised Officer 3.10 X 90mm Smooth Shank Type II

Manual Nailing

- Type A1 82mm Red Head Masonry Nails & Washers Galv'd or equal Type A2 7.50 x 80mm HUS Universal Screw Anchors Glav'd or equal Type B 38mm Lost Heads Galv'd 3.35 x 65mm Lost Heads Galv'd Type C Type D 38mm Oval Brads Bright Type E
 - 50mm Oval Brads Bright
- 3.35 x 65mm Ring Shank (Sheradised annular) Type J
- 3.75 x 75mm Galv'd Wire Type K
- 4.00 x 100mm Galv'd Wire Type L
- 3.00 x 50mm Galv'd Wire Type M
- 30 x 3.75mm Square Twist (Sheradised) Type N

Plasterboard Nails

Type F	2.65 x 40mm Annular Nails Yellow Chromated
Type G	2.65 x 50mm Annular Nails Yellow Chromated
Type H	2.65 x 65mm Annular Nails Yellow Passivated

Plasterboard Screws

Type F13.50 x 38mm Drywall Screws Dark Grey Finish Type G1 3.50 x 51mm Drywall Screws Dark Grey Finish Type H1 4.20 x 65mm Drywall Screws Dark Grey Finish

Note: Gun nails incur additional cost and clients or erectors who wish to use these will be charge accordingly.

Note: HUS nails incur additional cost and clients or erectors who wish to use these will be charge accordingly.

Location / Operation	NailingRequ	irements	Manual Nails	Gun Nails
Wallplate (Maxh50mmstaick) to underbuilding:	1 No 80mm M & Washers fac at 600mm cen	e nailed or equal	Туре А1	N/A
Authorised Officer Waliplate (Max 50mm thick) to concrete floors:	1 No Hilti HUS Universal Scre at 600mm cen	w Anchors or equal	Туре А2	N/A
Joists to wallplate & Headbinders:	1No each side	-	Туре К	Туре І
Header Joists & Edge Joists to Wallplate & Headbinders:	450mm centre	S -	Type L	Type II
Header Joists to Floor Joists:	2No each joist	-	Type L	Type II
Mid Span / Stiffening Dwangs:	2No each end	-	Type L	Type II
Full Depth Dwangs:	2No each end	-	Type L	Type II
External Wall Panels + Parallel Loadbearing Panels to Joists:	300mm centre	S -	Type L	Type II
Internal Loadbearing Panel to Joists:	1No to each cr	rossing point -	Type L	Type II
Loadbearing Panel to Panel (Bungalow & 1 st Floor):	300mm centre	S -	Type L	Type II
Loadbearing Panel to Panel (GF of 2 Storey):	150mm centre	s -	Type L	Type II
Internal Non-Loadbearing Panel to External Panel:	2No every 600	imm -	Type L	Type II
Internal Partitions Panel to Panel:	2No every 600)mm -	Type L	Type II
Headbinder to Top of Panels or at Eaves Level:	Single Storey Two Storey Three Storey Four Storey	300mm ctrs – 300mm ctrs – 200mm ctrs – 150mm ctrs -	Туре L	Type II
Spandrel Panels to Headbinders: 200mr	n centres -		Type L	Type II
Spandrel Panel to Panel:	300mm centre	S -	Type L	Type II
Trussed Rafters to Headbinders: 1No ea	ach side of each ei	nd skew nailed -	Туре К	N/A
Gable Ladders Dwangs to Spandrel Panels:	1No each side	skew nailed -	Туре К	Туре І
Gable Ladders to Trusses:	300mm centre	S -	Туре К	Туре І

Location / Operation	NailingRequirements	Manual Nails	Gun Nails
Diminisplung (scotland) act 2003 Rafters:	1No to each crossing point -	Туре К	Туре І
Diagonal & Longitudinal Roof Bracing:	2No each truss passing point & at Headbinder & Spandrels.	Туре К	Туре І
9mm OSB Sarking:	35No per sheet -	Туре М	HandNailOnly
Eaves Sarking Board:	2No to each crossing point -	Туре К	Туре І
Timber Sarking Boards:	2No to each crossing point -	Туре К	HandNailOnly
Counter Battens:	300mm centres -	Туре Ј	N/A
Tile Battens (If Supplied):	1No to each crossing point -	Туре Ј	N/A
Soffit Framing: 600mm ctrs Soffit Lining Boards 1200mm ctrs UPVC Fascia & Soffit 2400mm Ctrs Timber Fascia & Soffit	2No each end -	Туре К	Туре I
Soffit Lining Boards:	2No to each soffit framing pass -	Туре В	N/A
Soffit Ply:	150mm centres -	Туре В	N/A
Fascia Boards (Timber):	3No per truss end -	Туре С	N/A
Roofing Felt:	150mm centres -	Type F	N/A
Cavity Barriers / Firestops:	600mm centres -	Type L	Type II

Note: All plasterboard nails are at 150mm maximum centres working from the centre of the board outwards. **Note:** Alternative plasterboard screws should be installed at 300mm maximum centres (200mm maximum centres at sheet edges. These fixings incur additional cost and clients or erectors who wish to use these will be charge accordingly.

12.5mm Plasterboard walls and ceilings:	Centres as per plasterboard manufacturers recommendations.	Manual Nails Type F	Screws F1	
19mm Plasterboard Plank to Party Walls:	Centres as per plasterboard manufacturers recommendations.	Type G	G1	
19mm Plasterboard Plank to Floor Battens (Flats Only):	35No per sheet -	Type G	G1	
12.5mm over 12.5mm Plasterboard to Stair Walls:	Centres as per plasterboard - manufacturers recommendations.	Type G	G1	
12.5mm Plasterboard over 19mm Plasterboard Plank:	Centres as per plasterboard manufacturers recommendations.	Туре Н	H1	

Location / Operation	NailingRequirements	Manual Nails	Gun Nails
BUILDING (SCOTLAND) ACT 2003 Chipboardeto Joists AfgBearers: (Joists at 400mm ctrs) Authorised Officer	25 per sheet - 5No at ends - 3No at intermediate (120mm ctrs to c/board bearers at external walls)	Туре Ј	Туре І
Chipboard to Joists / Bearers: (Joists at 300mm ctrs)	31 per sheet - 5No at ends - 3No at intermediate (120mm ctrs to c/board bearers at external walls)	Туре Ј	Туре I
Whitewood T & G Flooring:	1Kg per 7m ² -	Туре К	Туре І
Anchor Straps:	7No per strap -	Туре Ј	N/A
Door Facings:	40No per door standard -	Type D	N/A
Door Facings:	40No per door standard -	Туре Е	N/A
Skirting:	2No per 600mm centres -	Туре Е	N/A
Ironmongery Nails Truss Clips (TC):	12No per clip -	Туре N	N/A
Joist Hangers: (KH) (KHL) (KM) (TM) (TS) Note: All other hangers refer to manufacturers nailing / bolting requirements or as required by timber frame structural engine	,	Type N Type N Type N Type N Type N	N/A N/A N/A N/A
Truss Hangers: Note: All nailing to suit truss manufacturers hanger requirements.	20No per hanger -	Туре N	N/A
Angle Brackets (LAB/ABR): Note: Refer to manufacturers nailing / bolting requirements or as required by timber frame structural engineer.	20No per plate approx -	Туре N	N/A
Cam Plates (CP):	12No per plate -	Type N	N/A
Framing Anchors (FAS):	14No per anchor -	Type N	N/A

Griffen Design Ltd. Structural Engineering Consultancy 6 Osprey Bank, Dundee, DD2 5GE Tel: 01382 581 586 Email: Lafk@sgoff.endersit.progo.uk Approved on behalf of Angus Council OUR Ref NM/KM/ 255533 2025-03-17 Authorised Officer



17 March 2025

Mr J McIntosh c/o David Wren Architect

Dear Sirs

NEW DWELLING AT HERDHILL, KIRRIEMUIR

Please find enclosed the SER Certificate No. 429883 for the above project along with our drawings upon which the certificate is based. We also include our drawing register listing both the Architects and our drawings as a list of drawings forming the basis of certification. This drawing register must be submitted with our certificate and drawings.

The following items are listed as contractor designed elements and will require a form Q to finalise the design.

- 1. Roof Trusses
- 2. Glazing
- 3. Barriers Balcony

Please ensure all calculations, drawings and details are issued to Griffen Design Ltd. at least 7 working days prior to fabrication. Failure to issue the information may compromise the design and can lead to delays in obtaining a completion certificate.

Changes to the structure from this point, whether to the layout, detail or material, will incur a review and an amendment may be required. An additional fee will be required should an amendment be required.

Yours faithfully,

Nathan D. Murray BEng(hons) MSc CEng MIStructE (SER Approved Certifier of Design) For Griffen Design Ltd. (SER Approved Body)

