

SKY LOUVRES™

Silencio, Solido & Concertina

DESIGN MANUAL_
REV 11

15227 _ JULY 2024

JC
Johnson & Cousins
SUPERIOR OUTDOOR LIVING PROVIDERS SINCE 1866

DOCUMENT STATUS

The most recent version of this document (Revision 11), as detailed in the document history, is approved by Richards Consulting Engineers. It is effective from 29th of July 2024 and supersedes all previous versions of this document.

The previous version of this document (Revision 10) will cease to have effect once Revision 11 is released.

Document Revision	Date	Alterations
Revision 8	19/12/2019	-
Revision 9	17/08/2023	<ul style="list-style-type: none">• Addition of baseplate on slab and baseplate on cantilever pile.• Addition of connection into existing beams• Combining Silencio and Concertina design manuals• New rafter bracket on top of roof framing
Revision 10	29/01/2024	<ul style="list-style-type: none">• Minor changes to notes and report
Revision 11	29/07/2024	<ul style="list-style-type: none">• Addition of rafter bracket detail for 750mm soffit• Addition of H-bracket detail for new builds• Addition of screw pile detail• Revised saddle post connection• Addition of galvanised steel posts for site not within Sea Spray Zone.• Simplified footing tables• Minor changes to the notes and report.• Addition of Solido Louvre

REV_11



JOHNSON & COUZINS SILENCIO, SOLIDO AND CONCERTINA LOUVRE SYSTEM

Johnson & Couzins have developed an opening louvre system for use in New Zealand. The system is manufactured out of aluminium and consists of a perimeter RHS frame with either heavy or light grade louvre fins spanning in one direction loading up the frame members. The louvre roof is typically supported on aluminium SHS posts and braced against an existing structure or by the posts cantilevering from their footings. The posts are able to cantilever from concrete footings, patio slabs or a timber deck.

Richards Consulting Engineers Limited has been engaged by Johnson and Couzins to prepare standard design tables and template details to assist with the design of the Silencio, Solido and Concertina Louvre System.

DESIGN PHILOSOPHY

The following design flow chart, design tables and calculations have been designed using wind speeds taken from NZS3604:2011 and open ground snows load of 0.9 kPa, 1 .5 kPa and 2.0 kPa. The wind speeds shown in the tables are the Ultimate Limit State (ULS) design wind speeds. The associated pressures specific to the louvre fins and frame structure were calculated using AS/NZS 1170.2:2011, Structural Design Actions, Part 2: Wind Actions. The sectional capacities of the aluminium, galvanised steel, and stainless steel members have been determined using AS/NZS 1664.1:1997, Aluminium Structures, Part 1: Limit State Design, and NZS3404: Part 1: 1997, Steel Structures Standard, respectively.

The louvre’s lateral load resisting system will be provided by either cantilevering posts or by a supporting building.

The design of the louvre structure based on the tables within this document is in compliance with the New Zealand Building Code (NZBC) section B1.

SERVICEABILITY CRITERIA

The following deflection limits were used for the following elements within the Concertina Louvre System:

- 15mm maximum perimeter beam deflections where shutters are located below
- 40mm maximum perimeter and central beam deflections under SLS wind loading
- 10mm maximum perimeter and central beam deflections under gravity loading
- 60mm maximum louvre fin deflections
- 100mm maximum lateral deflection of louvre frame support posts

DESIGN LOADS AND LOAD CASES

The Ultimate Limit State wind speeds taken from NZS3604:2011 are as follows:

- Medium wind speed = 37m/s
- High wind speed = 44m/s
- Very High wind speed = 50m/s

The following design load cases have been applied to the louvre fins and frame members:

- 0.9G + Wu (ULS for wind uplift)
- 1.2G + S (ULS downward load case)
- 1.2G + 1.5Q (ULS downward load case)

- W_s (SLS for wind related deflection)
- $G + \psi_s Q$ (SLS for live load deflection)

Note: Earthquake cases do not govern due to the lightweight and flexibility of the louvre system.

DESIGN LIMITATIONS

The following design assumptions apply to the design manual:

- The louvre fins will not be walked on.
- The pitch of the louvre frame is less than 10 degrees.
- The supporting frame has a maximum height of 2.7m.
- Standard Johnson & Couzins connections will be used.
- Johnson & Couzins will install the louvre.
- If the louvre is to be connected to the roof eaves, the eaves shall not overhang the wall plate further than 750mm and the louvre will be connected to the trusses/rafters only when the specifically designed rafter brackets are installed.

DESIGN EXCLUSIONS

The following items are specifically excluded from this design manual:

- Weather and waterproofing of both the louvre and the supporting structure.
- Electronic services to the louvre.
- Connections within the Johnson & Couzins louvre system.
- Flutter effects caused by wind passing over the open louvres.
- Lateral and gravity resisting strength of the building providing support to the louvre system.
- The louvre design has allowed for screens to be installed on any side of the louvre, the screen design and fixing is by others

MATERIAL AND SECTION PROPERTIES

The louvres will be made from aluminium with a 6060 alloy and a T5 temper.

The structural member properties are as follows:

200x50x3 RHS	$I_x = 6.56 \times 10^6 \text{ mm}^4$
300x50x3.5 RHS	$I_x = 21.73 \times 10^6 \text{ mm}^4$
Light louvre	$I_x = 0.054 \times 10^6 \text{ mm}^4$
Heavy louvre	$I_x = 0.151 \times 10^6 \text{ mm}^4$

DURABILITY

The louvre system has been designed with an intended design life of not less than 20 years. Aluminum provides adequate durability for the life of the structure. All contact points between differing materials (Aluminium – Stainless Steel, Aluminium – Galvanised Steel and Galvanised Steel – Stainless Steel) shall have a grease barrier applied to them to prevent galvanic corrosion from occurring. The paved surfaces which the aluminium posts are fixed to are to be 225mm above adjacent unfinished ground surfaces (E1).

In a sea spray zone (as defined by NZS3604:2011) the aluminium shall be powder coated with Dulux Duratec by a Dulux registered applicator. Areas outside of the sea spray zone (including other corrosive environments) shall be coated in Dulux Duralloy.

There are three components required for corrosion to occur. An anode, a cathode and an electrically conductive liquid. In the case of the louvres, the anode is the aluminium and the

cathode is the stainless or galvanised steel. It is the anode which corrodes sacrificially and therefore it is the aluminium which is at risk of corrosion, not the steel. A large anode with a small cathode such as a steel fixing into the louvre frame is low risk for corrosion due to the small area of the steel cathode relative to the aluminium. The connection of the flashings (steel) and the aluminium louvre is the potential area of concern for corrosion to occur, however, both the louvre frame and the flashings are powder coated. We consider the aluminium combined with powder coating provides sufficient protection between the two metal types to prevent galvanic corrosion occurring over the proposed 20 year design life.

We note that there is no effective verification method for B2 contained within the Building Code. However, we confirm that we have researched the corrosive effects between aluminium and other dissimilar metals and consider a minimum design life of 20 years to be appropriate provided the aluminium is powder coated and the grease barriers are applied to the metals.

DESIGN MANUAL NOTES

It is intended this manual will be used by people experienced with the Johnson & Couzins Louvre System. The louvre designer shall:

- Design the louvre layout within the maximum spans set out in the enclosed tables.
- Where supporting the louvre on the existing building they shall ensure the existing structure has adequate gravity and lateral load resisting capacity to support the additional loads.
- Only the attached connection details shall be used.
- No substitution with the products included in this manual is permitted.
- Where the louvre does not fit within the design manual criteria a Structural Engineer shall be engaged to specifically design the louvre and provide a site specific PS1. These include but are not limited to the situations below:
 - Extra high wind zone
 - Greater than two bays
 - Over 50 m²
 - Located on a second story deck/first floor (excluding when fixed on all 4 sides)
 - Located at a height greater than 6m above ground level for cases.
 - Fixed to soffits greater than 750mm long
 - Located over windows/doors greater than 3m long
- The louvre will require a consent if located in a public place and if greater than 50 m².

APPENDICIES

- PS1	page 06
- Louvre Design Flow Chart	page 08
- Concept Layout	page 09
- Design Tables	page 12
- Details	page 17

Silencio, Solido & Concertina

SKY LOUVRES™

PRODUCER STATEMENT

– PS1 DESIGN

BUILDING CODE CLAUSE(S): B1 only
ISSUED BY: Richards Consulting Engineers Limited
(Engineering Design Firm)
TO: Johnson and Couzins Limited
(Owner/Developer)
TO BE SUPPLIED TO: All Territorial Authorities within New Zealand
(Building Consent Authority)
IN RESPECT OF: Johnson and Couzins Standard Design for their Silencio, Solido, and Concertina Louvre System
(Description of Building Work)
AT: [Subject]
(Address, Town/City)
LEGAL DESCRIPTION: N/A ☐

We have been engaged by the owner/developer referred to above to provide (Extent of Engagement):
refer to attached structural report for scope of work
in respect of the requirements of the Clause(s) of the Building Code specified above for Part only, as specified in
the Schedule, of the proposed building work.

The design carried out by us has been prepared in accordance with:

- ☒ Compliance documents issued by the Ministry of Business, Innovation & Employment (Verification method/acceptable solution) B1/VM1, B1/VM4 and/or;
- ☐ Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions:
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the **CM0** level of **construction monitoring**.

I, (Name of Engineering Design Professional) Sam Richards, am
☒ CPEng number 228315
and hold the following qualifications BE(Hons)

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than \$200,000
The Engineering Design Firm is a member of ACE New Zealand.

SIGNED BY (Name of Engineering Design Professional): Sam Richards
(Signature below)



ON BEHALF OF (Engineering Design Firm): Richards Consulting Engineers Limited

Date: 29/07/2024

Note: This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of \$200,000.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

SCHEDULE TO PS1

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below:

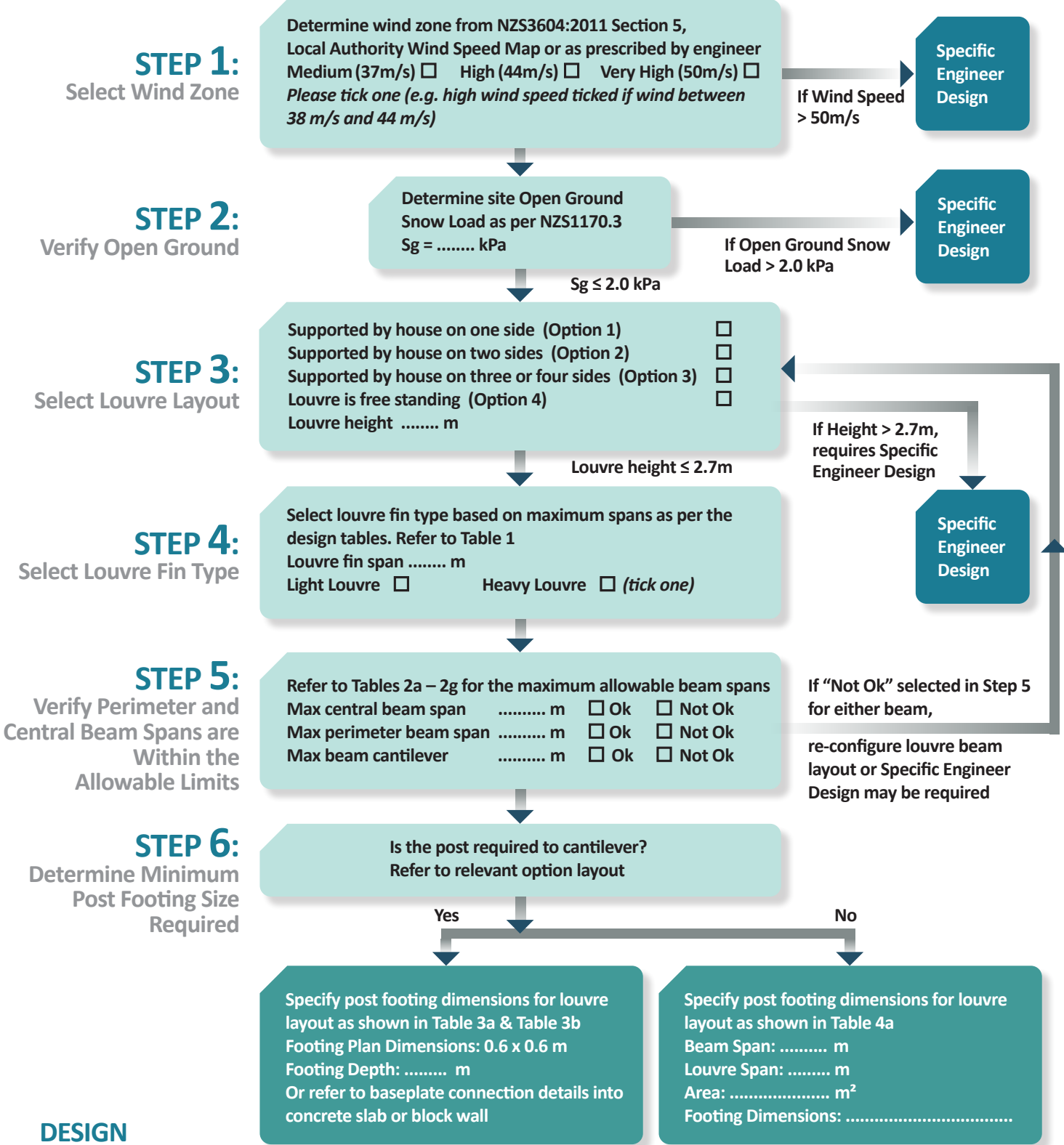
Johnson & Couzins Design Manual titled “Johnson & Couzins Silencio & Concertina Louvre Design Manual REV11” and dated 29/07/2024



Site Address:

Designer's Name:

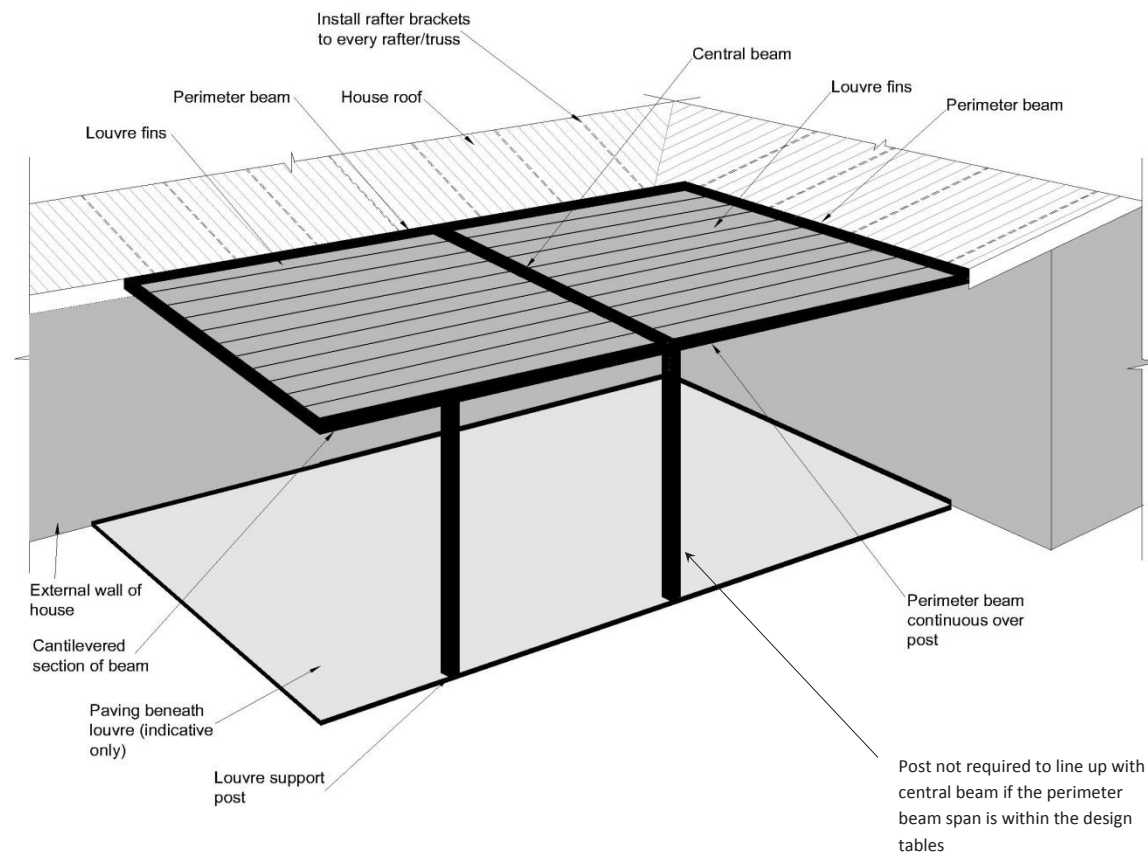
Louvre Design Flow Chart



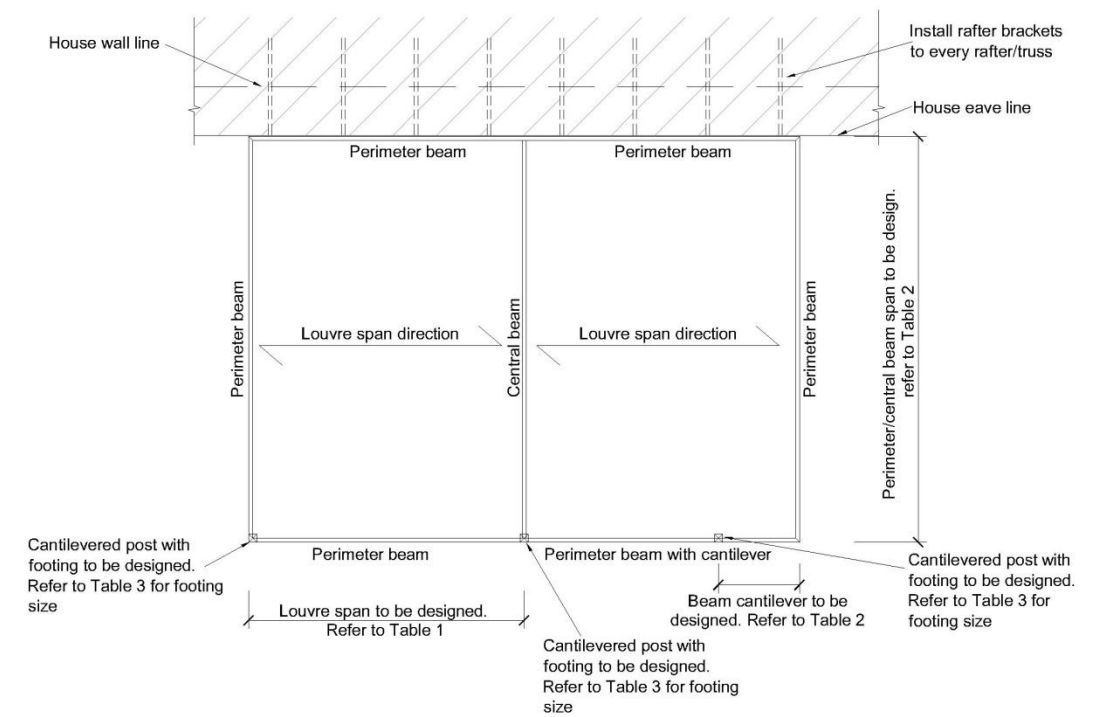
DESIGN MANUAL NOTES

- It is intended this manual will be used by people experienced with the Johnson & Couzins Silencio and Concertina Louvre System.
- The louvre designer shall:**
- Design the louvre layout within the maximum spans set out in the enclosed tables.
 - Where supporting the louvre on the existing building they shall ensure the existing structure has adequate gravity and lateral load resisting capacity to support the additional loads.
 - Only the attached connection details shall be used.
 - No substitution with the products included in this manual is permitted.
 - Where the louvre does not fit within the design manual criteria a Structural Engineer shall be engaged to specifically design the louvre.

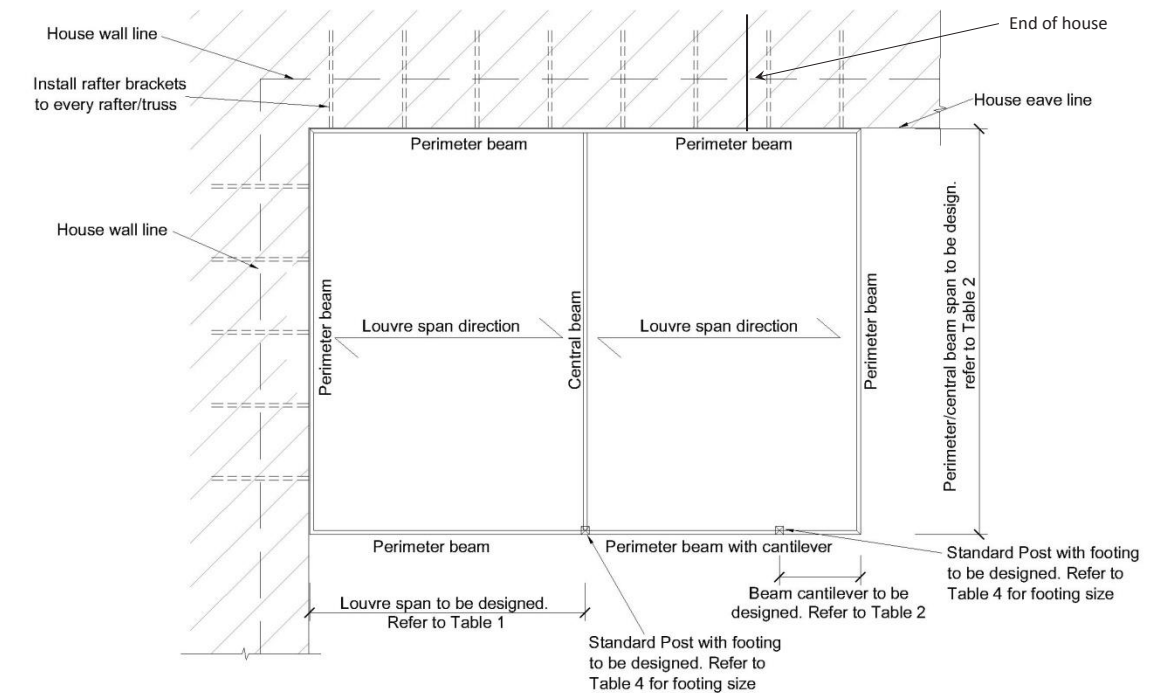
CONCEPT LOUVRE LAYOUT



LOUVRE LAYOUT OPTION 1 – LOUVRE SUPPORTED ON ONE SIDE OF THE HOUSE



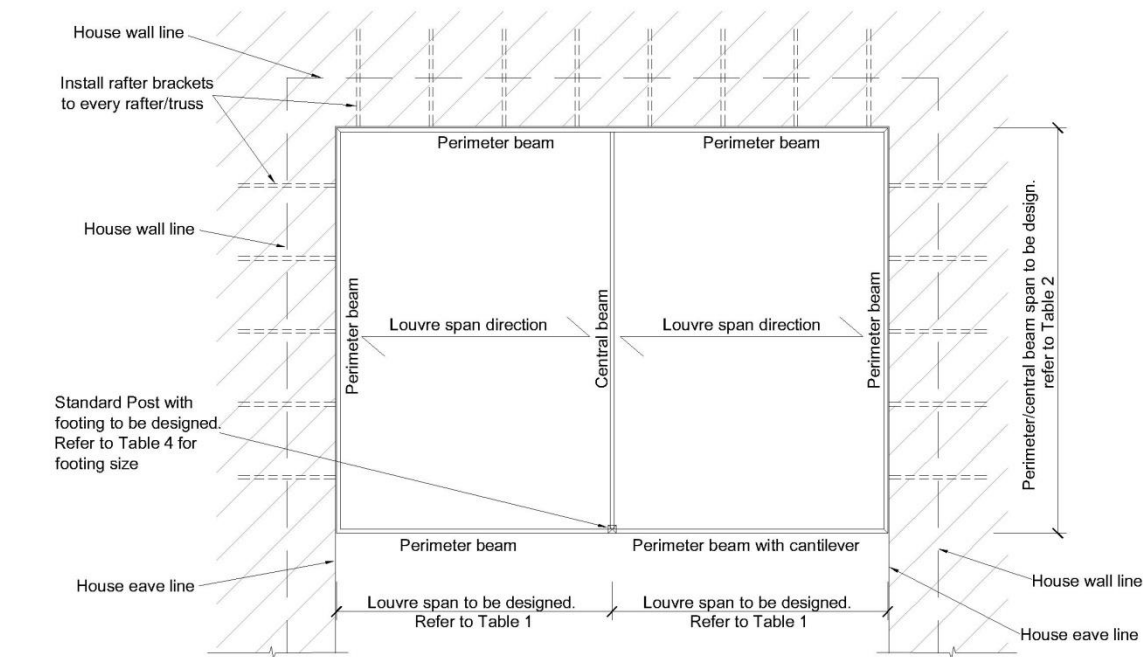
LOUVRE LAYOUT OPTION 2 – LOUVRE SUPPORTED ON TWO SIDES OF THE HOUSE



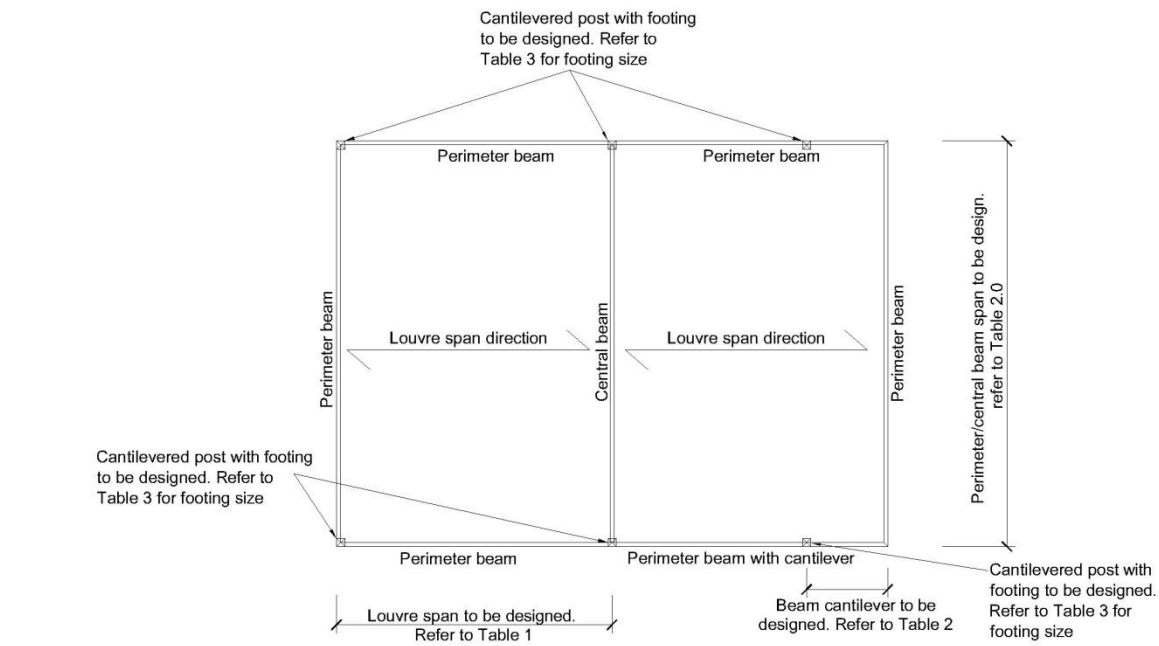
Notes:

1. Louvre considered to be supported on two sides if the end of the house is within 1.5m from the edge of the louvre.

LOUVRE LAYOUT OPTION 3 – LOUVRE SUPPORTED ON THREE SIDES OF THE HOUSE (LOUVRE CAN ALSO BE SUPPORTED ON FOUR SIDES)



LOUVRE LAYOUT OPTION 4 – LOUVRE IS FREESTANDING



LOUVRE FIN SPANS

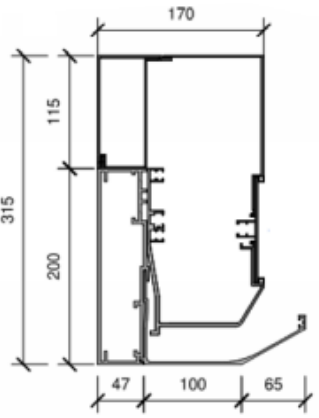
Table 1a – Johnson & Couzins Silencio and Solido Maximum Louvre Fin Spans

Louvre Fin Type	Medium wind zone (37m/s)	High wind zones (44 m/s)	Very High wind zone (50 m/s)
Light Louvre	3.4 m	3.0 m	2.6 m
Heavy Louvre	4.4 m	4.1 m	3.8 m (4.07m louvre)

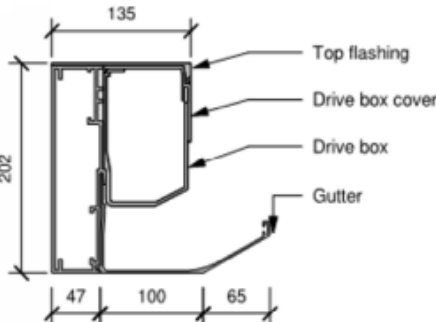
Table 1b – Johnson & Couzins Concertina Maximum Louvre Fin Spans

Louvre Fin Type	Medium wind zone (37m/s)	High wind zones (44 m/s)	Very High wind zone (50 m/s)
Light Louvre	3.4 m	3.0 m	2.6 m
Heavy Louvre	3.645 m	3.645 m	3.645 m (4m)

- Notes:
1. Site wind speed is to be verified by others.
 2. Includes allowance to resist up to 2.0 kPa open ground snow load.
 3. A maximum louvre fin deflection of 60mm has been used. Specific Engineering Design is required for louvres which will be located within areas sensitive to deflections.
 4. All spans shown above are maximum values.
 5. The concertina span is to be limited to 3.645m for dive box operation
 6. The louvre fins will not be walked on – including during maintenance or installation
 7. The maximum louvre fins span is from taken the drive box, this allow for the total louvre size to be 0.27m great for Silencio and 0.34m greater for Concertina. The Images below show the drive box for Silencio and Concertina louvres. An example of one maximum louvre size is shown above in the table above for a Silencio louvre.



Concertina Drive Box



Silencio Drive Box

LOUVRE FRAME MEMBER SPANS

- General Notes:
1. Site wind speed is to be verified by others.
 2. Perimeter beam supports half of the louvre span while a central beam supports louvres on both sides.
 3. Spans calculated rely on correct selection of louvre fin.
 4. A maximum beam deflection limit of 30mm has been used for members aside from Table 2e. Specific Engineering Design is required for louvres which will be located within areas sensitive to deflections.
 5. All spans shown above are maximum values.
 6. It has been assumed that the louvres will remain in an “open” position during a heavy snow event.

Table 2a – Johnson & Couzins Max Single Beam (200x50x3 RHS) Spans with Snow Load ≤ 0.9kPa

Beam Location	Medium wind zone (37m/s)		High wind zone (44m/s)		Very High wind zone (50m/s)	
	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre
Perimeter	6.2 m	5.7 m	5.6 m	4.8 m	5.2 m	4.3 m
Central	4.9 m	4.4 m	4.3 m	3.7 m	4.0 m	3.4 m
Cantilever	1.9 m	1.8 m	1.9 m	1.8 m	1.9 m	1.7 m

Table Specific Notes:

1. Includes allowance to resist up to 0.9 kPa open ground snow load.
2. Refer to the “General Notes” for all other notes which are not specific to this particular table.

Table 2b – Johnson & Couzins Max Single Beam (200x50x3 RHS) Spans with Snow Load ≤ 1.5kPa

Beam Location	Medium wind zone (37m/s)		High wind zone (44m/s)		Very High wind zone (50m/s)	
	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre
Perimeter	5.9 m	5.1 m	5.6 m	4.8 m	5.2 m	4.3 m
Central	4.8 m	4.1 m	4.3 m	3.7 m	4.0 m	3.4 m
Cantilever	1.7 m	1.4 m	1.8 m	1.5 m	1.9 m	1.6 m

Table Specific Notes:

1. Includes allowance to resist up to 1.5 kPa open ground snow load.
2. Refer to the “General Notes” for all other notes which are not specific to this particular table.

Table 2c – Johnson & Couzins Max Single Beam (200x50x3 RHS) Spans with Snow Load ≤ 2.0kPa

Beam Location	Medium wind zone (37m/s)		High wind zone (44m/s)		Very High wind zone (50m/s)	
	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre
Perimeter	5.1 m	4.5 m	5.5 m	4.5 m	5.2 m	4.3 m
Central	4.2 m	3.6 m	4.3 m	3.7 m	4.0 m	3.4 m
Cantilever	1.5 m	1.3 m	1.6 m	1.3 m	1.7 m	1.4 m

Table Specific Notes:

1. Includes allowance to resist up to 2.0 kPa open ground snow load.
2. Refer to the “General Notes” for all other notes which are not specific to this particular table

Table 2d – Johnson & Couzins Max Double Beam (2/200x50x3 RHS) Spans with Snow Load ≤ 2.0kPa

Beam Location	Medium wind zone (37m/s)		High wind zone (44m/s)		Very High wind zone (50m/s)	
	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre
Perimeter	7.4 m	6.3 m	7.0 m	6.3 m	6.8 m	6.2 m
Central	6.2 m	5.8 m	5.8 m	5.4 m	5.7 m	5.2 m
Cantilever	2.0 m	2.0 m	2.0 m	2.0 m	2.0 m	2.0 m

Table Specific Notes:

1. Includes allowance to resist up to 2.0 kPa open ground snow load.
2. These beam spans are relevant for double beams made from two 200x50x3 beams.
3. Refer to the “General Notes” for all other notes which are not specific to this particular table.

Table 2e– Johnson & Couzins Max Double Beam (300x50x3.5 RHS) Spans with Snow Load ≤ 0.9kPa

Beam Location	Medium wind zone (37m/s)		High wind zone (44m/s)		Very High wind zone (50m/s)	
	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre
Perimeter	7.1 m	6.3 m	6.2 m	5.4 m	5.8 m	4.8 m
Central	4.9 m	4.4 m	4.3 m	3.8 m	4.1 m	3.4 m
Cantilever	2.0 m	2.0 m	2.0 m	2.0 m	2.0 m	2.0 m

Table Specific Notes:

1. Includes allowance to resist up to 0.9 kPa open ground snow load.
2. Refer to the “General Notes” for all other notes which are not specific to this particular table.

Table 2f– Johnson & Couzins Max Double Beam (300x50x3.5 RHS) Spans with Snow Load ≤ 1.5 kPa

Beam Location	Medium wind zone (37m/s)		High wind zone (44m/s)		Very High wind zone (50m/s)	
	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre
Perimeter	6.6 m	5.7 m	6.2 m	5.4 m	5.8 m	4.8 m
Central	4.9 m	4.4 m	4.3 m	3.8 m	4.1 m	3.4 m
Cantilever	1.8 m	1.8 m	1.8 m	1.8 m	1.8 m	1.8 m

Table Specific Notes:

1. Includes allowance to resist up to 1.5 kPa open ground snow load.
2. Refer to the “General Notes” for all other notes which are not specific to this particular table.

Table 2g– Johnson & Couzins Max Double Beam (300x50x3.5 RHS) Spans with Snow Load ≤ 2.0kPa

Beam Location	Medium wind zone (37m/s)		High wind zone (44m/s)		Very High wind zone (50m/s)	
	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre	Light Louvre	Heavy Louvre
Perimeter	5.8 m	5.0 m	6.2 m	5.2 m	5.8 m	4.8 m
Central	4.5 m	3.9 m	4.3 m	3.8 m	4.1 m	3.4 m
Cantilever	1.6 m	1.6 m	1.6 m	1.6 m	1.6 m	1.6 m

Table Specific Notes:

1. Includes allowance to resist up to 2.0 kPa open ground snow load.
2. Refer to the “General Notes” for all other notes which are not specific to this particular table.

CANTILEVERED POST FOOTING SIZES

Table 3a – Min Cantilevered Post Footing Dimensions – Central Post Between Two Bays of Louvres

Louvre Fin Type	Medium wind zone (37m/s)	High wind zones (44 m/s)	Very High wind zone (50 m/s)
Louvre	1300 mm deep	1450 mm deep	1550 mm deep

Notes:

1. Site wind speed to be verified by others. All cantilevered footings are to be 600mm square.
2. Footing depths calculated rely on correct selection of louvre fin.
3. A maximum lateral deflection limit of 100mm has been used for the louvre posts. Specific design is required for louvres which will be located within areas sensitive to deflections.
4. The 75x75x5 SHS galvanised steel insert shall extend a minimum of 1600mm above ground level inside inside of the aluminium post for a medium wind zone and 1800mm above ground level for a high wind and very high (height of socket inside of the aluminium post).

Table 3b – Min Cantilevered Post Footing Dimensions Required – Corner Post

Louvre Fin Type	Medium wind zone (37m/s)	High wind zones (44 m/s)	Very High wind zone (50 m/s)
Heavy Louvre	1000 mm deep	1100 mm deep	1300 mm deep

- Notes:
- 1. Site wind speed to be verified by others. All cantilevered footings are to be 600mm square.
 - 2. Footing depths calculated rely on correct selection of louvre fin.
 - 3. A maximum lateral deflection limit of 100mm has been used for the louvre posts. Specific design is required for louvres which will be located within areas sensitive to deflections.
 - 4. The 75x75x5 SHS galvanised steel insert will extend a minimum of 400mm above ground level inside of the aluminium post for a medium wind zone, 900mm above ground level for a high wind, 1400mm for very high wind zone (height of socket inside of the aluminum post).

STANDARD POST FOOTING SIZES

Table 4a – Size of Footing per m² of Louvre Area– No Slab Beneath Louvre

Wind Zone	Area (m²)					
	1m²	2m²	3m²	4m²	5m²	6m²
Medium	450 x 450 x 200	450 x 450 x 350	450 x 450 x 550	450 x 450 x 700	450 x 450 x 900	450 x 450 x 1050
	-	600 x 600 x 200	600 x 600 x 300	600 x 600 x 400	600 x 600 x 500	600 x 600 x 600
High	450 x 450 x 300	450 x 450 x 550	600 x 600 x 500	600 x 600 x 650	600 x 600 x 800	600 x 600 x 950
	-	600 x 600 x 300	800 x 800 x 300	800 x 800 x 350	800 x 800 x 450	800 x 800 x 550
Very High	450 x 450 x 350	450 x 450 x 750	600 x 600 x 600	600 x 600 x 800	600 x 600 x 950	600 x 600 x 1150
	600 x 600 x 200	600 x 600 x 400	800 x 800 x 350	800 x 800 x 450	800 x 800 x 550	800 x 800 x 650

- Notes:
- 1. These footings do not cantilever and provide resistance to vertical loads only.
 - 2. Site wind speed to be verified by others.
 - 3. Concrete volumes calculated rely on correct selection of louvre fin.
 - 4. Concrete footings have been designed using a concrete weight of 24 kN/m³.
 - 5. Mass of louvre has been calculated with G = 0.2 kPa
 - 6. A combination factor of 0.9G - Wind was used.
 - 7. Cfig of 1.2 has been used.
 - 8. Posts which are located in the center of a louvre (i.e. a 2x2 bay louvre) require Specific Engineering Design.
 - 9. If a minimum 100mm thick slab, with a minimum size of 2x2m is located under the louvre post then no additional footing is required



STANDARD DETAILS

JOHNSON AND COUZINS

STRUCTURAL DRAWING LIST

Job No 15227

SHEET LIST			
DWG NO	TITLE	REV	Date
S4.01	DETAILS	1	29/07/2024
S4.02	DETAILS	1	29/07/2024
S4.03	DETAILS	1	29/07/2024
S4.04	DETAILS	1	29/07/2024
S4.05	DETAILS	1	29/07/2024
S4.06	DETAILS	1	29/07/2024
S4.07	DETAILS	1	29/07/2024
S4.08	DETAILS	1	29/07/2024
S4.09	DETAILS	1	29/07/2024
S4.10	DETAILS	1	29/07/2024
S4.11	DETAILS	1	29/07/2024
S4.12	DETAILS	1	29/07/2024
S4.13	DETAILS	1	29/07/2024
S4.14	DETAILS	1	29/07/2024
S4.15	DETAILS	1	29/07/2024
S4.16	DETAILS	1	29/07/2024
S4.17	DETAILS	1	29/07/2024
S4.18	DETAILS	1	29/07/2024

REV_1

29/07/2024

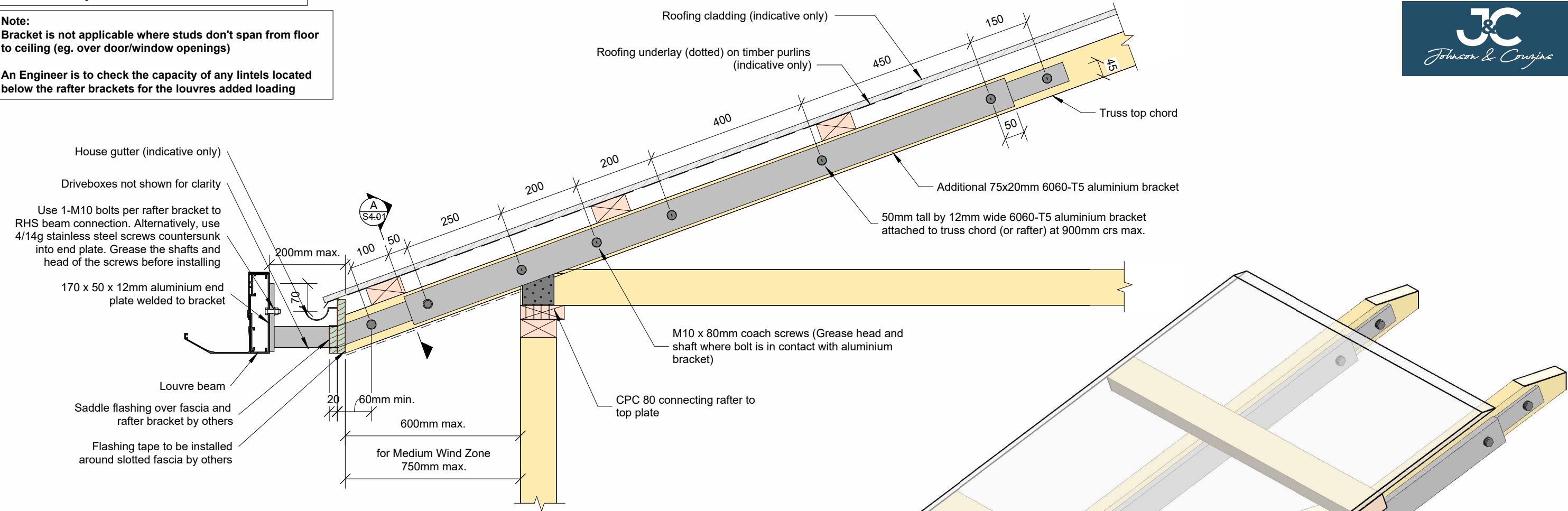
BUILDING CONSENT

Note: Wall cladding, building and building wrap not shown for clarity

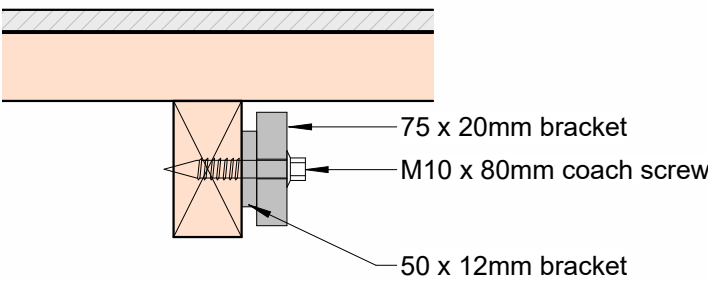
Note:
Bracket is not applicable where studs don't span from floor to ceiling (eg. over door/window openings)

An Engineer is to check the capacity of any lintels located below the rafter brackets for the louvres added loading

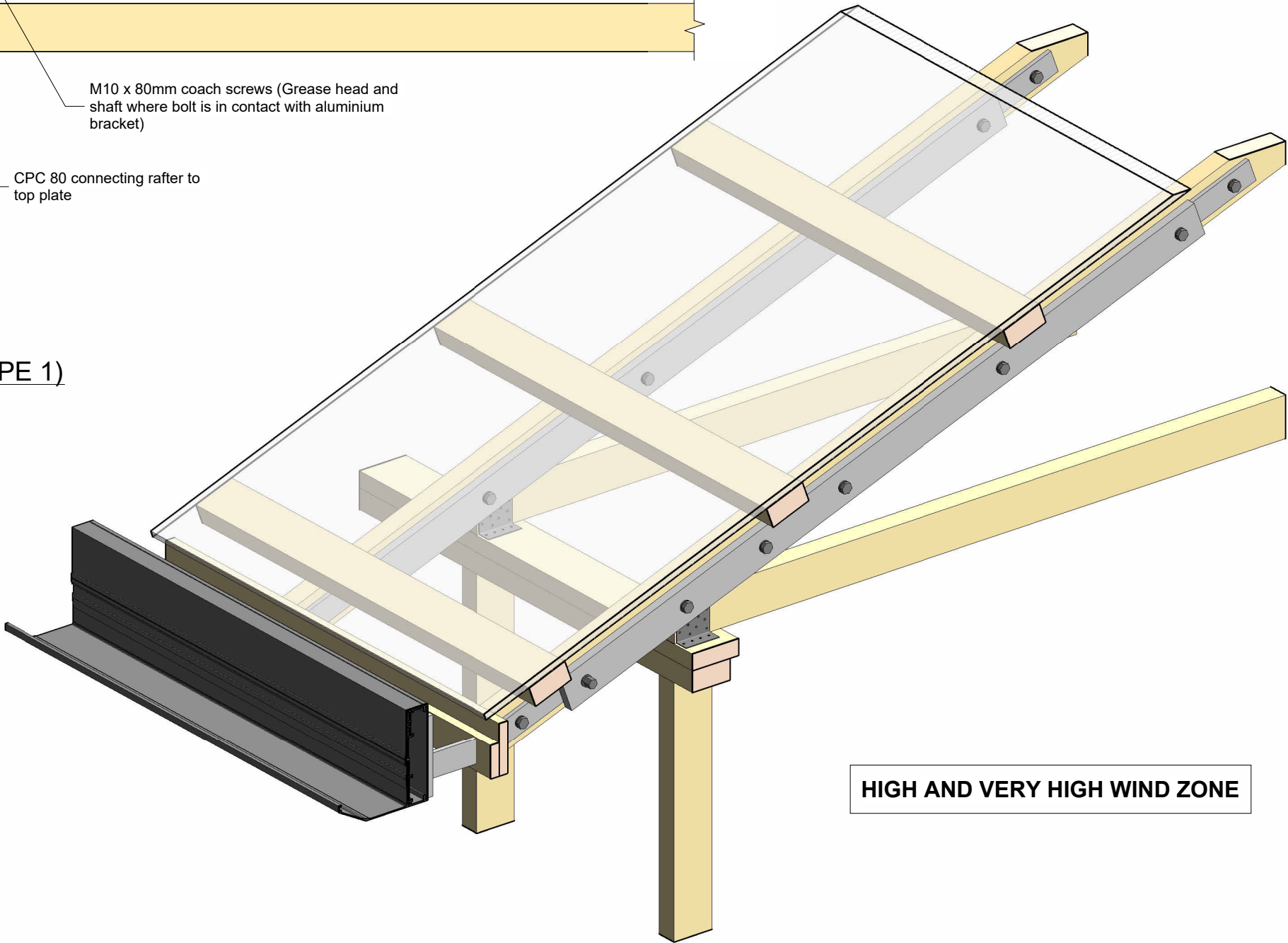
DO NOT SCALE - IF IN DOUBT CONFIRM DIMENSIONS ON SITE



TRUSS BRACKET CONNECTION - RAKING SOFFIT (TYPE 1)
1 : 10



A TRUSS BRACKET CONNECTION DETAIL
S4.01 1 : 5



HIGH AND VERY HIGH WIND ZONE

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS



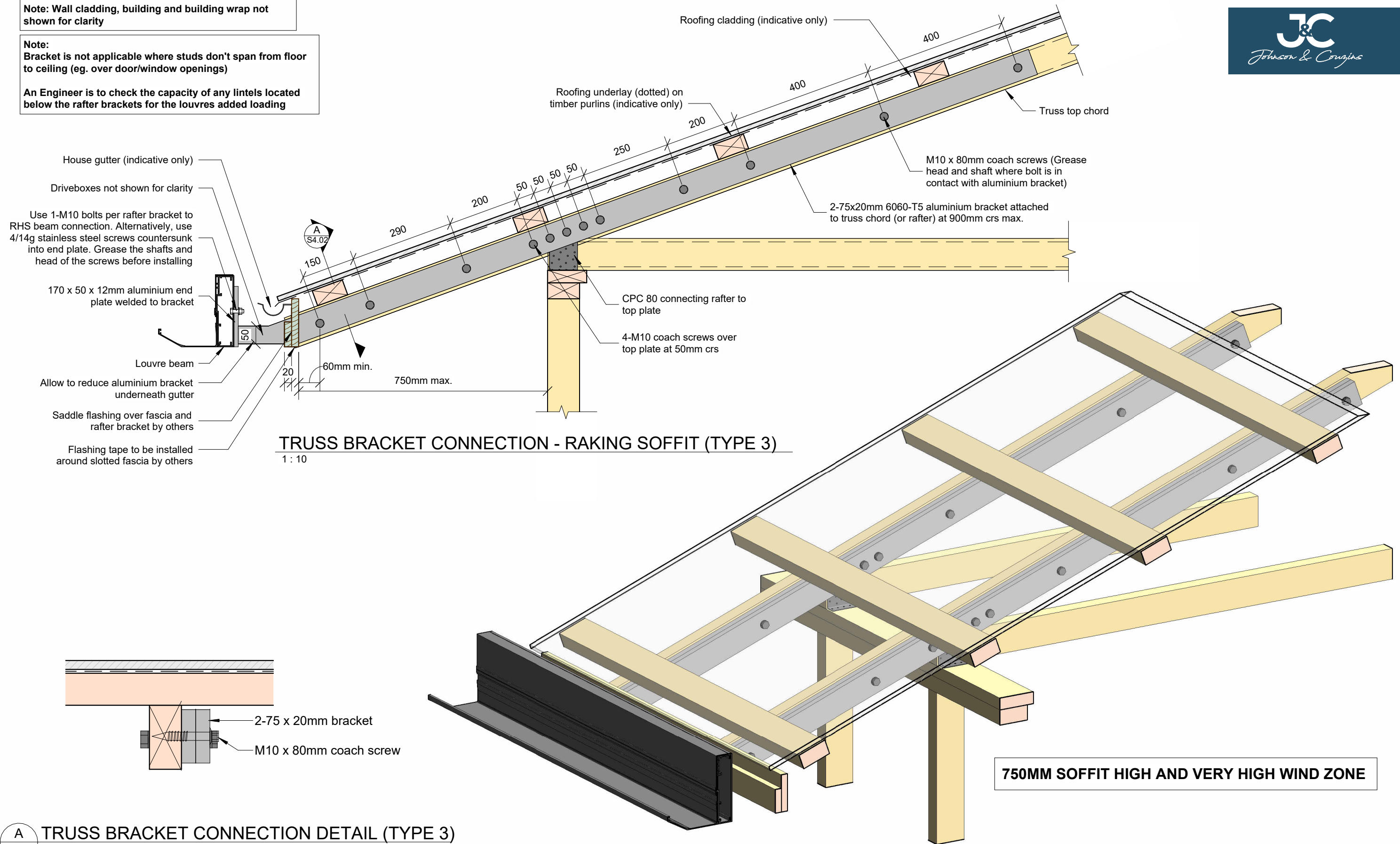
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PROJECT TITLE
STANDARD DETAILS
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DRAWING TITLE
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				REV NO.	1	SHEET NO.	S4.01

An Engineer is to check the capacity of any lintels located below the rafter brackets for the louvres added loading



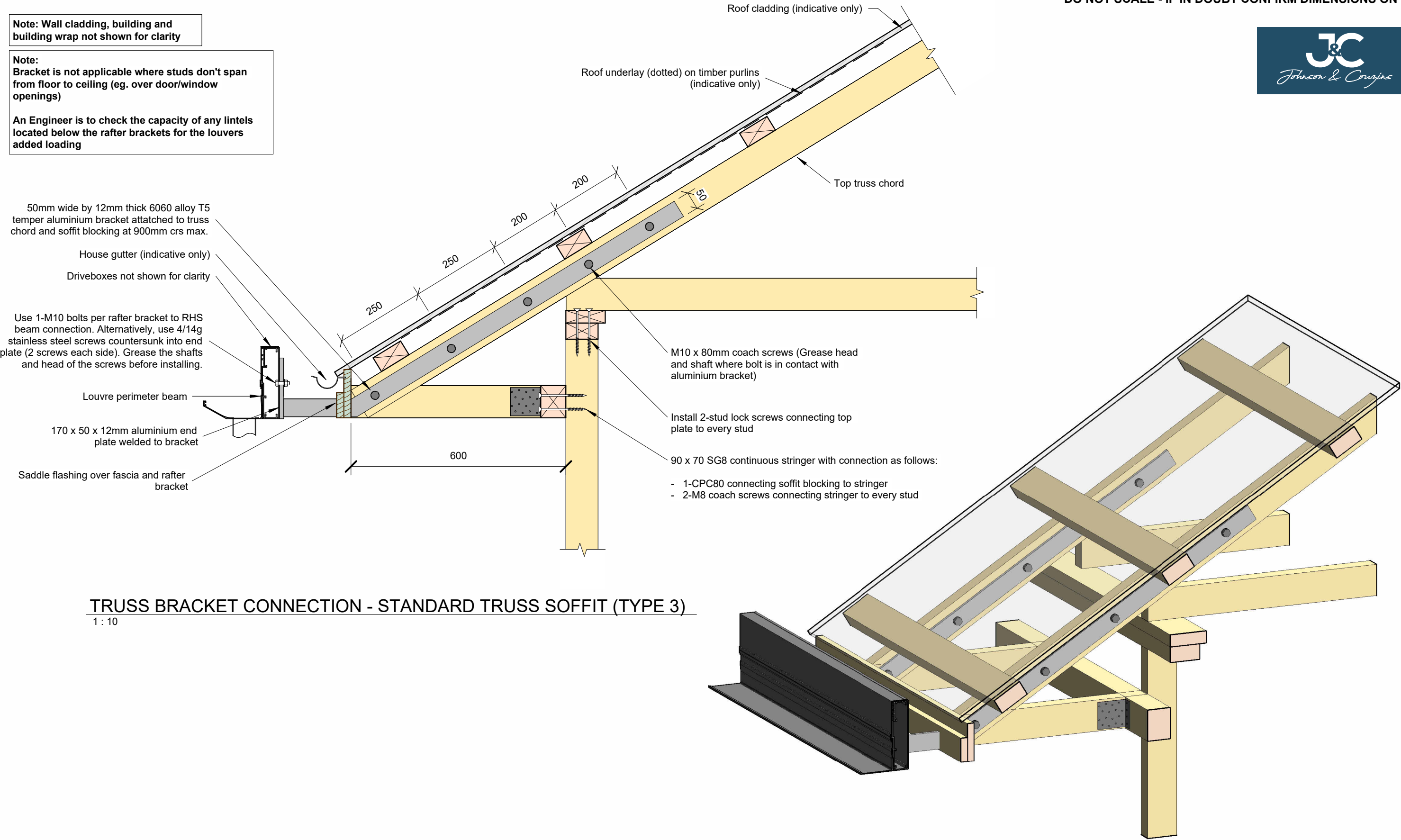
TRUSS BRACKET CONNECTION DETAIL (TYPE 3)



Note: Wall cladding, building and building wrap not shown for clarity

Note:
Bracket is not applicable where studs don't span from floor to ceiling (eg. over door/window openings)

An Engineer is to check the capacity of any lintels located below the rafter brackets for the louvers added loading

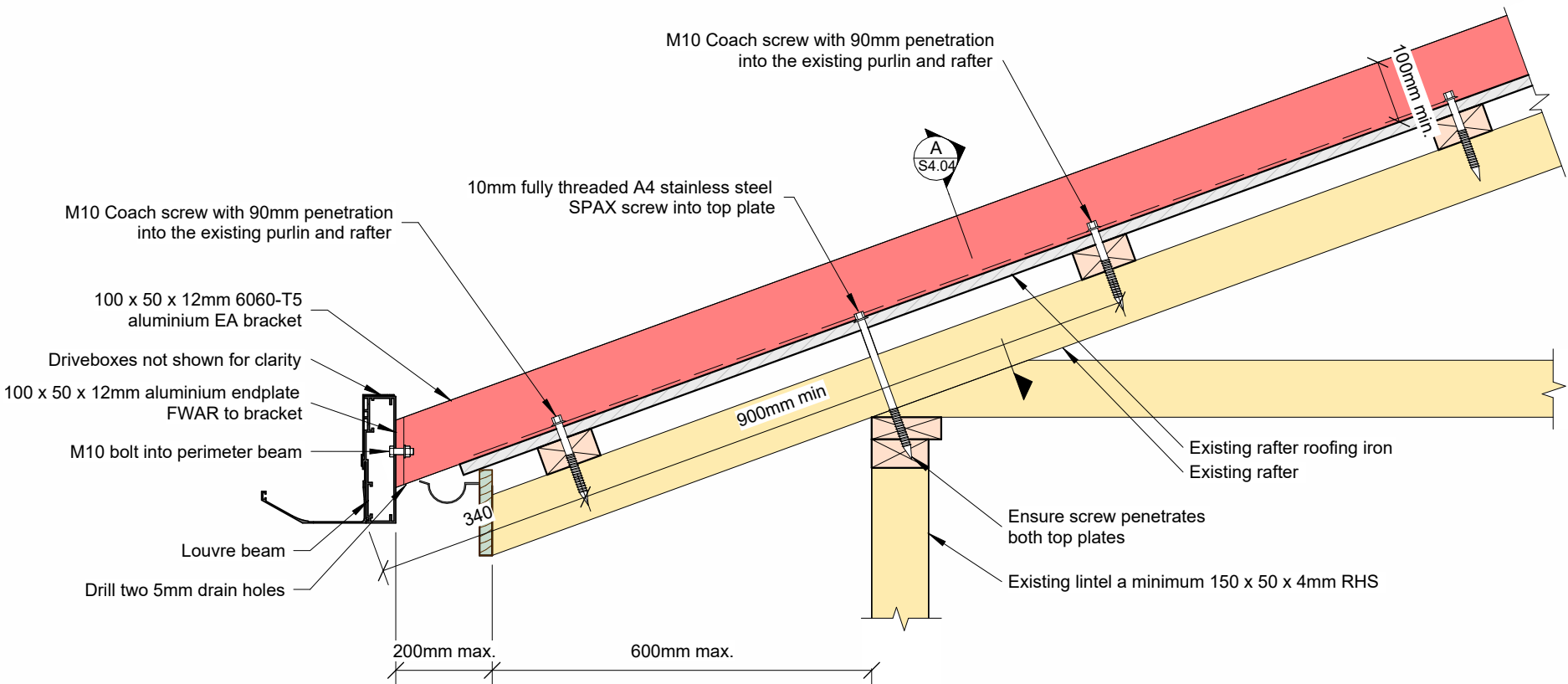


TRUSS BRACKET CONNECTION - STANDARD TRUSS SOFFIT (TYPE 3)
1 : 10

TRUSS BRACKET CONNECTION - STANDARD TRUSS SOFFIT (TYPE 3)

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											S4.03



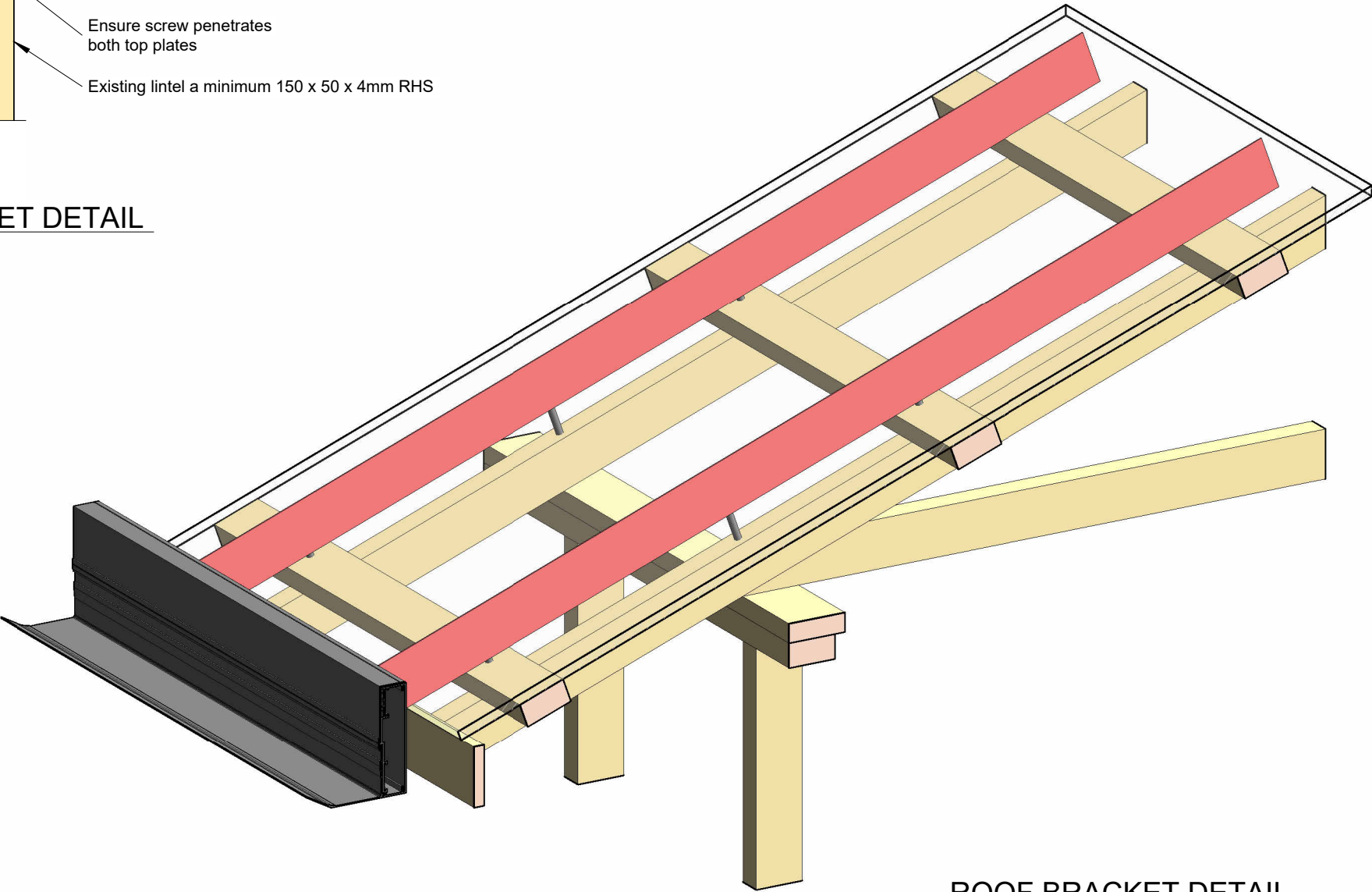
Note: Wall cladding, building and building wrap not shown for clarity

Note:
Bracket is not applicable where studs don't span from floor to ceiling (eg. over door/window openings)

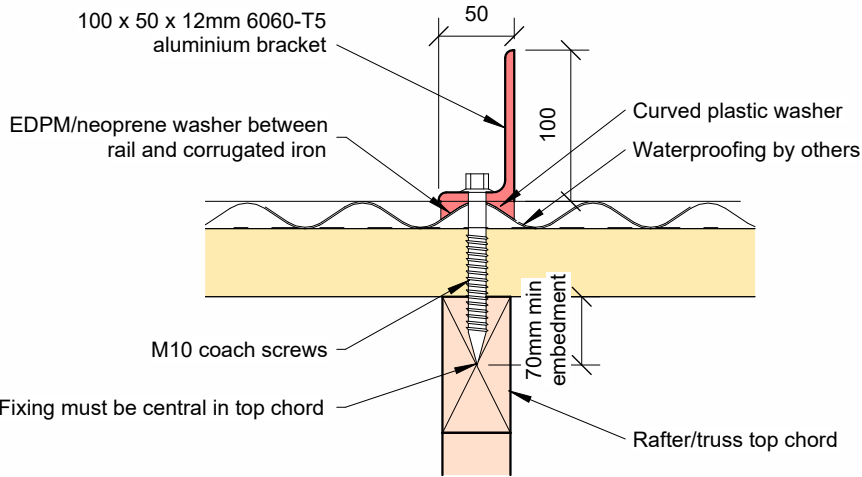
An Engineer is to check the capacity of any lintels located below the rafter brackets for the louvers added loading

Specific engineering design required for very high wind zone and open ground snow loads greater than 0.9 kPa bracket must be 900mm crs maximum

ROOF BRACKET DETAIL
1 : 10



ROOF BRACKET DETAIL



A
S4.04
1 : 5
ROOF BRACKET CONNECTION DETAIL

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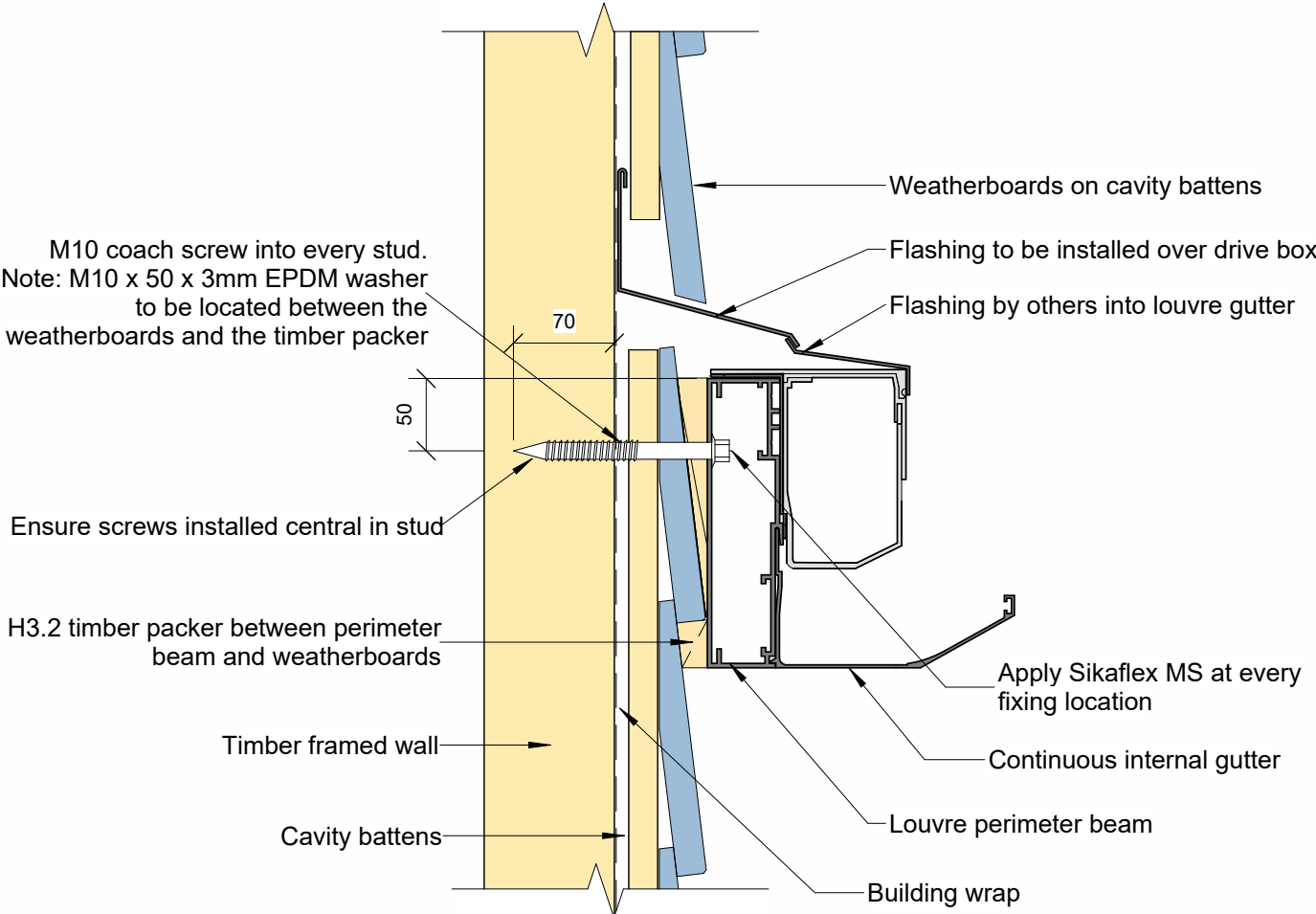


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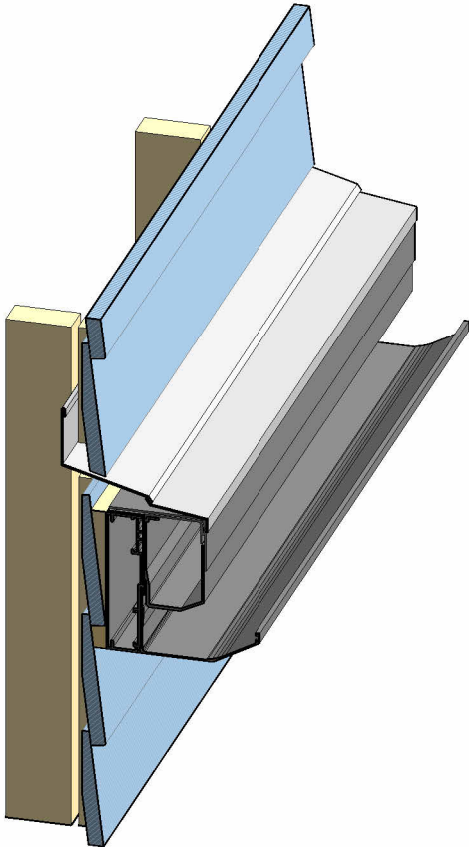
DRAWING TITLE
DETAILS

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Waterproofing by others

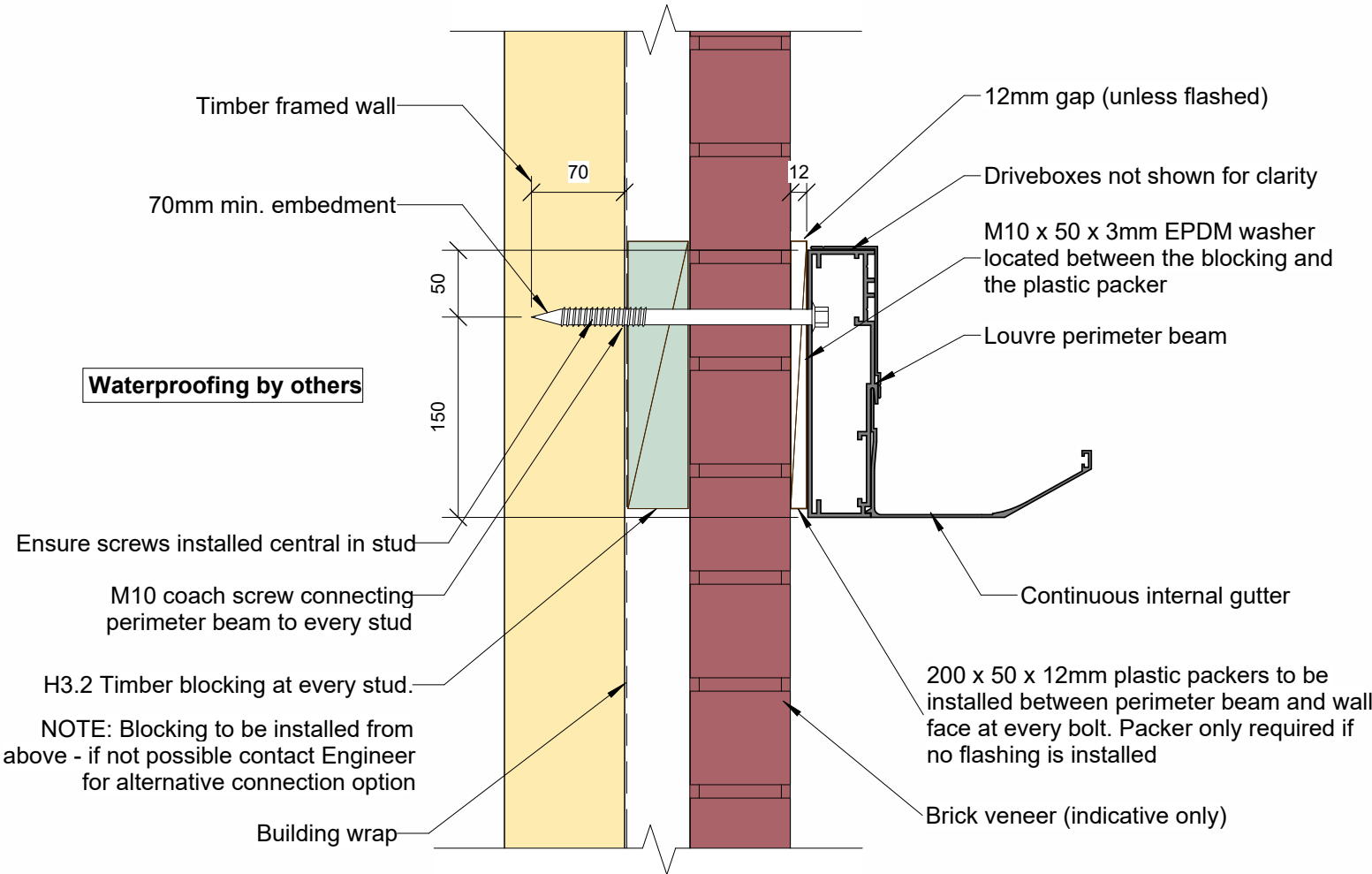
PERIMETER BEAM TO WEATHERBOARD
1 : 5



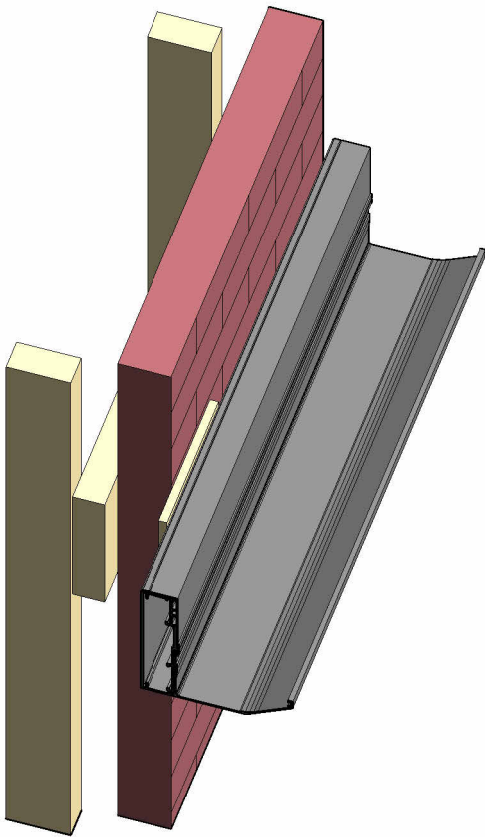
PERIMETER BEAM TO WEATHERBOARD

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								REV NO.	1	SHEET NO.	
											S4.05



PERIMETER BEAM TO BRICK
1 : 5



PERIMETER BEAM TO BRICK

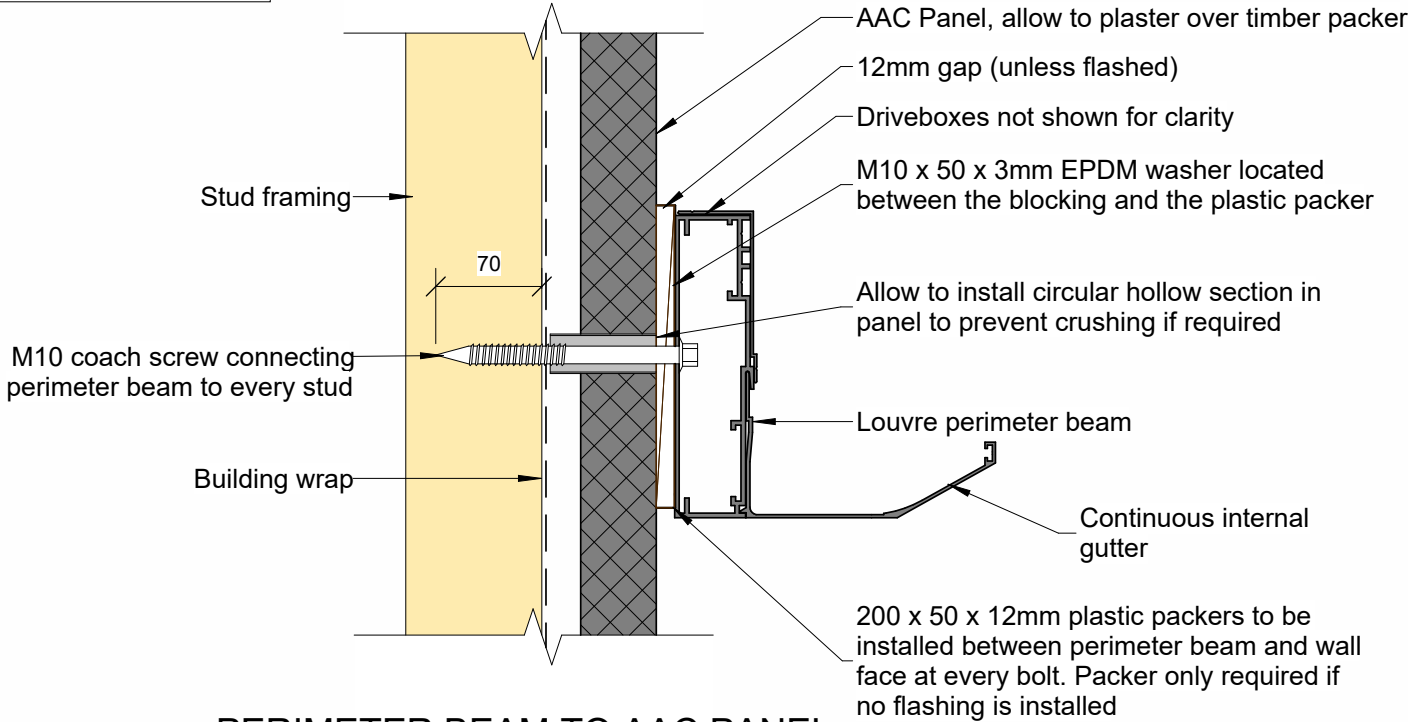
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											S4.06

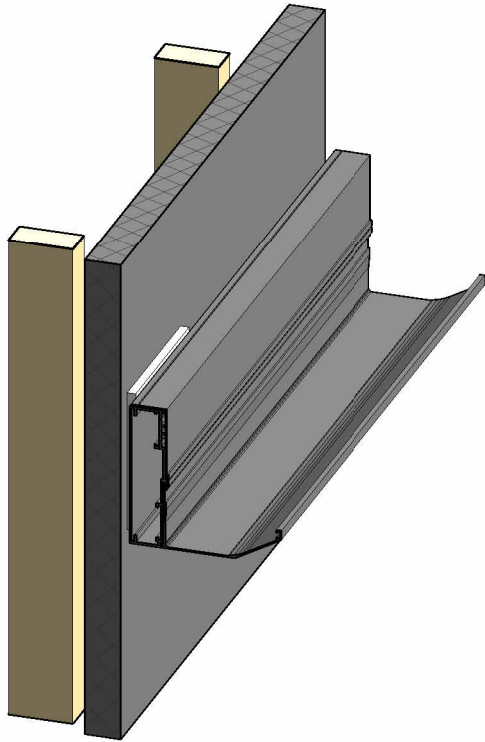


Note:

- This detail can be used and adjusted to suit plaster and polystyrene cladding systems
- If 12mm gap is not desired, a flashing is to be installed by building designer



PERIMETER BEAM TO AAC PANEL
1 : 5



PERIMETER BEAM TO AAC PANEL

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS

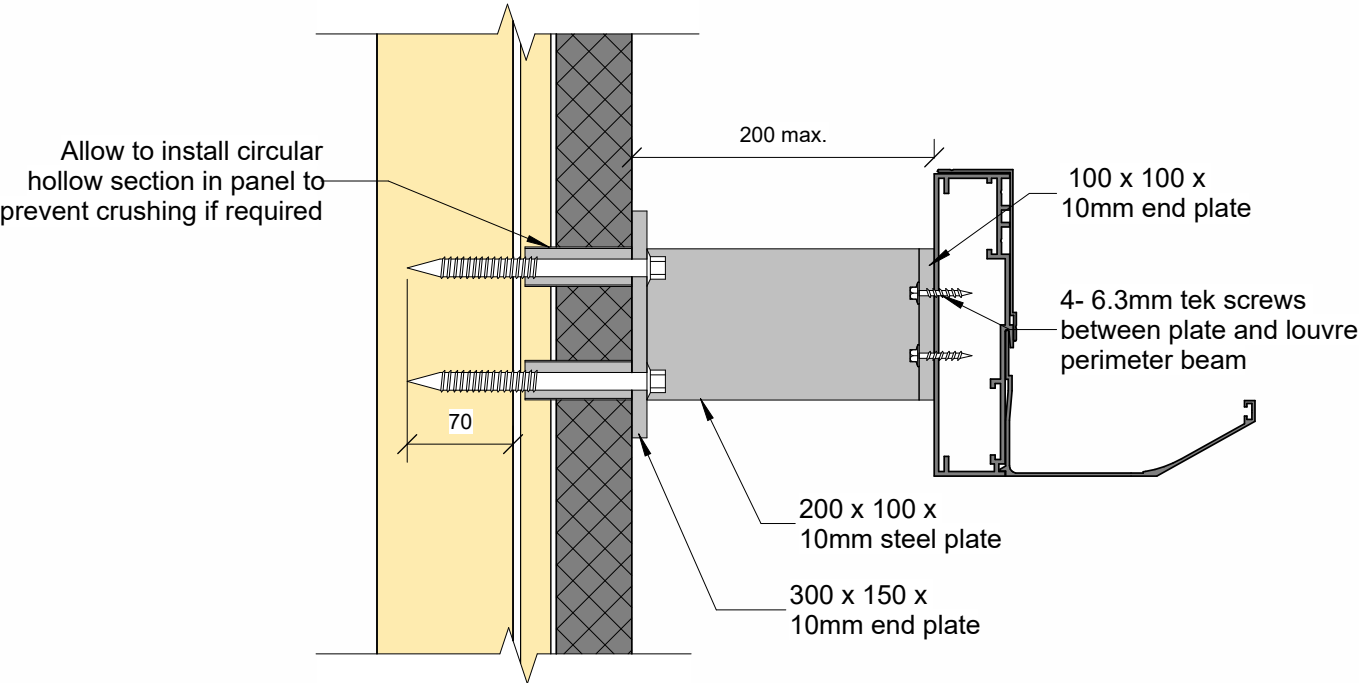


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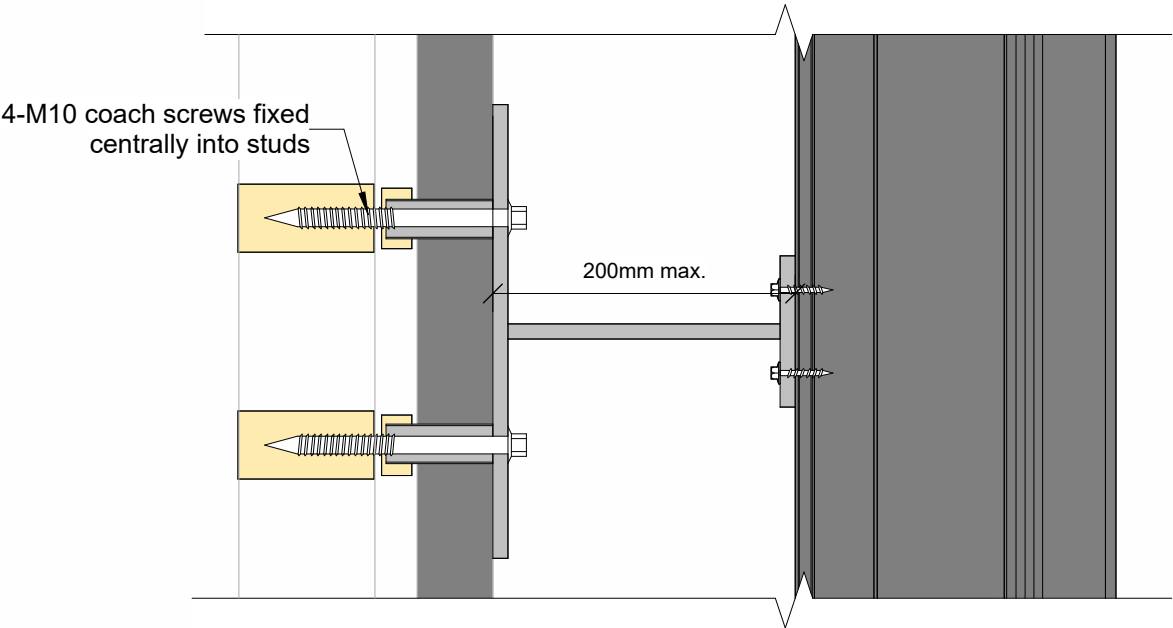
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**STANDARD DETAILS
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DETAILS

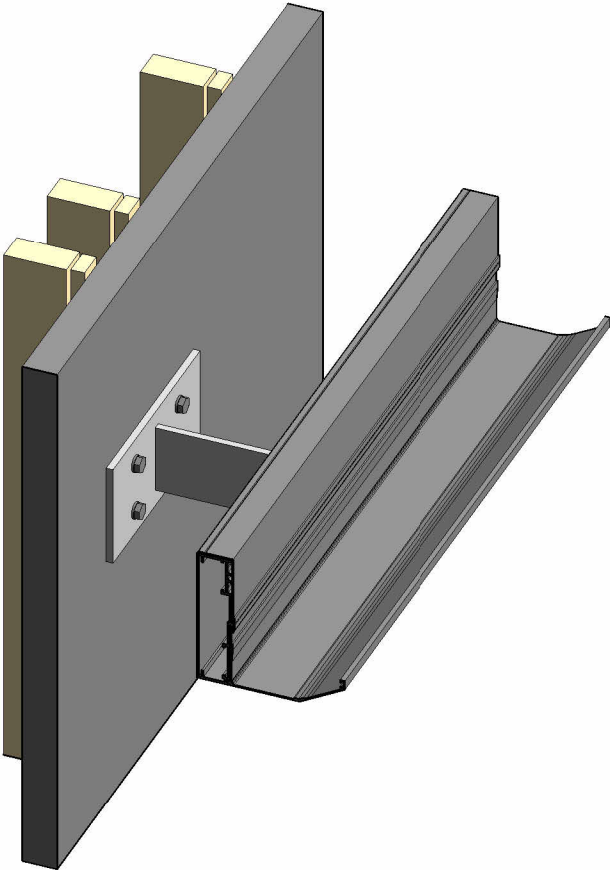
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				REV NO.	1	SHEET NO.	S4.07



H BRACKET - NEW BUILDINGS ONLY
1 : 5



H BRACKET -NEW BUILDS ONLY PLAN
1 : 5



H-BRACKET - NEW BUILDS ONLY

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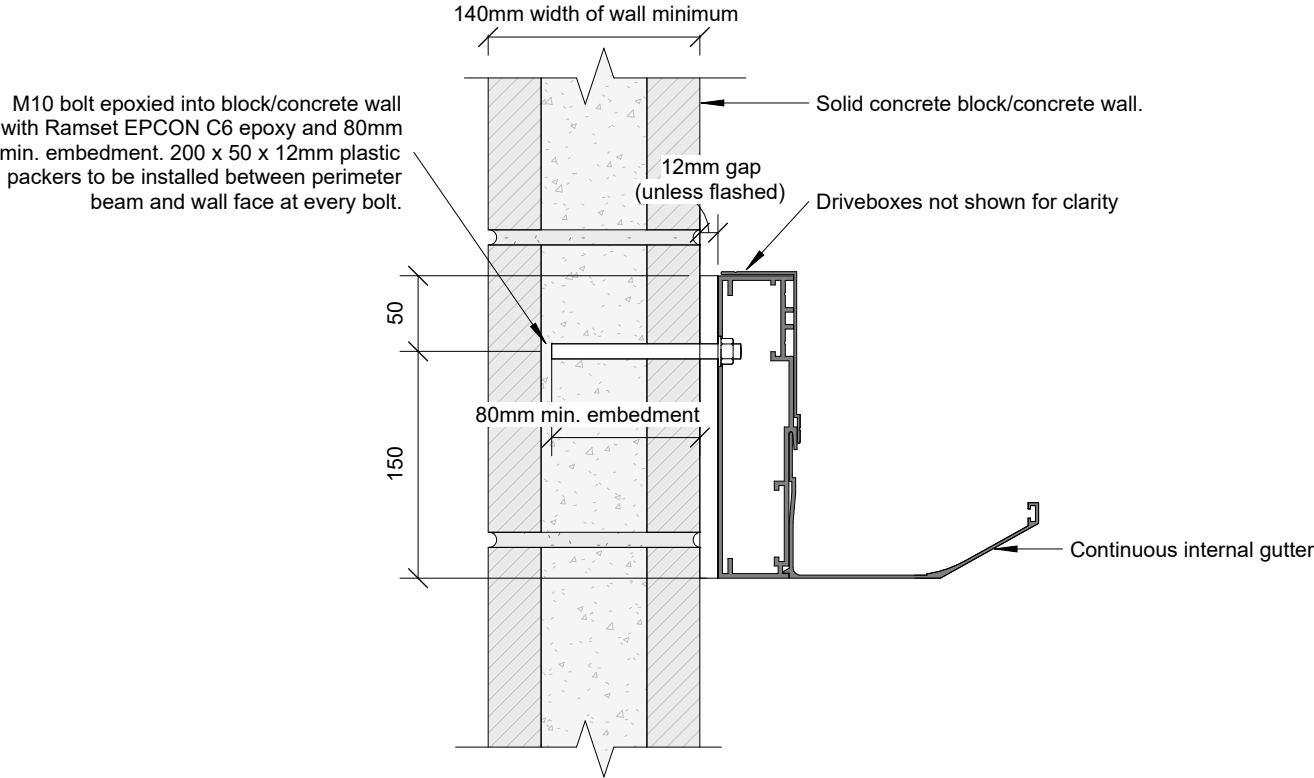


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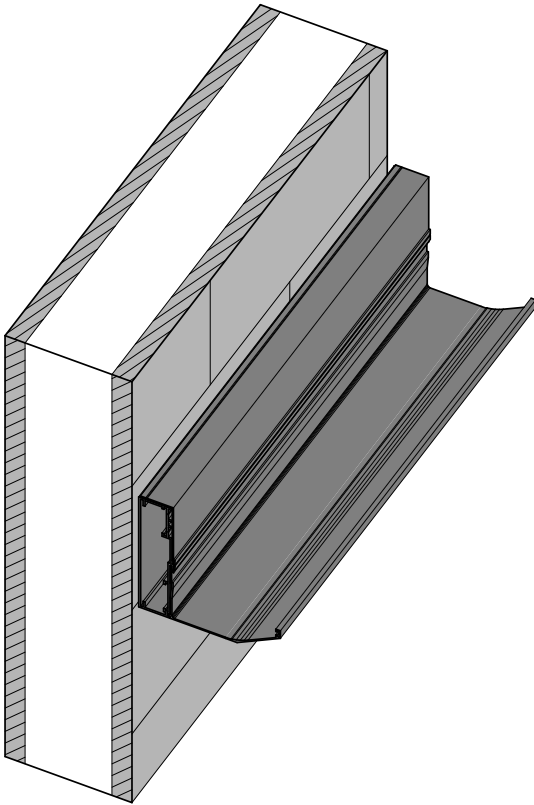
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STANDARD DETAILS
JOHNSON AND COUZINS

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DETAILS

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				REV NO.	1	SHEET NO.	S4.08



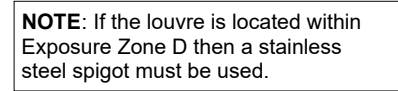
PERIMETER BEAM TO CONCRETE BLOCK WALL
1 : 5



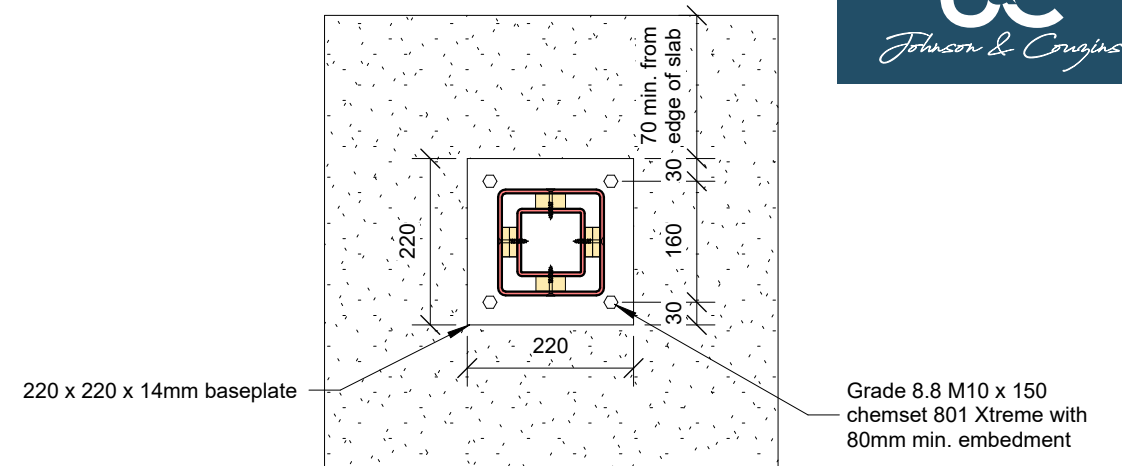
PERIMETER BEAM TO CONCRETE BLOCK WALL

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS

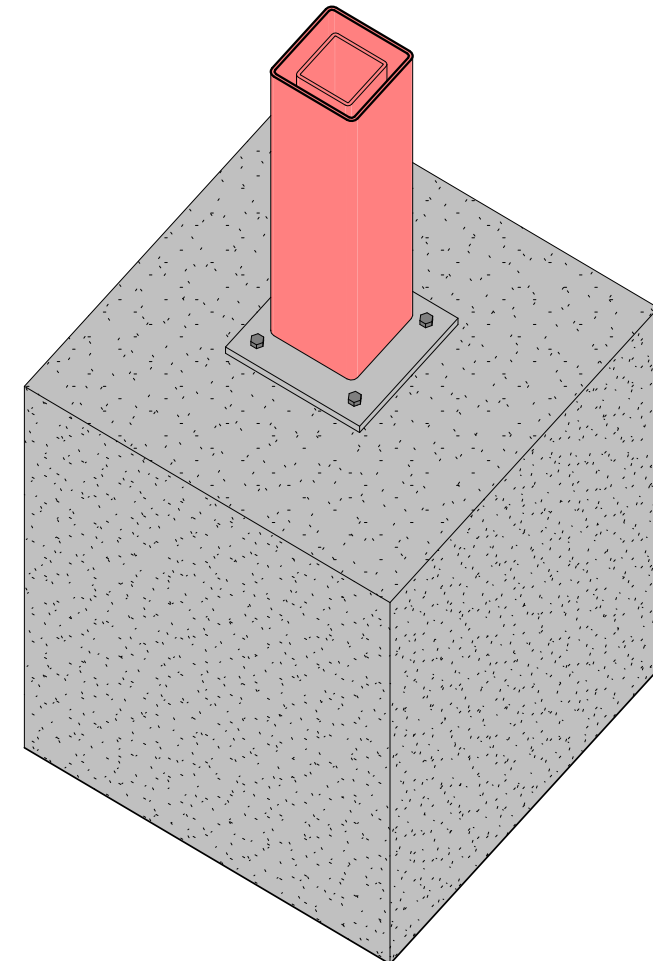
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								REV NO.	1	SHEET NO.	
											S4.09



Note:
Baseplate detail only for
medium and high wind
zones



A CANTILEVER FOOTING
S4.10 1 : 10

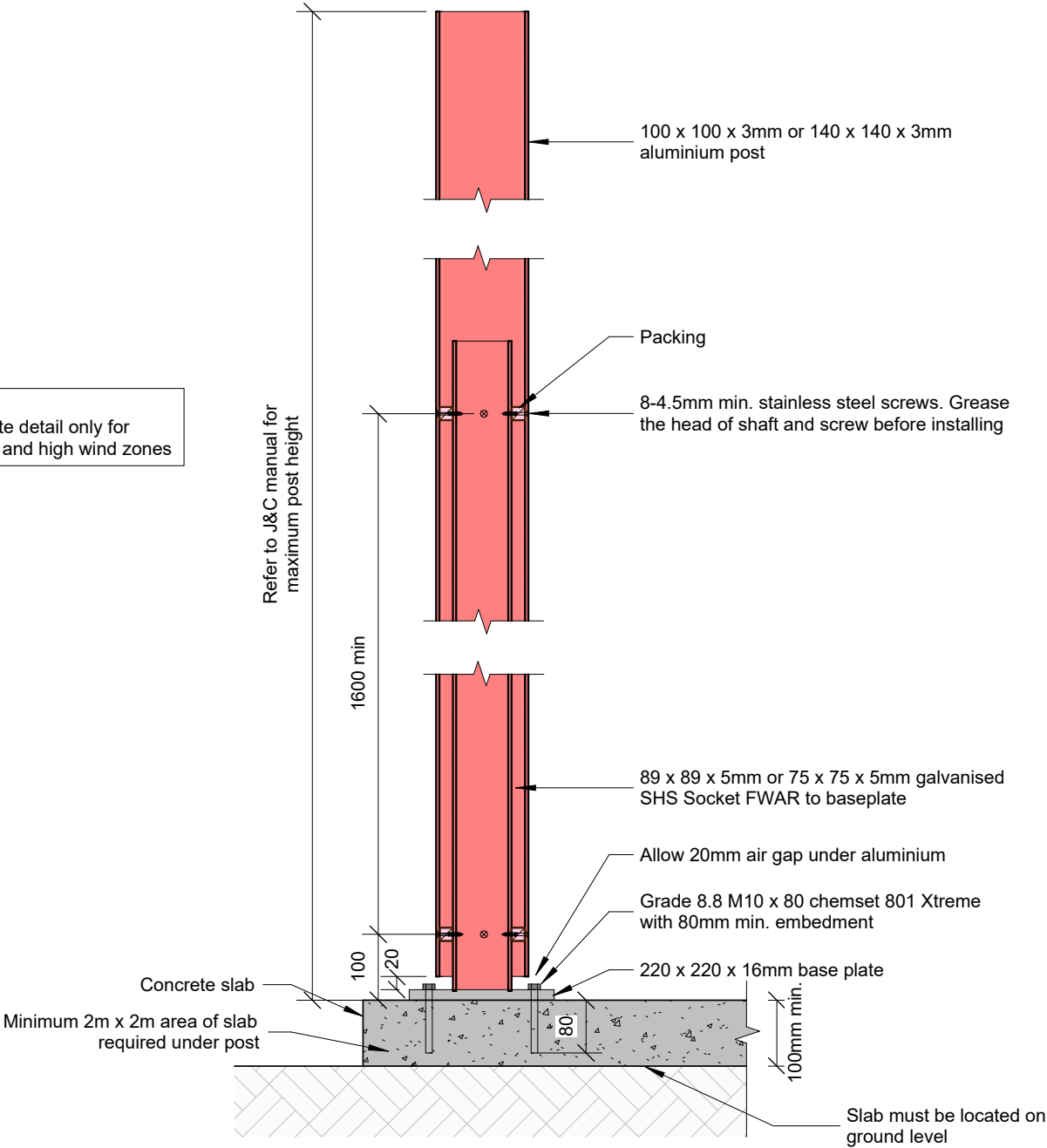


BRACED CANTILEVER POST FOOTING

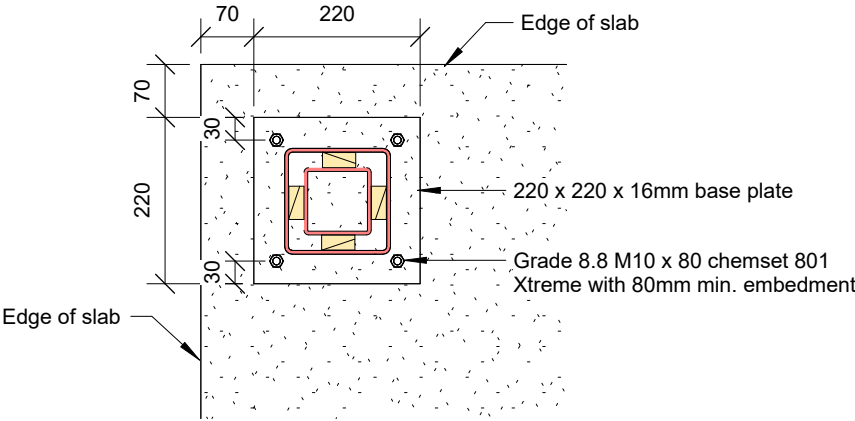
BRACED CANTILEVER POST FOOTING



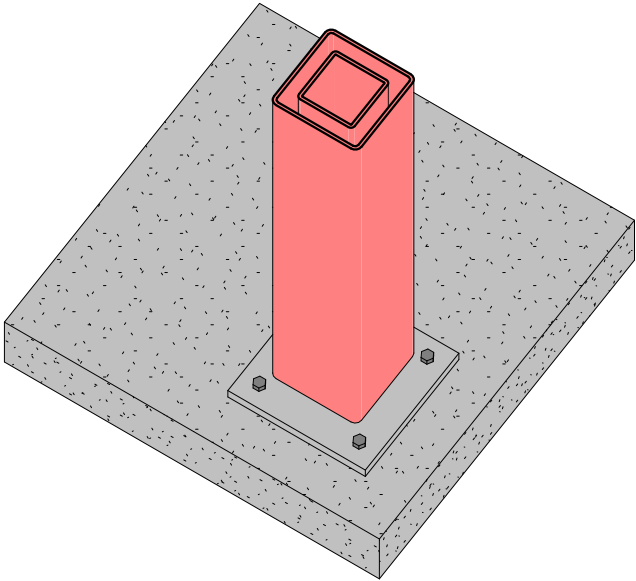
Note:
Baseplate detail only for
medium and high wind zones



BRACED BASE PLATE SOCKET ON SLAB DETAIL
1 : 10



BASEPLATE SOCKET ON SLAB DETAIL
1 : 10



BASE PLATE SOCKET ON SLAB DETAIL

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS

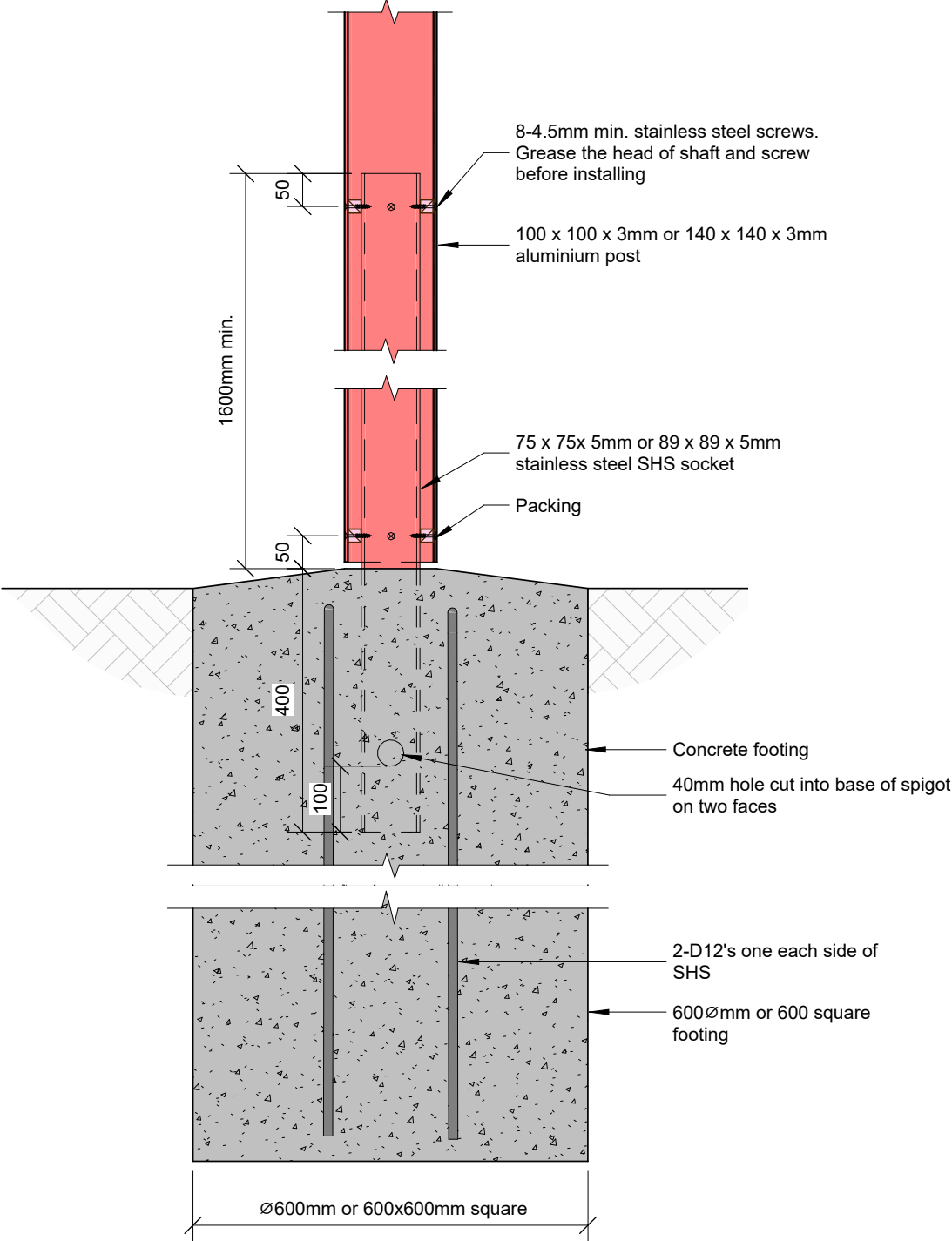


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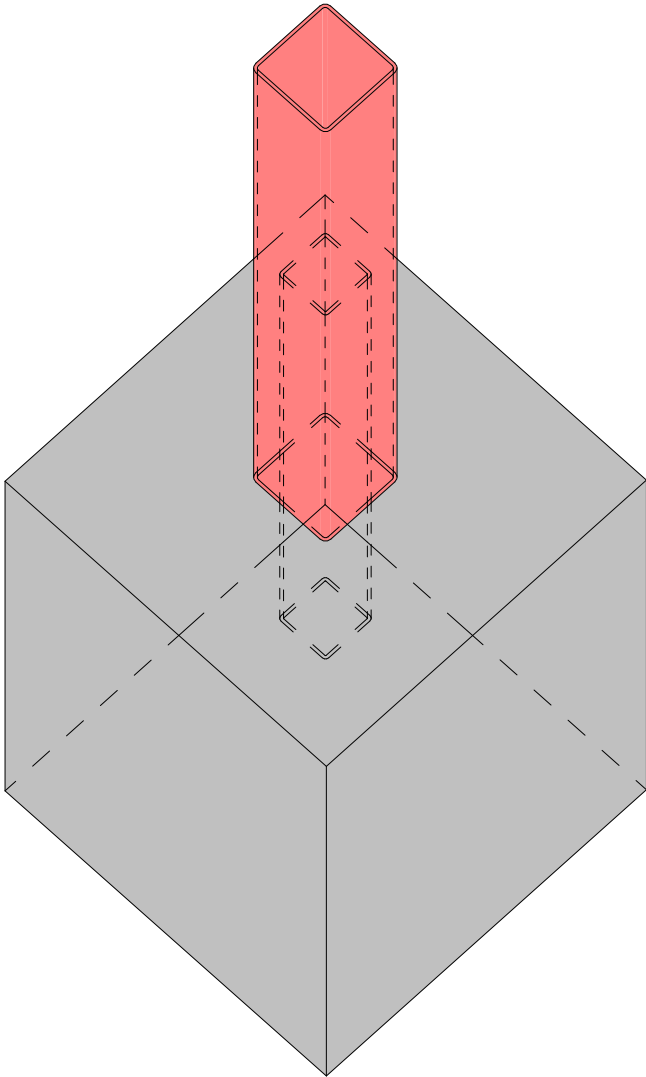
PROJECT TITLE
STANDARD DETAILS
JOHNSON AND COUZINS

DRAWING TITLE
DETAILS

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BRACED POST FOOTING
1 : 10



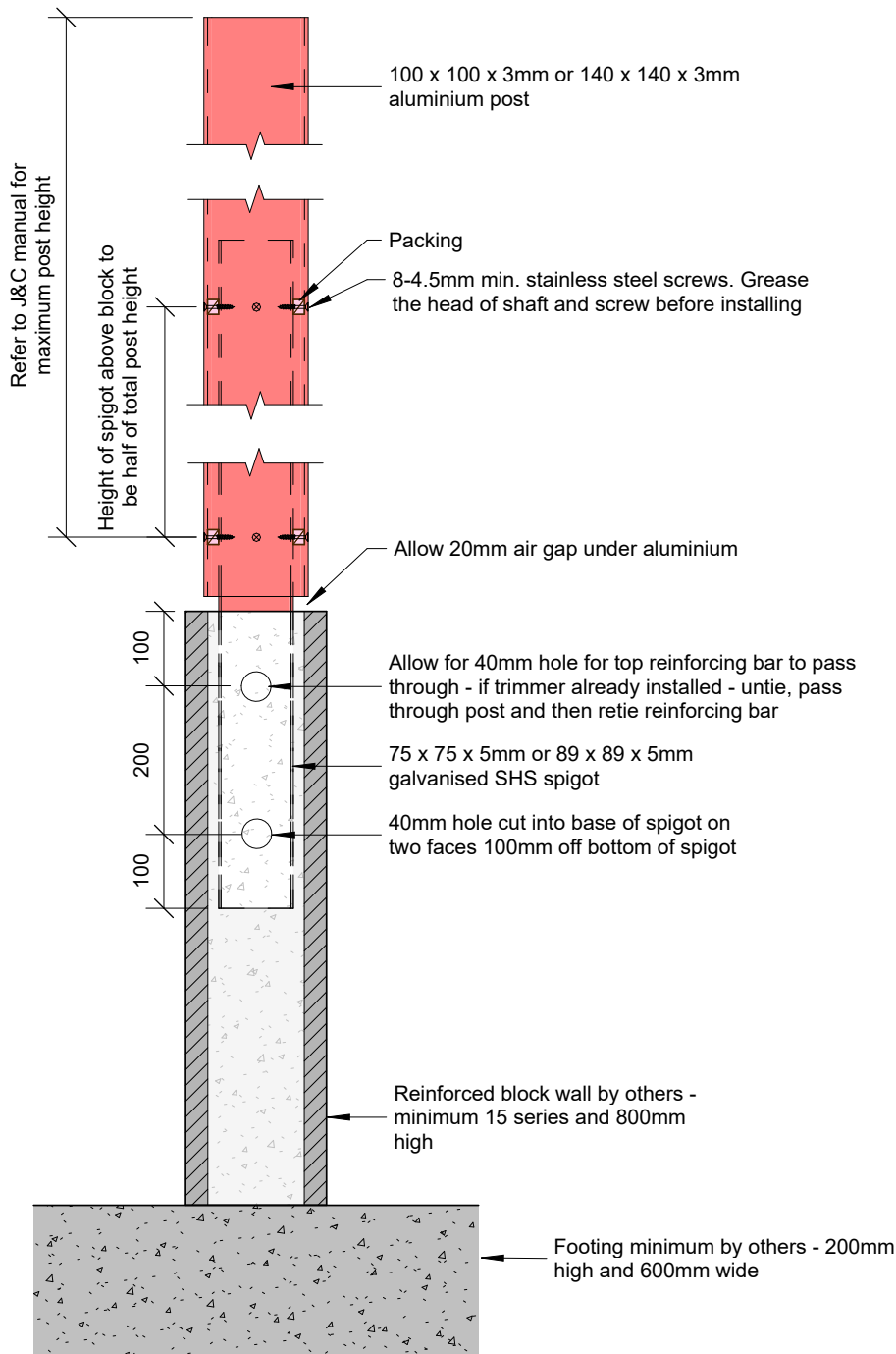
BRACED POST FOOTING

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS

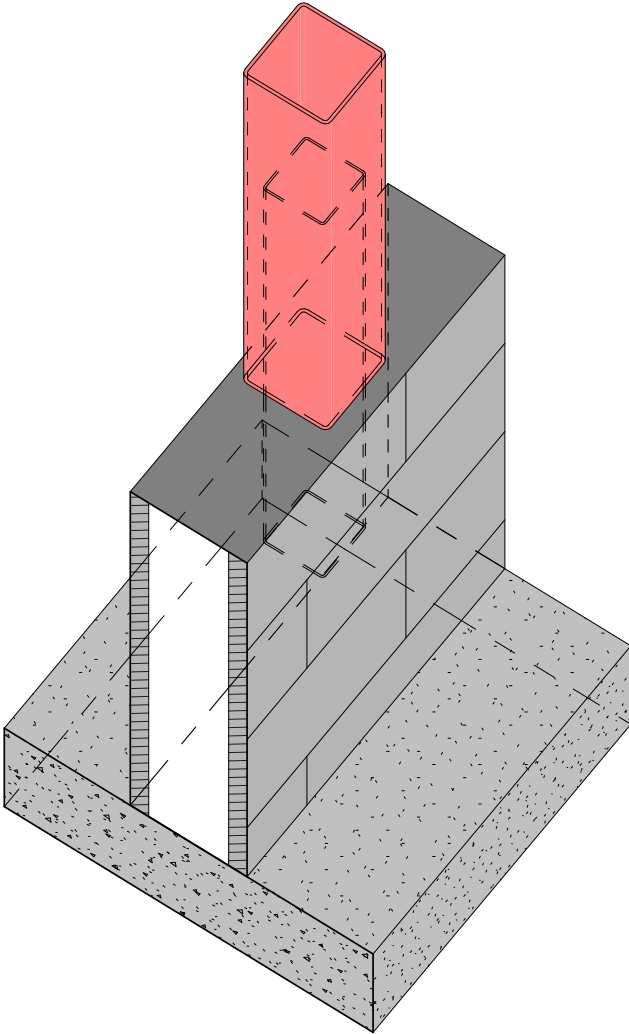
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								REV NO. 1	SHEET NO.
									S4.12



Note:
Do not cut reinforcing - all wall
reinforcing to be continuous



BLOCK ON SLAB
1 : 10



BLOCK ON SLAB

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS

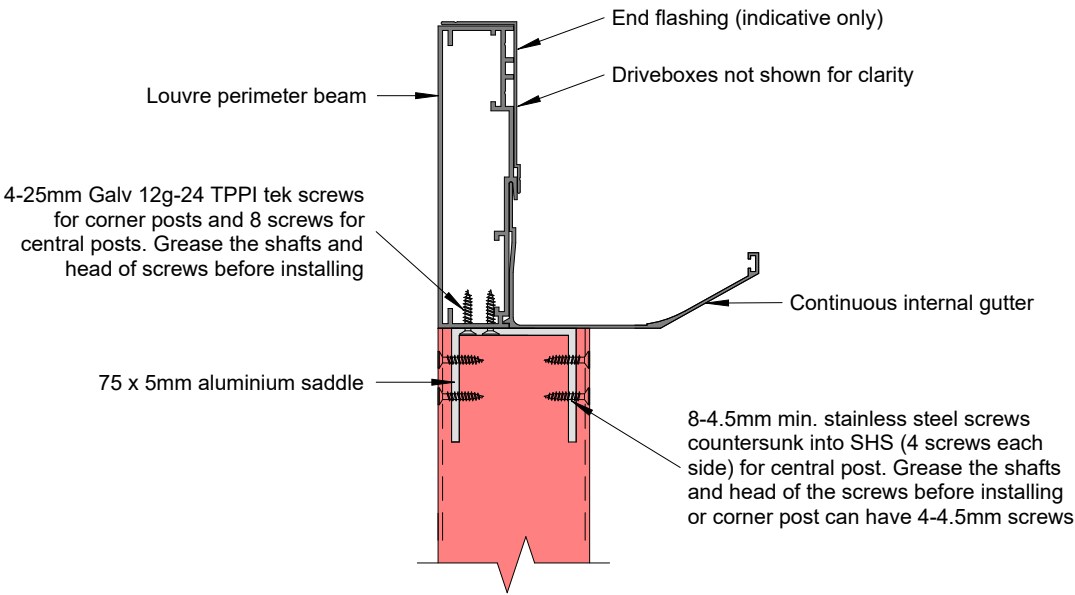


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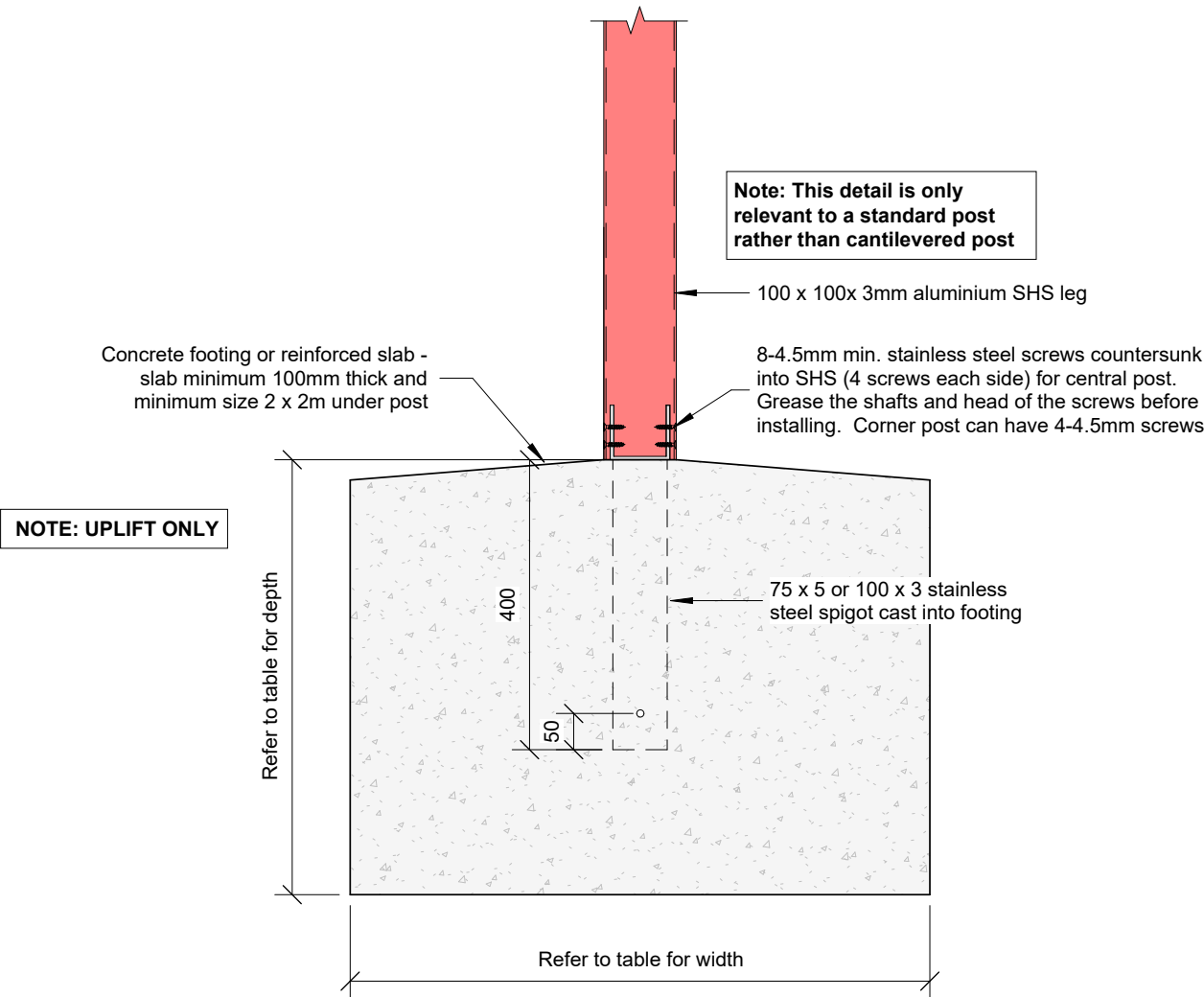
PROJECT TITLE
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JOHNSON AND COUZINS**

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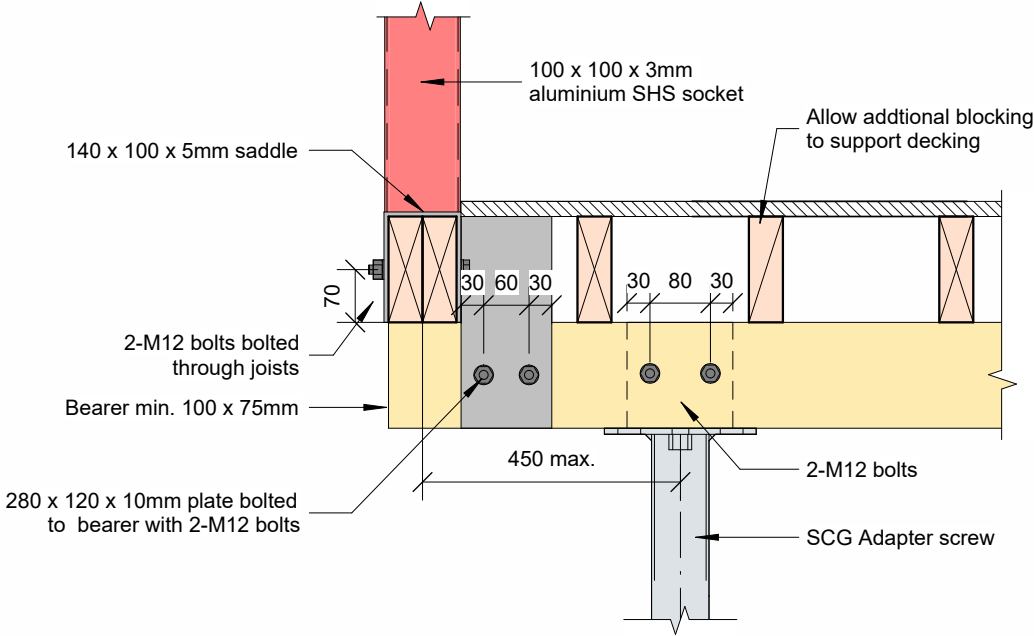
SILENCIO LOUVRE PERIMETER BEAM TO LEG DETAIL
1 : 5



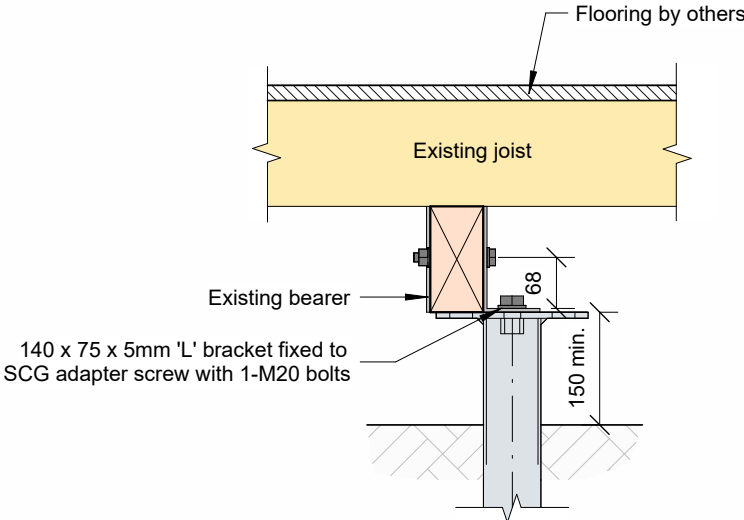
LOUVRE STANDARD POST BASE CONNECTION
1 : 10

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								1	S4.15



A POST CONNECTION
S4.16 1 : 10

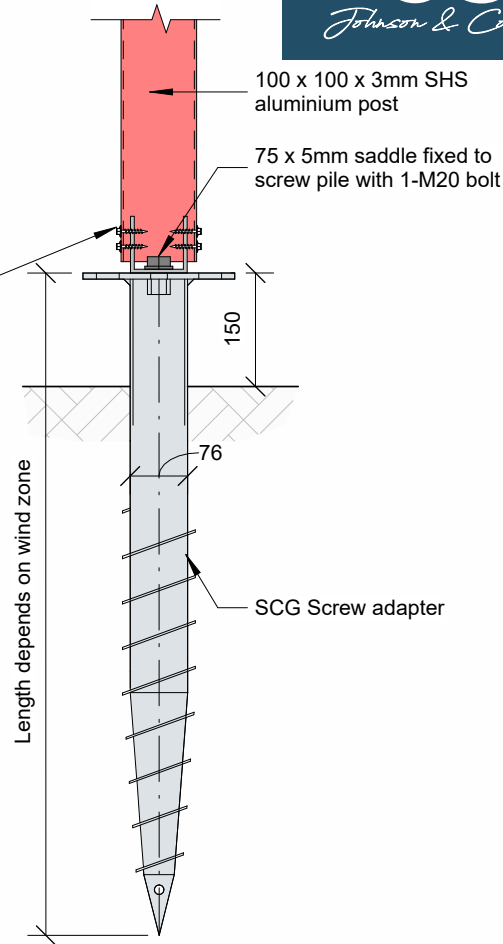


B PILE CONNECTION
S4.16 1 : 10

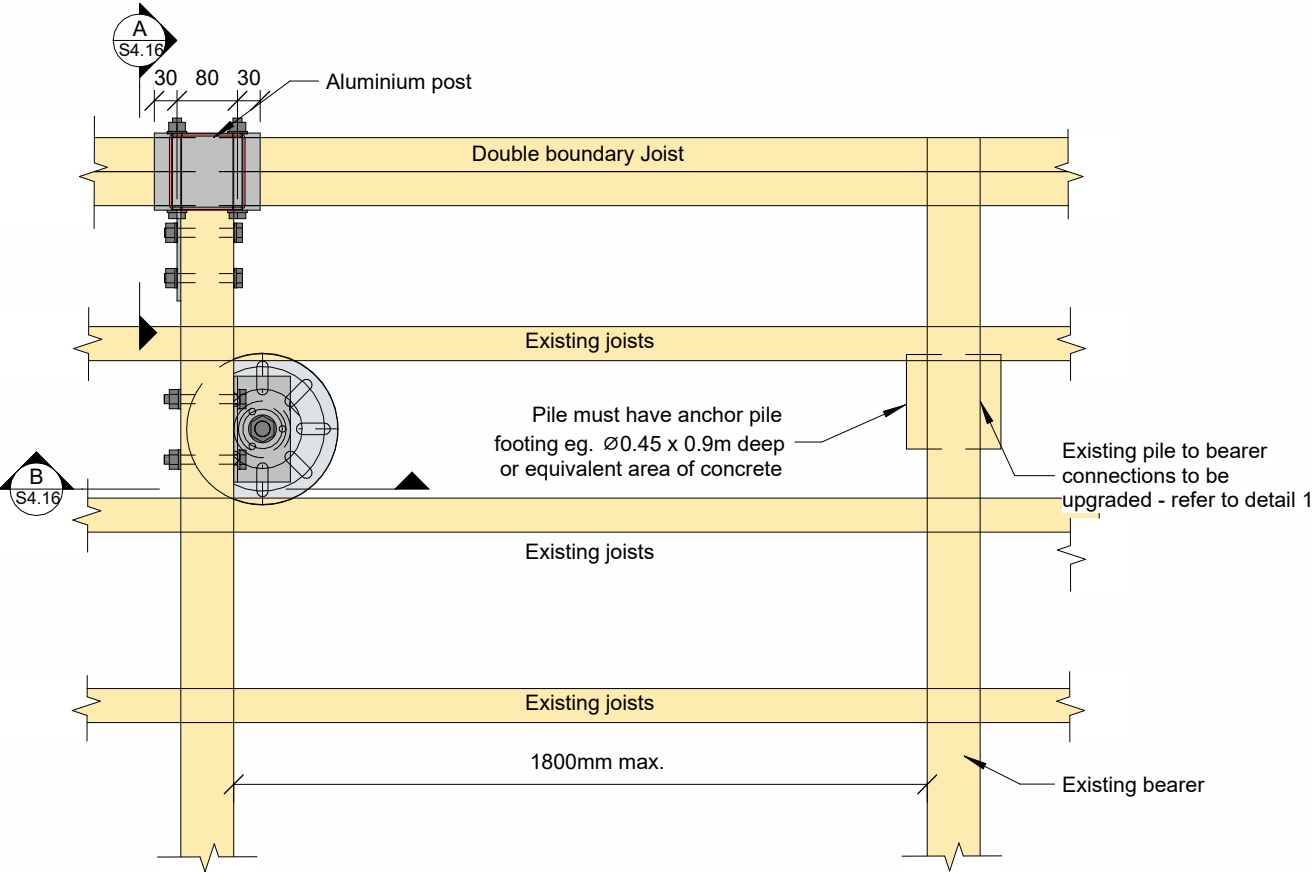
8- 4.5mm min. stainless steel screws. Grease the shaft of the head and screw before installing

Wind Zone	Length of Pile
Medium	1200
High	1200
Very High	1600

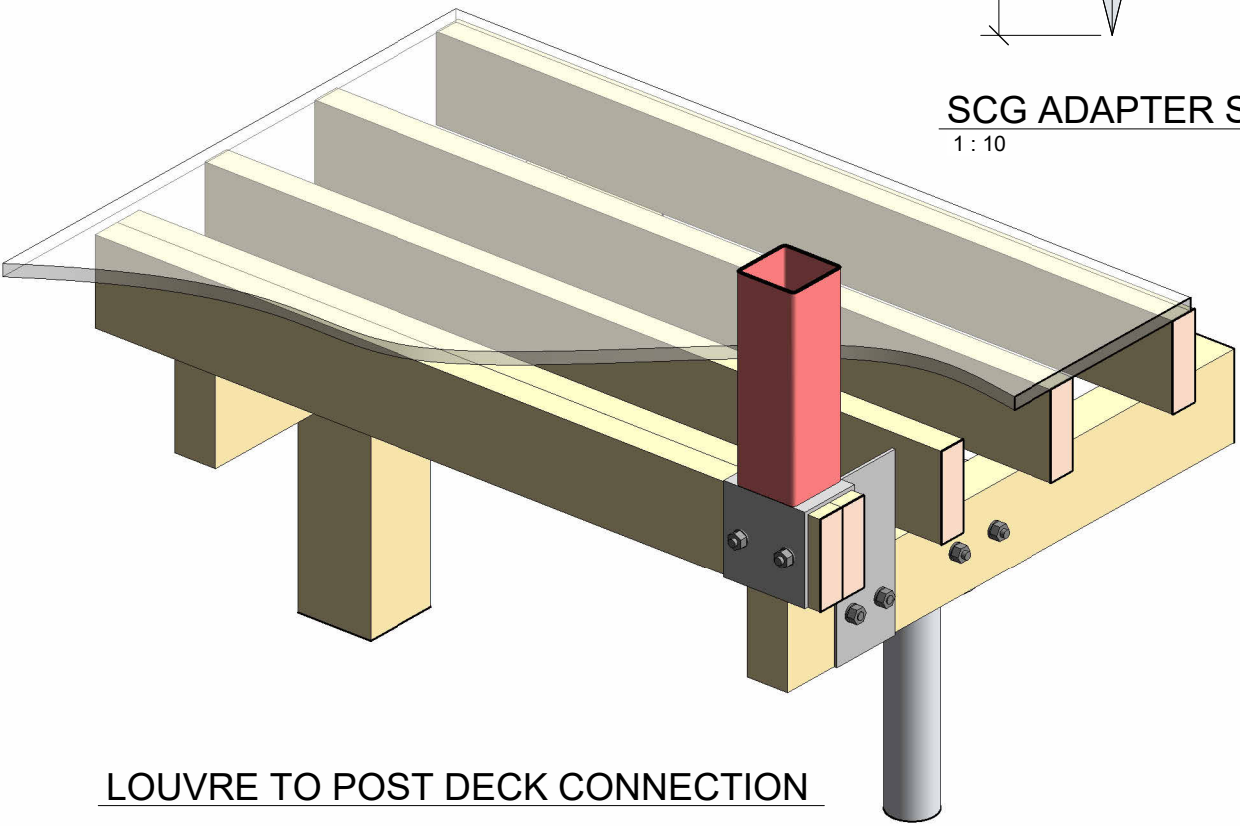
Note:
Screw Pile for uplift only



SCG ADAPTER SCREW DETAIL
1 : 10



LOUVRE POST TO DECK CONNECTION PLAN
1 : 10



LOUVRE TO POST DECK CONNECTION

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS

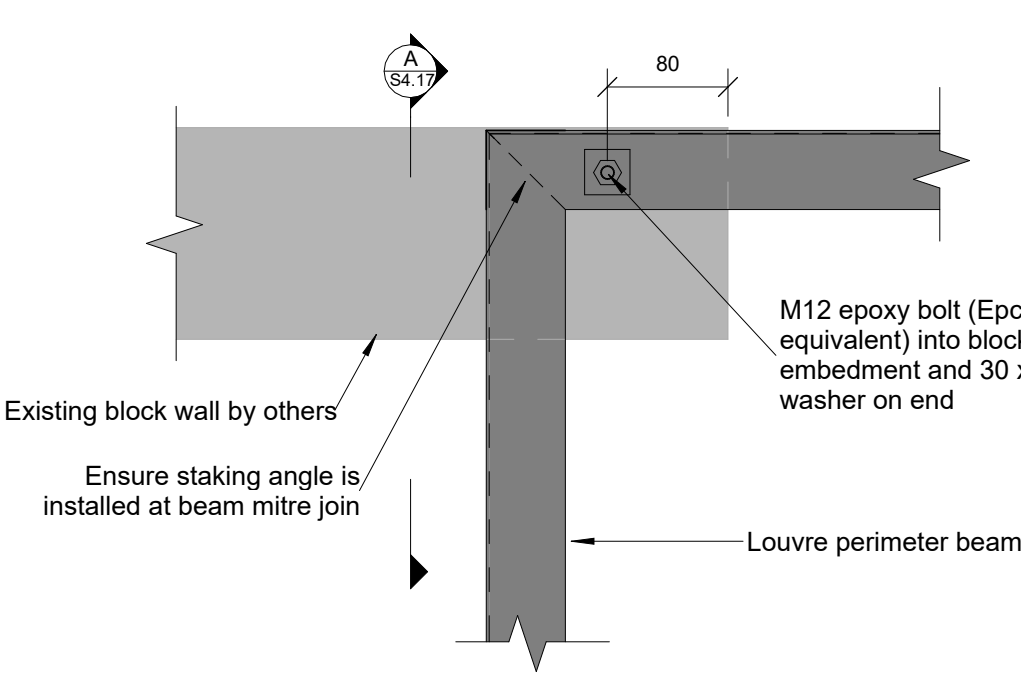


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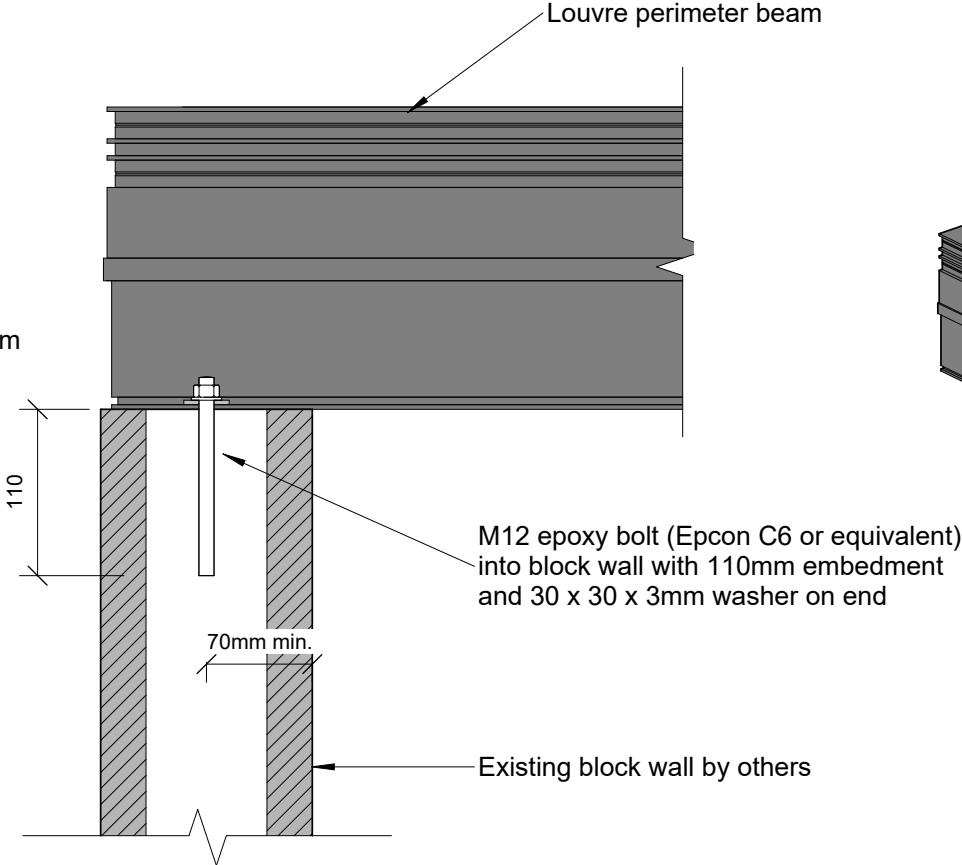
PROJECT TITLE
**STANDARD DETAILS
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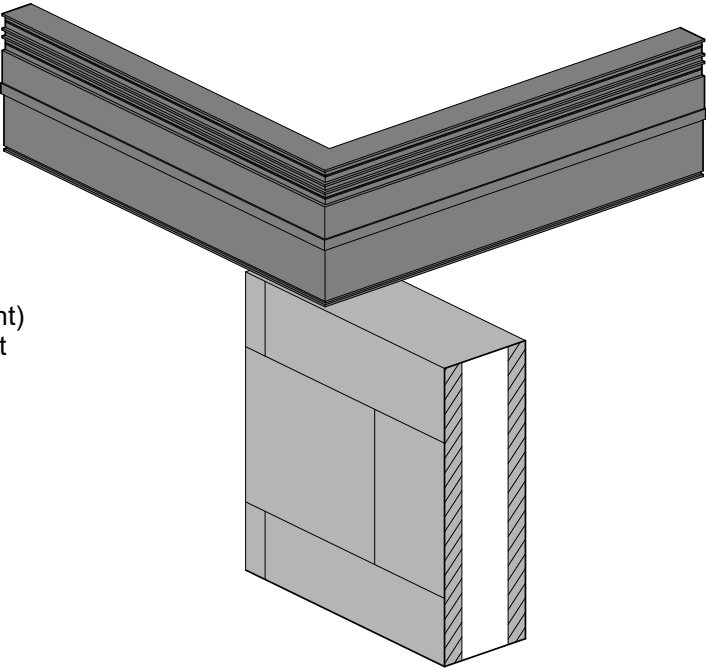
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LOUVRE TO BLOCK DETAIL
1 : 5



LOUVRE TO BLOCK DETAIL
1 : 5



LOUVRE TO BLOCK

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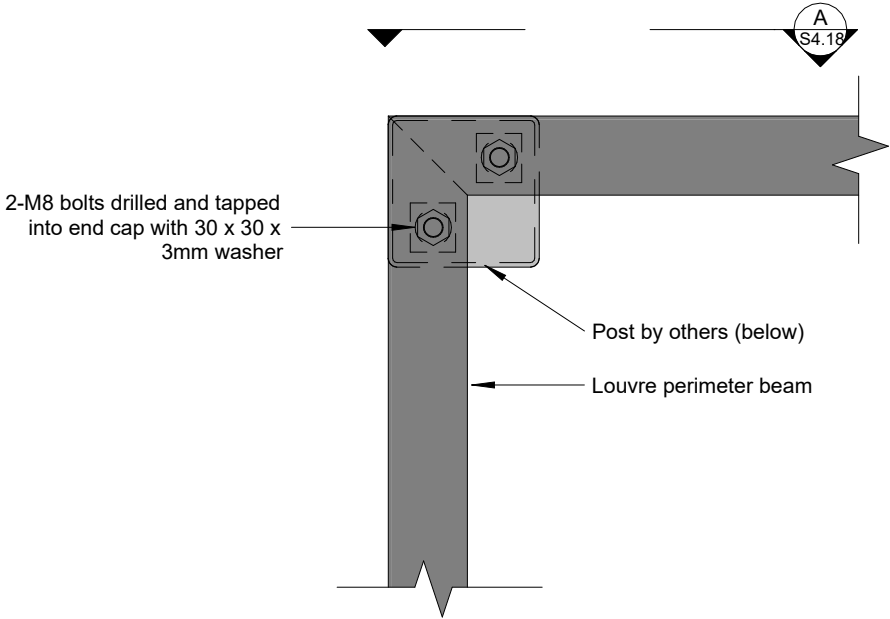


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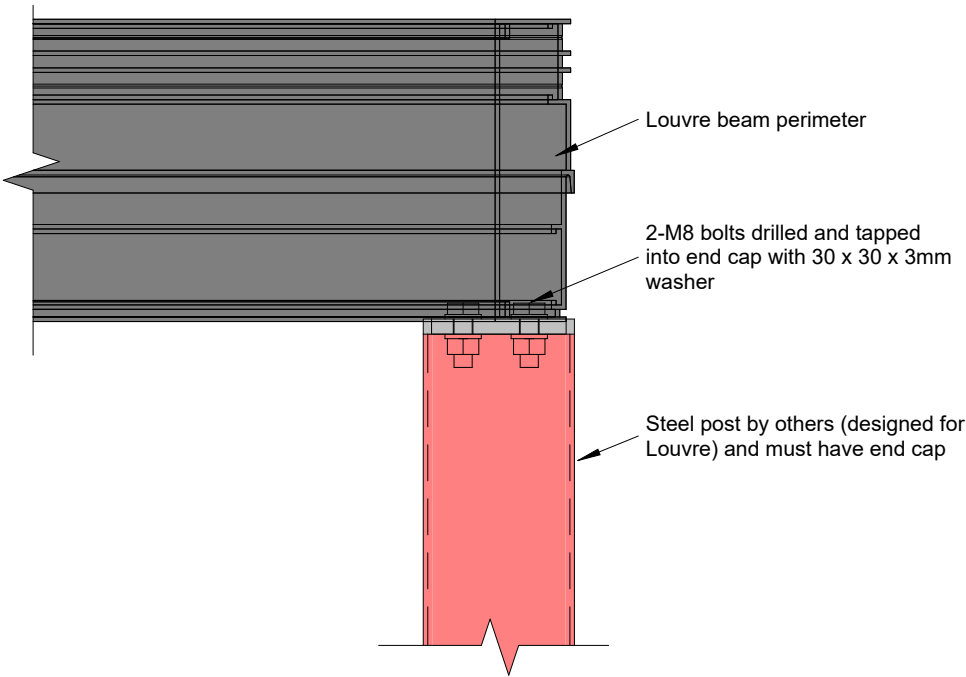
PROJECT TITLE
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DETAILS

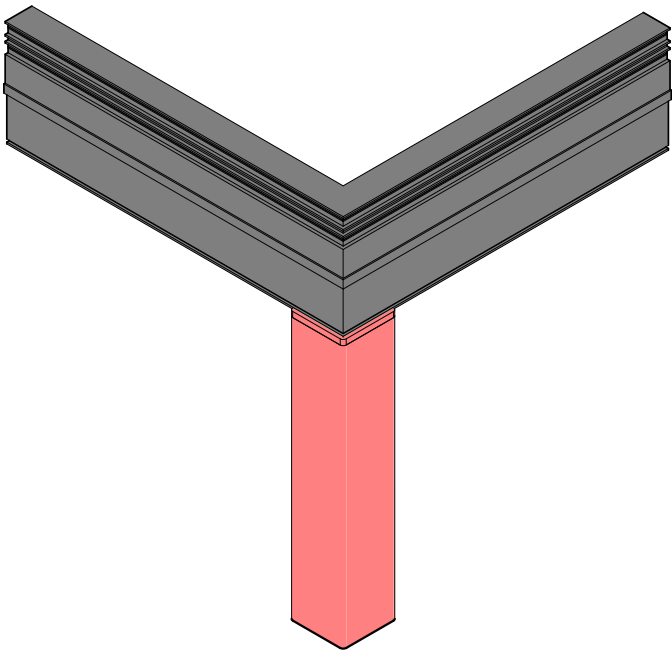
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				REV NO.	1	SHEET NO.	S4.17



LOUVRE TO POST DETAIL
1 : 5



LOUVRE TO POST DETAIL
1 : 5



LOUVRE TO SHS POST

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SUPERIOR OUTDOOR LIVING PROVIDERS SINCE 1866



BOULEVARD
AWNINGS

SUMMIT
UMBRELLAS

VISTASCREENS

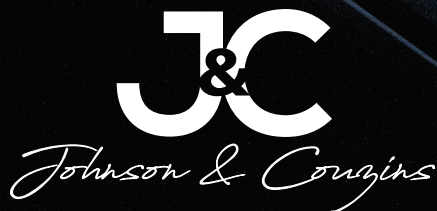
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