

# **LOXO**

## **CLADDING SYSTEMS**

# **PANEL AND BLOCK SYSTEMS**

## **TECHNICAL MANUAL**

**PRODUCT DESCRIPTION AND BUILDING SYSTEM DETAILS**

**Edition October 2014**

(always refer to the latest manual as set out on [www.loxocladding.co.nz](http://www.loxocladding.co.nz))



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**Loxo Cladding Systems**

Panel and Block Systems Technical Manual  
Product Description and Building System Details

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Edition October 2014  
(always refer to the latest manual as set out on [www.loxocladding.co.nz](http://www.loxocladding.co.nz))

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## **LOXO PANEL AND BLOCK SYSTEMS TECHNICAL INFORMATION & SPECIFICATION**

**This specification is prepared for:**

**Owner / Owner's Representative:** \_\_\_\_\_

**Project Address:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Product (s) - tick as appropriate**     **Panel Veneer**     **Block**     **Panel Floor**     **Panel Fence**

**Consent No:** \_\_\_\_\_

**Main Contractor:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

**Architect / Designer:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

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## LOXO PANEL VENEER SYSTEM - AN INTRODUCTION

The **Loxo Panel Veneer** system is an exterior wall cladding system that provides lightweight, high-quality, and highly durable cladding solutions perfectly suited to the needs of both residential and commercial buildings. With exterior coating solutions provided by the Granosite fully-reinforced exterior Plaster System, **Loxo Panels** are one of the most attractive cladding systems on the market today.

This specification document outlines the installation and application of the **Loxo Panels** system by **Loxo Cladding NZ Ltd**. **Loxo Panels** are an exterior wall system using individual panels constructed with lightweight autoclaved aerated concrete (AAC), and is suitable for exterior cladding of both residential and commercial buildings. Each panel is 50mm thick and reinforced with corrosion-protected steel in both horizontal and vertical directions.

**Loxo Panels** are fixed over a 22mm or 50mm Loxo (VH) EPS Batten Cavity that sits between the panels themselves and the timber wall framing of the building. Panels can also be bonded or mechanically fixed to concrete or masonry walls. **Loxo Panels** use the Granosite reinforced Plaster System for finishing and coating.

Important:

- **This specification must be read in conjunction with the detail data sheets.**
- All materials such as PVC flashings and fixings used for the **Loxo Panels** system must be supplied by **Loxo Cladding NZ Ltd** or one of its certified distributors.
- All materials such as fiberglass mesh and plaster components used for the coating of **Loxo Panels** must be supplied by Valspar Paint (NZ) Ltd.

### Performance and Technical Specifications

<b>Dry Density:</b>	560kg/m <sup>3</sup>
<b>Intensity:</b>	4.0MPa
<b>Modulus of Elasticity:</b>	1800MPa
<b>Thermal Resistivity:</b>	0.29m <sup>2</sup> K/W
<b>Dry Shrinkage Value:</b>	0.8mm/m
<b>Panel Size:</b>	50mm x 2200mm x 600mm
<b>Thermal Conductivity:</b>	0.12 W/mK
<b>Sound Transmission Class (STC):</b>	33 (50mm bare panel)
<b>Fire Resistance:</b>	1.5 hours (overseas testing)
<b>Dry mass of 50mm Loxo Panel:</b>	32 kg/m <sup>2</sup> coating and substrate, considered a medium weight cladding in terms of NZS 3604 : 2011
<b>Windzone:</b>	All wind zones of NZS 3604

### Standards Compliance

**Loxo Panels** fixed in accordance with the details and instructions in this Technical Manual meet the requirements and relevant sections of the New Zealand Building Code (NZBC) including:

- B1** Structure
- B2** Durability
- E2** External Moisture
- F2** Hazardous Building Materials

The **mass** of the bare 50mm Loxo Panel sits within the range defined in the NZS 3604: 2011 standards for light wall cladding. With finishing and plaster coating applied, the overall mass sits within the range for medium wall cladding.

**Insulation** is installed in accordance with NZBC E3/AS1 Clause 1.1.1 (a).

**Fire Resistance** for the **Loxo Panels** exceeds the requirements for standard commercial or domestic exterior walls. Additionally, **Loxo Panels** have an ignitability index of zero and are 'Non Combustible' in accordance with NZBC Clause C3 and NZS/AS 1530 standards.

## **LOXO Structure and Durability**

**Loxo Panels** (including their fixings) are able to withstand all wind loadings and earthquake zones in all areas of New Zealand in accordance with NZS 3604:2011.

When installed in accordance with this technical manual, **Loxo Panels** meet the requirements of NZBC Clause B2.3.2.

When fixed in accordance with this technical manual, **Loxo Panels** fixing screws meet the requirements of NZBC Clause B2.3.1 (b).

## **LOXO External Moisture**

The Granosite Plaster System coatings used on **Loxo Panels** meet the requirements of NZBC E2.3.3 relating to the resistance of water penetration, provided the integrity of the specified external Granosite Plaster System is maintained. Refer Granosite warranty guide: [www.wattyl.co.nz](http://www.wattyl.co.nz)

## **LOXO Hazardous Building Materials**

In reference to NZBC Clause F2 regarding Hazardous Building Materials, **Loxo Panels** are non-hazardous providing all safety precautions included in this literature are adhered to, refer to Health and Safety on Page 17.

## **L7 TECHNICAL SPECIFICATIONS**

### **L7 Electrical Cables**

PVC sheathed electrical cables must be prevented from direct contact with the Loxo EPS Battens.

### **L7 Maintenance**

Regular checks and cleaning, at least annually, of the jointing and coating systems must be carried out and any routine maintenance performed as and when required to maintain weather tightness. Any damage to the coating system must be promptly repaired by an approved applicator to ensure the integrity of the Granosite coating system is maintained. Refer Granosite warranty guide: [www.wattyl.co.nz](http://www.wattyl.co.nz)

### **L7 Footings**

**Loxo Panels** can be a direct substitute for a thin sheet cladding material e.g. fibre cement sheeting or polystyrene cladding and fixed with a 22mm cavity on a timber frame. The panel can be sat on a rebated step down in a similar manner to that provided for brick veneer, or alternatively can be fixed with an overhang of the concrete slab or timber base (see Details 3.1 & 3.2) in accordance with NZS 3604: 2011 Section 6.

### **L7 Framing (Timber or Steel)**

Studs should be sized as normal to suit the wind loadings, vertical loading and stud height in accordance with NZS 3604: 2011 Section 8. Buildings or parts of buildings outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and AS/NZS 1170.

Timber studs should be spaced at nominal 600mm centres. Dwangs/nogs must be flush fitted at a maximum of 800mm centres.

For steel framing the minimum framing specification is 'C' section studs and nogs of overall section size 75mm web and 32mm flange. Minimum Steel thickness must be 0.75mm. Use self-drilling 100mm long AS 3566 Corrosion Class 4 and Grade 304 Stainless Steel in the sea spray zone.

### **L7 Bracing**

The timber or steel framed walls must be braced for a medium weight wall cladding in accordance with NZS 3604: 2011 Section 5.

### **L7 Wall Wrap (Building Paper)**

To comply with NZBC Acceptable Solution E2/AS1 Table 23, wall wrap must be fixed to the exterior wall framing before **Loxo Panels** are installed. Building paper must be installed horizontally and be continuous around corners.

### **L7 Control Joints**

Vertical control joints are located at internal corners. If the distance between corners exceeds 8m, control joints should be located in line with window and door openings. These joints require 10mm gaps between panels which are injected with expandable foam or backing rod and sealed with approved moisture compatible flexible sealant (see Details 4.1 and 4.2).

Horizontal control joints are used when timber joists are not seasoned (see Details 4.1 and 4.2), and/or when wall height exceeds 8m.

## Two-Storeyed Construction

Loxo Cladding Panels can be used for two-storeyed construction when fixed in accordance with Details 3.3.1, 3.3.2, and 3.5.1.

## Non Vented System

The Loxo Panel Veneer System may be designed and installed as a non vented cavity system with the approval of Loxo NZ Head Office on a case by case basis. The local Distributor shall apply for a Non Vented System pack outlining the system and it's requirements. A selection of typical Non Vented details are shown within this Technical Manual. If any additional details are required please contact Loxo NZ. Most typical vented system details can be adopted simply by removing and base vents and replacing Vermin Control Cavity Closure's with non vented panel Base Shoe. All window panel junctions must be sealed and must incorporate the Loxo Patented Water Divertor Head Flashings.

## Loxo (VH) EPS Battens

Loxo (VH) EPS Battens are manufactured from high density expanded polystyrene (Class VH) with an approximate density of 28kg/m<sup>3</sup>.

Measurements:

1. Classic (VH) EPS (22mm) battens: 22mm × 40mm × 1200mm
2. Deluxe (VH) EPS (50mm) battens: 50mm × 40mm × 1200mm

With **Loxo Cladding NZ Ltd** approval, H3.2 timber battens may be used.

All panel fixing with the Bugle head screws is fixed through panel, battens and into framing (see Detail 3.4).

All battens must be fixed by nails or approved adhesive to the framing in accordance with the batten layout as shown on the detail data sheets. Additional vertical battens are required at external and internal corners and openings. Airflow must be blocked off at soffit/wall junction (see Detail 7.1 and 7.2). Gables must be lined or incorporate an air barrier which complies with the requirements of NZBC Acceptable Solution E2/AS1, Table 23.

## **LOXO PANEL SYSTEM COMPONENTS**

### **Nails and Screws**

Loxo (VH) 22mm and 50mm battens require the use of 50mm & 75mm galvanised flat head nails for fixing to framing.

**Loxo Panels** require the use of Bugle head self cutting screws (Grade 3 or 4) to fix the 50mm panels through the Loxo battens (classic 22mm 14 – 10 × 100mm long Bugle screws / deluxe 50mm batten 14 – 10 × 150mm long Bugle screws) to the framing.

With **Loxo Cladding NZ Ltd** approval, 14 - 10 x 125mm long Bugle screws may be used. All screws must comply with Compliance Document E2/AS1 Table 20.

These components are suitable for all New Zealand conditions providing:

- a) They are fixed through the face of the Granosite panels and embedded a minimum of 5mm;
- b) The **Loxo Panels** receive a **Granosite Plaster System** finish; and
- c) **Loxo Cladding NZ Ltd** recommend that Granosite paint finish is applied and properly maintained.

### **Loxo Panel Adhesive**

**Loxo Panel Adhesive** is a polymer modified cement-based adhesive mortar supplied in 20kg bags. It is supplied by **Loxo Cladding NZ Ltd**, mixed on-site with clean water (see instructions printed on each bag), and is applied to all edges of the panels (except control joint) by trowel.

**Loxo Panel Adhesive** is also used for bonding **Loxo Decorative Trims** and banding, along with minor patching, repairs and stopping of **Loxo Panels**.

### **Corrosion Protection Paint**

Loxo Panels may be cut to size and whenever possible no reinforcing steel should be exposed to openings or corners. When this is not possible the exposed steel must be ground back into the Loxo Panel by a minimum of 5mm and treated with a zinc primer. Primer used is CRC ZINC IT OR Loxo Primer, instructions for use are on the container.

### **Sealant Joints**

Expandable foam, backing rod and moisture compatible flexible MS sealant supplied by **Loxo Cladding NZ Ltd** for use of control joints, joinery, soffits, meter box and general wall penetrations as per drawn details. Before MS sealant application use GranoPrime® as a sealant primer on Loxo Panels. Sealant used is Bostik SEAL'N'FLEX MS.

### **Vents (Detail 1.2)**

1. Loxo Classic Vents 100 × 50 @ 1000mm centres
2. Loxo Deluxe Vents 125 × 54 @ 1500mm centres

### **Battens (22mm up to 50mm) (Detail 2.1)**

1. 22mm × 40mm × 1200mm Loxo (VH) EPS battens Classic (22mm)
2. 50mm × 40mm × 1200mm Loxo (VH) EPS battens Deluxe (50mm)

## **LOXO Flashings (Details 1.1)**

1. Loxo PVC jamb flashing
2. Loxo PVC sill flashing
3. Metal flashings (supplied and installed by others).

**Note:** Check if there are any special back-flashings required where the Loxo Cladding Panel joins another substrate/cladding.

All pipes are flashed appropriately in accordance with E2/AS1 Figure 68. All meter boxes must be flashed in accordance with the detailed drawings for the Loxo Cladding System. All sealant work must be installed in strict accordance with the manufacturer's instructions.

## **LOXO Mouldings (Details 1.1 & 4.1)**

1. Loxo PVC slotted vermin control cavity closer Classic (22mm)
2. Loxo PVC slotted vermin control cavity closer Deluxe (50mm)
3. Loxo PVC control joint moulding
4. Loxo PVC base cap moulding 50mm

All PVC flashings and mouldings must be glued to **Loxo Panels** using Loxo Cladding NZ Ltd approved solvent-based adhesives. Adhesives used are Holdfast SB and Bostik GOLD.

## **LOXO Damp Proof Course (DPC)**

The following DPCs are approved by Loxo Cladding NZ Ltd for use with **Loxo Panels**:

- Supercourse 500 DPC
- Malthoid DPC
- 0.25mm Polythene DPC

These DPCs meet the requirements of E2/AS1 Section 10.2.3.

## **LOXO Sill & Jamb Flashings**

For the Loxo Deluxe System it is mandatory to use Loxo Sill and Jamb Flashings (see Detail 6.2).

## **LOXO Waterproofing and plaster options (for bottom edges of Loxo Panels)**

- Bituminous membrane paint DPM bottom edge and back 50mm of **Loxo Panels**
- Loxo PVC base cap moulding 50mm

## L7 INSTALLATION OF LOXO PANELS

### L7 General

**Loxo Panels** installation must be performed or supervised by approved installers to ensure quality of workmanship. Please contact **Loxo Cladding NZ Ltd** for details of licensed Loxo distributors/applicators.

### L7 Construction Method

1. Ensure builder has completed items set out in the **pre-cladding check list** (See Appendix A).
2. On rebated step down foundations, 3 coats of bituminous membrane paint DPM must be applied to foundation and upstand as per Details 2.2 and 3.1.
3. Check to ensure framing is straight and plumb with a straight edge, especially corner studs, and is sheathed with wall wrap in accordance with compliance document E2/AS1 Table 23.
4. On overhanging foundations as per Detail 3.1 and 3.2 install Loxo PVC slotted vermin control cavity closers 22mm Classic or 50mm Deluxe.
5. Measure 600mm up the stud from the rebated step down of the footing, or 15mm below Loxo PVC slotted vermin control cavity closer for overhanging foundations. Mark a horizontal line around the building at 600mm intervals up the soffit line or top plate (see Detail 2.1, 2.2, 2.3, and 3.1).
6. Fix 22mm × 40mm × 1200mm (VH) EPS battens Classic (22mm), or 50mm × 40mm × 1200mm (VH) EPS Polystyrene battens Deluxe (50mm) vertically with 3 nails or an approved adhesive from the bottom plate to the top plate, as per Details 2.1, 2.2, and 2.3. Extra battens can be placed to allow for irregularities in framing or in anticipated extra support for **Loxo Panels**.
7. Calculate the quantities of **Loxo Panels** required for the first course around the building making allowance for window and door openings. Cut slots for Loxo Classic vents into the bottom of panels at a maximum of 1000mm intervals and Loxo Deluxe vents at 1500mm intervals. Apply waterproofing/plaster option to bottom edges of Loxo Panel.
8. Starting from a corner, place the first Loxo Panel horizontally onto the rebate. Use a spirit level to ensure the Loxo Panel is level and is flush with the rebate edge. Push the Loxo Panel hard against the battens and screw fix through the exterior face, through the batten and into the framing a minimum of 50mm in from the edges of the Loxo Panel. A minimum of 6 screws are required per Loxo Panel, and each screw must be wound into the Loxo Panel until the head is embedded by a minimum of 5mm. Loxo Panels can be cantilevered a maximum of 500mm beyond the stud.
9. Apply Loxo Panel Adhesive approximately 2–3mm thick along the vertical edge of the Loxo Panel. Abut the next Loxo Panel hard against the fixed Loxo Panel. Ensure this Loxo Panel is level and screw to the battens. Repeat this procedure around the perimeter of the building.
10. Apply Loxo Panel Adhesive approximately 2–3mm thick along the top edge of the first row of **Loxo Panels** approximately one panel length. Lay the next row of **Loxo Panels** with a quarter to half overlap of the Loxo Panel below, then screw Loxo Panel to framing as outlined above.
11. **Loxo Panels** may be cut to size and whenever possible no reinforcing steel should be exposed to openings or corners. When this is not possible the exposed steel must be ground back into the Loxo Panel by a minimum of 5mm and treated with a zinc primer.
12. Before installing Loxo Panel (for the Loxo Panel Deluxe) below windows fit DPC flashing over battens and behind Loxo Panel as per Detail 6.2.
13. At window and door openings install Loxo PVC jamb and sill flashings to framing before Loxo Panel is installed.



## LOXO PANELS GUARANTEE

### System Guarantee

**Loxo Panels** and associated materials, when installed as exterior wall cladding, are guaranteed for a minimum life period of **15 years** (from date of completion), meeting the requirements outlined in the New Zealand Building Code (Clause B2.3.1). Our products are designed to have a life span significantly in excess of this minimum period.

### Workmanship Guarantee

Our panel installation and exterior plastering workmanship is guaranteed for a period of **5 years** from date of practical completion.

## GRANOSITE PLASTER AND PAINT SYSTEM

**Granosite Plaster and Paint System** is the only approved plaster system for application over the Loxo Panel system.

For more information, see the Granosite Plaster System and Paint Specifications.

### Guarantee

The **Granosite Plaster System** is guaranteed for a period of **15 years** (from date of completion) to perform and meet provisions outlined in the New Zealand Building Code (Clauses B1 Structure, B2 Durability, E2 External Moisture, and E3 Internal Moisture). This guarantee applies only where all material components of the Plaster System have been prepared and installed in accordance with our written instructions, technical specifications and detail drawings, and where the work is carried out by an approved contractor, and where the system has been properly maintained and subjected to normal conditions of exposure.

#### **Important Notes:**

The construction details on the following pages describe the most common applications of the **Loxo Panels** system. **Loxo Panels** can be installed and applied in situations other than those outlined. If designers or specifiers require additional or modified details, please contact Loxo Cladding NZ Ltd immediately at [info@loxocladding.co.nz](mailto:info@loxocladding.co.nz)

## HEALTH AND SAFETY

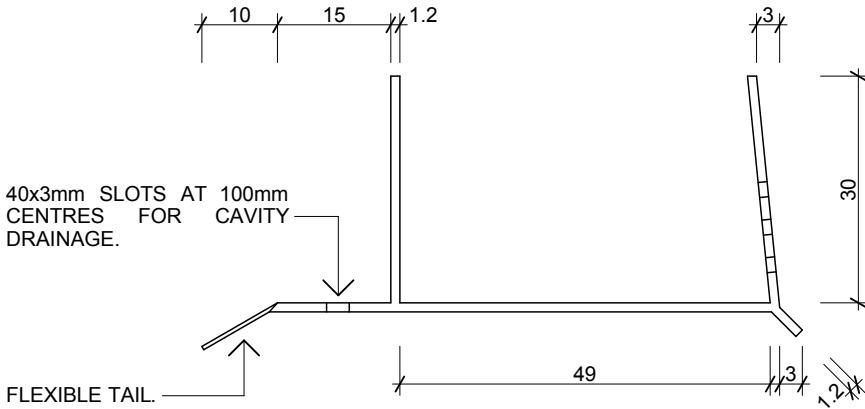
Loxo AAC Panel, along with all clay, concrete and quarry products contains Crystalline Silica, or Silica Dust. Loxo AAC Panel itself does not cause health problems – however when cutting, drilling, sawing, routing, chasing, sanding and in any way breaking up the material there is the potential for health problems to occur unless precautionary measures are taken. Breathing in the dust repeatedly, usually over a number of years may lead to health problems.

When loading, stacking and laying panels workers are unlikely to breath in the fine silica dust. When breaking up the material, sawing, drilling etc it is imperative that a safety mask and eye protection are worn. Ensure the mask fits properly and is approved for use with Dust. Also protective clothing should be worn e.g. overalls. These should be washed often and not in the same wash as other clothes.

The site should be cleaned of dust every day and when using power tools these should be fitted with efficient and well maintained dust extraction devices.

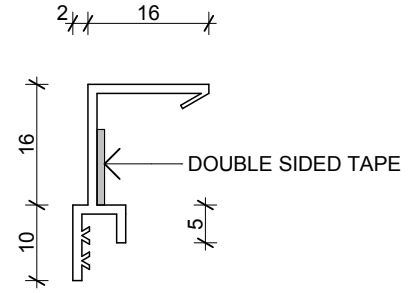
As the Loxo Cladding Panel Installer on site – please note that it is your responsibility to inform all employees of these Health and Safety requirements under the Occupational Health and Safety Act.

# 1.1 MOULDINGS



**LOXO PVC SLOTTED VERMIN CONTROL BASE SHOE - CLASSIC (22MM)**

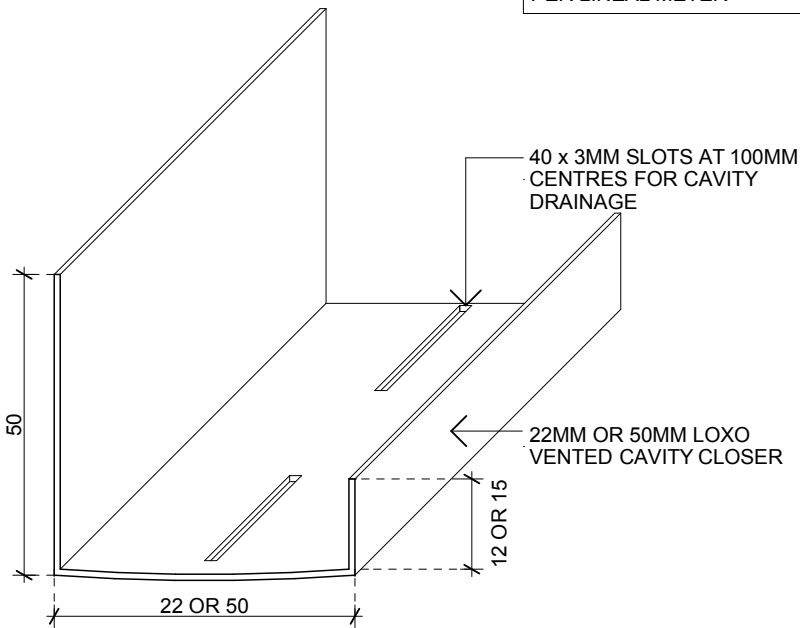
Det. 1.1.1  
Scale 1:1



**LOXO PVC JAMB FLASHING**

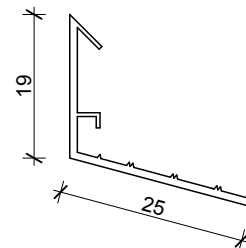
Det. 1.1.4  
Scale 1:1  
UPDATED AUGUST 2014

**NOTE:**  
ALL LOXO PVC SLOTTED VERMIN CONTROL CAVITY CLOSERS PROVIDE VENTILATION OPENINGS OF 1000mm<sup>2</sup> PER LINEAL METER



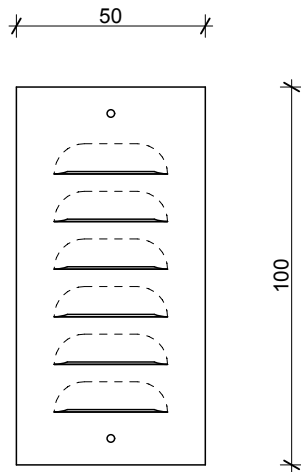
**LOXO PVC SLOTTED VERMIN CONTROL CAVITY CLOSER (22MM CLASSIC & 50MM DELUXE)**

Det. 1.1.3  
Scale NTS



**LOXO PVC SILL FLASHING**

Det. 1.1.5  
Scale 1:1



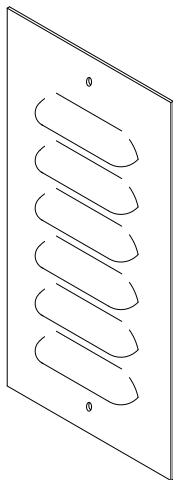
**LOXO CLASSIC VENT ELEVATION**

Det. 1.2.1  
Scale 1:2



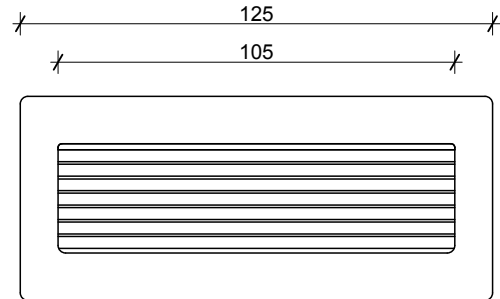
**LOXO CLASSIC VENT SECTION**

Det. 1.2.2  
Scale 1:2



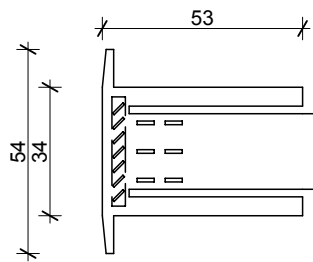
**LOXO CLASSIC VENT**

Det. 1.2.3  
Scale NTS



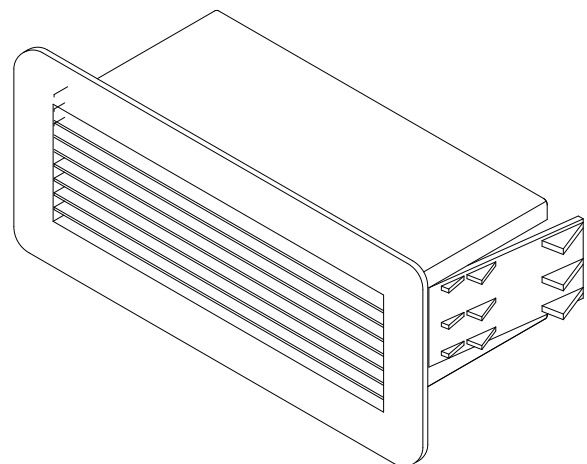
**LOXO DELUX VENT ELEVATION**

Det. 1.2.4  
Scale 1:2



**LOXO DELUX VENT SECTION**

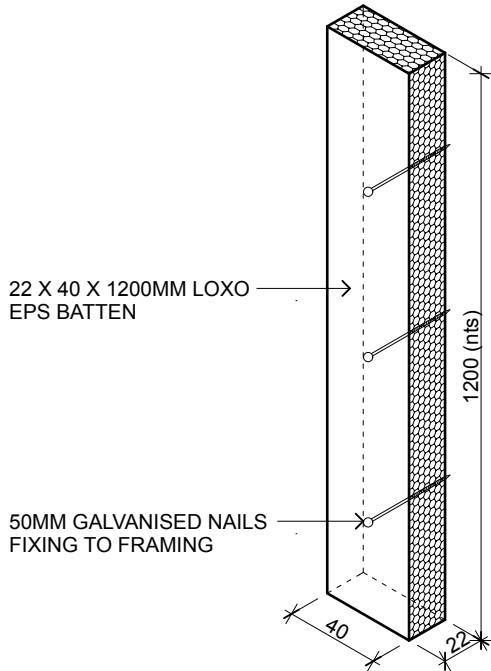
Det. 1.2.5  
Scale 1:2



**LOXO DELUX VENT**

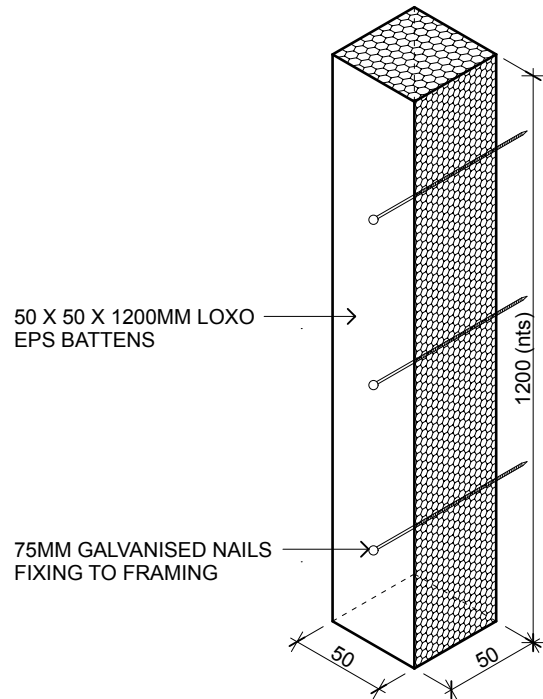
Det. 1.2.6  
Scale NTS

# 2.1 GENERAL



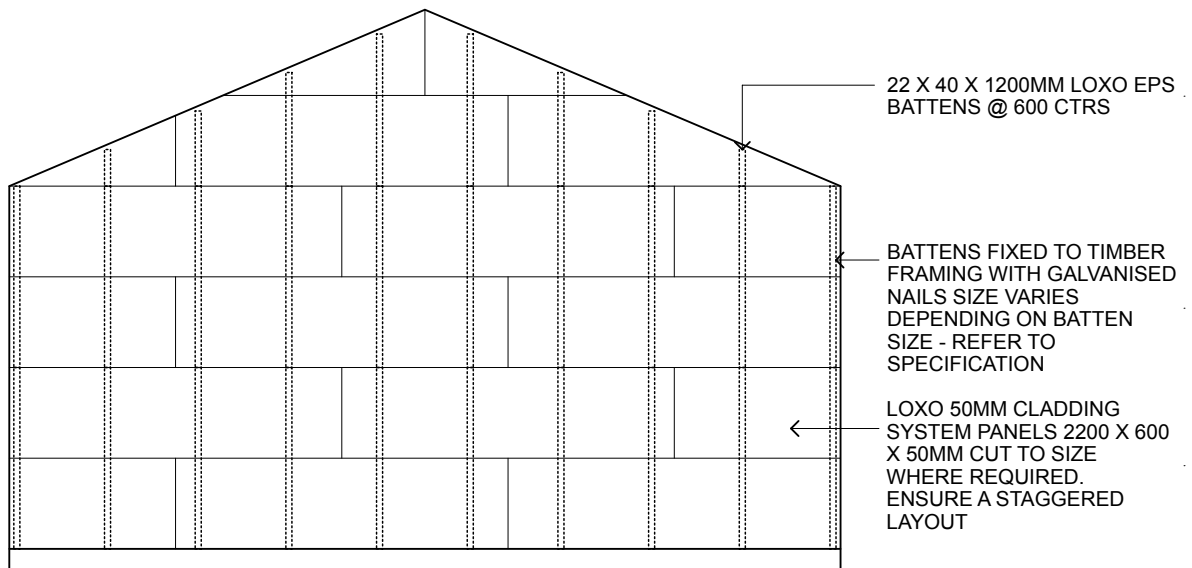
**LOXO (CLASS V.H) EPS CONTINUOUS BATTENS - CLASSIC (22mm)**

Det. 2.1.1  
Scale NTS



**LOXO (CLASS V.H) EPS CONTINUOUS BATTENS - DELUXE (50mm)**

Det. 2.1.2  
Scale NTS



**SINGLE STOREY PANEL ELEVATION**

Det. 2.1.3  
Scale 1:50

NOTE: REFER TO SPECIFICATION FOR WATERPROOFING OPTIONS FOR BASE OF PANELS

LOXO 50MM CLADDING SYSTEM PANELS CUT TO SIZE WHERE REQUIRED.

22 X 40 X 1200MM LOXO EPS BATTENS @ 600 CTRS

SELECTED LINING TO SELECTED TIMBER WALL FRAMING

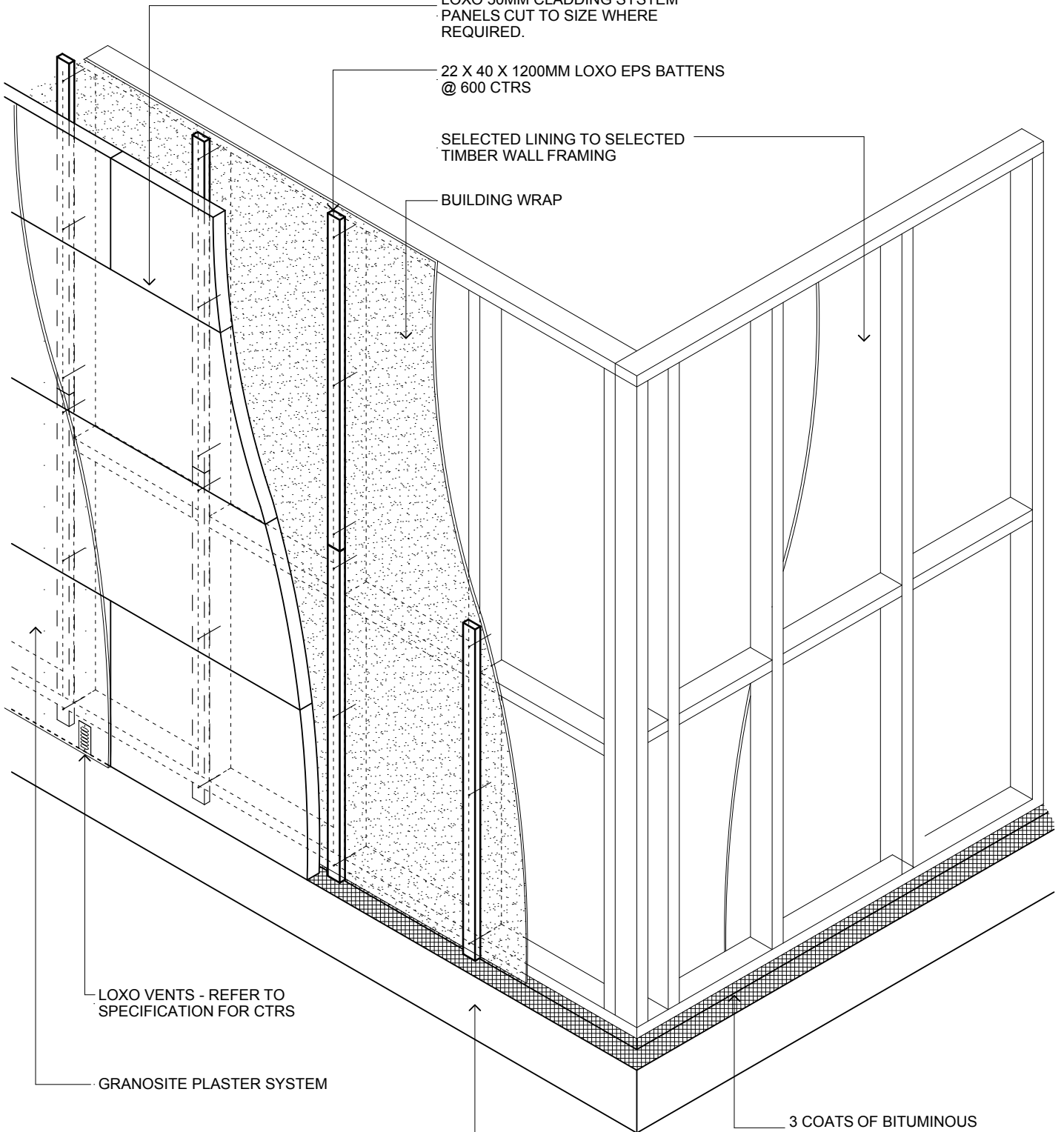
BUILDING WRAP

LOXO VENTS - REFER TO SPECIFICATION FOR CTRS

GRANOSITE PLASTER SYSTEM

CONCRETE FOUNDATION

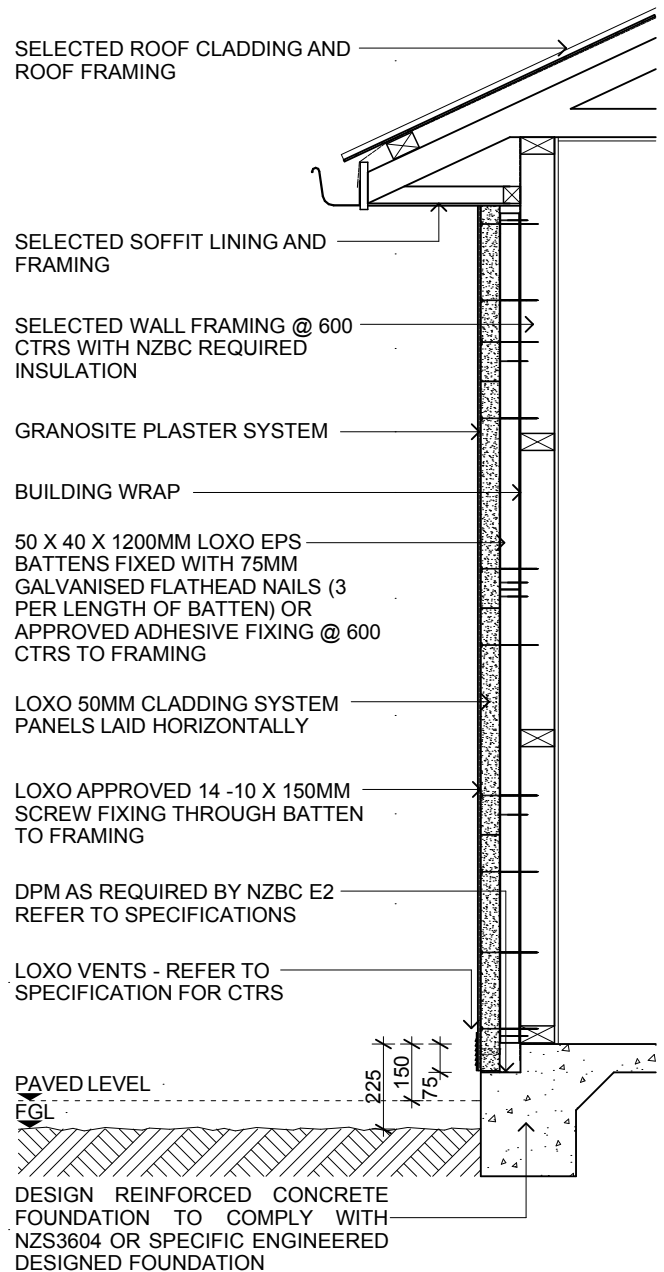
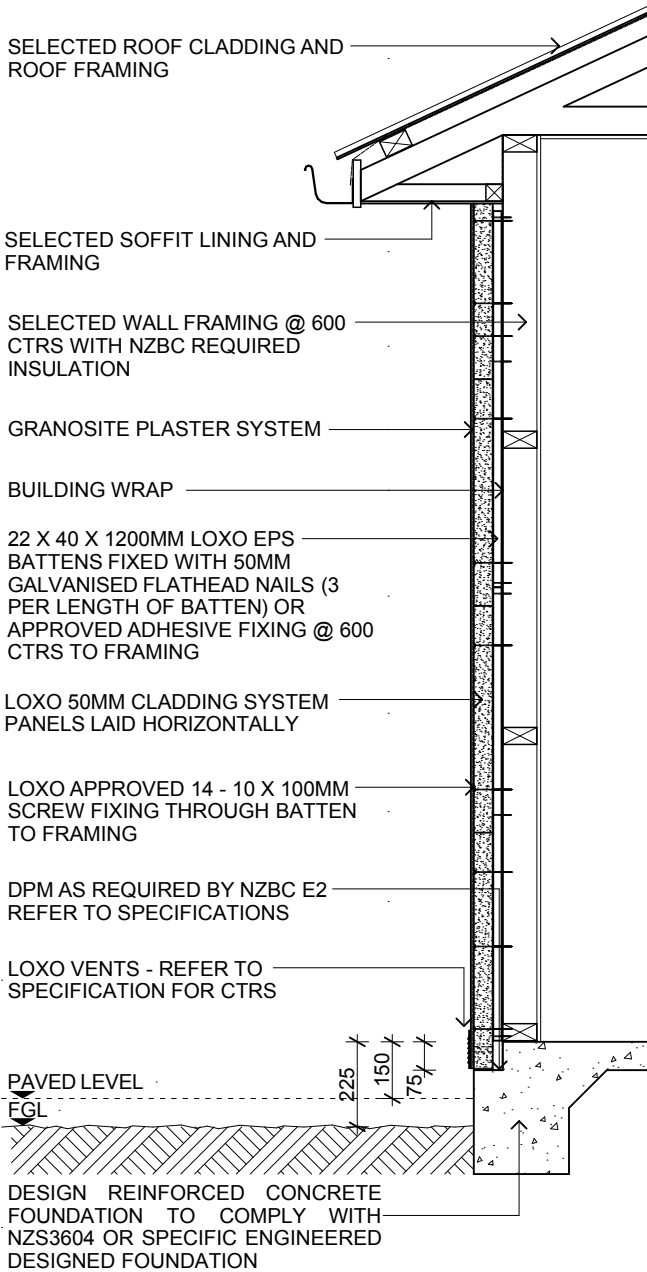
3 COATS OF BITUMINOUS MEMBRANE PAINT DPM TO COMPLY WITH NZBC E2



**GENERAL ARRANGEMENT**

Det. 2.2.1  
Scale NTS  
UPDATED AUGUST 2014

## 2.3 SINGLE STORY SECTION

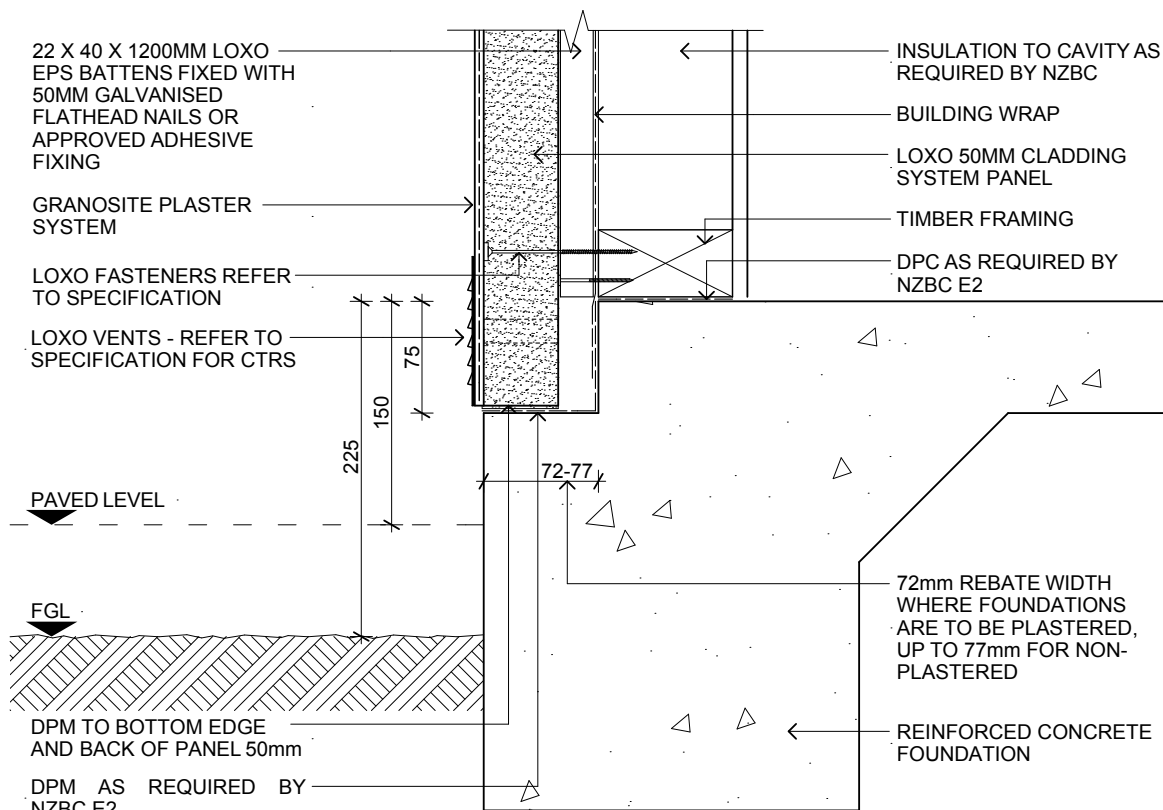


### SINGLE STOREY SECTION 22 x 40 x 1200mm CLASSIC BATTEN

Det. 2.3.1  
Scale 1:20  
UPDATED AUGUST 2014

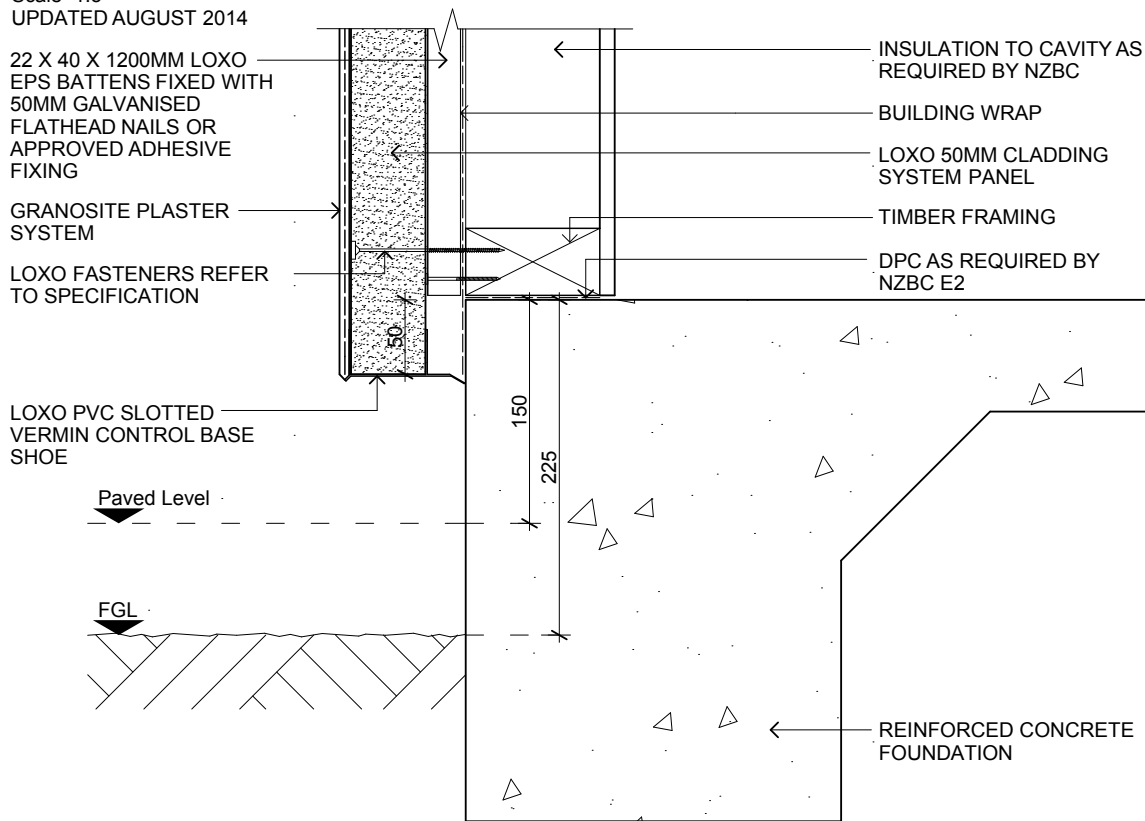
### SINGLE STOREY SECTION 50 x 40 x 1200mm DELUXE BATTEN

Det. 2.3.2  
Scale 1:20  
UPDATED AUGUST 2014



**REBATED STEP-DOWN FOUNDATION DETAIL**

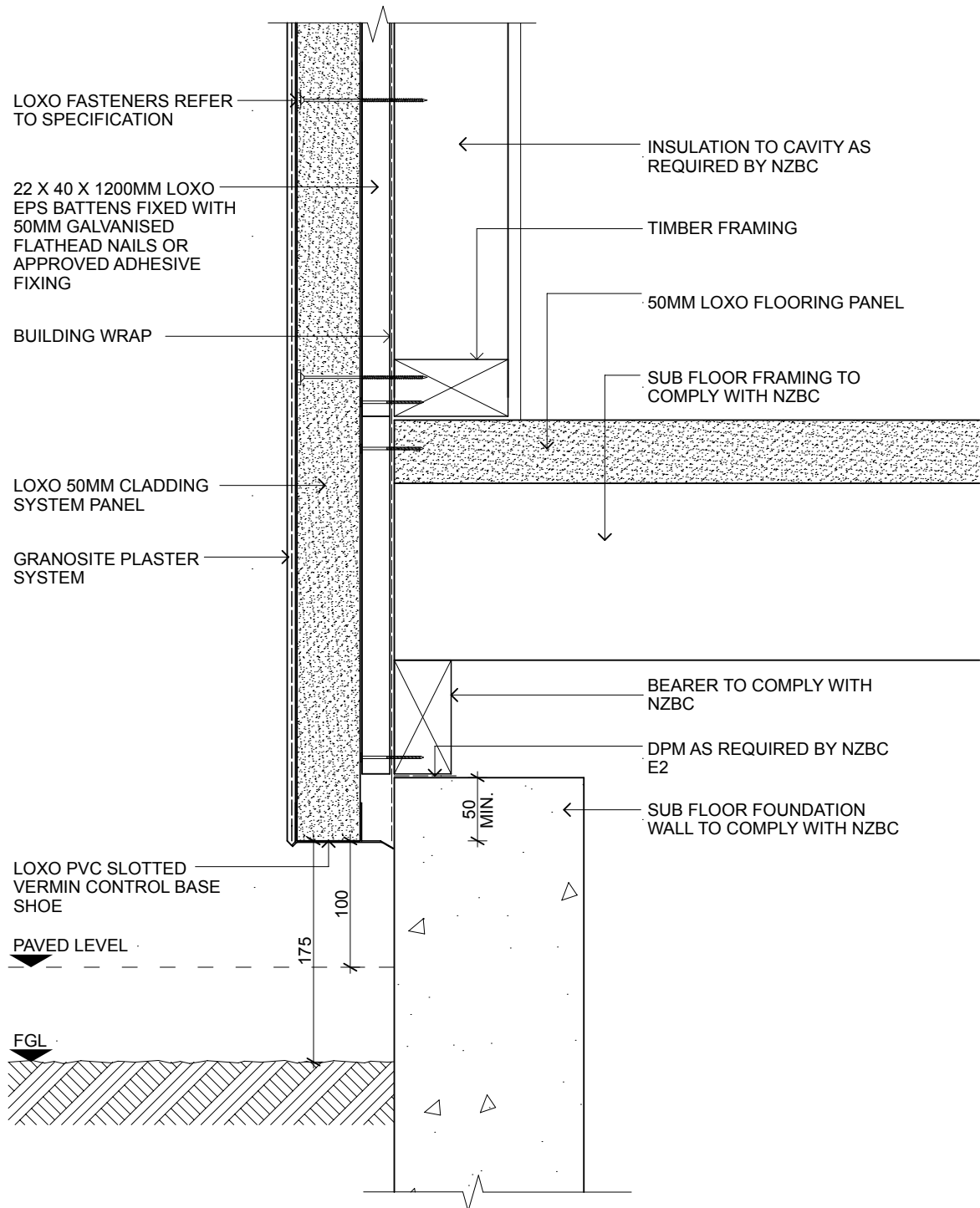
Det. 3.1.1  
Scale 1:5  
UPDATED AUGUST 2014



**OVER-HANGING FOUNDATION DETAIL**

Det. 3.1.2  
Scale 1:5

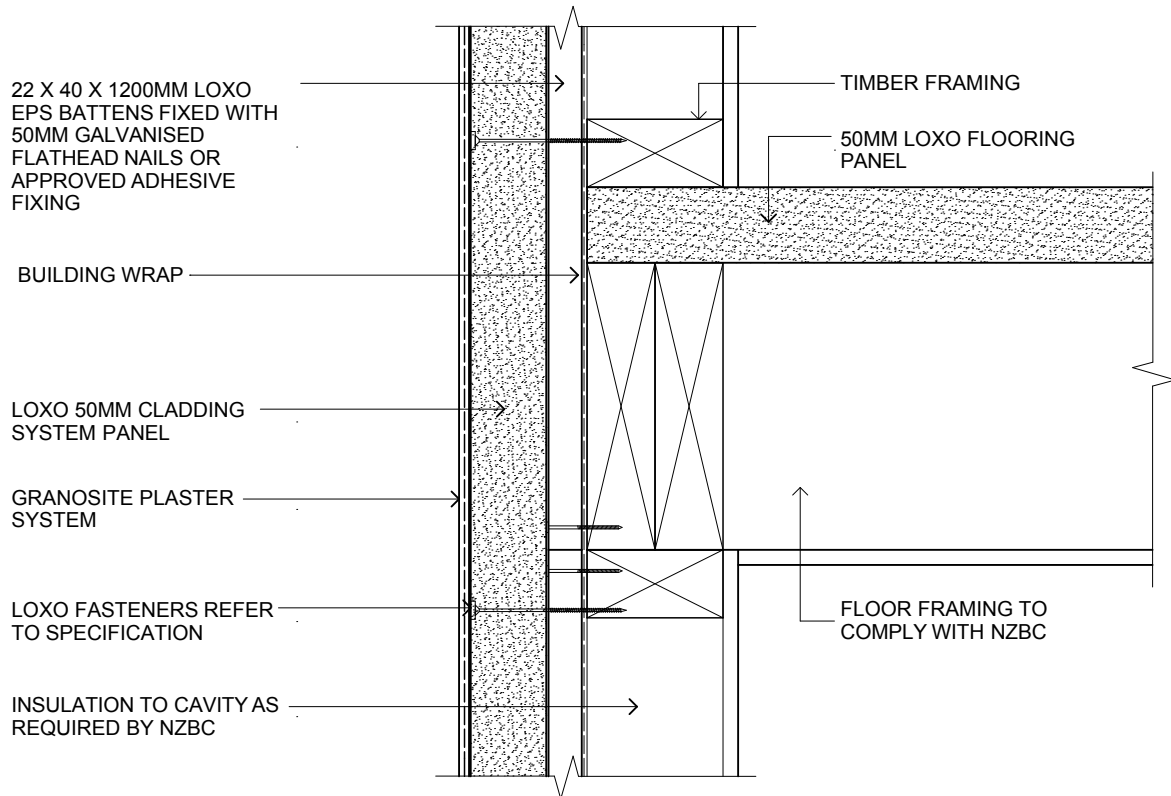
# 3.2 FOUNDATION & FLOORS



## TIMBER FLOOR DETAIL

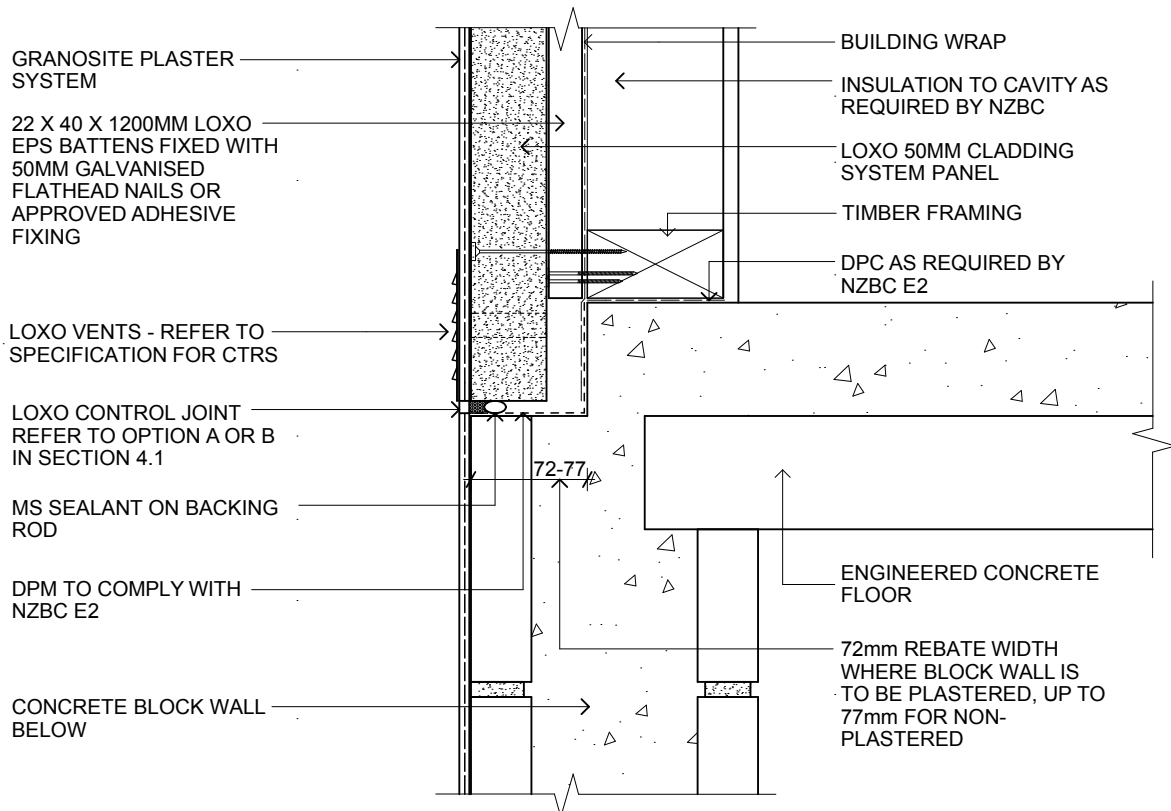
Det. 3.2.1  
Scale 1:5





**TIMBER MID-FLOOR DETAIL**

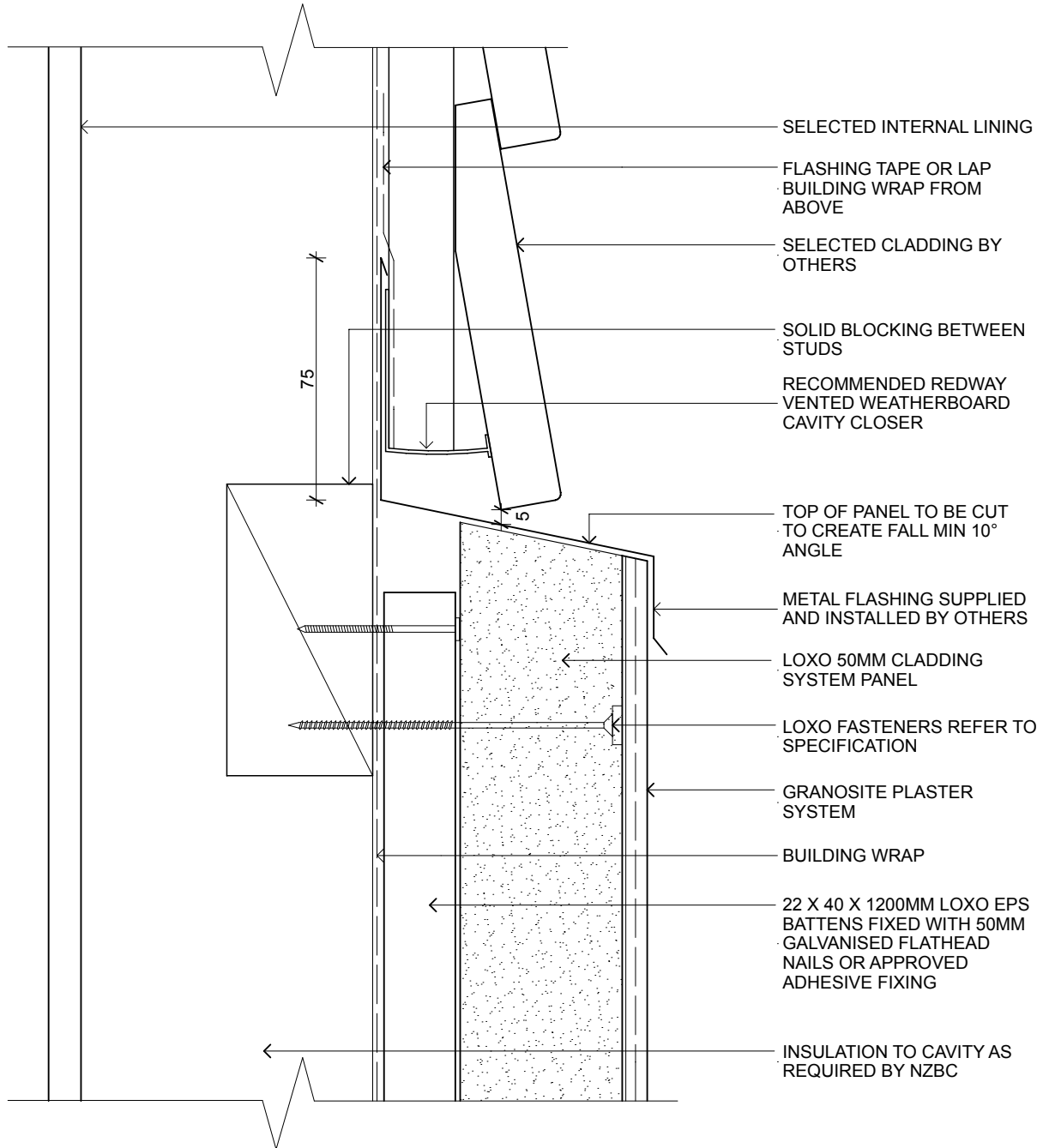
Det. 3.3.1  
Scale 1:5



**CONCRETE MID-FLOOR DETAIL**

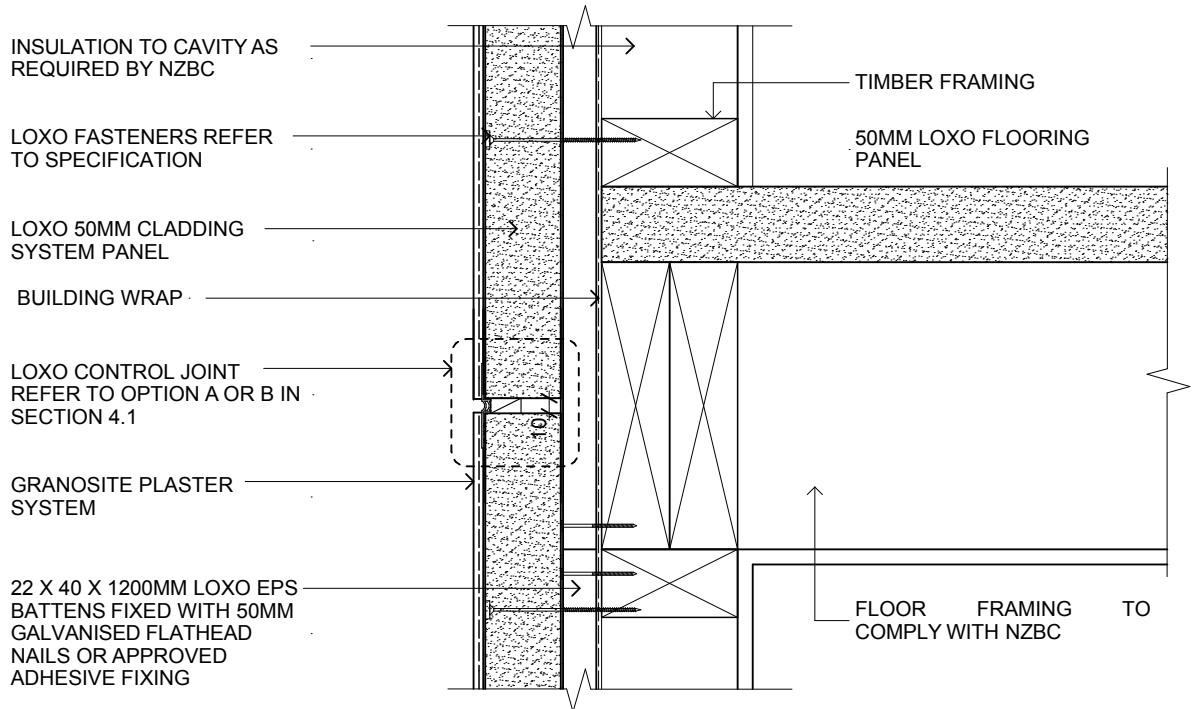
Det. 3.3.2  
Scale 1:5  
UPDATED AUGUST 2014

### 3.4 VERTICAL CLAD CHANGE



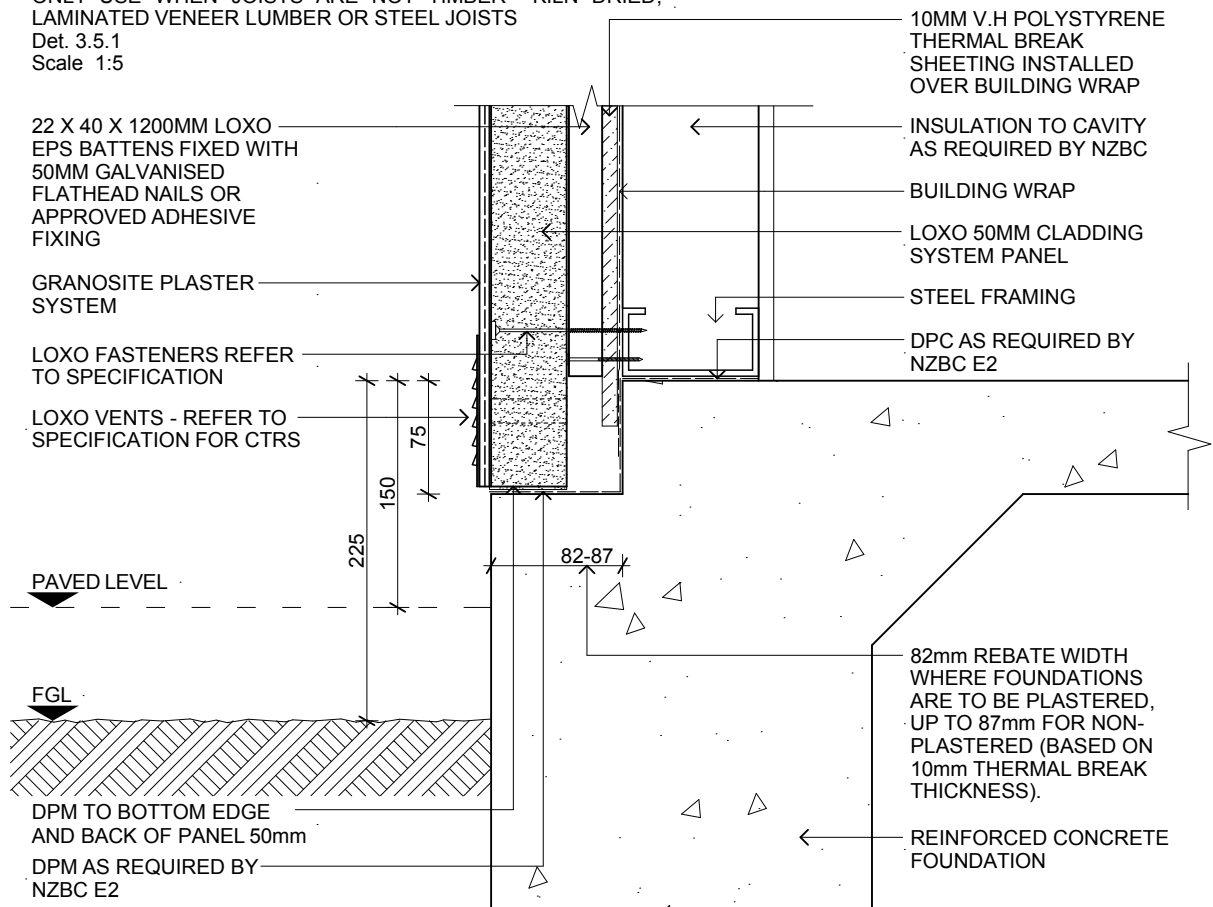
### MID-FLOOR CLADDING CHANGE DETAIL

Det. 3.4.1  
Scale 1:2



**TIMBER MID-FLOOR DETAIL**

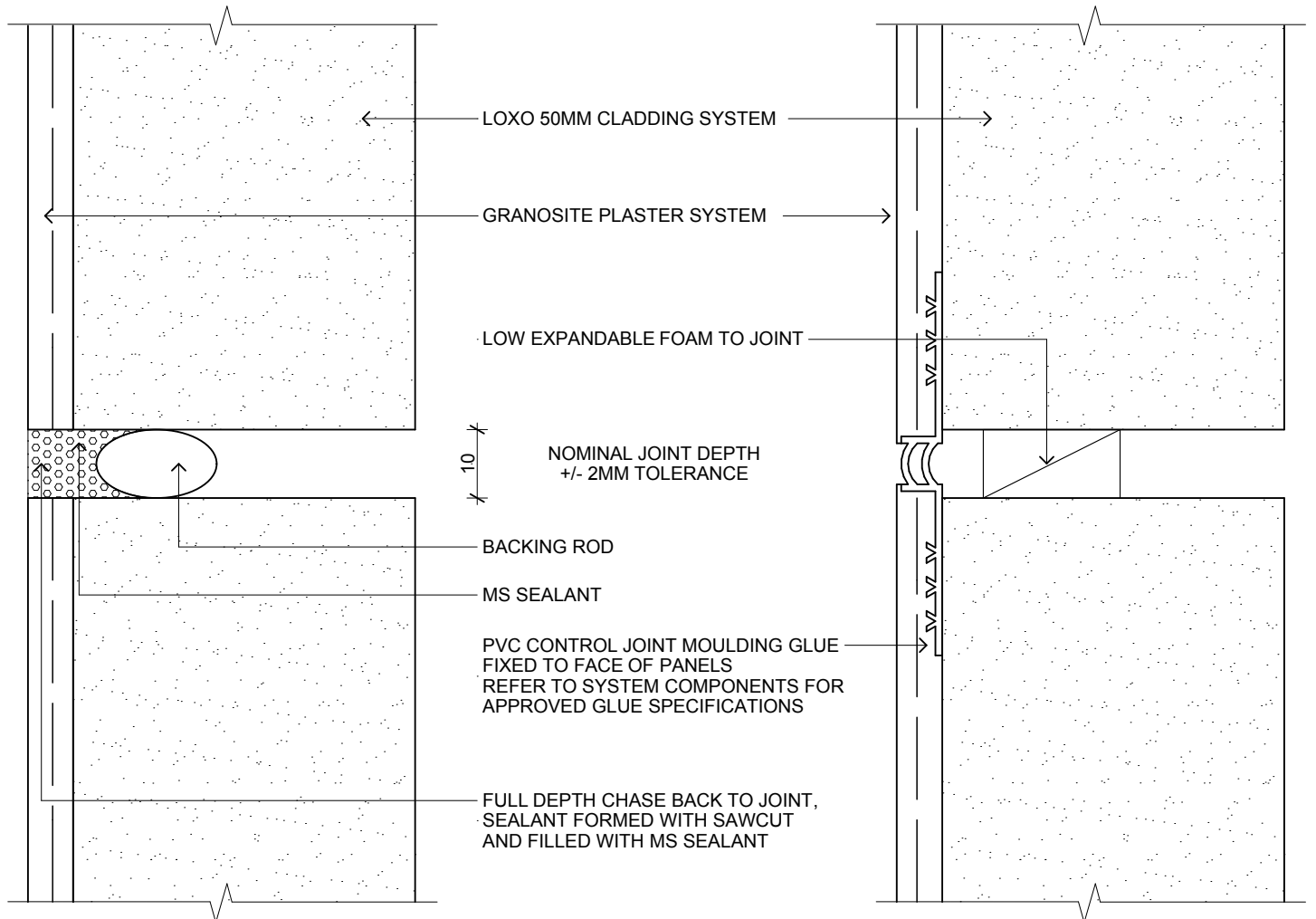
ONLY USE WHEN JOISTS ARE NOT TIMBER KILN DRIED, LAMINATED VENEER LUMBER OR STEEL JOISTS  
Det. 3.5.1  
Scale 1:5



**REBATED FOUNDATION WITH THERMAL BREAK POLYSTYRENE SHEETING**

Det. 3.5.2  
Scale 1:5  
UPDATED AUGUST 2014

# 4.1 CONTROL JOINTS

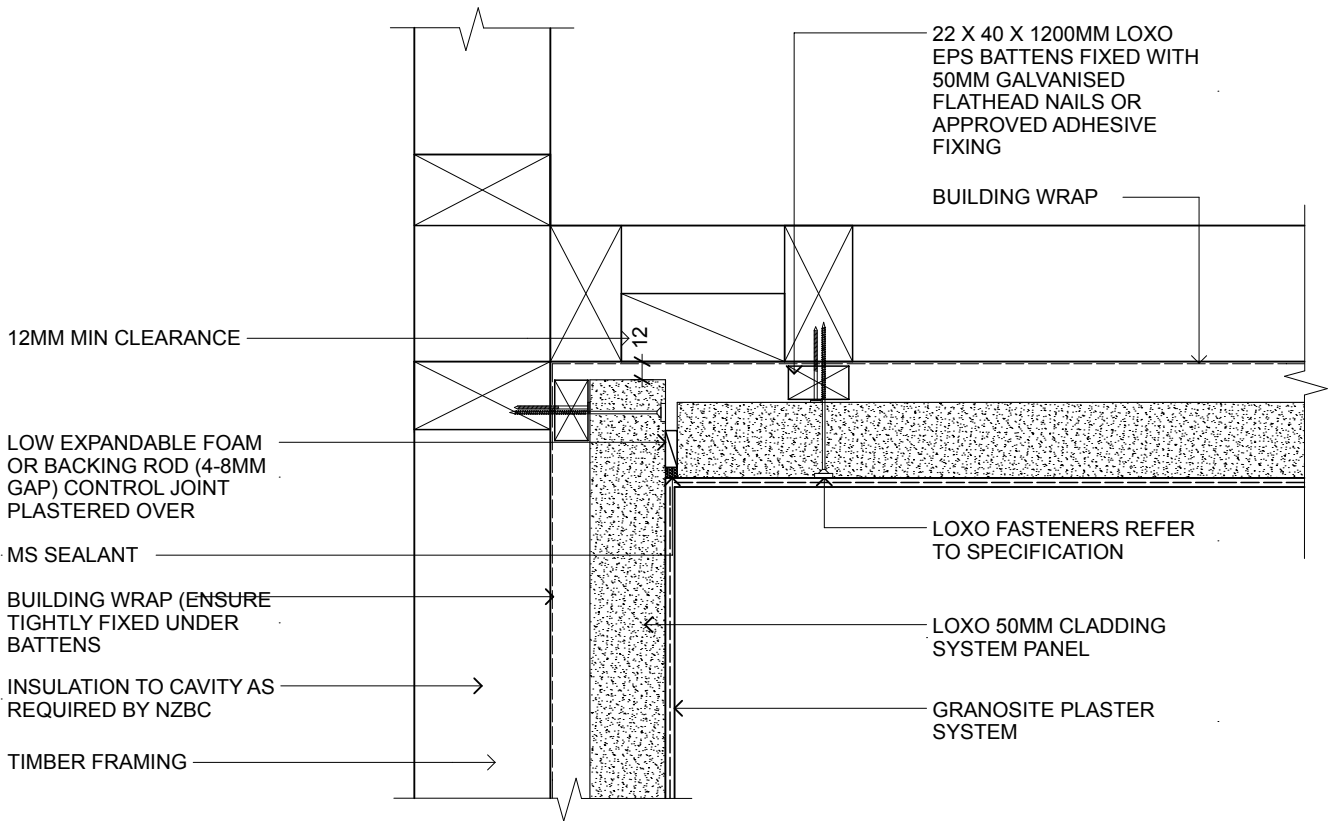


## HORIZONTAL / VERTICAL CONTROL JOINT OPT A

Det. 4.1.1  
Scale 1:1

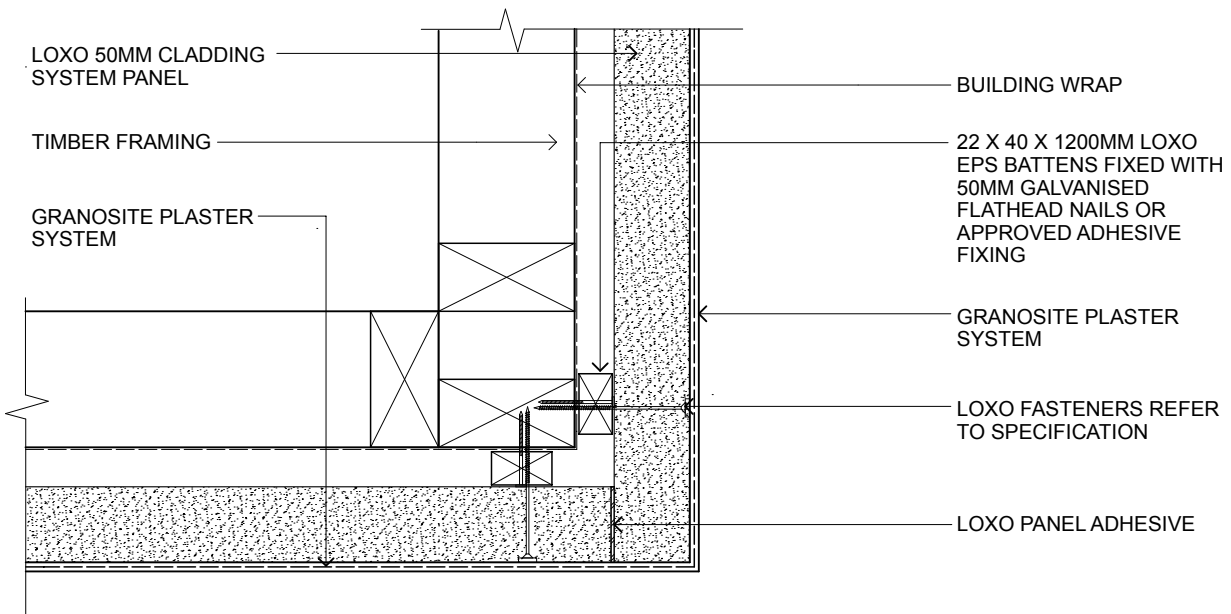
## HORIZONTAL / VERTICAL CONTROL JOINT OPT B

Det. 4.1.2  
Scale 1:1  
UPDATED AUGUST 2014



**LOXO PANEL INTERNAL CORNER JUNCTION**

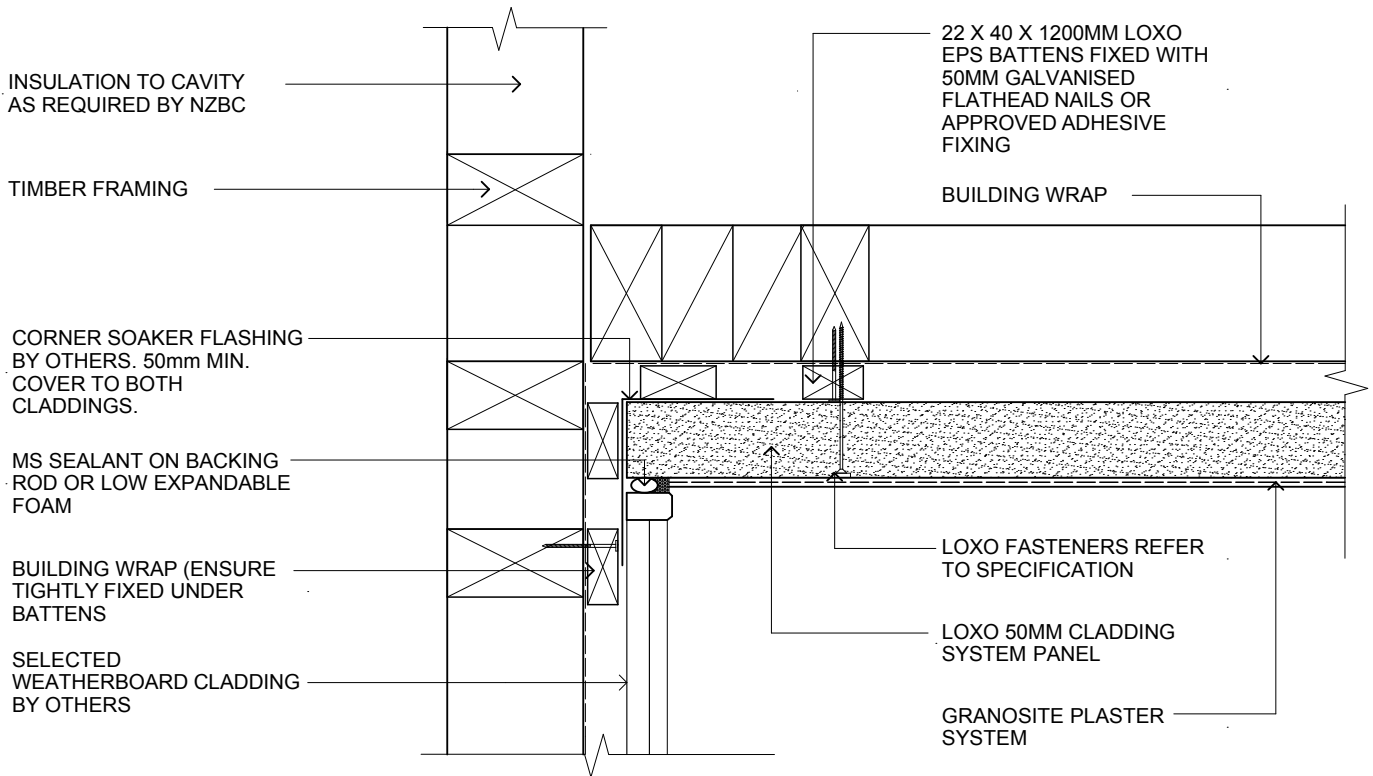
Det. 5.1.1  
Scale 1:5



**LOXO PANEL EXTERNAL CORNER JUNCTION**

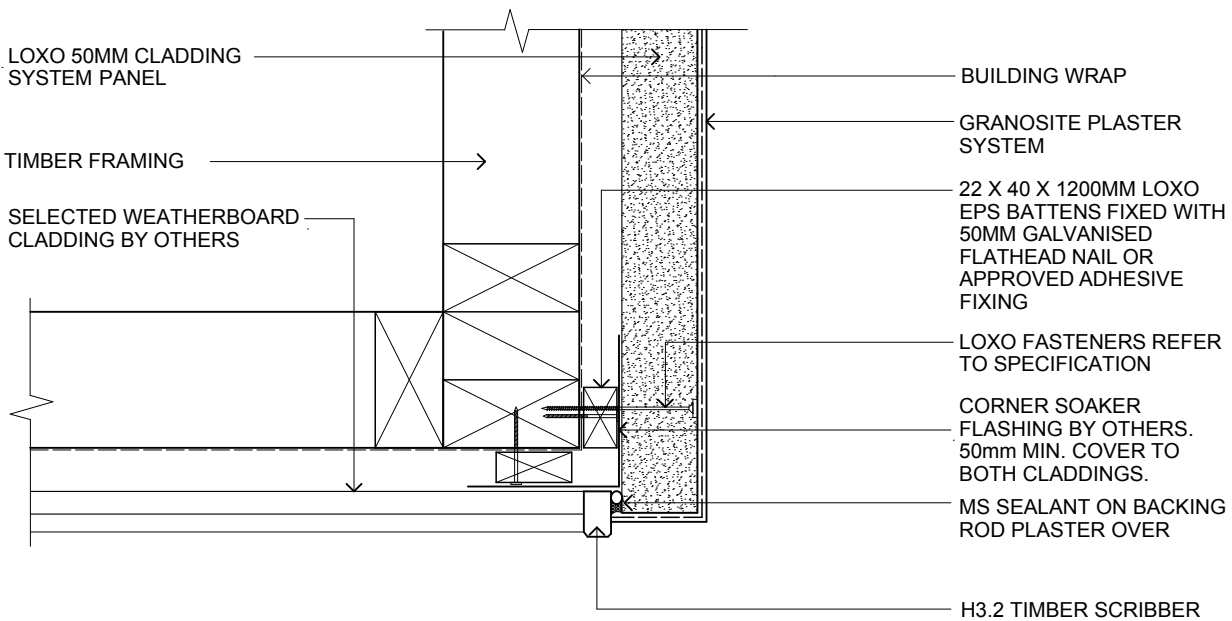
Det. 5.1.2  
Scale 1:5

## 5.2 CORNER JUNCTION



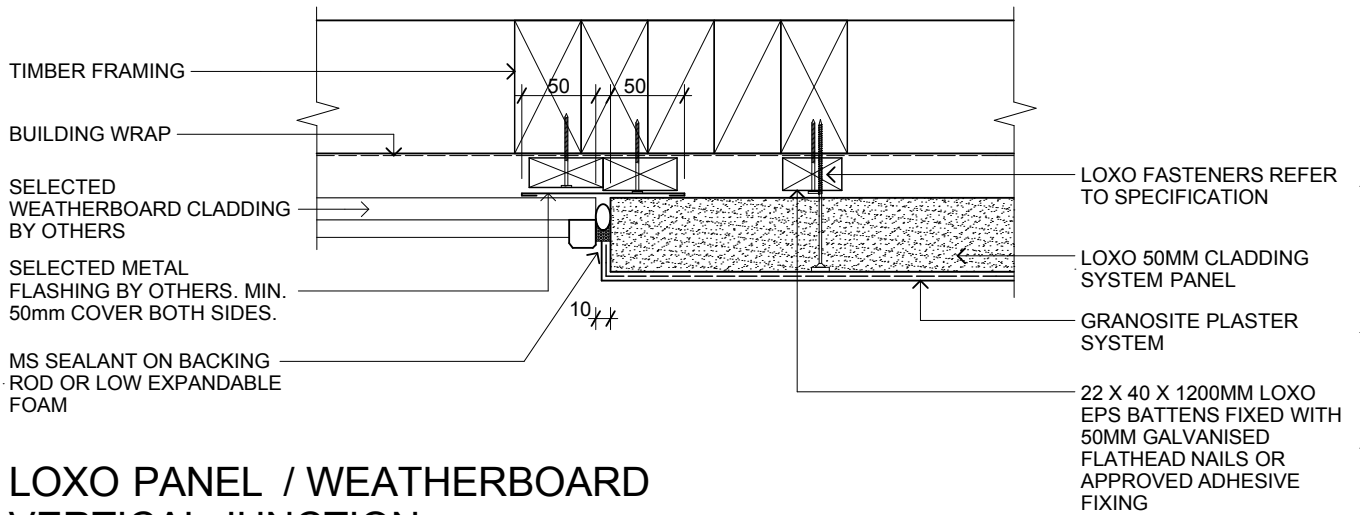
### LOXO PANEL / WEATHERBOARD INTERNAL CORNER JUNCTION

Det. 5.2.1  
Scale 1:5  
UPDATED AUGUST 2014



### LOXO PANEL / WEATHERBOARD EXTERNAL CORNER JUNCTION

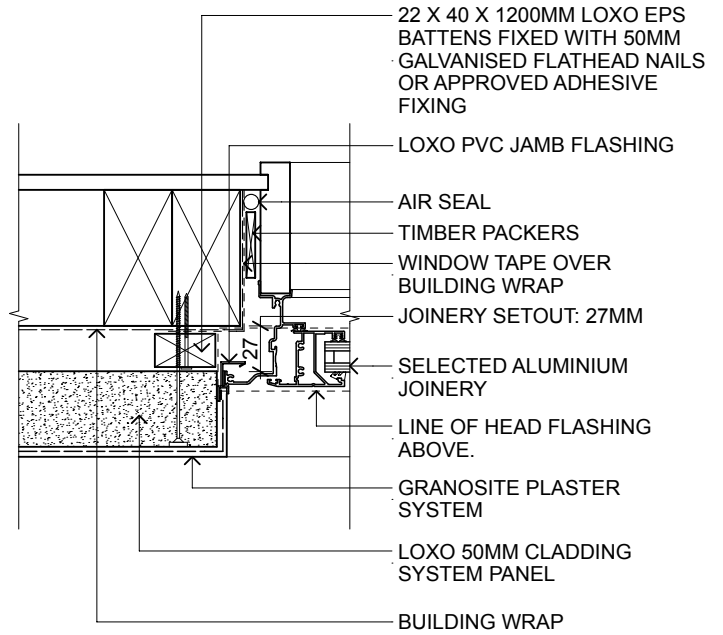
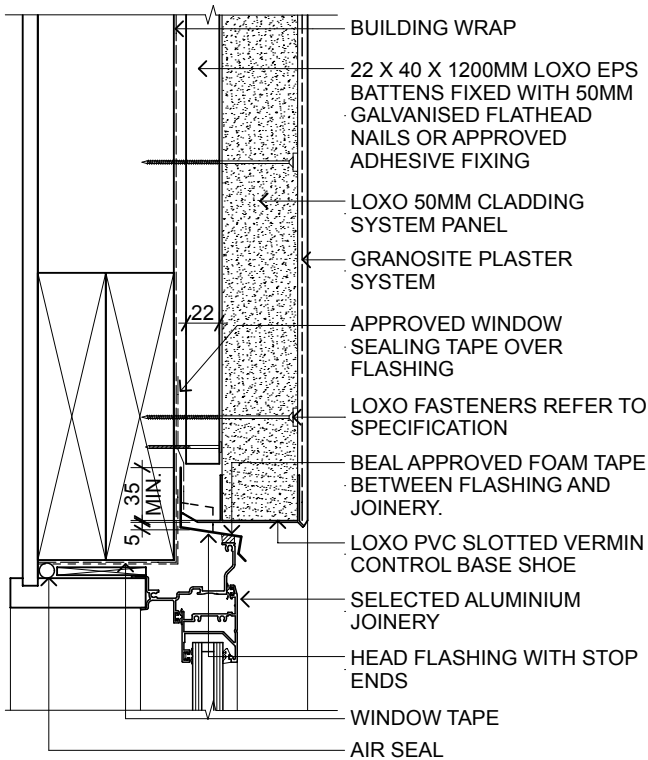
Det. 5.2.2  
Scale 1:5  
UPDATED AUGUST 2014



**LOXO PANEL / WEATHERBOARD VERTICAL JUNCTION**

Det. 5.3.1  
Scale 1:5  
UPDATED AUGUST 2014

# 6.1 WINDOW DETAIL

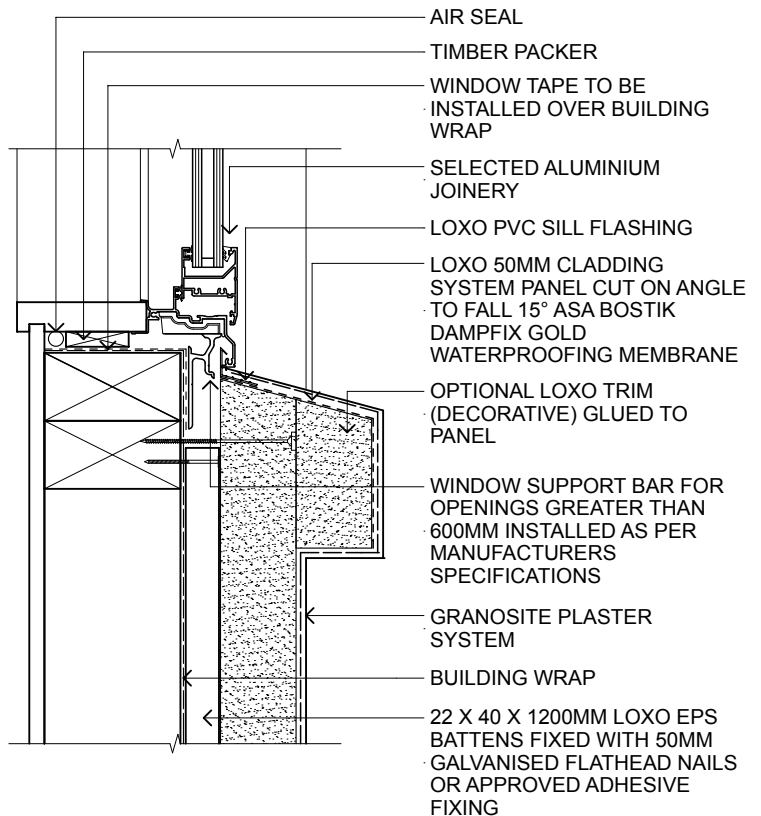
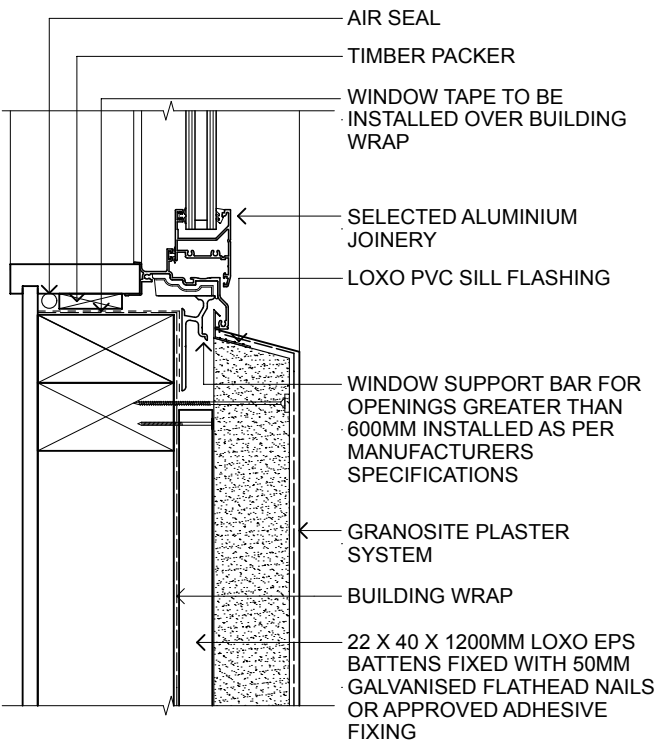


## HEAD DETAIL (CLASSIC)

Det. 6.1.1  
Scale 1:5

## JAMB DETAIL (CLASSIC)

Det. 6.1.3  
Scale 1:5  
UPDATED OCTOBER 2014



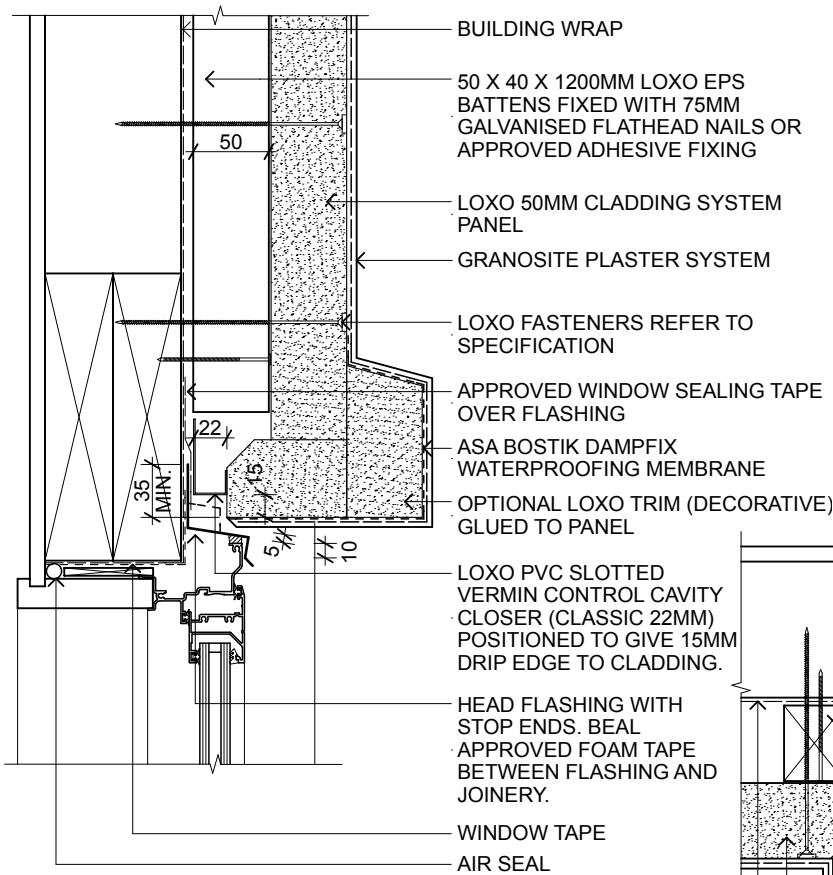
## SILL DETAIL (CLASSIC)

Det.6.1.2  
Scale 1:5

## SILL DETAIL (CLASSIC)

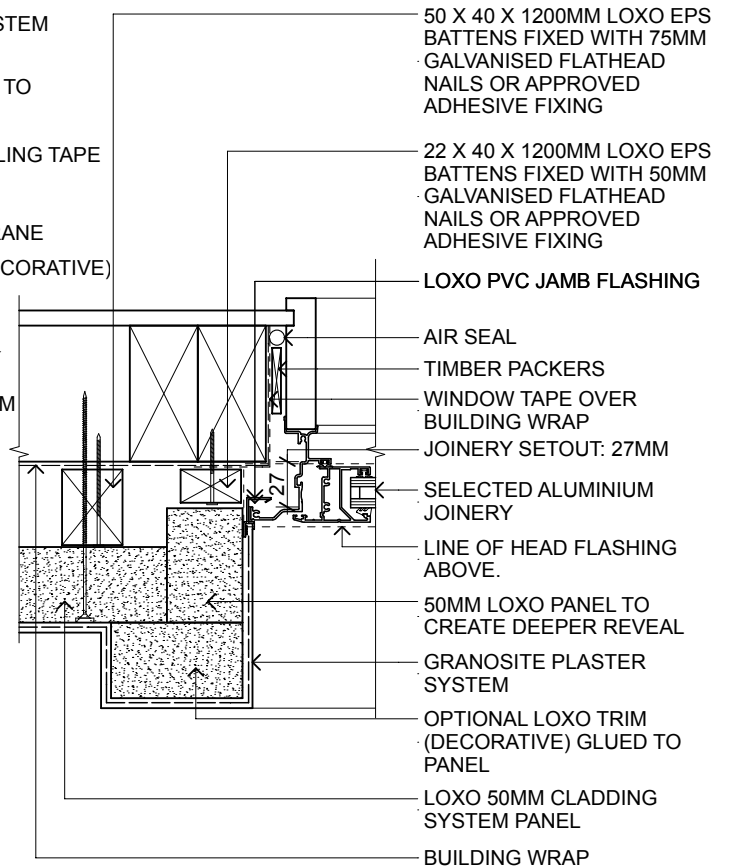
(Decorative Trim Option)  
Det. 6.1.4  
Scale 1:5





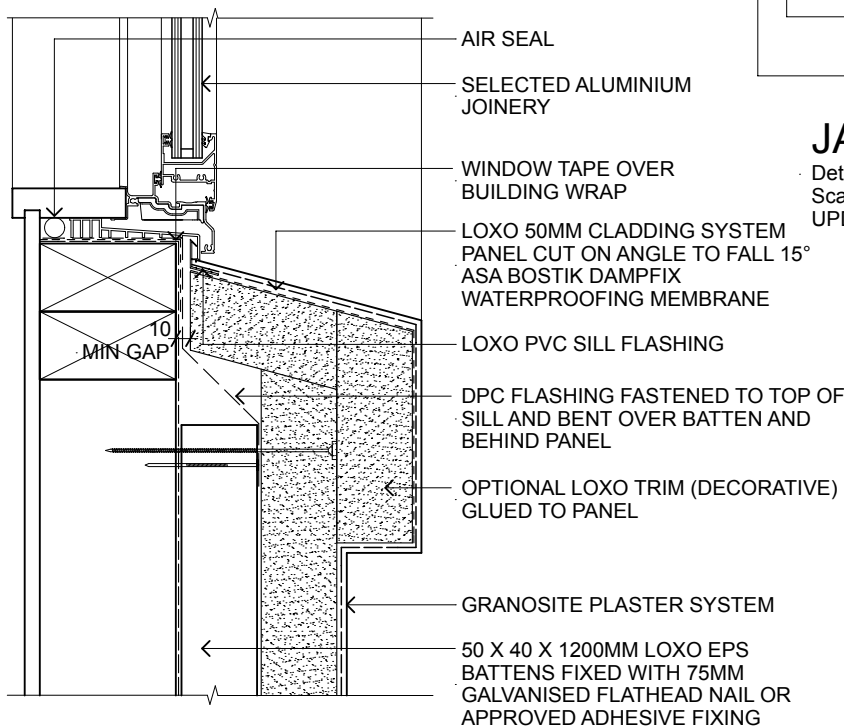
**HEAD DETAIL - DELUXE**

Det. 6.2.1  
Scale 1:5



**JAMB DETAIL - DELUXE**

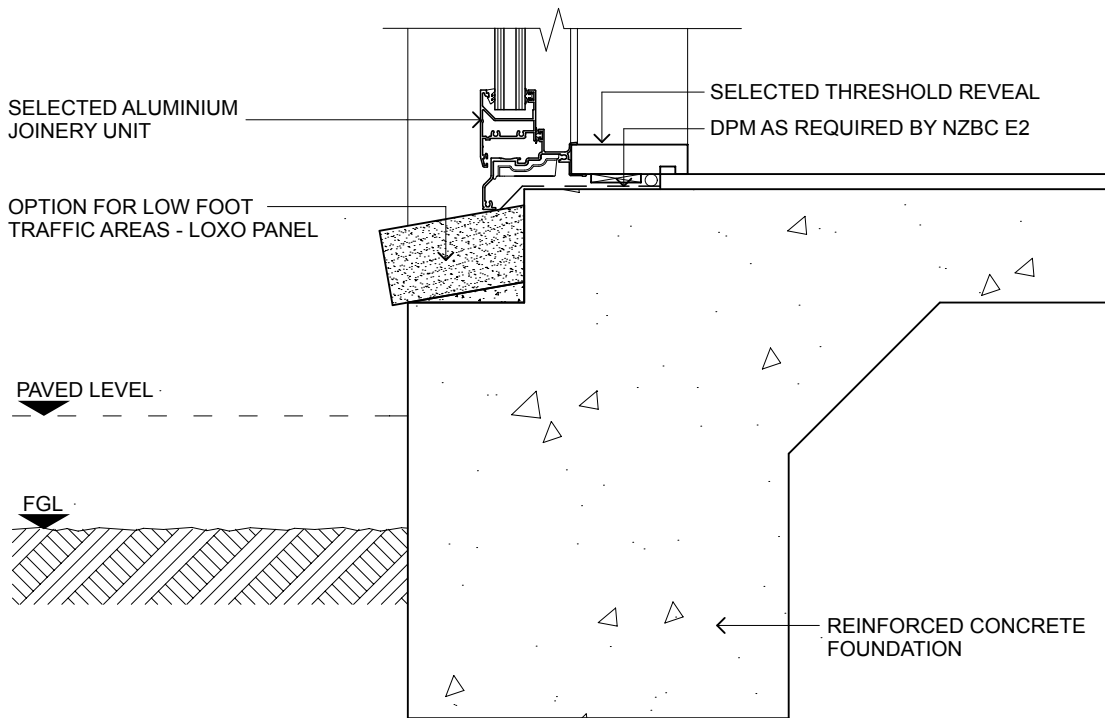
Det. 6.2.3  
Scale 1:5  
UPDATED OCTOBER 2014



**SILL DETAIL - DELUXE**

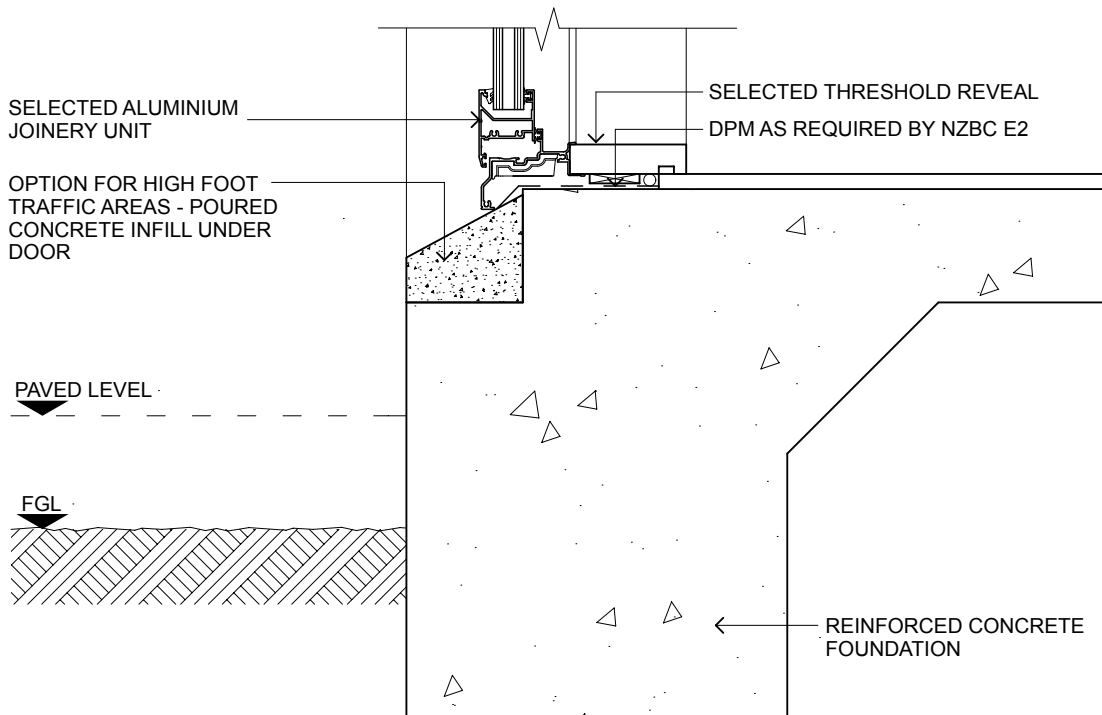
Det. 6.2.2  
Scale 1:5

# 6.4 DOOR DETAILS



## THRESHOLD DETAIL - OPT A

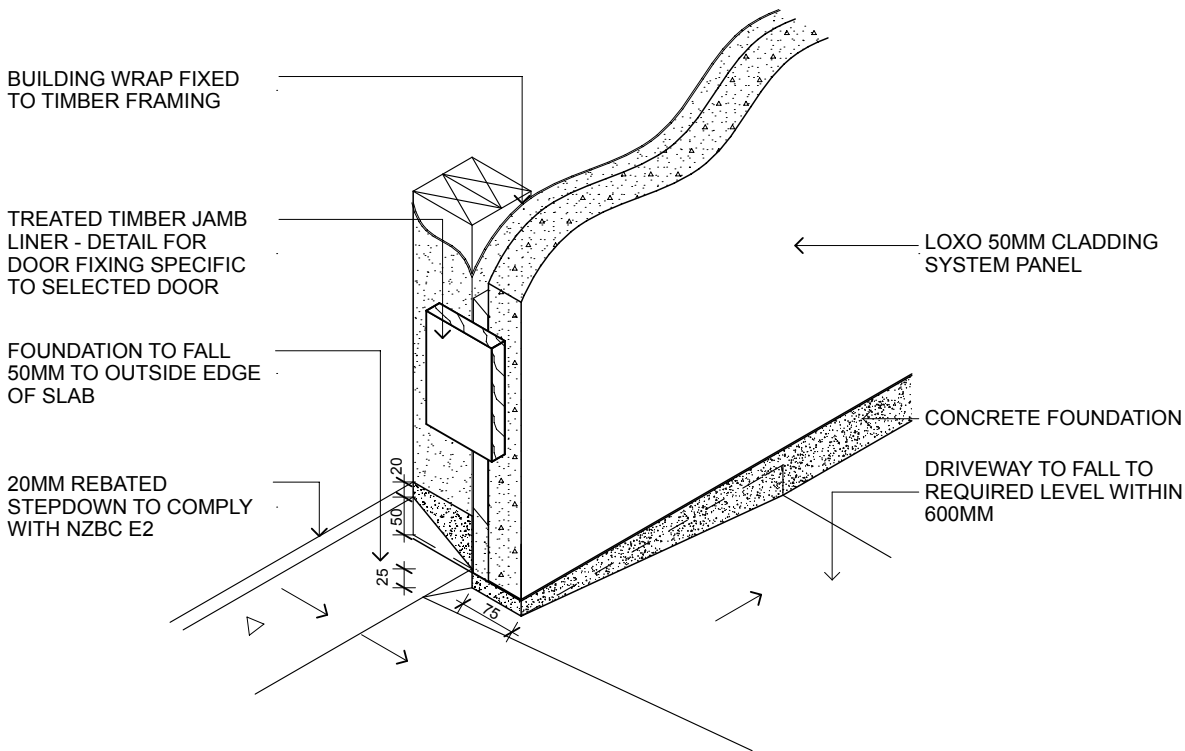
Det. 6.4.1  
Scale 1:5



## THRESHOLD DETAIL - OPT B

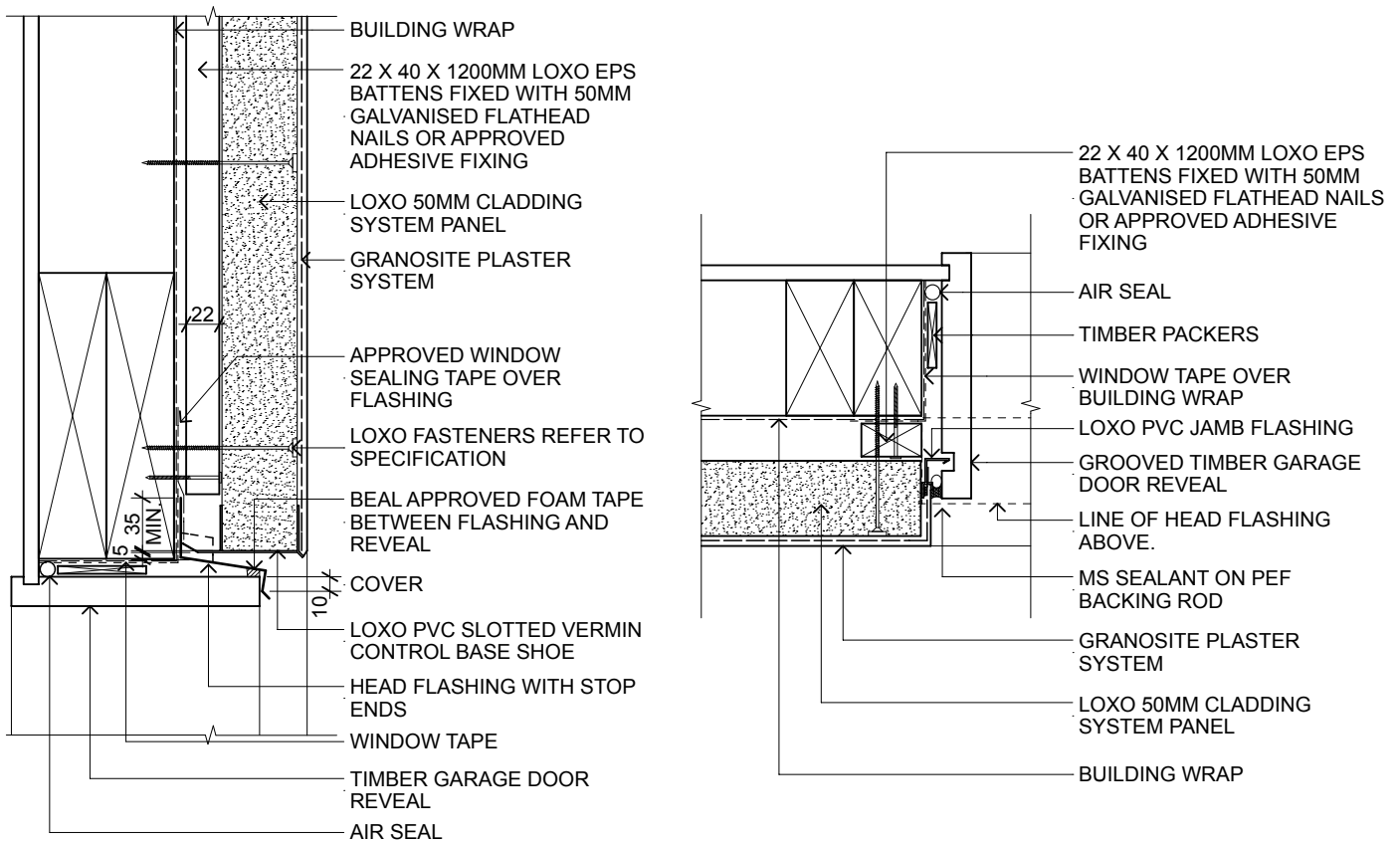
Det. 6.4.2  
Scale 1:5

# 6.5 GARAGE DOOR DETAILS



## GARAGE DOOR OPENING

Det. 6.5.1  
Scale N.T.S

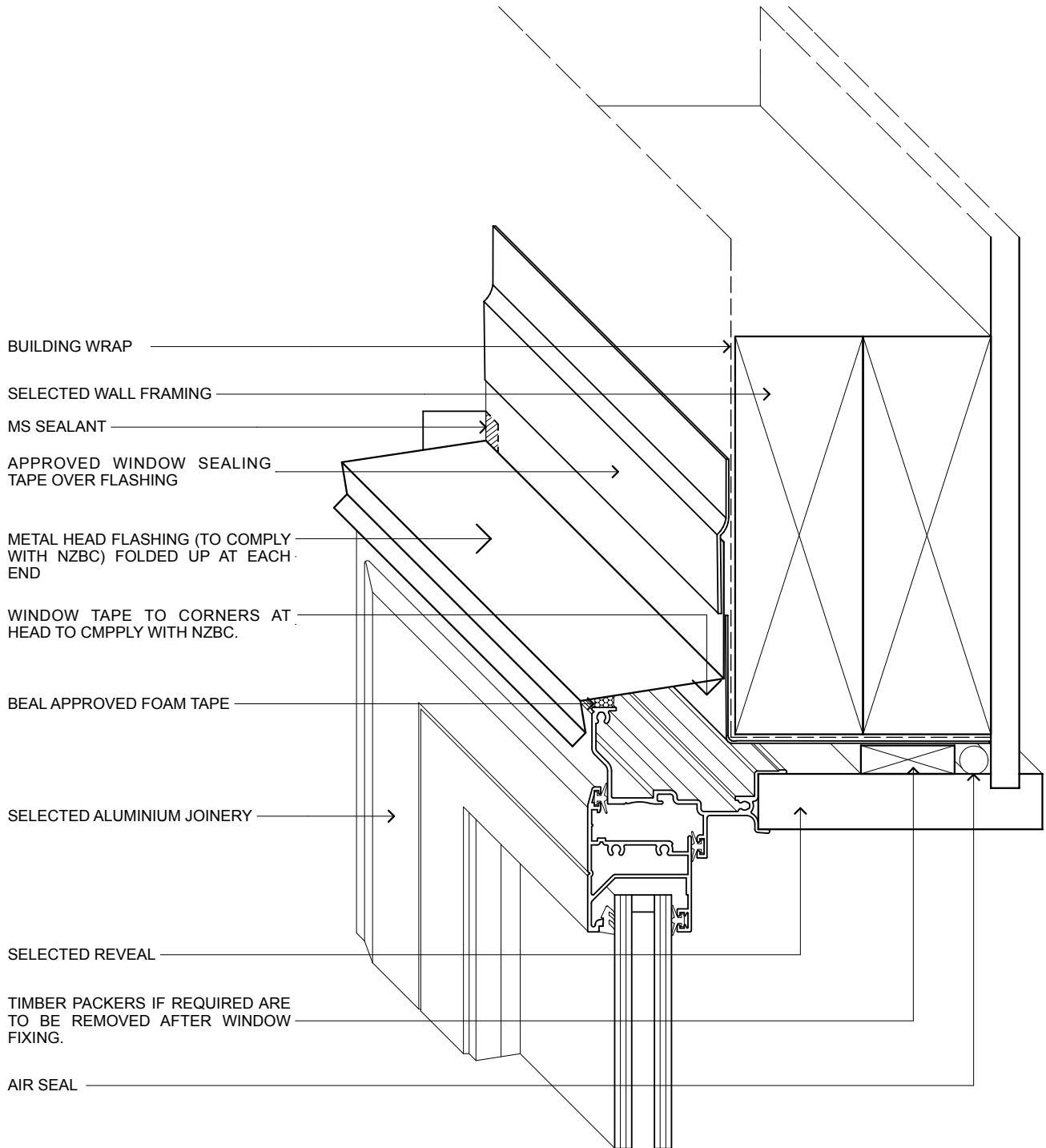


## GARAGE DOOR HEAD DETAIL

Det. 6.5.2  
Scale 1:5

## GARAGE DOOR JAMB DETAIL

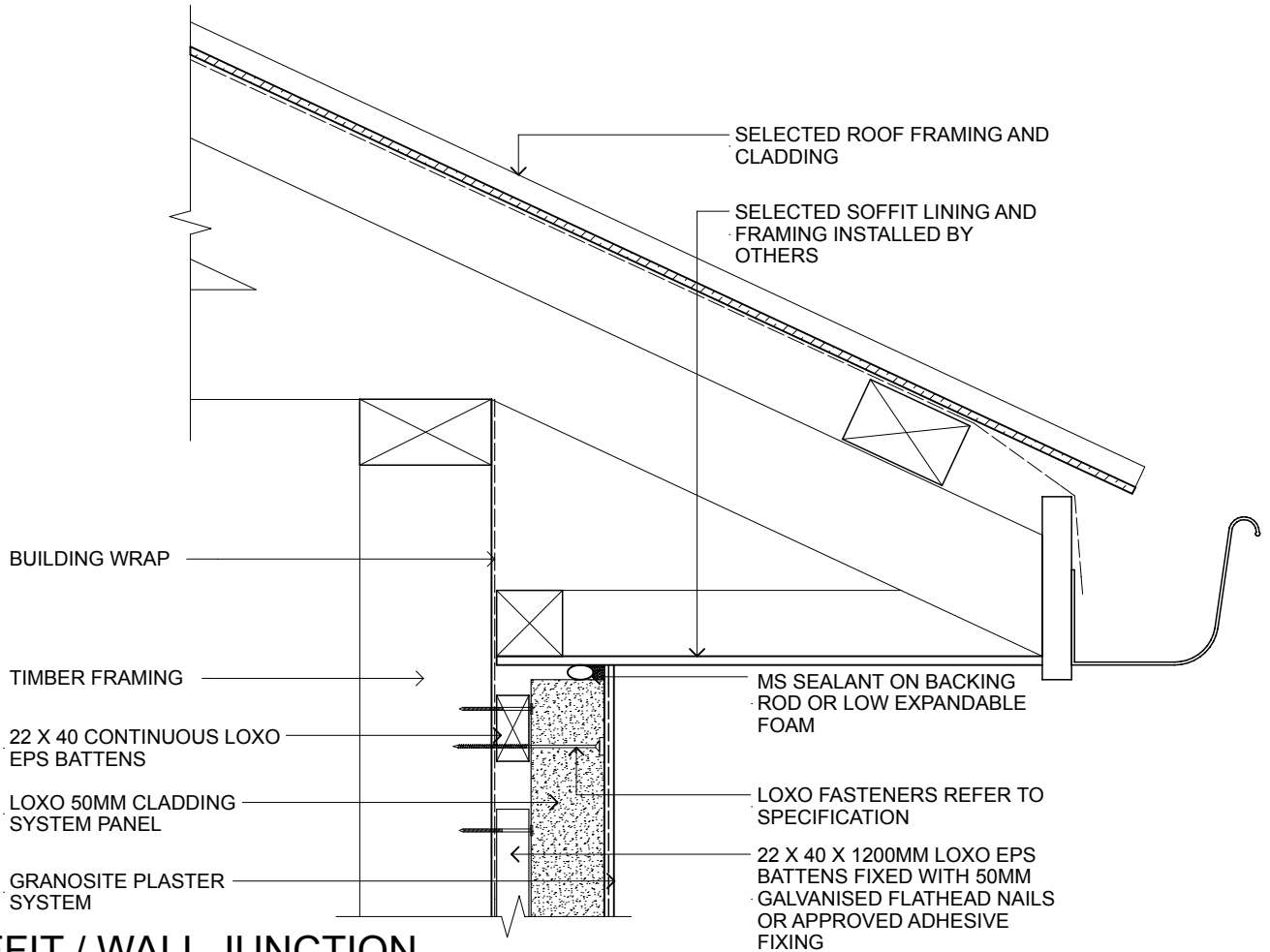
Det. 6.5.3  
Scale 1:5  
UPDATED OCTOBER 2014



**WINDOW HEAD FLASHING ISOMETRIC**

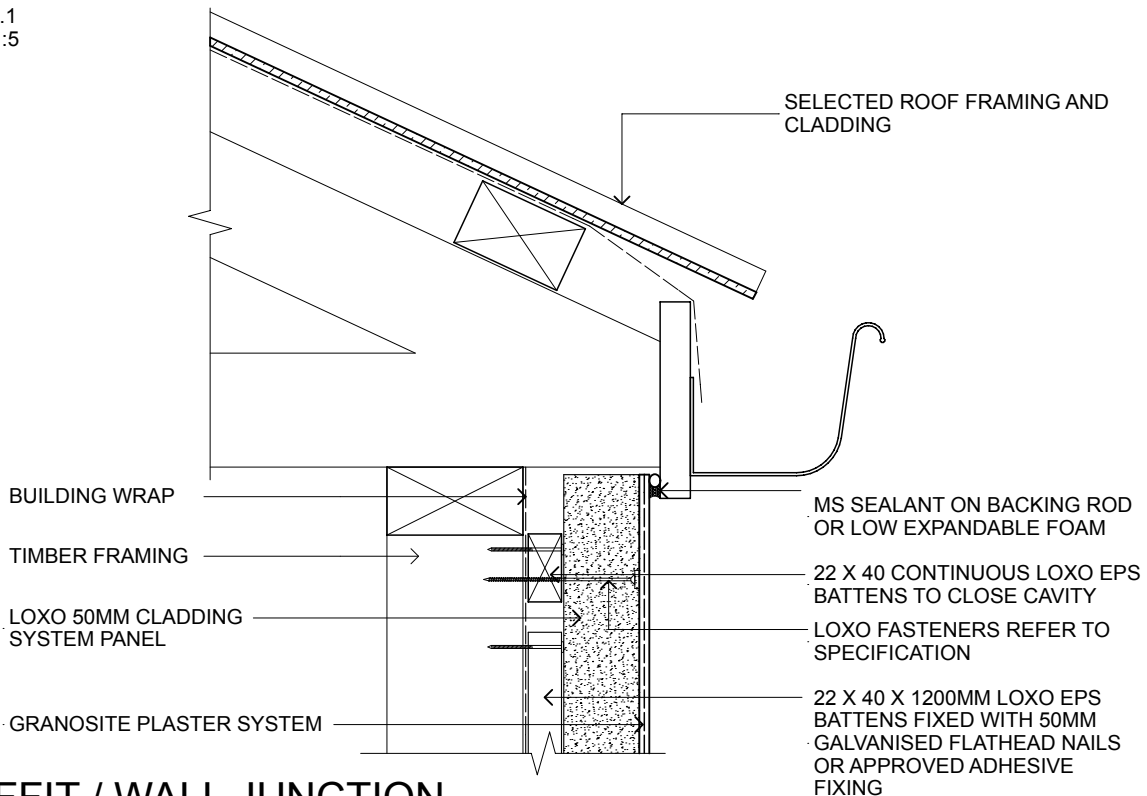
Det. 6.8.2  
Scale NTS

# 7.1 SOFFIT / WALL JUNCTIONS



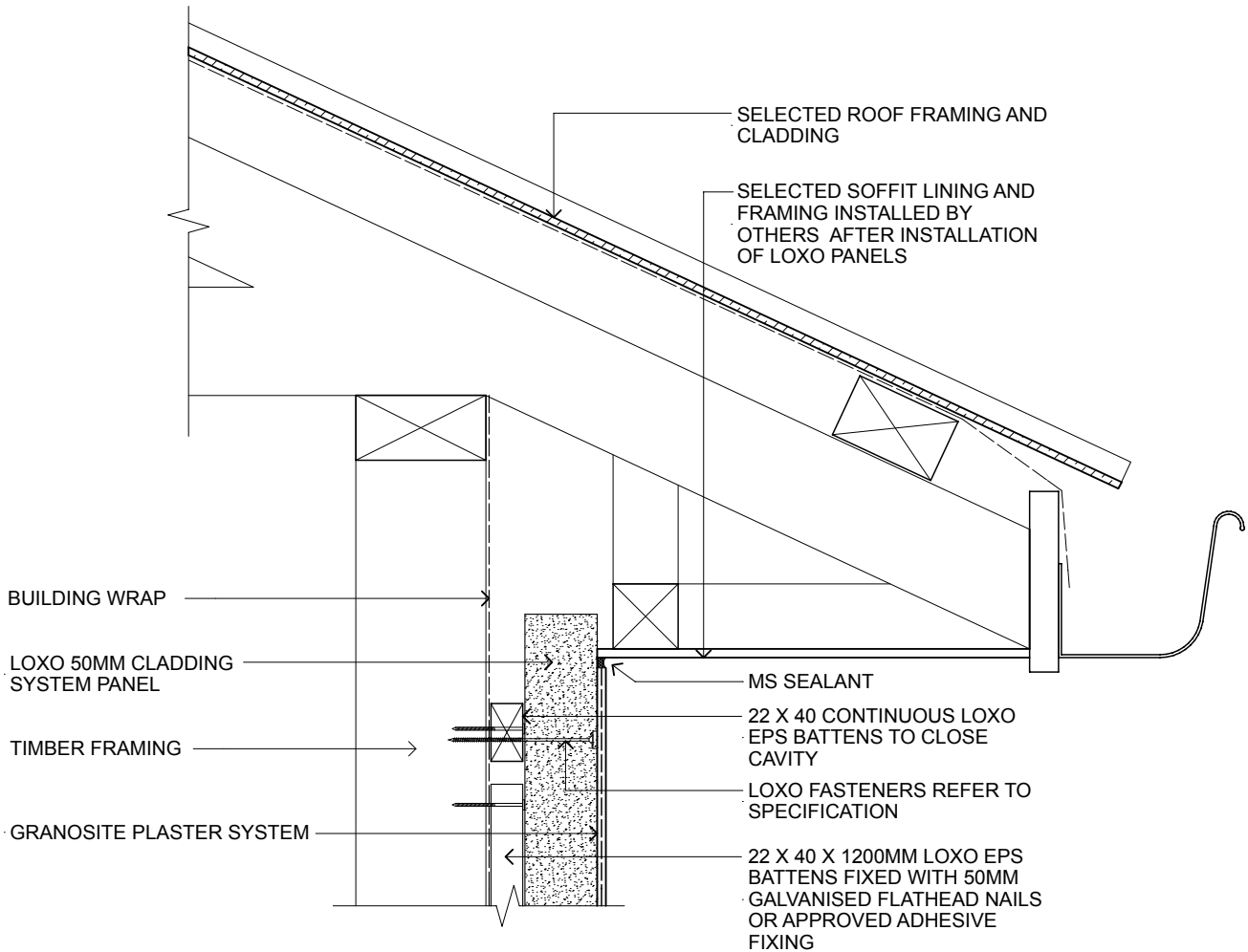
## SOFFIT / WALL JUNCTION

Det. 7.1.1  
Scale 1:5



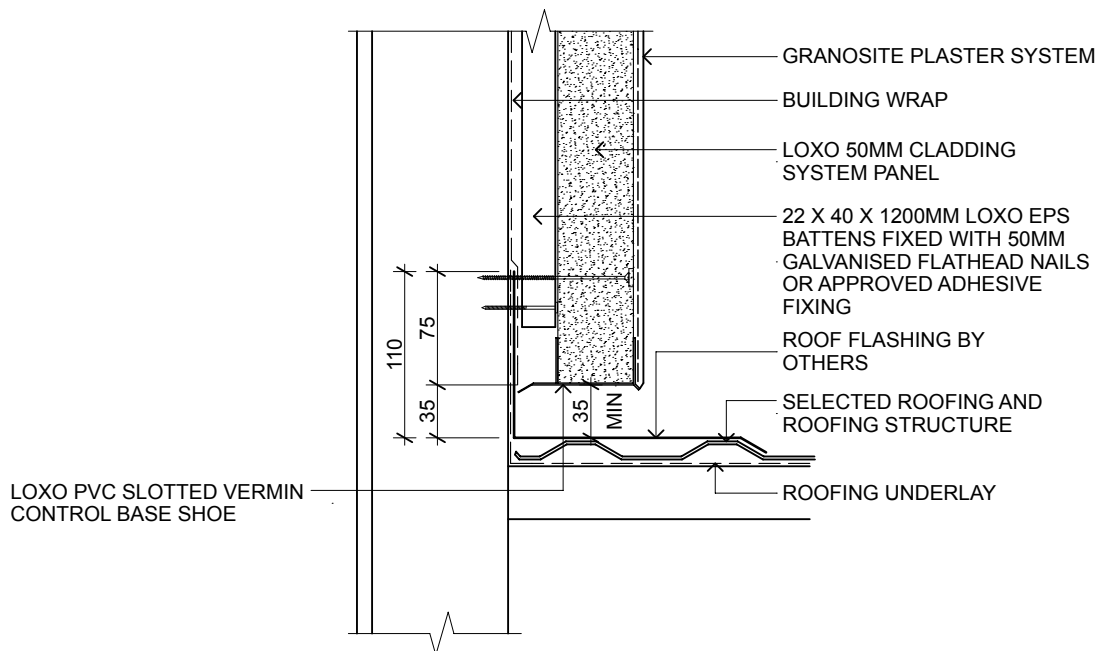
## SOFFIT / WALL JUNCTION

Det. 7.1.2  
Scale 1:5



**SOFFIT / WALL JUNCTION**

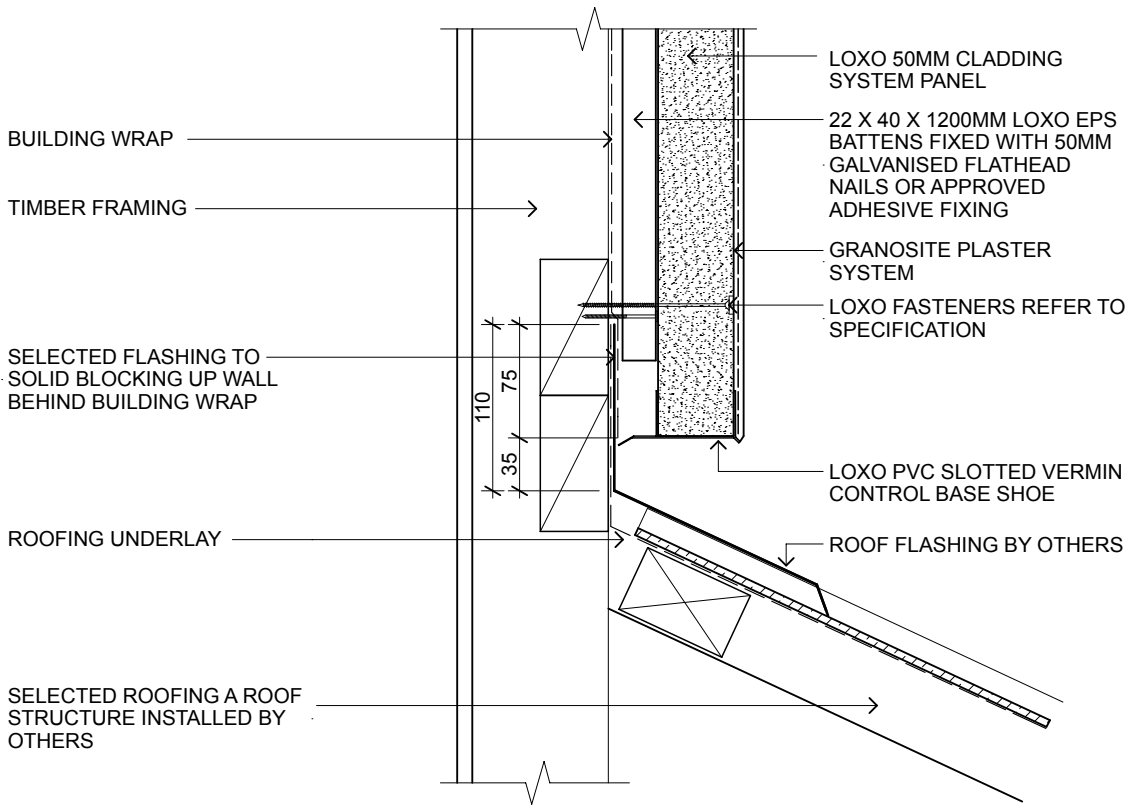
Det. 7.2.1  
Scale 1:5



**ROOF / WALL JUNCTION**

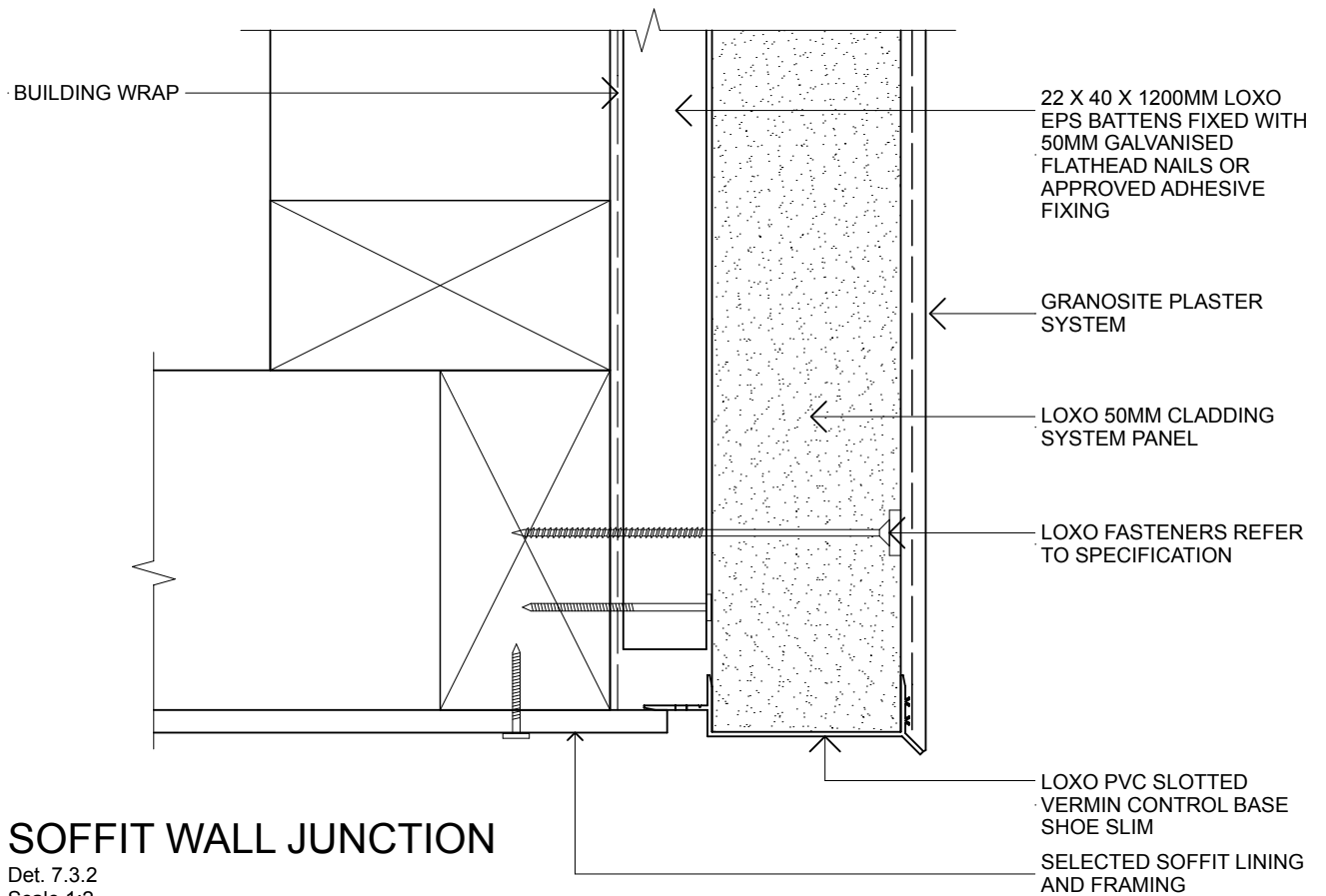
Det. 7.2.2  
Scale 1:5

# 7.3 SOFFIT EDGE DETAILS



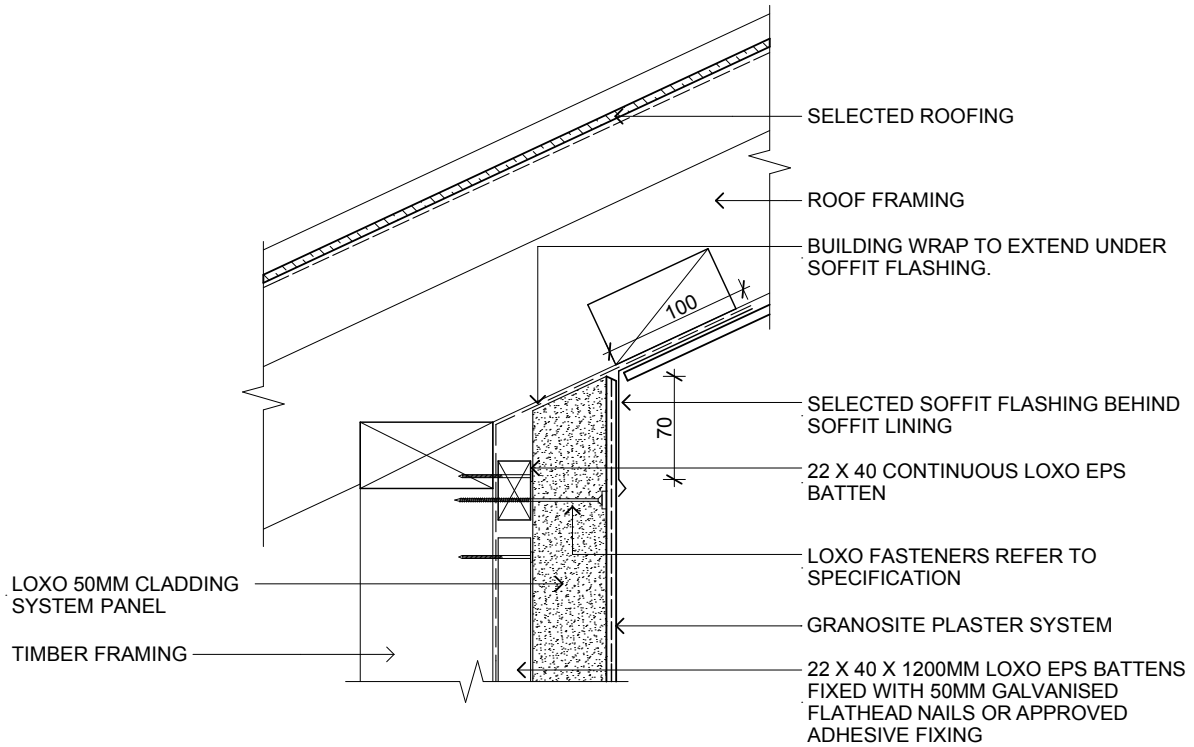
## ROOF / WALL JUNCTION

Det. 7.3.1  
Scale 1:5



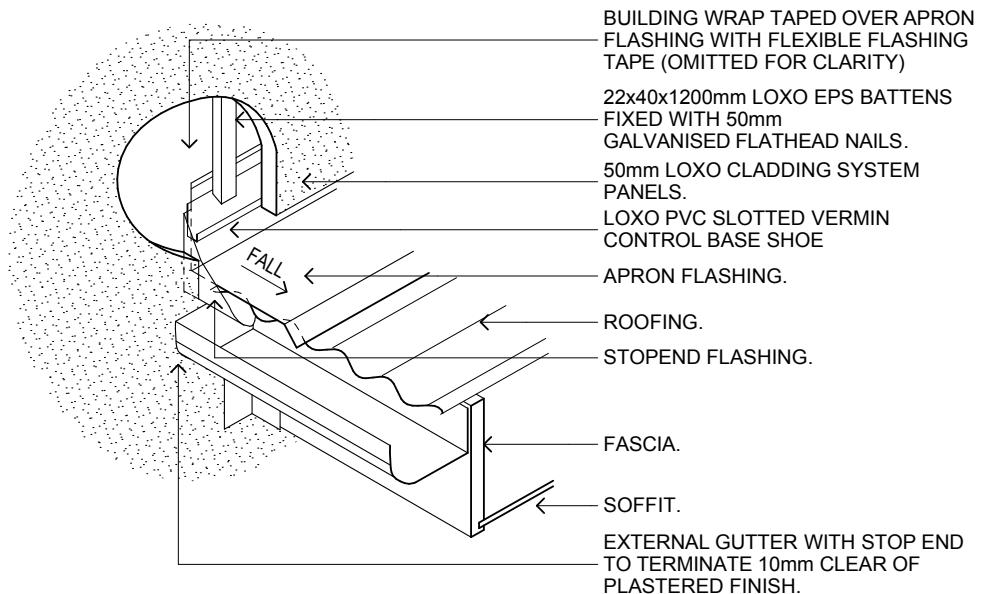
## SOFFIT WALL JUNCTION

Det. 7.3.2  
Scale 1:2



## MONOPITCHED EXPOSED SOFFIT / WALL JUNCTION

(Metal Flashing)  
Det. 7.4.2  
Scale 1:5

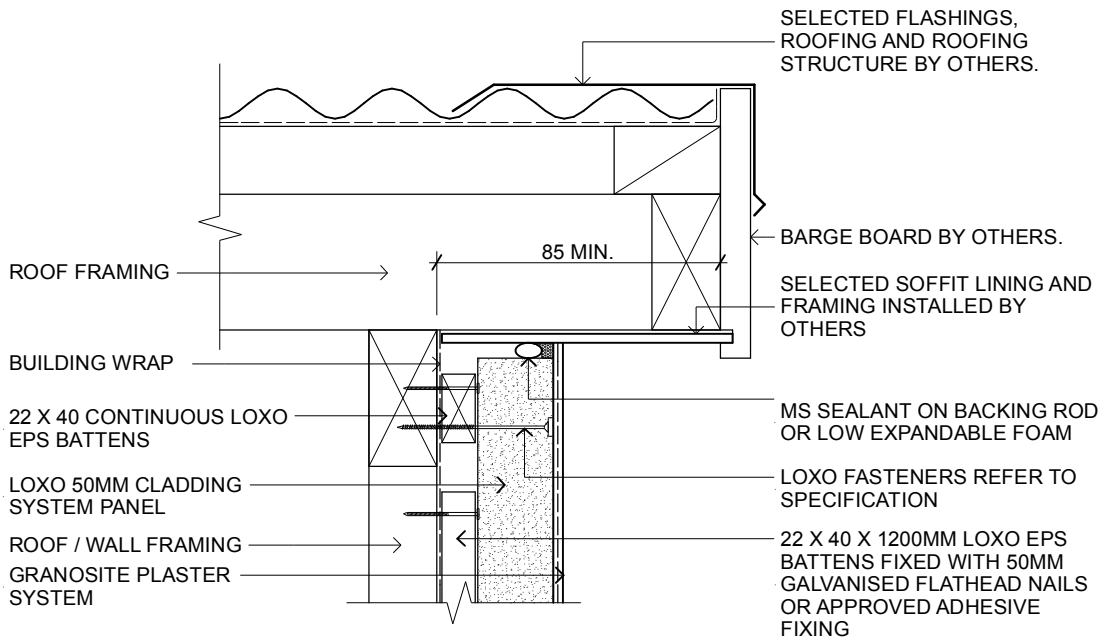


## ROOF APRON KICKOUT FLASHING

Det. 7.4.3  
Scale 1:5  
UPDATED AUGUST 2014

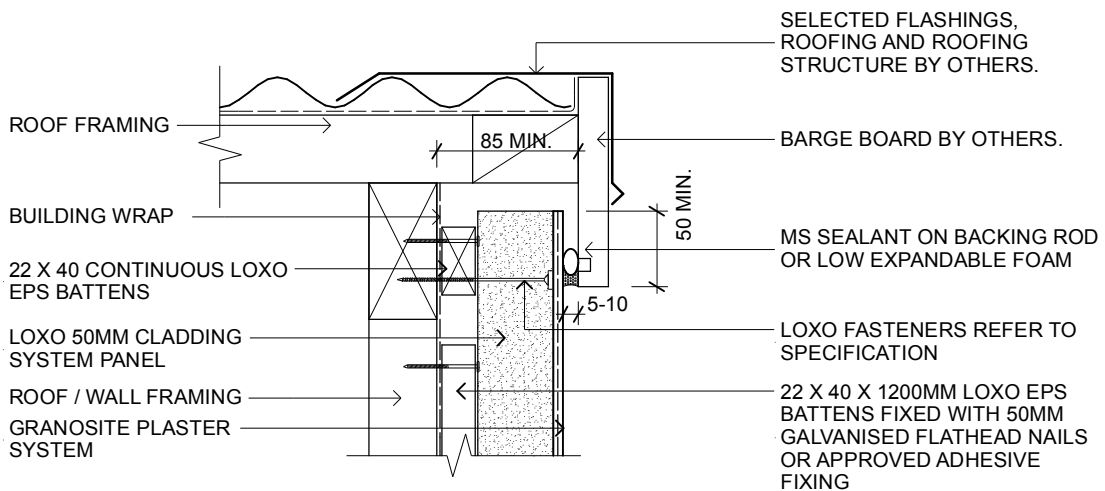


# 7.6 ROOF BARGE WALL DETAILS



## BARGE / WALL JUNCTION

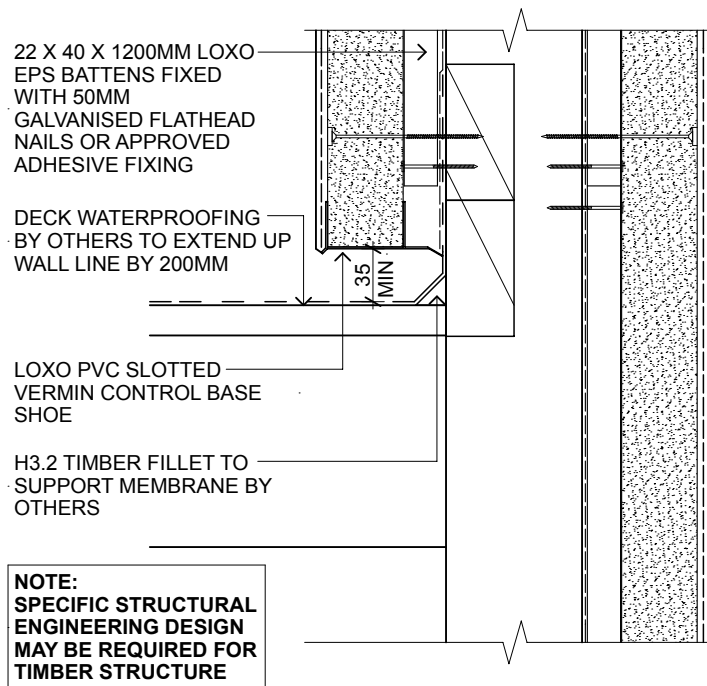
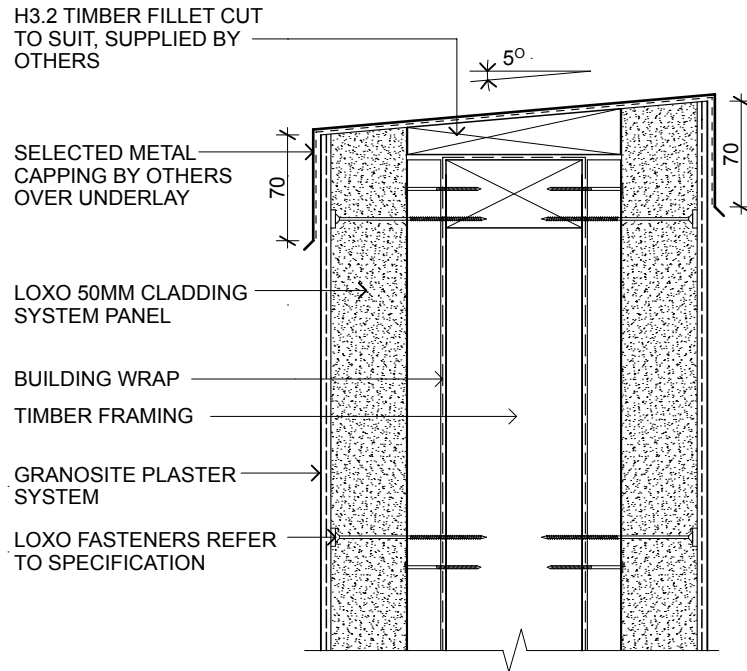
Det. 7.6.1  
Scale 1:5  
UPDATED AUGUST 2014



## CLIPPED BARGE / WALL JUNCTION

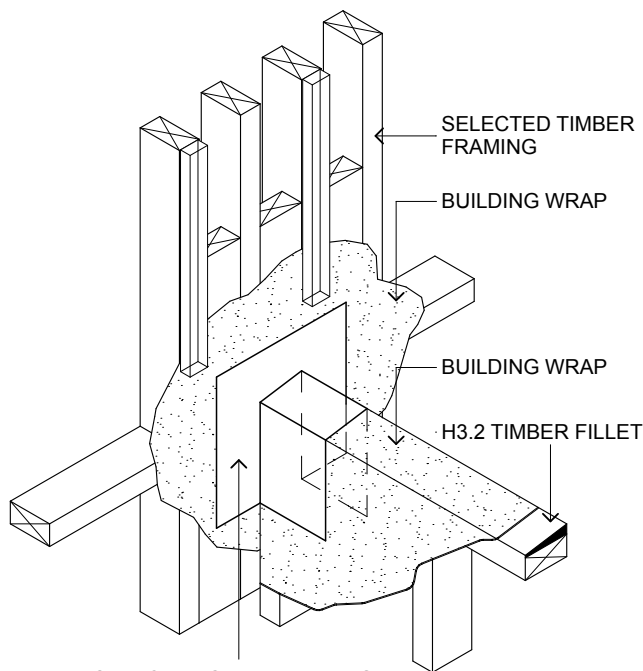
Det. 7.6.2  
Scale 1:5  
UPDATED AUGUST 2014

# 8.1 METAL PARAPET /BALUSTRADE DETAIL



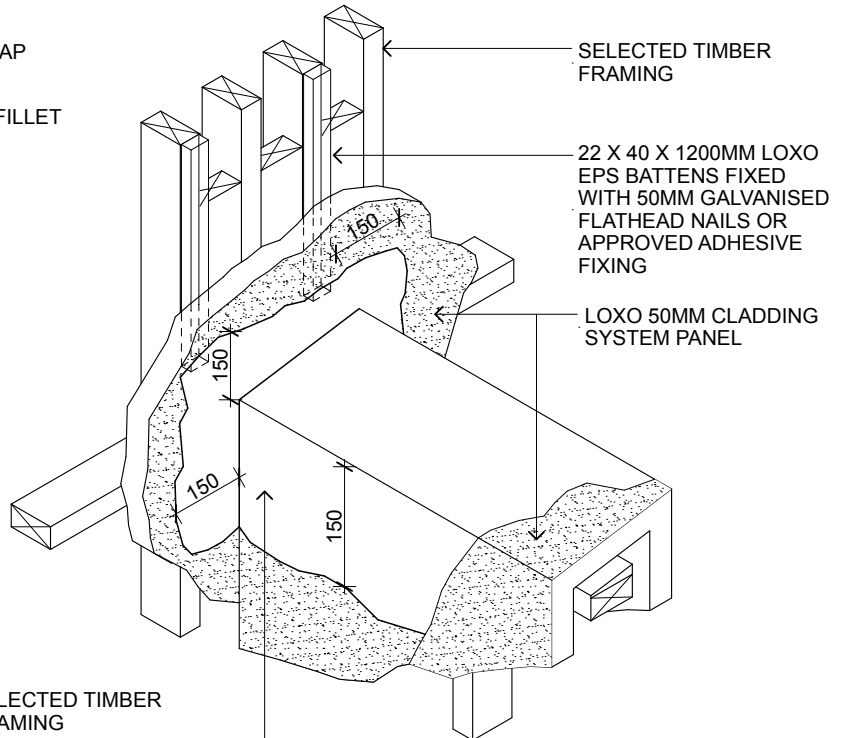
## METAL PARAPET / BALUSTRADE DETAIL

Det. 8.1.2  
Scale 1:5

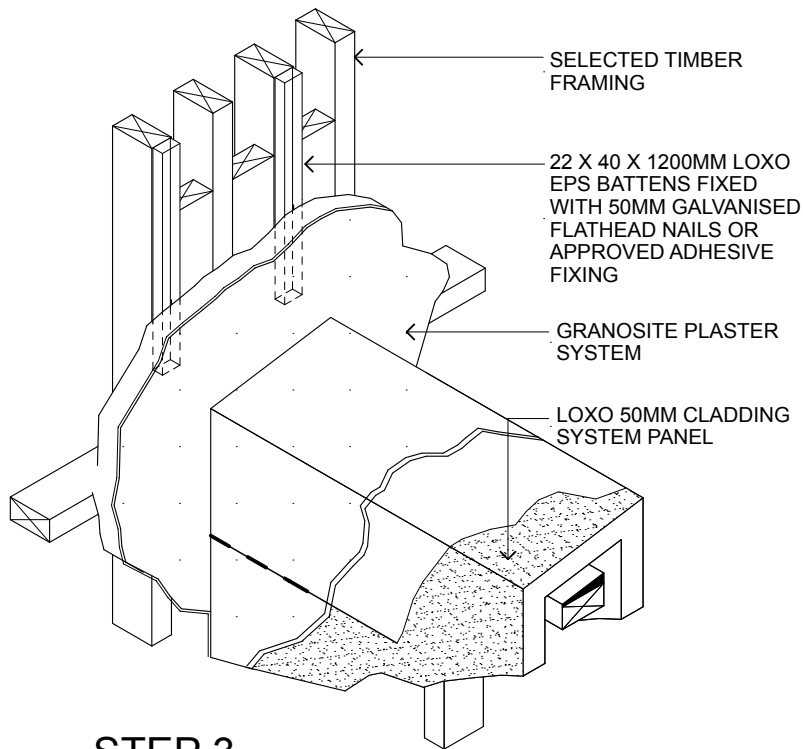


SELECTED SELF ADHERING SADDLE FLASHING FIXED TO BUILDING WRAP. RETURN FROM CORNERS 150MM EACH WAY

**STEP 1**



**STEP 2**

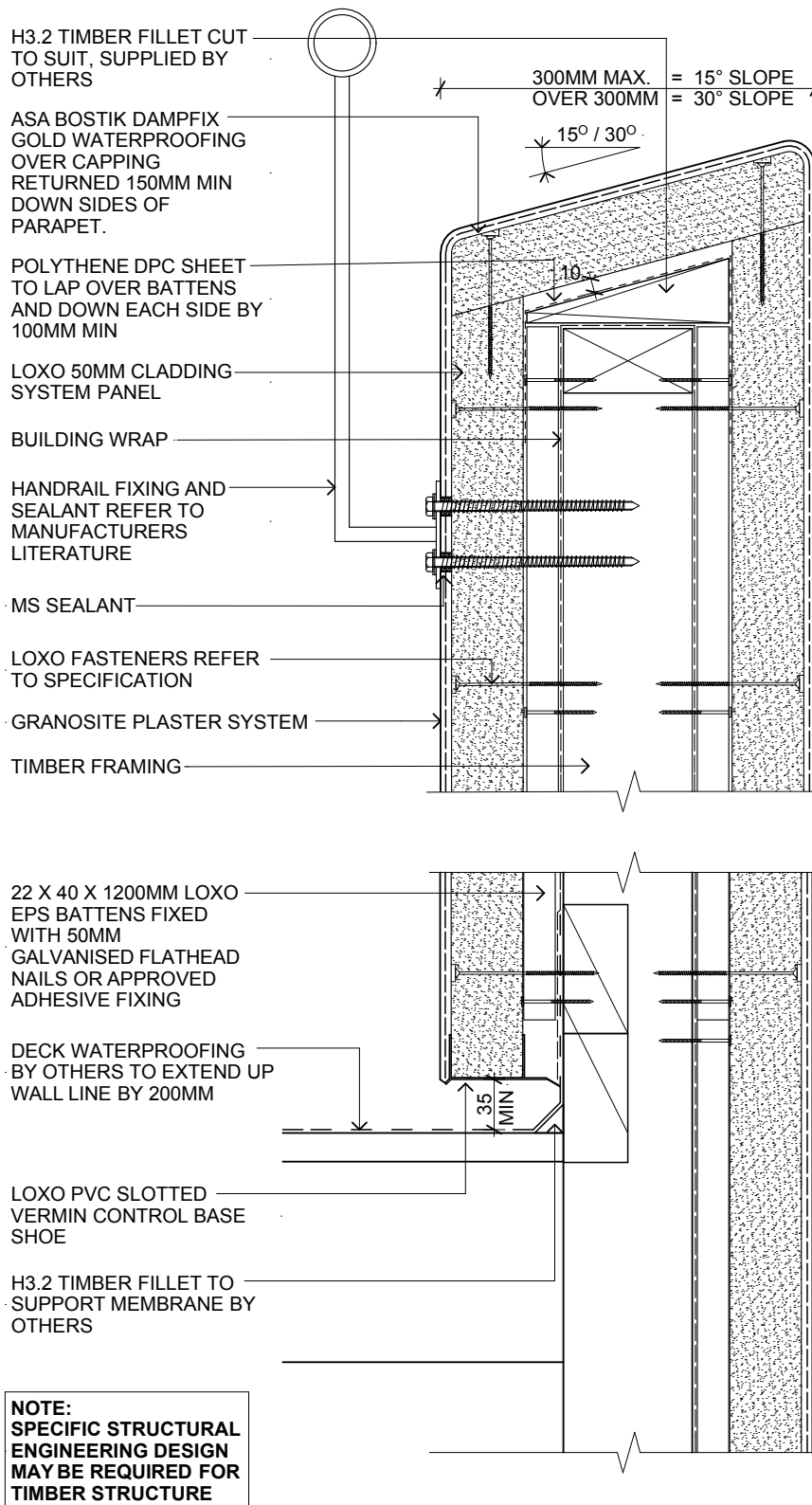


**STEP 3**

**PARAPET / BALUSTRADE WALL INTERSECTION**

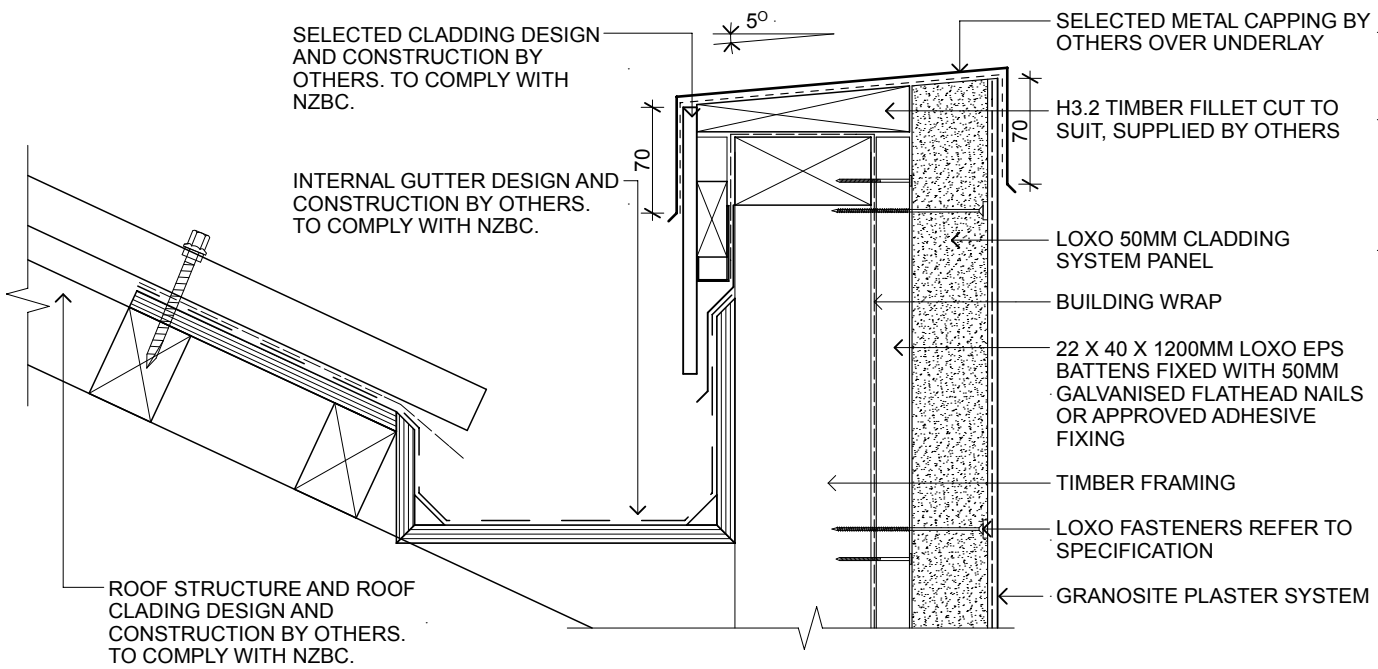
Det. 8.2.1  
Scale NTS

# 8.3 PARAPET/BALUSTRADE DETAIL



## PLASTERED PARAPET / BALUSTRADE DETAIL

Det. 8.3.1  
Scale 1:5

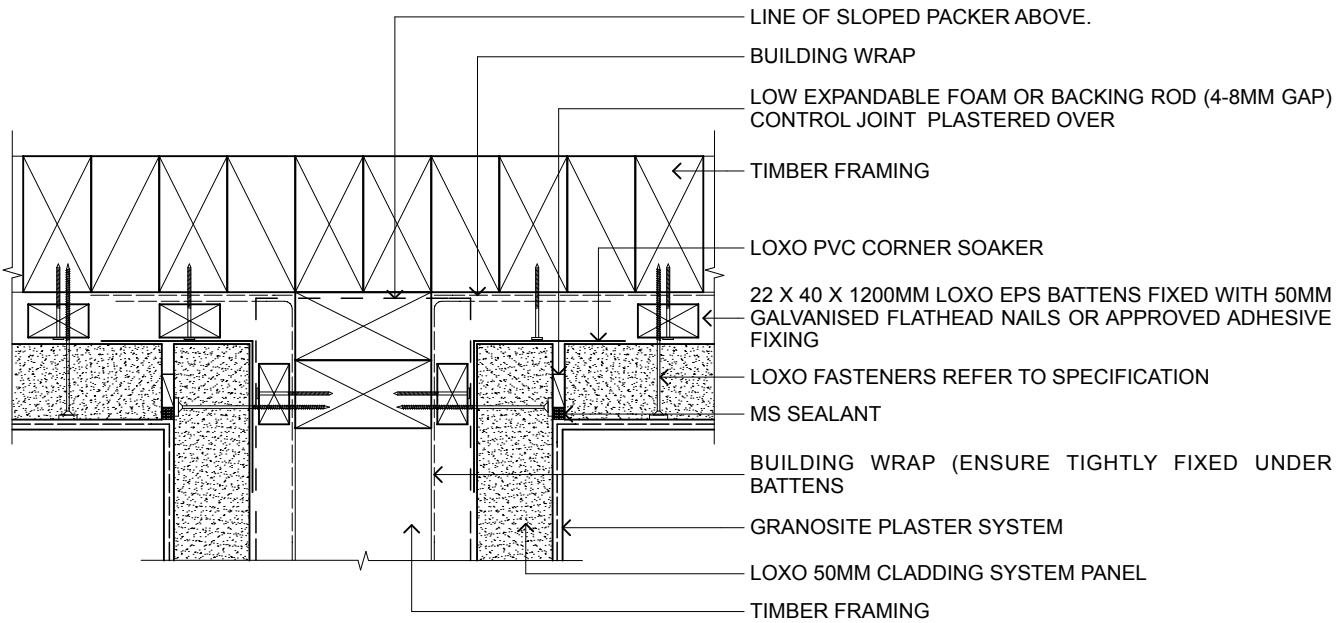


**PARAPET / INTERNAL GUTTER DETAIL**

Det. 8.4.1  
Scale 1:5

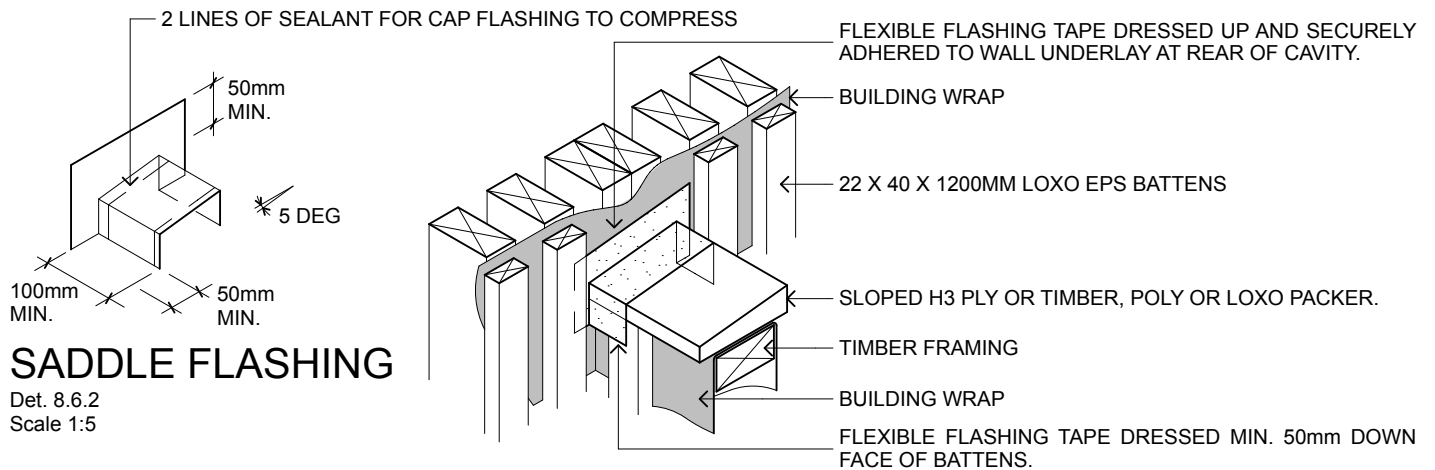
**NOTE:**  
ALL DIMENSIONS SHOWN ARE INDICATIVE ONLY. ALL ARE SPECIFIC DESIGN

# 8.6 TYPICAL SADDLE FLASHING



## PARAPET TO WALL JUNCTION

PLAN SECTION  
 Det. 8.6.1  
 Scale 1:5

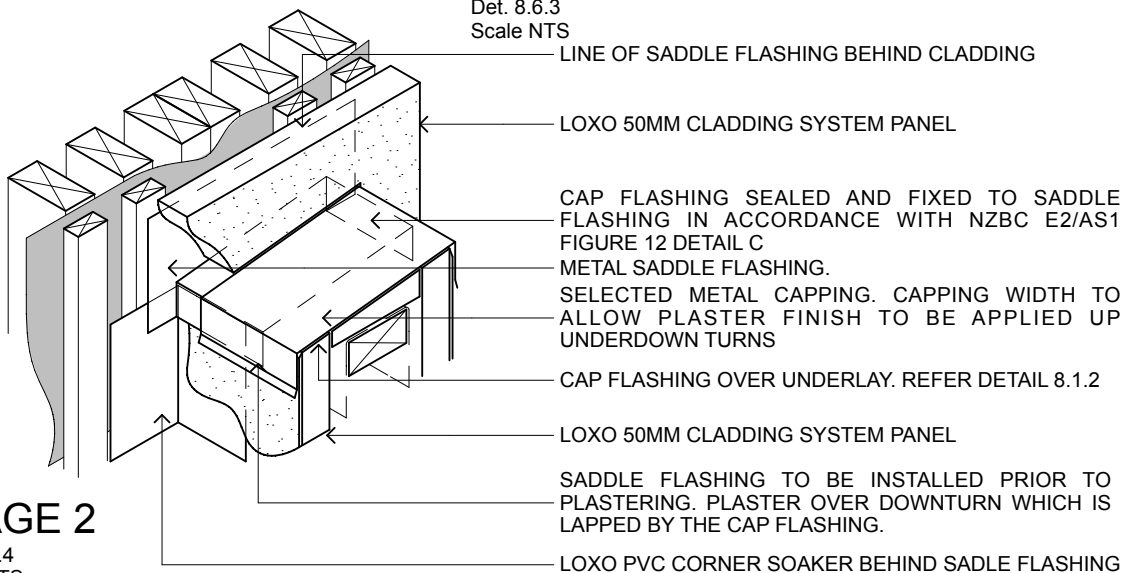


## SADDLE FLASHING

Det. 8.6.2  
 Scale 1:5

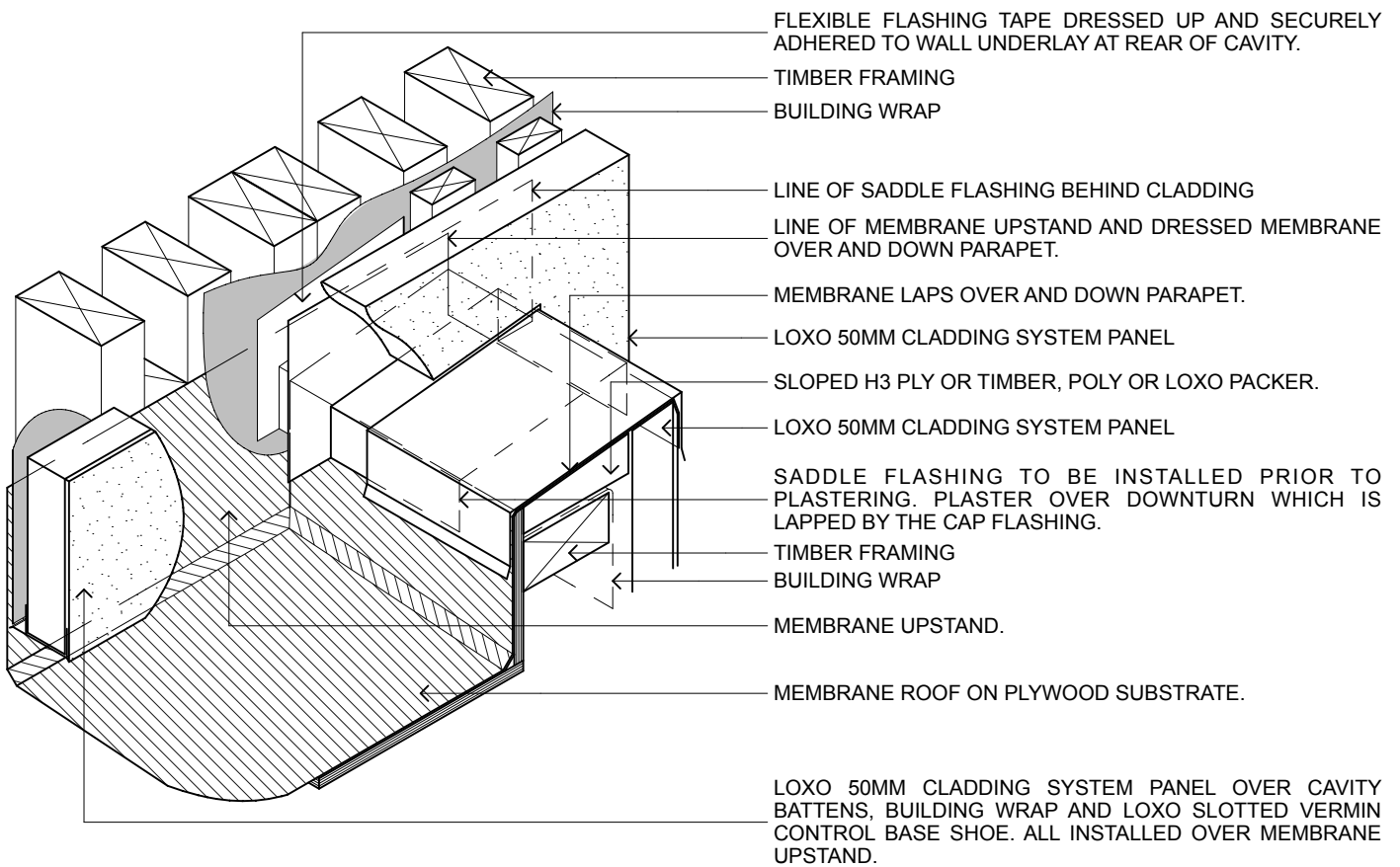
## STAGE 1

Det. 8.6.3  
 Scale NTS



## STAGE 2

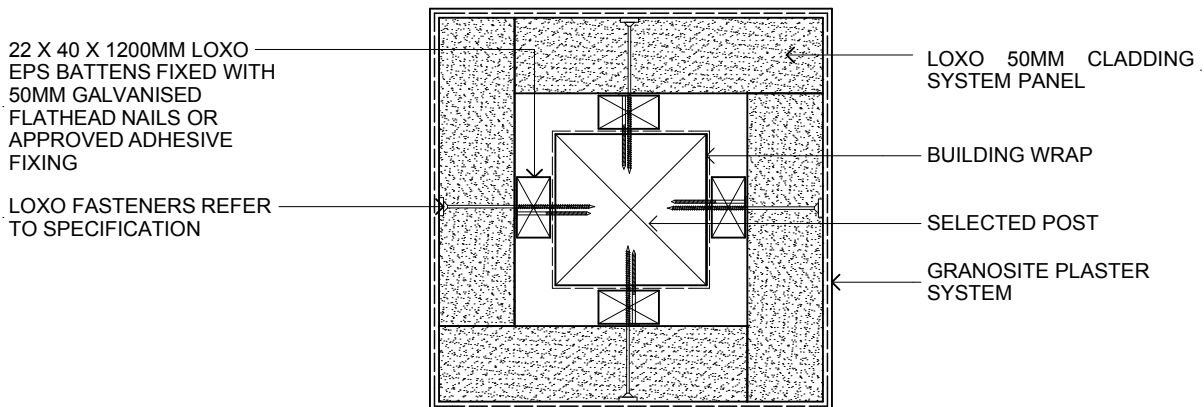
Det. 8.6.4  
 Scale NTS



**MEMBRANE ROOF JUNCTION TO PARAPET AND WALL**

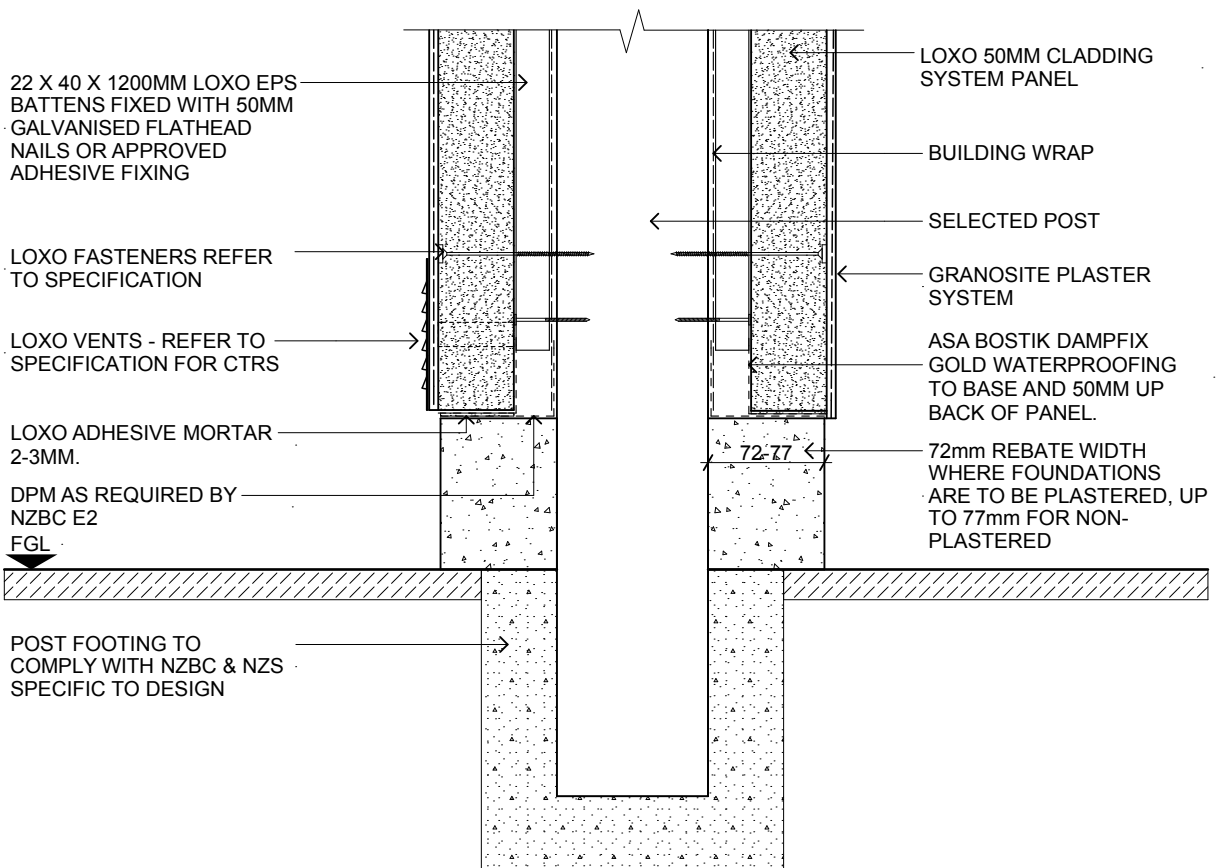
Det. 8.7.1  
Scale NTS

# 9.1 POST DETAIL



## LOXO POST PLAN DETAIL

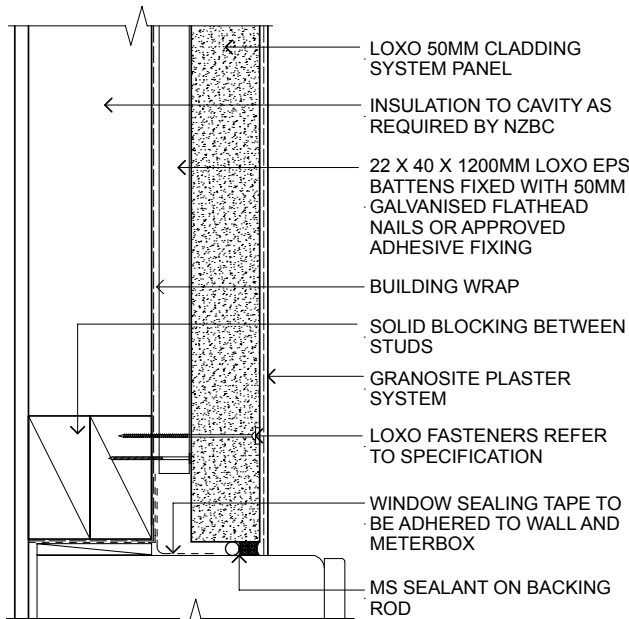
Det. 9.1.1  
Scale 1:5



## LOXO POST GROUND CONNECTION DETAIL

Det. 9.1.2  
Scale 1:5  
UPDATED AUGUST 2014

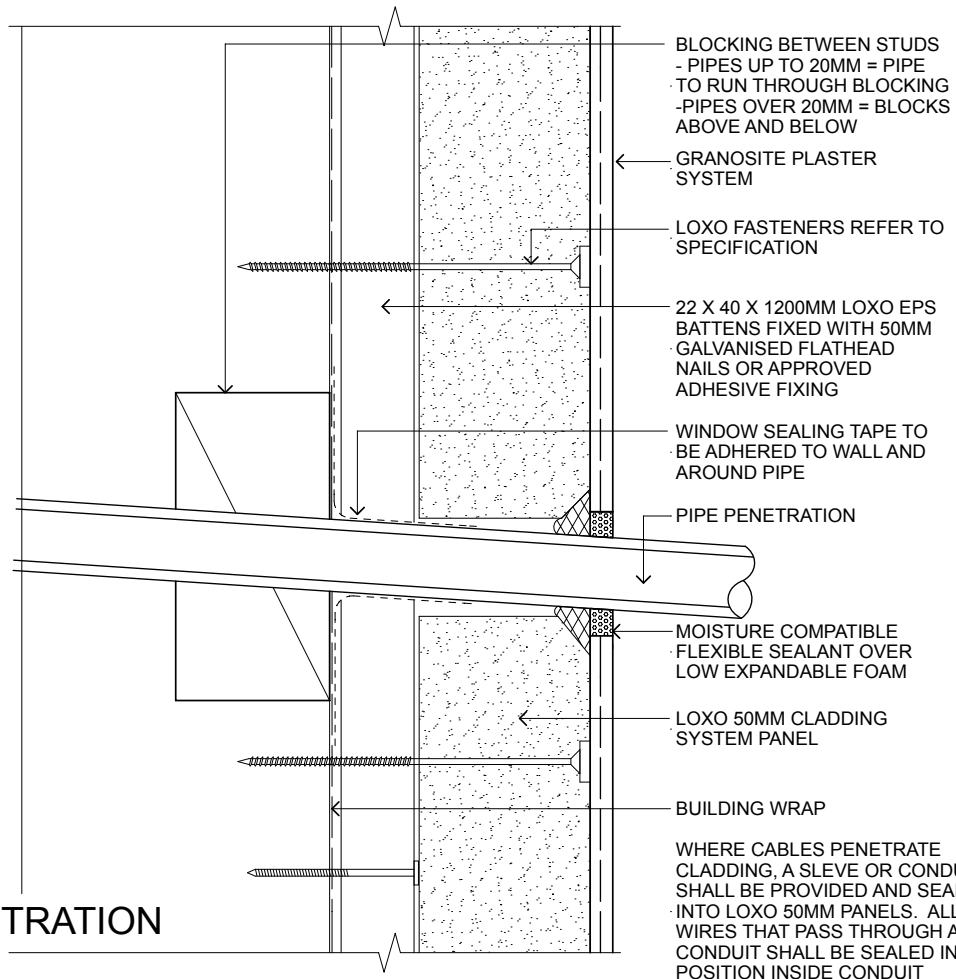




**NOTE:**  
WHERE POSSIBLE, METERBOXES SHOULD BE LOCATED IN SHELTERED AREAS OF THE BUILDING. ENSURE GOOD PRESSURE IS APPLIED WHEN INSTALLING WINDOW TAPE ALONG ENTIRE SURFACE FOR A GOOD BOND TO WALL AND METERBOX SURFACES.

## METERBOX HEAD / JAMB / SILL DETAIL

Det. 10.1.1  
Scale 1:5



## PIPE PENETRATION

Det. 10.1.2  
Scale 1:5

# 10.2 RAINWATER DISCHARGE

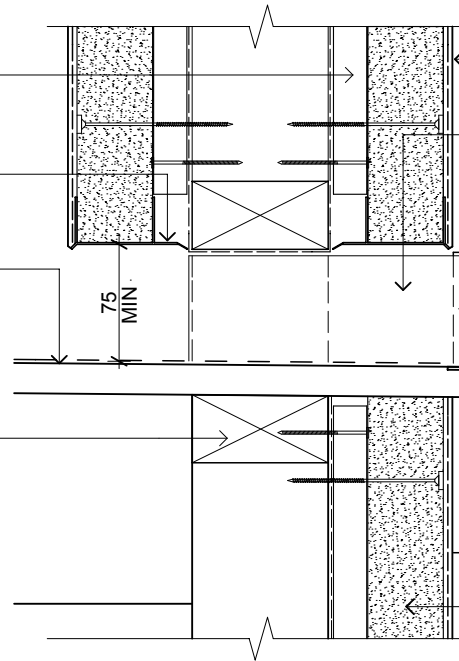


22 X 40 X 1200MM LOXO EPS BATTENS FIXED WITH 50MM GALVANISED FLATHEAD NAILS OR APPROVED ADHESIVE FIXING

LOXO PVC SLOTTED VERMIN CONTROL BASE SHOE

DECK WATERPROOFING BY OTHERS TO EXTEND UP WALL LINE BY 200MM

SELECTED TIMBER FRAMING



GRANOSITE PLASTER SYSTEM

MEMBRANE DRESSED THROUGH BASE AND UP SIDES OF OPENING WITH UPPER EDGES SEALED AGAINST CLADDING. RETURN ALONG BACK OF RAINWATER HEAD

RETURN MEMBRANE INTO RAINWATER HEAD

MEMBRANE DRESSED OVER A METAL ANGLE WITH AN OVERHANG OF SUFFICIENT SIZE REBATED INTO SUBSTRATE

SELECTED RAINWATER HEAD

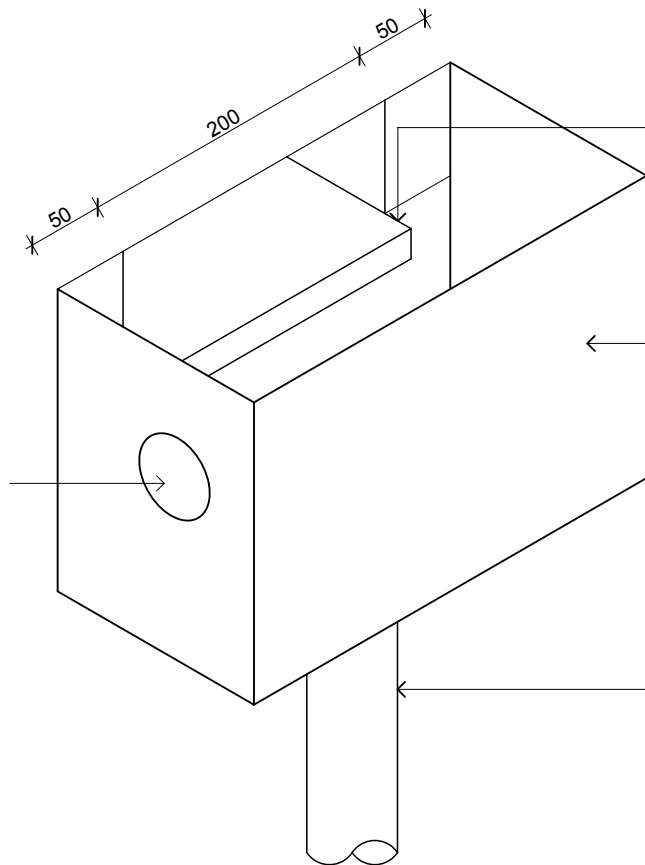
SELECTED DOWNPIPE

LOXO 50MM CLADDING SYSTEM PANEL

## RAINWATER HEAD OPENING DETAIL

Det. 10.2.1  
Scale 1:5

**NOTE**  
SPECIFIC RAINWATER HEAD DETAIL IS REQUIRED TO COMPLY WITH NZBC E2



MEMBRANE DRESSED THROUGH BASE AND UP SIDES OF OPENING WITH UPPER EDGES SEALED AGAINST CLADDING. RETURN ALONG BACK OF RAINWATER HEAD

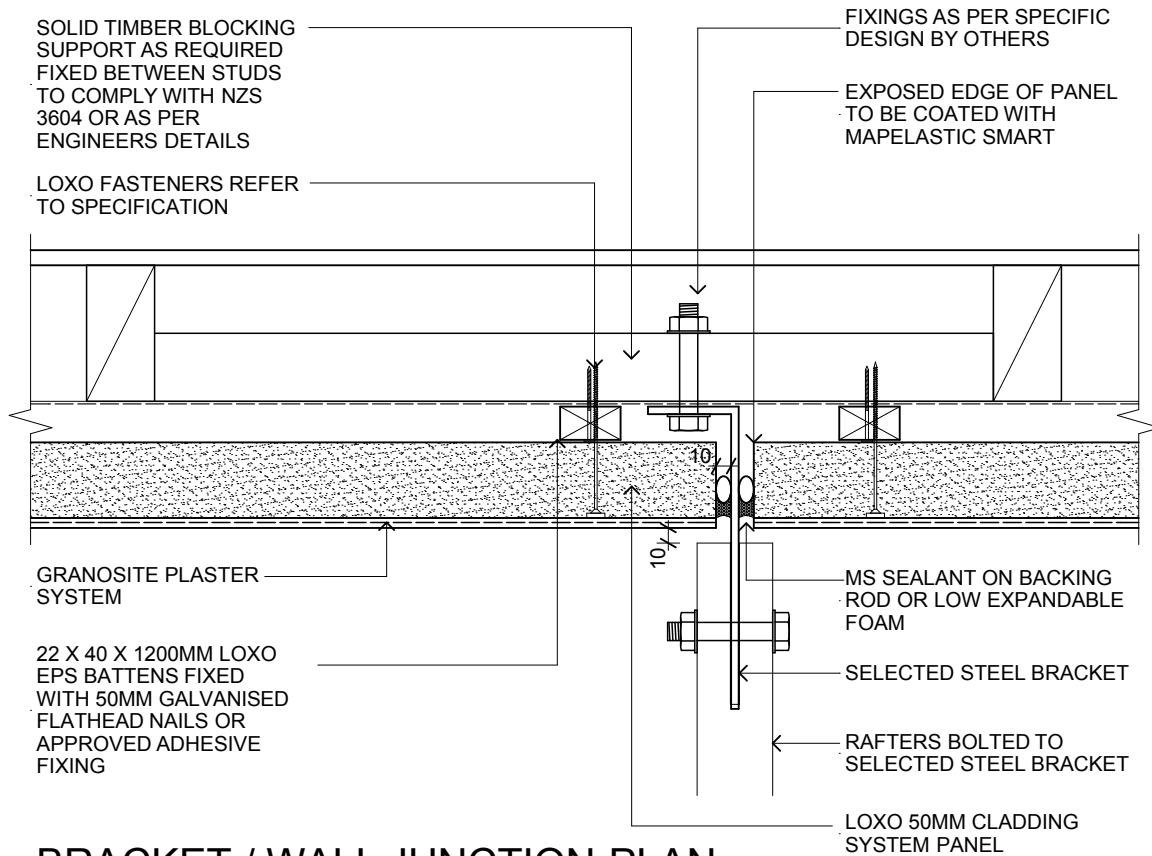
SELECTED RAINWATER HEAD

SELECTED DOWNPIPE

OVERFLOW (BELOW OPENING LEVEL)

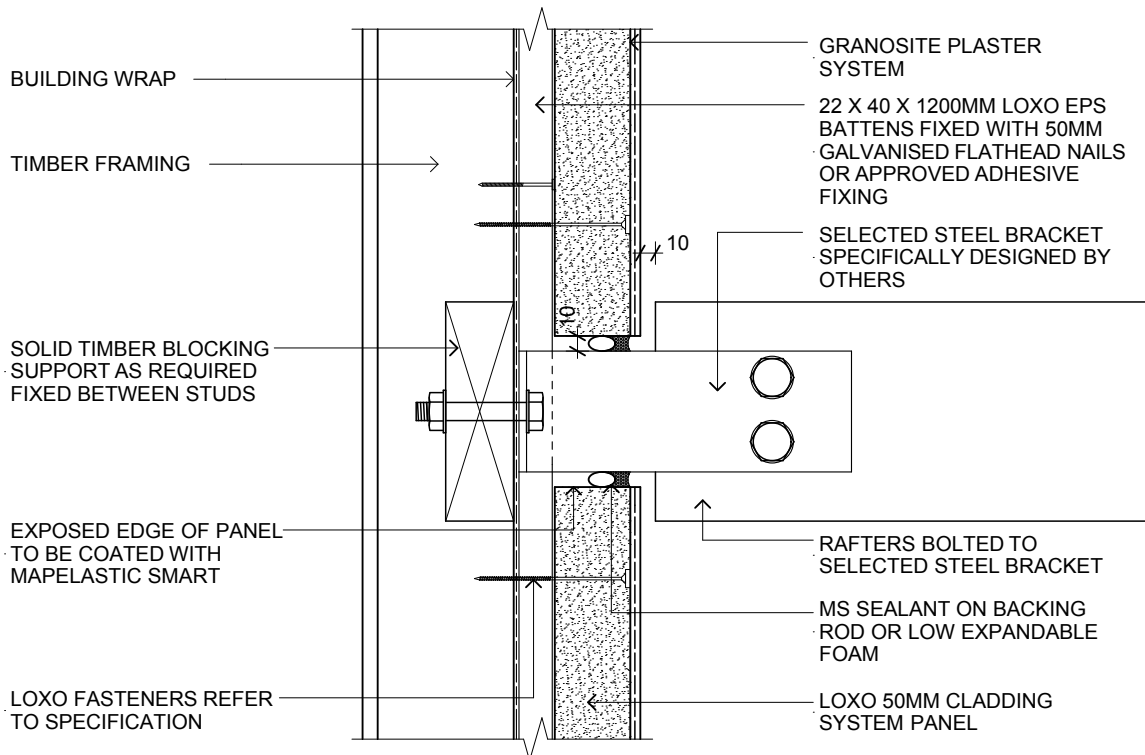
## RAINWATER HEAD DETAIL

Det. 10.2.2  
Scale N.T.S



**BRACKET / WALL JUNCTION PLAN**

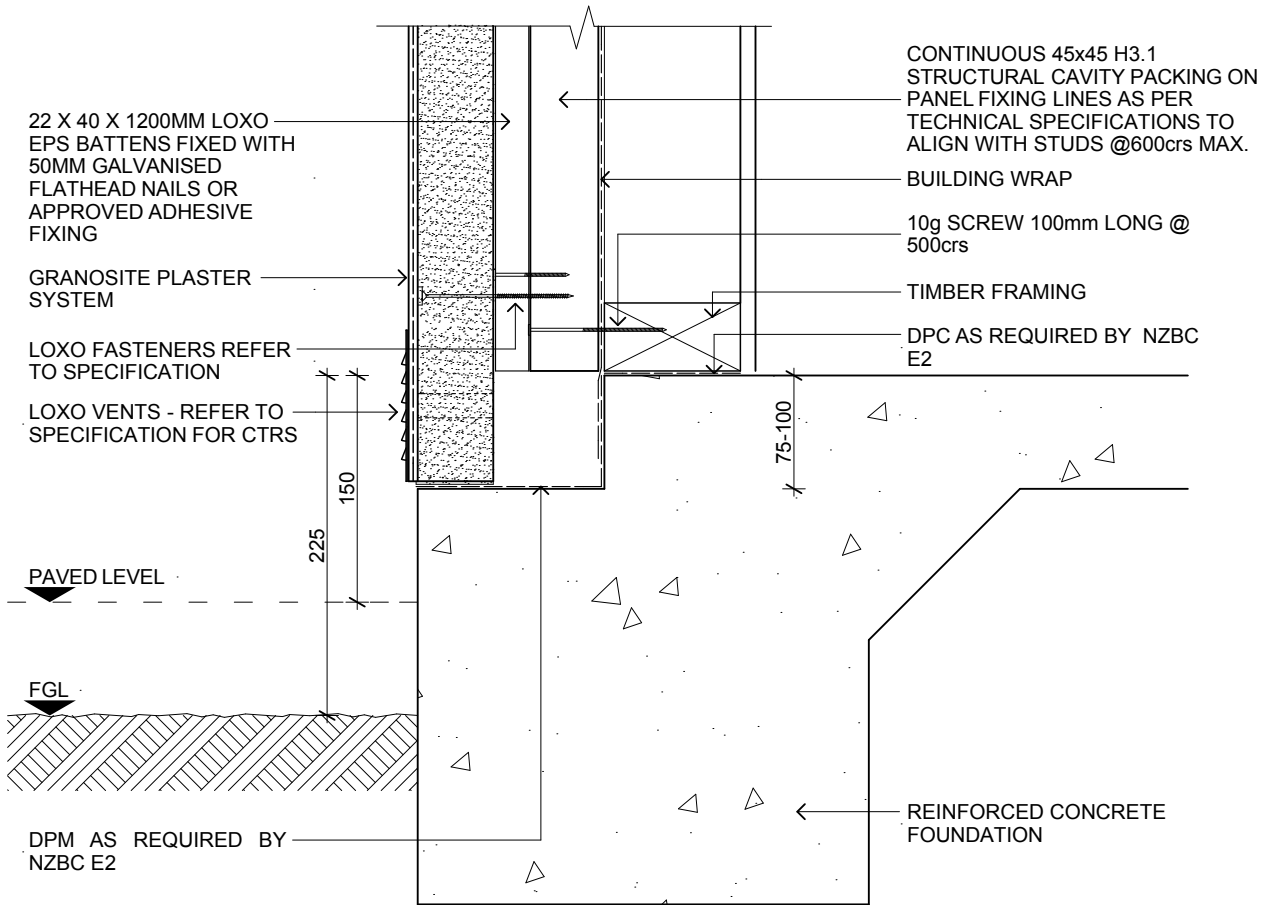
Det. 10.3.1  
Scale 1:5



**BRACKET / WALL JUNCTION SECTION**

Det. 10.3.2  
Scale 1:5

# 11.1 RECLAD FOUNDATION DETAILS



## RECLAD BRICK VENEER FOUNDATION DETAIL

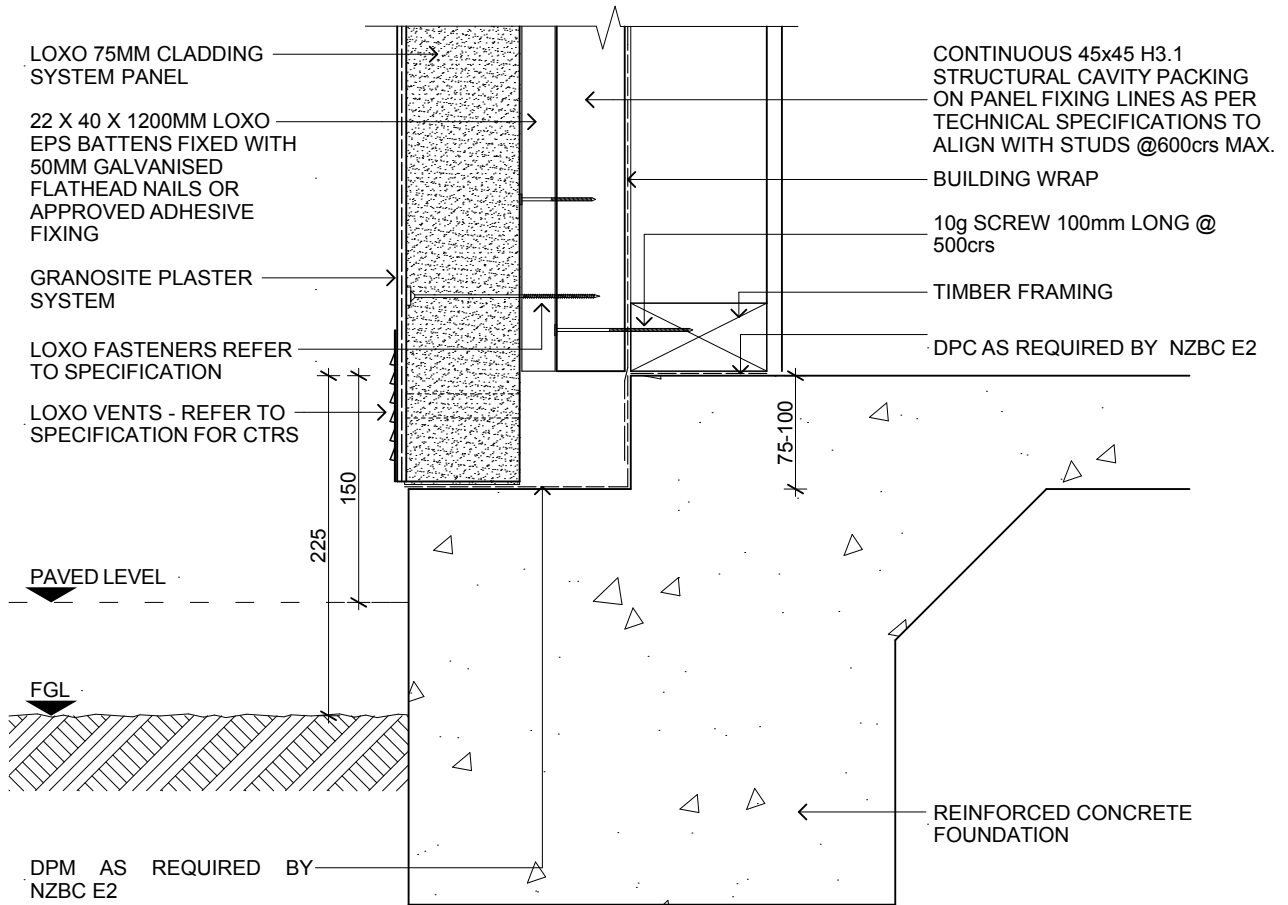
Det. 11.1.1

Scale 1:5

UPDATED AUGUST 2014

THIS DETAIL IS SPECIFIC TO CHRISTCHURCH SEISMIC LOADING  $\alpha=0.3$  AND A VERY HIGH WIND ZONE TO NZS 3604:2011

# 75MM RECLAD BRICK VENEER 11.2 FOUNDATION DETAIL



## 75mm RECLAD BRICK VENEER FOUNDATION DETAIL

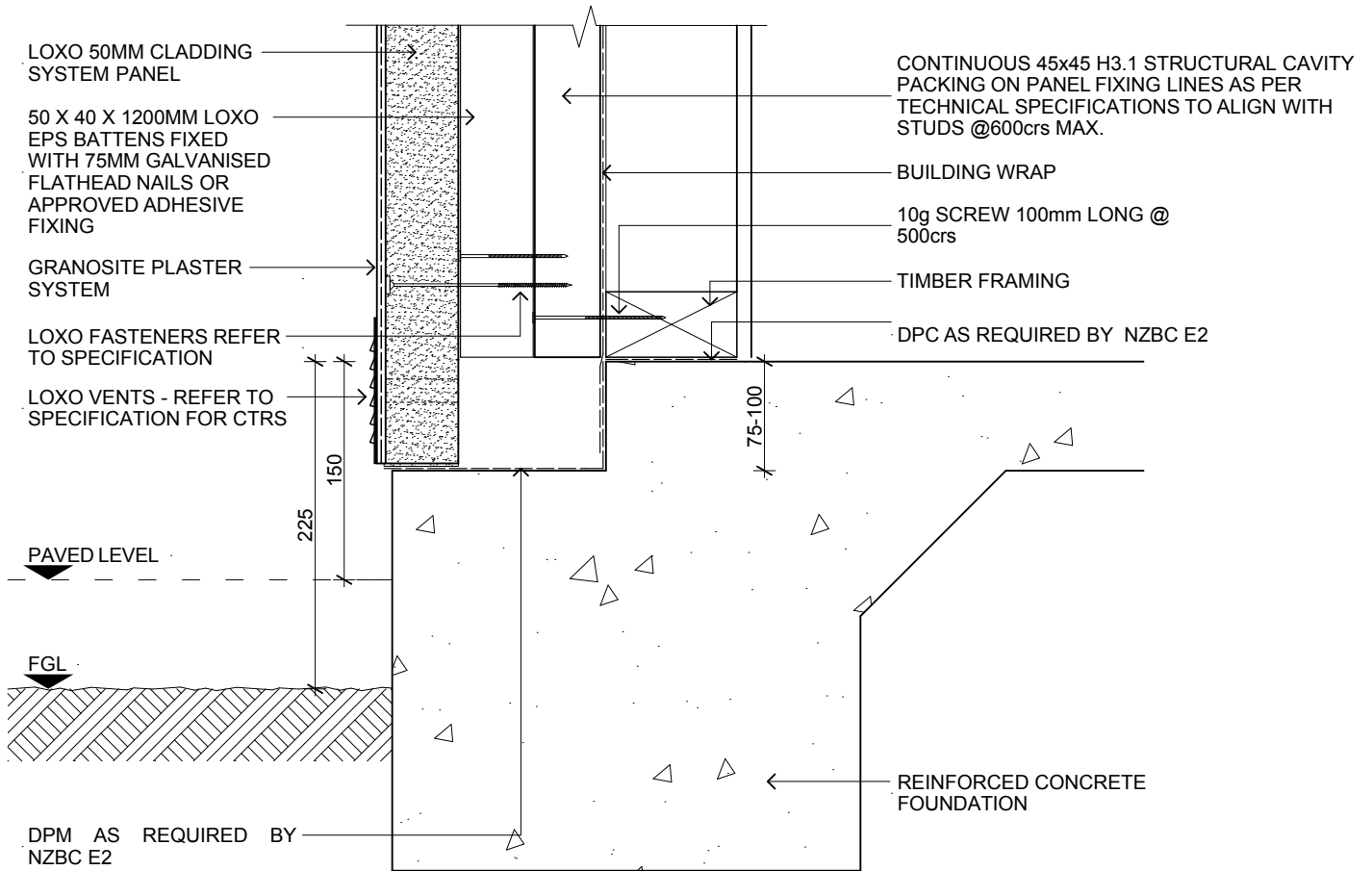
Det. 11.2.1

Scale 1:5

UPDATED AUGUST 2014

THIS DETAIL IS SPECIFIC TO CHRISTCHURCH SEISMIC LOADING  $\alpha=0.3$  AND A VERY HIGH WIND ZONE TO NZS 3604:2011

# 11.3 DELUXE RECLAD BRICK VENEER FOUNDATION



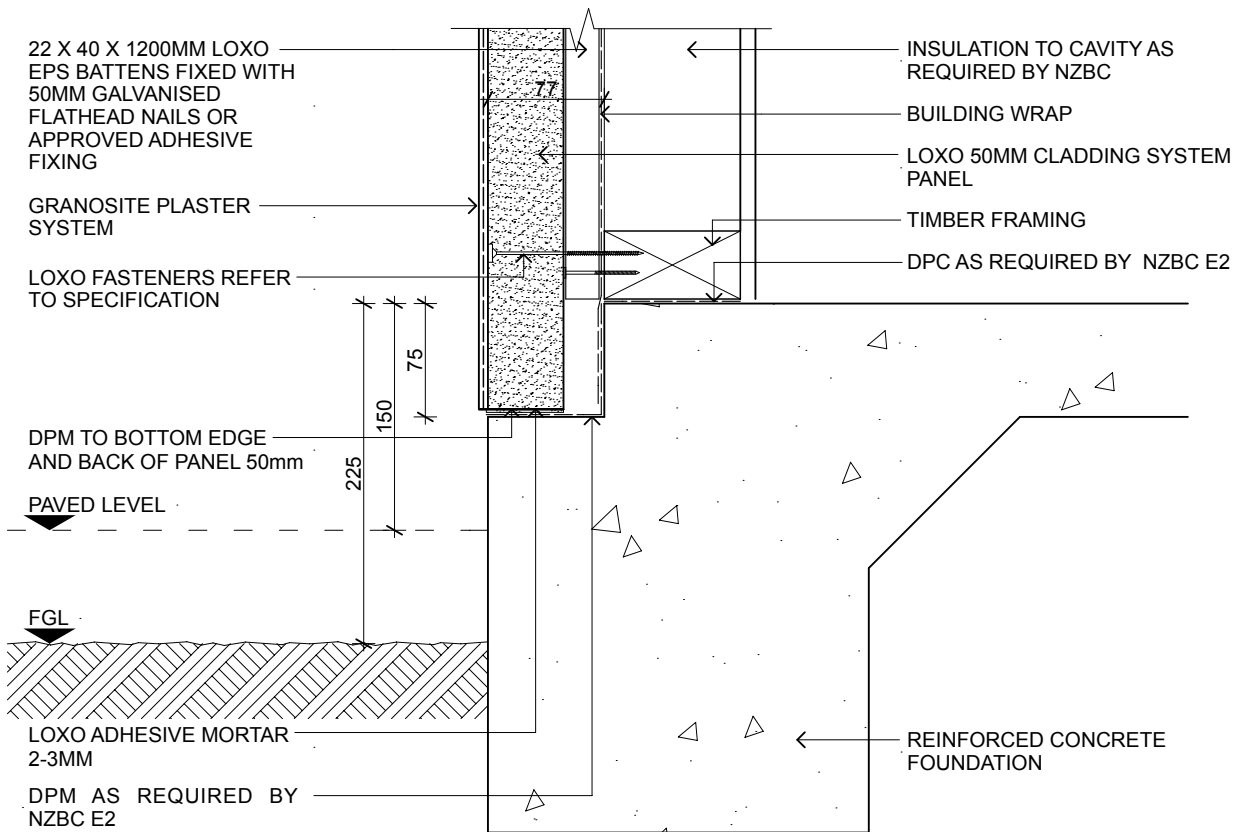
## DELUXE RECLAD BRICK VENEER FOUNDATION DETAIL

Det. 11.3.1

Scale 1:5

UPDATED AUGUST 2014

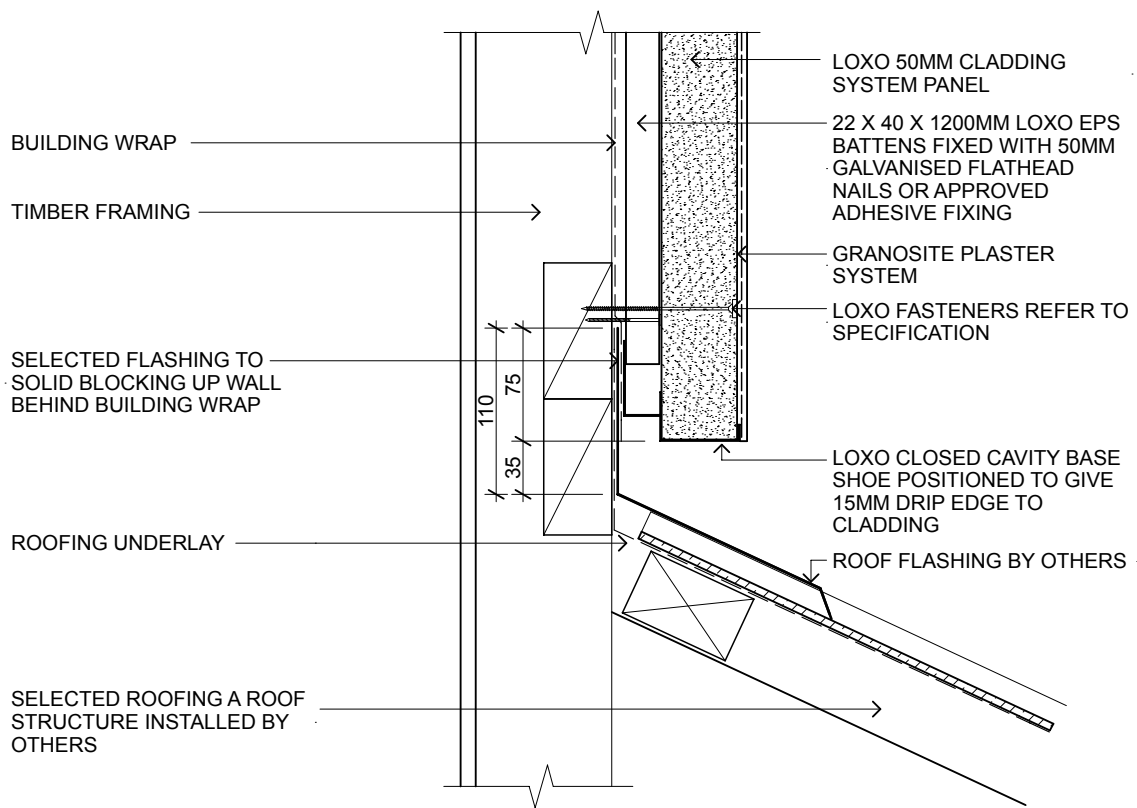
THIS DETAIL IS SPECIFIC TO CHRISTCHURCH SEISMIC LOADING  $\phi=0.3$  AND A VERY HIGH WIND ZONE TO NZS 3604:2011



**REBATED STEP-DOWN FOUNDATION DETAIL - CLOSED CAVITY**

Det. 12.1.1  
Scale 1:5

# 12.2 ROOF DETAIL - CLOSED CAVITY

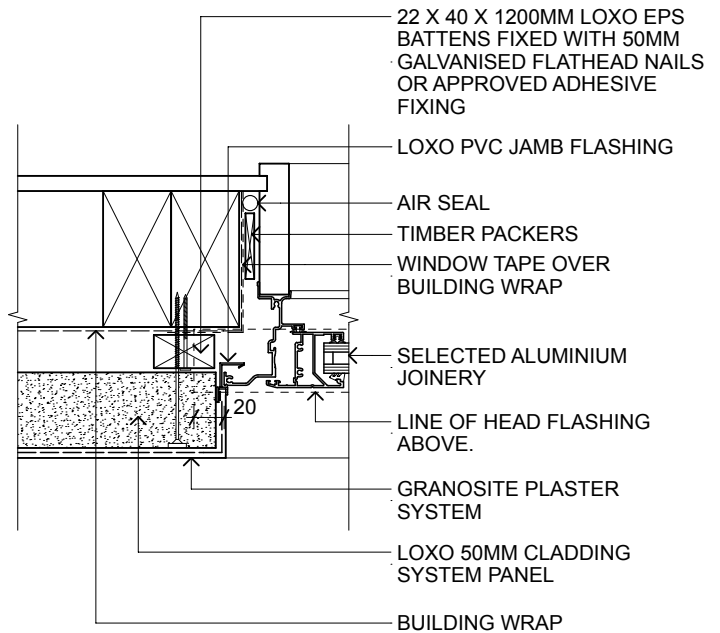
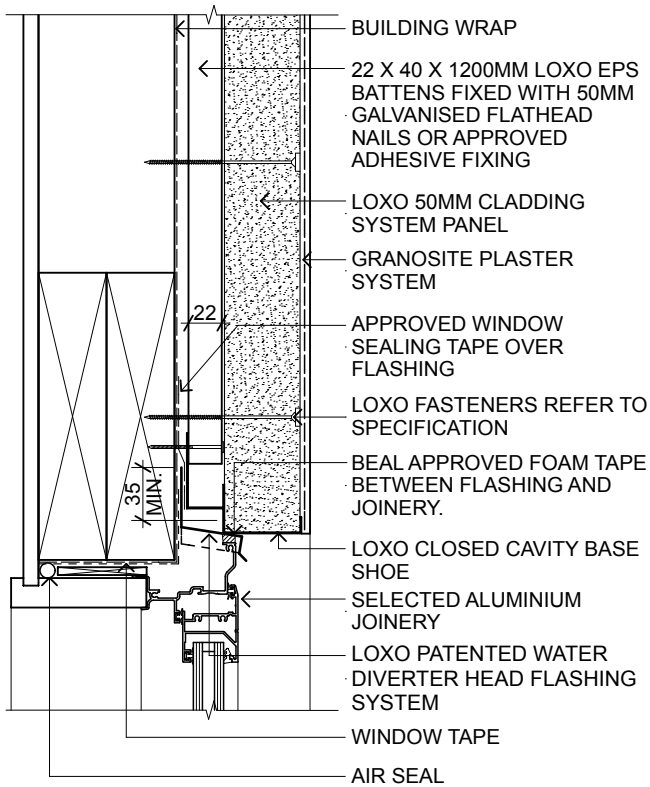


## ROOF / WALL JUNCTION - CLOSED CAVITY

Det. 12.2.1  
Scale 1:5



# WINDOW DETAILS 12.3 - CLOSED CAVITY

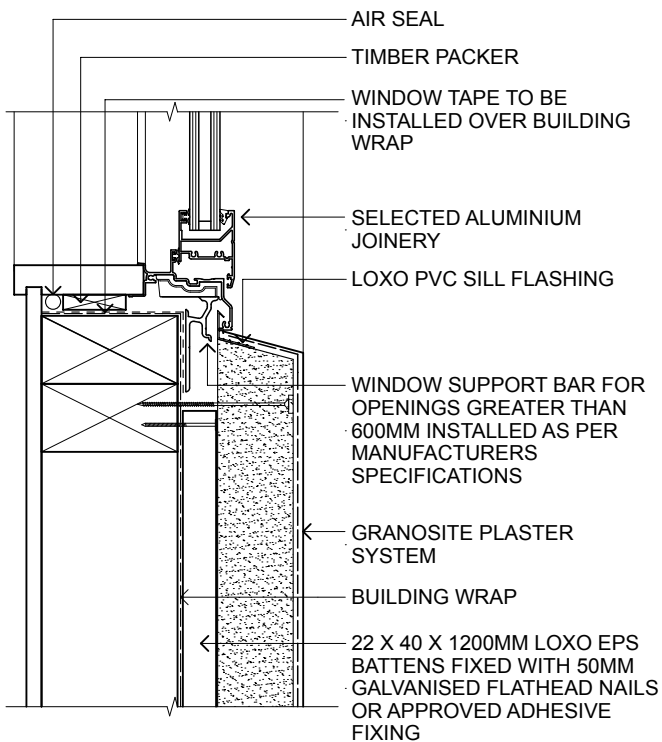


## HEAD DETAIL (CLASSIC)

Det. 12.3.1  
Scale 1:5  
UPDATED OCTOBER 2014

## JAMB DETAIL (CLASSIC) - CLOSED CAVITY

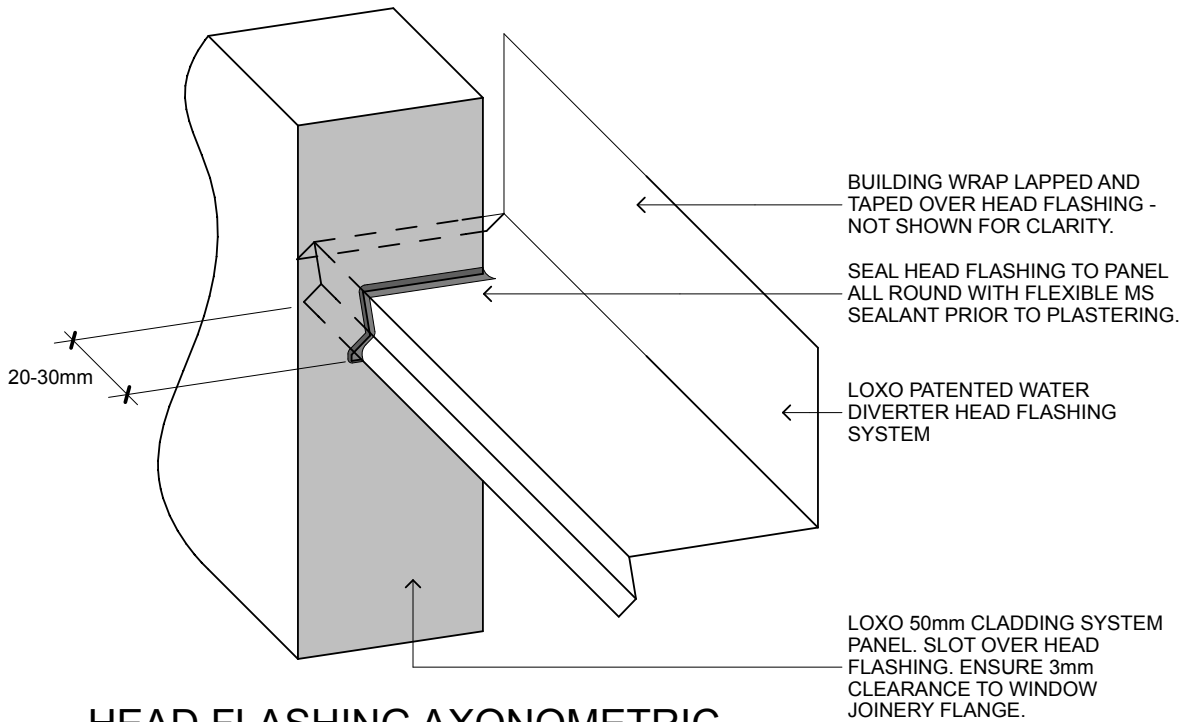
Det. 12.3.3  
Scale 1:5  
UPDATED AUGUST 2014



## SILL DETAIL (CLASSIC) - CLOSED CAVITY

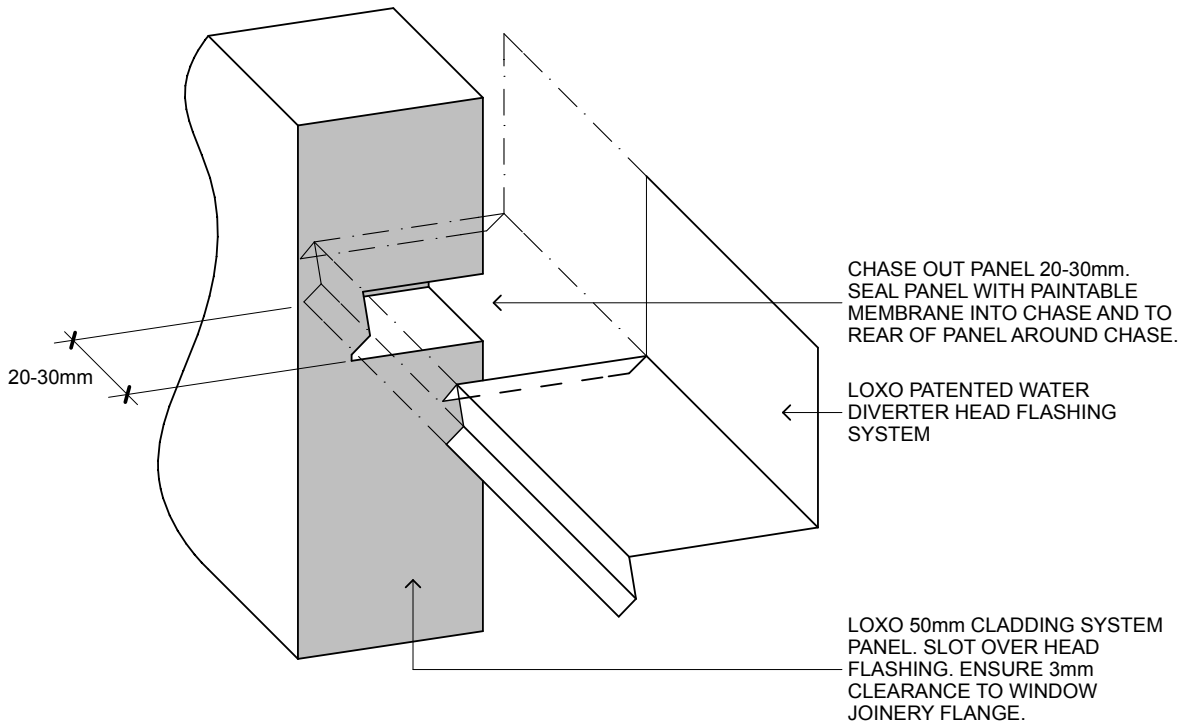
Det. 12.3.2  
Scale 1:5

# 12.4 HEAD FLASHING DETAILS - CLOSED CAVITY



## HEAD FLASHING AXONOMETRIC - CLOSED CAVITY

Det. 12.4.2  
NTS  
UPDATED OCTOBER 2014



## HEAD FLASHING EXPLODED AXONOMETRIC - CLOSED CAVITY

Det. 12.4.2  
NTS  
UPDATED OCTOBER 2014

## L7 LOXO BLOCK SYSTEM - AN INTRODUCTION

The **Loxo Block System** is a reinforced lightweight autoclaved aerated concrete (AAC) wall construction system that provides a solid masonry wall with excellent durability, acoustic and insulation performance. The **Loxo Block System** can be used as a cost effective alternative to traditional concrete hollow core masonry for all walls in single and multi-storey residential and commercial buildings.

This specification document outline the installation and application of the **Loxo Block System** by Loxo Cladding NZ Ltd. The **Loxo Block System** is an internal and external, load bearing and non load bearing, insitu reinforced AAC block wall system. The AAC blocks are 100mm, 150mm or 200mm wide x 200mm thick x 600mm long.

**Loxo Blocks** are laid in a stretcher bond and fixed together with Loxo Block Adhesive (+/-2mm thick). The blocks are site cored and vertical reinforcing in grouted within. A top course reinforced concrete bond beam is poured insitu using 50mm thick Loxo facing blocks as built in formwork. **Loxo Blocks** use the Granosite reinforced Plaster System for exterior coating and finishing. Internal finishes can be either plasterboard directly adhered to the blocks or a Granosite interior plastered finishing system.

Important:

- **This specification must be read in conjunction with the detail data sheets.**
- All materials such as grouts, adhesives and fixings used for the **Loxo Block System** must be supplied by **Loxo Cladding NZ Ltd** or one of its certified distributors.
- All materials such as fiberglass mesh and plaster components used for the coating of **Loxo Blocks** must be supplied by Valspar Paint (NZ) Ltd.

### L7 Performance and Technical Specifications

<b>Dry Density:</b>	525kg/m <sup>3</sup>
<b>Intensity:</b>	3.5MPa
<b>Thermal Resistivity:</b>	1.43m <sup>2</sup> k/W for 200mm bare block
<b>Dry Shrinkage Value:</b>	0.5mm/m
<b>Block Size:</b>	100mm, 150mm or 200mm x 200mm x 600mm
<b>Thermal Conductivity:</b>	0.13 W/mK
<b>Sound Transmission Class (STC):</b>	42 for 200mm bare block. 46 for render one side and either render or Gib the other
<b>Fire Resistance:</b>	4 hours (overseas testing)
<b>Windzone:</b>	All wind zones of NZS 3604

### L7 Standards Compliance

**Loxo Blocks** fixed in accordance with the details and instructions in this Technical Manual meet the requirements and relevant sections of the New Zealand Building Code (NZBC) including:

- B1** Structure
- B2** Durability
- E2** External Moisture
- F2** Hazardous Building Materials

While the dry mass of the **Loxo Blocks** are considered light weight, all foundations and footings should be designed in accordance with NZS 4229:1999 or by project specific structural engineer design.

The finished insulation value of the **Loxo Block System** is R1.65 for 200mm Block with render one side and Gib the other or R1.75 for 200mm Block with render both sides.

**Fire Resistance** for the **Loxo Blocks** exceeds the requirements for standard commercial or domestic exterior walls. Additionally, **Loxo Blocks** have an ignitability index of zero and are 'Non Combustible' in accordance with NZBC Clause C3 and NZS/AS 1530 standards.

## **L7 Structure and Durability**

**Loxo Blocks** (including their fixings) are able to withstand all wind loadings and earthquake zones in all areas of New Zealand in accordance with the project specific structural engineer design.

When installed in accordance with this technical manual, **Loxo Blocks** meet the requirements of NZBC Clause B2.3.1 (a) or by the project specific structural engineer design

## **L7 External Moisture**

The Granosite Plaster System coatings used on **Loxo Blocks** meet the requirements of NZBC E2/AS3 relating to the resistance of water penetration, provided the integrity of the specified external Granosite Plaster System is maintained.

## **L7 Hazardous Building Materials**

In reference to NZBC Clause F2 regarding Hazardous Building Materials, **Loxo Blocks** are non-hazardous providing all safety precautions included in this literature are adhered to, refer to Health and Safety on Page 60.

## **L7 TECHNICAL SPECIFICATIONS**

### **L7 Electrical Cables**

Electrical and Plumbing cables and pipes are chased into the blocks. Chases must not be deeper than 1/3 of the wall thickness unless specifically designed by the structural engineer.

### **L7 Maintenance**

Regular checks and cleaning, at least annually, of the jointing and coating systems must be carried out and any routine maintenance performed as and when required to maintain weather tightness. Any damage to the coating system must be promptly repaired by an approved applicator to ensure the integrity of the Granosite coating system is maintained. Refer Granosite Warranty Guide [www.wattyl.co.nz](http://www.wattyl.co.nz)

### **L7 Footings**

**Loxo Blocks** must sit on a rebated concrete slab footing (min. 50mm rebate) in a similar manner to that required for hollow core concrete masonry. All footings and foundations are to be designed in accordance with NZS 4229:1999 or by project specific structural engineer design.

### **L7 Framing (Timber or Steel)**

All timber or steel fixed to or in contact with the **Loxo Blocks** or associated concrete must have DPC between. Ensure the DPC is compatible with the treatment of the timber or steel.

### **L7 Bracing**

Bracing to comply with the project specific structural engineer design.

### **L7 Control Joints**

Control joints are required all walls at a maximum spacing of 6m. These joints require a 10mm gap between the blocks which is filled with a PEF backing rod and approved flexible MS sealant (see Detail 13.5.2). Control joints must extend through the bond beam and sealed in a similar fashion with the reinforcing lapped in a slip joint (see Detail 13.5.1).

### **L7 Two-Storeyed Construction**

Loxo Block Systems can be used for two storey construction subject to project specific structural engineer design.

## LOXO BLOCK SYSTEM COMPONENTS

### Reinforcing and Fixing

M-12 Threaded Starter Rods are epoxy grouted or cast into the foundations and connected to the main wall M-12 Threaded Reinforcing Rods with a coupling nut. Epoxy grouted Starter Rods shall be installed in accordance with the selected epoxy grout manufacturers specifications.

Where a timber top plate is fixed to the top of the bond beam this shall be held down with a 50x50x3mm galvanised washer and nut threaded on to the main vertical reinforcing.

All reinforcing in bond beams and lintels shall be Grade 500E deformed steel bars.

### Loxo Construction Adhesive

**Loxo Block Adhesive** is a polymer modified cement-based adhesive mortar supplied in 20kg bags. It is supplied by **Loxo Cladding NZ Ltd**, mixed on-site with clean water (see instructions printed on each bag), and is applied to all edges of the panels (except control joint) by trowel.

**Loxo Block Adhesive** is also used for bonding **Loxo Decorative Trims** and banding, along with minor patching, repairs and stopping of **Loxo Blocks**.

### Sealant Joints

Expandable foam, backing rod and moisture compatible flexible MS sealant supplied by **Loxo Cladding NZ Ltd** for use of control joints, joinery, soffits, meter box and general wall penetrations as per drawn details. Before MS sealant application use GranoPrime® as a sealant primer on Loxo Blocks. Sealant used is Bostik SEAL'N'FLEX MS.

### Damp Proof Course (DPC)

The following DPCs are approved by Loxo Cladding NZ Ltd for use with **Loxo Blocks**:

- Supercourse 500 DPC
- Malthoid DPC
- 0.25mm Polythene DPC

These DPCs meet the requirements of E2/ASI Section 10.2.3.

Check that the DPC is compatible with the treatment of the timber or steel.

## L7 INSTALLATION OF LOXO BLOCKS

### L7 General

**Loxo Block System** installation must be performed or supervised by approved installers to ensure quality of workmanship.

Please contact **Loxo Cladding NZ Ltd** for details of licensed Loxo distributors.

### L7 Construction Method

1. Ensure the builder has completed items set out in the pre-block laying checklist (See Appendix B).
2. Apply 3 coats of bituminous membrane paint DPM to the foundation rebate and upstand as per Details 13.1.1 & 13.1.2.
3. Trowel a nominal 10mm layer of Loxo Approved Mortar over the DPM.
4. Place first course of **Loxo Blocks** levelled to string lines. As laying proceeds, cut out wedges for access to the starter rods from the **Loxo Blocks**. Label and set aside wedge cutouts for later. Ensure the first course is level. This is crucial as it provides a level base for subsequent courses.
5. Proceed with laying the **Loxo Blocks** in a running bond using **Loxo Block Adhesive**. The minimum running bond overlap is 100mm. Drill blocks as laying for the vertical rods to pass through. Brush off all block dust and ensure the removal of all dust prior to laying. Smooth off all excess adhesive to the face of the blocks before the adhesive starts to cure. Blocks may be cut using a hand saw or band saw. Install backing rods and ties for control joints during laying as per Detail 13.5.2. Glue in any packers for window reveals during laying as per Details 13.4.1, 13.4.2 and 13.4.3.
6. Once the course under the top bond beam has been installed, the M-12 threaded rods are dropped down the drilled holes. Screw the threaded rods to the starter rods using the coupling nuts. Ensure sufficient length of rod protruding to allow for bond beam and timber top plate depths as per Detail 13.2.1, 13.2.2 & 13.2.3.
7. Install wedge cutouts from step 4 using **Loxo Block Adhesive** as per Detail 13.8.1. Ensure cutouts are glued into their original locations.
8. Grout vertical cores with 15MPa minimum grout.
9. Tie 2/D-12 horizontal reinforcing bars to the threaded rods. Allow 50mm bottom and top over.  
See Detail 13.2.1, 13.2.2, and 13.2.3.
10. Glue 50mm thick Loxo Facing Blocks as permanent formwork for the bond beam using **Loxo Block Adhesive**. Allow **Loxo Block Adhesive** to fully cure and pour the bond beam with minimum 15 MPa grout level with the top of the facing blocks.
11. Where required, glue on Loxo packers to top front face of bond beam as per Detail 13.2.1.
12. Fill any control joints with sealant as per Detail 13.5.1 and 13.5.2.
13. Sand down surfaces of the **Loxo Blocks** and adhesive flush and remove dust ready for plaster coatings.
14. The builder is to fit the timber top plate over DPC and fasten using washers and nut as shown in Detail 13.2.1, 13.2.2 and 13.2.3. Ensure the nut is fully tightened.
15. The builder is to construct the roof, roof cladding and windows before any plastering or interior lining/treatment is commenced.
16. Apply sealant to all window and door reveals as per Details 13.4.1, 13.4.2 and 13.4.3.
17. Plaster the exterior of the **Loxo Blocks** with Granosite Plaster System. Refer to project specifications for treatment of internal face of blocks.
18. Paint finish as per Granosite specifications.

## LOXO BLOCK SYSTEM GUARANTEE

### System Guarantee

**Loxo Blocks** and associated materials, when installed as a structural wall system, are guaranteed for a minimum life period of **50 years** (from date of completion), meeting the requirements outlined in the New Zealand Building Code (Clause B2.3.1). Our products are designed to have a life span significantly in excess of this minimum period.

### Workmanship Guarantee

Our block installation and exterior plastering workmanship is guaranteed for a period of **5 years** from date of practical completion.

## EXTERIOR GRANOSITE PLASTER AND PAINT SYSTEM

**Granosite Plaster and Paint System** is the only approved plaster system for application over the **Loxo Block system**.

For more information, see the Granosite Plaster System and Paint Specifications.

### Guarantee

The **Granosite Plaster System** is guaranteed for a period of **15 years** (from date of completion) to perform and meet provisions outlined in the New Zealand Building Code (Clauses B1 Structure, B2 Durability, E2 External Moisture, and E3 Internal Moisture). This guarantee applies only where all material components of the Plaster System have been prepared and installed in accordance with our written instructions, technical specifications and detail drawings, and where the work is carried out by an approved contractor, and where the system has been properly maintained and subjected to normal conditions of exposure.

#### **Important Notes:**

The construction details on the following pages describe the most common applications of the **Loxo Blocks** system. **Loxo Blocks** can be installed and applied in situations other than those outlined. If designers or specifiers require additional or modified details, please contact Loxo Cladding NZ Ltd immediately at [info@loxocladding.co.nz](mailto:info@loxocladding.co.nz)

## HEALTH AND SAFETY

Loxo AAC Block, along with all clay, concrete and quarry products contains Crystalline Silica, or Silica Dust. Loxo AAC Block itself does not cause health problems – however when cutting, drilling, sawing, routing, chasing, sanding and in any way breaking up the material there is the potential for health problems to occur unless precautionary measures are taken. Breathing in the dust repeatedly, usually over a number of years may lead to health problems.

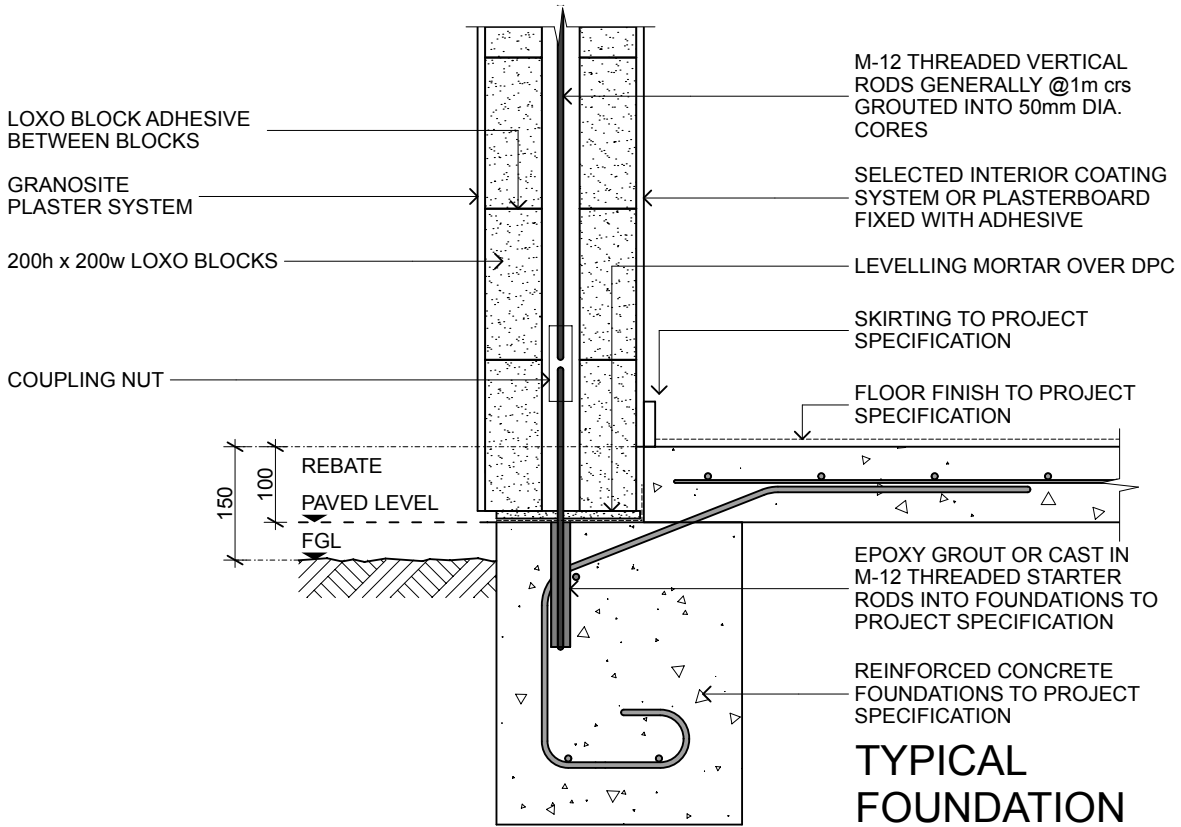
When loading, stacking and laying panels workers are unlikely to breath in the fine silica dust. When breaking up the material, sawing, drilling etc it is imperative that a safety mask and eye protection are worn. Ensure the mask fits properly and is approved for use with Dust. Also protective clothing should be worn e.g. overalls. These should be washed often and not in the same wash as other clothes.

The site should be cleaned of dust every day and when using power tools these should be fitted with efficient and well maintained dust extraction devices.

As the **Loxo Block** Installer on site – please note that it is your responsibility to inform all employees of these Health and Safety requirements under the Occupational Health and Safety Act.



# 13.1 TYPICAL FOUNDATION DETAILS



M-12 THREADED VERTICAL RODS GENERALLY @1m crs GROUDED INTO 50mm DIA. CORES

SELECTED INTERIOR COATING SYSTEM OR PLASTERBOARD FIXED WITH ADHESIVE

LEVELLING MORTAR OVER DPC

SKIRTING TO PROJECT SPECIFICATION

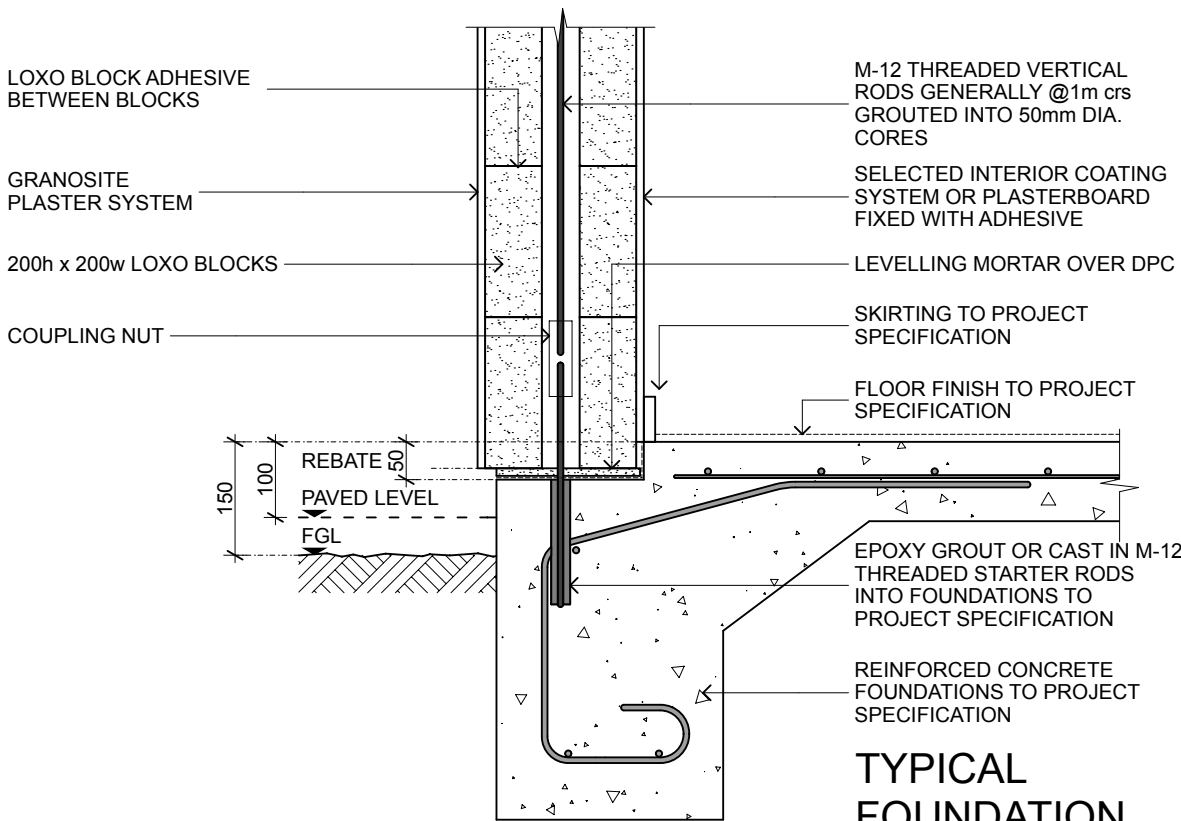
FLOOR FINISH TO PROJECT SPECIFICATION

EPOXY GROUT OR CAST IN M-12 THREADED STARTER RODS INTO FOUNDATIONS TO PROJECT SPECIFICATION

REINFORCED CONCRETE FOUNDATIONS TO PROJECT SPECIFICATION

## TYPICAL FOUNDATION DETAIL OPTION 1

Det. 13.1.1  
Scale 1:10



M-12 THREADED VERTICAL RODS GENERALLY @1m crs GROUDED INTO 50mm DIA. CORES

SELECTED INTERIOR COATING SYSTEM OR PLASTERBOARD FIXED WITH ADHESIVE

LEVELLING MORTAR OVER DPC

SKIRTING TO PROJECT SPECIFICATION

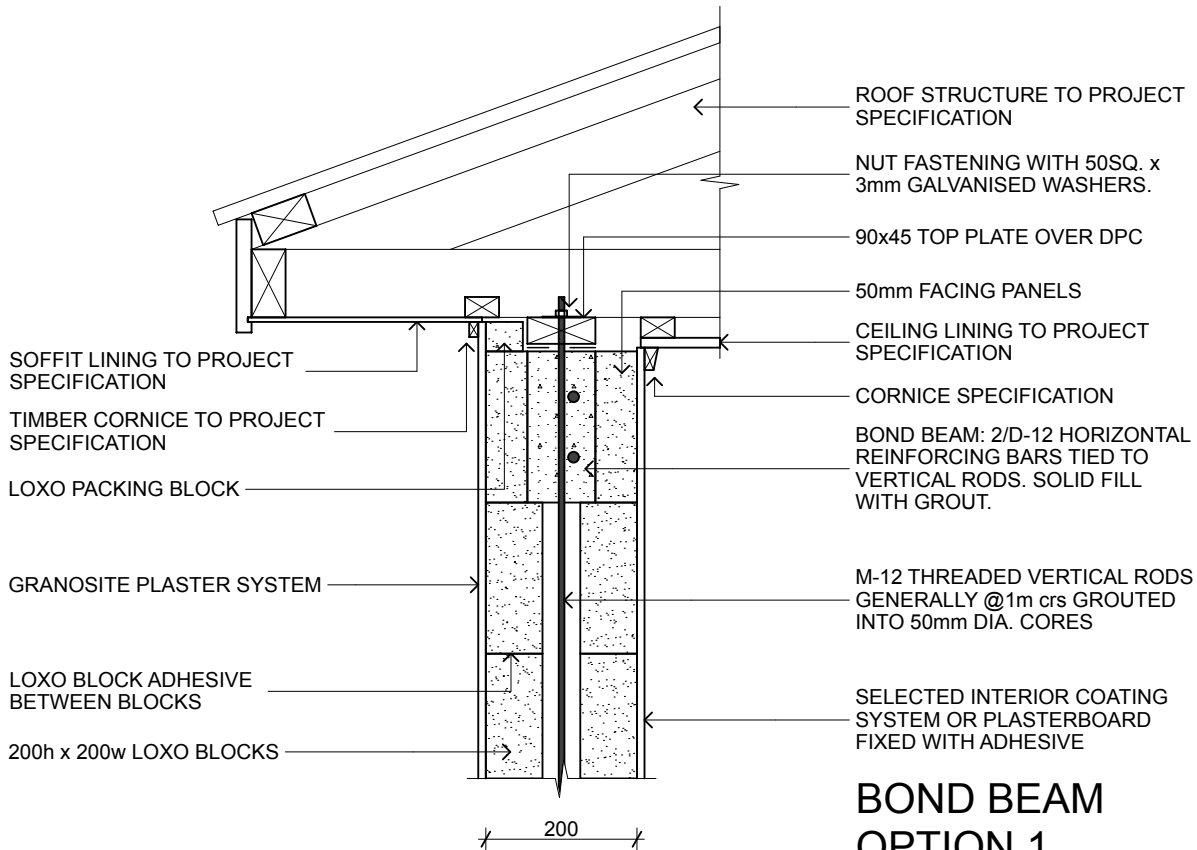
FLOOR FINISH TO PROJECT SPECIFICATION

EPOXY GROUT OR CAST IN M-12 THREADED STARTER RODS INTO FOUNDATIONS TO PROJECT SPECIFICATION

REINFORCED CONCRETE FOUNDATIONS TO PROJECT SPECIFICATION

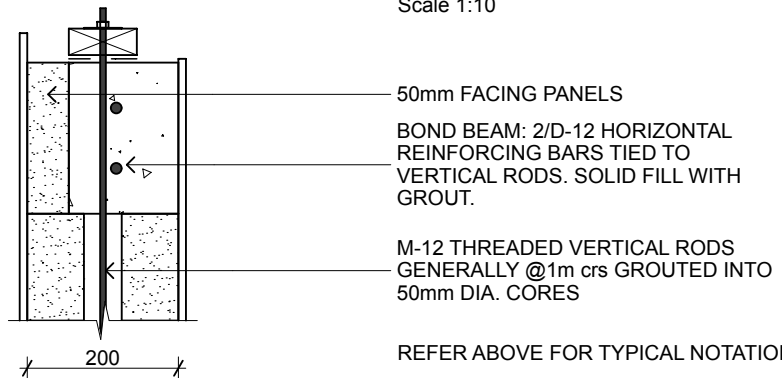
## TYPICAL FOUNDATION DETAIL OPTION 2

Det. 13.1.2  
Scale 1:10



**BOND BEAM  
OPTION 1**

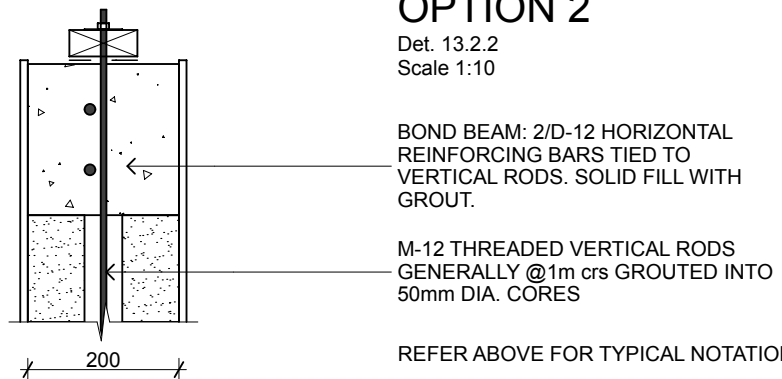
Det. 13.2.1  
Scale 1:10



REFER ABOVE FOR TYPICAL NOTATION

**BOND BEAM  
OPTION 2**

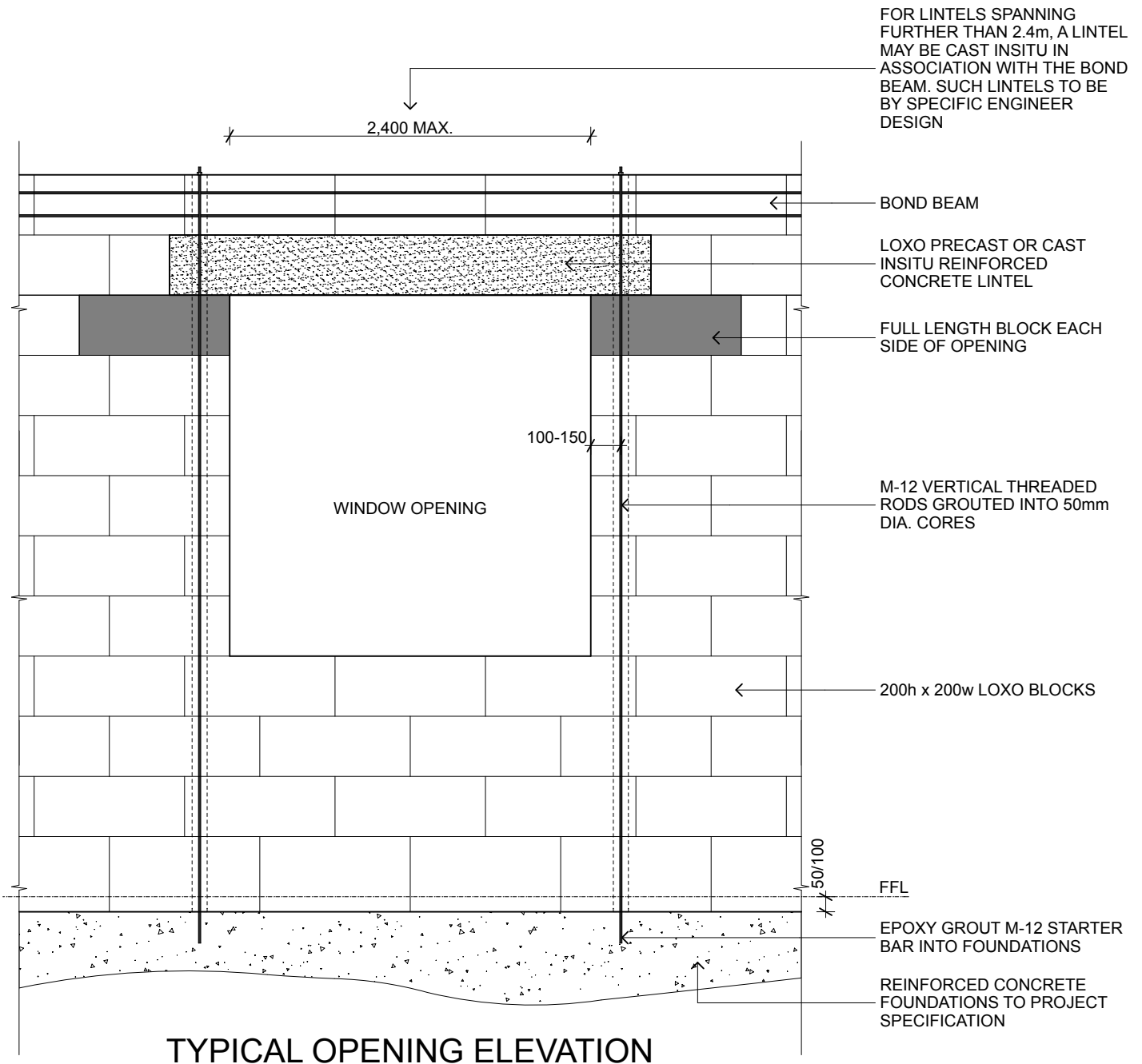
Det. 13.2.2  
Scale 1:10



REFER ABOVE FOR TYPICAL NOTATION

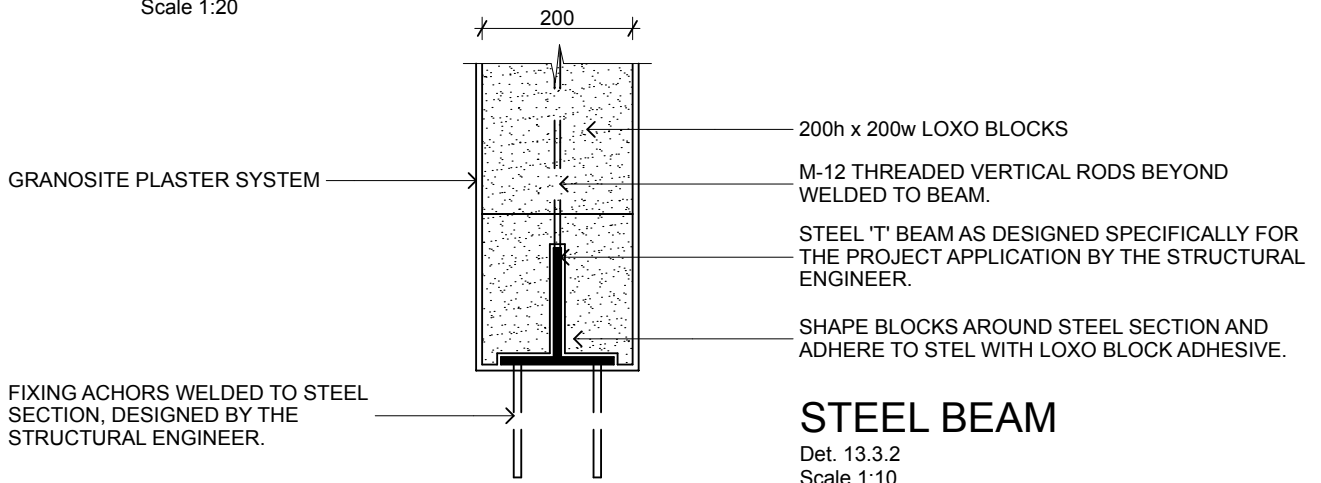
**BOND BEAM  
OPTION 3**

Det. 13.2.3  
Scale 1:10



**TYPICAL OPENING ELEVATION**

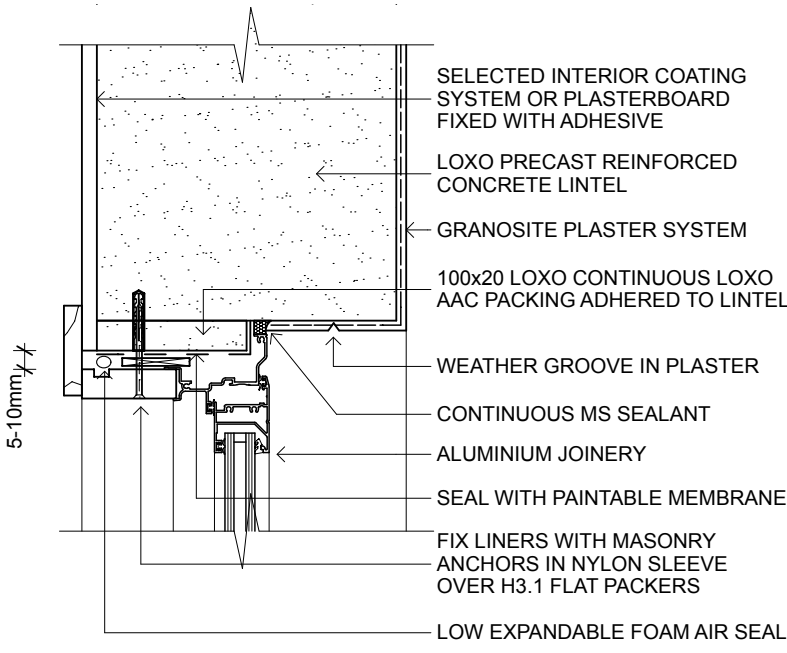
Det. 13.3.1  
Scale 1:20



**STEEL BEAM**

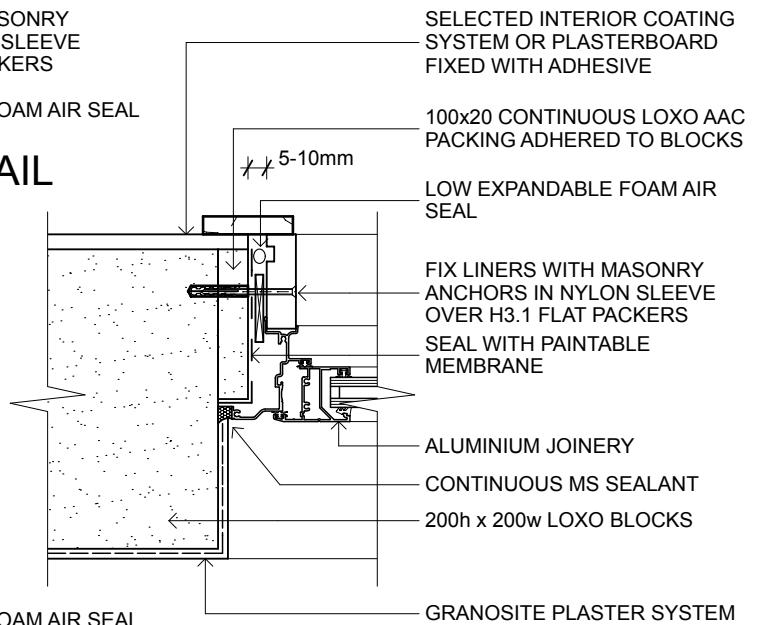
Det. 13.3.2  
Scale 1:10

# 13.4 WINDOW DETAILS



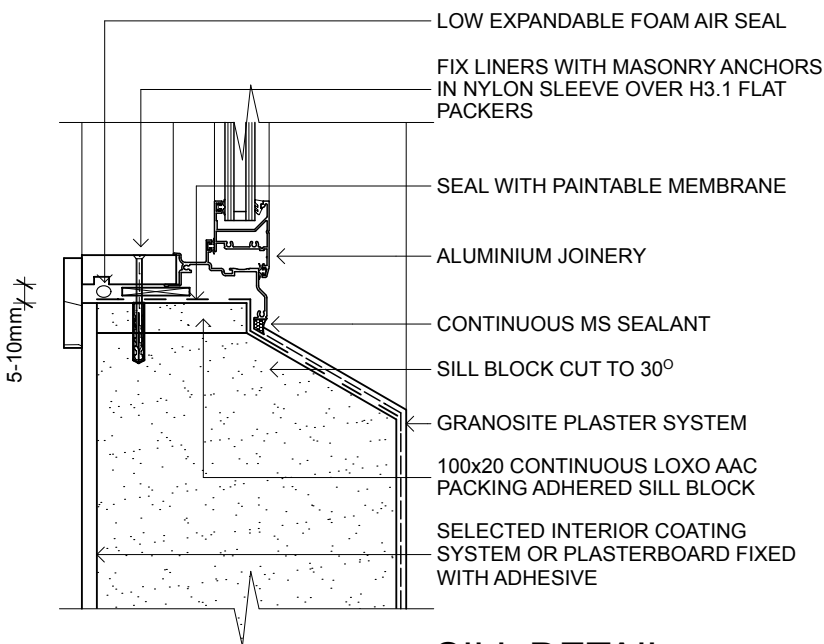
## HEAD DETAIL

Det. 13.4.1  
Scale 1:5



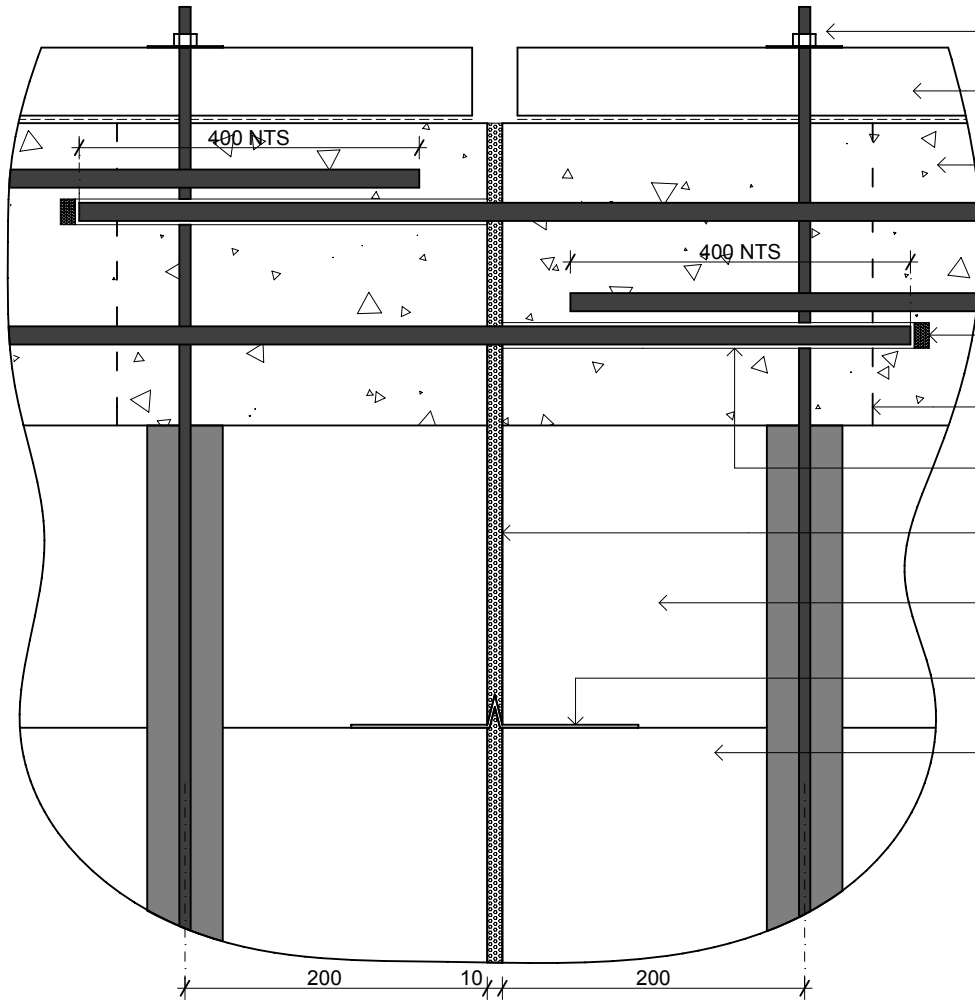
## JAMB DETAIL

Det. 13.4.2  
Scale 1:5



## SILL DETAIL

Det. 13.4.3  
Scale 1:5



- NUT FASTENING WITH 50SQ. x 3mm GALVANISED WASHERS.
- 90x45 TOP PLATE OVER DPC
- BOND BEAM: 2/D-12 HORIZONTAL REINFORCING BARS TIED TO VERTICAL RODS. SOLID FILL WITH GROUT.
- POLYSTYRENE COMPRESSION PLUGS
- LINE OF 50mm FACING BLOCKS
- SLIP JOINT WITH DENSO TAPE, GREASED PVC SLEEVE OR PROPRIETARY
- PEF BACKING ROD AND FLEXIBLE MS SEALANT
- M-12 THREADED VERTICAL RODS GENERALLY @1m crs GROUTED INTO 50mm DIA. CORES
- CONTROL JOINT TIE AT EVERY COURSE
- 200h x 200w LOXO BLOCKS

## TYPICAL CONTROL JOINT ELEVATION

Det. 13.5.1  
Scale 1:5

CONTROL IN INTERNAL PLASTER SYSTEM AS PER TYPICAL EXTERIOR DETAIL OR CONTROL JOINT TO PLASTERBOARD MANUFACTURERS DETAILS.

SELECTED INTERIOR COATING SYSTEM OR PLASTERBOARD FIXED WITH ADHESIVE

PEF BACKING ROD AND FLEXIBLE MS SEALANT

CONTROL JOINT TIE AT EVERY COURSE

M-12 VERTICAL THREADED RODS GROUTED INTO 50mm DIA. CORES

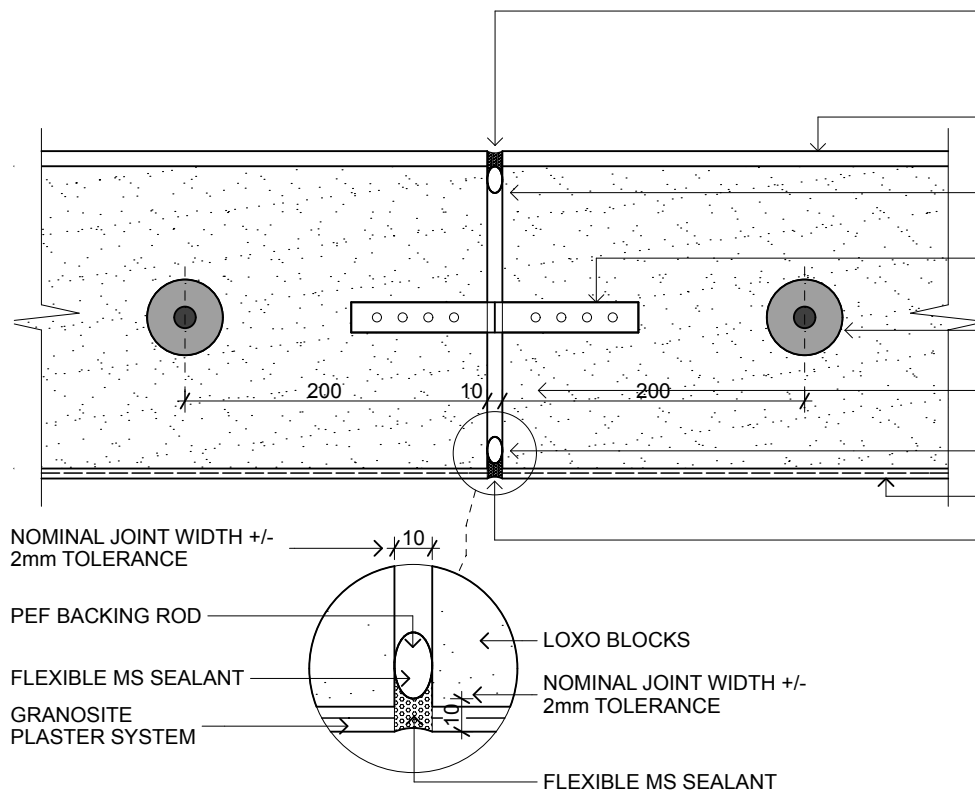
NOMINAL JOINT WIDTH +/- 2mm TOLERANCE

PEF BACKING ROD

GRANOSITE PLASTER SYSTEM  
CONTROL JOINT FILLED WITH MS SEALANT

## TYPICAL CONTROL JOINT PLAN SECTION

Det. 13.5.2  
Scale 1:5



NOMINAL JOINT WIDTH +/- 2mm TOLERANCE

PEF BACKING ROD

FLEXIBLE MS SEALANT

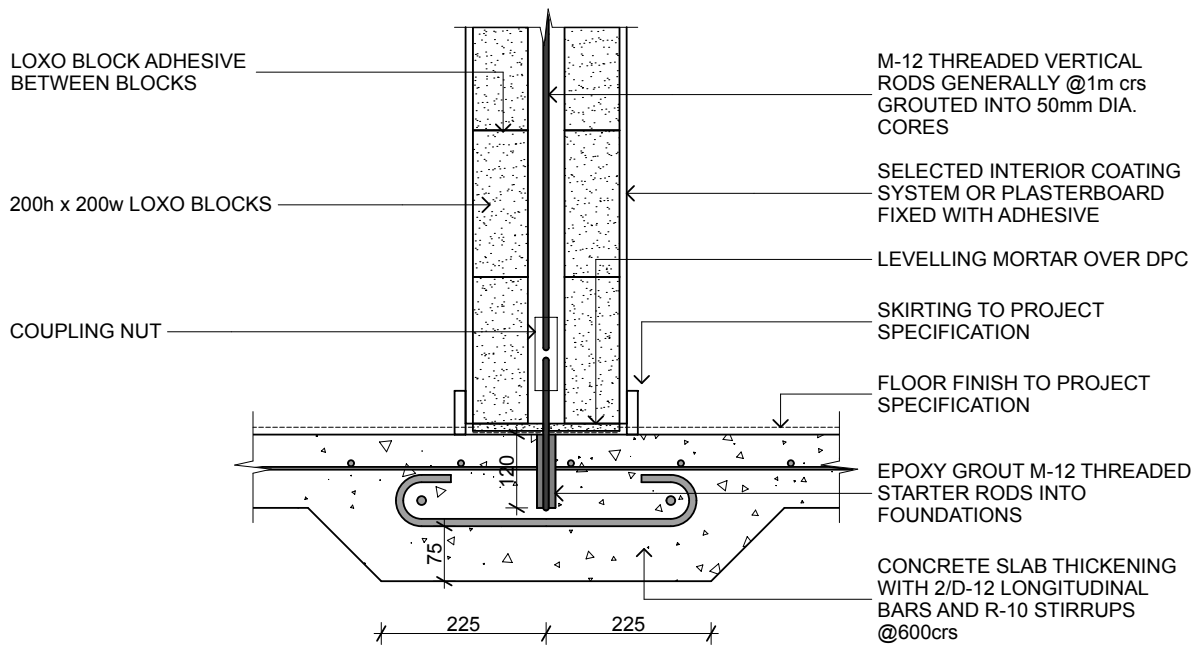
GRANOSITE PLASTER SYSTEM

LOXO BLOCKS

NOMINAL JOINT WIDTH +/- 2mm TOLERANCE

FLEXIBLE MS SEALANT

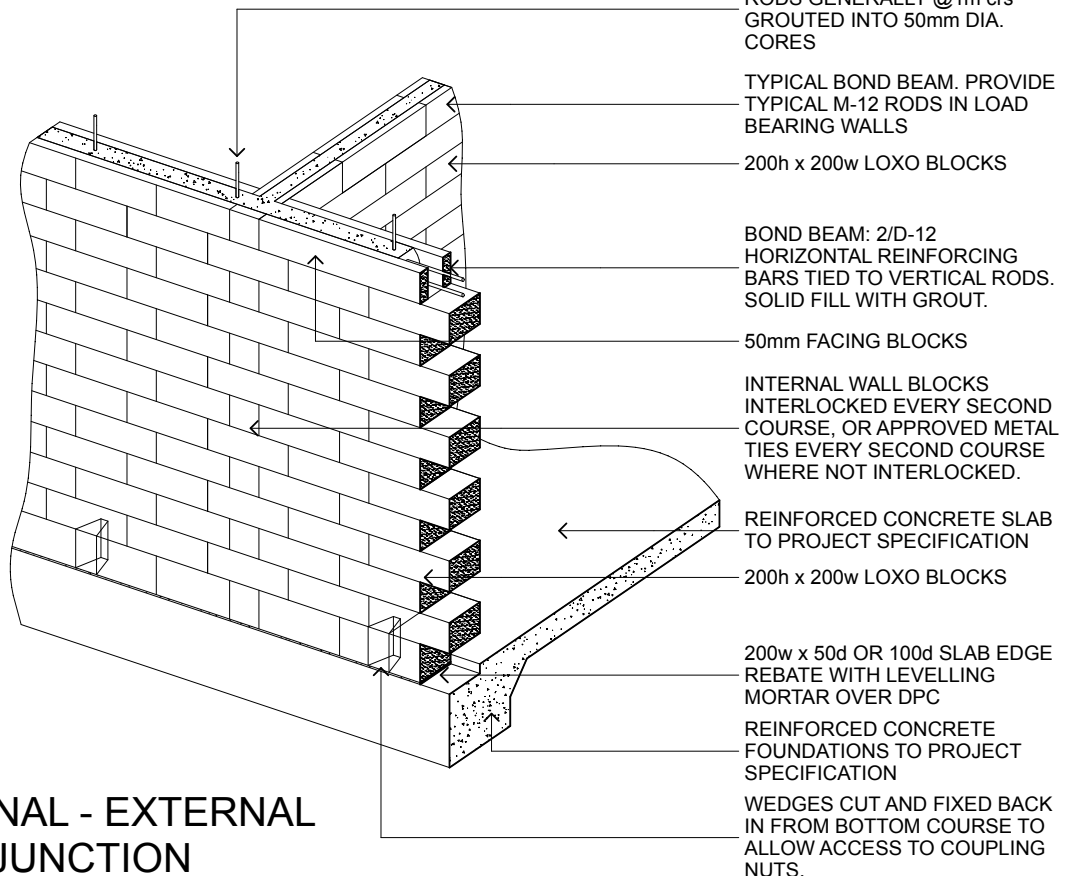
# 13.6 INTERNAL WALLS



- LOXO BLOCK ADHESIVE BETWEEN BLOCKS
- 200h x 200w LOXO BLOCKS
- COUPLING NUT
- M-12 THREADED VERTICAL RODS GENERALLY @1m crs GROUTED INTO 50mm DIA. CORES
- SELECTED INTERIOR COATING SYSTEM OR PLASTERBOARD FIXED WITH ADHESIVE
- LEVELLING MORTAR OVER DPC
- SKIRTING TO PROJECT SPECIFICATION
- FLOOR FINISH TO PROJECT SPECIFICATION
- EPOXY GROUT M-12 THREADED STARTER RODS INTO FOUNDATIONS
- CONCRETE SLAB THICKENING WITH 2/D-12 LONGITUDINAL BARS AND R-10 STIRRUPS @600crs

## INTERNAL LOAD BEARING FOUNDATION

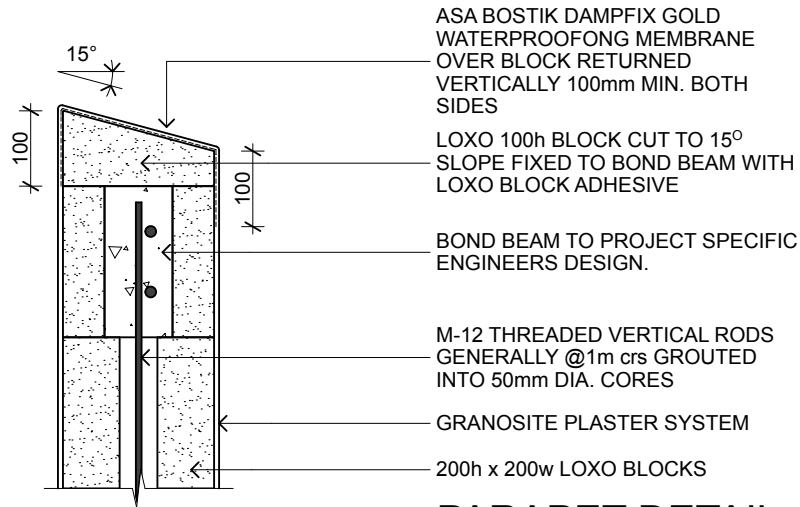
Det. 13.6.1  
Scale 1:10



- M-12 THREADED VERTICAL RODS GENERALLY @1m crs GROUTED INTO 50mm DIA. CORES
- TYPICAL BOND BEAM. PROVIDE TYPICAL M-12 RODS IN LOAD BEARING WALLS
- 200h x 200w LOXO BLOCKS
- BOND BEAM: 2/D-12 HORIZONTAL REINFORCING BARS TIED TO VERTICAL RODS. SOLID FILL WITH GROUT.
- 50mm FACING BLOCKS
- INTERNAL WALL BLOCKS INTERLOCKED EVERY SECOND COURSE, OR APPROVED METAL TIES EVERY SECOND COURSE WHERE NOT INTERLOCKED.
- REINFORCED CONCRETE SLAB TO PROJECT SPECIFICATION
- 200h x 200w LOXO BLOCKS
- 200w x 50d OR 100d SLAB EDGE REBATE WITH LEVELLING MORTAR OVER DPC
- REINFORCED CONCRETE FOUNDATIONS TO PROJECT SPECIFICATION
- WEDGES CUT AND FIXED BACK IN FROM BOTTOM COURSE TO ALLOW ACCESS TO COUPLING NUTS.

## INTERNAL - EXTERNAL WALL JUNCTION

Det. 13.6.2  
Scale NTS



ASA BOSTIK DAMPFIX GOLD  
WATERPROOFING MEMBRANE  
OVER BLOCK RETURNED  
VERTICALLY 100mm MIN. BOTH  
SIDES

LOXO 100h BLOCK CUT TO 15°  
SLOPE FIXED TO BOND BEAM WITH  
LOXO BLOCK ADHESIVE

BOND BEAM TO PROJECT SPECIFIC  
ENGINEERS DESIGN.

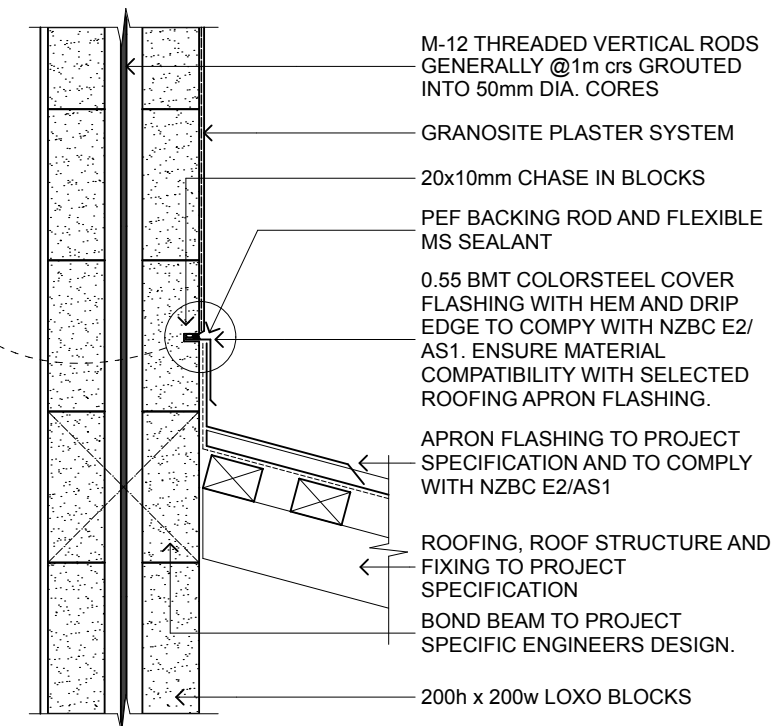
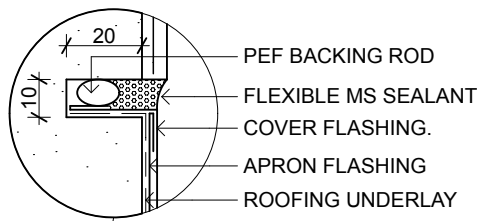
M-12 THREADED VERTICAL RODS  
GENERALLY @1m crs GROUTED  
INTO 50mm DIA. CORES

GRANOSITE PLASTER SYSTEM

200h x 200w LOXO BLOCKS

### PARAPET DETAIL

Det. 13.7.1  
Scale 1:10



M-12 THREADED VERTICAL RODS  
GENERALLY @1m crs GROUTED  
INTO 50mm DIA. CORES

GRANOSITE PLASTER SYSTEM

20x10mm CHASE IN BLOCKS

PEF BACKING ROD AND FLEXIBLE  
MS SEALANT

0.55 BMT COLORSTEEL COVER  
FLASHING WITH HEM AND DRIP  
EDGE TO COMPLY WITH NZBC E2/  
AS1. ENSURE MATERIAL  
COMPATIBILITY WITH SELECTED  
ROOFING APRON FLASHING.

APRON FLASHING TO PROJECT  
SPECIFICATION AND TO COMPLY  
WITH NZBC E2/AS1

ROOFING, ROOF STRUCTURE AND  
FIXING TO PROJECT  
SPECIFICATION

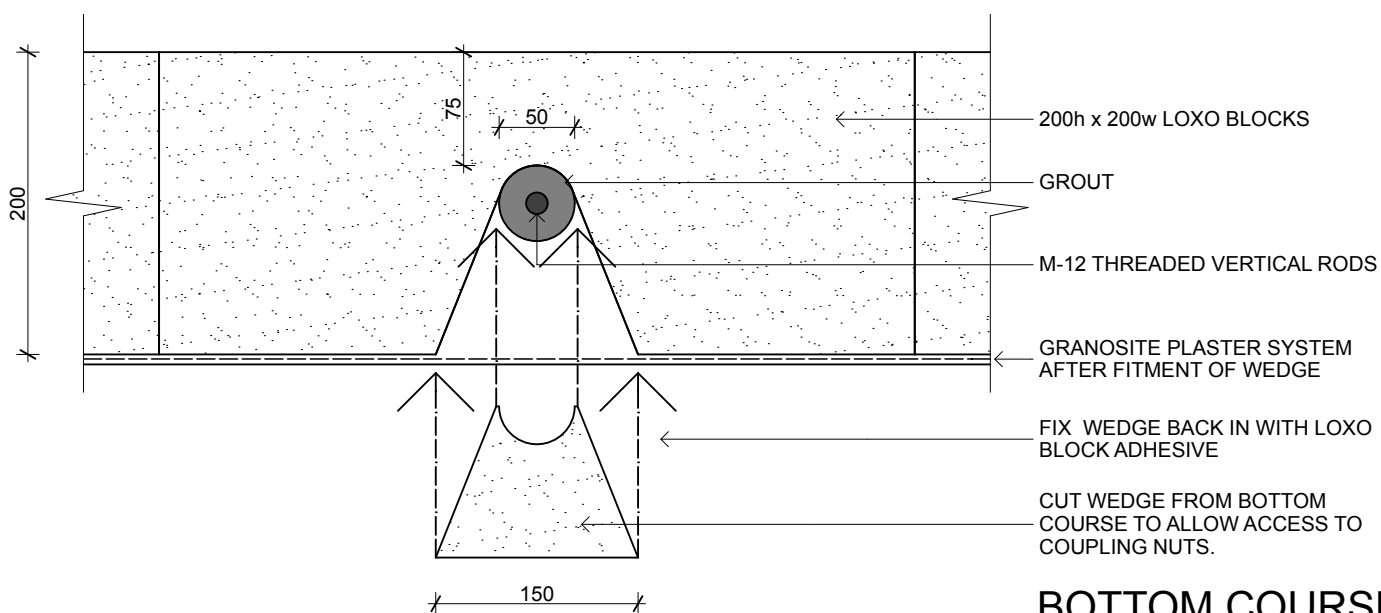
BOND BEAM TO PROJECT  
SPECIFIC ENGINEERS DESIGN.

200h x 200w LOXO BLOCKS

### APRON FLASHING

Det. 13.7.2  
Scale 1:10

# 13.8 MISC DETAILS



## BOTTOM COURSE WEDGE

Det. 13.8.1  
Scale 1:5



## LOXO PANEL FLOOR SYSTEM - AN INTRODUCTION

The **Loxo Panel Floor System** is a lightweight autoclaved aerated concrete (AAC) interlocking panel system designed over typical timber or steel suspended floor structures. The **Loxo Panel Floors** have excellent fire proofing, thermal and acoustic characteristics providing a lightweight, cost effective alternative to solid concrete.

This specification outlines the installation and application of the **Loxo Panel Floor System** by **Loxo Cladding NZ Ltd**. The **Loxo Panel Floor System** is suitable for both residential and commercial applications. The panels come in a standard size of 1800mm long x 600mm wide x 75mm thick. The panels are suitable substrate for a wide variety of floor coverings including carpet, tiles and timber.

**Loxo Floor Panels** are fixed over typical timber or steel floor joists with a combination of Construction Adhesive as approved by Loxo and screws. The panels are also bonded together on all sides with **Loxo Panel Adhesive**.

Important:

- **This specification must be read in conjunction with the detail data sheets.**
- All materials such as grouts, adhesives and fixings used for the Loxo Panel Floor System must be supplied by Loxo Cladding NZ Ltd or one of its certified distributors

### Performance and Technical Specifications

<b>Dry Density:</b>	520kg/m <sup>3</sup>
<b>Intensity:</b>	4.0MPa
<b>Panel Size:</b>	1800mm x 600mm x 75mm thick
<b>Thermal Conductivity:</b>	0.13 W/mK
<b>Density For Structure Calculation:</b>	650kg/m <sup>3</sup>

### Standards Compliance

**Loxo Floor Panels** fixed in accordance with the details and instructions in this Technical Manual meet the requirements and relevant sections of the New Zealand Building Code (NZBC) including:

- B1** Structure
- B2** Durability
- F2** Hazardous Building Materials

The dry mass of the Loxo Panels are considered light weight, and may be used on structures complying with NZS 3604:2011

**Fire Resistance** for the **Loxo Floor Panels** exceeds the requirements for standard commercial or domestic floors. Additionally, **Loxo Panels** have an ignitability index of zero and are 'Non Combustible' in accordance with NZBC Clause C3 and NZS/AS 1530 standards.

Since the panels are applied to the top of the floor joists, any inter storey fire rating should be considered one way.

## **LOXO Structure and Durability**

**Loxo Floor Panels** (including their fixings) are able to withstand all wind loadings and earthquake zones in all areas of New Zealand in accordance with NZS 3604:2011 as long as the supporting structure is designed to withstand the weight of the panels (if in doubt refer to structural engineers design) or by project specific engineers design.

## **LOXO Hazardous Building Materials**

In reference to NZBC Clause F2 regarding Hazardous Building Materials, **Loxo Panels** are non-hazardous providing all safety precautions included in this literature are adhered to, refer to Health and Safety on Page 74.

## **LOXO TECHNICAL SPECIFICATIONS**

### **LOXO Framing (Steel)**

Floor joists are to be designed by a project specific structural engineer.

### **LOXO Framing (Timber)**

Floor joists are to be sized in accordance with NZS 3604:2011 to suit vertical loadings.

Buildings or parts of buildings outside the scope of NZS 3604 must be to specific design in accordance with NZS 3603 and AS/NZS 1170.

Timber studs should be spaced at nominal 600mm centres. Dwargs/nogs must be flush fitted at a maximum of 800mm centres.

### **LOXO Bracing**

The timber or steel framed walls must be braced in accordance with NZS 3604: 2011 Section 5 or by specific structural engineers design.

## LOXO FLOOR PANEL SYSTEM COMPONENTS

### Screws

Bottom plates of walls shall be fixed with the use of self cutting screws (14 - 10 x 150mm long Bugle Head Class 3 screws) through the **Loxo Floor Panels** into the floor structure. Screws should be countersunk 5-10mm.

Bottom plates of walls within bracing elements shall be fixed with the use of coach screws (M-12 x 200mm long galvanised coach screws with 50x50x3mm square galvanised washers under the heads) through the **Loxo Floor Panels** into the floor structure.

Refer to Detail 14.1.3 for alternative wall bracing fixing option.

Typical panels shall be fixed with the use of self cutting screws (14 - 10 x 100mm long Bugle Head Class 3 screws for timber floor joists or 14 - 10 x 90 Metal Tip Self Drilling screws) into the floor structure. Screws should be countersunk 5-10mm.

All panels shall also be bonded to the floor structure with a continuous bead (5mm wide) of Construction Adhesive as approved by Loxo.

### Loxo Panel Adhesive

**Loxo Panel Adhesive** is a polymer modified cement-based adhesive mortar supplied in 20kg bags. It is supplied by **Loxo Cladding NZ Ltd**, mixed on-site with clean water (see instructions printed on each bag), and is applied to all edges of the panels (except control joint) by trowel.

**Construction Adhesive** as approved by Loxo is used to bond the floor panels to the floor structure.

### Sealant

Expandable foam sealant is used to fill any voids at floor penetrations (such as pipework). Expandable foam sealers used are to be approved by Loxo.

## L7 INSTALLATION OF LOXO PANELS

### L7 General

**Loxo Panels** installation must be performed or supervised by approved installers to ensure quality of workmanship. Please contact **Loxo Cladding NZ Ltd** for details of licensed Loxo distributors.

### L7 Construction Method

1. Ensure the builder has completed items set out in the pre-installation checklist (See Appendix C).
2. Ensure floor joists are straight and level and free of dust and debris.
3. Plan setout, measure and provide chalk lines as required.
4. Apply a 5mm bead of Construction Adhesive as approved by Loxo to the top of the joists and **Loxo Panel Adhesive** to any adjacent panels in accordance with the details.
5. **Loxo Panels** are to be laid in a stretcher bond with a minimum overlap of one joist space, or 450mm minimum. Panels are to be laid with minimum horizontal sliding as this may reduce the level of adhesion. While moving the panel into place insert PEF backing rods for any control joints. Push the panel to close the tongue and grooves joint and ensure the **Loxo Panel Adhesive** makes full contact along all edges.
6. Screw fix panels as set out in the details. Fill any joints as required and screw holes with **Loxo Panel Adhesive**.
7. Remove excess **Loxo Panel Adhesive**.
8. Repeat steps 4 - 7.
9. Sand back any adhesive flush and sweep floor.
10. Builder to install any blocking below loadbearing walls, timber framed wall bottom plate fixings, holes and blocking for floor penetrations.



## **L7 LOXO PANEL FLOOR SYSTEM GUARANTEE**

### **L7 System Guarantee**

**Loxo Panels** and associated materials, when installed as a floor system, are guaranteed for a minimum life period of **15 years** (from date of completion), meeting the requirements outlined in the New Zealand Building Code (Clause B2.3.1). Our products are designed to have a life span significantly in excess of this minimum period.

### **L7 Workmanship Guarantee**

Our panel installation workmanship is guaranteed for a period of **5 years** from date of practical completion.

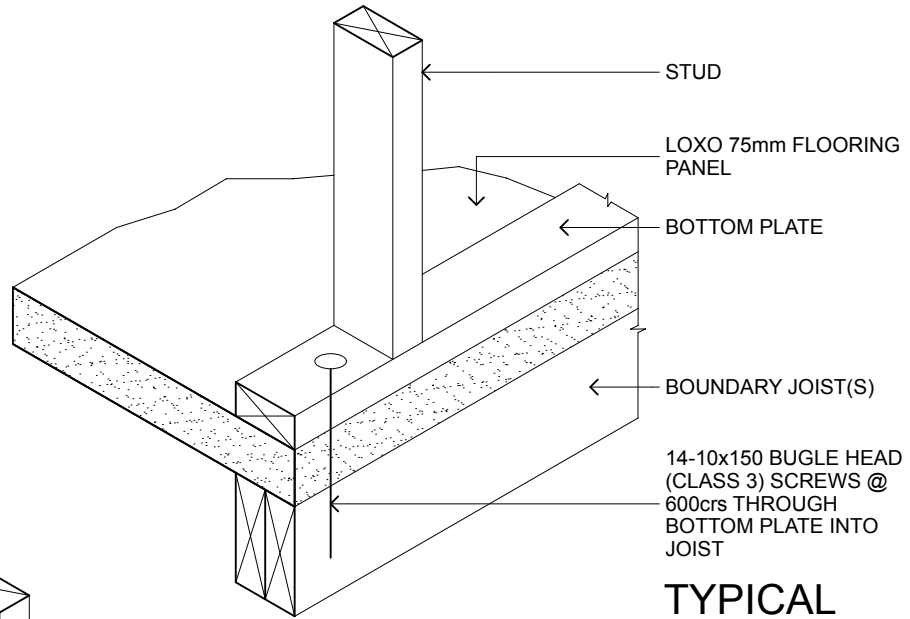
## **L7 HEALTH AND SAFETY**

Loxo AAC Panel, along with all clay, concrete and quarry products contains Crystalline Silica, or Silica Dust. Loxo AAC Panel itself does not cause health problems – however when cutting, drilling, sawing, routing, chasing, sanding and in any way breaking up the material there is the potential for health problems to occur unless precautionary measures are taken. Breathing in the dust repeatedly, usually over a number of years may lead to health problems.

When loading, stacking and laying panels workers are unlikely to breath in the fine silica dust. When breaking up the material, sawing, drilling etc it is imperative that a safety mask and eye protection are worn. Ensure the mask fits properly and is approved for use with Dust. Also protective clothing should be worn e.g. overalls. These should be washed often and not in the same wash as other clothes.

The site should be cleaned of dust every day and when using power tools these should be fitted with efficient and well maintained dust extraction devices.

As the **Loxo Panel Floor** Installer on site – please note that it is your responsibility to inform all employees of these Health and Safety requirements under the Occupational Health and Safety Act.



STUD

LOXO 75mm FLOORING PANEL

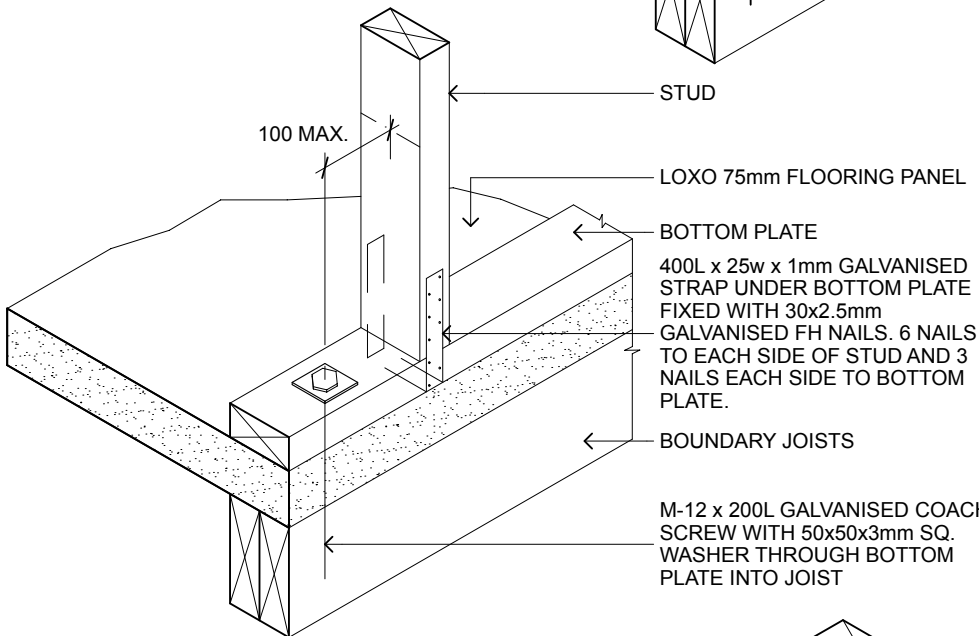
BOTTOM PLATE

BOUNDARY JOIST(S)

14-10x150 BUGLE HEAD (CLASS 3) SCREWS @ 600crs THROUGH BOTTOM PLATE INTO JOIST

**TYPICAL EXTERNAL WALL FIXING**

Det. 14.1.1  
Scale NTS



100 MAX.

STUD

LOXO 75mm FLOORING PANEL

BOTTOM PLATE

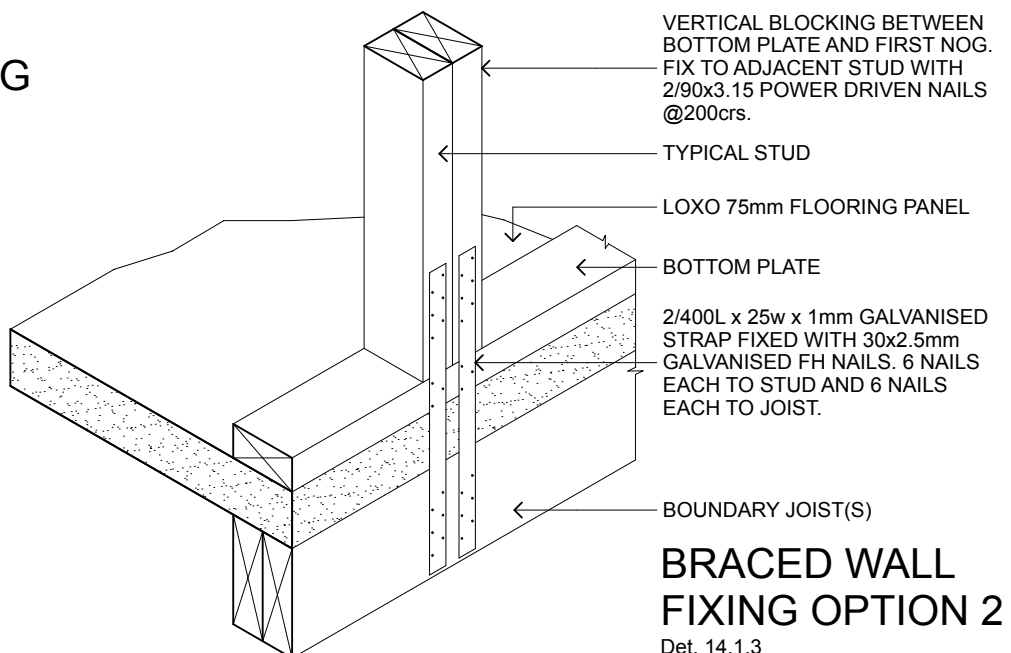
400L x 25w x 1mm GALVANISED STRAP UNDER BOTTOM PLATE FIXED WITH 30x2.5mm GALVANISED FH NAILS. 6 NAILS TO EACH SIDE OF STUD AND 3 NAILS EACH SIDE TO BOTTOM PLATE.

BOUNDARY JOISTS

M-12 x 200L GALVANISED COACH SCREW WITH 50x50x3mm SQ. WASHER THROUGH BOTTOM PLATE INTO JOIST

**BRACED WALL FIXING OPTION 1**

Det. 14.1.2  
Scale NTS



VERTICAL BLOCKING BETWEEN BOTTOM PLATE AND FIRST NOG. FIX TO ADJACENT STUD WITH 2/90x3.15 POWER DRIVEN NAILS @200crs.

TYPICAL STUD

LOXO 75mm FLOORING PANEL

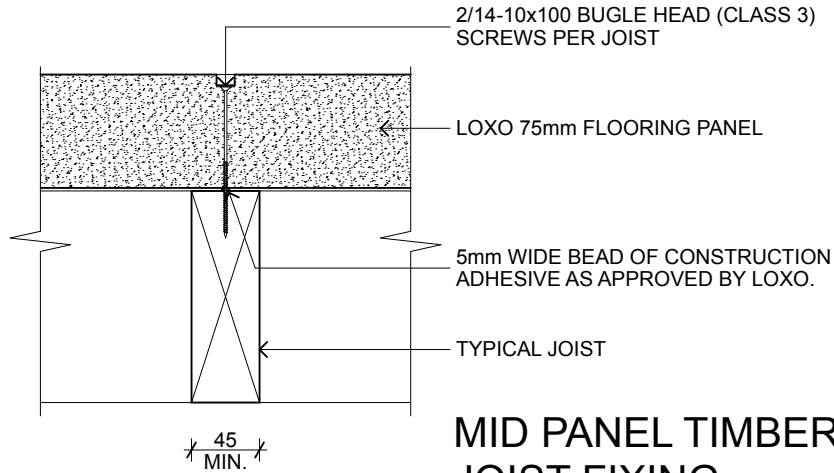
BOTTOM PLATE

2/400L x 25w x 1mm GALVANISED STRAP FIXED WITH 30x2.5mm GALVANISED FH NAILS. 6 NAILS EACH TO STUD AND 6 NAILS EACH TO JOIST.

BOUNDARY JOIST(S)

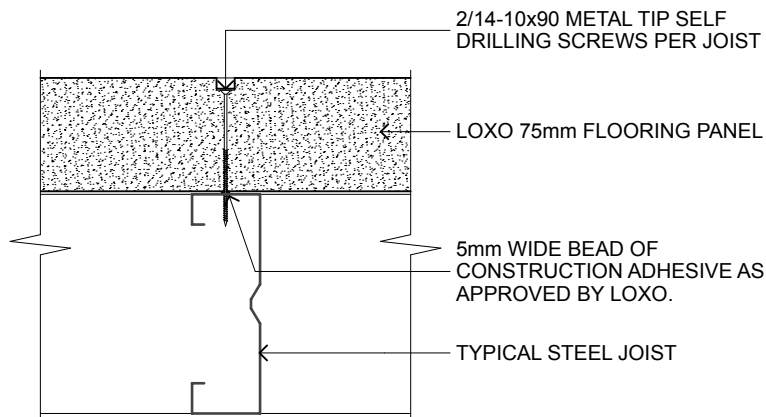
**BRACED WALL FIXING OPTION 2**

Det. 14.1.3  
Scale NTS



**MID PANEL TIMBER  
JOIST FIXING**

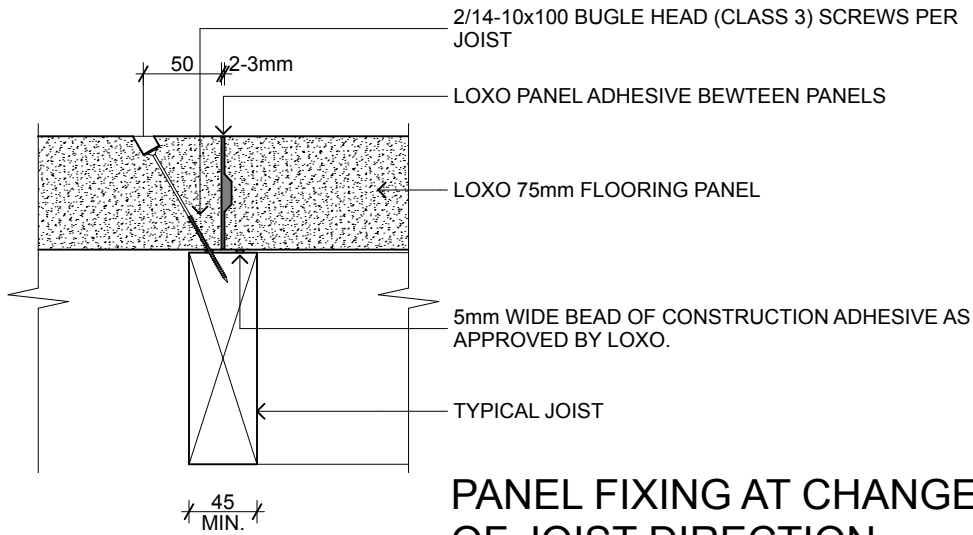
Det. 14.2.1  
Scale 1:5



**MID PANEL STEEL  
JOIST FIXING**

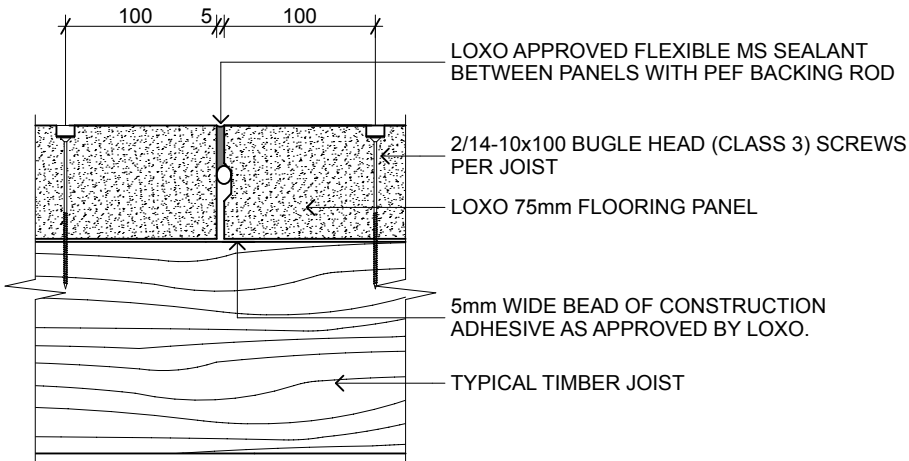
Det. 14.2.2  
Scale 1:5

# 14.3 FLOOR FIXING DETAILS



## PANEL FIXING AT CHANGE OF JOIST DIRECTION

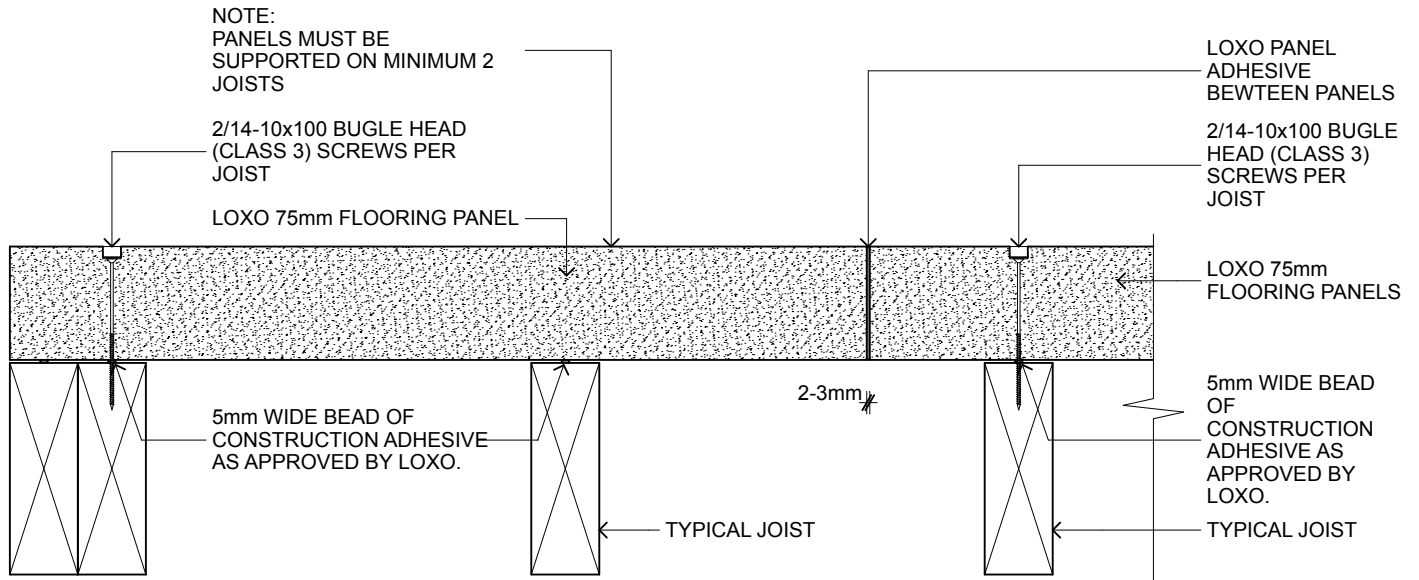
Det. 14.3.1  
Scale 1:5



## PANEL CONTROL JOINT

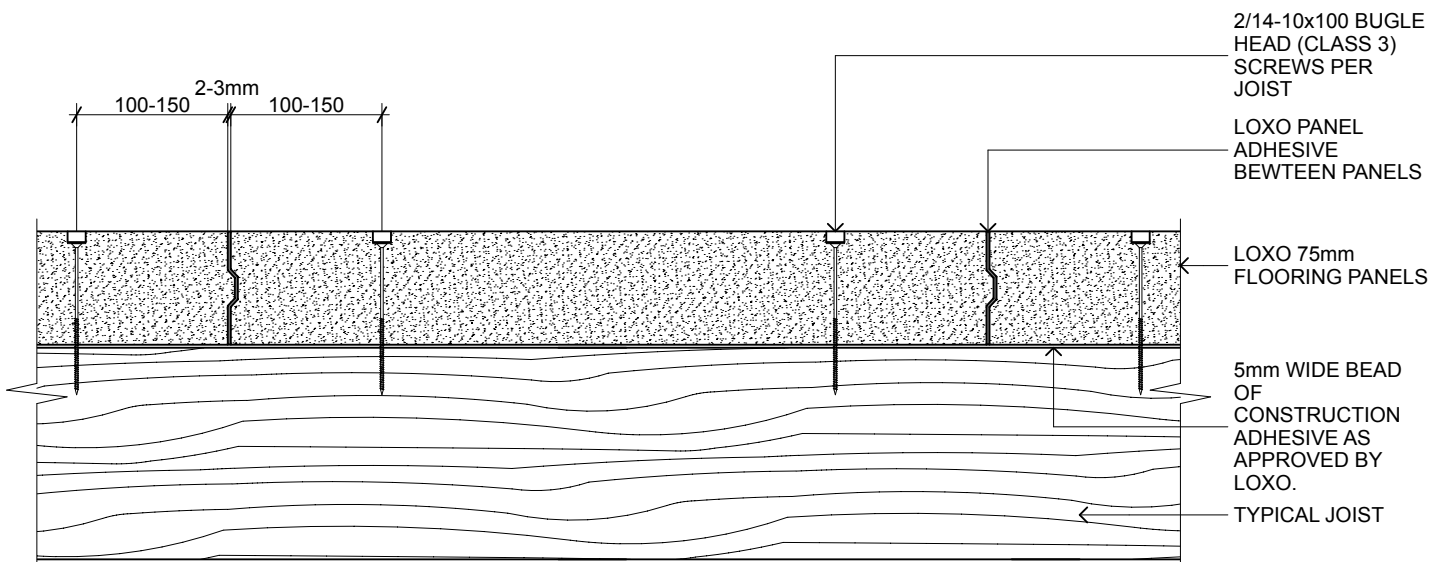
Det. 14.3.2  
Scale 1:5





**PANEL FIXING AROSS JOISTS**

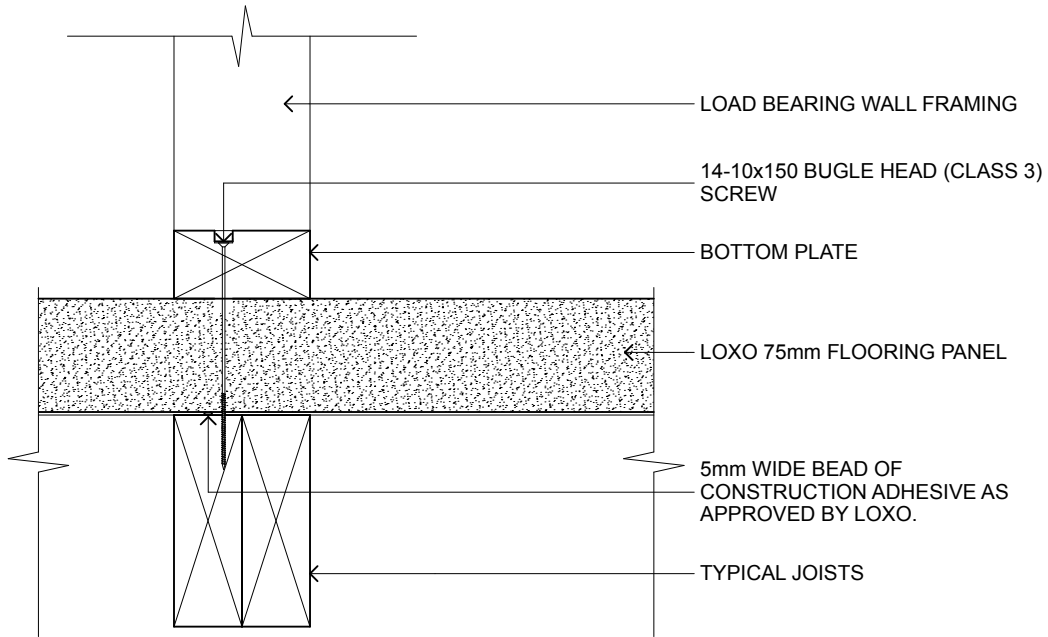
Det. 14.4.1  
Scale 1:5



**PANEL FIXING ALONG JOISTS**

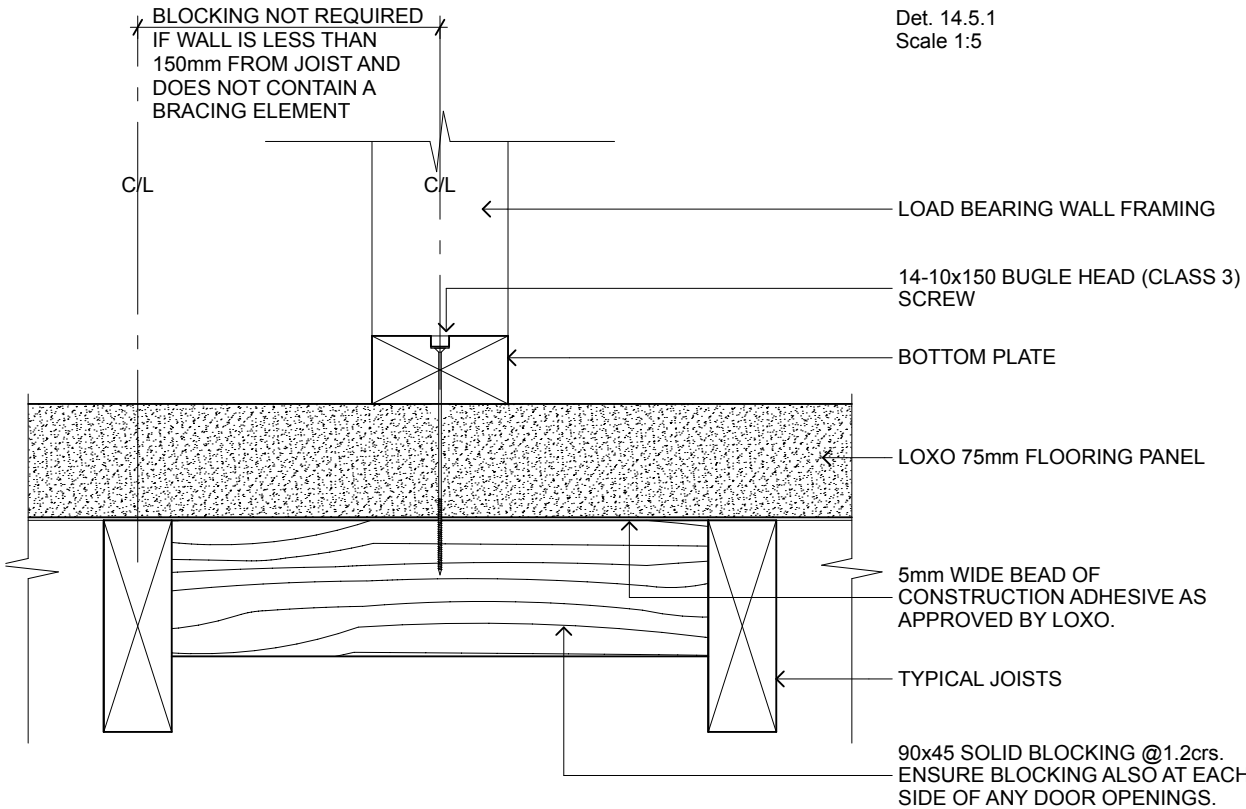
Det. 14.4.2  
Scale 1:5

# 14.5 INTERNAL WALL FIXING



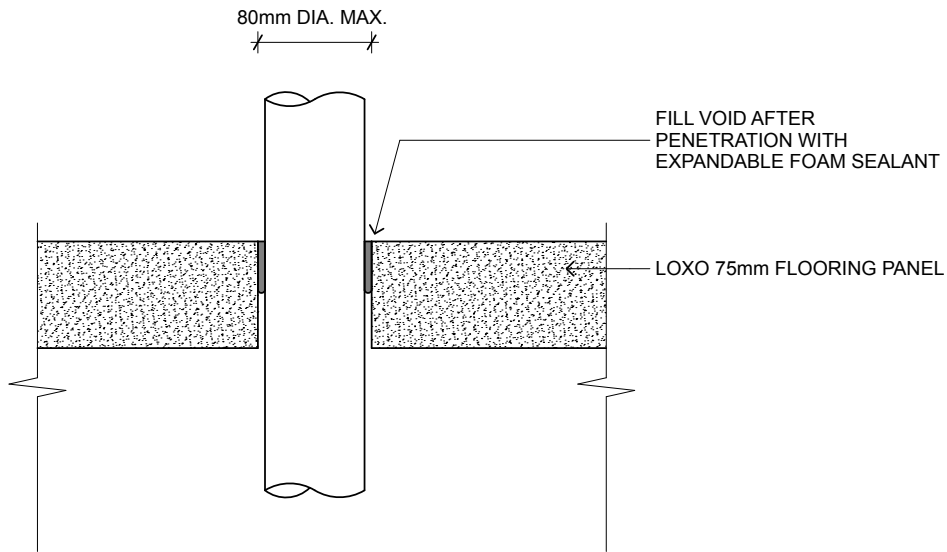
## INTERNAL LOAD BEARING WALL FIXING

Det. 14.5.1  
Scale 1:5



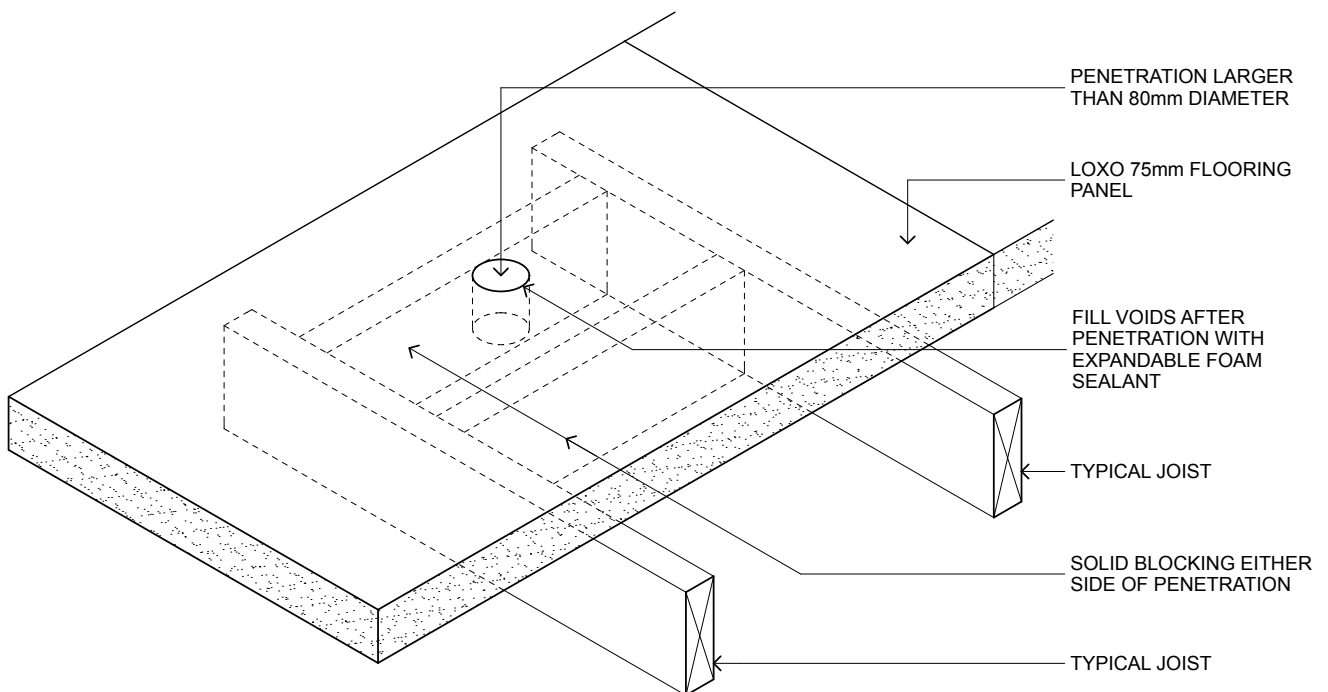
## INTERNAL LOAD BEARING WALL FIXING

Det. 14.5.2  
Scale 1:5



**TYPICAL SMALL PENETRATION  
LESS THAN 80mm**

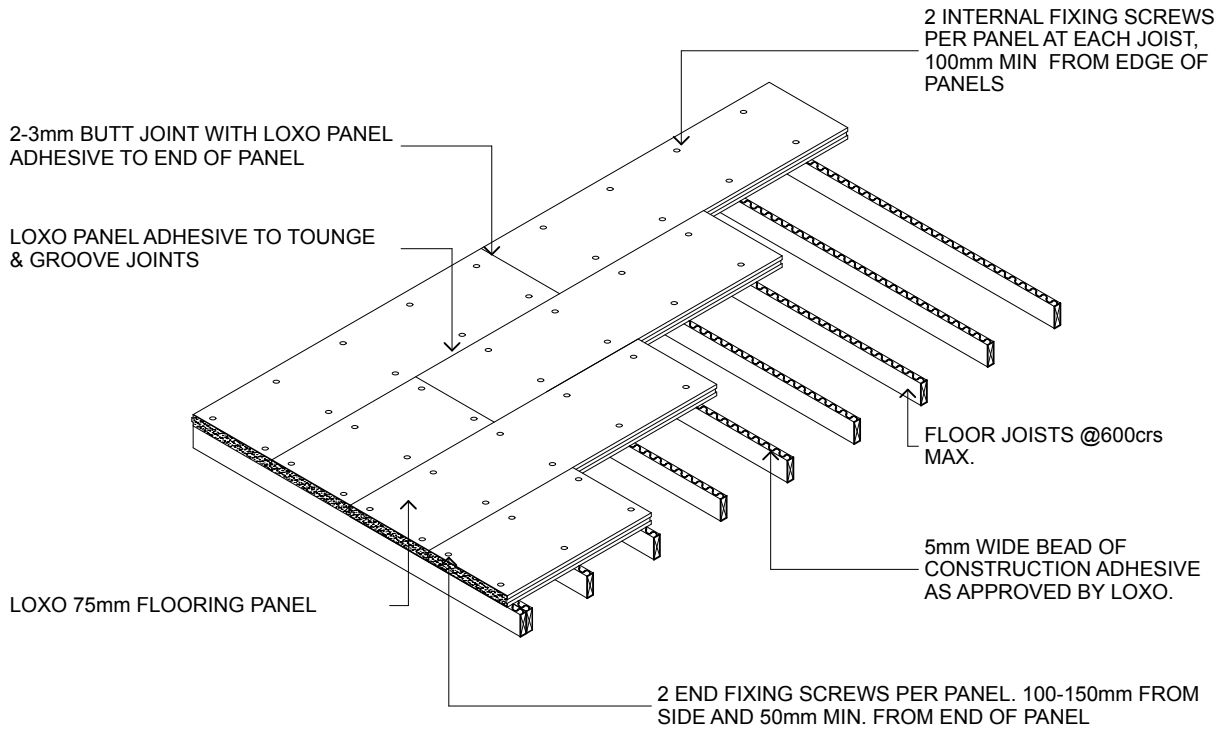
Det. 14.6.1  
Scale 1:10



**TYPICAL LARGE PENETRATION  
GREATER THAN 80mm**

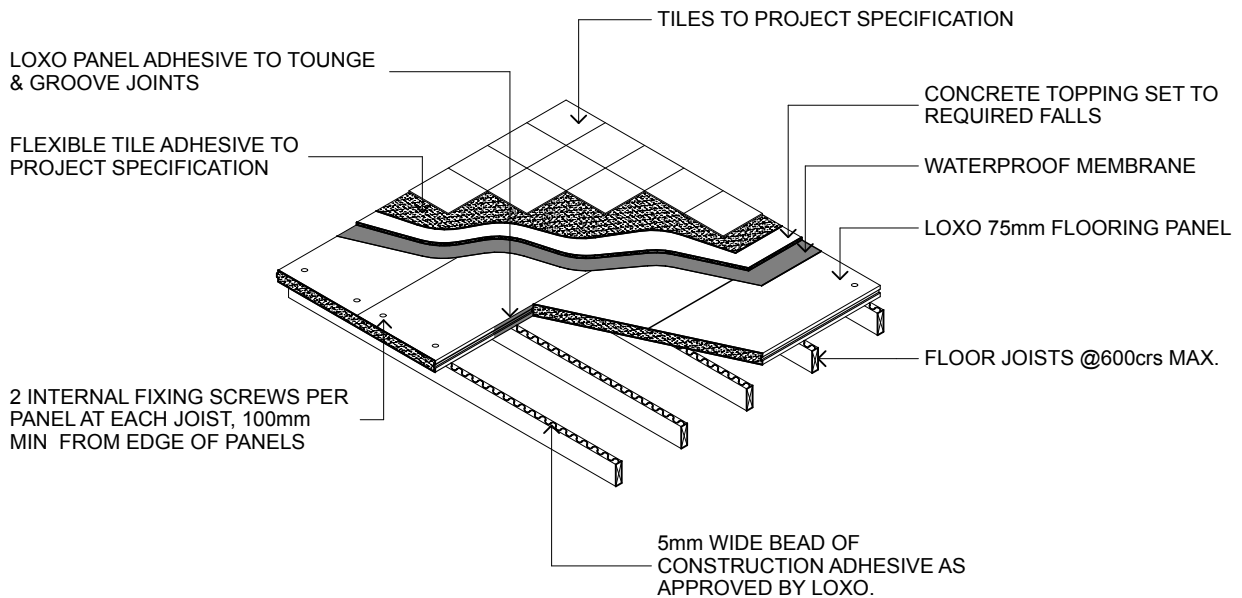
Det. 14.6.2  
Scale NTS

# 14.7 PANEL LAYOUTS



## TYPICAL PANEL LAYOUT

Det. 14.7.1  
Scale NTS



## CREATING FALLS ON PANELS

Det. 14.7.2  
Scale NTS

## LOXO PANEL FENCE SYSTEM - AN INTRODUCTION

The **Loxo Panel Fence System** is a lightweight, high quality, highly durable solid fence system suited to both residential and commercial applications. With exterior coating solutions provided by the Granosite fully reinforced exterior plaster system, the **Loxo Panel Fence** is an attractive fence system with a solid appearance and feel providing superb sound blocking characteristics.

**Loxo Fence Panels** are either 75mm thick lightweight autoclaved aerated concrete (AAC) panels cast into reinforced insitu posts or 50mm thick AAC panels screw fixed to steel posts and can be up to 2.4m high. The 75mm and 50mm thick panels come in a standard size of 2200mm long x 600mm high. Panels are bonded together with **Loxo Panel Adhesive** and use the Granosite reinforced Plaster System and Paint System for coating and finishing.

Important:

- **This specification must be read in conjunction with the detail data sheets.**
- All materials such as grouts, adhesives and fixings used for the **Loxo Panel Fence** must be supplied by **Loxo Cladding NZ Ltd** or one of its certified distributors.
- All materials such as fiberglass mesh and plaster components used for the coating of **Loxo Panels** must be supplied by Valspar Paint (NZ) Ltd.

### Performance and Technical Specifications

<b>Dry Density:</b>	560kg/m <sup>3</sup>
<b>Intensity:</b>	4.0MPa
<b>Modulus of Elasticity:</b>	1800MPa
<b>Dry Shrinkage Value:</b>	0.8mm/m
<b>Panel Size:</b>	75mm/50mm x 2200mm x 600mm
<b>Fire Resistance:</b>	1.5 hours (overseas testing)
<b>Sound Transmission Class (STC):</b>	33 (50mm bare panel)
<b>Windzone:</b>	All wind zones of NZS 3604: 2011 up to very high

### Standards Compliance

**Loxo Fence Panels** fixed in accordance with the details and instructions in this Technical Manual meet the requirements and relevant sections of the New Zealand Building Code (NZBC) including:

- B1** Structure
- B2** Durability
- F2** Hazardous Building Materials

**Fire Resistance** for the **Loxo Panels** exceeds the requirements for standard commercial or domestic fire barriers. Additionally, **Loxo Panels** have an ignitability index of zero and are 'Non Combustible' in accordance with NZBC Clause C3 and NZS/AS 1530 standards.

## **L7 Hazardous Building Materials**

In reference to NZBC Clause F2 regarding Hazardous Building Materials, **Loxo Panels** are non-hazardous providing all safety precautions included in this literature are adhered to, refer to Health and Safety on Page 86.

## **L7 TECHNICAL SPECIFICATIONS**

### **L7 Concrete**

All concrete post footings for insitu concrete post styles shall be 17.5MPa and for cast in steel post styles 25MPa concrete. Insitu concrete posts shall consist of 17.5Mpa concrete. Mowing strips directly under the panels may be 17.5Mpa concrete.

## **L7 LOXO PANEL FENCE SYSTEM COMPONENTS**

### **L7 Reinforcing and Steel Posts**

M-12 Reinforcing Rods within insitu posts and footings shall be Grade 500E deformed steel bars.

All steel posts shall be sized in accordance with the chart within this document appropriate to the height and wind loadings imposed.

All steel posts and insitu concrete post formwork to be galvanised.

M-12 bolts and 50x50x3mm washers to insitu concrete posts to be galvanised and removed after concrete curing.

### **L7 Loxo Panel Adhesive**

**Loxo Panel Adhesive** is a polymer modified cement-based adhesive mortar supplied in 20kg bags. It is supplied by **Loxo Cladding NZ Ltd**, mixed on-site with clean water (see instructions printed on each bag), and is applied to all edges of the panels (except control joint) by trowel.

**Loxo Panel Adhesive** as approved by Loxo is used for bonding **Loxo Decorative Trims** and banding, along with minor patching, repairs and stopping of **Loxo Panels**.

### **L7 Screws**

Panels shall be fixed to the steel posts with 14g x 65mm long self drilling screws. The tips of the screws are to be removed after installation to allow for panels bands to bond flush over.

### **L7 Waterproofing (for bottom edges of Loxo Panels)**

- Bituminous membrane paint DPM bottom edge of **Loxo Panels**
- Mapelastastic Smart bottom edge of **Loxo Panels**.

## INSTALLATION OF LOXO PANEL FENCE SYSTEM

### General

**Loxo Panels** installation must be performed or supervised by approved installers to ensure quality of workmanship. Please contact **Loxo Cladding NZ Ltd** for details of licensed Loxo distributors.

### Construction Method

1. Ensure the builder has completed items set out in the pre-installation checklist (See Appendix D).
2. Plan setout, measure and provide string lines as required.
3. Dig out post holes to size as set out in the details. Excavate trench 75mm deep by width to suit for concrete mowing strip. Box out mowing strip with timber formwork.
4. a) For Insitu Posts: Place the reinforcing steel on proprietary plastic chairs to achieve correct bottom cover. Secure the steel in position using timber peg and braces and pour the footing to 75mm below finished ground level.  
b) For 'Z' or 'Square' Posts: Pour site concrete to level as detailed. Allow to cure. Place 'Z' or 'Square' Posts and secure in position using timber peg and braces. Set all fence posts in place and pour concrete footing to 75mm below finished ground level. Set the top of the posts level with the proposed top of the fence panels
5. Pour concrete mowing strip and float top with steel trowel to achieve an U3 finish. The top of the mowing strip creates the laying surface for the panels and therefore must be straight and level.
6. Remove the mowing strip formwork and prepare the first course of panels for laying and apply ASA "Bostik Dampfix waterproofing" membrane to the underside edges of the panels. Allow to cure before laying.
7. Lay the first panel over the concrete mowing strip. For Insitu Posts, place steel post formwork and secure in position using timber peg and braces while laying the first course. The top of the formwork shall be level with the proposed top of the fence panels. For 'Z' or 'Square' Posts fix the panels to the posts as per Details 15.1.2 and 15.1.3.
8. Continue to lay the remaining courses. Apply **Loxo Panel Adhesive** to all panel joints. Lay the panels completing each row at a time removing all excess adhesive.
9. a) For Insitu Posts: Pour the concrete posts. Allow to cure and remove steel formwork.  
b) For 'Z' or 'Square' Posts: Fit 200w x 50mm thick **Loxo Panels** over post junctions. Fix into position with **Loxo Panel Adhesive**.
10. Fix **Loxo Panel** top capping into position with **Loxo Panel Adhesive**.
11. Sand any joints level and remove all debris and dust ready for plaster finishing.
12. Apply Granosite Plaster System or with paint finish system in selected colour.



## L7 EXTERIOR GRANOSITE PLASTER AND PAINT SYSTEM

**Granosite Plaster and Paint System** is the only approved plaster system for application over the **Loxo Panel Fence** system.

For more information, see the Granosite Plaster System and Paint Specifications.

### L7 Guarantee

The **Granosite Plaster System** is guaranteed for a period of **15 years** (from date of completion) to perform and meet provisions outlined in the New Zealand Building Code (Clauses B1 Structure, B2 Durability, E2 External Moisture, and E3 Internal Moisture). This guarantee applies only where all material components of the Plaster System have been prepared and installed in accordance with our written instructions, technical specifications and detail drawings, and where the work is carried out by an approved contractor, and where the system has been properly maintained and subjected to normal conditions of exposure.

#### **Important Notes:**

The construction details on the following pages describe the most common applications of the **Loxo Panel Fence** system. The **Loxo Panel Fence** system can be installed and applied in situations other than those outlined. If designers or specifiers require additional or modified details, please contact Loxo Cladding NZ Ltd immediately at [info@loxocladding.co.nz](mailto:info@loxocladding.co.nz)

## L7 HEALTH AND SAFETY

Loxo AAC Panel, along with all clay, concrete and quarry products contains Crystalline Silica, or Silica Dust. Loxo AAC Panel itself does not cause health problems – however when cutting, drilling, sawing, routing, chasing, sanding and in any way breaking up the material there is the potential for health problems to occur unless precautionary measures are taken. Breathing in the dust repeatedly, usually over a number of years may lead to health problems.

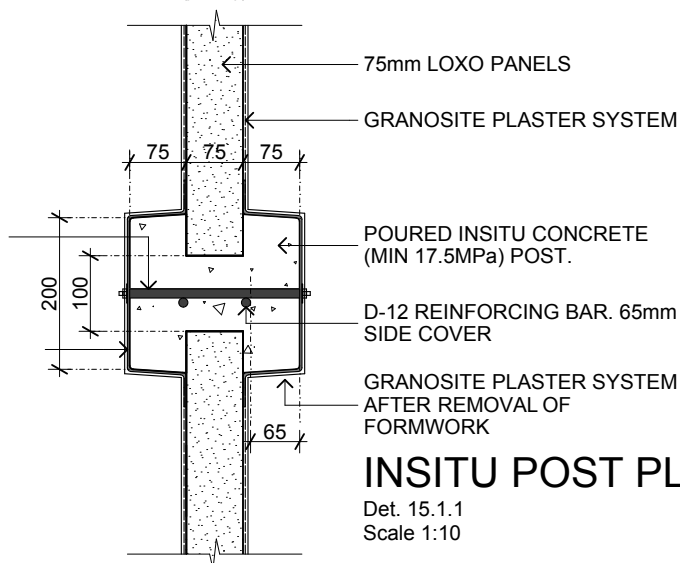
When loading, stacking and laying panels workers are unlikely to breath in the fine silica dust. When breaking up the material, sawing, drilling etc it is imperative that a safety mask and eye protection are worn. Ensure the mask fits properly and is approved for use with Dust. Also protective clothing should be worn e.g. overalls. These should be washed often and not in the same wash as other clothes.

The site should be cleaned of dust every day and when using power tools these should be fitted with efficient and well maintained dust extraction devices.

As the **Loxo Panel Fence** Installer on site – please note that it is your responsibility to inform all employees of these Health and Safety requirements under the Occupational Health and Safety Act.

3/M-12 BOLTS WITH 50SQ. x 3mm WASHERS. PVC BOLT SLEEVE.

3mm GALVANISED STEEL FORMWORK TO BE REMOVED AFTER CONCRETE CURING.

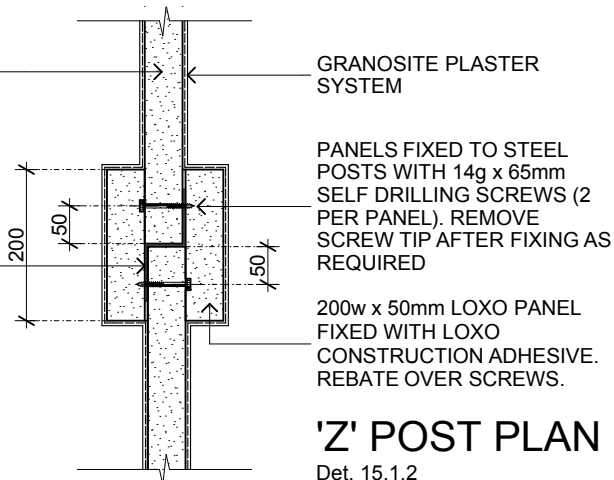


**INSITU POST PLAN**

Det. 15.1.1  
Scale 1:10

50mm LOXO PANELS

GALVANISED STEEL 'Z' SECTION. REFER TABLE FOR SIZE

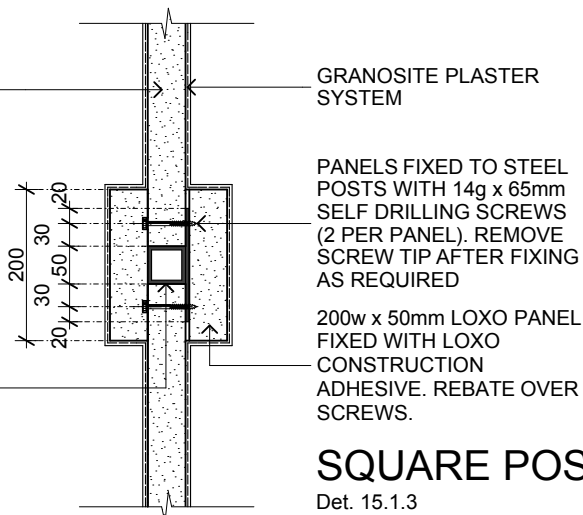


**'Z' POST PLAN**

Det. 15.1.2  
Scale 1:10

50mm LOXO PANELS

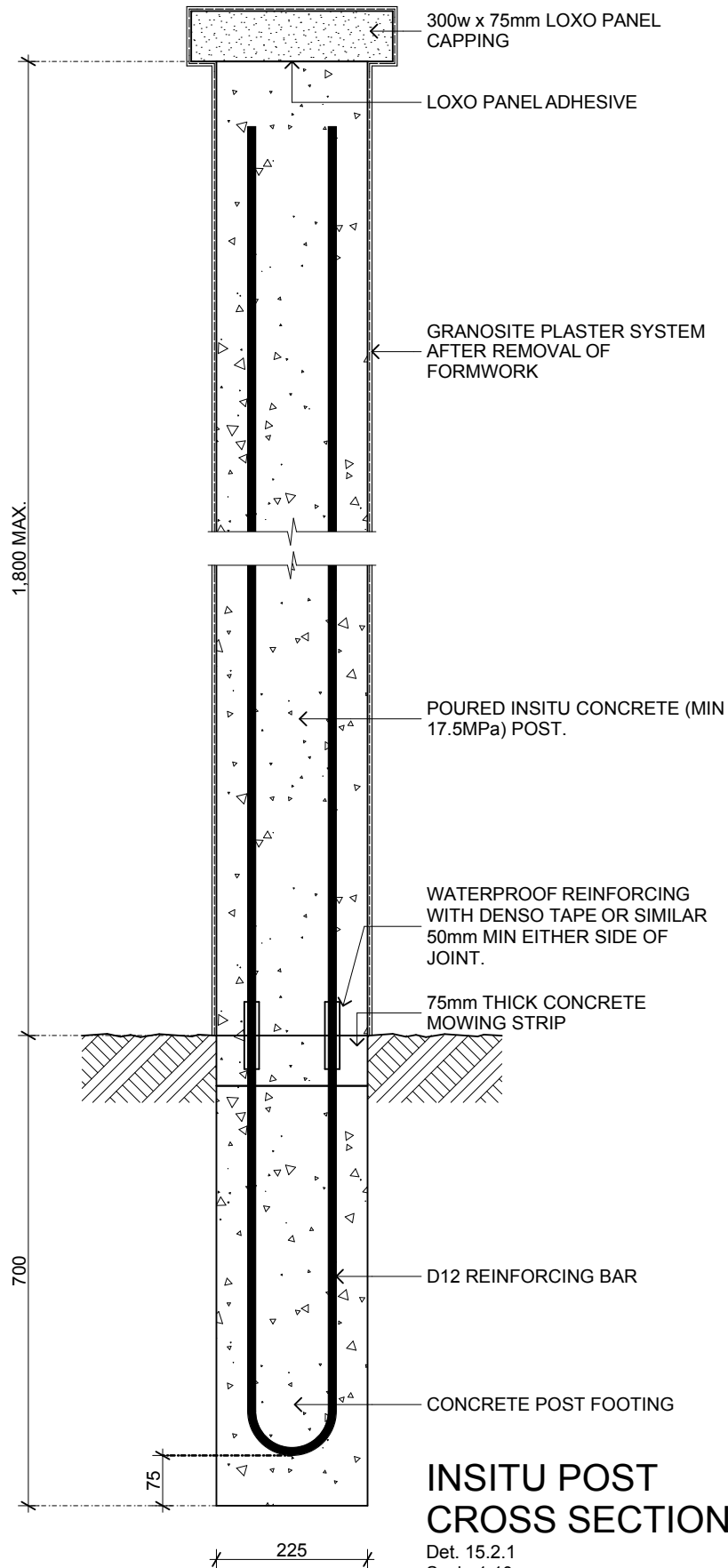
GALVANISED STEEL SQUARE SECTION WITH WELDED FIXING PLATE. REFER TABLE FOR SIZE

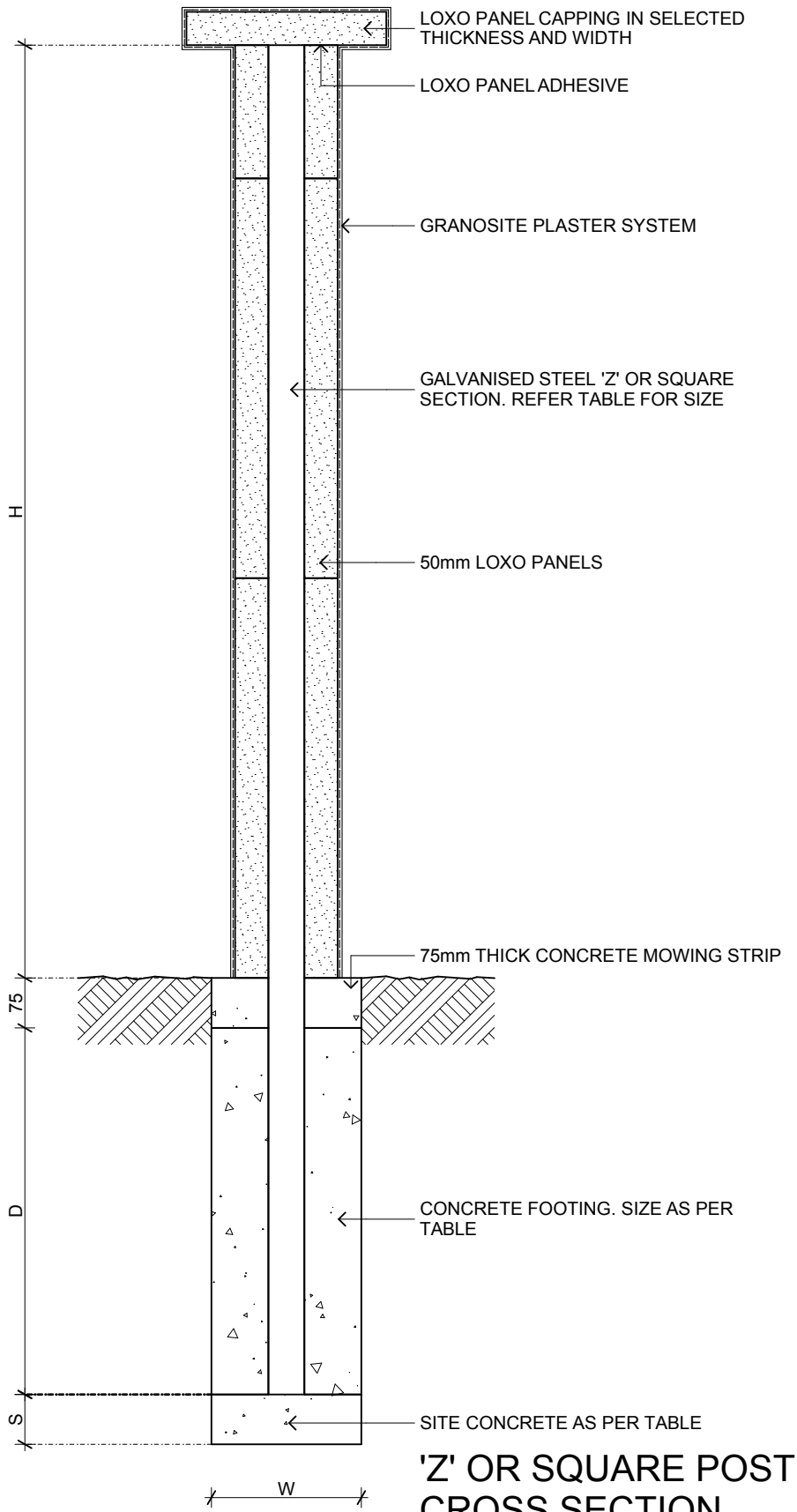


**SQUARE POST PLAN**

Det. 15.1.3  
Scale 1:10

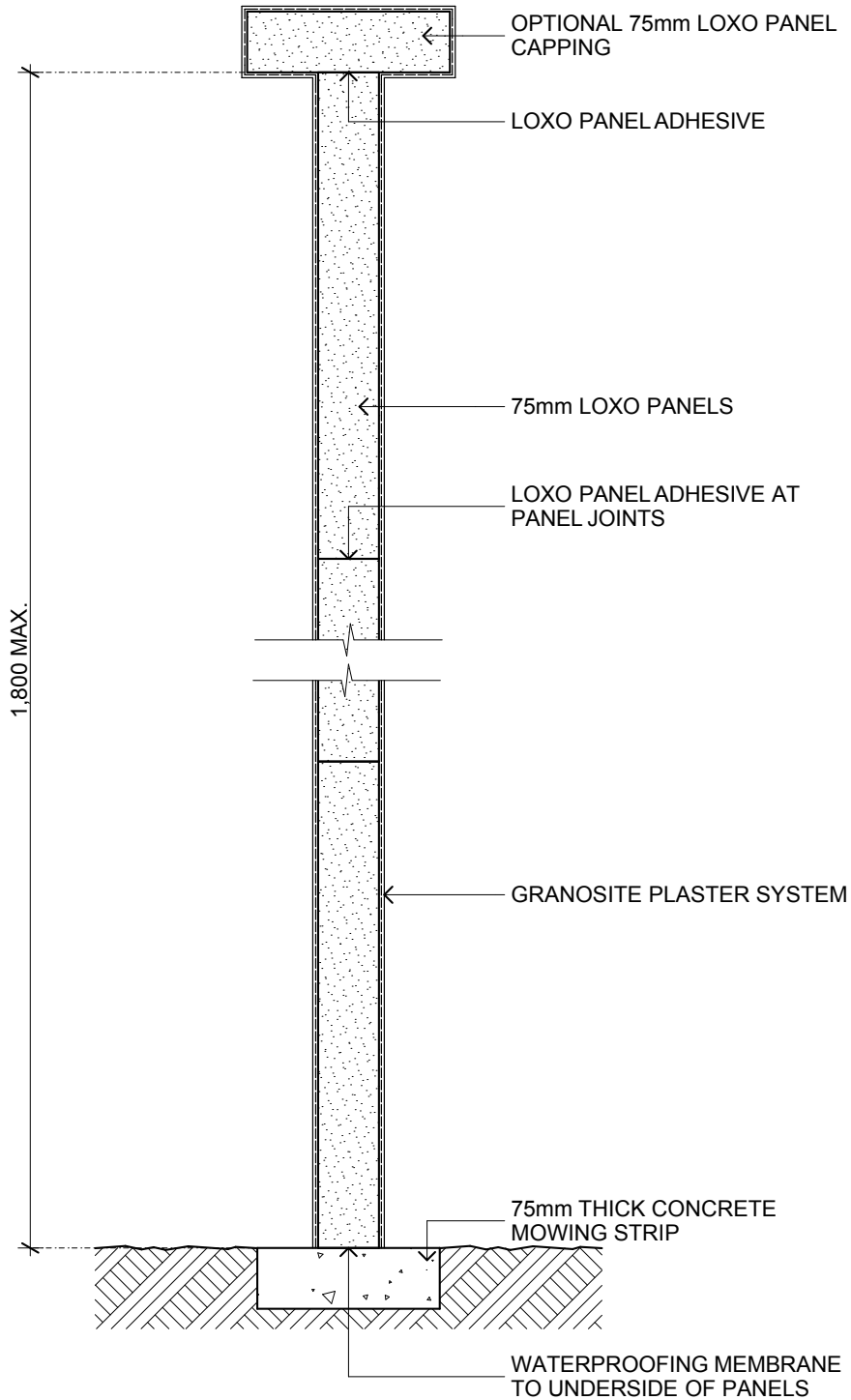
# 15.2 INSITU POST CROSS SECTION





**'Z' OR SQUARE POST  
CROSS SECTION**

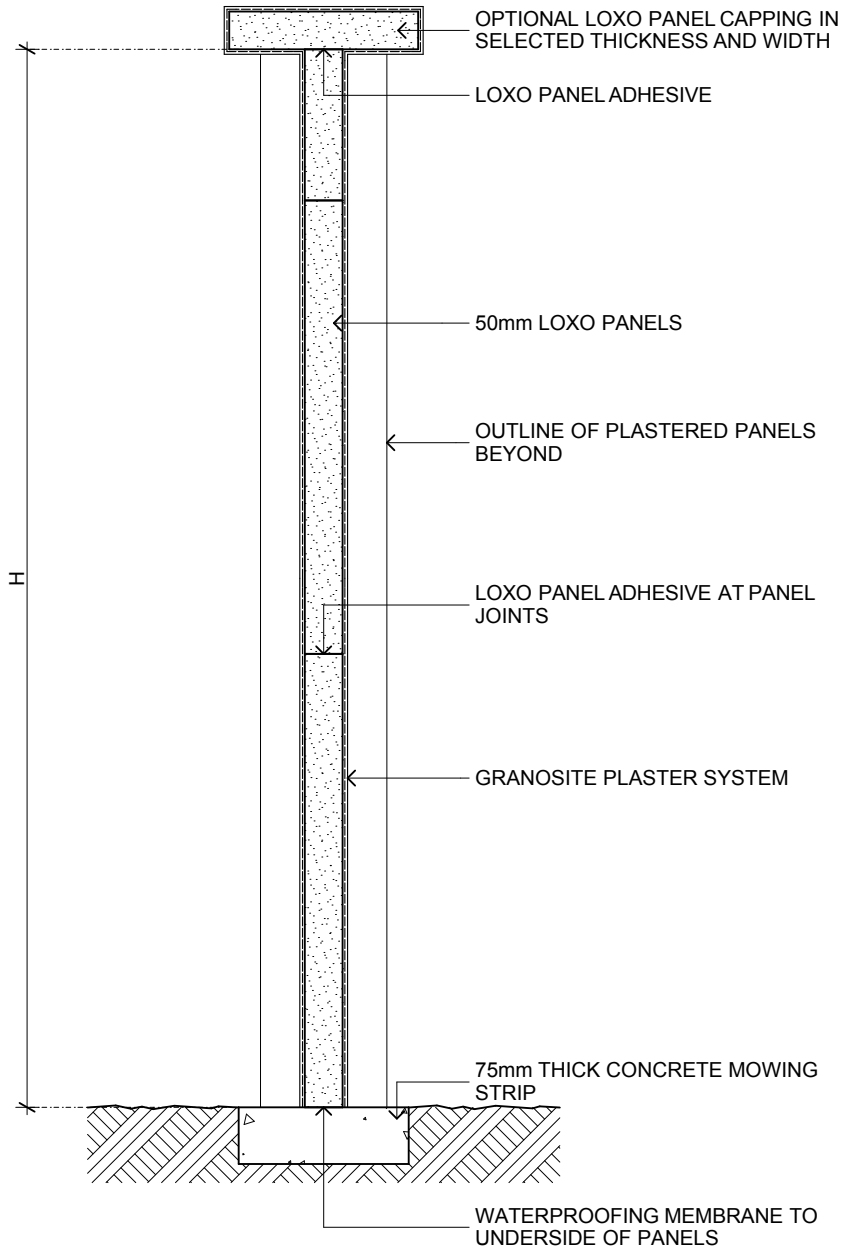
Det. 15.3.1  
Scale 1:10



## INSITU POST FENCE PANEL CROSS SECTION

Det. 15.4.1  
Scale 1:10

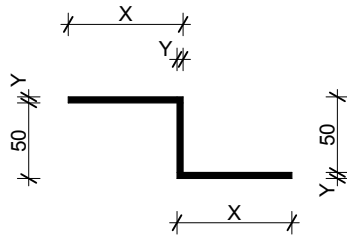
# 15.5 'Z' OR SQUARE POST FENCE PANEL



## 'Z' OR SQUARE POST FENCE PANEL CROSS SECTION

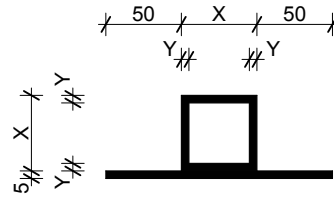
Det. 15.5.1  
Scale 1:10

WIND ZONE (UP TO)	'H' - FENCE HEIGHT (UP TO)	'X x Y' - POST TYPE/SIZE (mm)	'F x W' - FOOTING SIZE (mm)	'S' - SITE CONCRETE THICKNESS (mm)
MEDIUM	1200	73x2 'Z'	200 x 800	200
	1800	76x4 'Z'	400 x 800	200
	2400	50x5 SQ	400 x 1100	100
HIGH	1200	72x3 'Z'	400 x 700	200
	1800	72x6 'Z'	400 x 1000	200
	2400	50x5 SQ	400 x 1100	100
VERY HIGH	1200	72x3 'Z'	400 x 800	200
	1800	72x6 'Z'	400 x 1200	200
	2400	50x5 'SQ'	400 x 1100	100



**'Z' POST**

Det. 15.6.1  
Scale 1:5



**'SQ' POST**

Det. 15.6.2  
Scale 1:5

## APPENDIX A.

### LOXO PANEL VENEER SYSTEM PRE CLADDING CHECKLIST

(for Licensed Installers and Building Inspectors)

All sections of this checklist is to be filled out by the Licensed Loxo Installer

Owner / Owner's Representative: \_\_\_\_\_

Project Address: \_\_\_\_\_ Date: \_\_\_\_\_

Consent No: \_\_\_\_\_

Main Contractor: \_\_\_\_\_ Phone: \_\_\_\_\_

Architect / Designer: \_\_\_\_\_ Phone: \_\_\_\_\_

Main Contractor is to have project prepared for the Loxo Panel Installation as per literature within the **Loxo Technical Manual** and **Loxo Letter of Engagement**.

#### Foundation & Floorslab

- For rebated step-down foundation, the rebate must be a minimum of 50 mm step-down from finished floor level.

#### Rebate

- Coated with bituminous membrane (refer to Loxo Manual)
- All top surfaces of rebates to be true, smooth and level.

#### Framing

- All framing must be straight, level and plumb. Major bending and bowing must be corrected by Builder / Main contractor.
- Where bracing plywood is used externally on framing, the remainder of that line of wall must be packed out to suit using ply between Loxo battens and framing.
- Exterior timber framed wall must be wrapped with an approved building paper prior to the Loxo batten installation.
- Builder / Main contractor is to make the installer aware of hidden pipes and services directly behind building paper to avoid penetration. They must also mark on the external surface of building paper the location of the unseen services.



## **Windows / Doors**

- Choose between the specified Classic or Deluxe batten to be used
- DPC side flashings to windows and doors to be supplied and installed by builder.

## **Two Story Projects And Gable Roofs**

- Check that scaffolding has Site Safety Certification
- Builder to protect all exposed roofing with protective sheeting to areas around Loxo panel installation.
- Check with Builder / Main Contractor that all water proofing details and associated flashings have been completed before installation.

**Loxo Licensed Installer:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Signed:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Comment:**

## APPENDIX B.

### LOXO BLOCK SYSTEM PRE LAYING CHECKLIST

(for Licenced Installers and Building Inspectors)

All sections of this checklist is to be filled out by the Licenced Loxo Installer

Owner / Owner's Representative: \_\_\_\_\_

Project Address: \_\_\_\_\_ Date: \_\_\_\_\_

Consent No: \_\_\_\_\_

Main Contractor: \_\_\_\_\_ Phone: \_\_\_\_\_

Architect / Designer: \_\_\_\_\_ Phone: \_\_\_\_\_

Main Contractor is to have project prepared for the Loxo Panel Installation as per literature within the **Loxo Technical Manual** and **Loxo Letter of Engagement**.

#### Foundation & Floorslab

- The rebate must be 50 mm minimum step-down from finished floor level and 190-200mm wide.
- Epoxy grout in the M-12 threaded starter rods. These should be located so they are central to the blocks. Embed the starter rods 150mm minimum with 150mm minimum projecting above the rebate level (starter rods may be cast into footing).

#### Rebate

- Coated with bituminous membrane (refer to Loxo Manual)
- All top surfaces of rebates to be true, smooth and level.

#### Windows/Doors

- Sill blocks to be cut to slope as specified prior to playing.
- Fix the 100x20 AAC Panel packers using **Loxo Block Adhesive**.
- AAC packers and sill to be coated with Mapelastic Smart prior to window installation.

## **L7 Two Story Projects And Gable Roofs**

- Check that scaffolding has Site Safety Certification
- Builder to protect all exposed roofing with protective sheeting to areas around Loxo panel installation.
- Check with Builder / Main Contractor that all water proofing details and associated flashings have been completed before installation.
- Consult project specific designer and engineer for all 2 story construction detailing.

**Loxo Licenced Installer:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Signed:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Comment:**

## APPENDIX C.

### LOXO PANEL FLOOR SYSTEM PRE INSTALLATION CHECKLIST

(for Licenced Installers and Building Inspectors)

All sections of this checklist is to be filled out by the Licenced Loxo Installer

Owner / Owner's Representative: \_\_\_\_\_

Project Address: \_\_\_\_\_ Date: \_\_\_\_\_

Consent No: \_\_\_\_\_

Main Contractor: \_\_\_\_\_ Phone: \_\_\_\_\_

Architect / Designer: \_\_\_\_\_ Phone: \_\_\_\_\_

**Main Contractor** is to have project prepared for the Loxo Panel Installation as per literature within the **Loxo Technical Manual** and **Loxo Letter of Engagement**.

#### Loxo Floor Joists

- All floor joists to be sized in accordance with current NZS 3604 or project specific engineering design with a maximum spacing of 600mm centres.
- All substructure to comply with current NZS 3604 or project specific engineering design.

Loxo Licenced Installer: \_\_\_\_\_

Position: \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Comment:

## APPENDIX D.

### **LOXO PANEL FENCE SYSTEM PRE INSTALLATION CHECKLIST**

(for Licenced Installers and Building Inspectors)

**All sections of this checklist is to be filled out by the Licenced Loxo Installer**

**Owner / Owner's Representative:** \_\_\_\_\_

**Project Address:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Consent No:** \_\_\_\_\_

**Main Contractor:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

**Architect / Designer:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

**Main Contractor** is to have project prepared for the Loxo Panel Installation as per literature within the **Loxo Technical Manual** and **Loxo Letter of Engagement**.

#### **Foundation**

- Waterproofing of reinforcing bars at footing/insitu post junction should be done prior to pour of footing.
- For insitu concrete posts, the D-12 reinforcing bars should project vertically to 100mm below the finished height of the fence panels.
- For cast in posts, ensure the posts are straight and level. The top of the posts shall be set to match the proposed top level of the panels.
- Water proof underside of panels prior to standing using bitumous liquid applied DPM.
- All top surfaces of mowing strip to be true, smooth and level

**Loxo Licenced Installer:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Signed:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Comment:**