afs logicwall®

November 2019

Section I Architectural Detailing

Logicwall® Architectural Detailing, Finishes Scheduling, Slab Junction Detailing, Panel Joints, Wall Types, Cast in Elements, Acoustic and Thermal Details.

CSR

Contents

I1. Architectural Detailing

Disclaimer: This section of the AFS Logicwall® Design Guide is intended only by AFS to represent good building practice in achieving suitable architectural detailing of AFS Logicwall®. This section is not intended in any way by AFS to represent all relevant information required on a project. It is the responsibility of those using AFS Logicwall®, including but not limited to builders, designers, consultants and engineers, to ensure that AFS Logicwall® is suitable for use on a project in relation to architectural design. All diagram, plans and illustrations used in this section including any reinforcement shown are included for indicative and diagrammatic purposes only. It is the responsibility of those using AFS Logicwall® to ensure that reference is made to the structural engineer's details for all diagrammatic and reinforcement requirements.

Introduction

"The architectural detailing and design of AFS Logicwall® for building projects requires the services of professional consultants, such as architects and engineers. This chapter has been prepared to assist consultants in project documentation and outlines a range of typical details." whilst examples of previously successful details are included throughout this chapter it does not replace the services of professional consultants nor is to be relied upon as a complete library of details as site conditions can vary from project to project.

Recommended Finishing Schedule

Amend to suit project.

External

Location	Logicwall® Requirements	Panel Joints	Finishing System(1) Minimum Coating System Performance Specification for AFS Logicwall®		
Marine, Coastal(2)	Refer AS3600	External Flush Set	Water Transmission	AS4548.5 Appendix B	Less than 10g/24h/ m^2/kPa
Near Coastal (1 to 50 km)	ƒ'c 40 Mpa minimum Central reinforcement only. All external fitting, fixtures, render strips to be UPVC or Stainless.	External Flush Set	Crack Bridging	AS4548.5 Appendix F	1 mm (minimum)
Inland Tropical		External Flush Set	Moisture Vapour Permeability	AS4548.5 Appendix C	> 50 g /m^2 /24h

Internal

System	Logicwall® Requirements	Panel Joints	Finishing System(1)
DULUX Interior	Standard AFS Logicwall®	Internal Flush Set	Refer to Dulux Specification: AU_SD11656 , Chapter E
System 1 - Joint Setting Only	Standard AFS Logicwall®	Internal Flush Set	not used
System 2 - Joint Setting and Skim Coating	Standard AFS Logicwall®	Internal Flush Set	Roller applied thin Gyprock Total Joint Cement
System 3 - Over Sheeting	Standard AFS Logicwall®	Internal Flush Set	Method 1 - Direct Stick Plasterboard finish to Architectural Specification Method 2 - Batten and sheet finish to Architectural Specification

(1) Refer AFS Data Manual for Details and specifications for finishes.

(2) All external fixtures, fixings, moldings etc in Coastal or Marine Environments AS2312 Classification D or greater to be UPVC or Stainless.

Note: All external steel fixtures, fixings, mouldings to be galvanized.

I2. Slab junction Details

Fig I1: Horizontal Expressed Joint With Rebate in Slab Edge

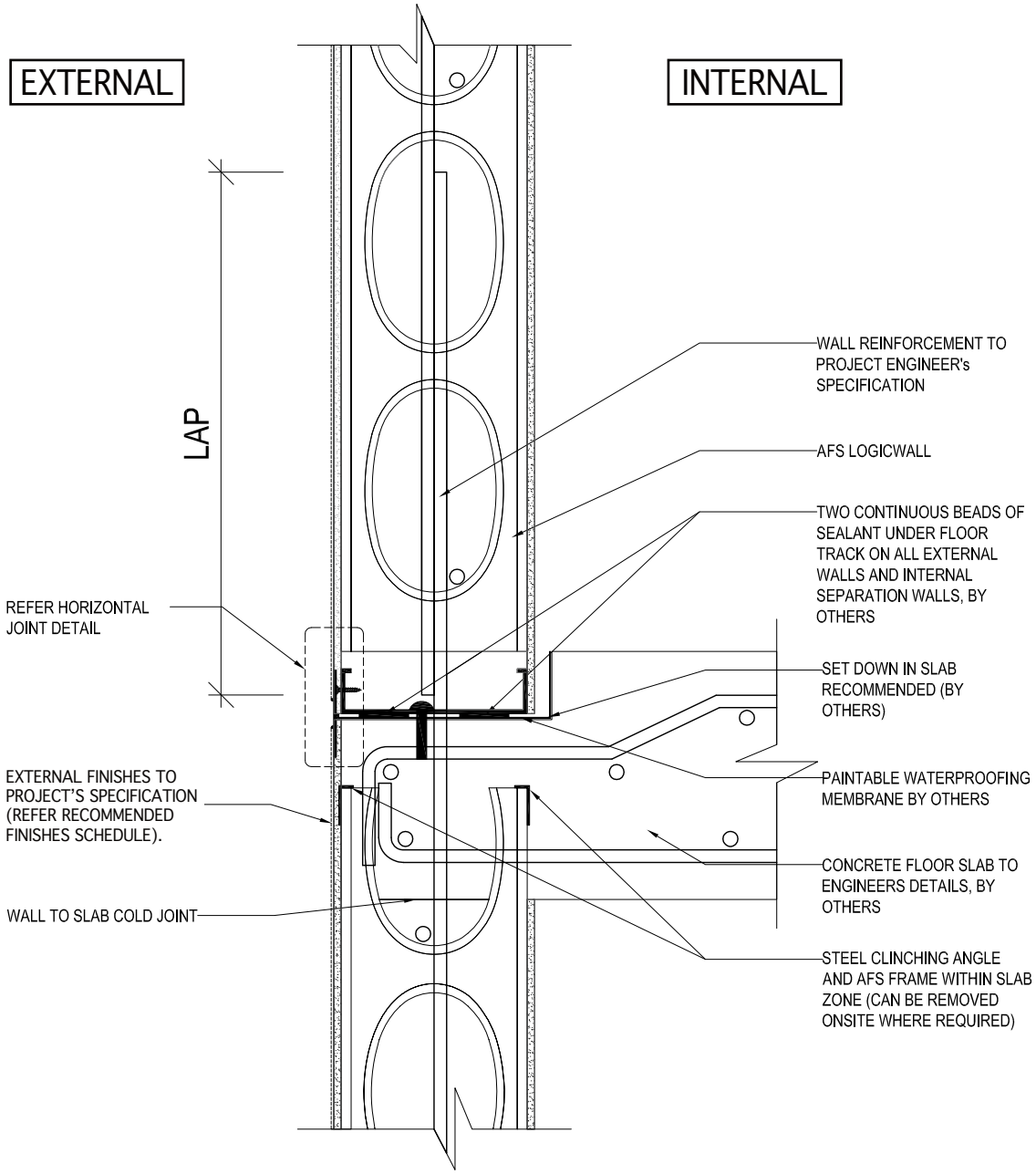


Fig I2: Horizontal Expressed Joint With Flat Plate Slab Edge

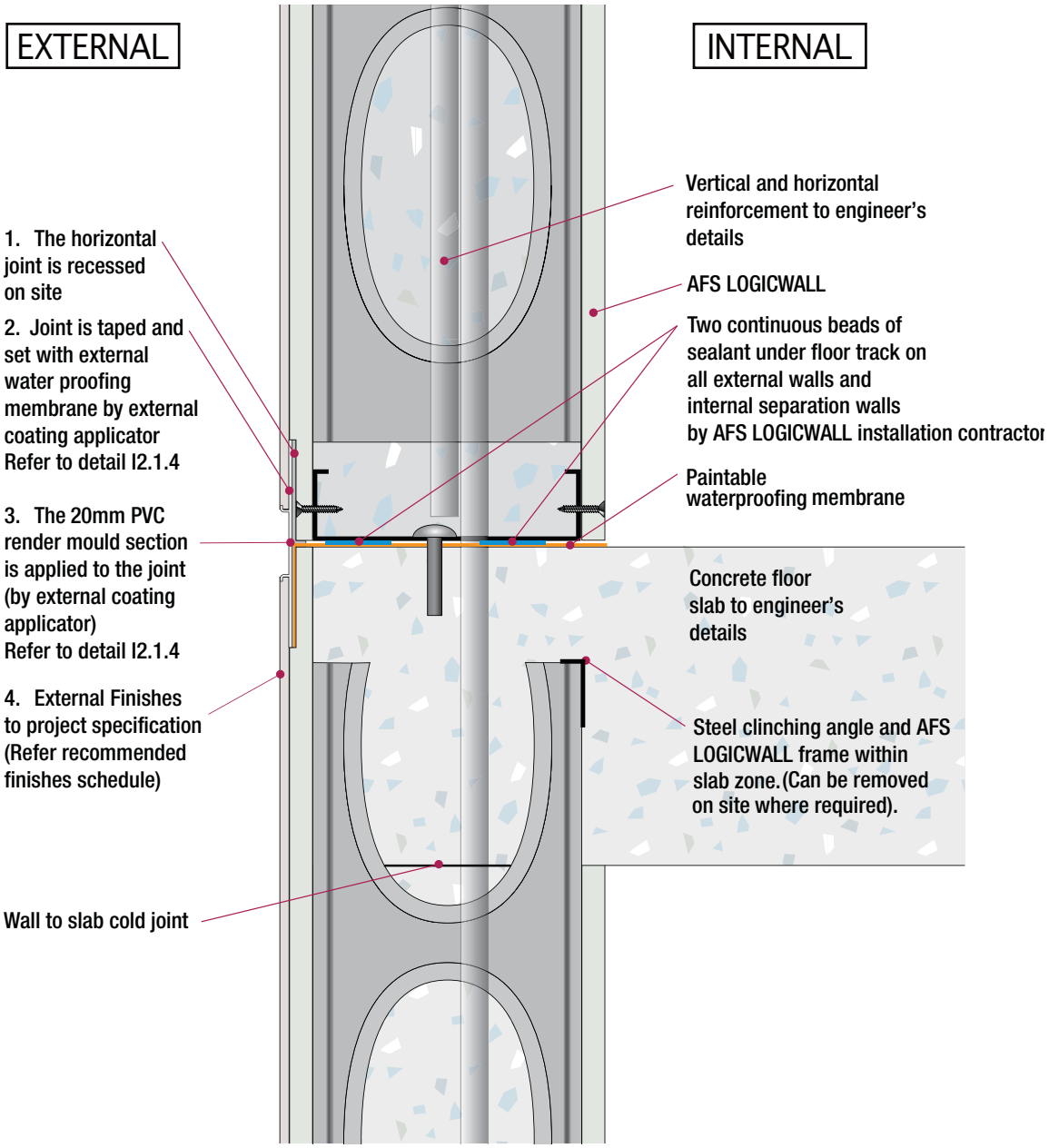


Fig I3: Horizontal Joint With Cover Plate On Slab Edge

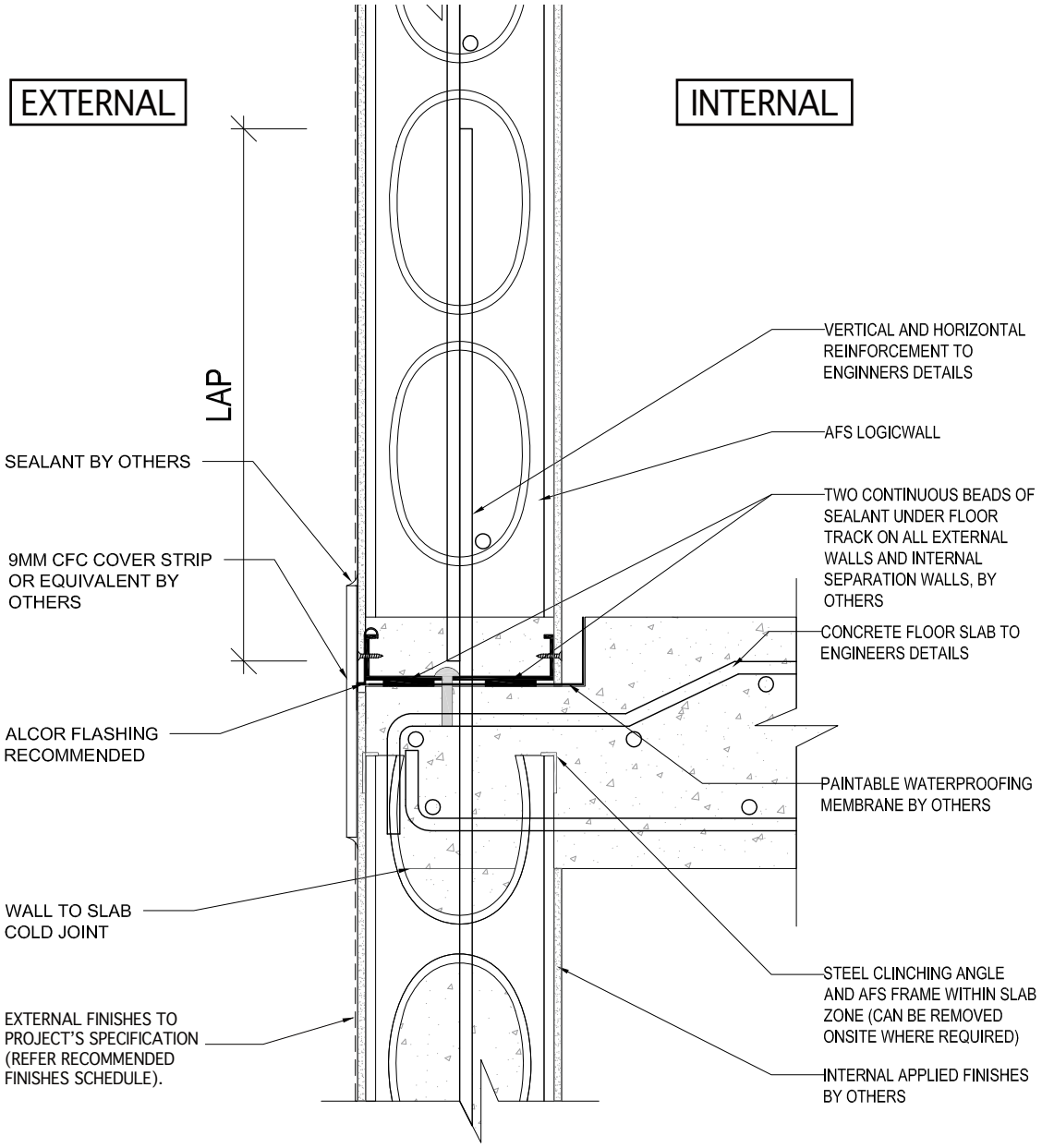
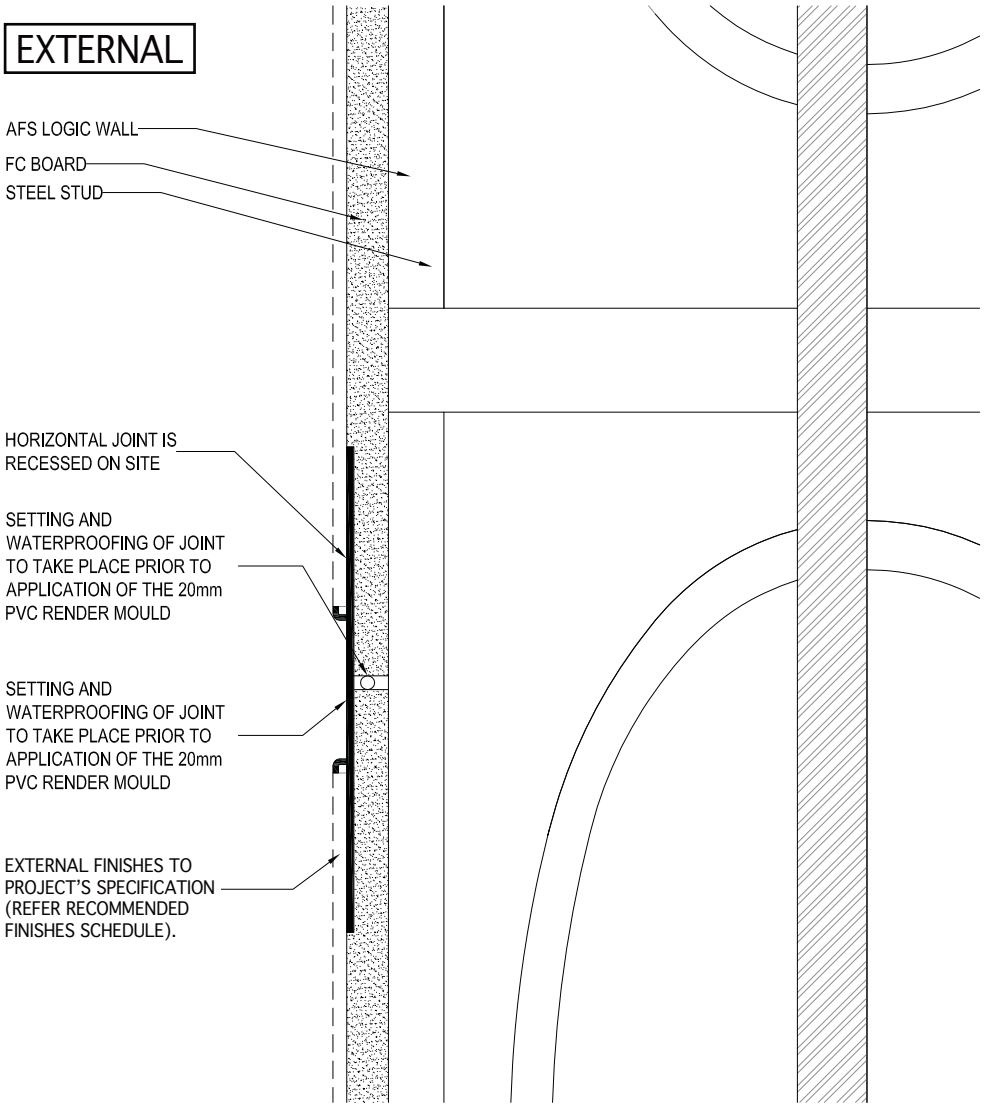


Fig I4: Horizontal 20mm Expressed Joint



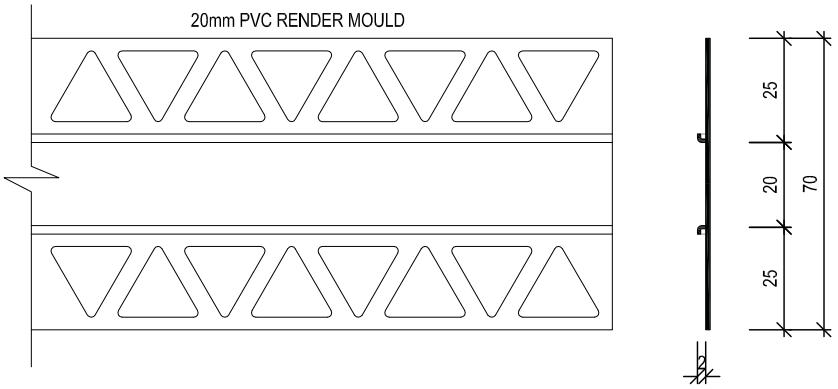


Fig I5: Cavity Wall Detail – Flat Slab

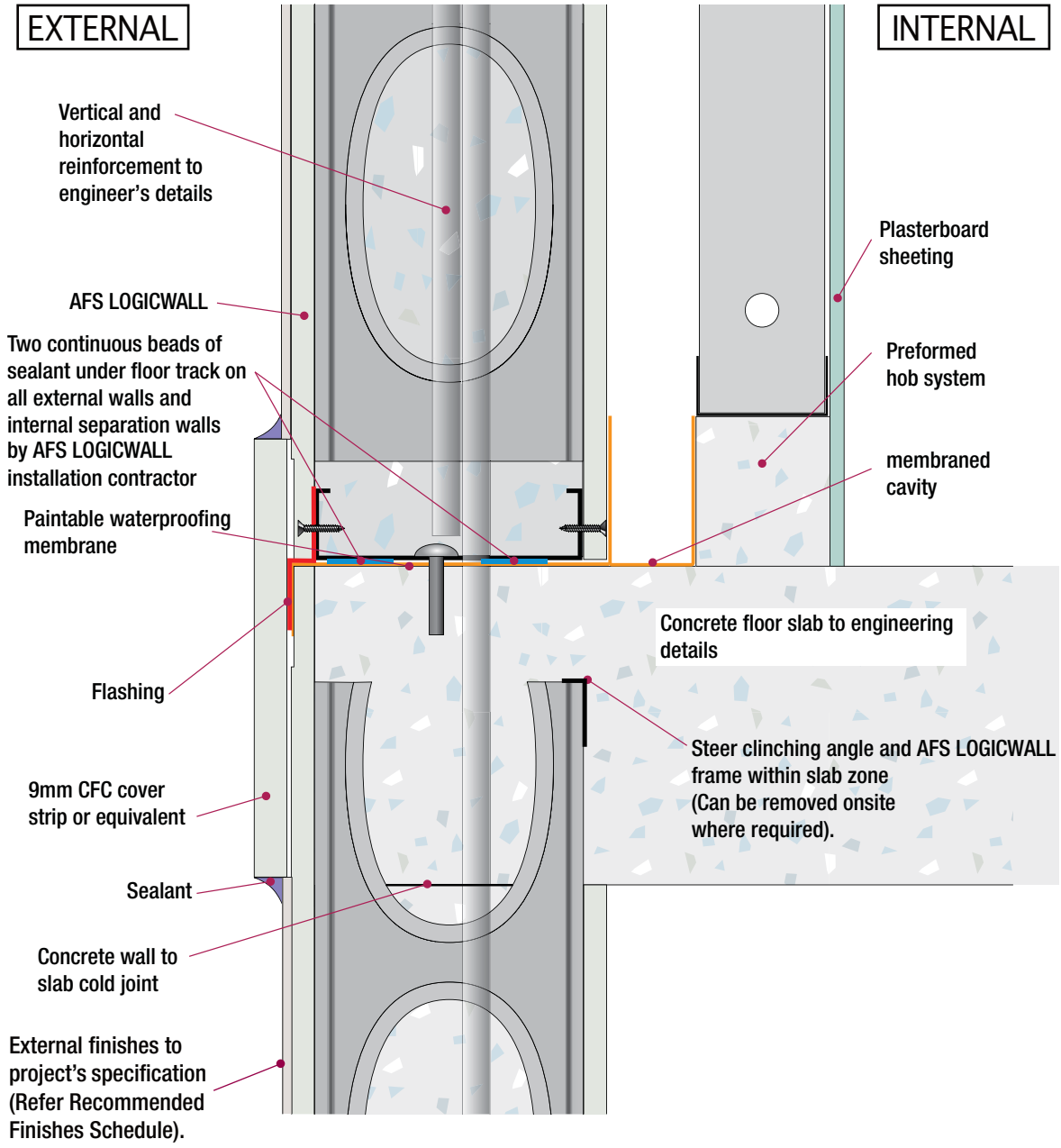


Fig I6: AFS Logicwall® Edgeform at Floor/Slab Junction

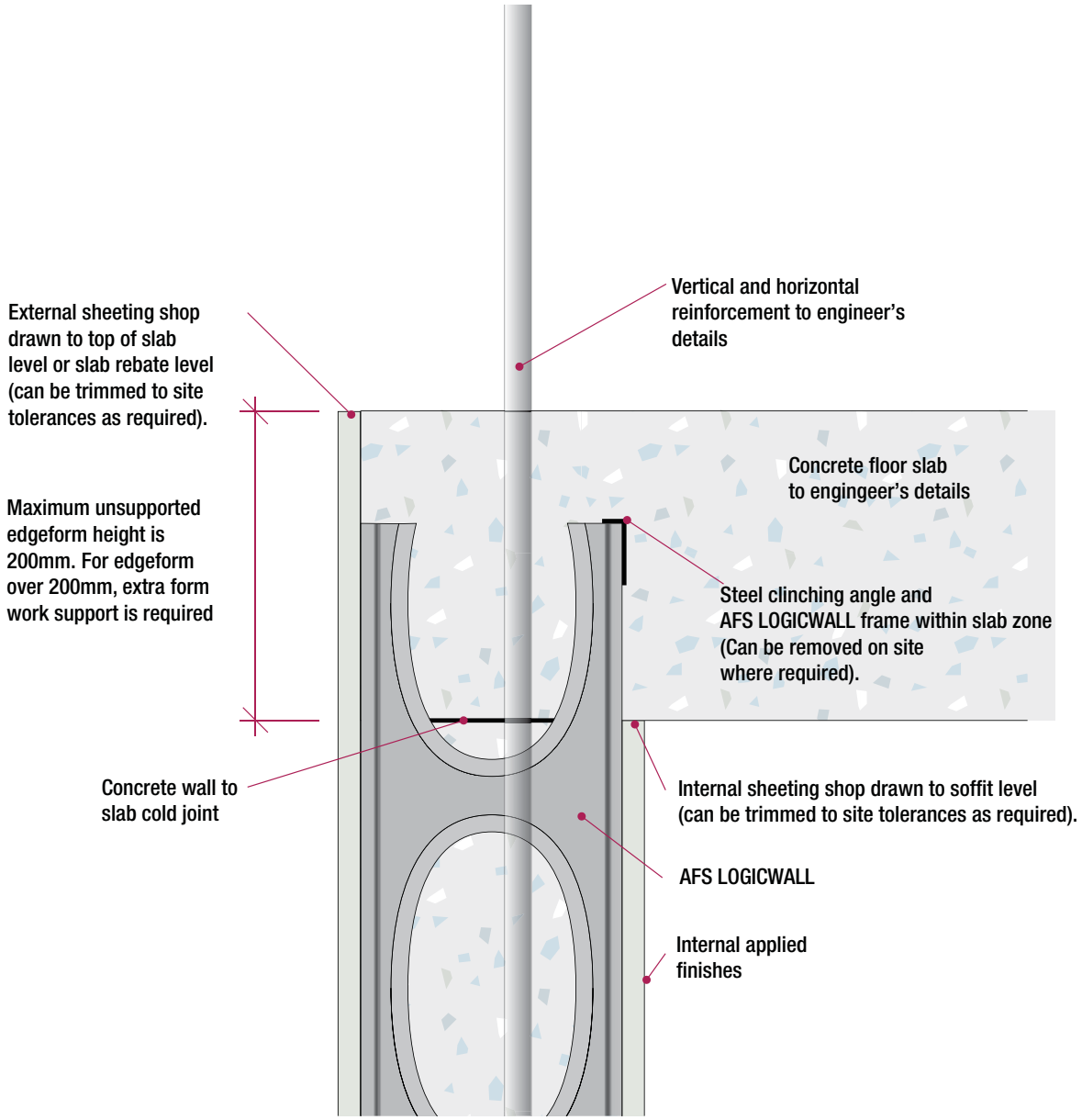


Fig I7: Slab Junction HOB Detail

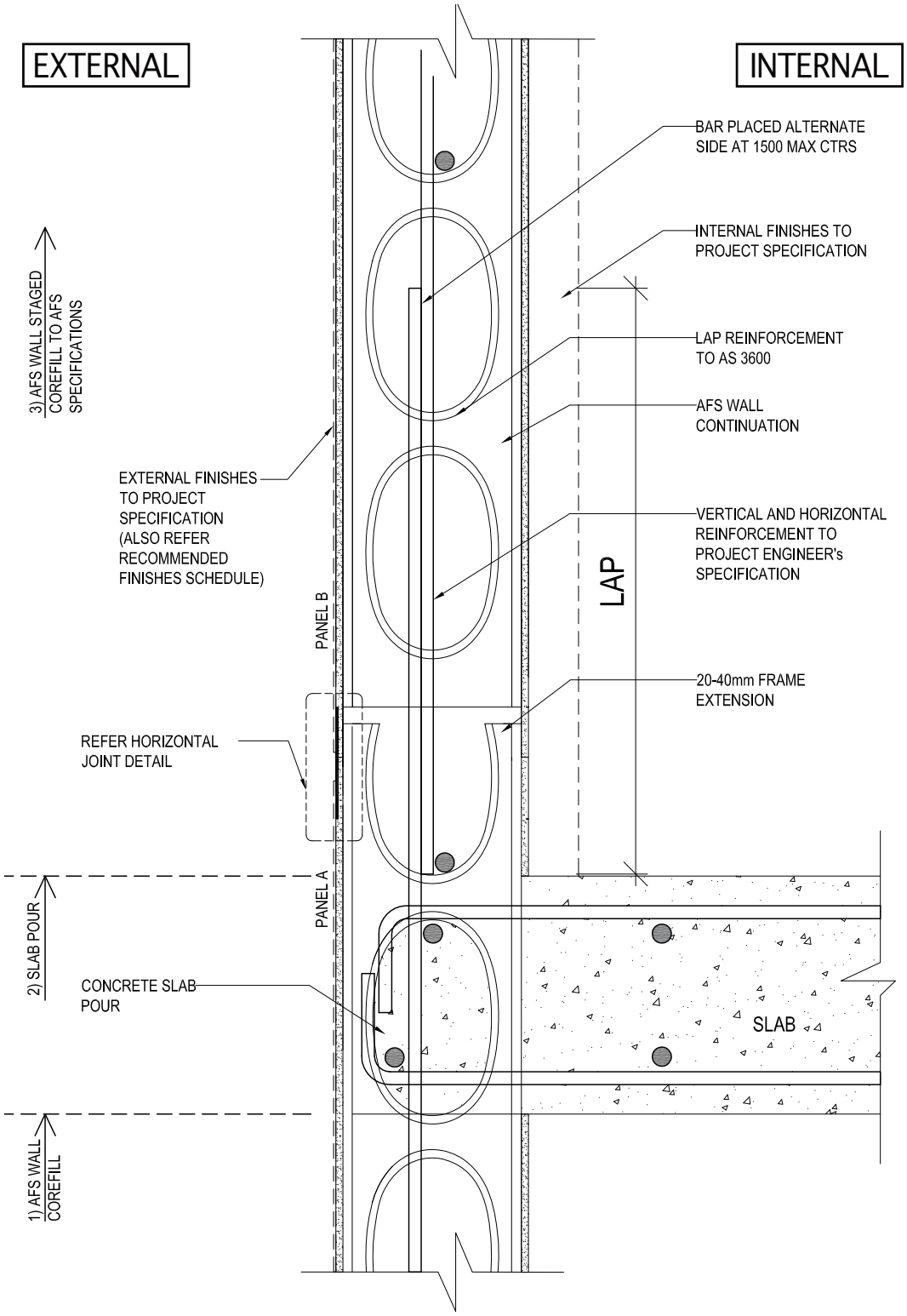


Fig I8: Edgeform At Floor/Slab Junction

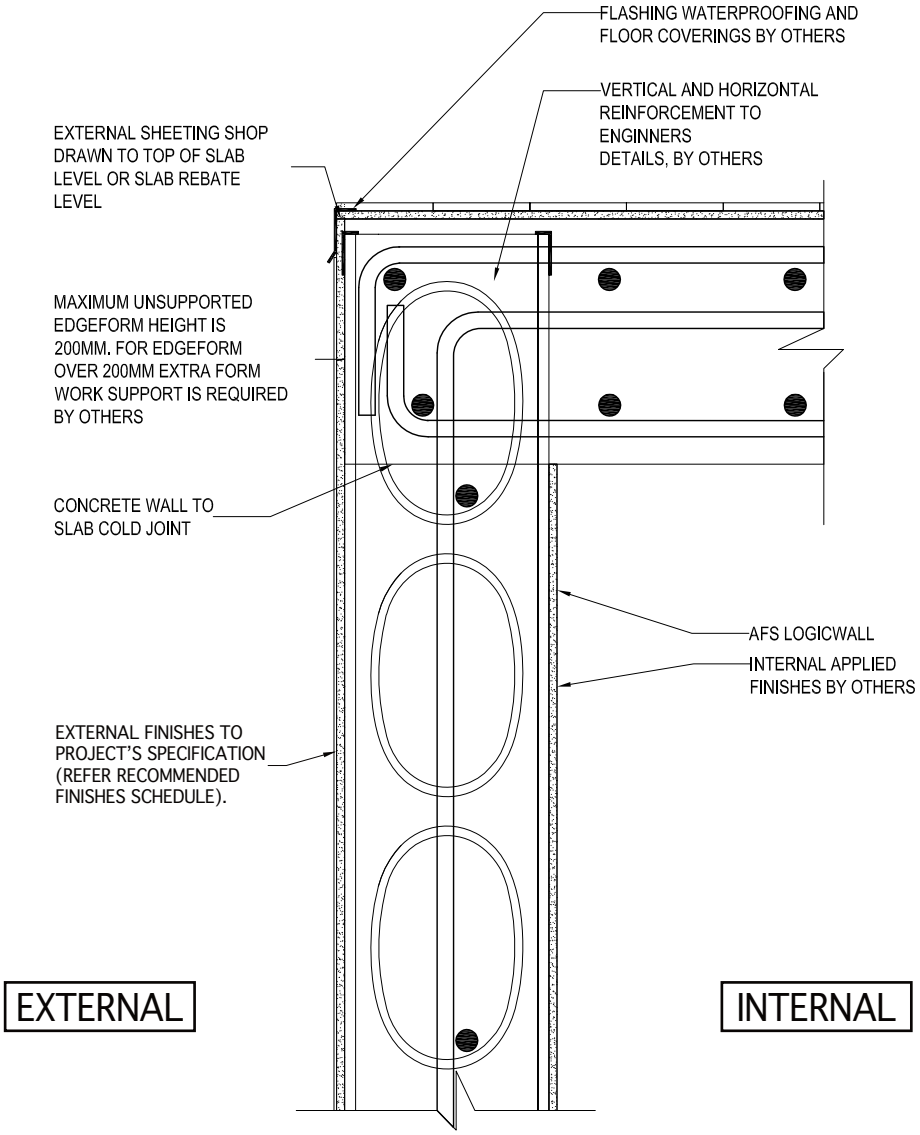


Fig I9: External Wall/Slab Junction For Typical Raft Slab

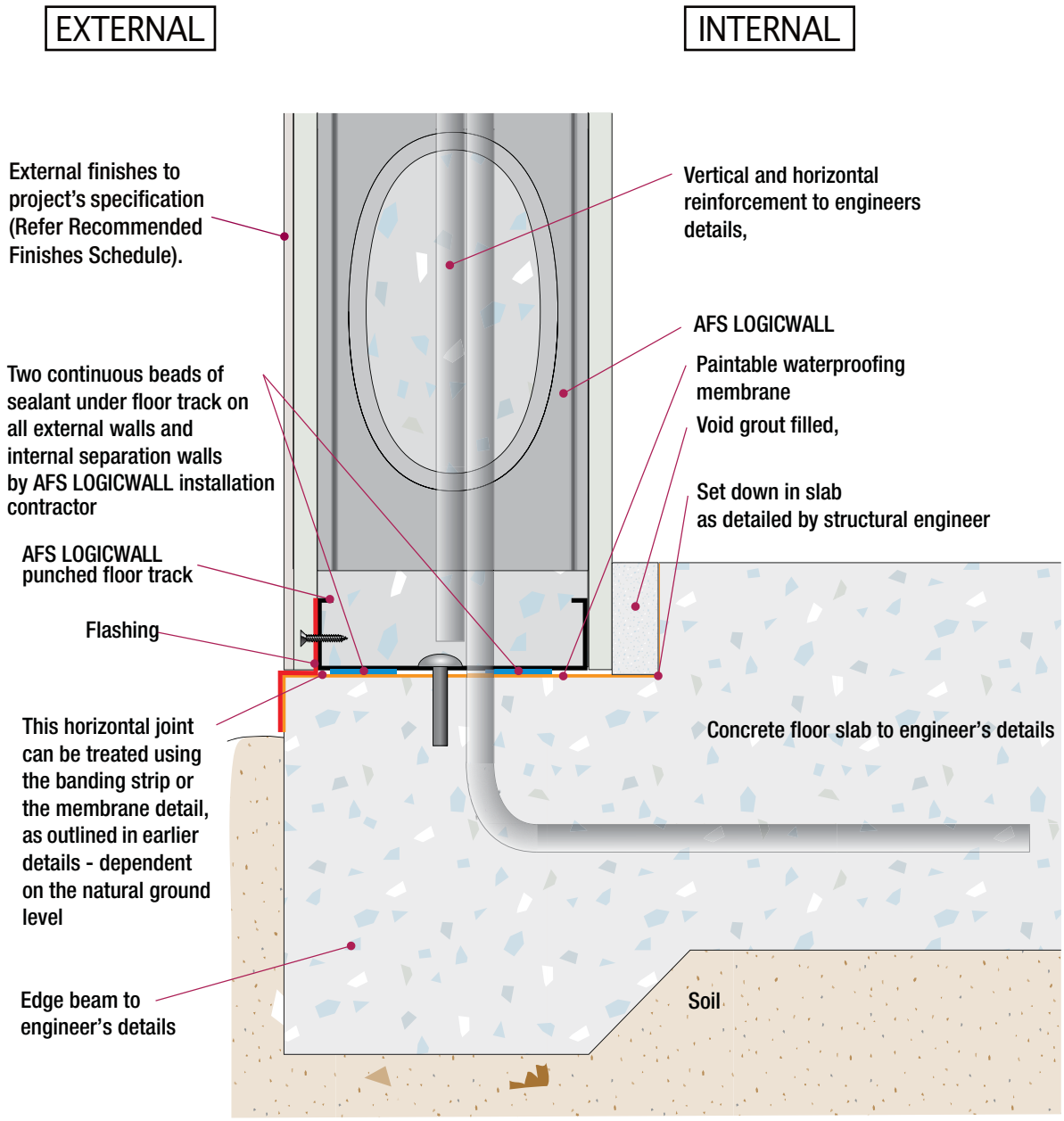
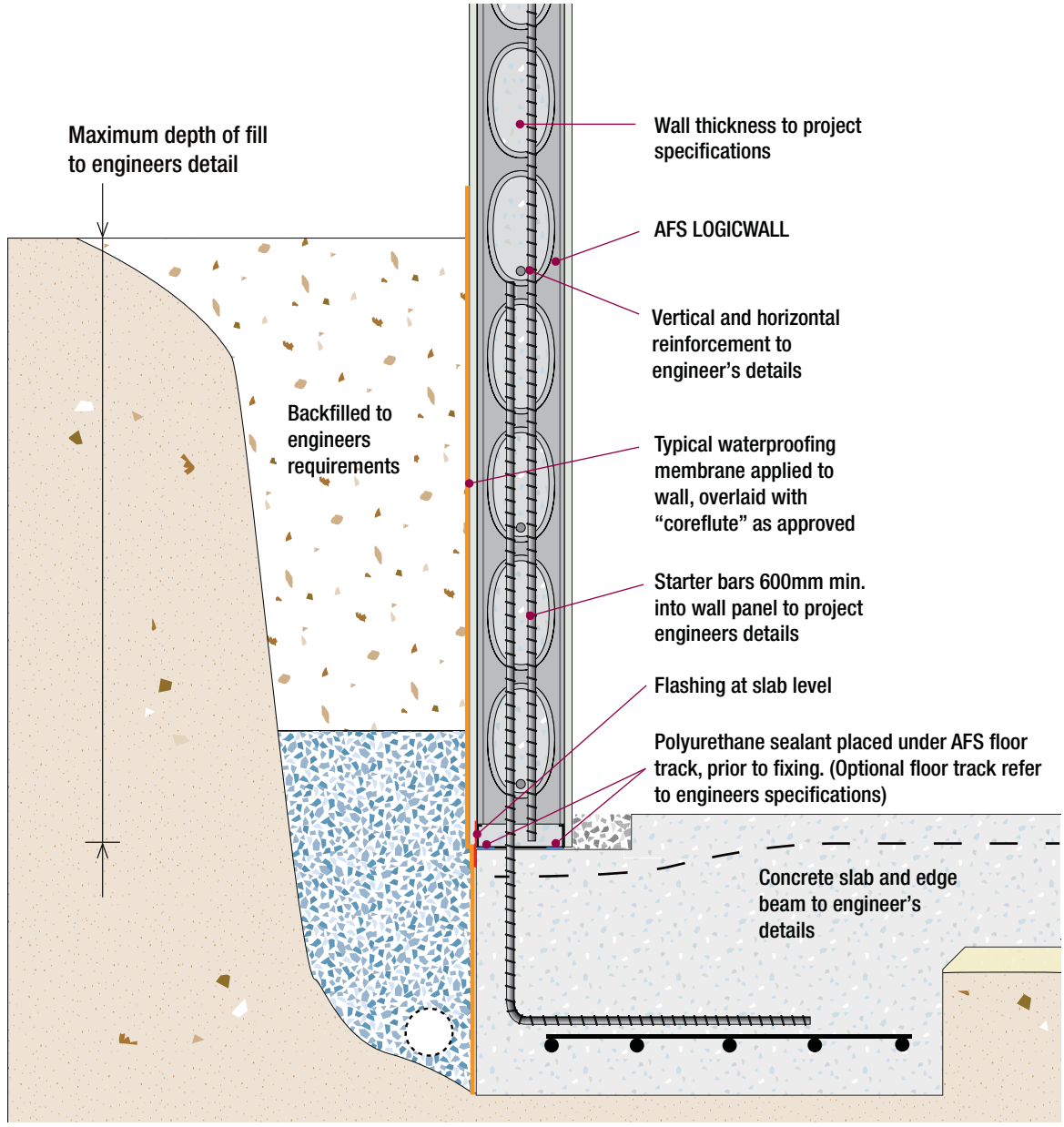
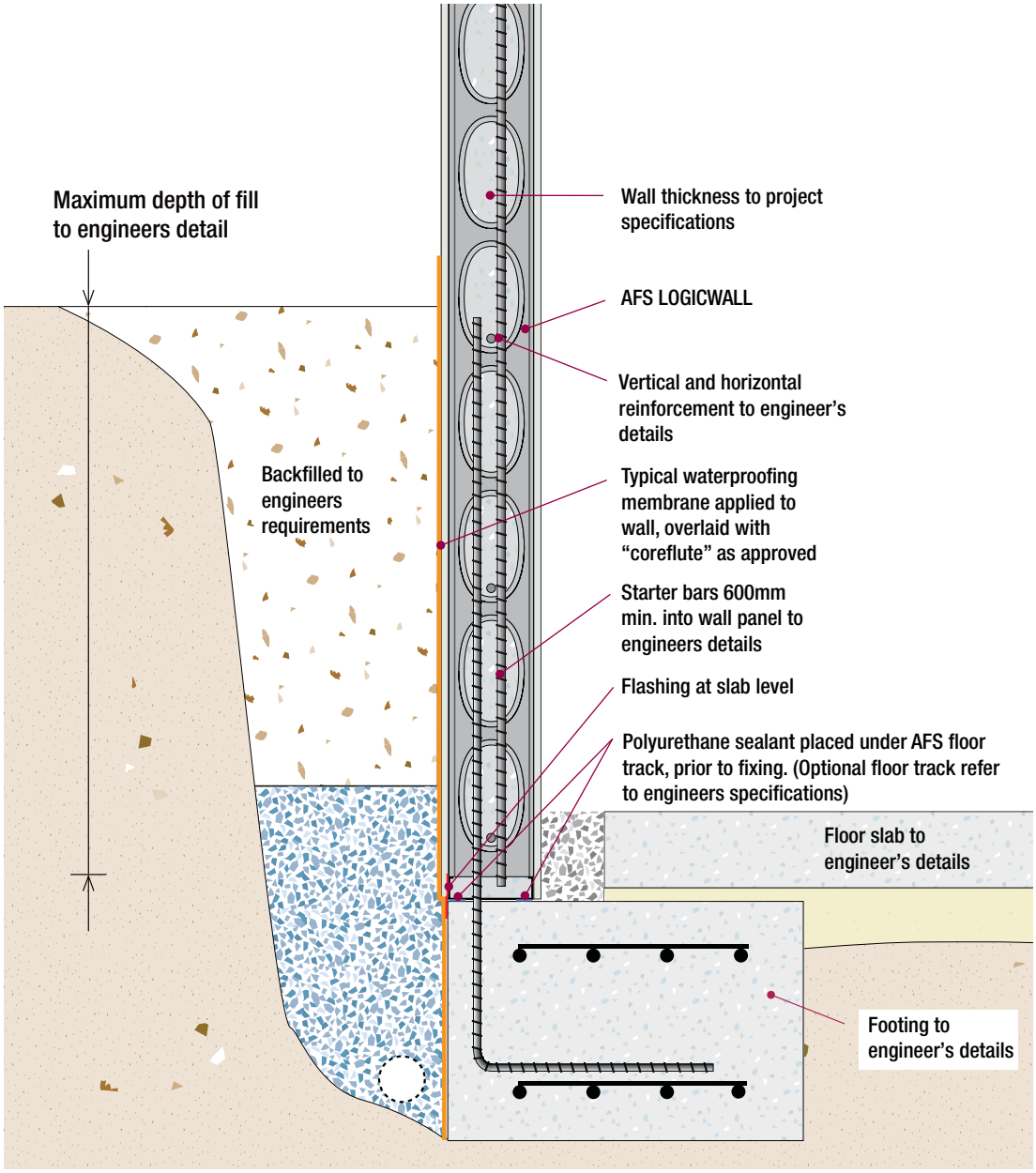


Fig I10: AFS Logicwall® Retaining Wall / Basement Wall Slab Junction



* Alternatively Basement Walls can be constructed using REDIWALL, another product by AFS.

Fig I11: AFS Logicwall® Retaining Wall / Basement Wall Footing Junction



* Alternatively Basement Walls can be constructed using REDIWALL, another product by AFS.

Fig 12. Wall Slab Junction, Beam System Parallel To AFS Logicwall®

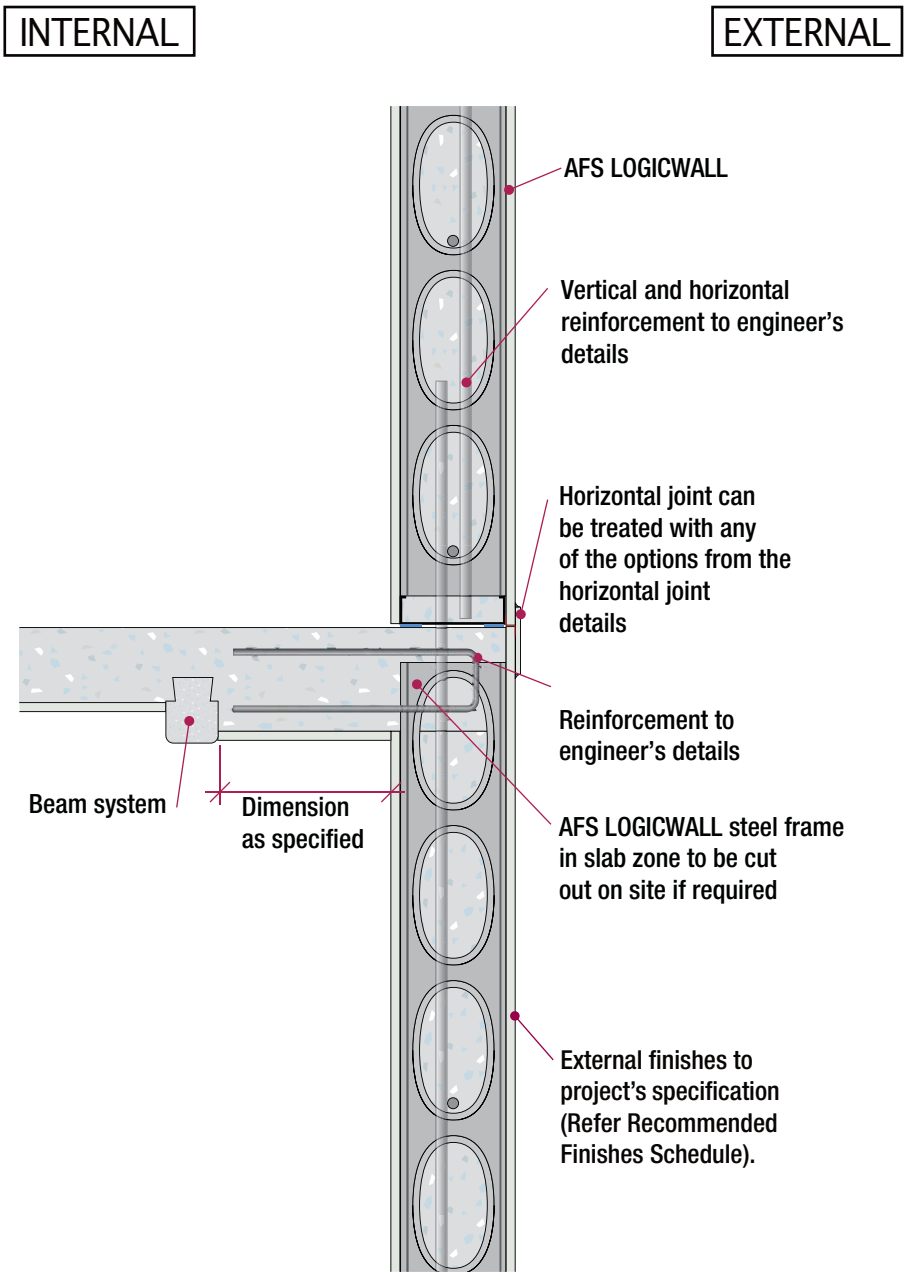


Fig I13: Wall Slab Junction, Beam System Perpendicular to AFS Logicwall®

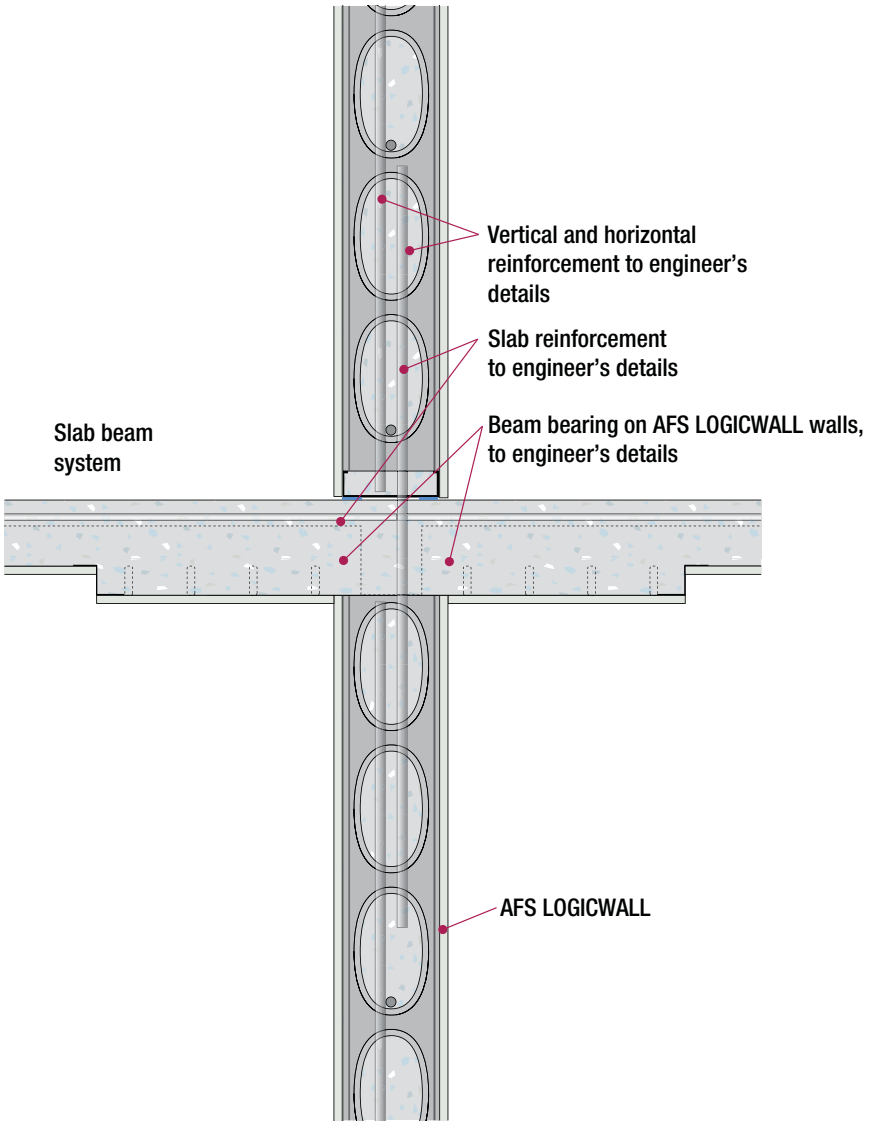


Fig I14: Wall Slab Junction, Beam System Perpendicular to AFS Logicwall® Façade Wall

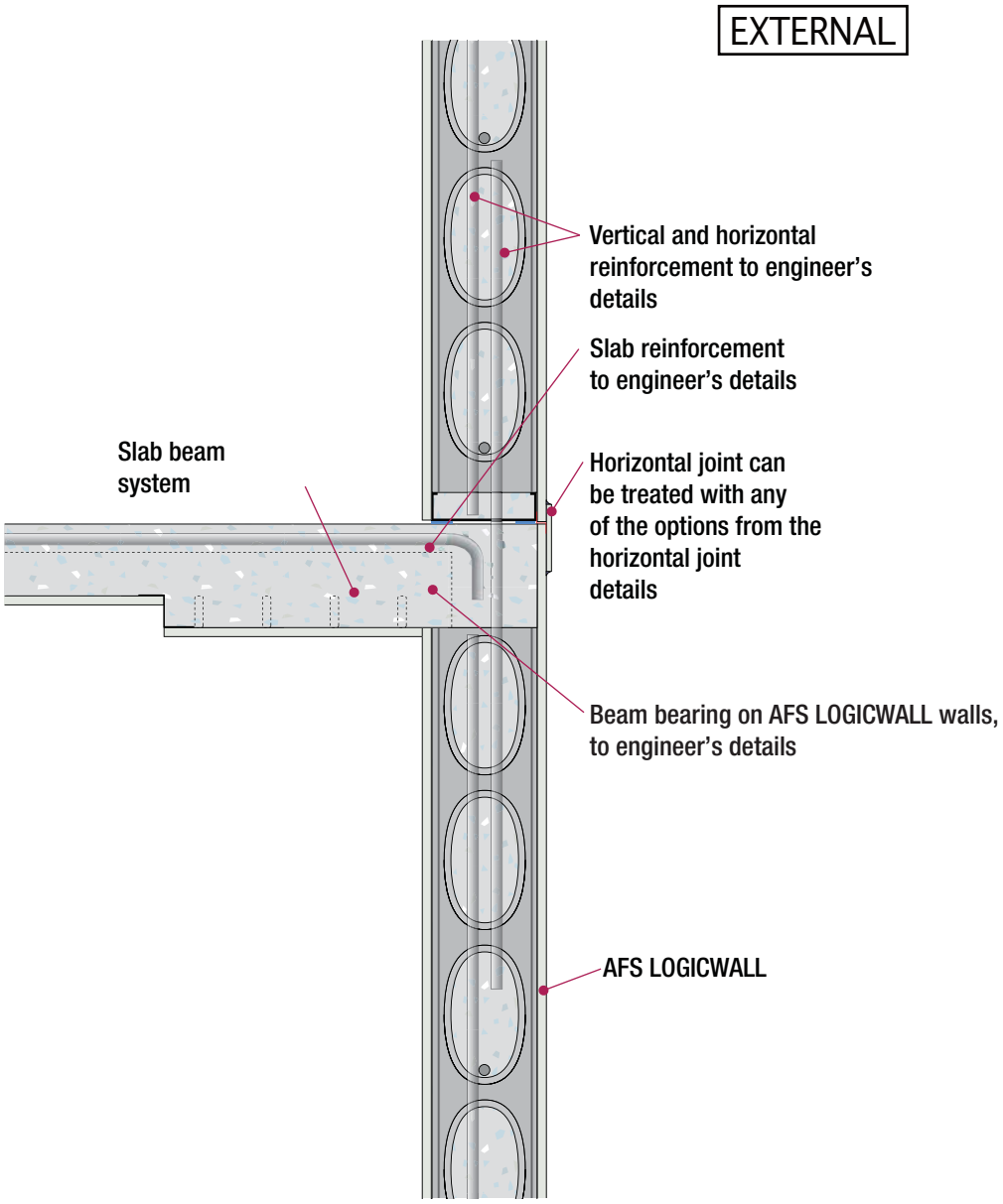


Fig I15: Permanent Formwork, Junction To AFS Logicwall® Façade Wall (i.e. Bondek or similar metal floor system)

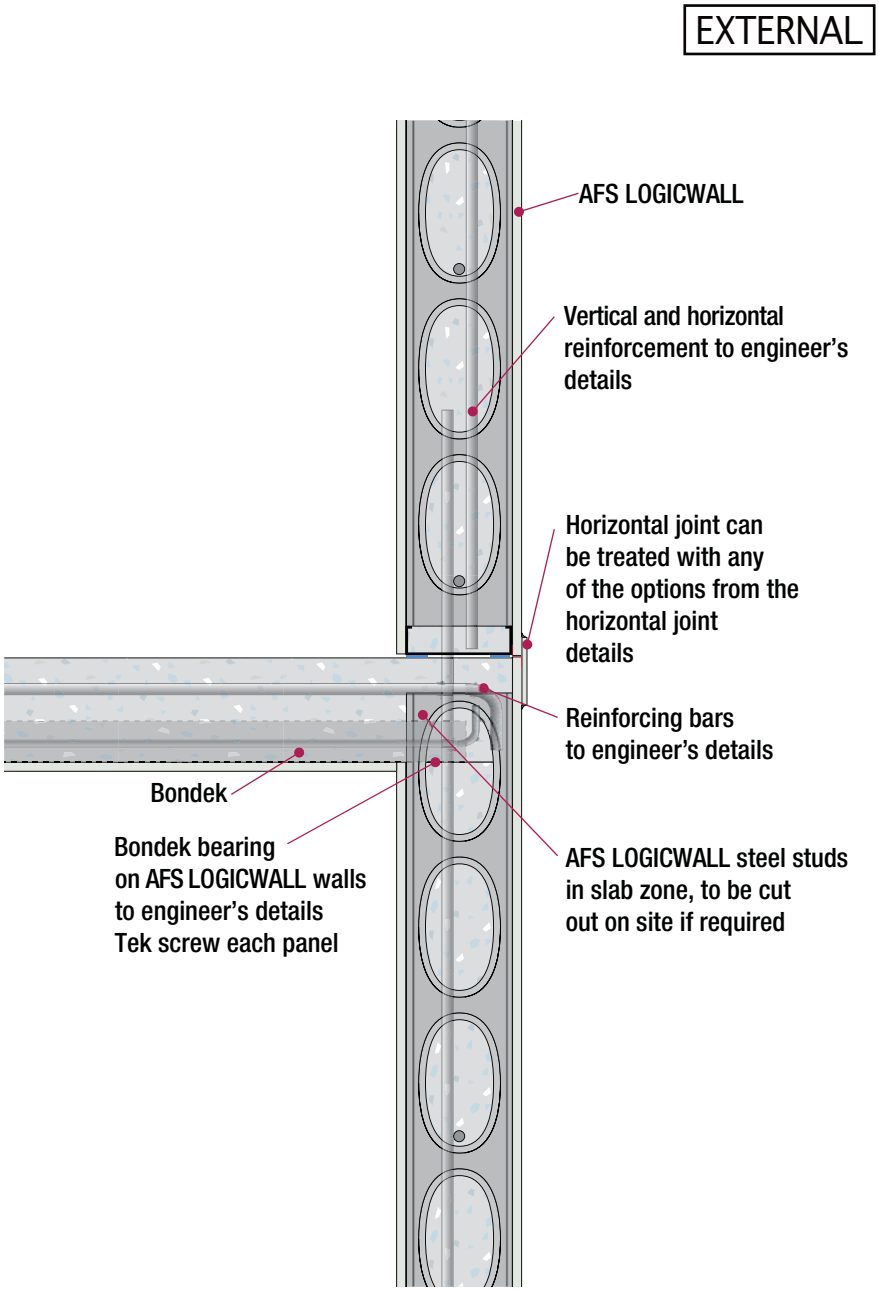


Fig I16: Permanent Formwork, Junction To Internal AFS Logicwall® (i.e. Bondek or similar metal floor system)

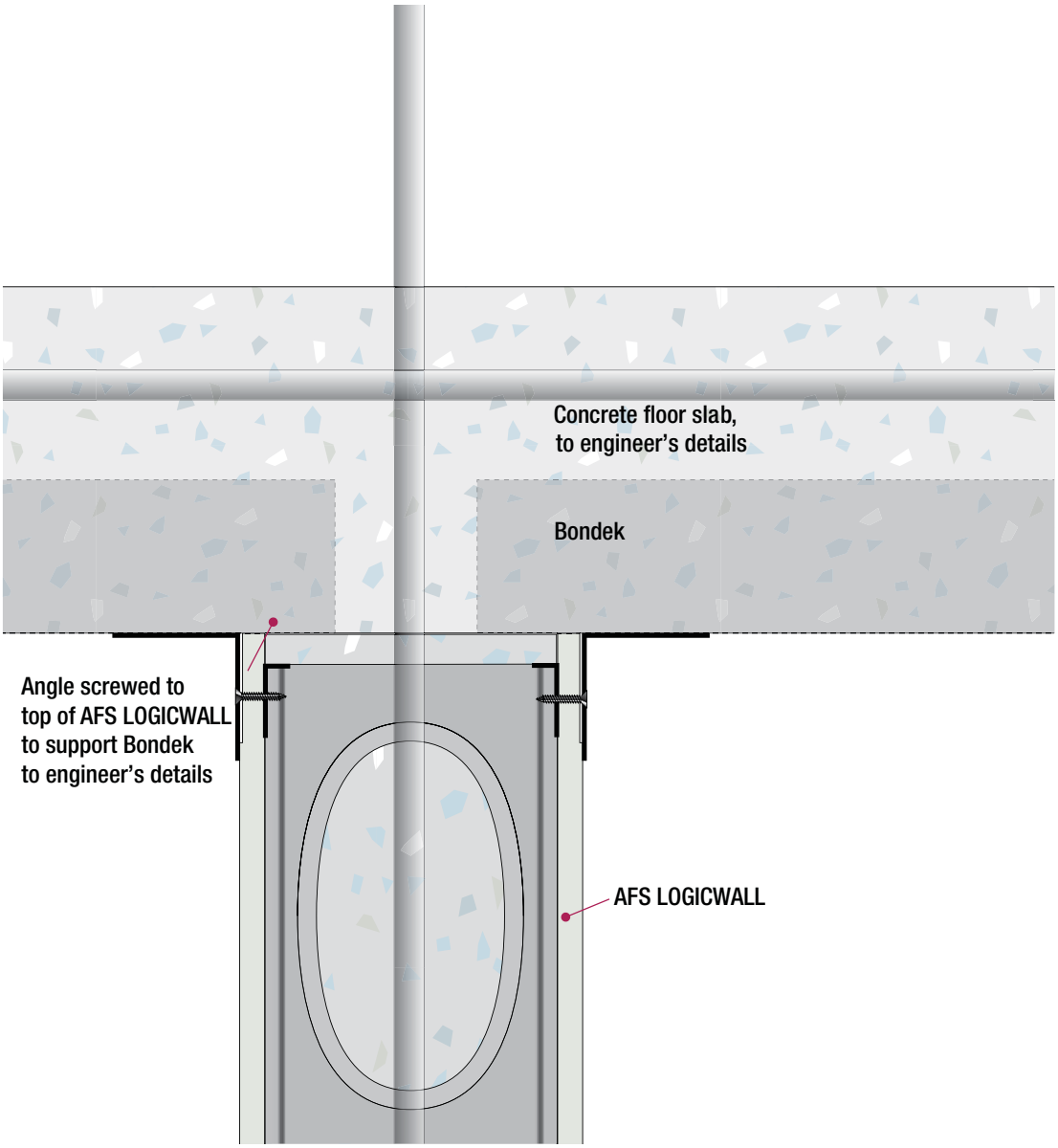
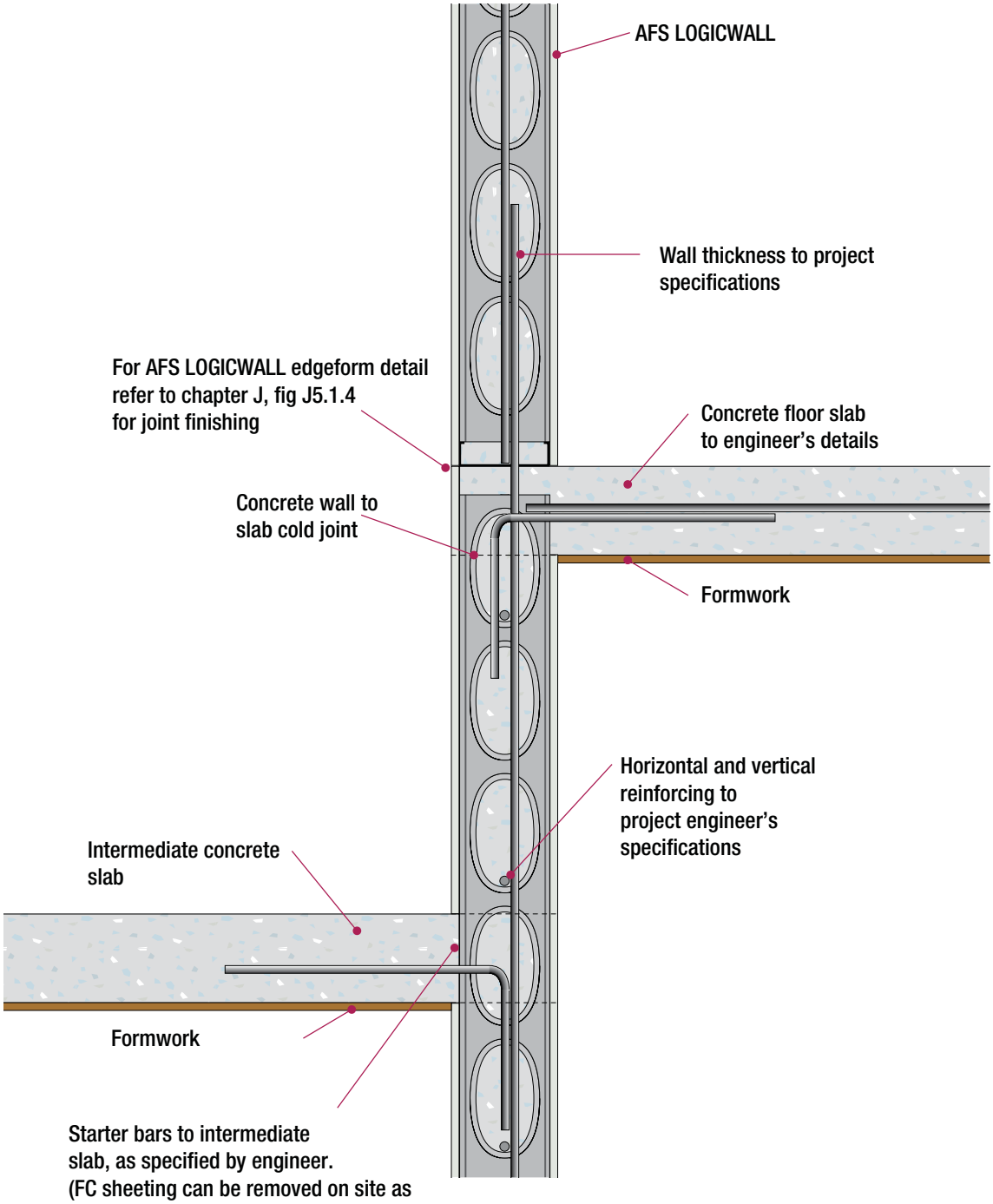
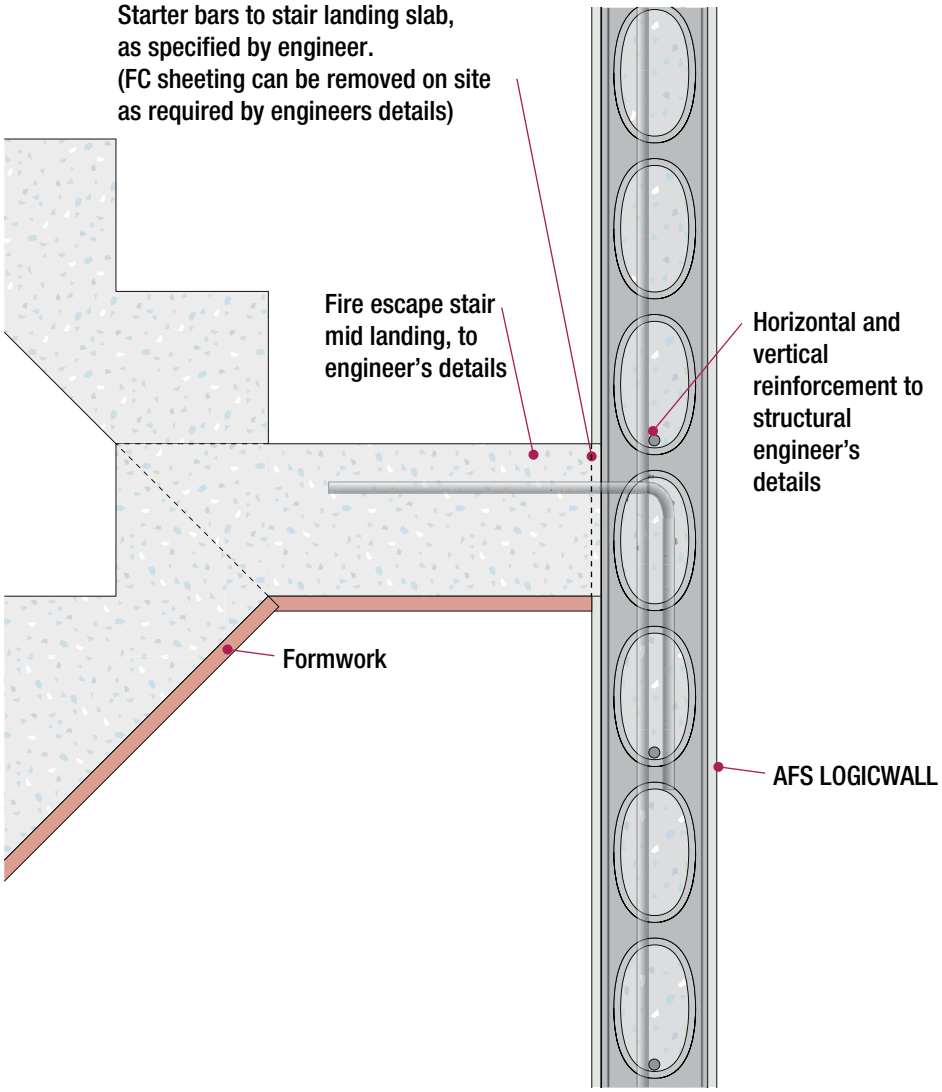


Fig I17: Step Floor/Stair Landing



NOTE: Consult AFS technical representative before specifying this detail.

Fig I18: AFS Logicwall® Wall Connections To Stair Mid Landing



I3. Post-tensioned Slabs

Fig I19: AFS Logicwall® Post-tensioned Detail

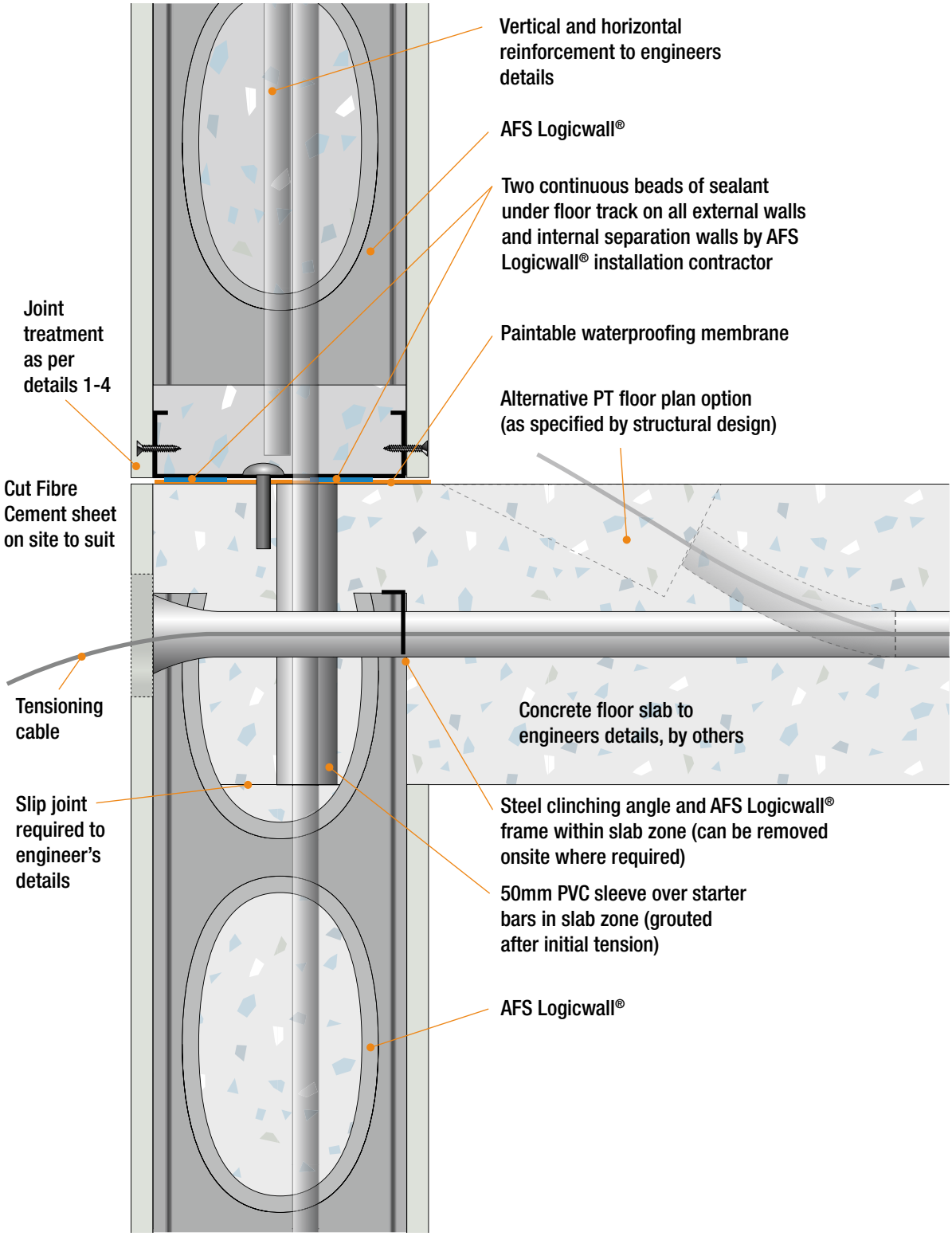
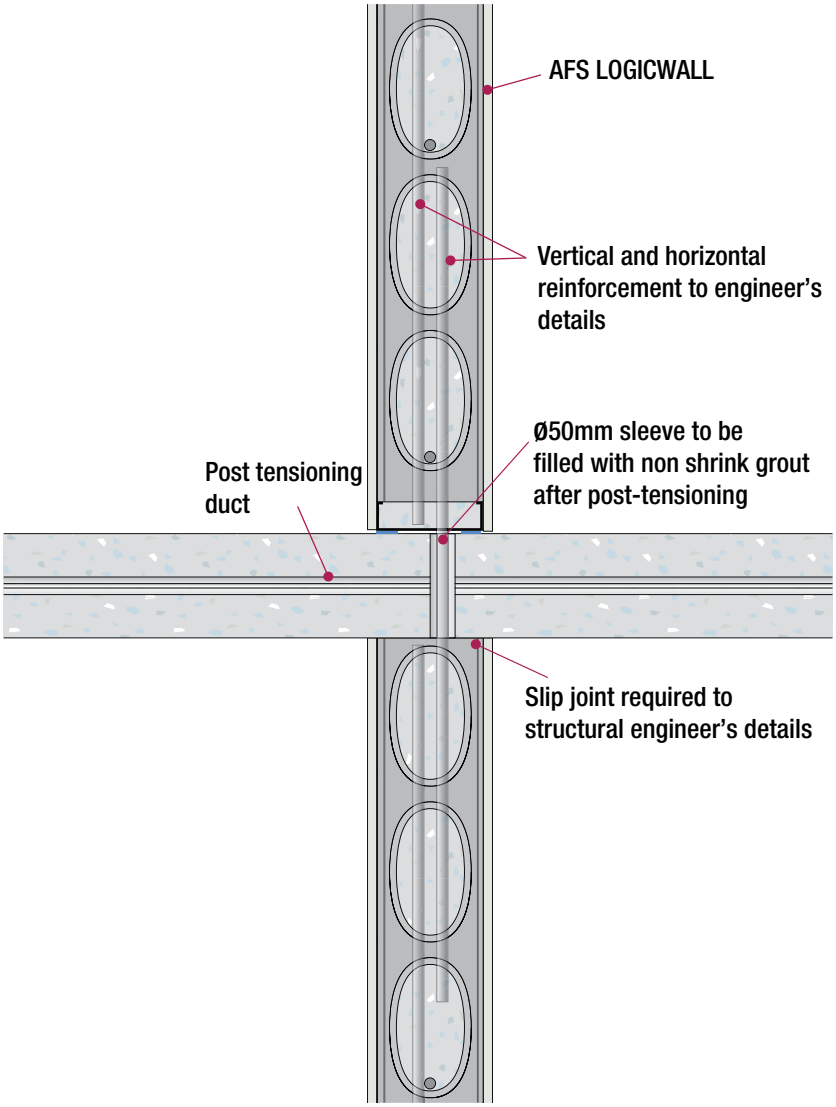


Fig I20: Post-tensioned Slab To AFS Logicwall® (Internal) Wall



I4. Corners and Tee Junctions

Fig I21: AFS Logicwall® Wall 90° Prefabricated Corner - Single Reinforcement Carriers (LWS120, 150, 162, 200)

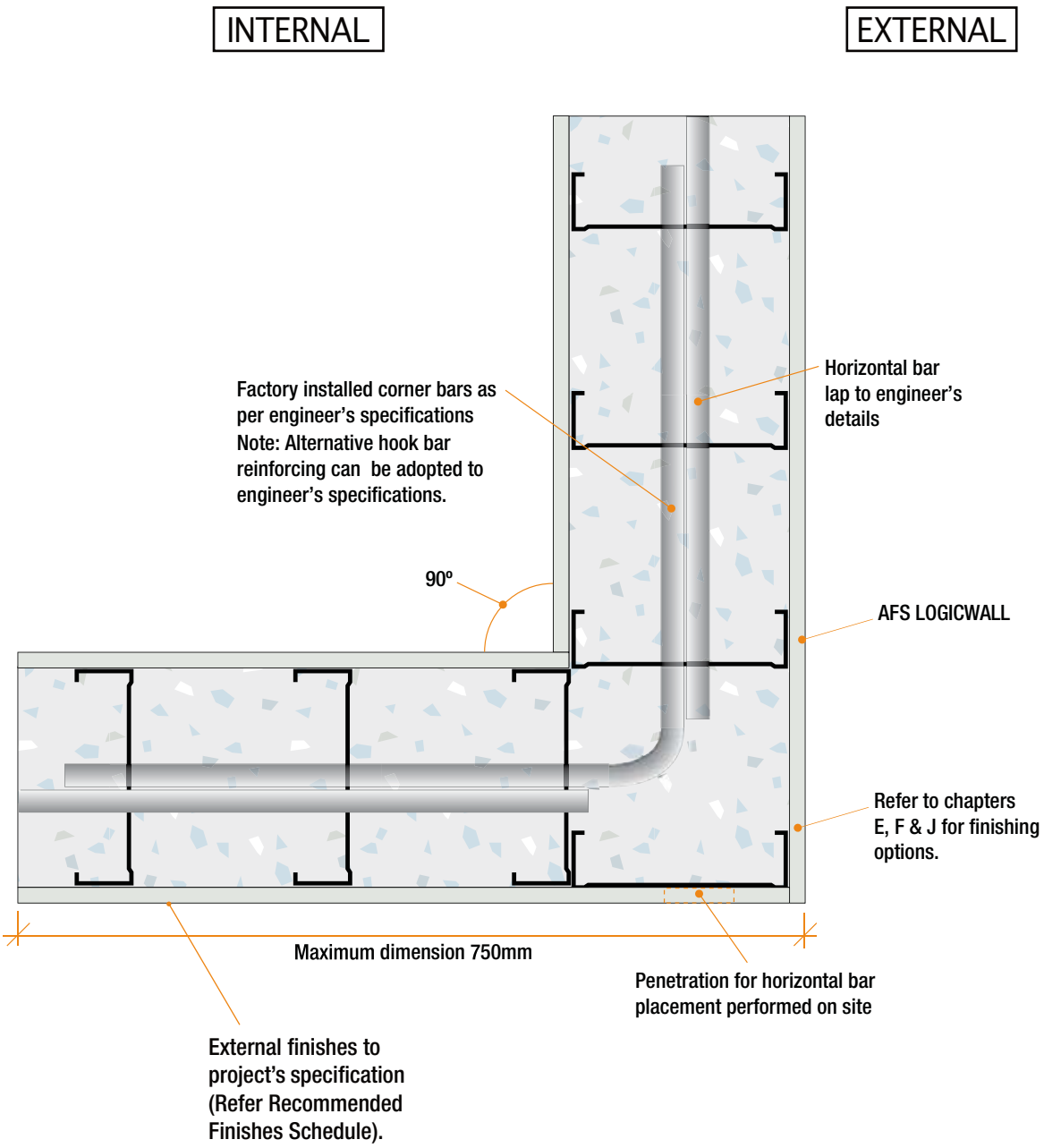


Fig I22: AFS Logicwall®Wall 90° Prefabricated Corner –
Double Reinforcement Carriers - with"U"bars (LW200D, 262D)

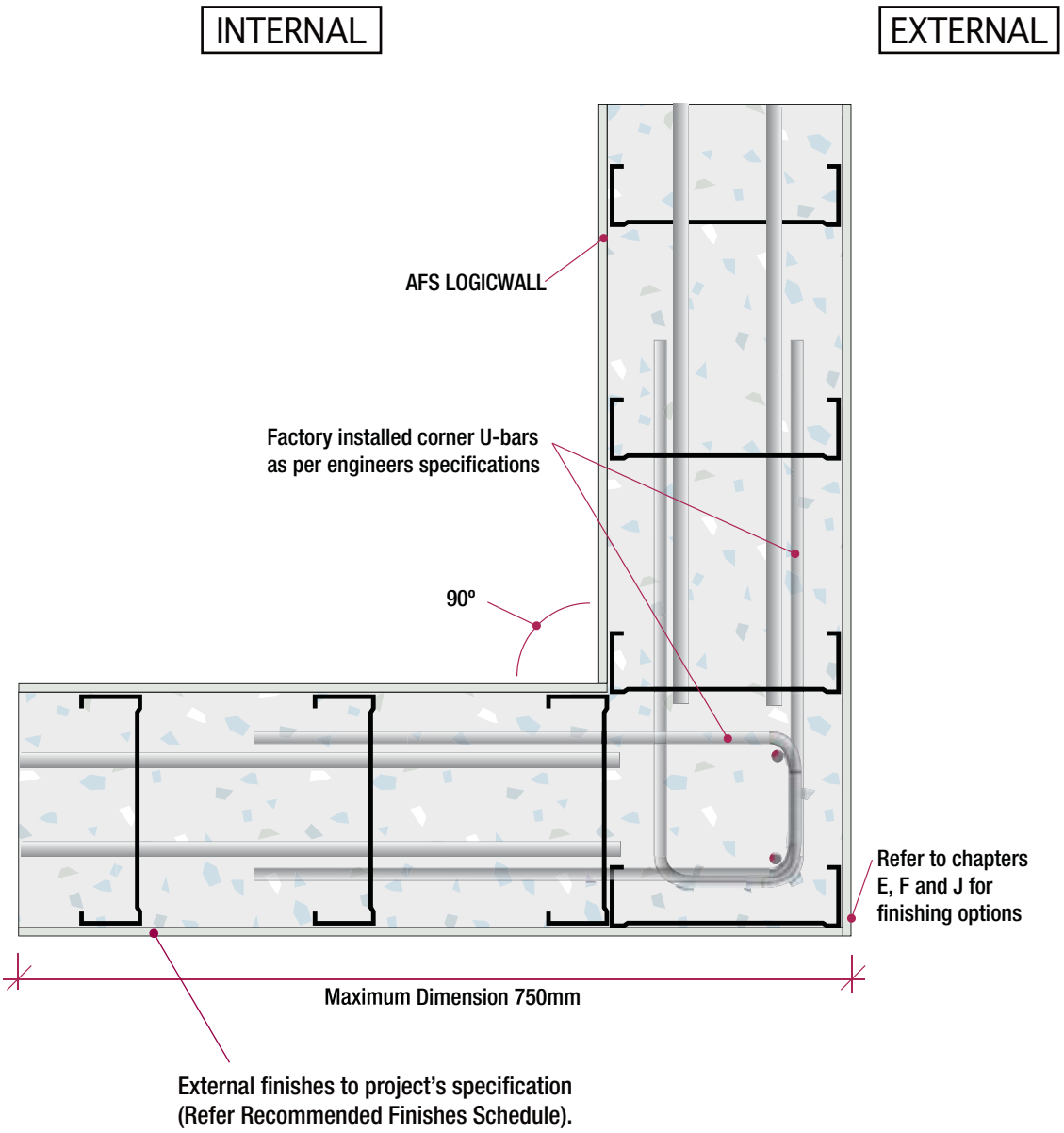


Fig I23: Step Floor/Stair Landing

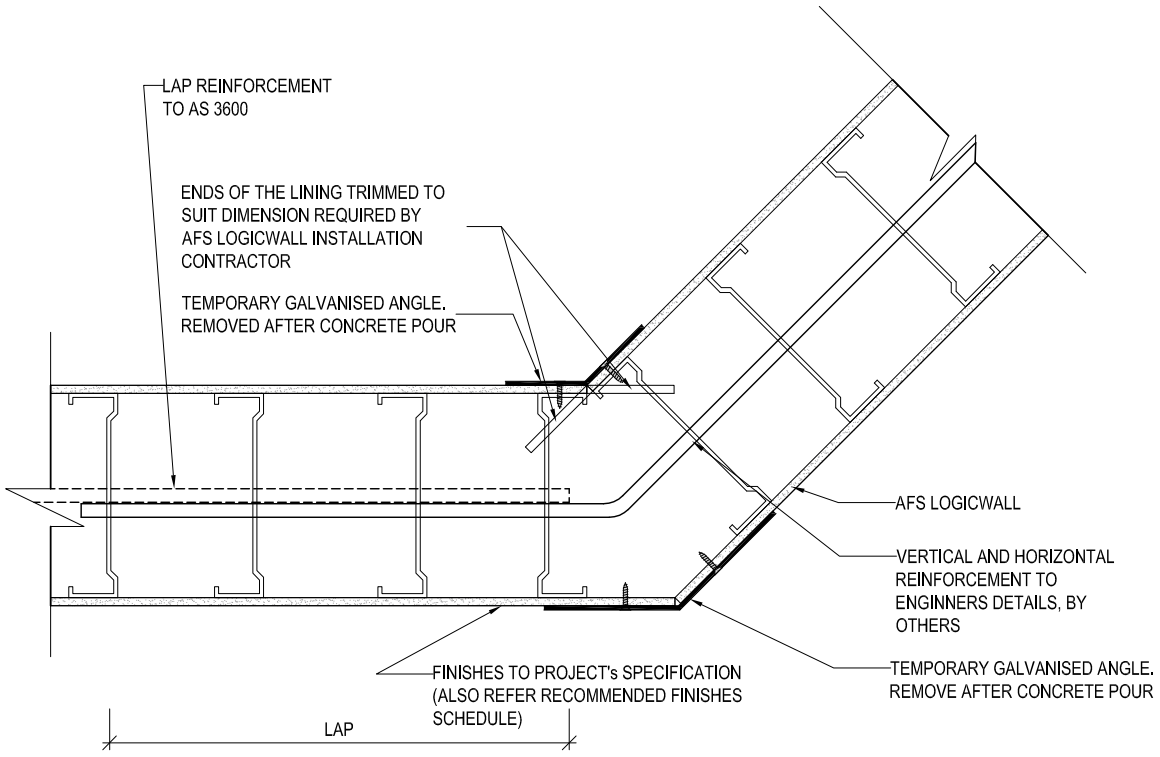


Fig I24: AFS Logicwall® Wall Tee Junction – Option 1

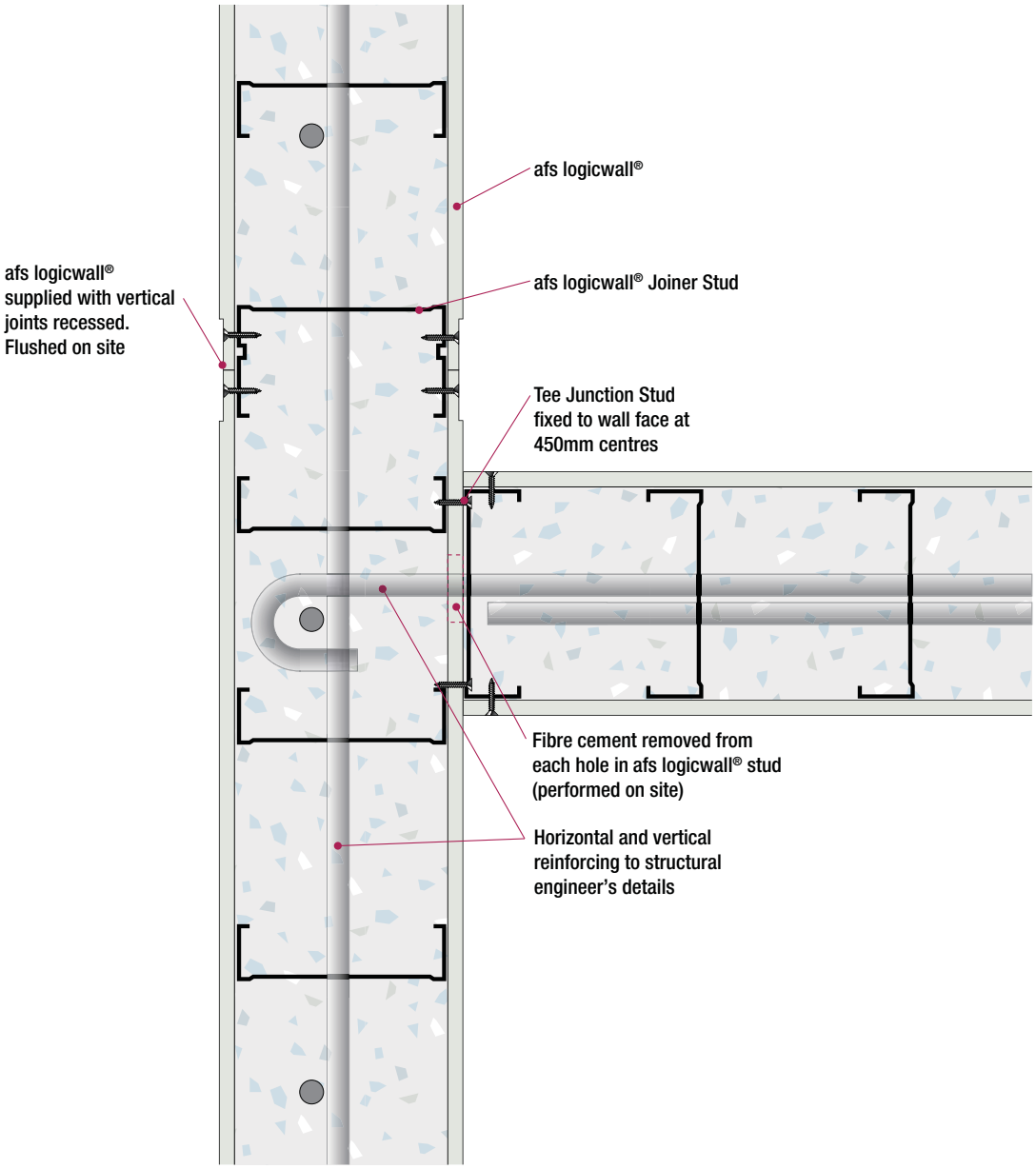


Fig I25: AFS Logicwall® Wall Tee Junction – Option 2

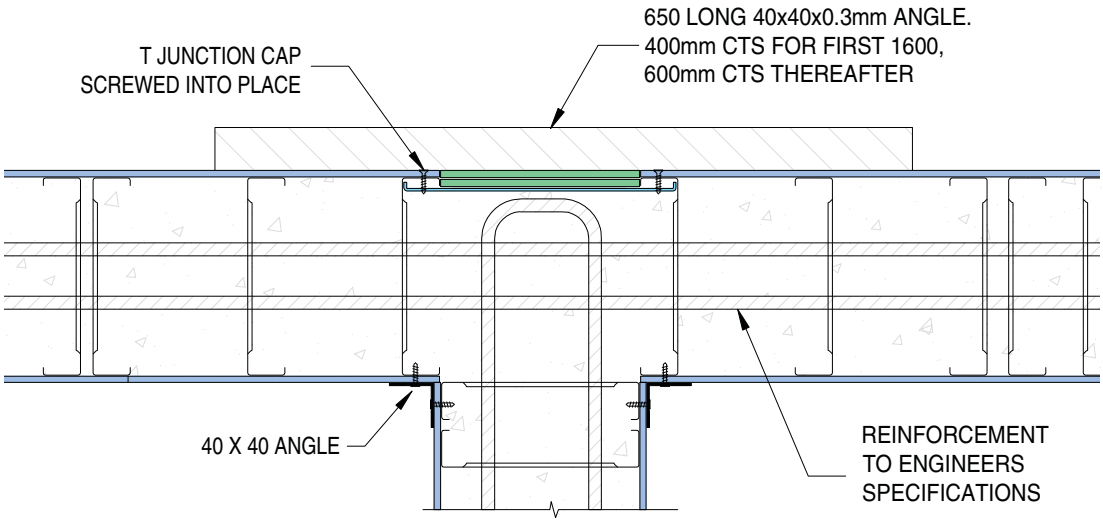
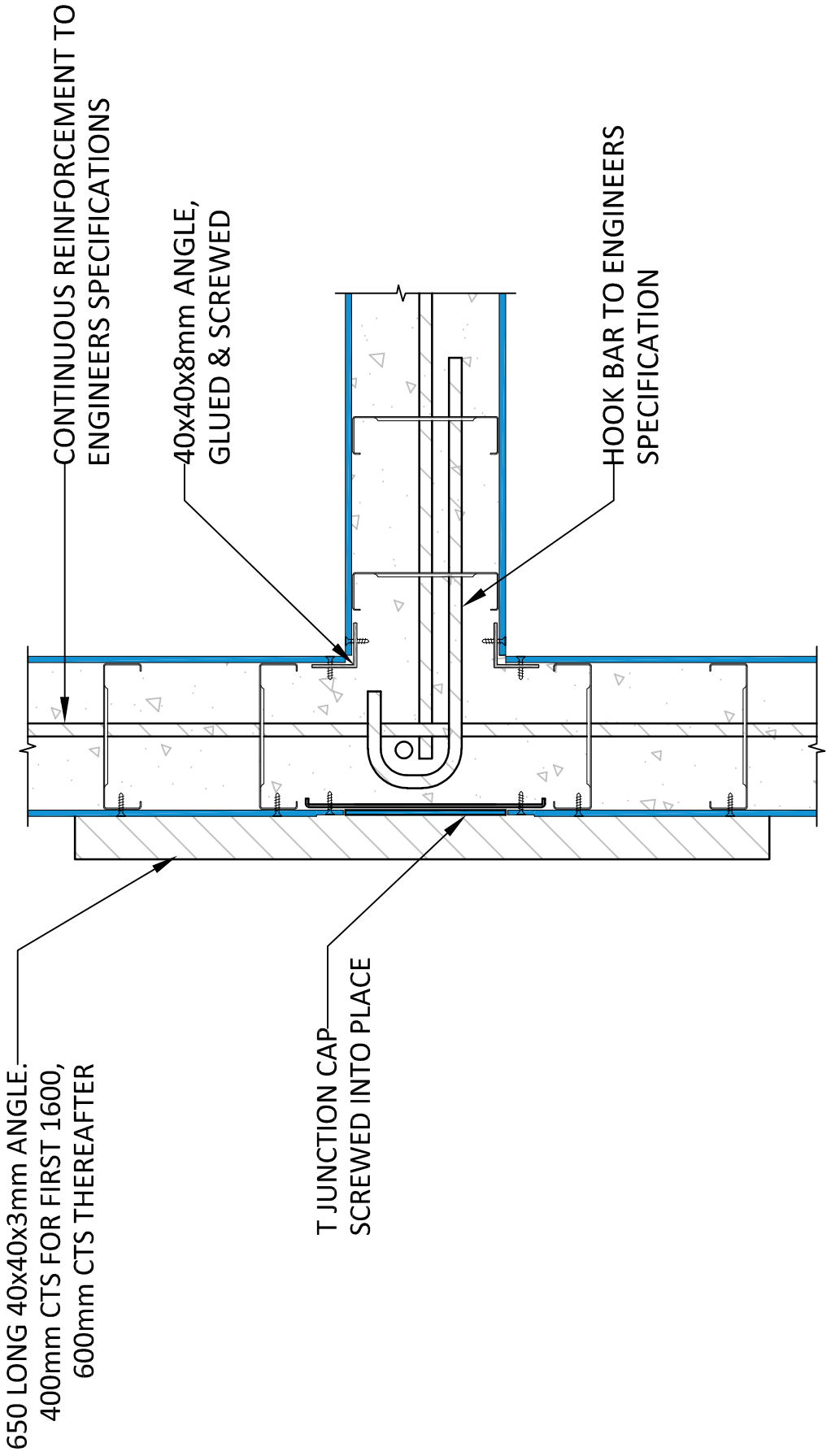
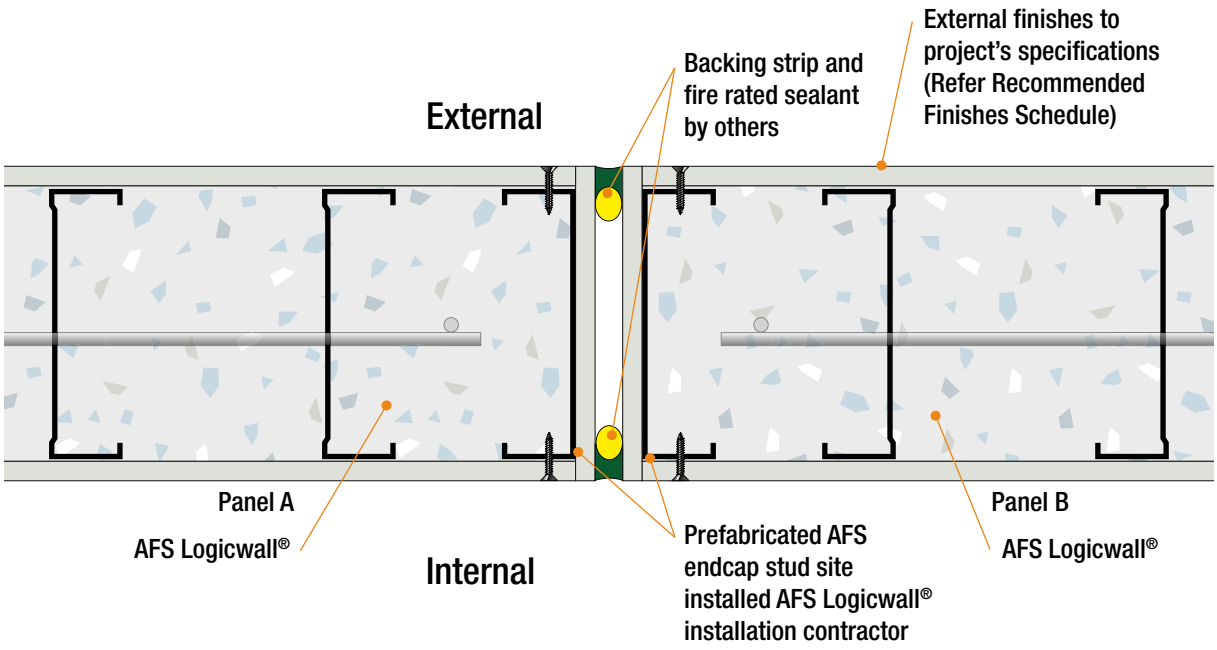


Fig I26: AFS Logicwall® Wall Tee Junction – Option 3



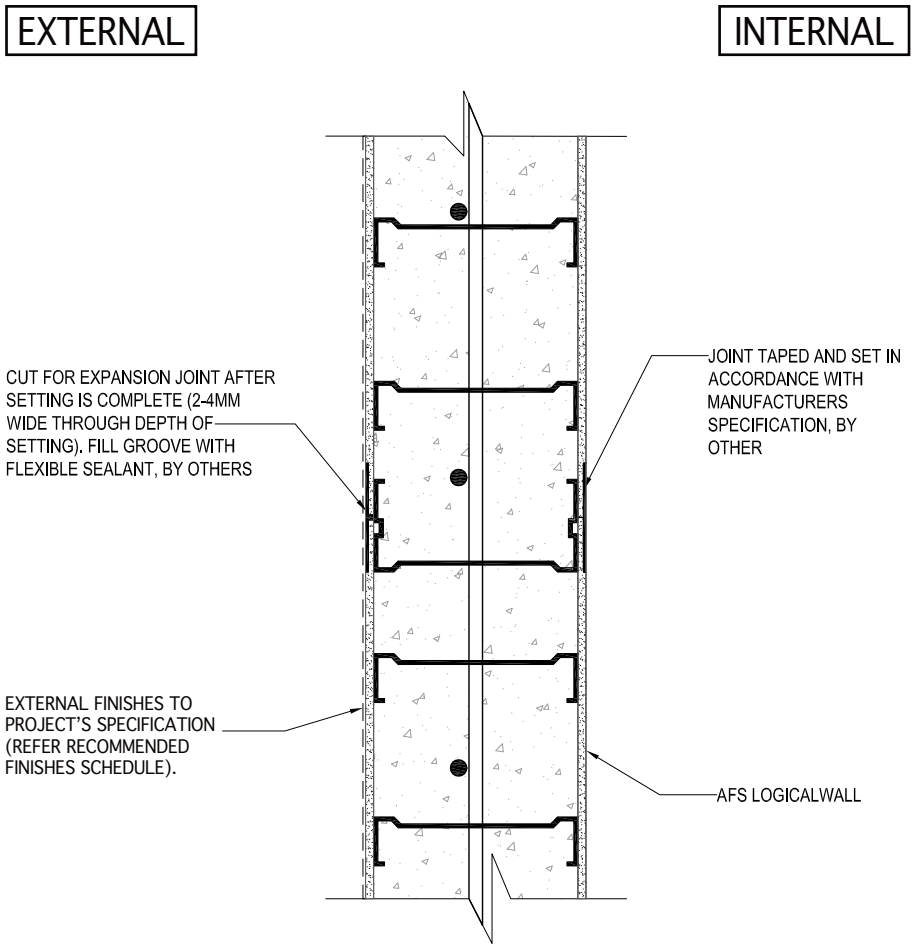
I5. Panel Joints

Fig I27: AFS Logicwall® Movement Joint



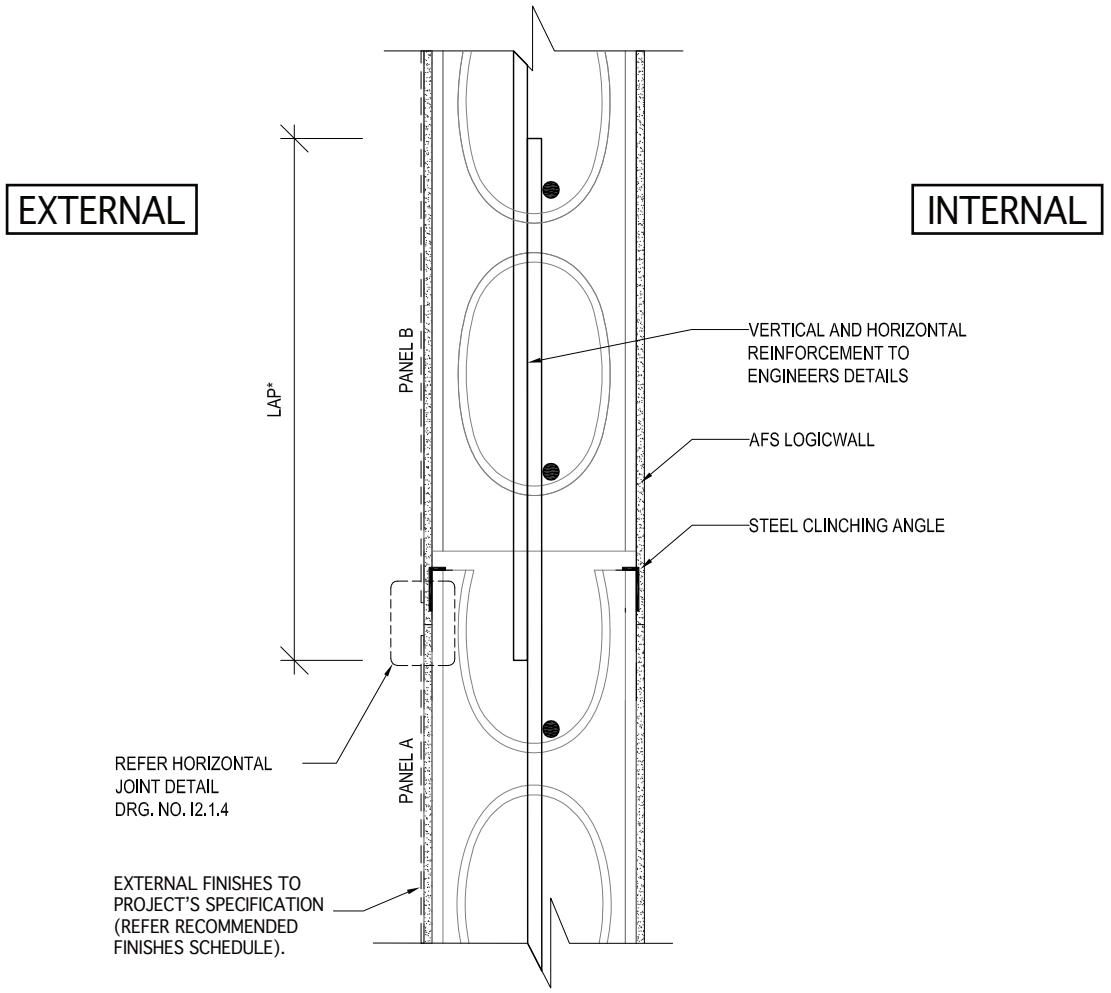
Note: Can be dowel jointed if required structurally. Must be clearly specified and negotiated with installers at time of tender. Installed where nominated by project engineer. Must be clearly documented on drawings. Typically not required in walls less than 16m in length.

Fig I28: AFS Logicwall® Fibre Cement Sheet Surface Joint (Vertical)



*NOTE: LOCATIONS FOR SHEET SURFACE JOINTS ARE TO BE NOMINATED BY PROJECT CONSULTANTS AND ARE REQUIRED NOMINALLY EVERY 6-8 METRES

Fig I29: Double Height Wall – Horizontal Joint



*NOTE: ISSUE REGARDING ACCESS, LIFTING AND BRACING NEED TO BE CONSIDERED WHEN SPECIFYING THIS DETAIL

I6. Boundary Walls

Fig I30: AFS Logicwall® Wall Adjacent To Existing Structure Flashing Detail

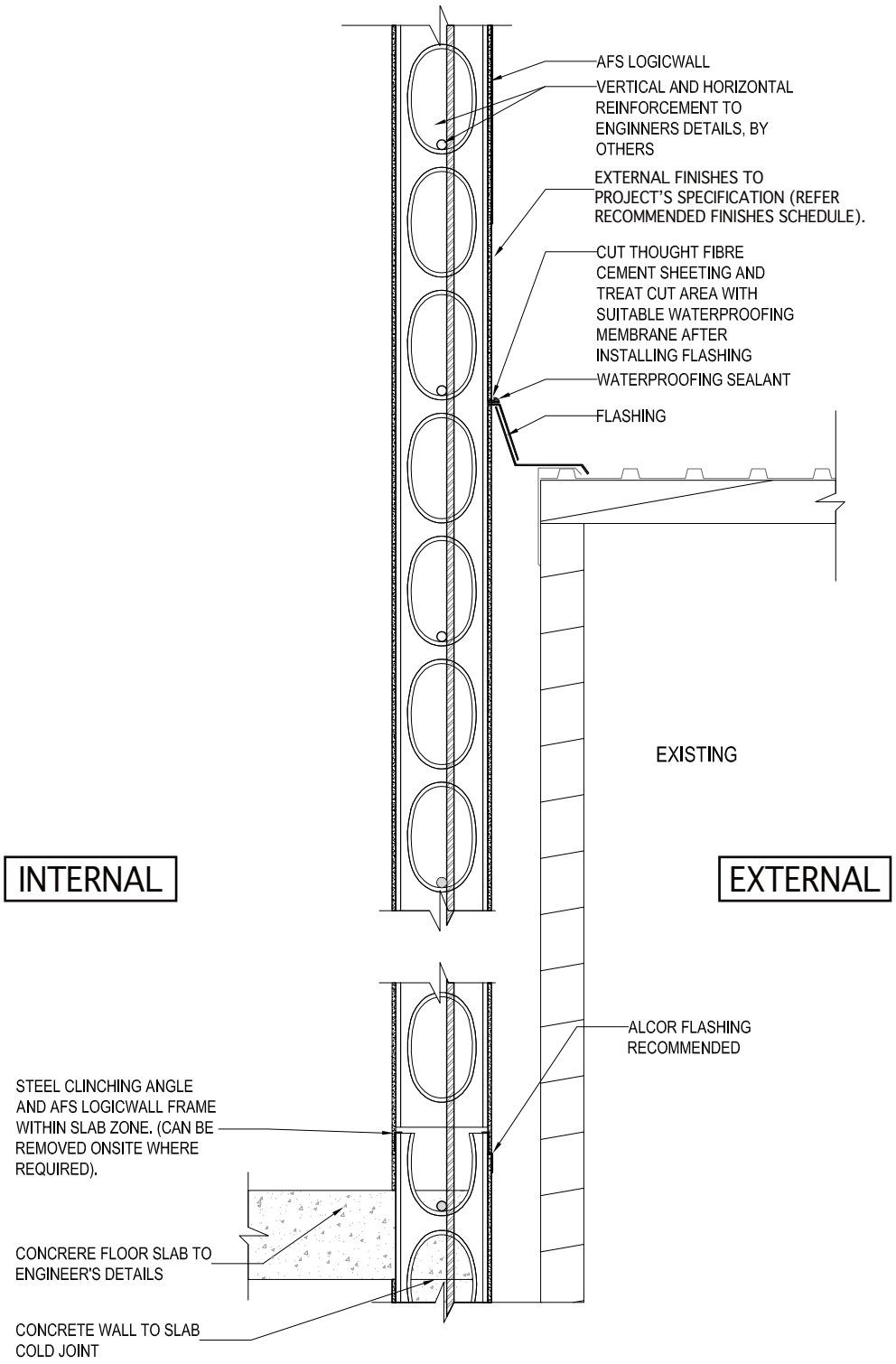
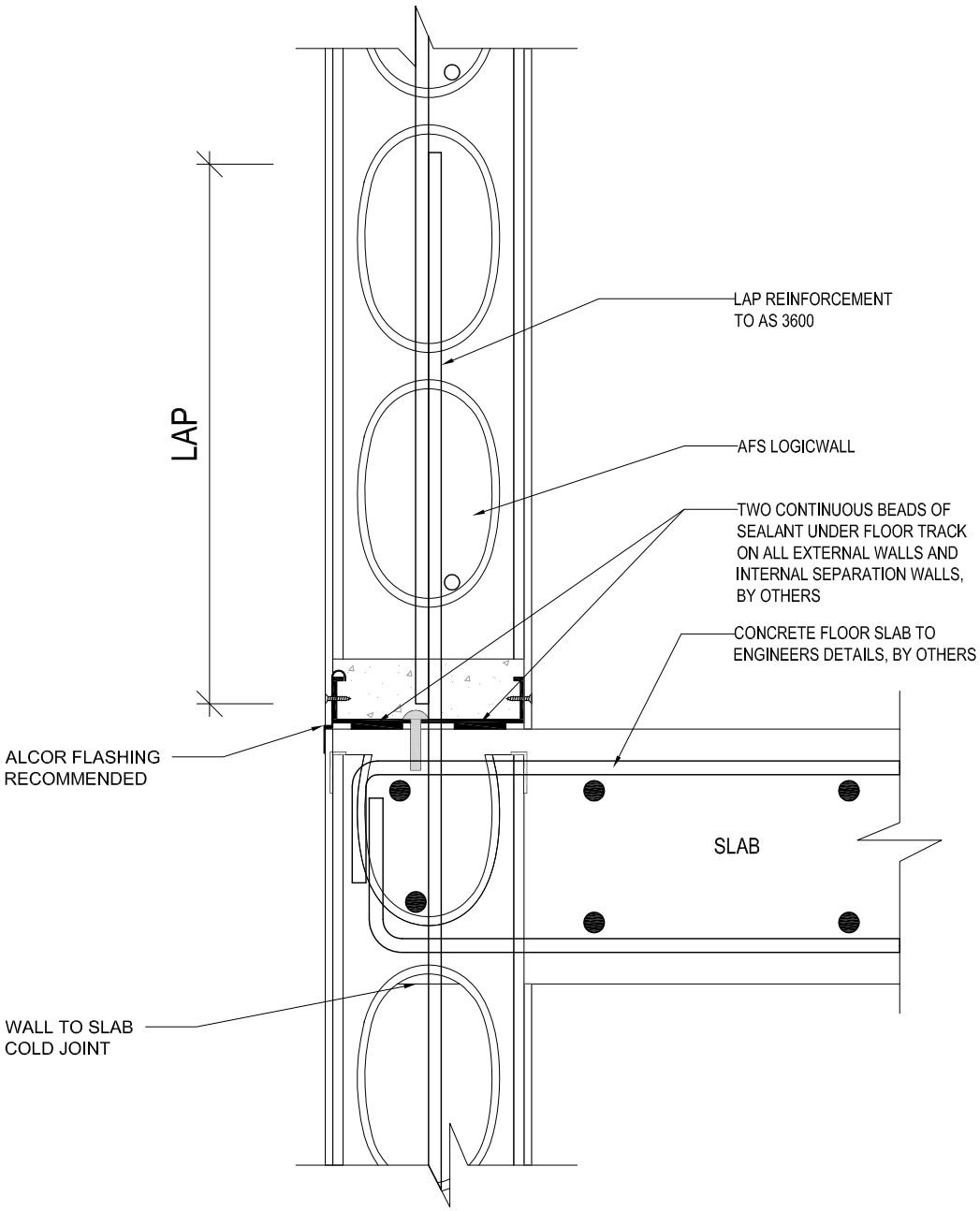
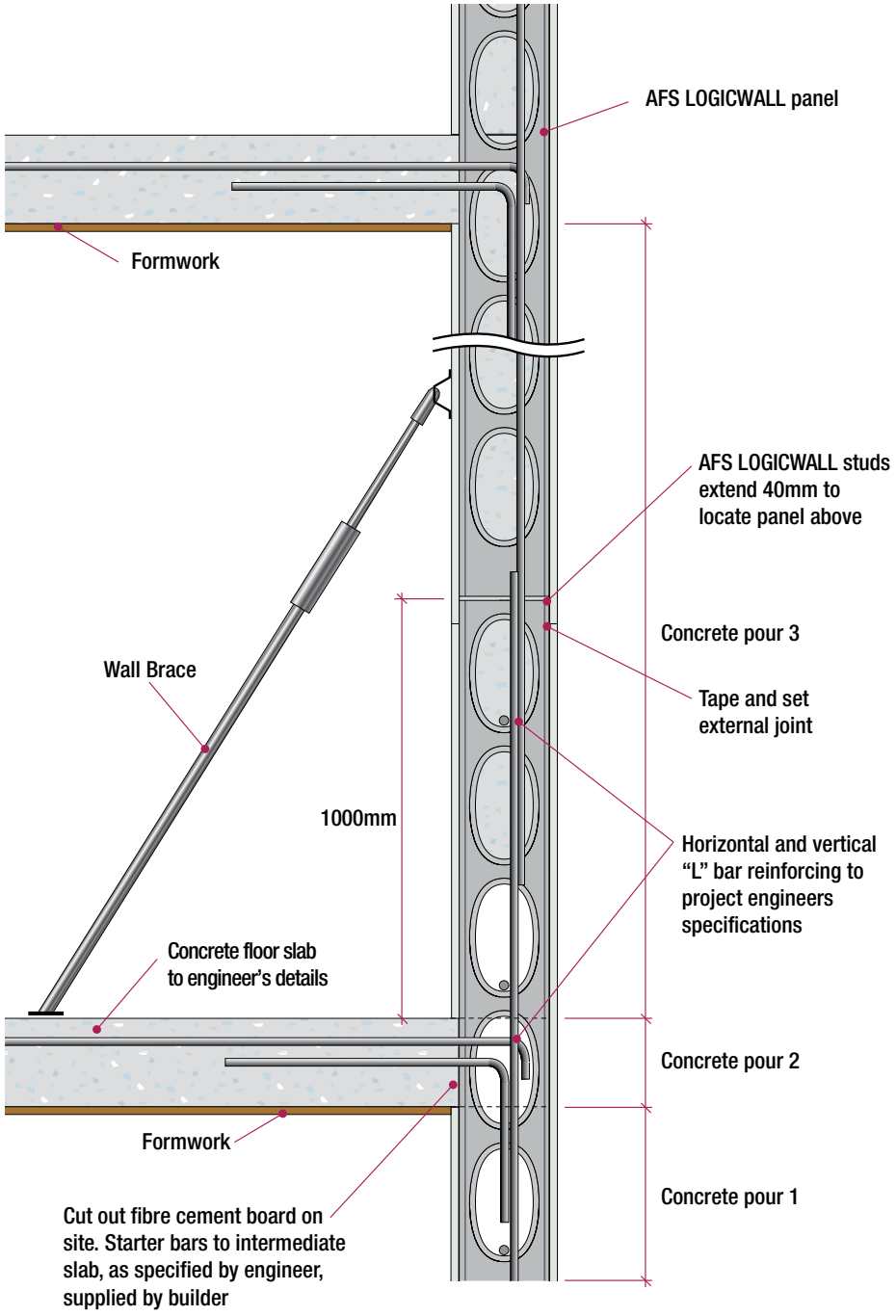


Fig I31: Unfinished Covered Boundary Wall Flashing Detail



This detail only applies where waterproof flashing is not achievable as per Fig I30

Fig I32: Safety Balustrade / Boundary Wall Detail



I7. Junctions With Other Wall Types

Fig I33: AFS Logicwall® /Plasterboard Wall Junction

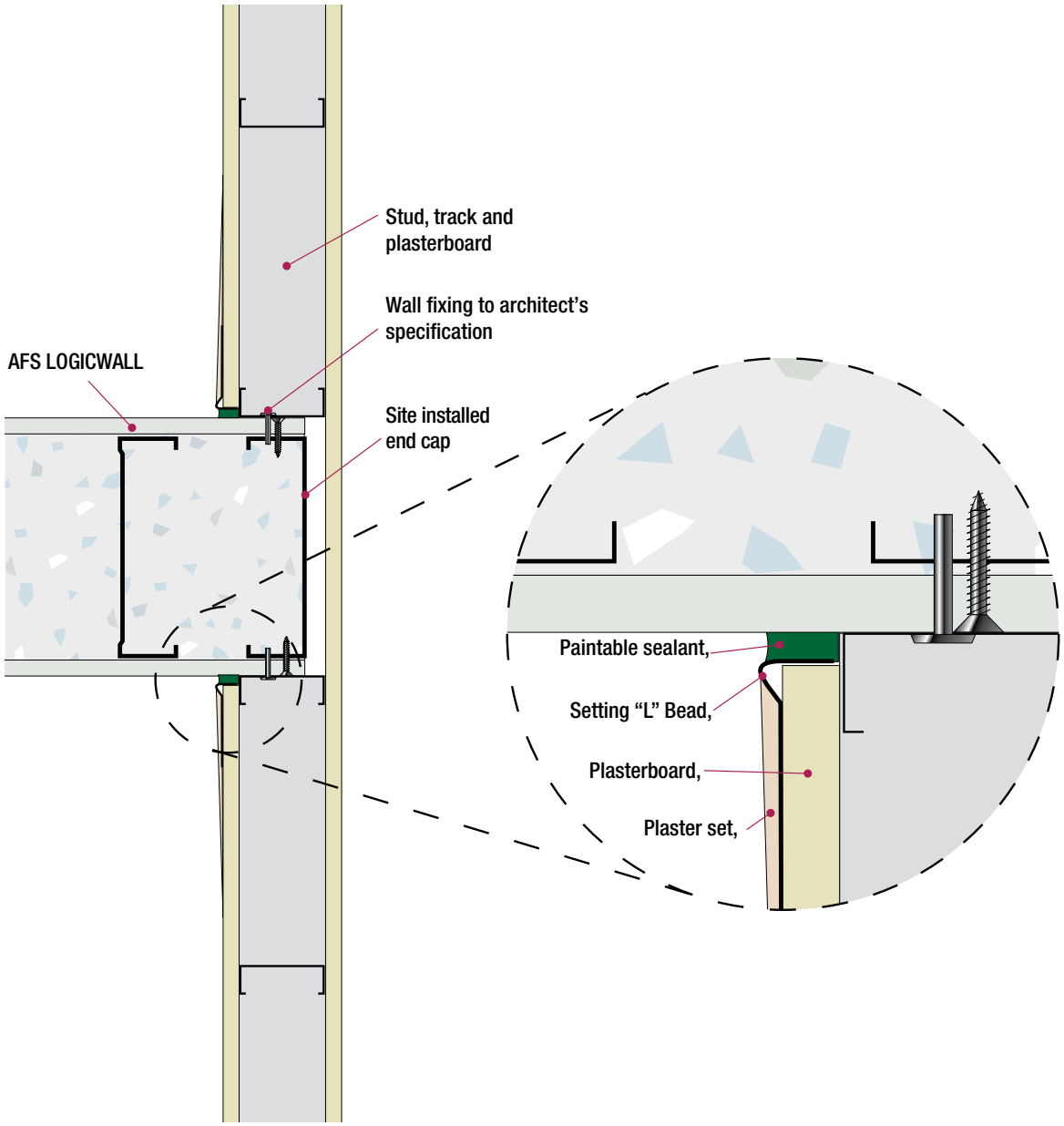


Fig 134: AFS Logicwall®/Double Brick Junction

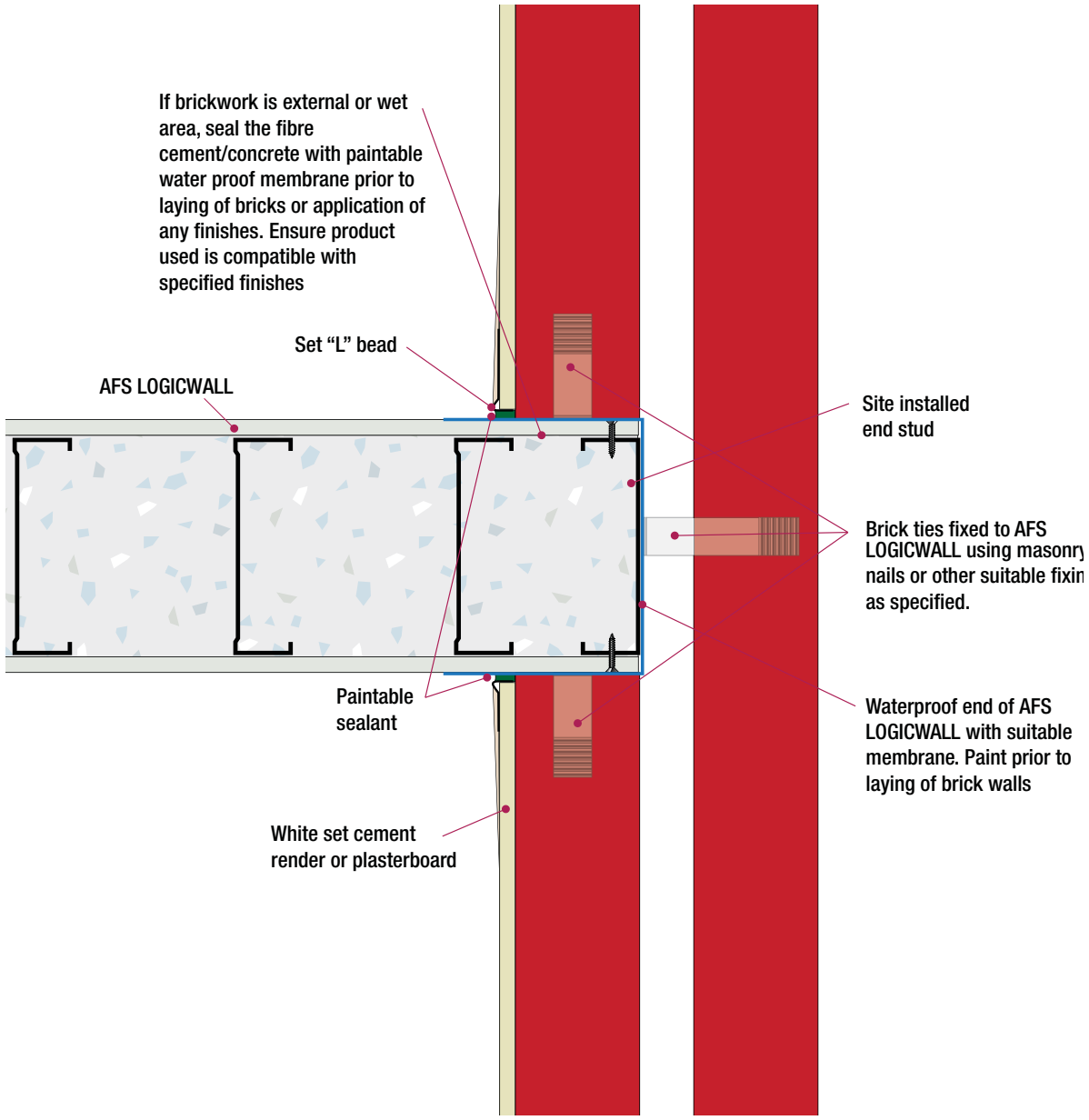


Fig I35: AFS Logicwall®/Brick Veneer Junction

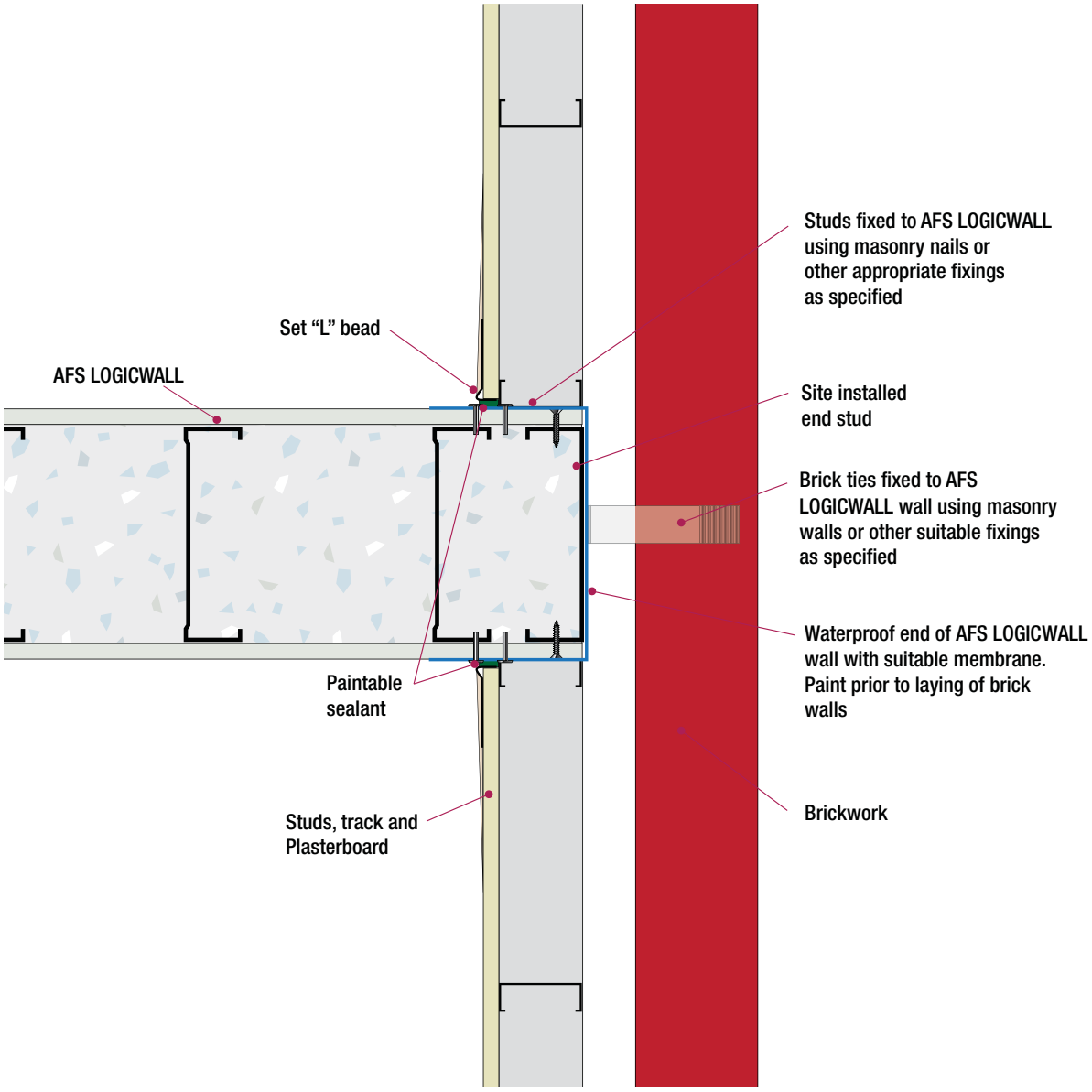


Fig 136: Brick Veneer Facade Over AFS Logicwall®

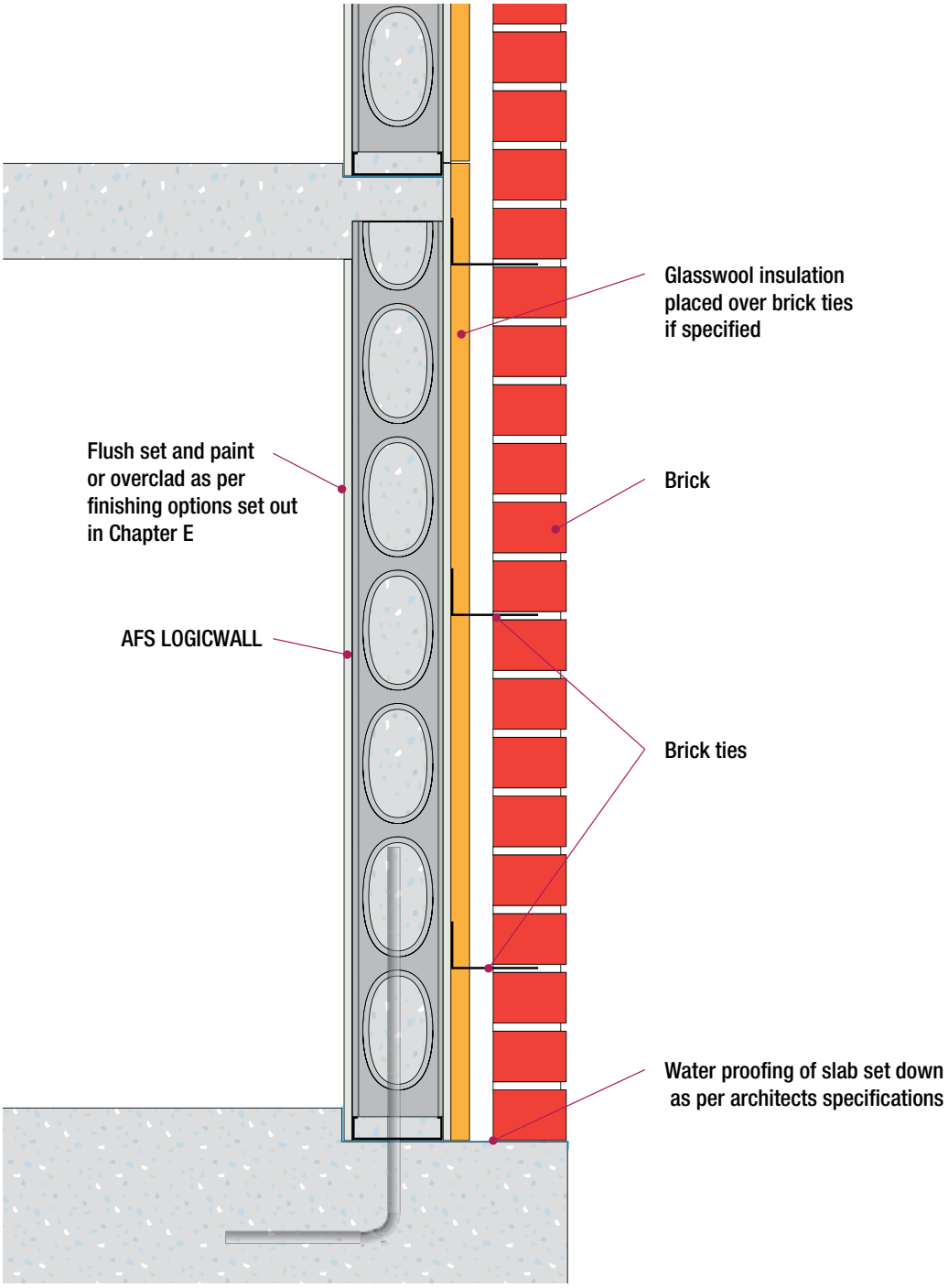


Fig I37: Fire Door Frames - Manufactured to suit AFS Logicwall® Profile

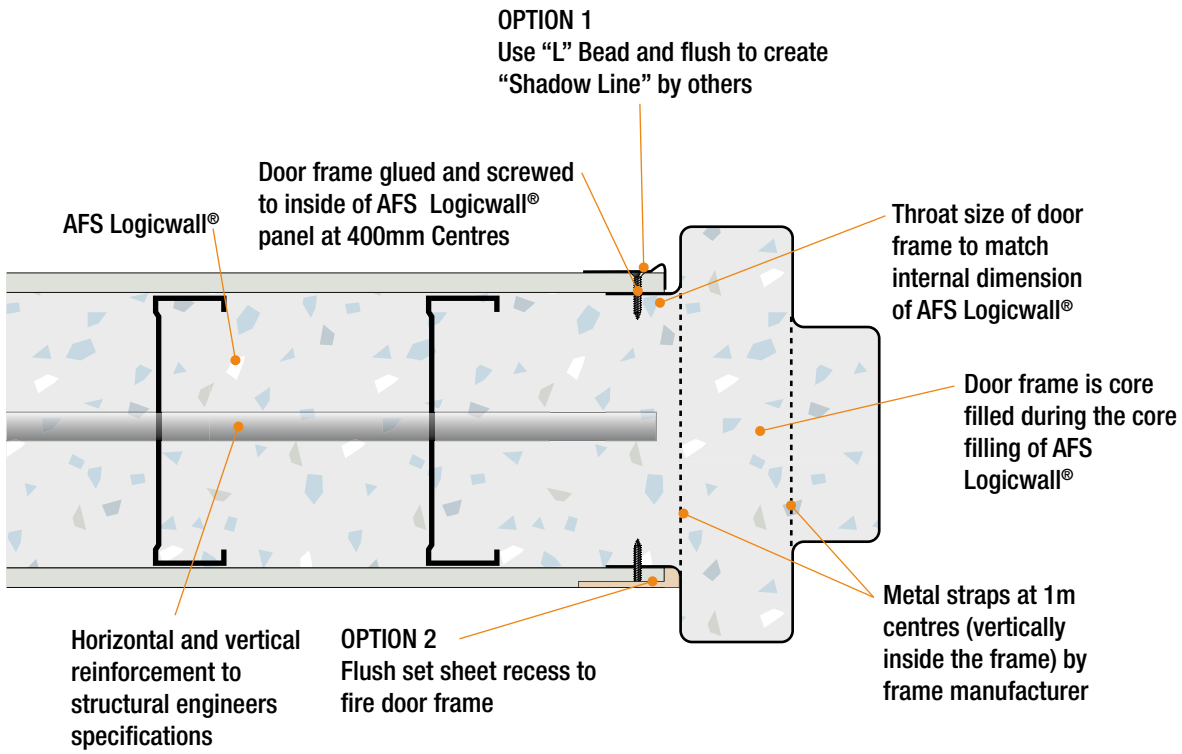
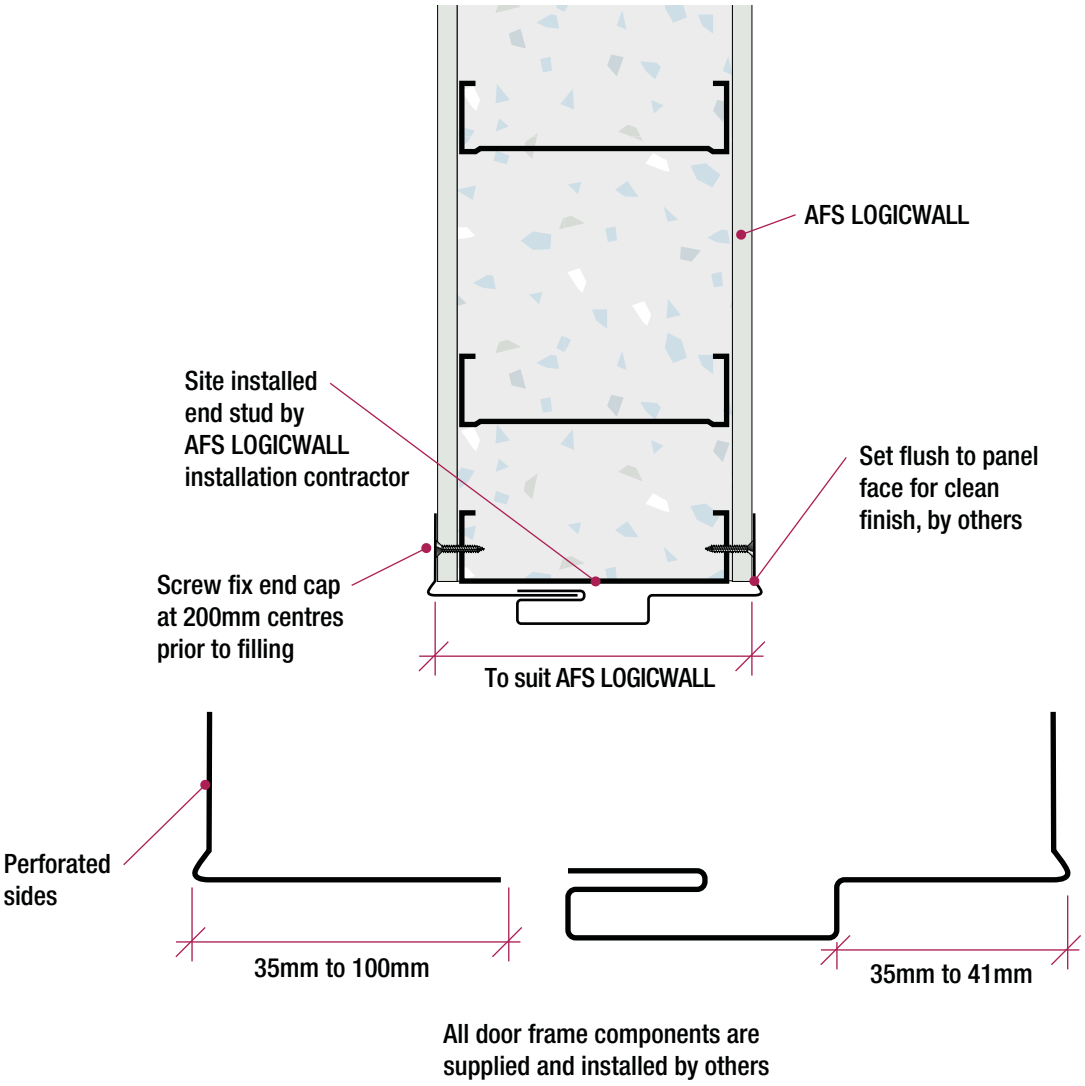


Fig I38: Alternative Non-Fire Rated Door Frames



Note: Door frame to be braced on site to prevent movement/twisting during concrete corefill.

Fig 139: Commercial Window Section

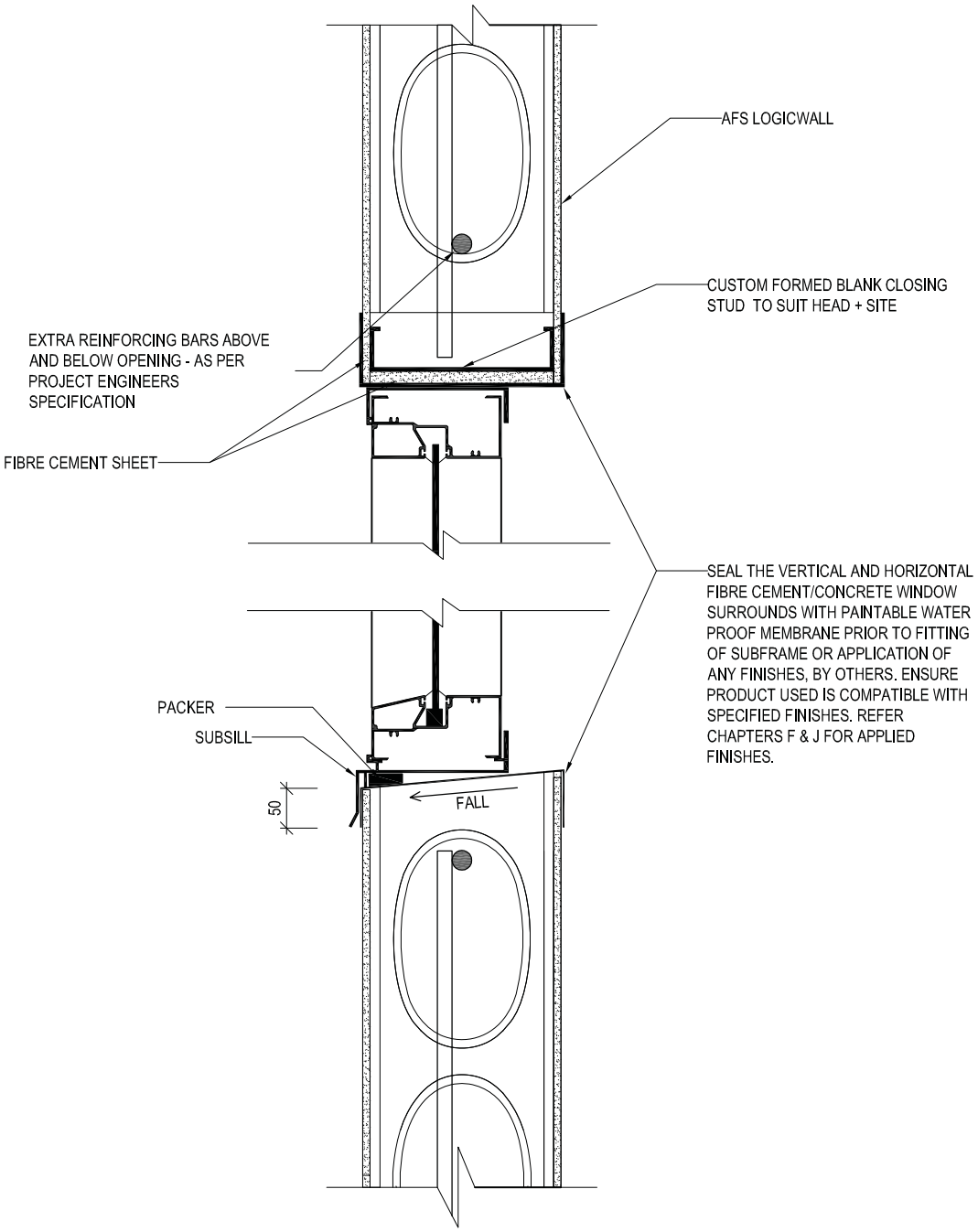


Fig I40: Rebated Window Section

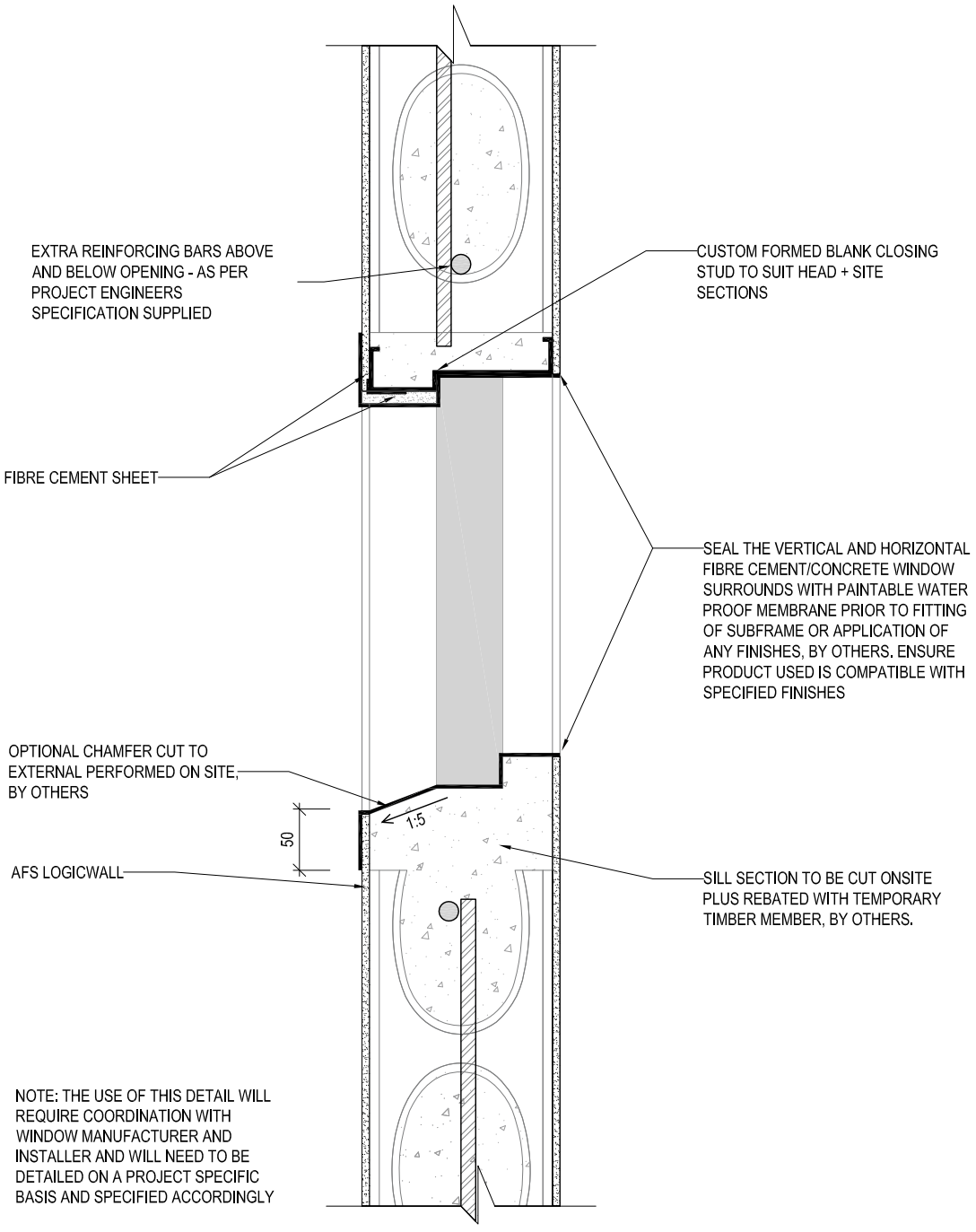
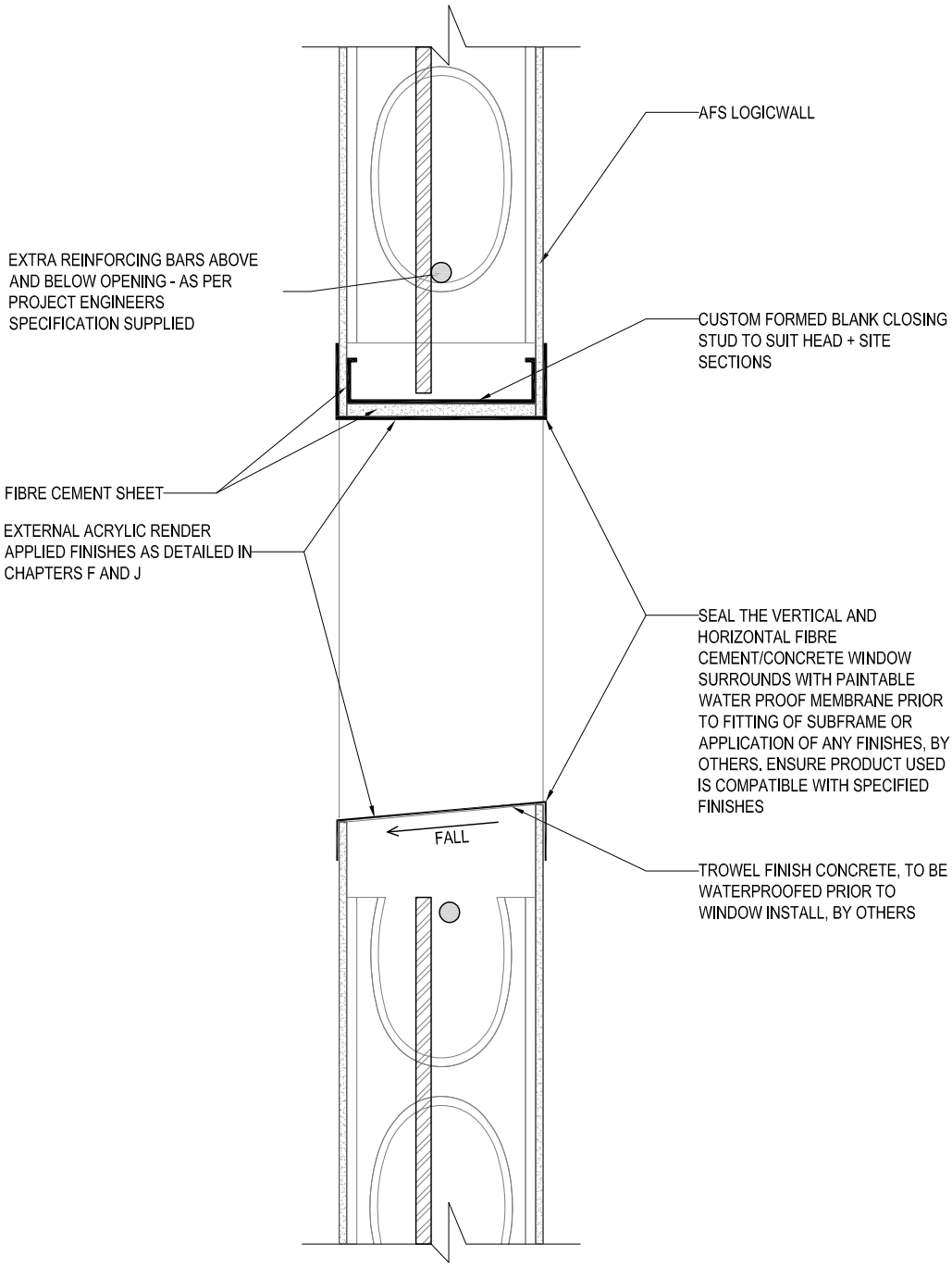
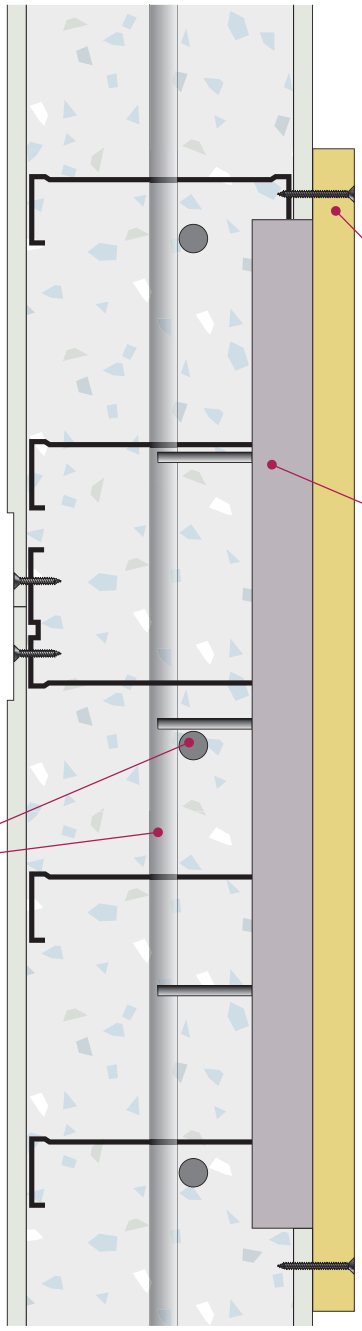


Fig I41: Opening in Walls



18. Cast in Elements

Fig 142: Cast In Lift Rails



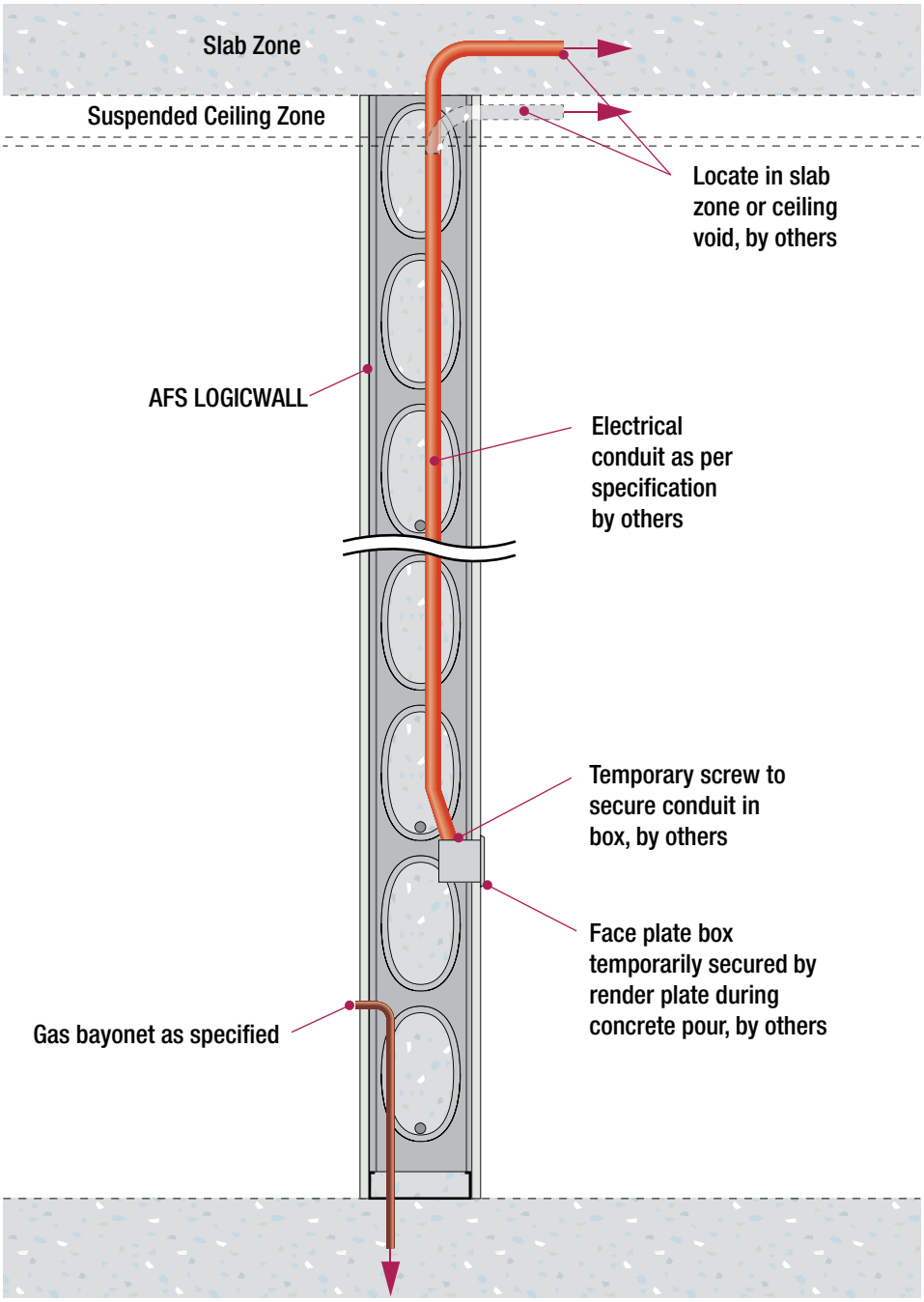
Temporary plywood screw fixed onto "liftrail" and onto AFS LOGICWALL panel. Remove after concrete pour

"Liftrail" assembly supplied by builder fitted into slot cut into AFS LOGICWALL on-site by AFS LOGICWALL installation contractor if negotiated at time of tender.

NOTE:
- Any and all "Cast-in" items should be clearly noted on drawings and it is the builders responsibility to negotiate with the AFS LOGICWALL installers as to who is responsible for the fitting/casting-in of these items.

Horizontal and vertical reinforcement to structural engineers details, by others

Fig I43: Services



I9. Balcony Walls

Fig I44: Balustrade Wall

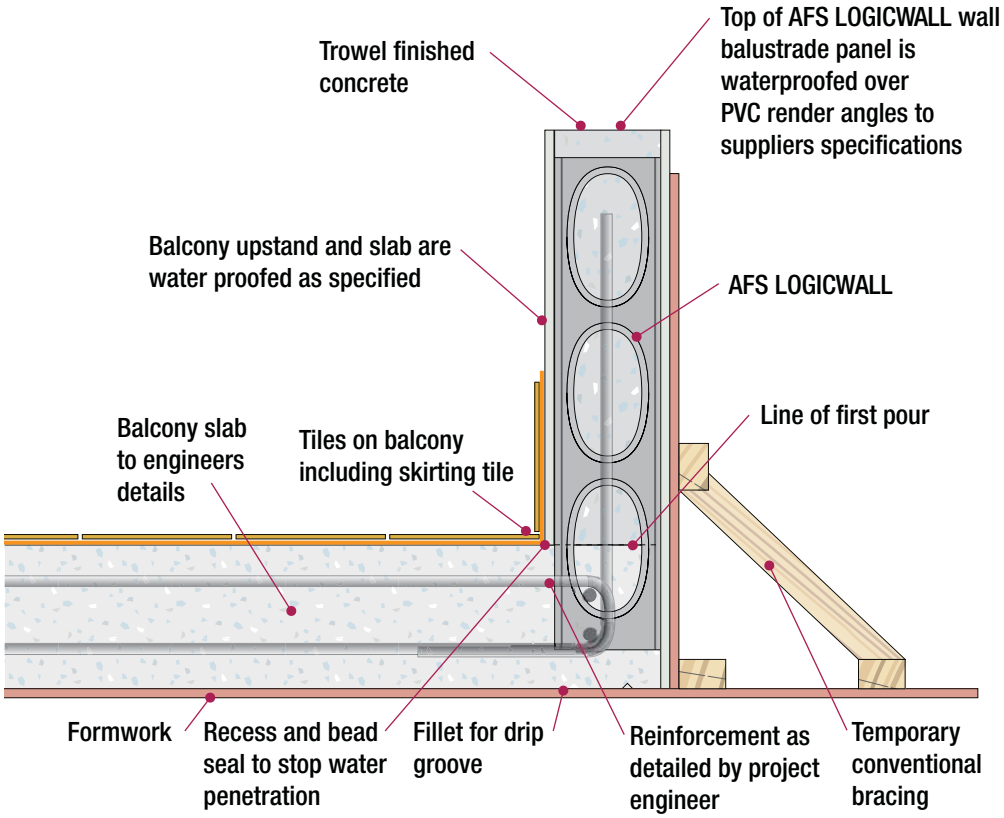


Fig I45: Balcony Dividing Wall

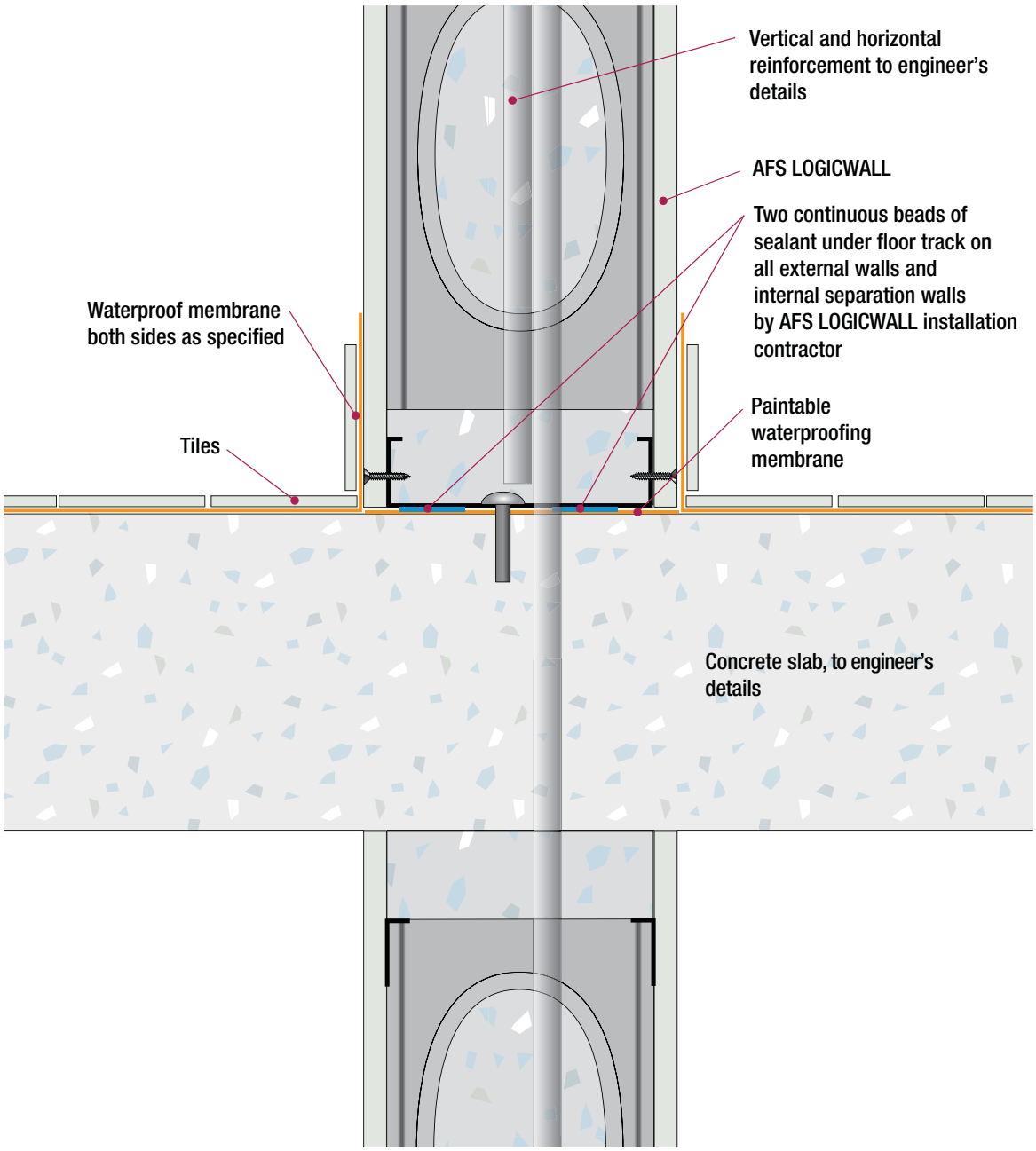


Fig I46: Balcony Wall Detail Without HOB

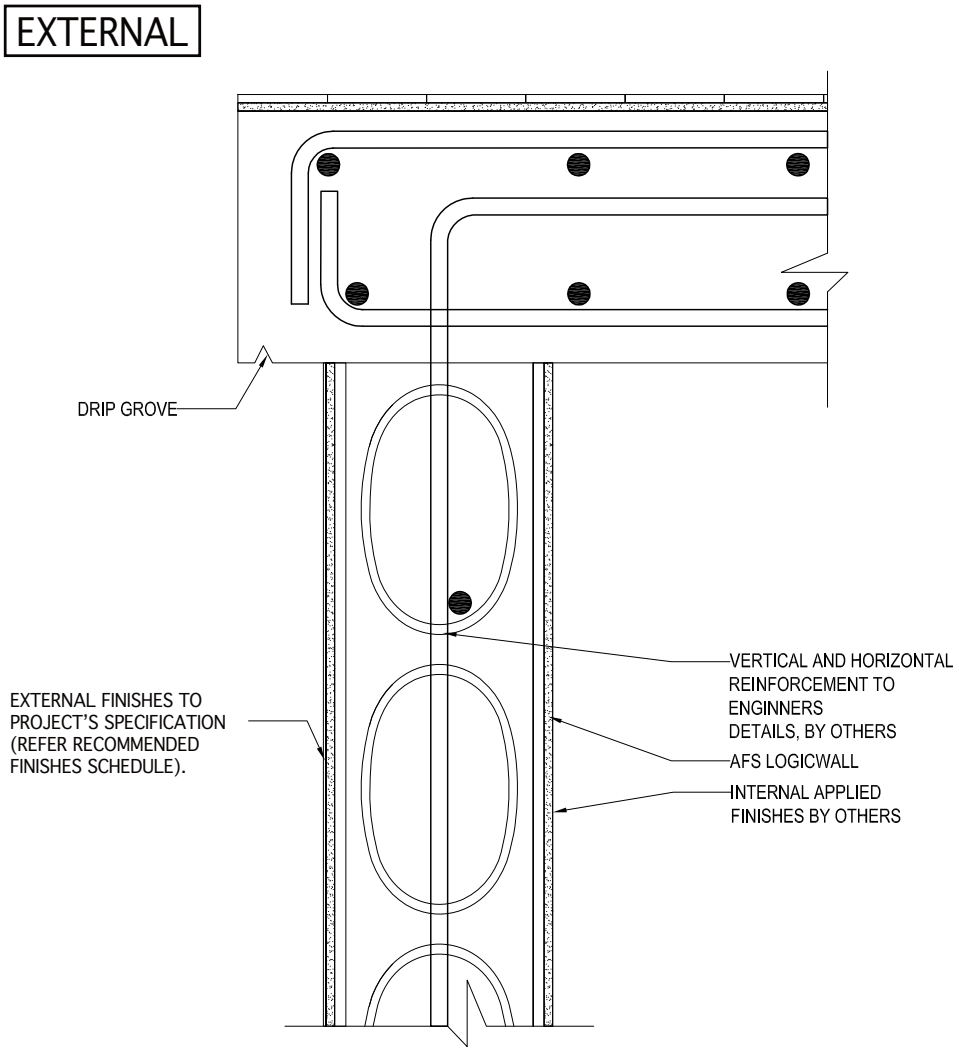
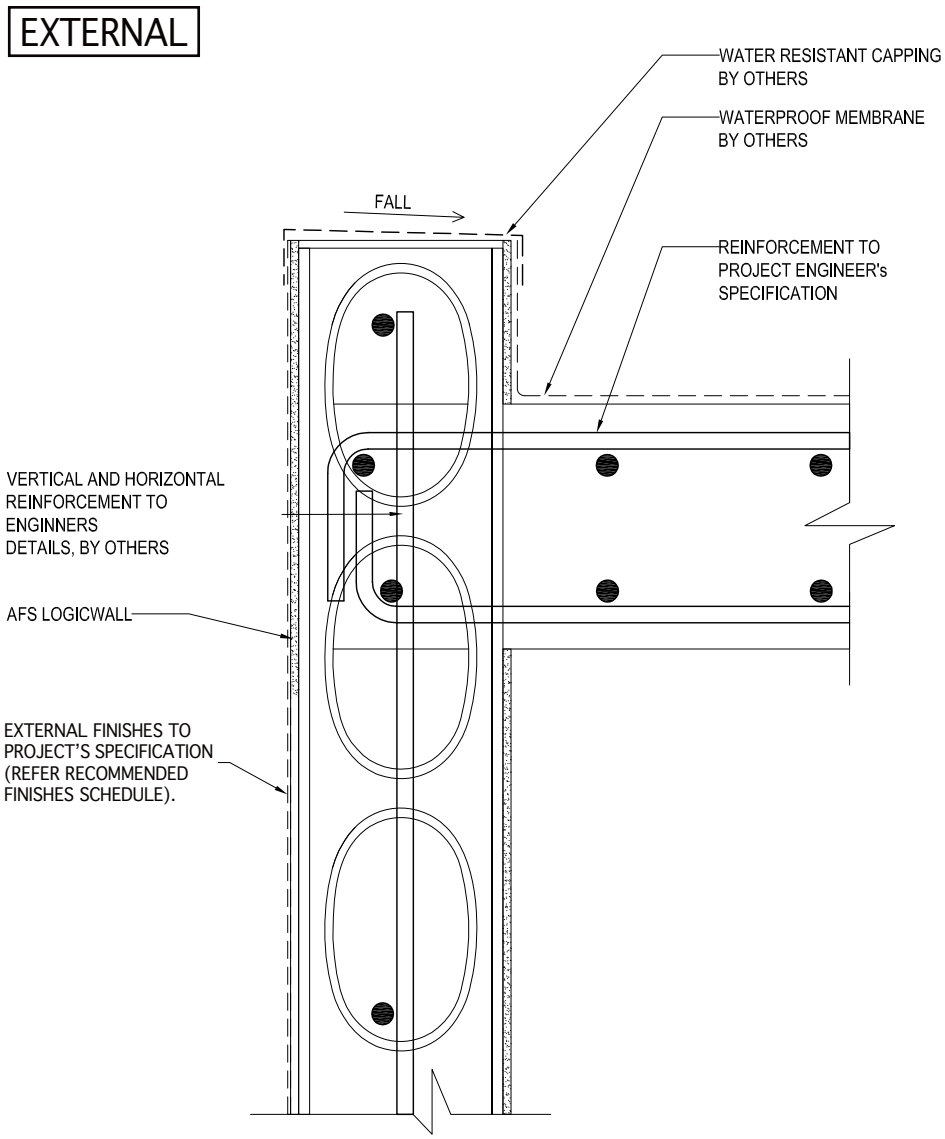


Fig I47: Balcony Wall Detail With HOB



I10. Timber Component Connections

Fig I48: AFS Logicwall® Wall Timber Floor Junction

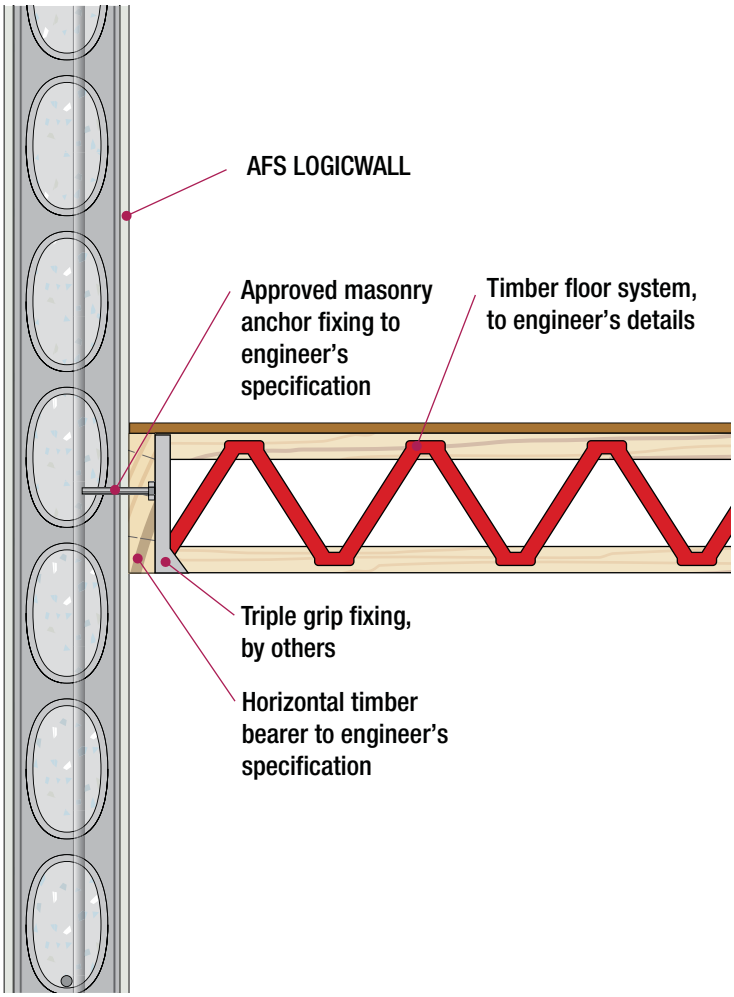
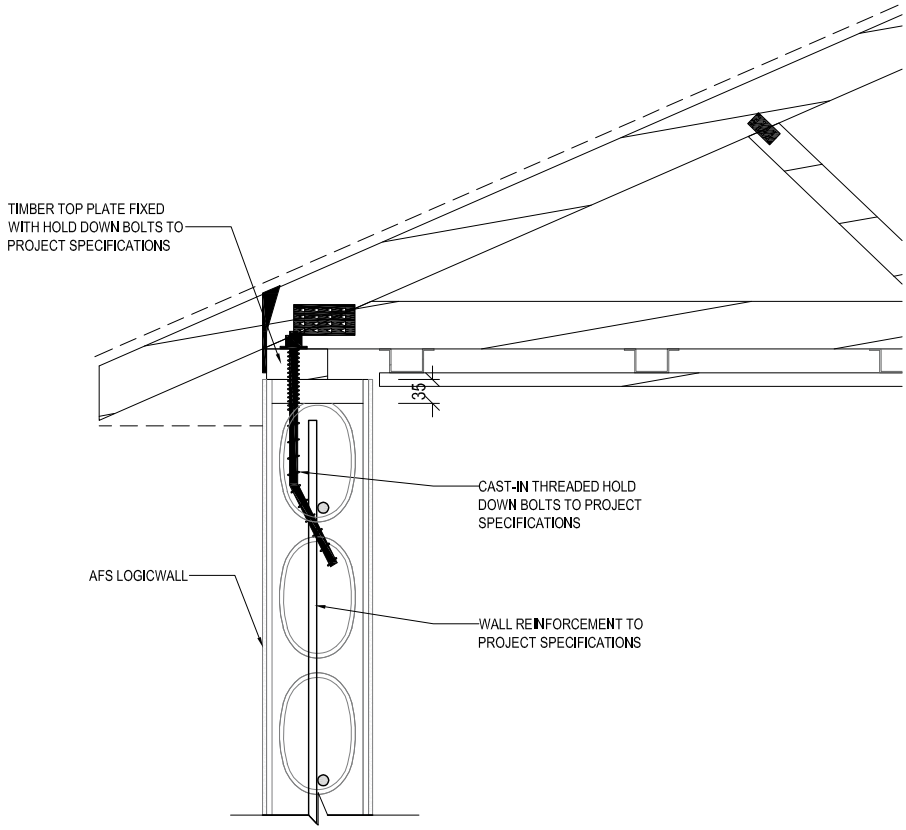
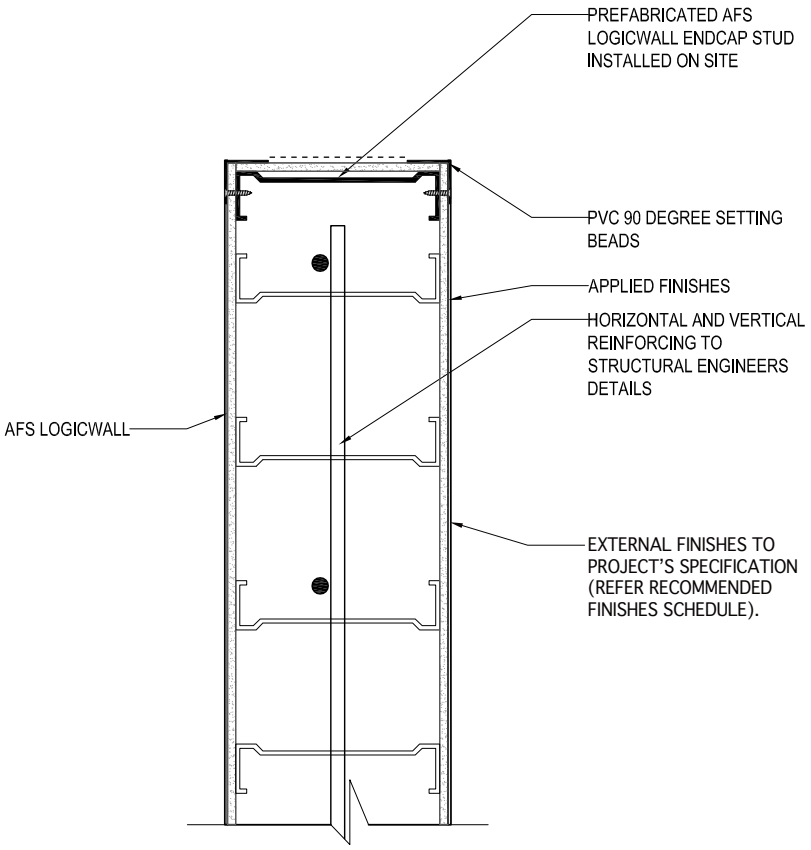


Fig I49: Timber Top Plate Connections



I11. Blade Walls

Fig I50: AFS Logicwall® Blade Wall



I12. Acoustic & Thermal Details

Fig I51: AFS Logicwall® External Wall

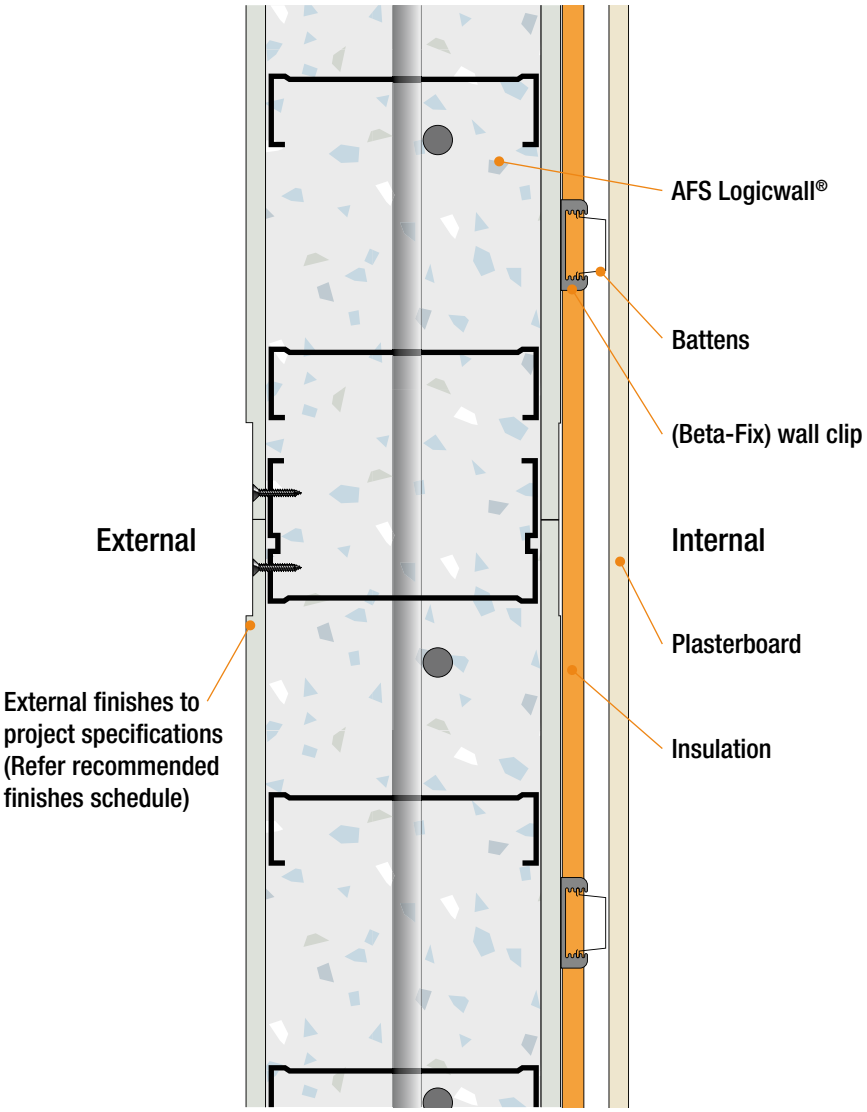
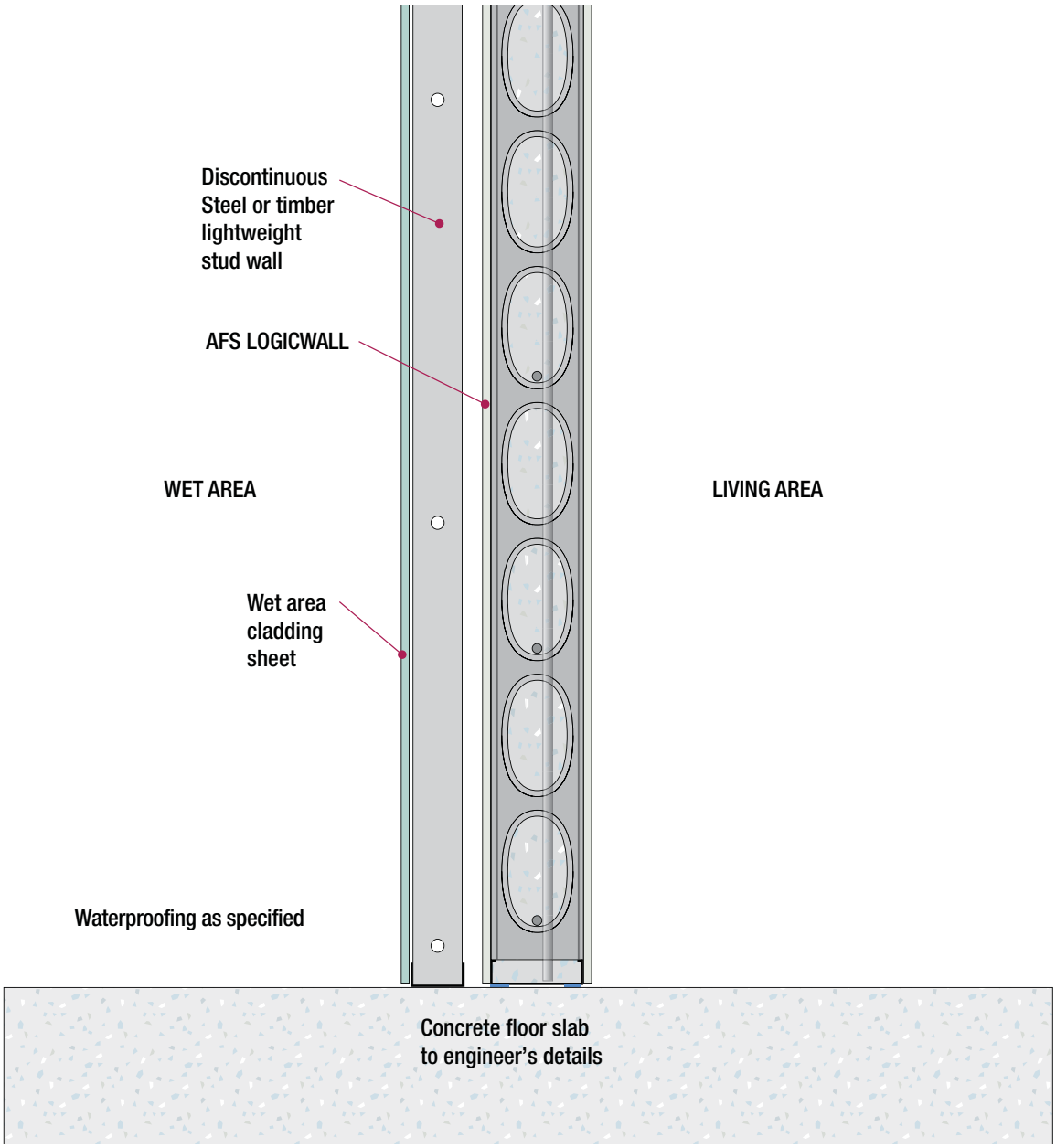


Fig I52: AFS Logicwall® Separating Wall – Wet Area/Living Area or Wet to Wet Area where plumbing services are to be installed



Architects Standard Notes

Whilst architectural requirements vary from project to project the architectural specifications may be similar.

The following afs Logicwall® architectural standard notes can be adopted and used across most projects incorporating afs Logicwall®

A NATSPEC 0310p "AFS Logicwall®" in Concrete Combined" specification is also available

ARCHITECTS STANDARD NOTES

afs logicwall

DESCRIPTION

AFS LOGICWALL comprises a steel frame made up of metal C section studs, with 6mm fibre cement sheets bonded to each side to form a sandwich panel in varying thicknesses of 120mm, 150mm, 162mm, 200mm and 262mm. The panels are erected on site, braced and core-filled with concrete to achieve load-bearing, fire and sound rated walls.

APPROVED INSTALLERS

AFS LOGICWALL is a proprietary system developed by AFS Products Group Pty Ltd. It is manufactured by AFS Products Group Pty Ltd and installed by approved Supply & Install Contractors. Contact details of approved installers are available from AFS Products Group Pty Ltd, phone 1300 727 237.

SCOPE OF INSTALLATION

Supply and install complete walling system, placement of reinforcing bars, core filling, including but not limited to:

1. All labour and materials
2. Forming and providing openings
3. Building in items provided by others
4. Making good of any damages or deformation to walls
5. Clean-up and removal of waste.

NB: Items not within scope of installer:-

1. Cranage of panels to deck
2. Set out
3. Supply of reinforcing steel
4. External setting of joints

CORNERS

AFS prefabricated 90° corner units must be used in any 90° corner location. This ensures continuity at corners and minimizes setting.

AFS corners are available in configurations as follows:

- 90° modules
- Standard plan dimensions 450mm x 450mm
- Pre-installed corner bars – in accordance with the structural engineer's details

AFS LOGICWALL Architects Standard Specification 1

Architects Standard Notes (continued)

afs logicwall

AFS LOGICWALL PANEL TYPES

The following AFS LOGICWALL panel types are available and are to be used in locations shown on architectural and structural drawings.

- AFS 120
- AFS 150
- AFS 162
- AFS 200
- AFS 262

SERVICES

Hydraulic pipes are typically not installed within AFS LOGICWALL walls but either face fixed and battened over or installed in separate leaf walls. Where plumbing and services are to be installed in LOGICWALL walls they should by poly pipes and run vertically only from the slab above.

Electrical conduits are typically installed within AFS LOGICWALL walls. Conduits are made up prior to installation with elbow at top and electrical box fitted to bottom. Conduit is lowered into wall void and box fixed to pre-cut opening. A render plate is used to hold box secure until core filling and then removed. Electrical boxes are to be separated by at least one core in wall.

Care must be taken by services contractors to maintain integrity of fire and acoustic ratings when installing services, pipes and fittings. Refer to project specifications.

SHOP DRAWINGS

Detailed shop drawings will be prepared and submitted to builder or architect for approval prior to manufacture of panels. Shop Drawings are to be by AFS nominated drafting company. Please contact AFS on 1300 727 237 for contact details.

PRE-COREFILL INSPECTION

A pre-corefill inspection must be undertaken to ensure all panels are straight and plumb, all corners are square and the required reinforcement on structural drawings is correctly installed inside the AFS LOGICWALL panels. Ensure all joints are properly secured and screw fixed at 450mm centres and all openings adequately braced.

CORE FILLING

Refer to Chapter K ' Installation Guide' of AFS LOGICWALL Designer for concrete requirements and core-filling techniques.

Architects Standard Notes (continued)

afs logicwall

CONSTRUCTION SEQUENCING

1. Form-up first slab
2. Place L bars in slab
3. Pour and cure of first slab
4. Erect AFS LOGICWALL panels, placing horizontal bars in sequence
5. Erect formwork of second slab
6. Run electrical services
7. Place vertical bars in walls using formwork as working platform
8. Core fill AFS LOGICWALL using formwork as a working platform
9. Set joints once joints are waterproofed.

NB: where a prefab floor system is used, the LOGICWALL may be core filled from a mobile scaffold prior to forming of second slab.

Sufficient notice should be given by the builder prior to core filling for inspection of AFS LOGICWALL panels, reinforcement and services. A sign-off system should be implemented by the builder to ensure any services within the walls are correctly placed prior to core filling.

TOLERANCES

All walls and openings must be square, straight and plumb and comply with drywall construction tolerances to AS2589.

REFERENCE STANDARDS

AS 4055 Wind loads for housing
AS 1170.4 Earthquake loads
AS 1650 Galvanised coatings
AS 1315 Portland cement
AS 3600 Concrete structures
AS 3700 Masonry structures
AS 2589 Plasterboard

Architects Standard Notes (continued)

BIM (Building Information Modeling) has gained acceptance in recent years and is used for the design of many buildings today. There is a range of BIM software packages now available on the market, each providing consultants and building designers flexibility and ease of design.

Whilst there have been some basic modeling programs available in the past, recent technical advancements have allowed the introduction of more advanced BIM Software programs, such as Revit and Archicad, which are more versatile and allow designers, architects and engineers to build their projects on the screen as a comprehensive 3D model. These models provide consultants with a detailed view of the scope of their projects whilst providing subcontractors, tenderers and clients a complete 3D overview of their scope of works, as they embody significant amounts of project information.

To assist with the design and documentation of AFS Logicwall® walls, AFS provides a complete package of standard details, library parts/ objects, wall families and 3D model components in the following file types.

- Revit
- DWG
- PDF (Standard Details)