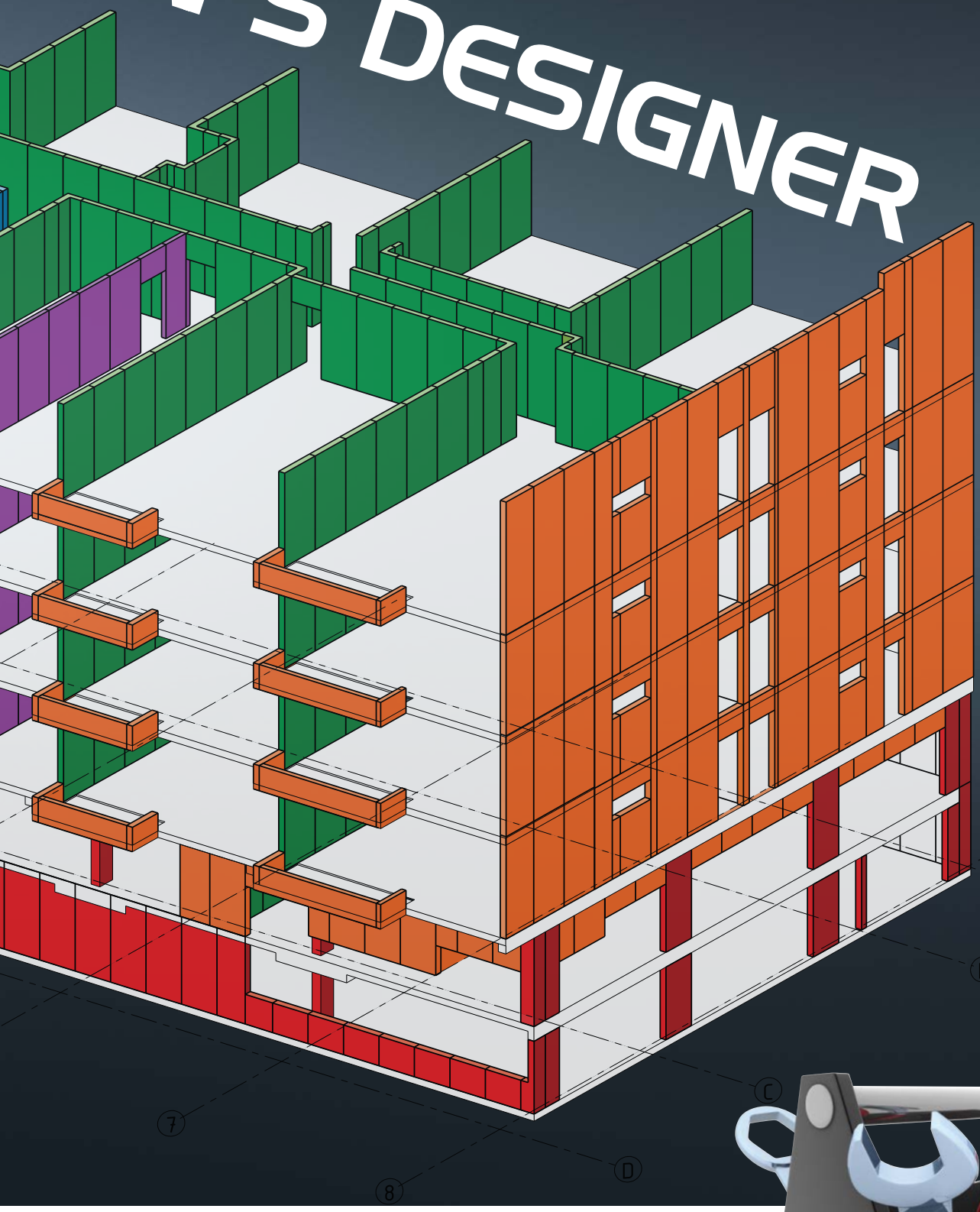
AFS DESIGNER

Architectural Detailing

2015 EDITION



AFS® WALLING SOLUTIONS

LOGICWALL®
STRUCTURAL SOLUTION

CSR

I | Architectural Detailing

I1	Introduction
I2	Standard Details
I3	Standard Architectural Specifications
I4	BIM Software

This chapter of the AFS Designer must be read in conjunction with all chapters of the AFS Designer.
Important legal statements on inside back cover.

I | Architectural Detailing

Disclaimer: This section of the AFS Designer 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.

I1 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.

I2 Standard Details

Note:

1 - Except as noted on the following details, materials and work required are not provided by AFS or the LOGICWALL® installation contractor.

2 - All details in this chapter are diagrammatic only and not drawn to scale.

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I2.0 Recommended Finishes Schedule

Amend to suit Project

EXTERNAL

Location	System	LOGICWALL® Requirements	Panel Joints	Finishing System(1)
	Marine, Coastal(2)	Refer AS3600	External Flush Set	Refer Façade Consultant
	Near Coastal (1 to 50 km)	F'c 40 Mpa minimum Central reinforcement only All external fitting, fixtures, render strips to be UPVC or Stainless.	External Flush Set	Dulux AcraTex High Build System, Duspec AC1202 Issue 4. Dulux Material Warranty (Project Specific) 10year applicable on approved systems incorporating (2) final Weatherproofing AcraShield or AcraSkin Topcoat. 10 year applicableon approved systems incorporating (1) final Weatherproofing AcraShield or AcraSkin Topcoat.
	Inland Tropical	Standard AFS LOGICWALL®	External Flush Set	DULUX Acratex - AFS LOGICWALL W&W Interior Finish System. Issue 1.1

INTERNAL

Location	System	LOGICWALL® Requirements	Panel Joints	Finishing System(1)
	DULUX Interior	Standard AFS LOGICWALL®	Internal Flush Set	DULUX Acratex - AFS LOGICWALL W&W Interior Finish System. Issue 1.1
	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	Method 1 -Spray applied thin Gyprock Total Joint Cement Method 2 - 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

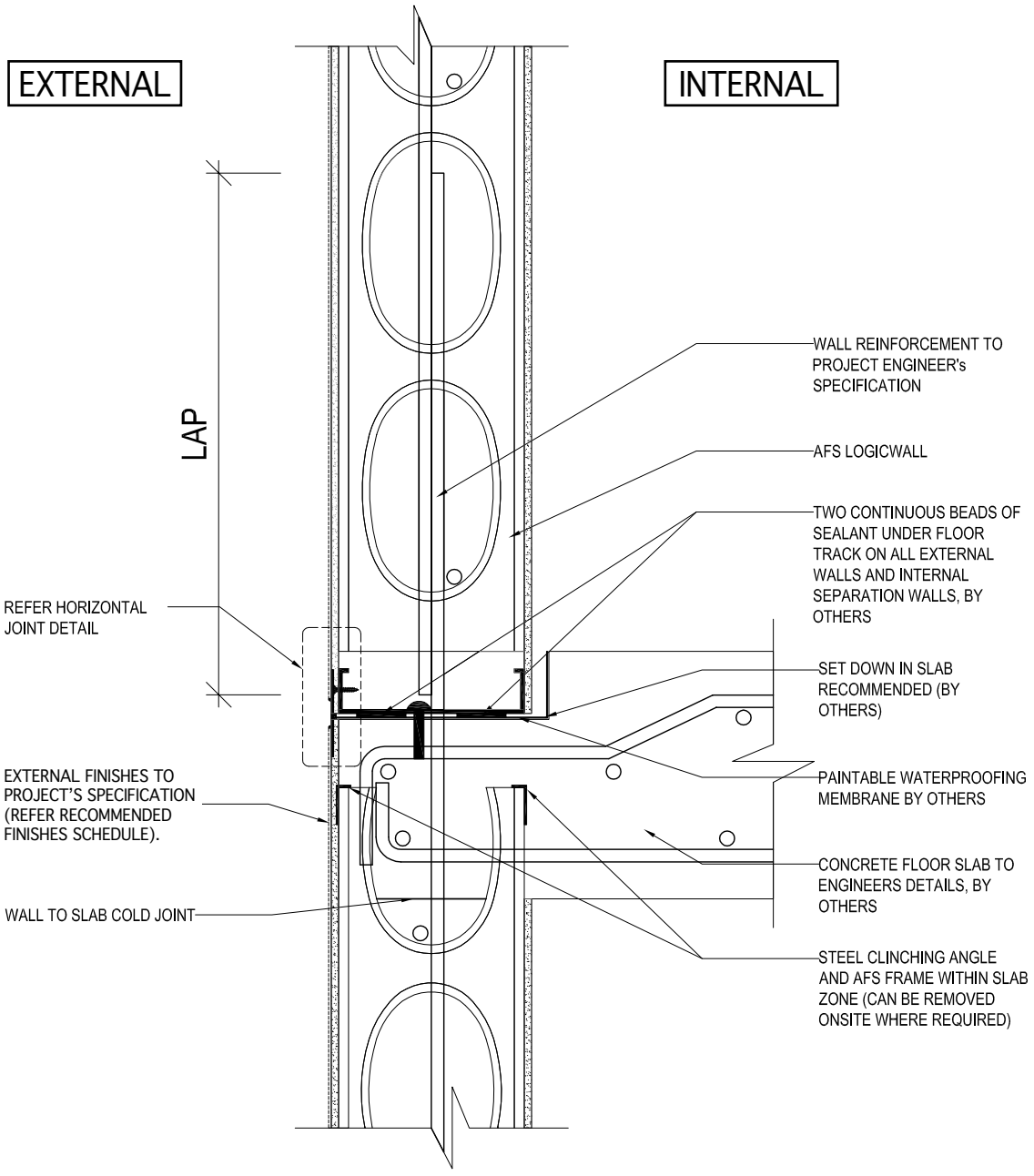
(1) Refer AFS Data Manual for Details and specifications for finishes.

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

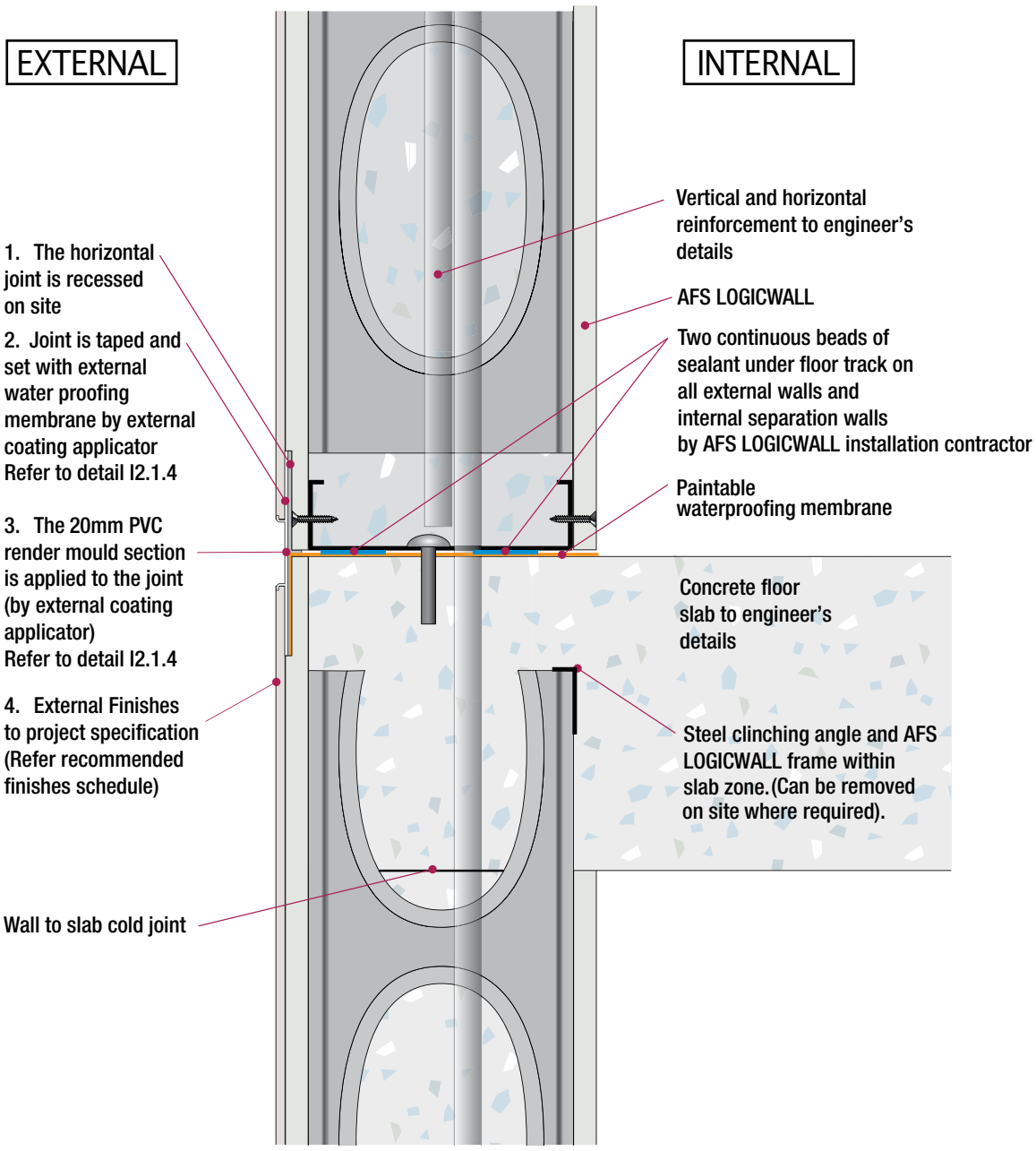
Note: All external steel fixtures, fixings, mouldings to be galvanized.

I2.1 Slab Junction Details

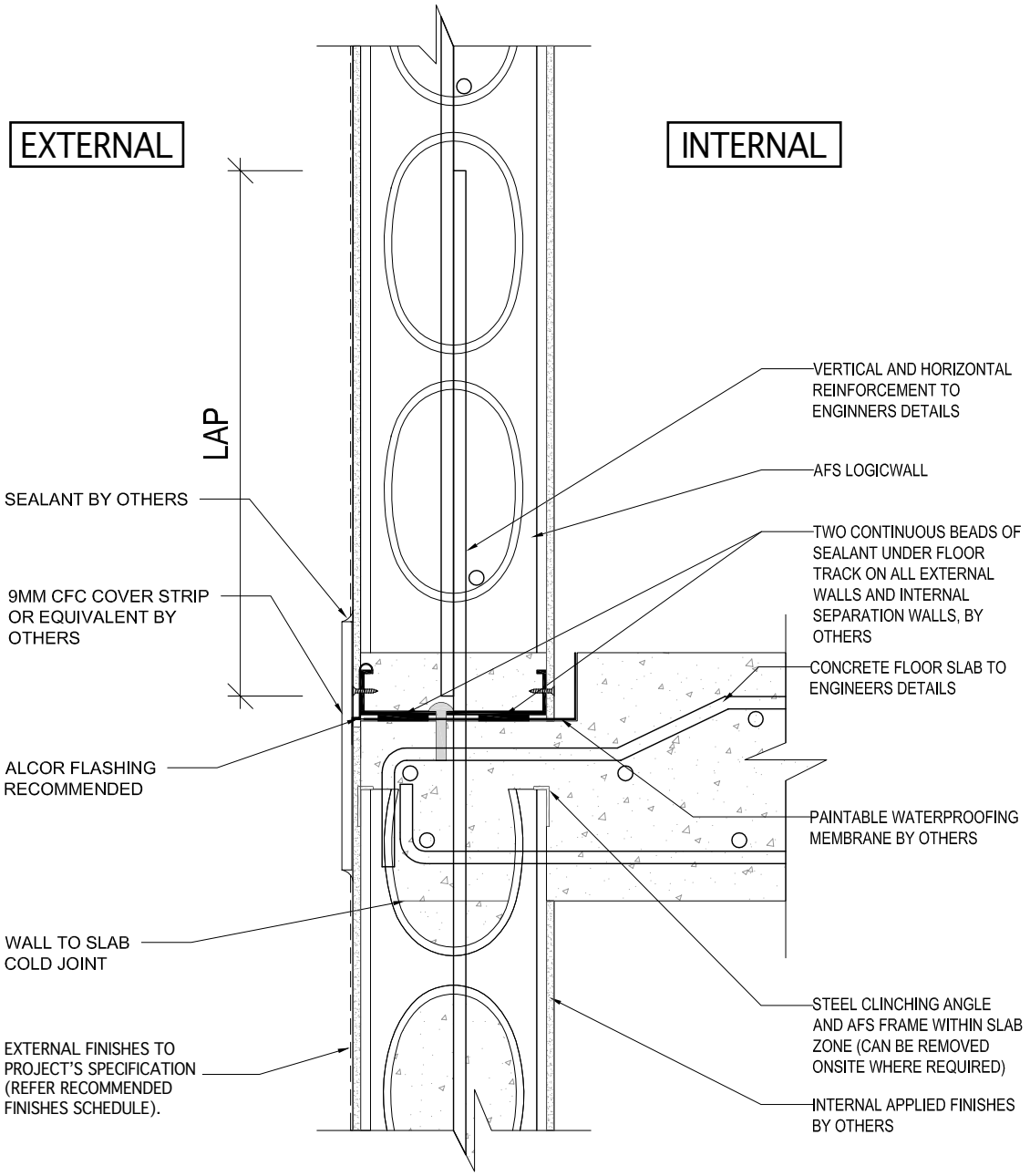
I 2.1.1 Horizontal Expressed Joint With Rebate in Slab Edge



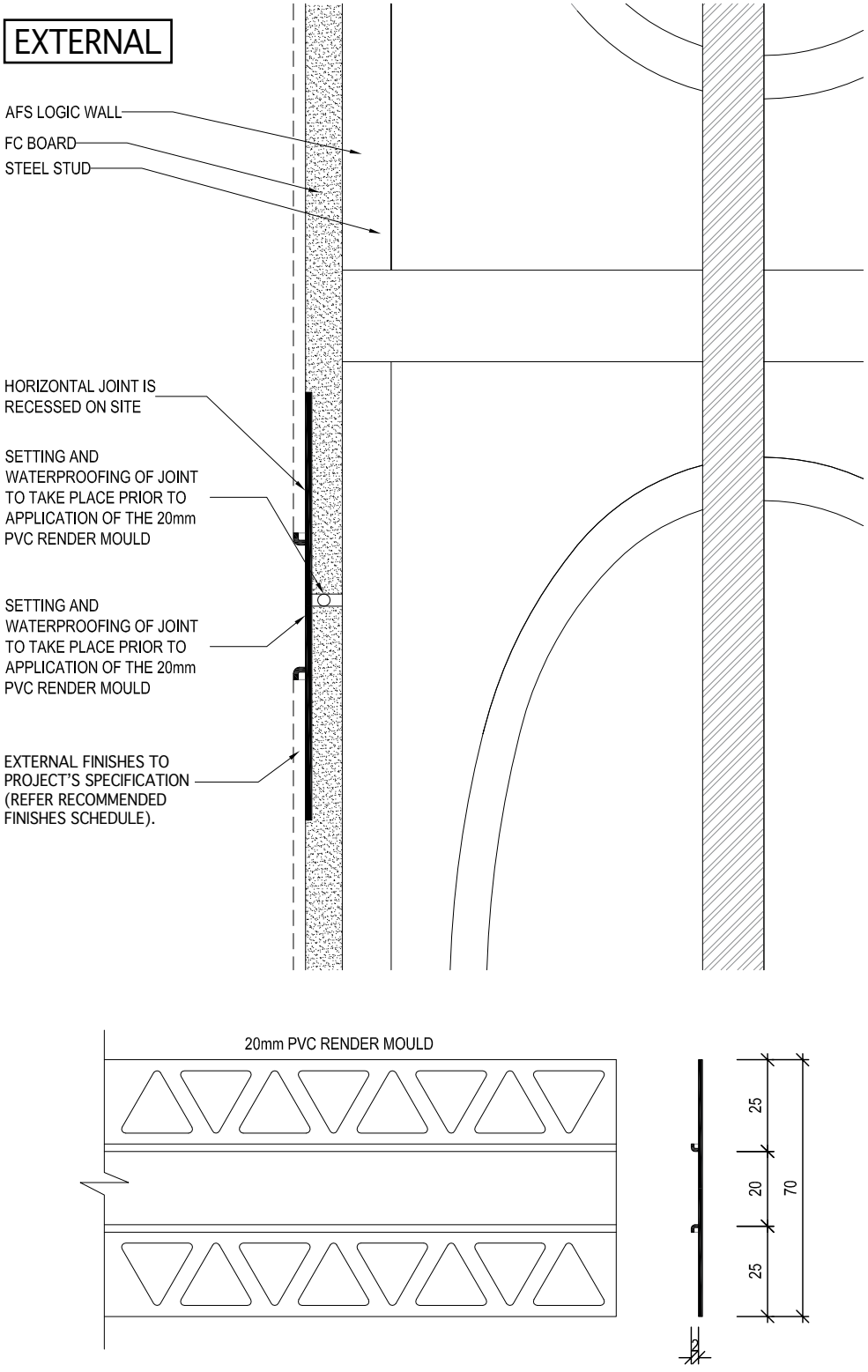
I 2.1.2 Horizontal Expressed Joint With Flat Plate Slab Edge



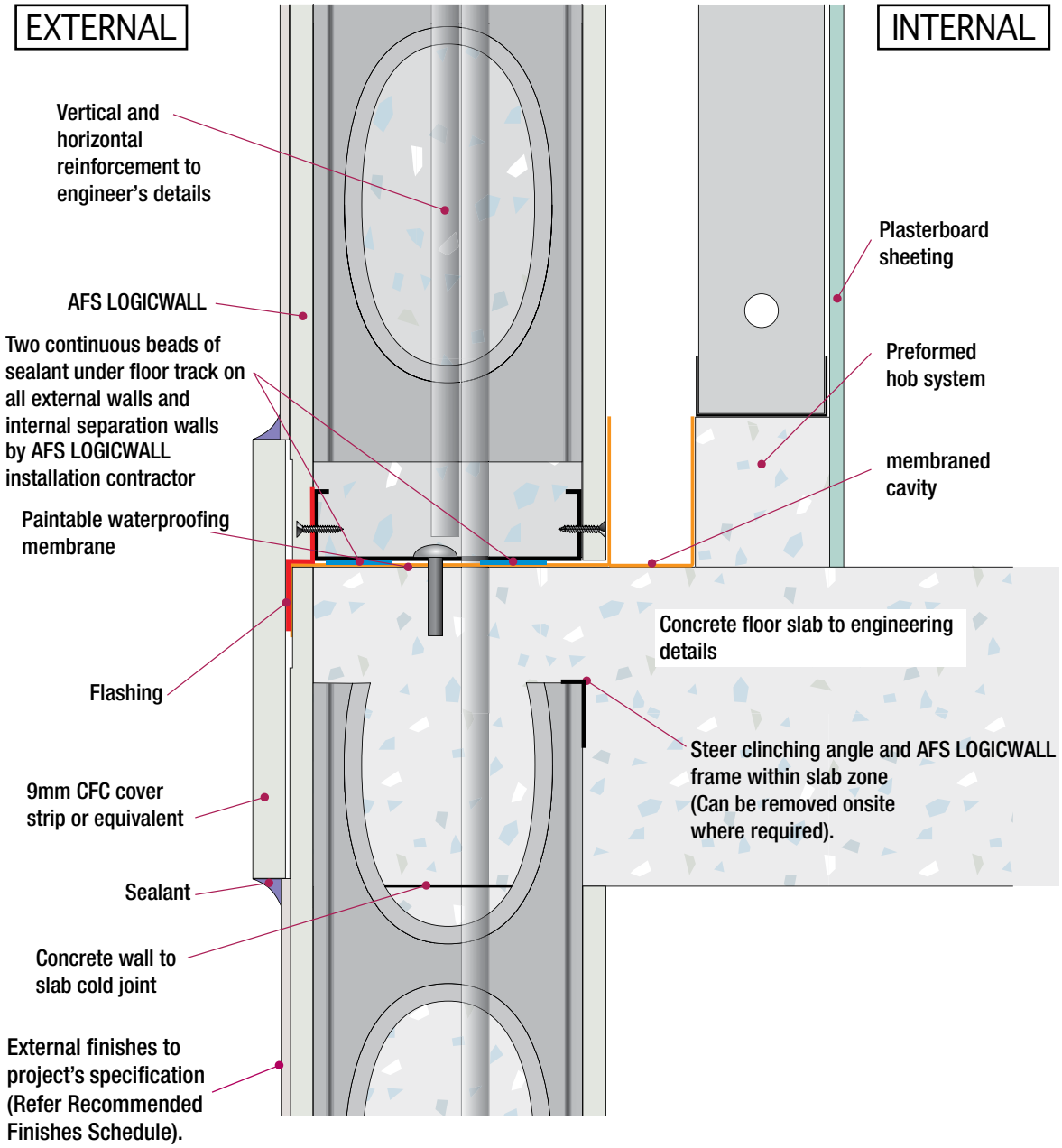
I 2.1.3 Horizontal Joint With Cover Plate On Slab Edge



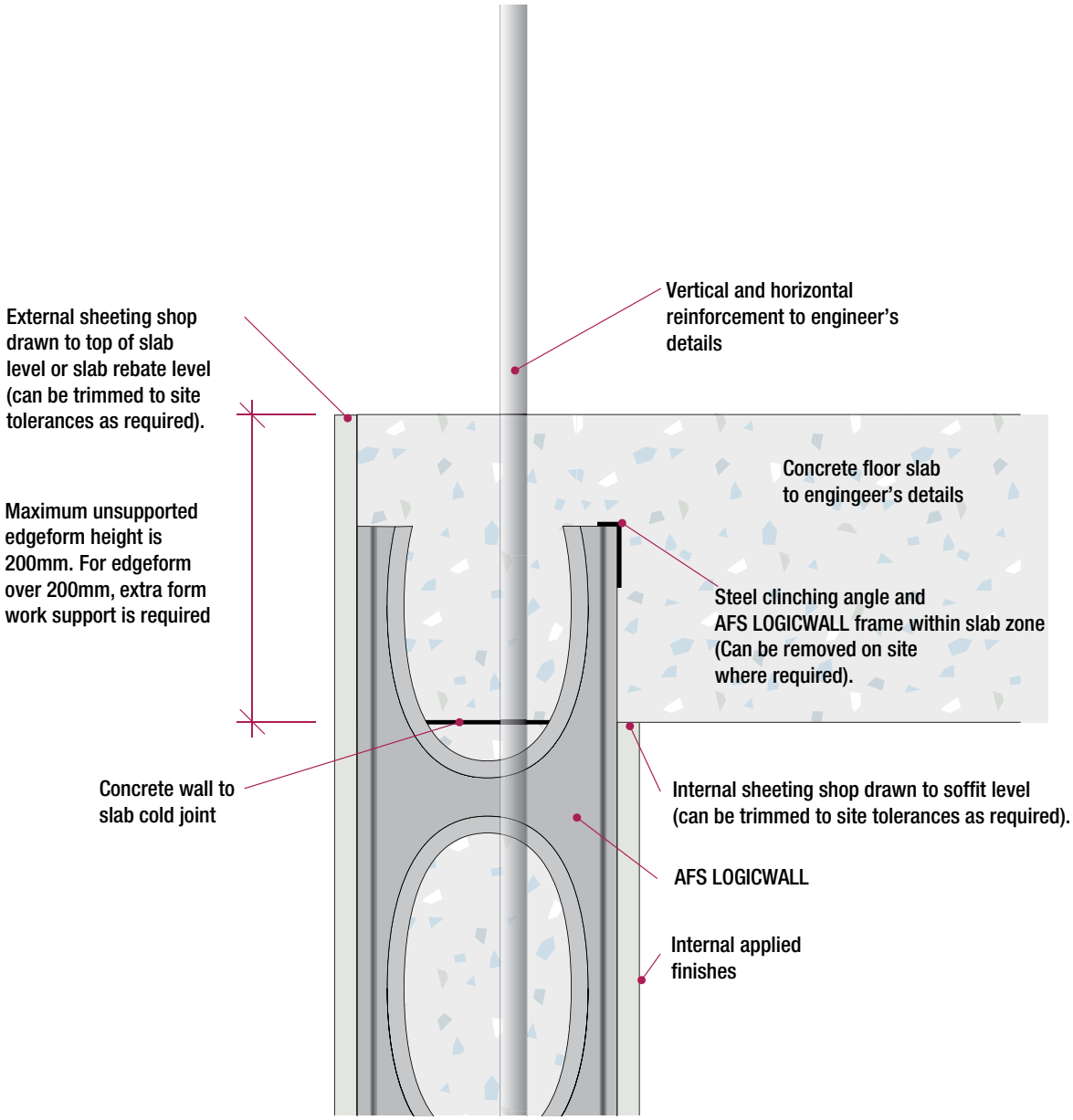
I 2.1.4 Horizontal 20mm Expressed Joint



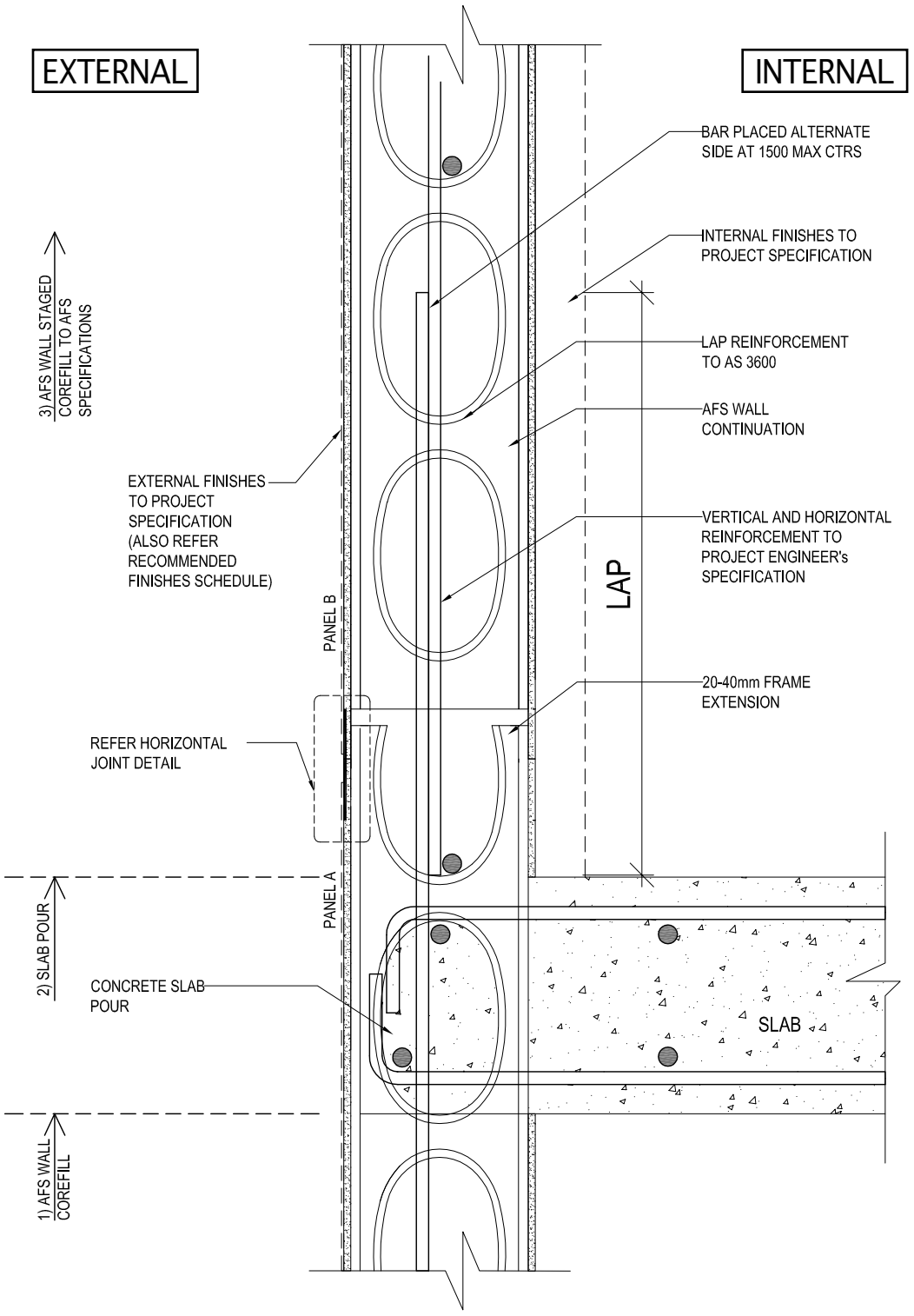
I 2.1.5 Cavity Wall Detail – Flat Slab



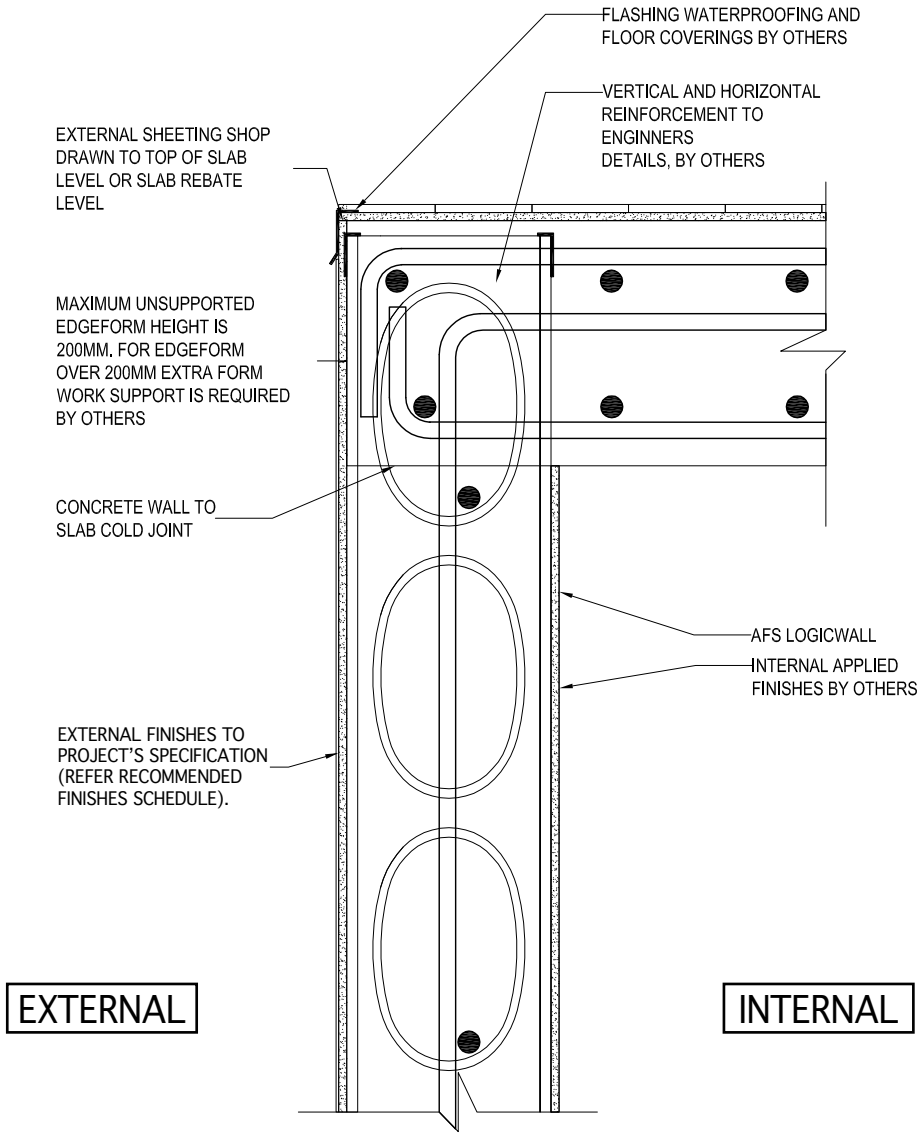
I 2.1.6 AFS LOGICWALL® Edgeform at Floor/Slab Junction



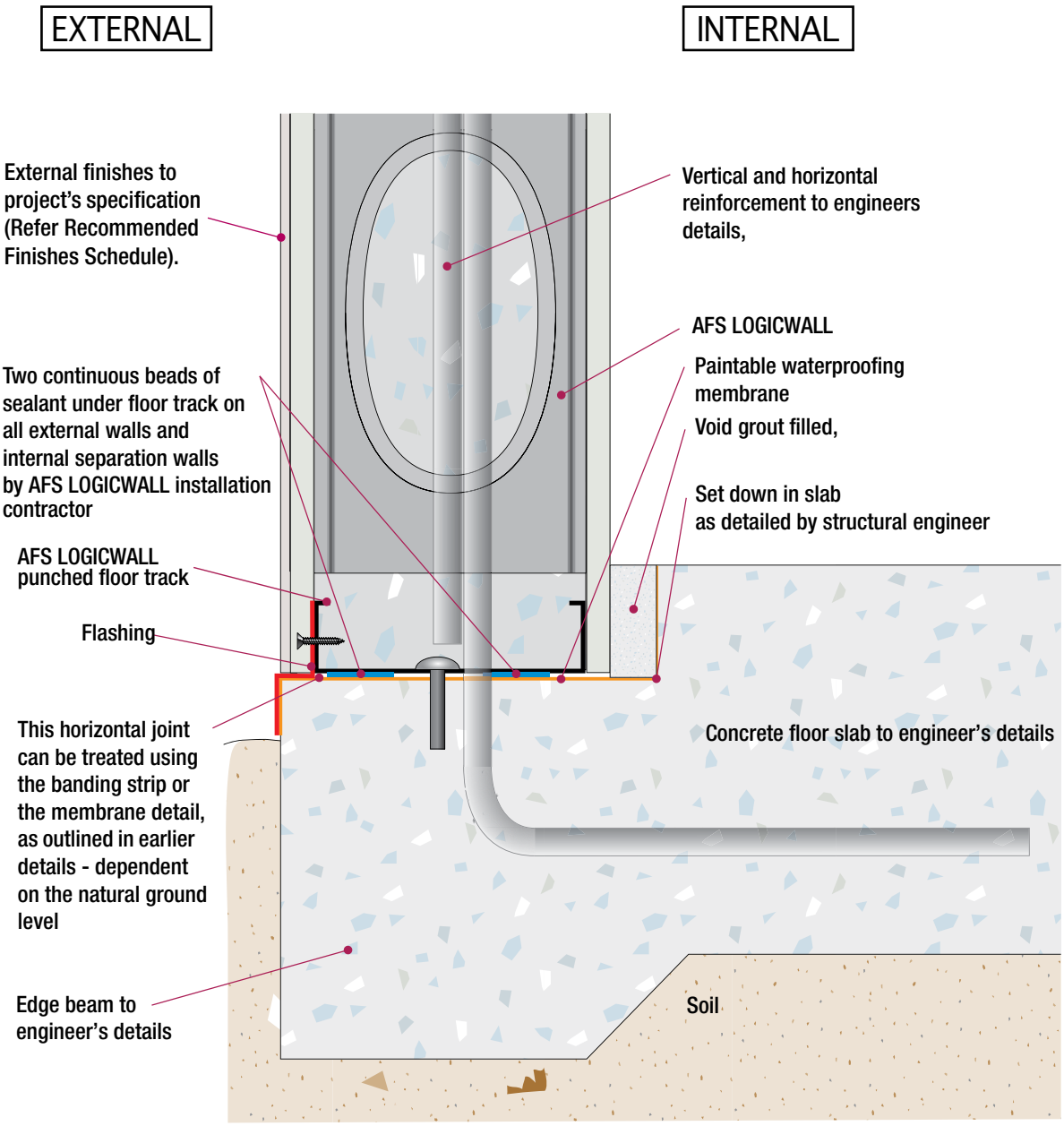
I 2.1.7 Slab Junction HOB Detail



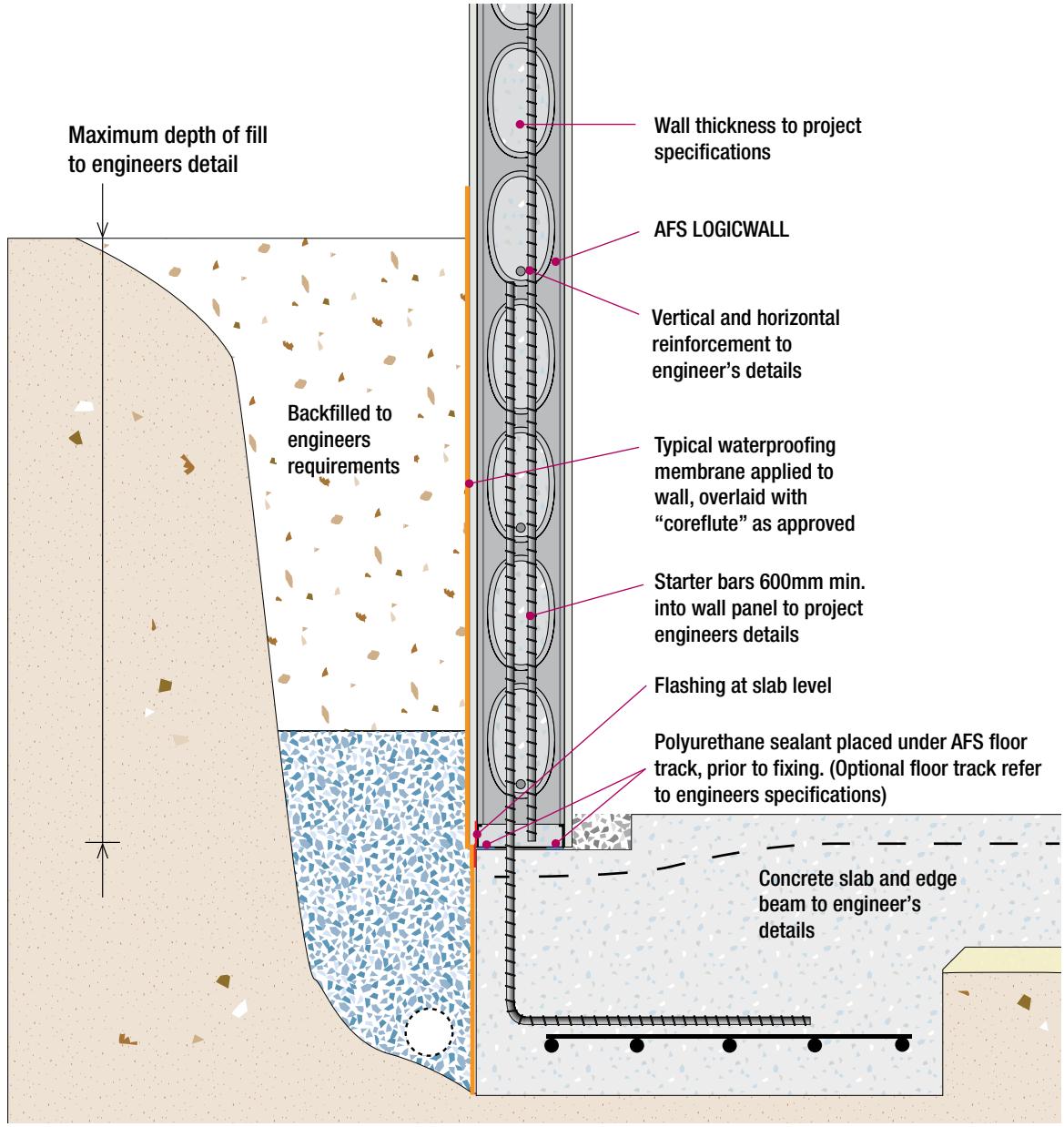
I 2.1.8 Edgeform At Floor/Slab Junction



I 2.1.9 External Wall/Slab Junction For Typical Raft Slab



I 2.1.10 AFS LOGICWALL® Retaining Wall / Basement Wall Slab Junction

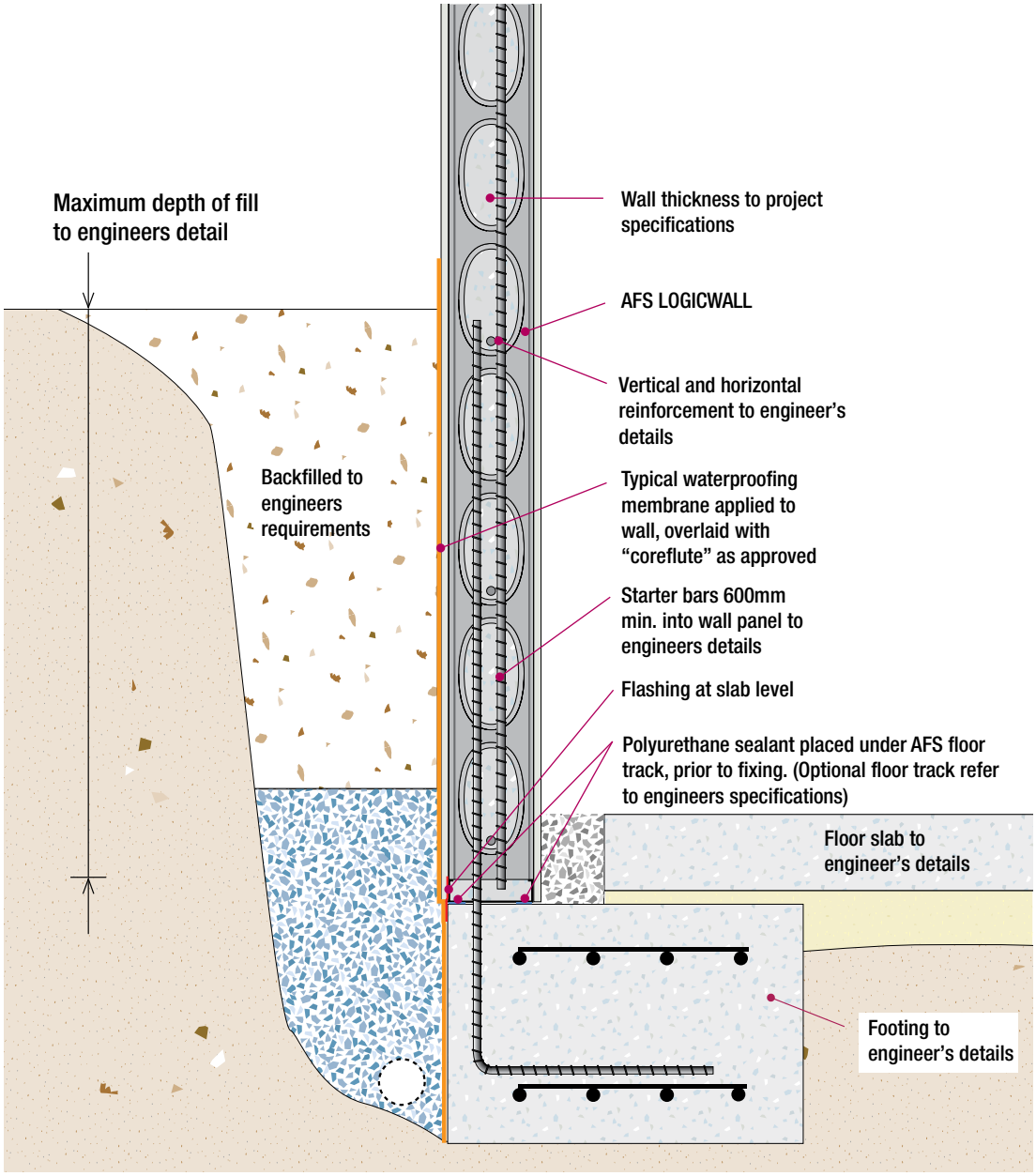


* Alternatively Basement Walls can be constructed using REDIWALL, another product by AFS.

REDIWALL
WALLING SYSTEM

www.rediwall.com.au

I 2.1.11 AFS LOGICWALL® Retaining Wall / Basement Wall Footing Junction

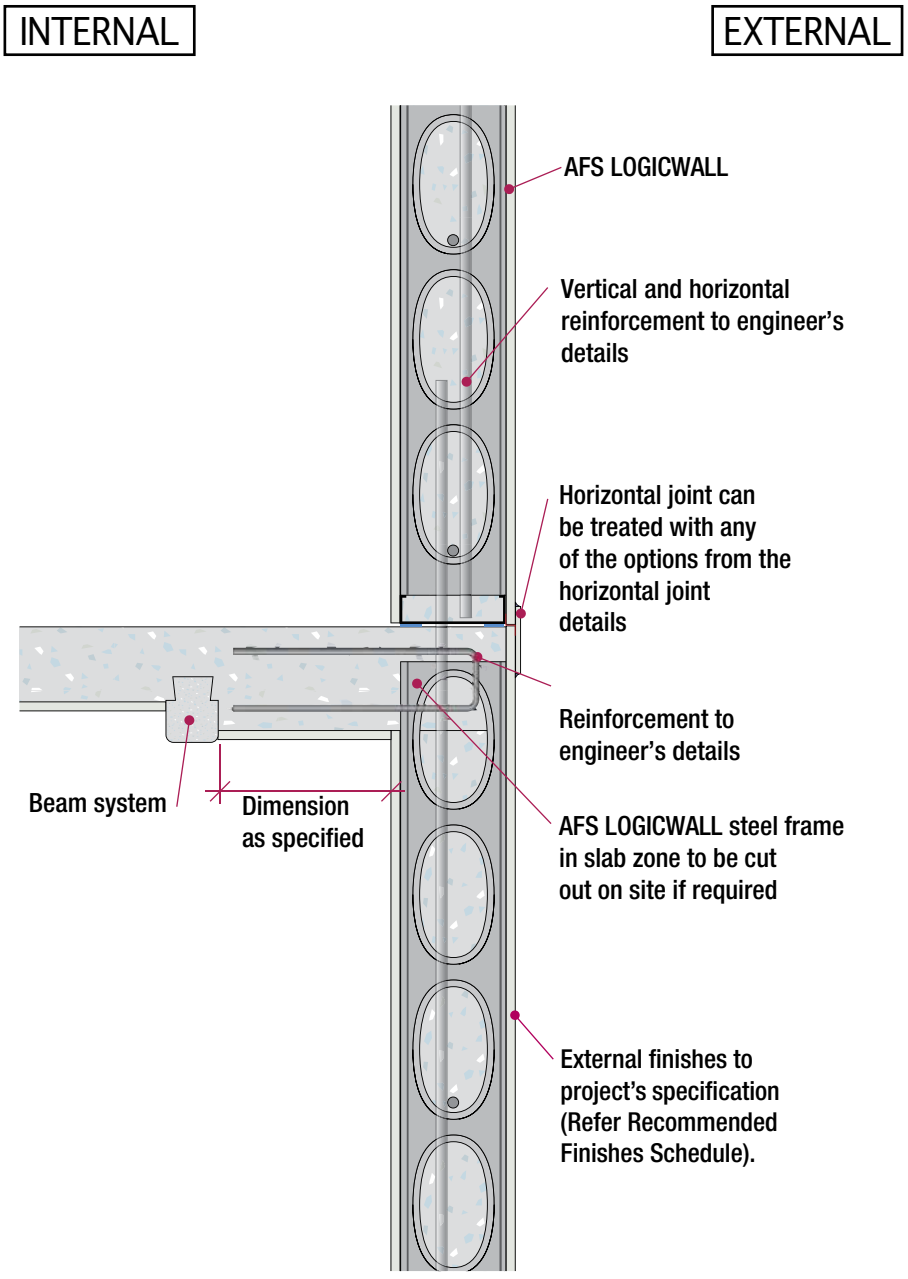


* Alternatively Basement Walls can be constructed using REDIWALL, another product by AFS.

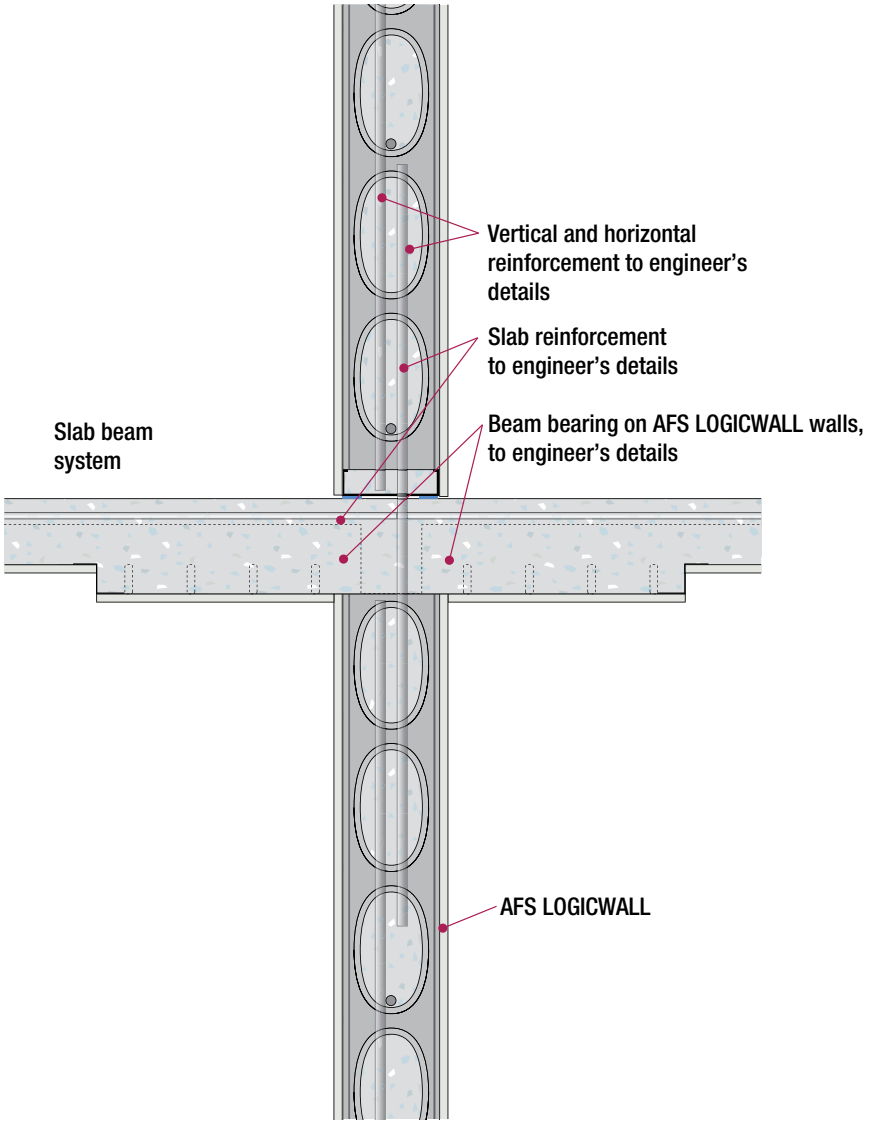
REDIWALL
WALLING SYSTEM

www.rediwall.com.au

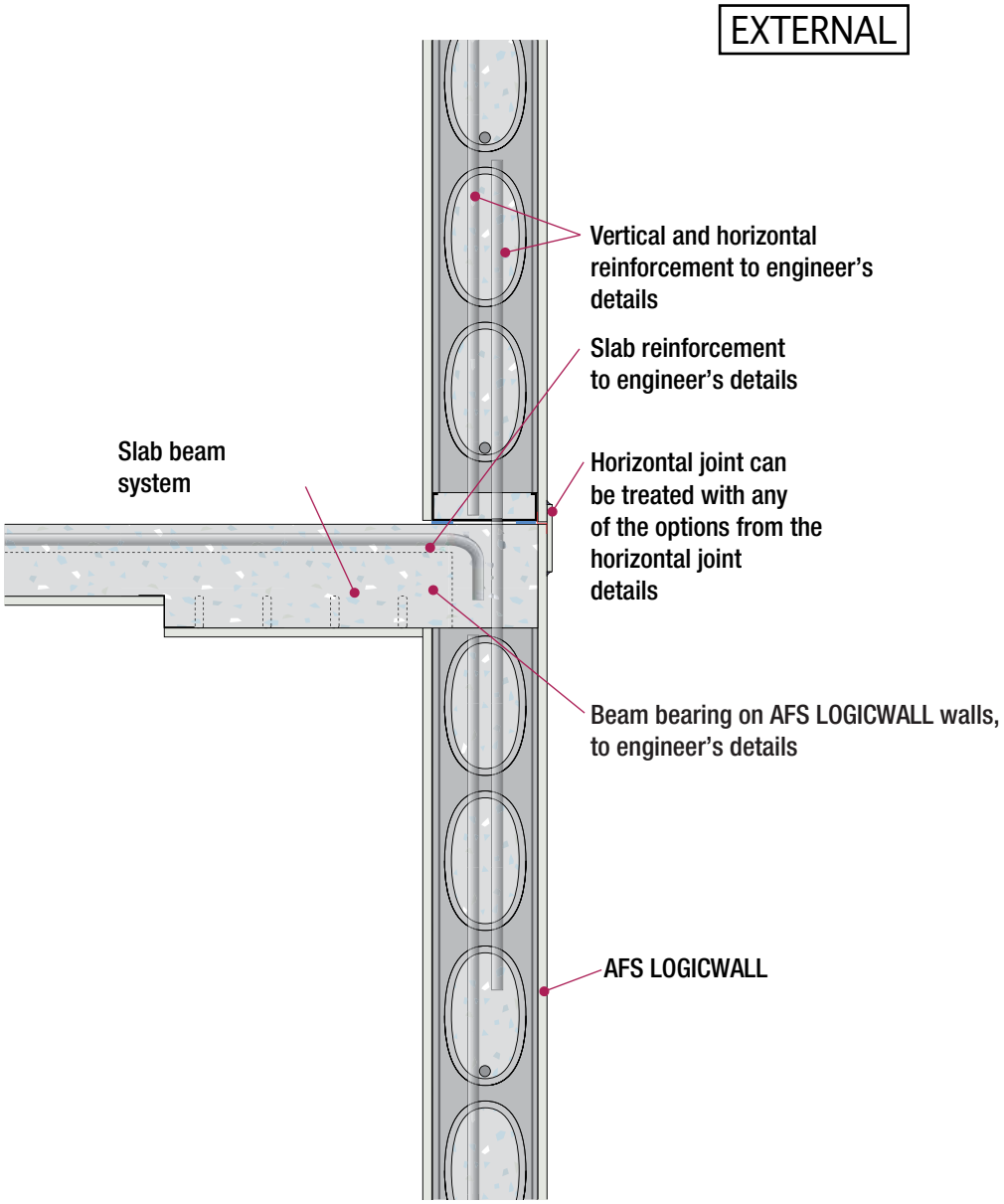
I 2.1.12 Wall Slab Junction, Beam System Parallel To AFS LOGICWALL®



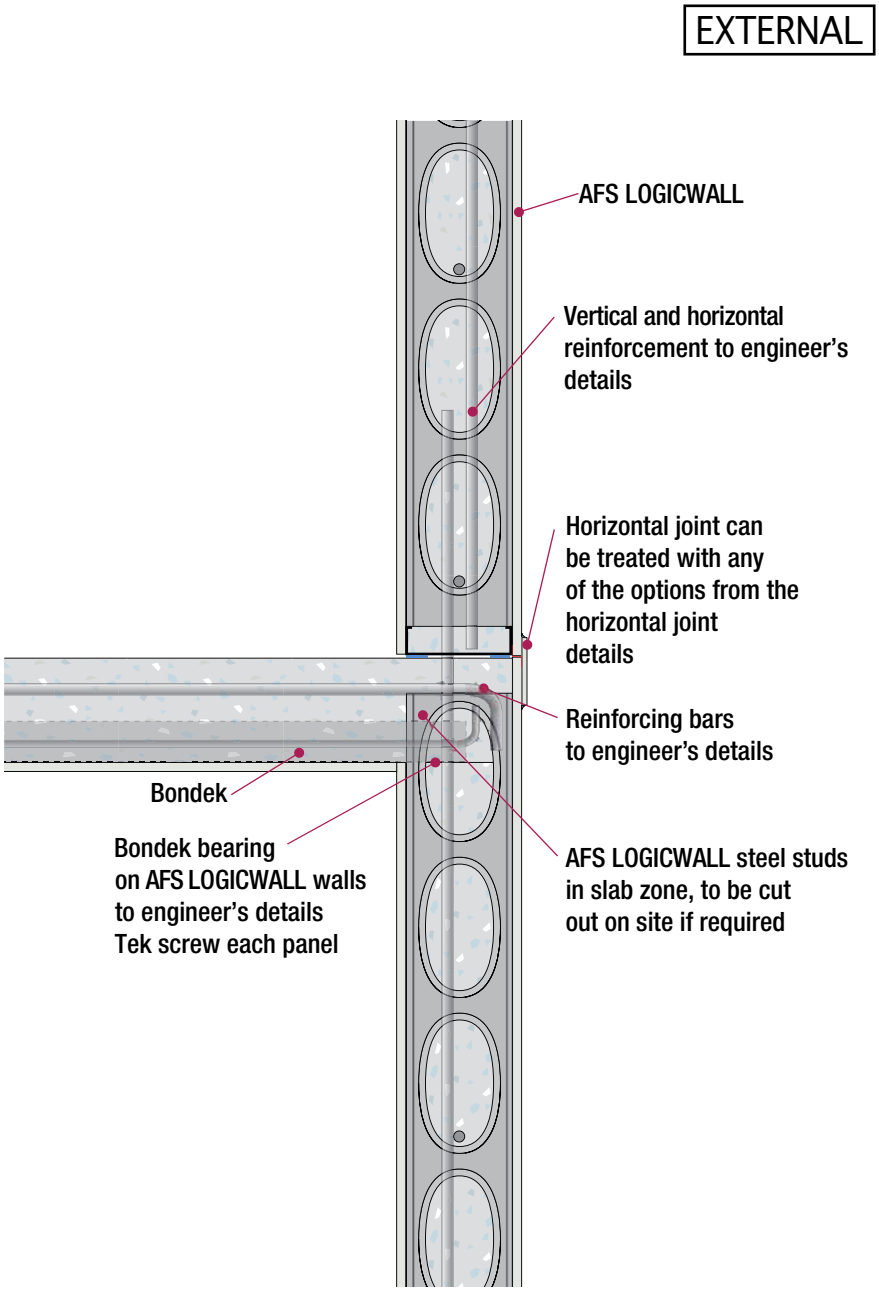
I 2.1.13 Wall Slab Junction, Beam System Perpendicular to AFS LOGICWALL®



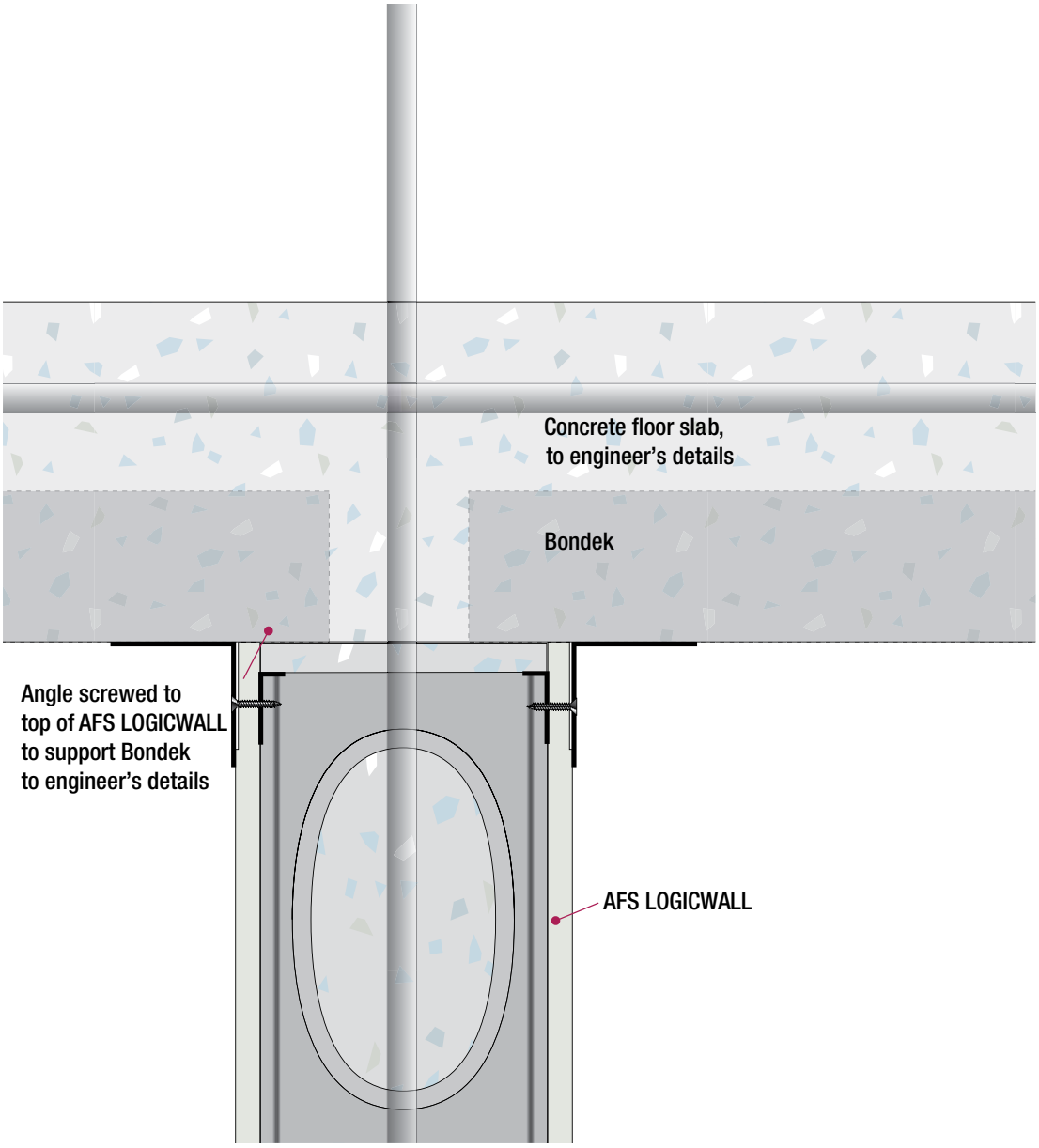
I 2.1.14 Wall Slab Junction, Beam System Perpendicular to AFS LOGICWALL® Façade Wall



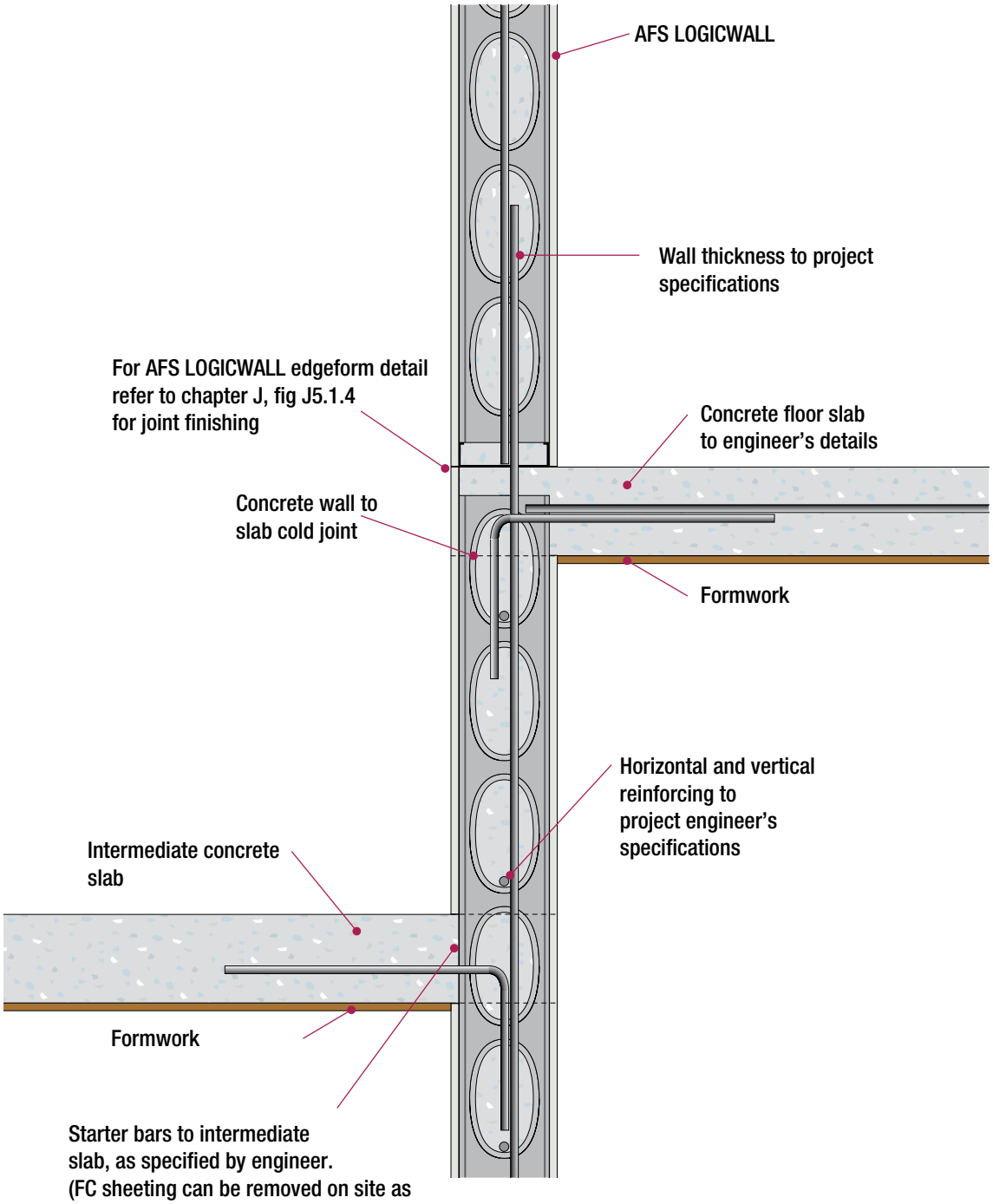
I 2.1.15 Permanent Formwork, Junction To AFS LOGICWALL® Façade Wall (i.e. Bondek or similar metal floor system)



I 2.1.16 Permanent Formwork, Junction To Internal AFS LOGICWALL® (i.e. Bondek or similar metal floor system)

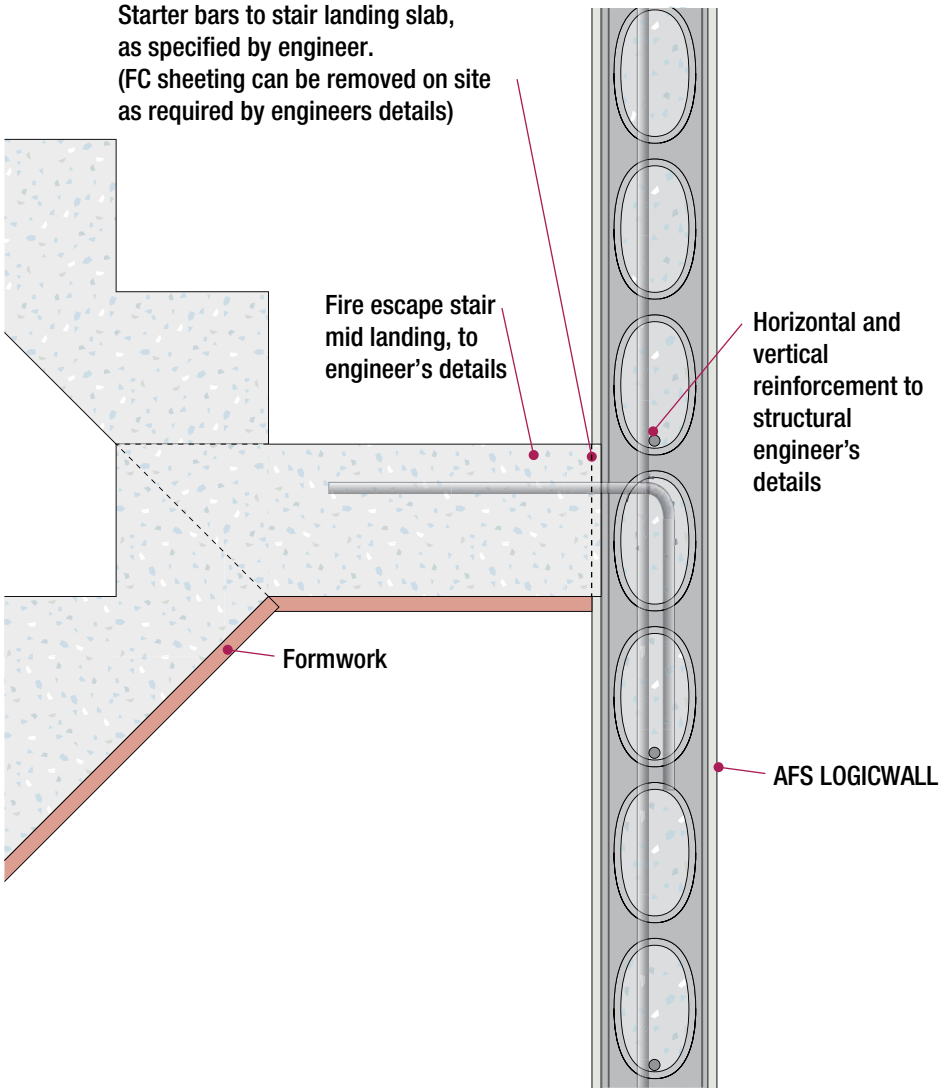


I 2.1.17 Step Floor/Stair Landing



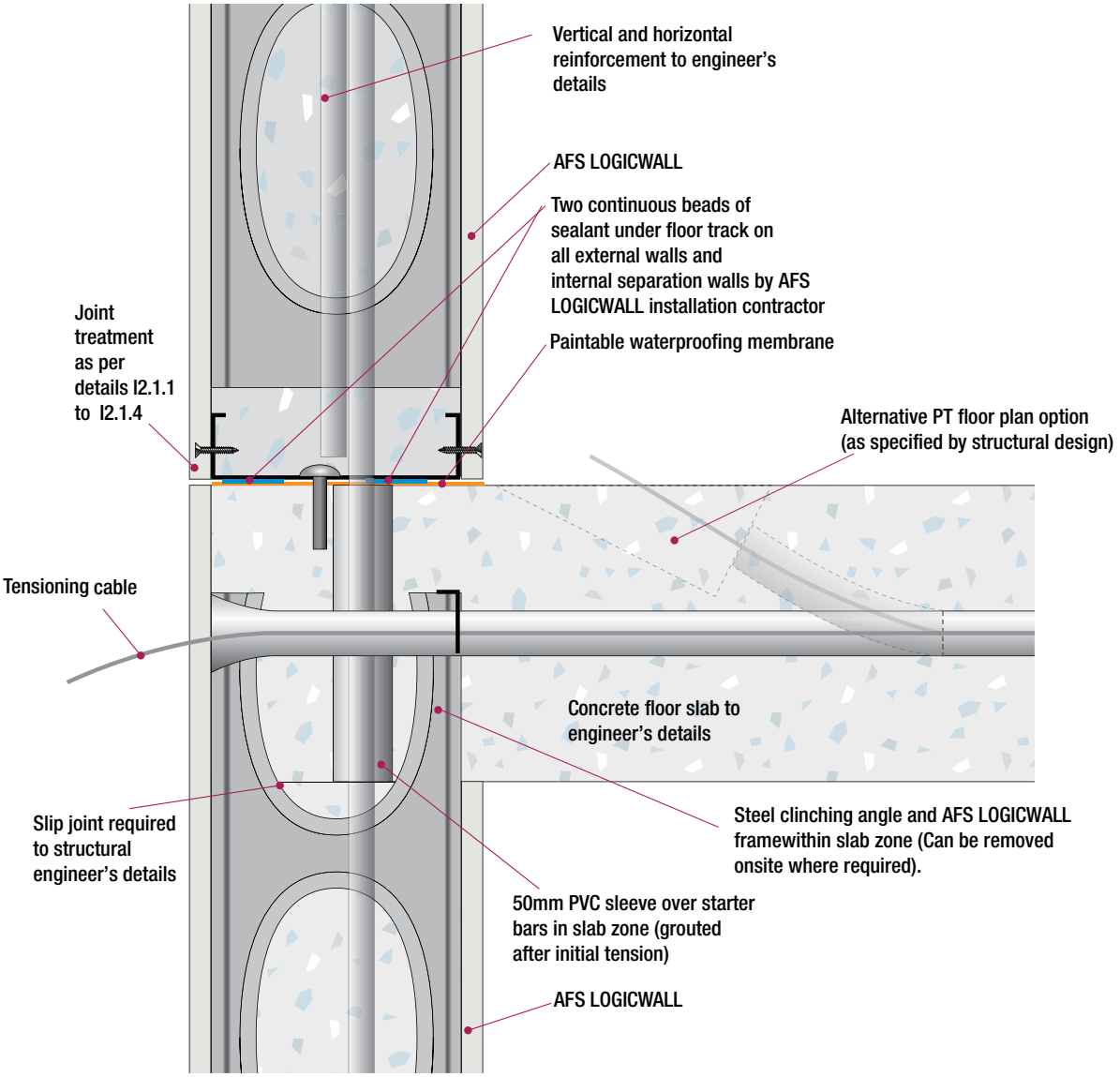
NOTE: Consult AFS technical representative before specifying this detail.

I 2.1.18 AFS LOGICWALL® Wall Connections To Stair Mid Landing

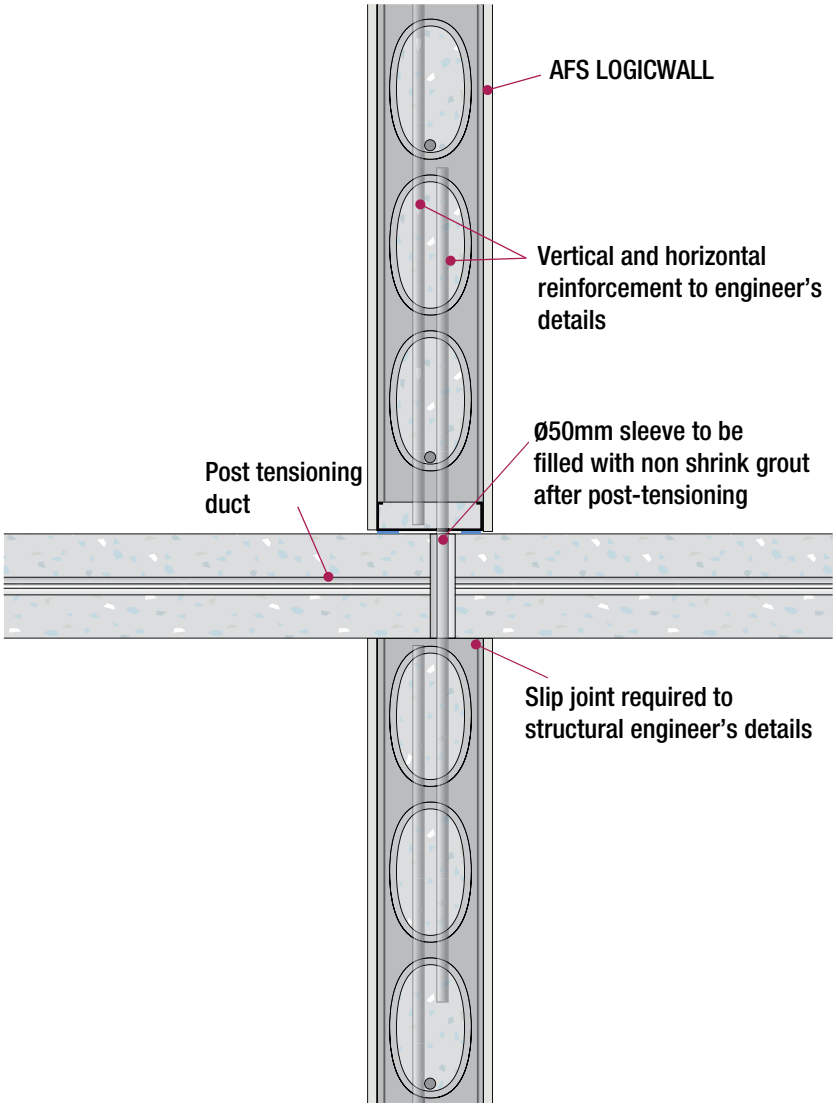


I 2.2 Post-tensioned Slabs

I 2.2.1 AFS LOGICWALL® Post-tensioned Detail

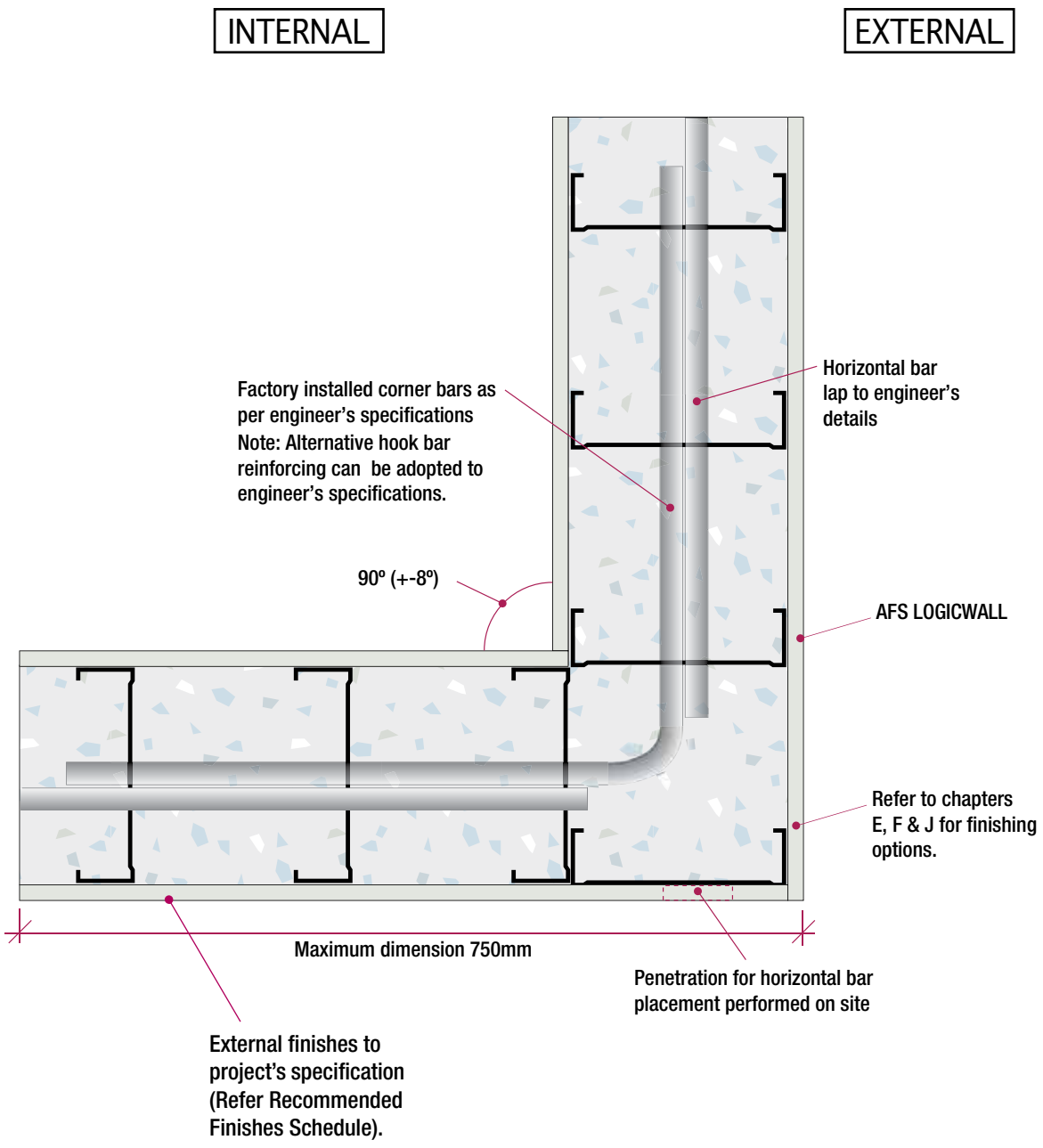


I 2.2.2 Post-tensioned Slab To AFS LOGICWALL® (Internal) Wall

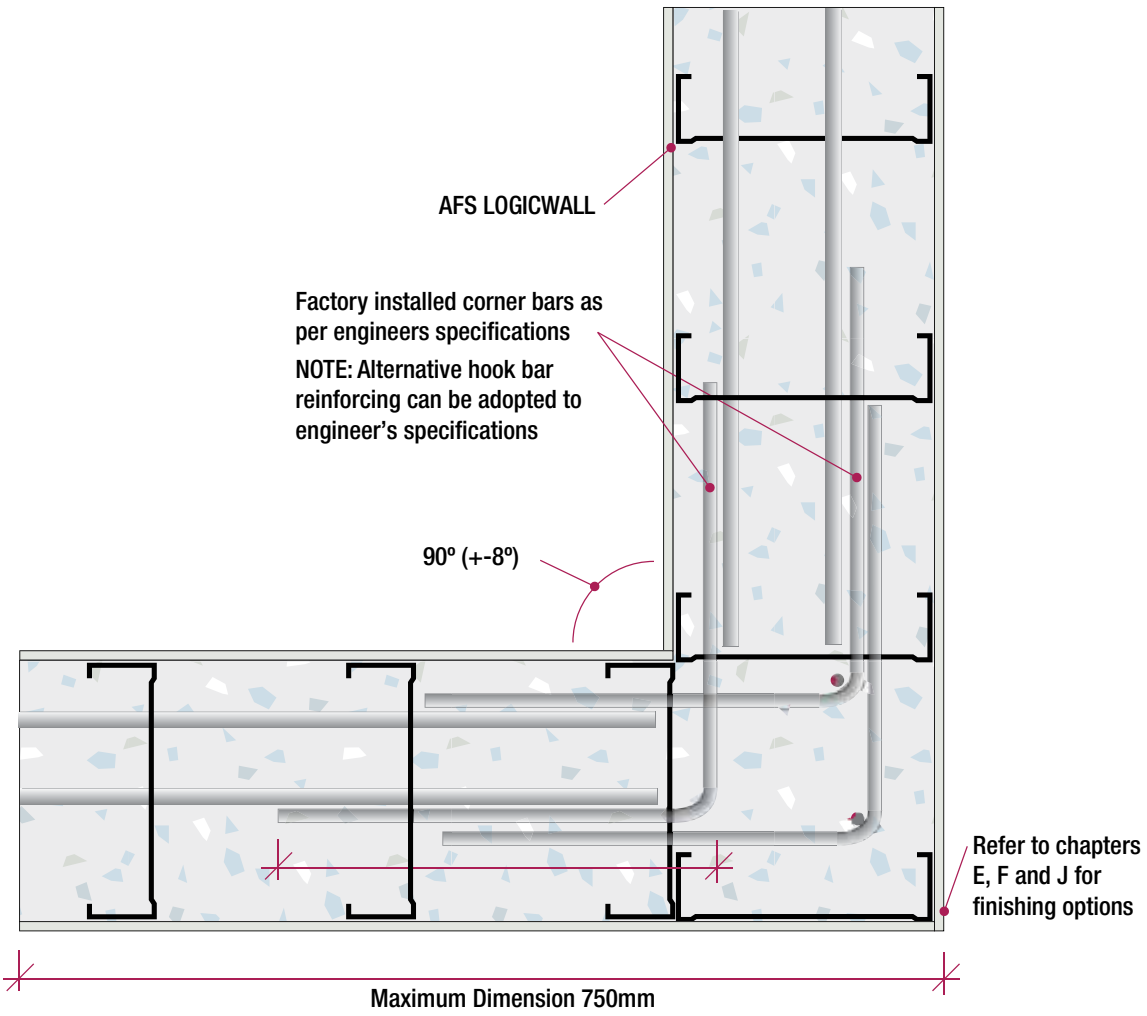


I 2.3 AFS LOGICWALL Corners and Tee Junctions

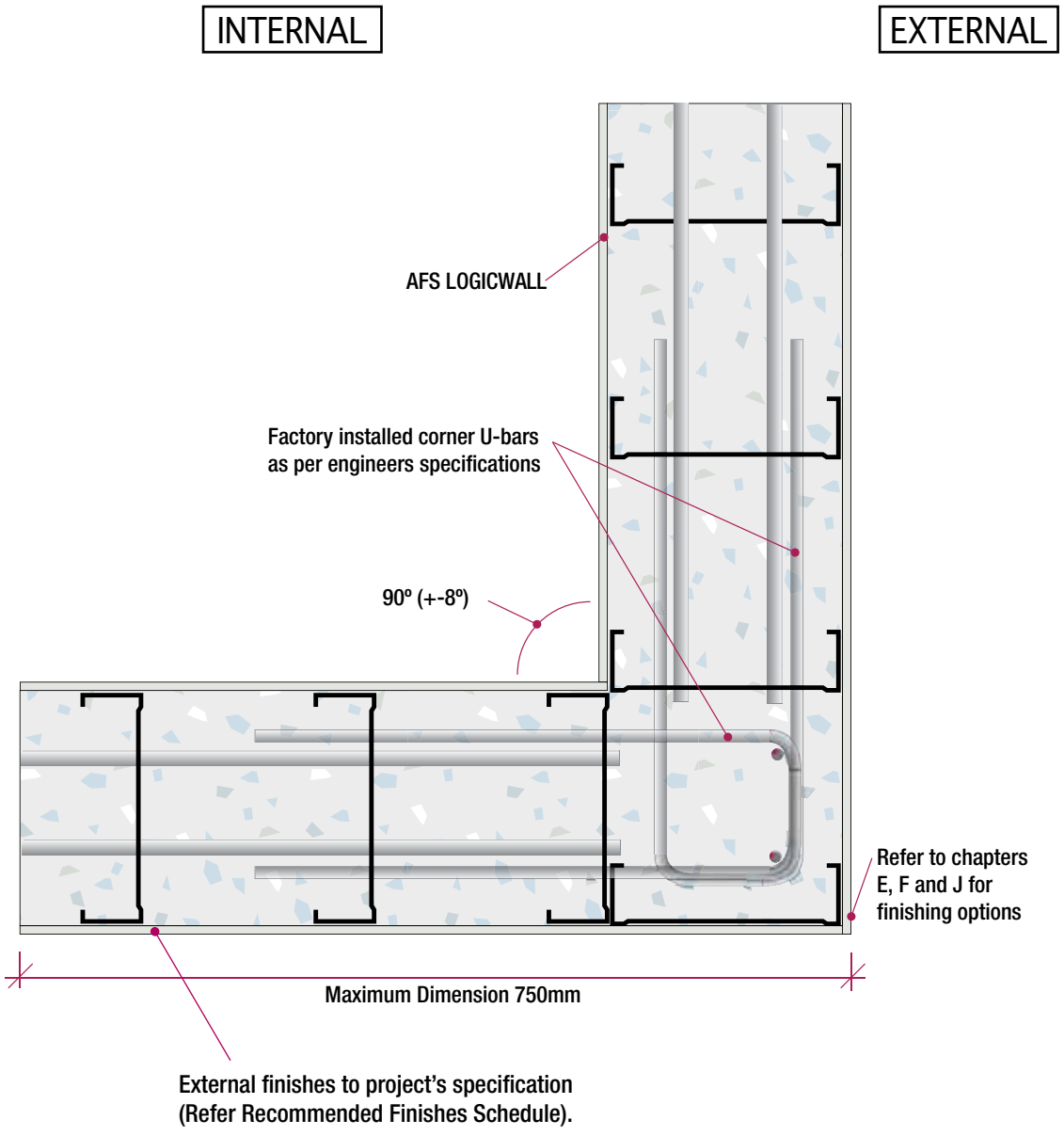
I 2.3.1 AFS LOGICWALL® Wall 90° Prefabricated Corner - Single Reinforcement Carriers (AFS120, 150, 162, 200)



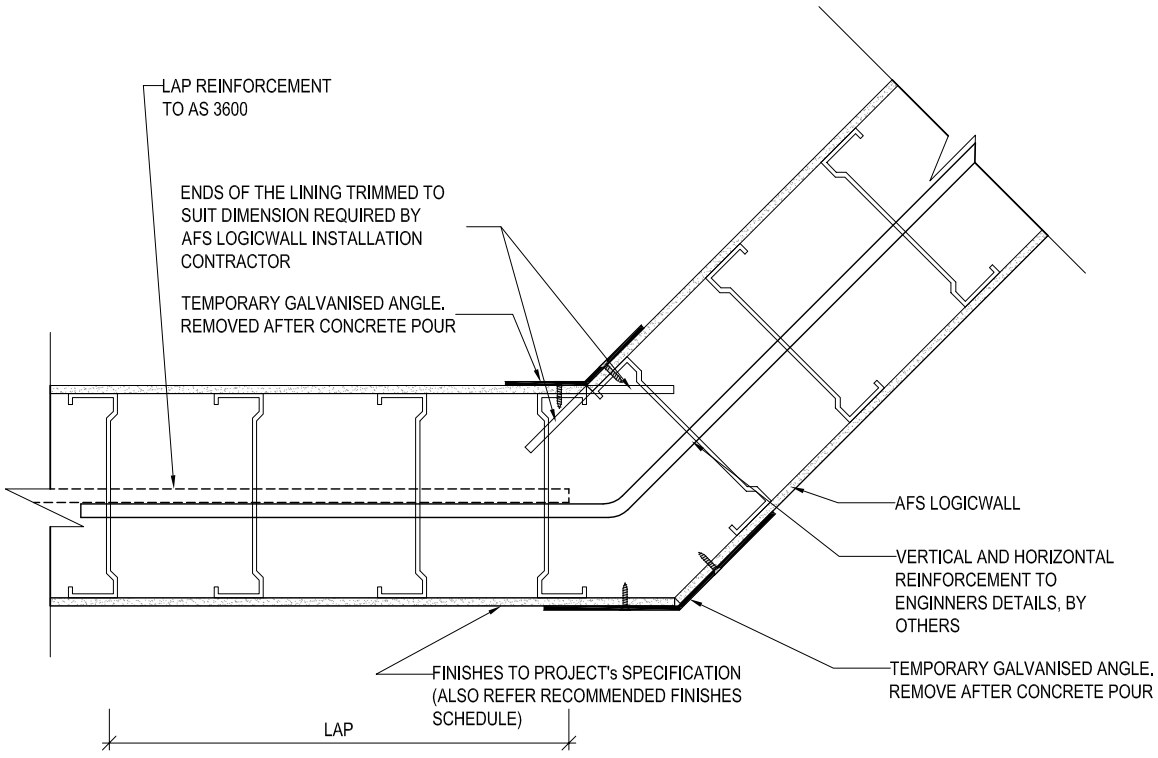
I 2.3.2 AFS LOGICWALL® Wall 90° Prefabricated Corner – Double Reinforcement Carriers - with "L" bars (AFS200D, 262D)



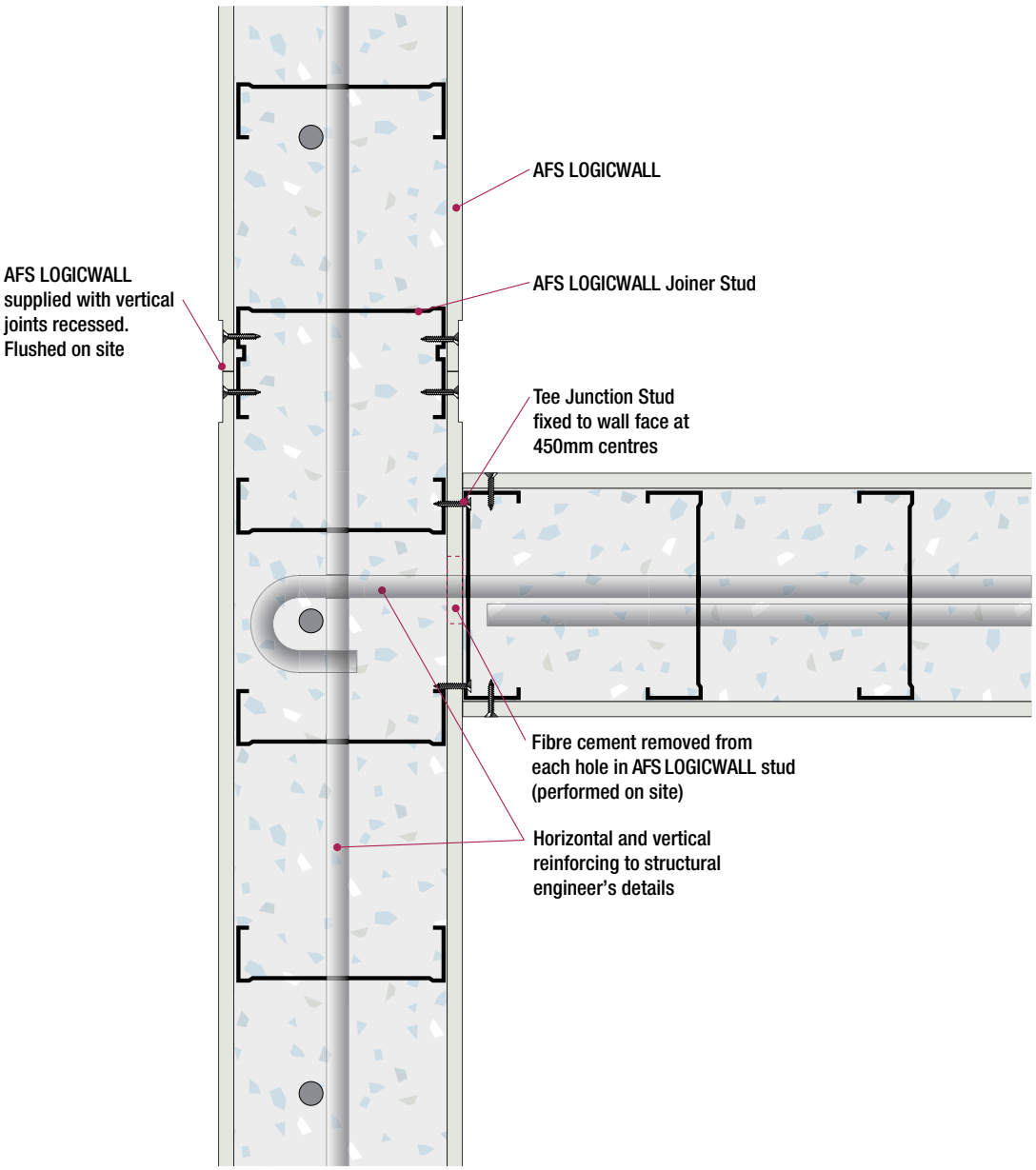
I 2.3.3 AFS LOGICWALL® Wall 90° Prefabricated Corner – Double Reinforcement Carriers - with "U"bars (AFS200D, 262D)



I 2.3.4 Squint Corner Detail for 135° Corners or Angle



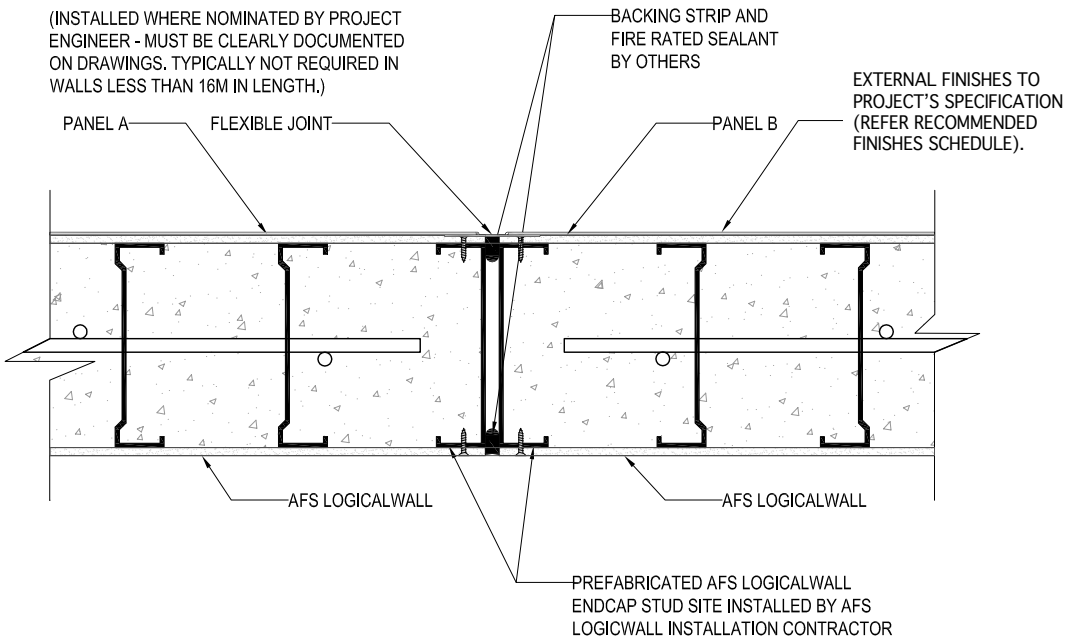
I 2.3.5 AFS LOGICWALL® Wall Tee Junction



I 2.4 Panel Joints

I 2.4.1 Movement Joint

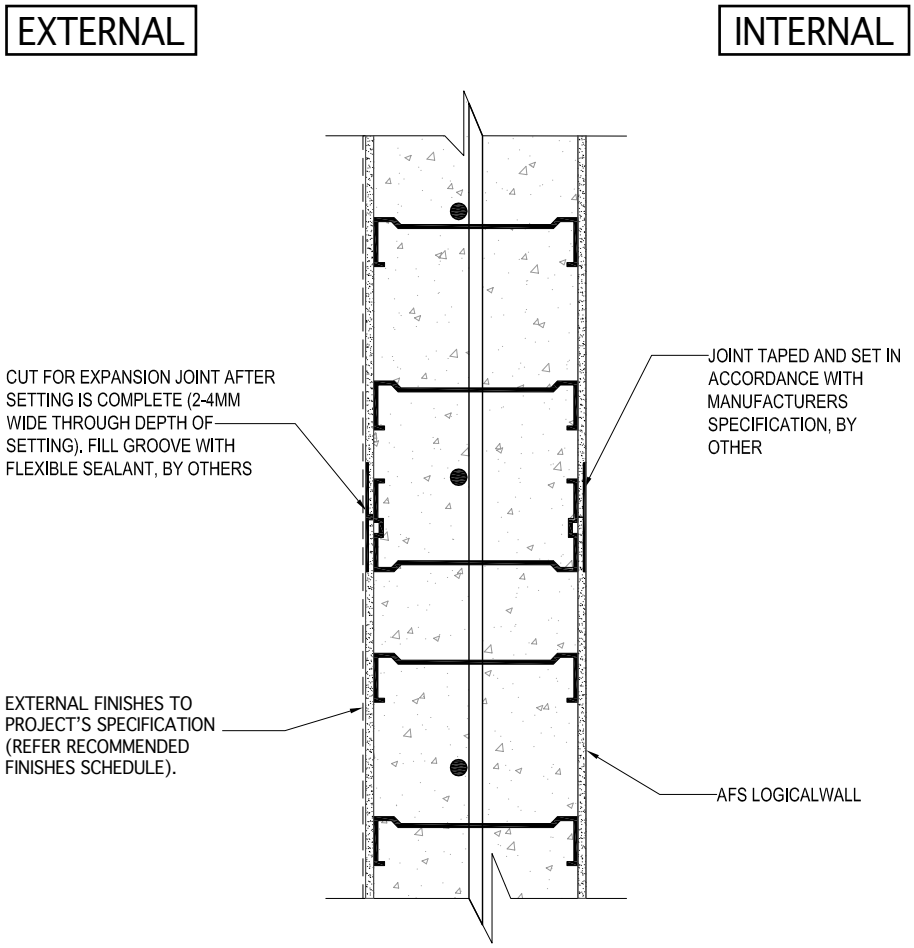
EXTERNAL



INTERNAL

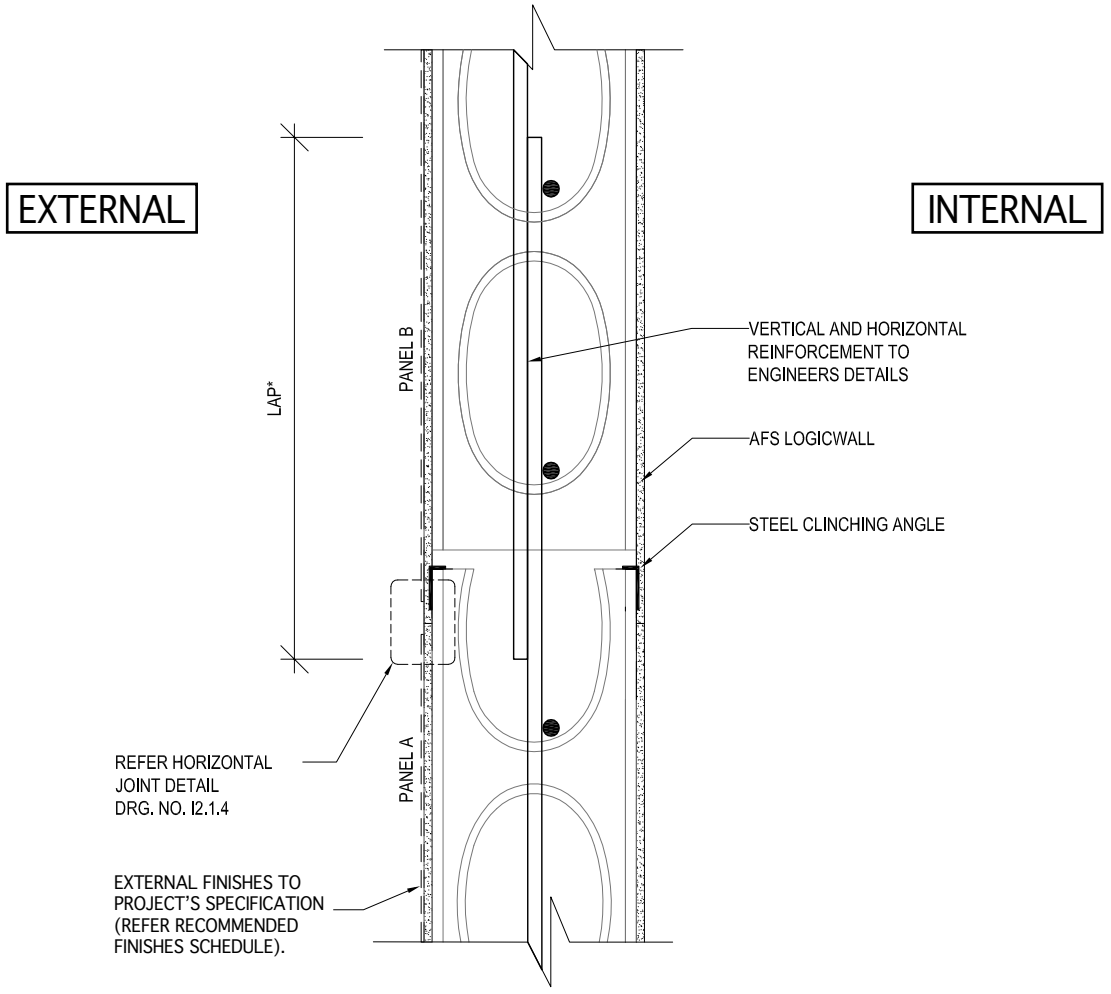
*NOTE: CAN BE DOWELL JOINTED IF REQUIRED STRUCTURALLY.MUST BE CLEARLY SPECIFIED AND NEGOTIATED WITH INSTALLERS AT TIME OF TENDER

I 2.4.2 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

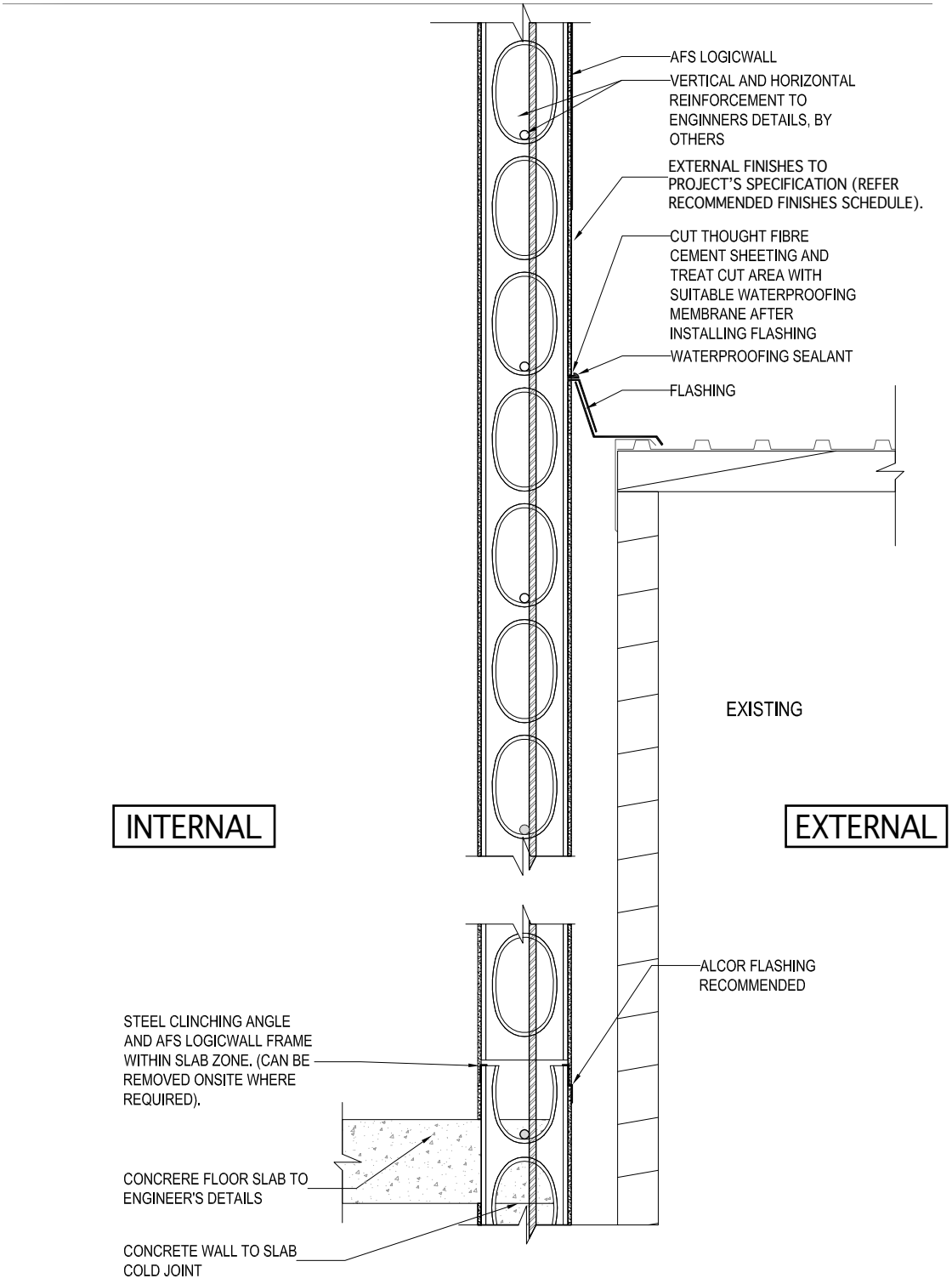
I 2.4.3 Double Height Wall – Horizontal Joint



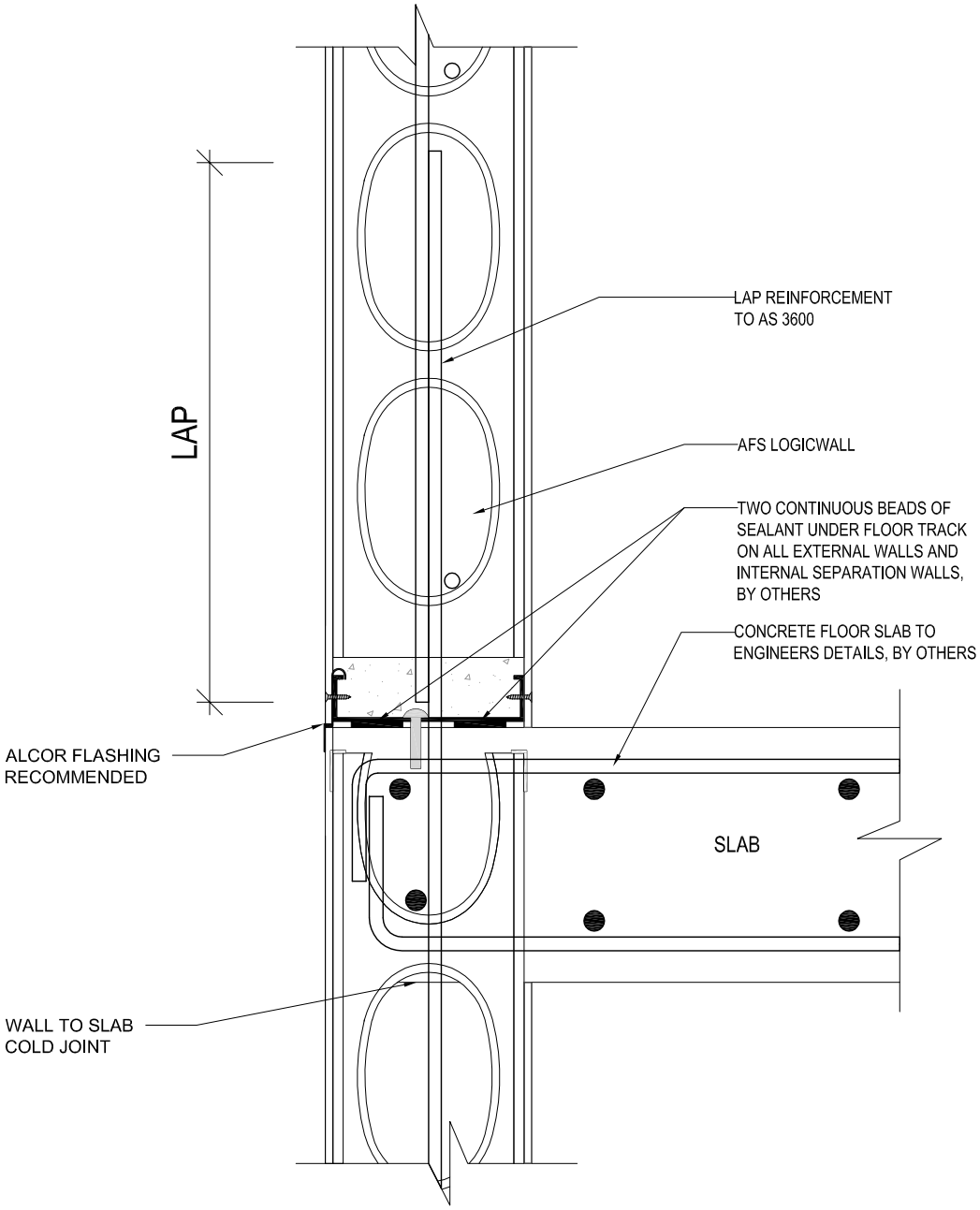
*NOTE: ISSUE REGARDING ACCESS, LIFTING AND BRACING NEED TO BE CONSIDERED WHEN SPECIFYING THIS DETAIL

I 2.5 Boundary Walls

I 2.5.1 AFS LOGICWALL® Wall Adjacent To Existing Structure Flashing Detail

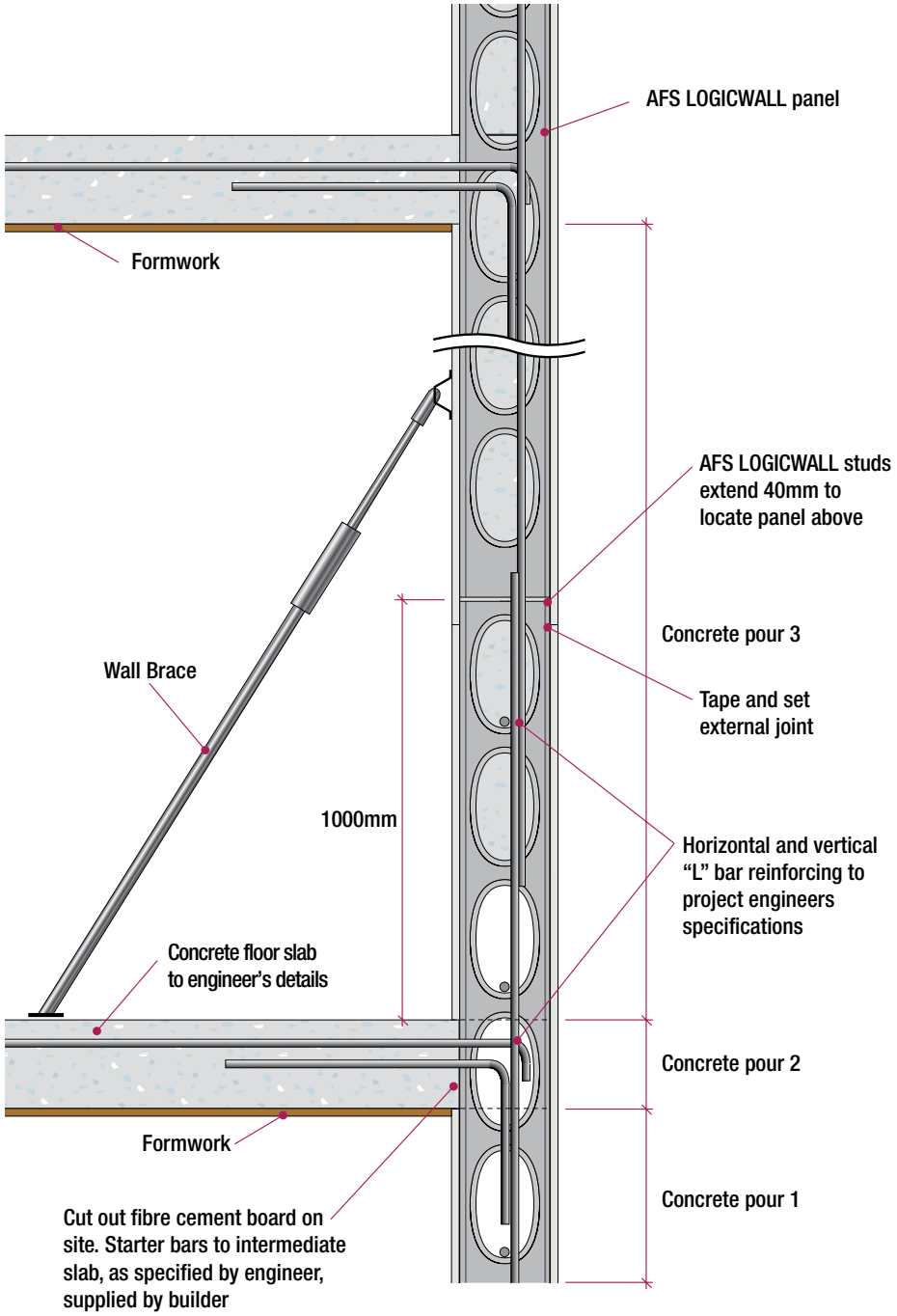


I 2.5.2 Unfinished Covered Boundary Wall Flashing Detail



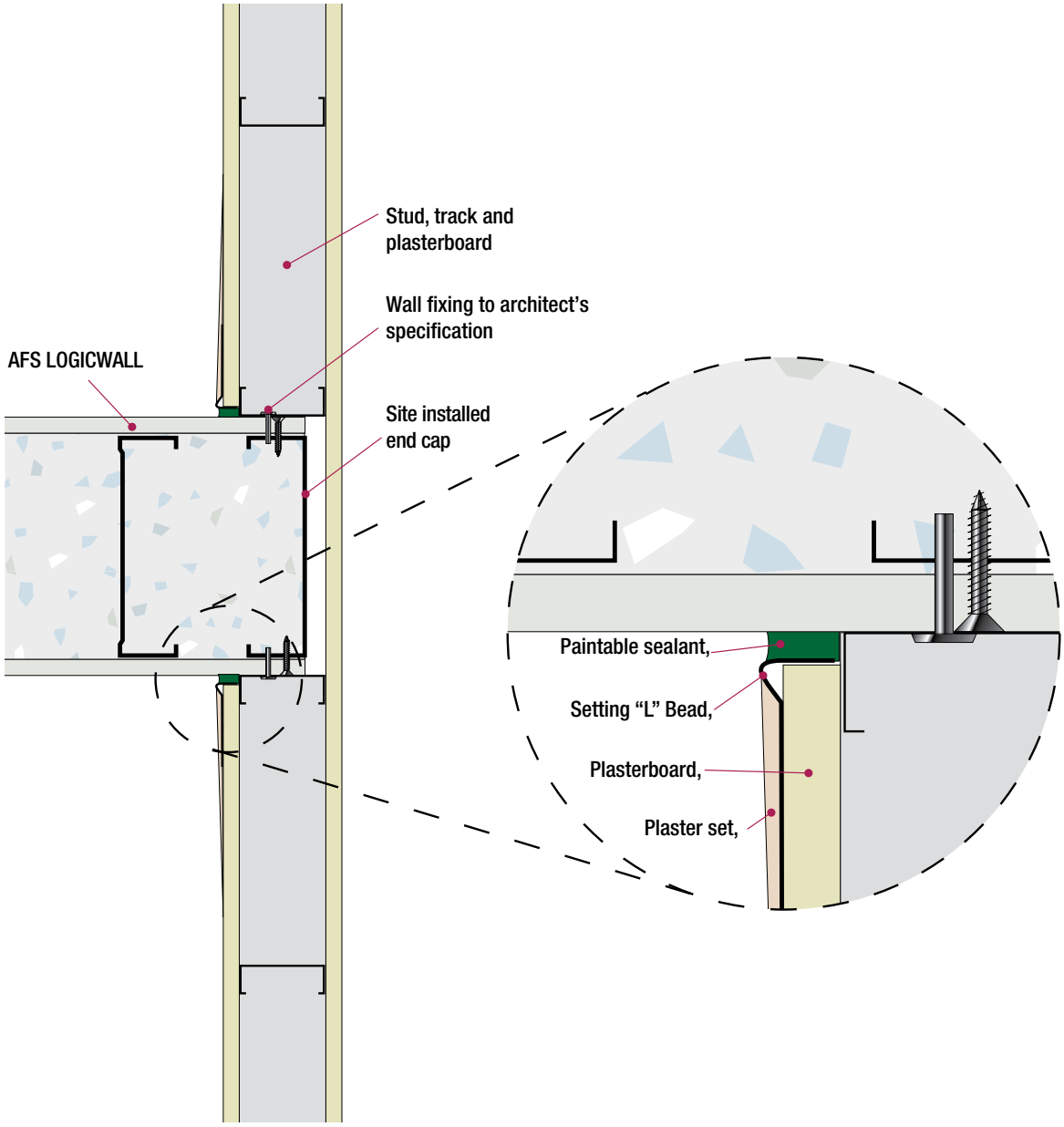
THIS DETAIL ONLY APPLIES WHERE WATERPROOF FLASHING IS NOT ACHIEVABLE AS PER DETAIL I2.5.1

I 2.5.3 Safety Balustrade / Boundary Wall Detail

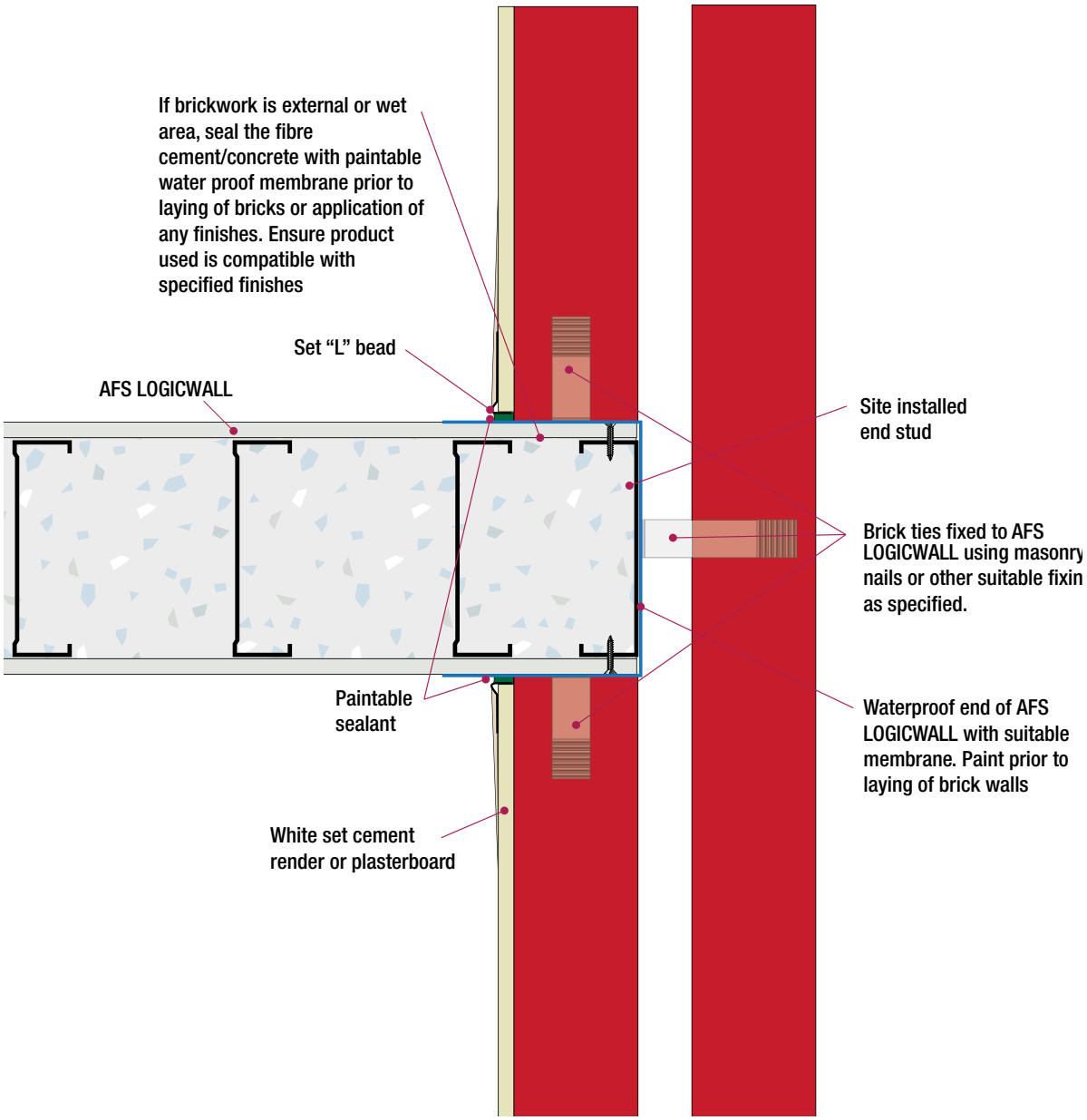


I 2.6 Junctions with Other Wall Types

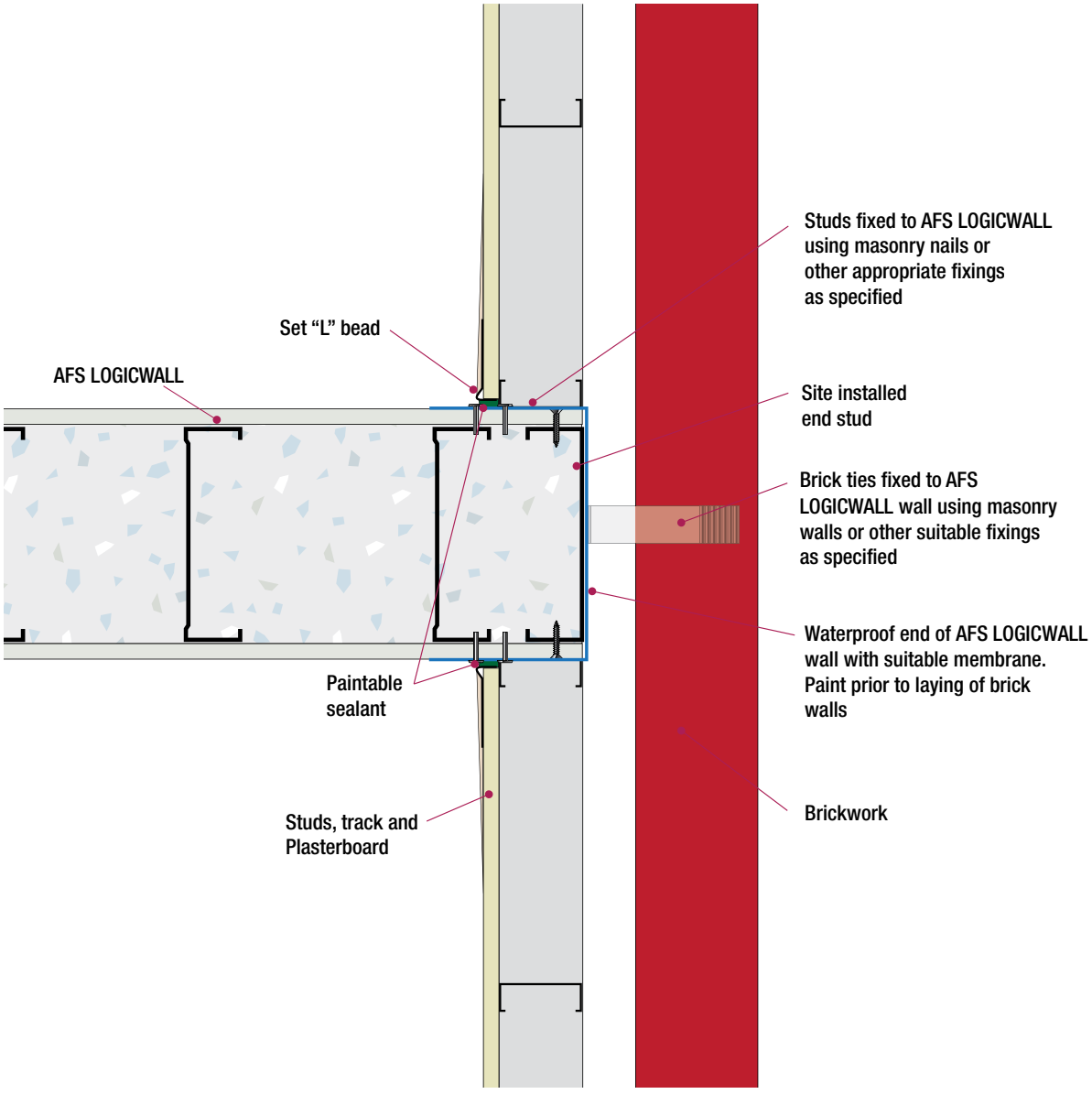
I 2.6.1 AFS LOGICWALL®/Plasterboard Wall Junction



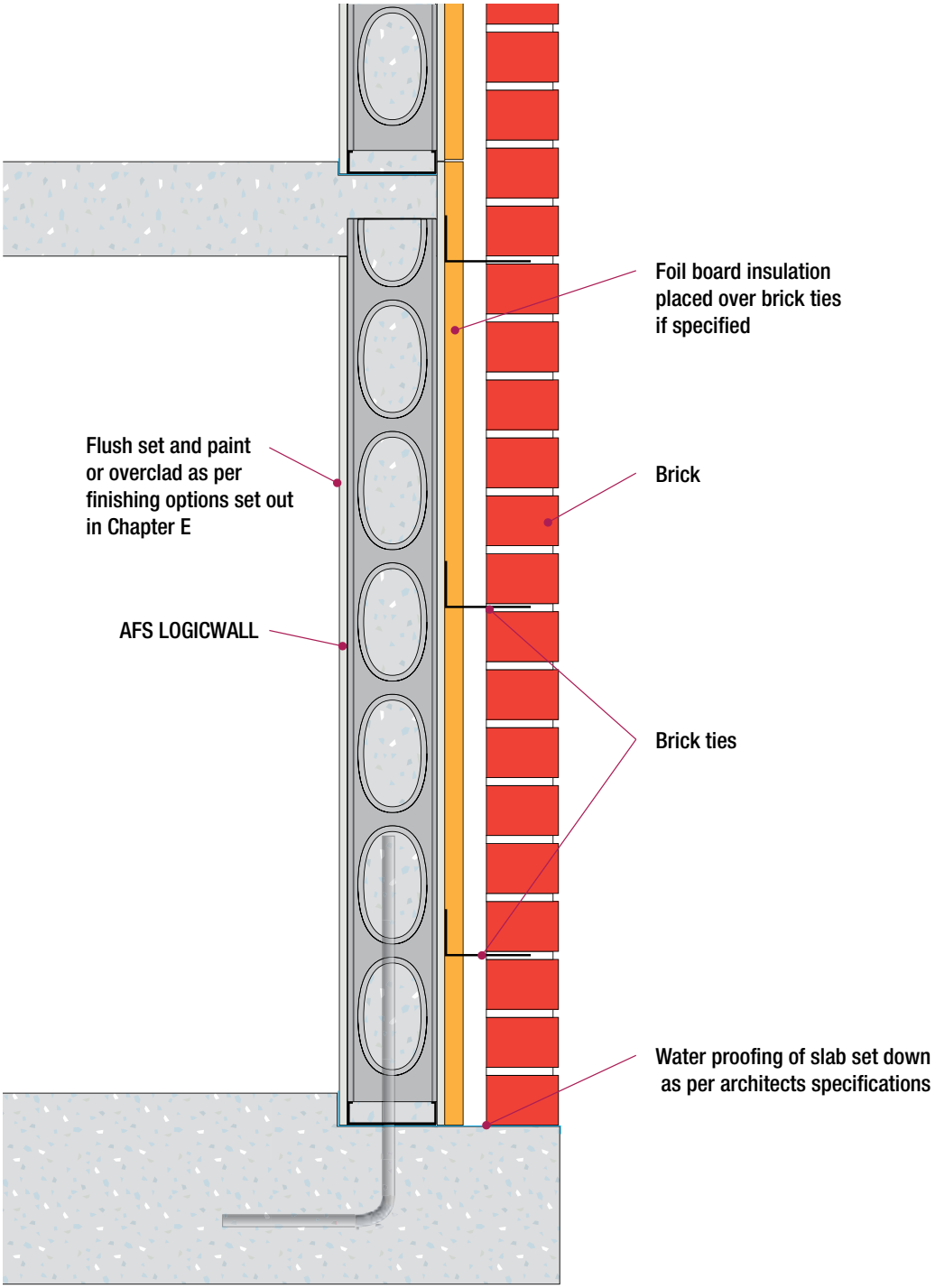
I 2.6.2 AFS LOGICWALL®/Double Brick Junction



I 2.6.3 AFS LOGICWALL®/Brick Veneer Junction

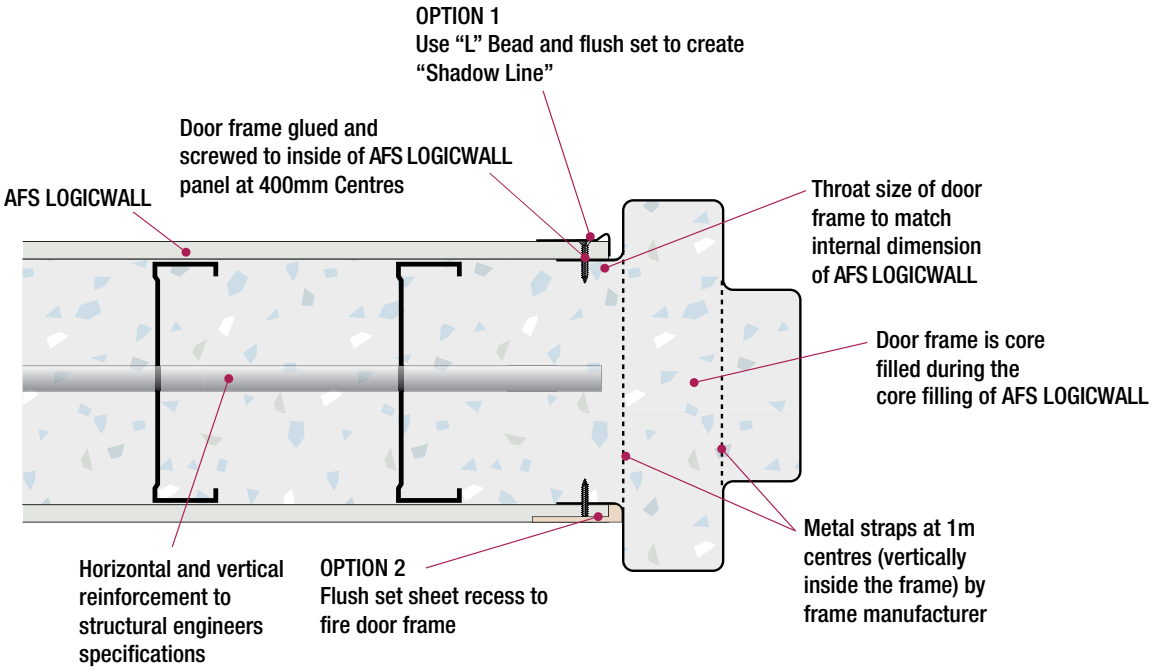


I 2.6.4 Brick Veneer Facade Over AFS LOGICWALL®



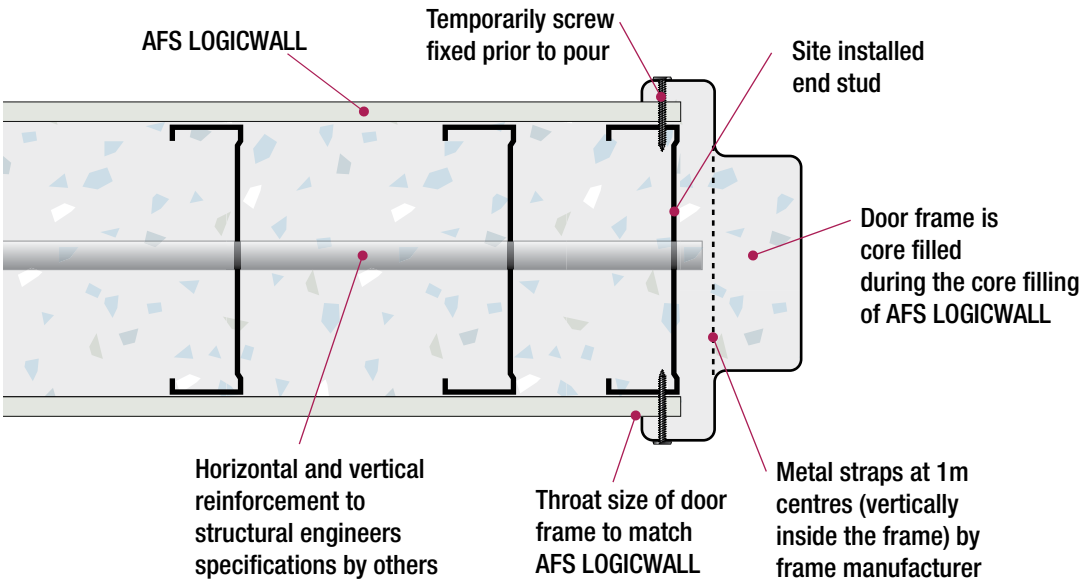
I 2.7 Doors, Windows & Openings

I 2.7.1 Fire Door Frames - Manufactured to suit AFS LOGICWALL® Profile - Option 1



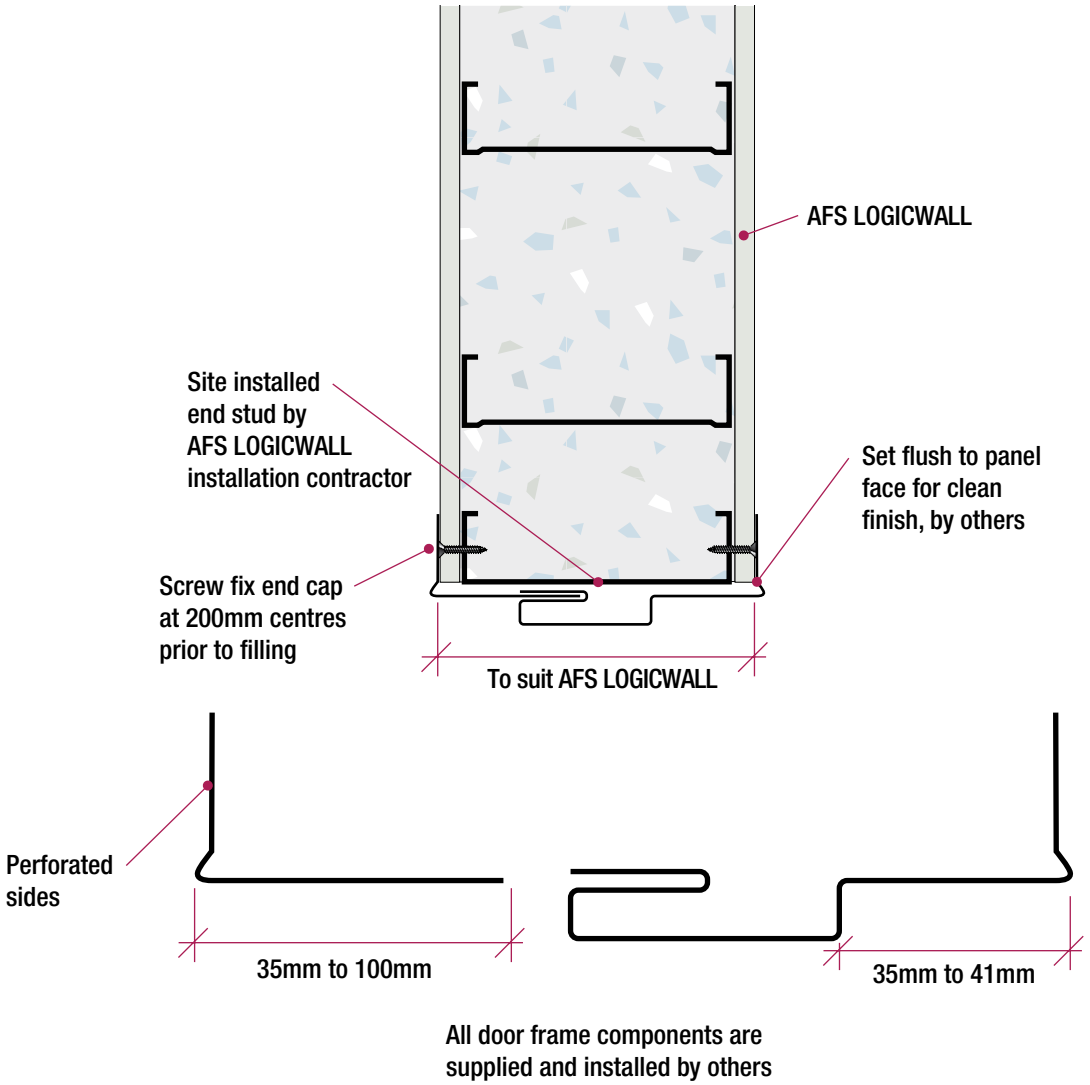
Note: Fire door frame to be braced on site to prevent movement/twisting during concrete corefilling.

I 2.7.2 Alternative Fire Door Frames - Manufacured to suit AFS LOGICWALL® Profile - Option 2



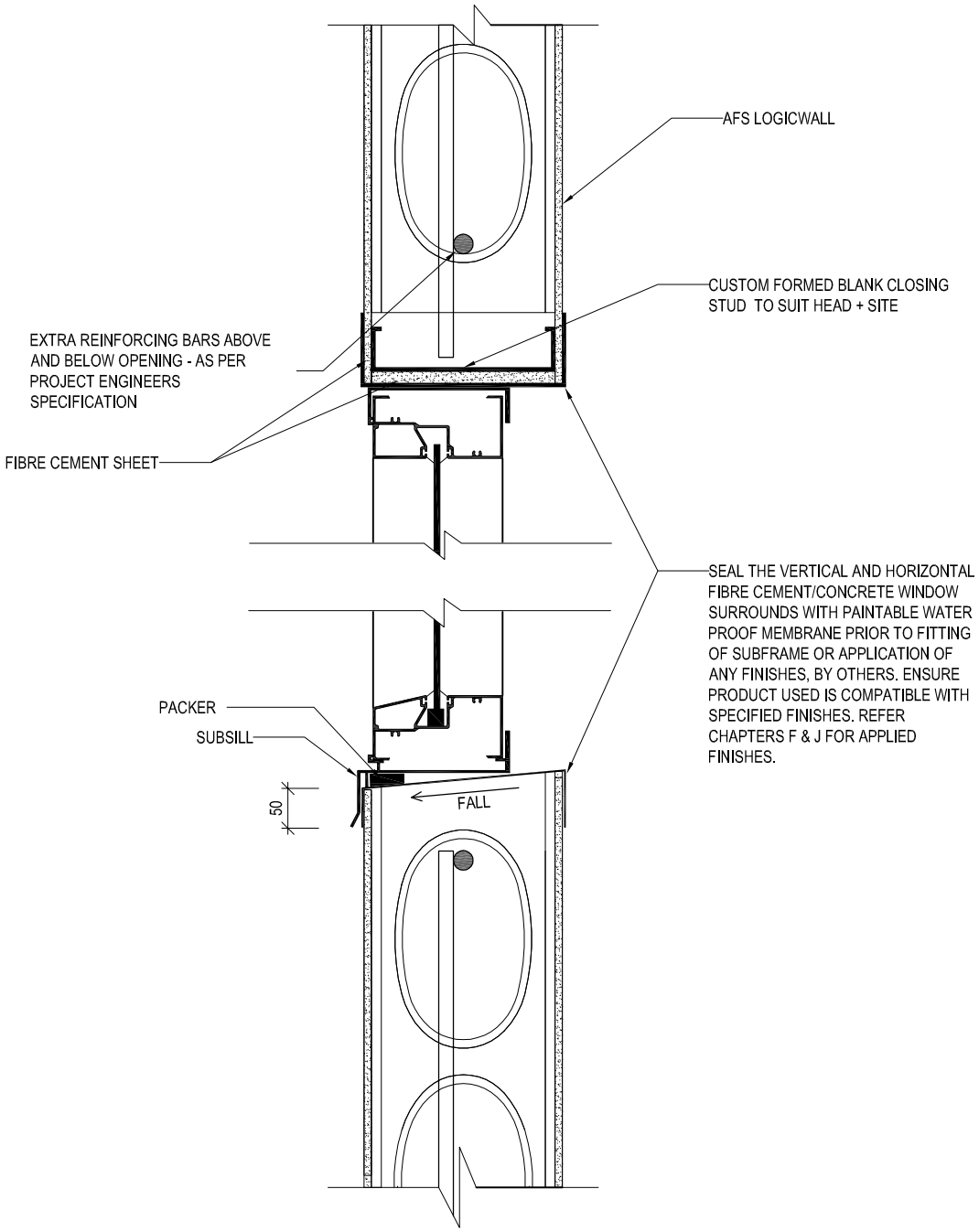
Note: Fire door frame to be braced on site to prevent movement/twisting during concrete corefilling.

I 2.7.3 Alternative Non-Fire Rated Door Frames

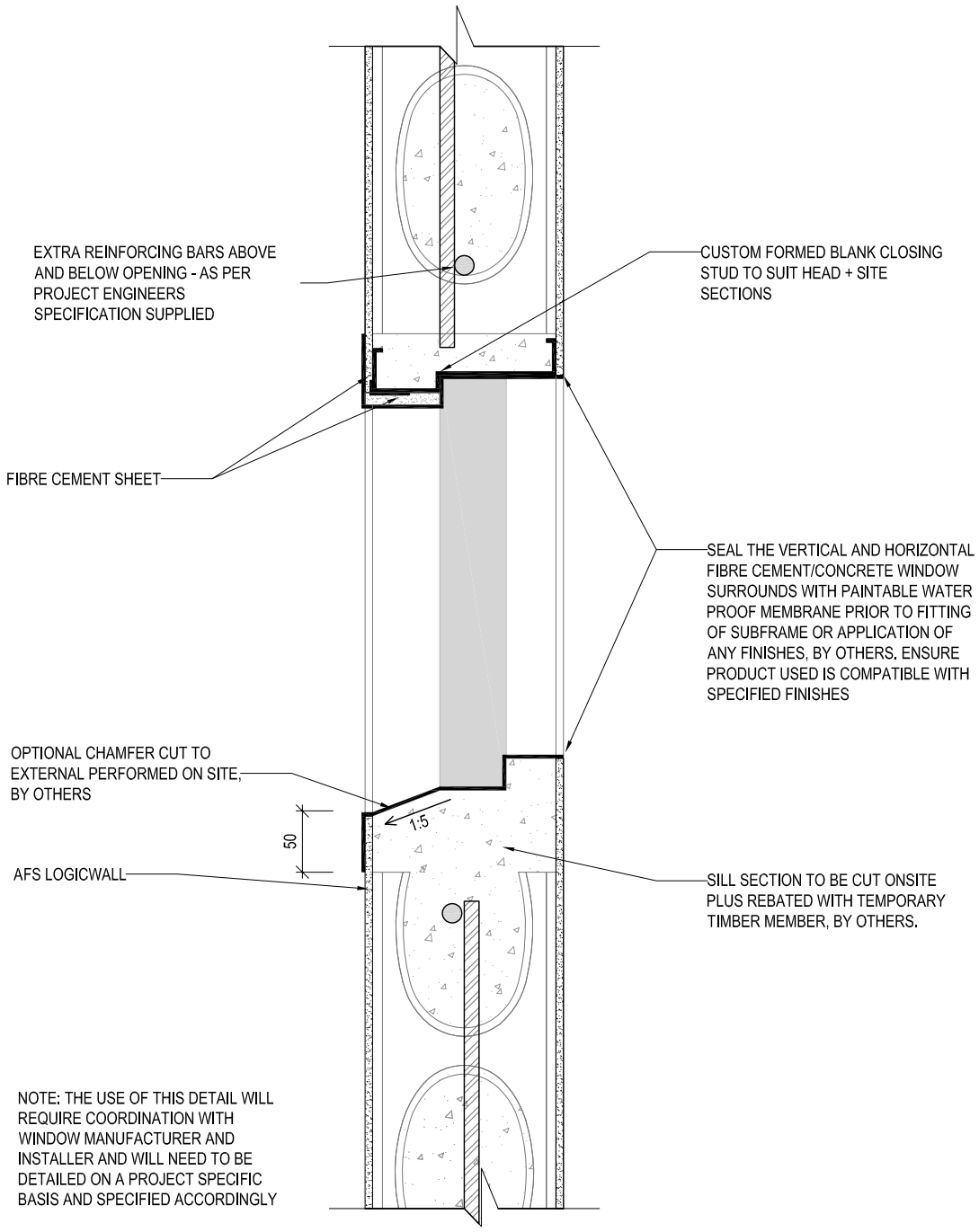


Note: Door frame to be braced on site to prevent movement/twisting during concrete corefill.

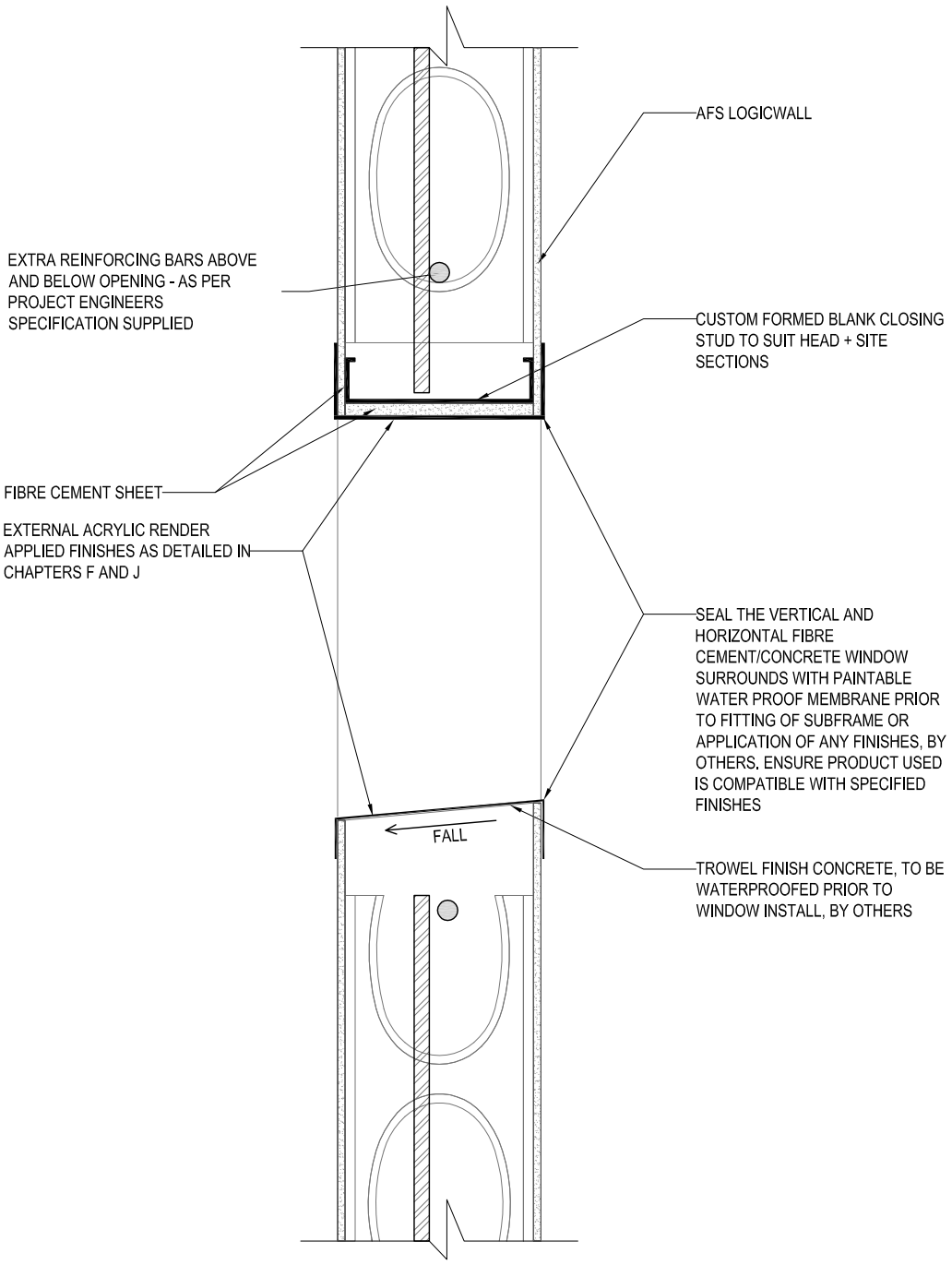
I 2.7.4 Commercial Window Section



I 2.7.5 Rebated Window Section

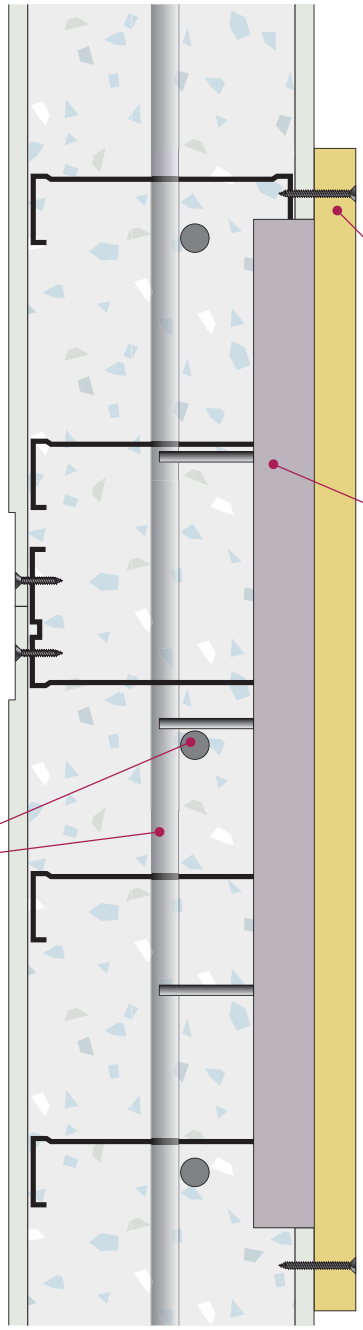


I 2.7.6 Opening In Wall



I 2.8 Cast In Elements

I 2.8.1 Cast In Lift Rails



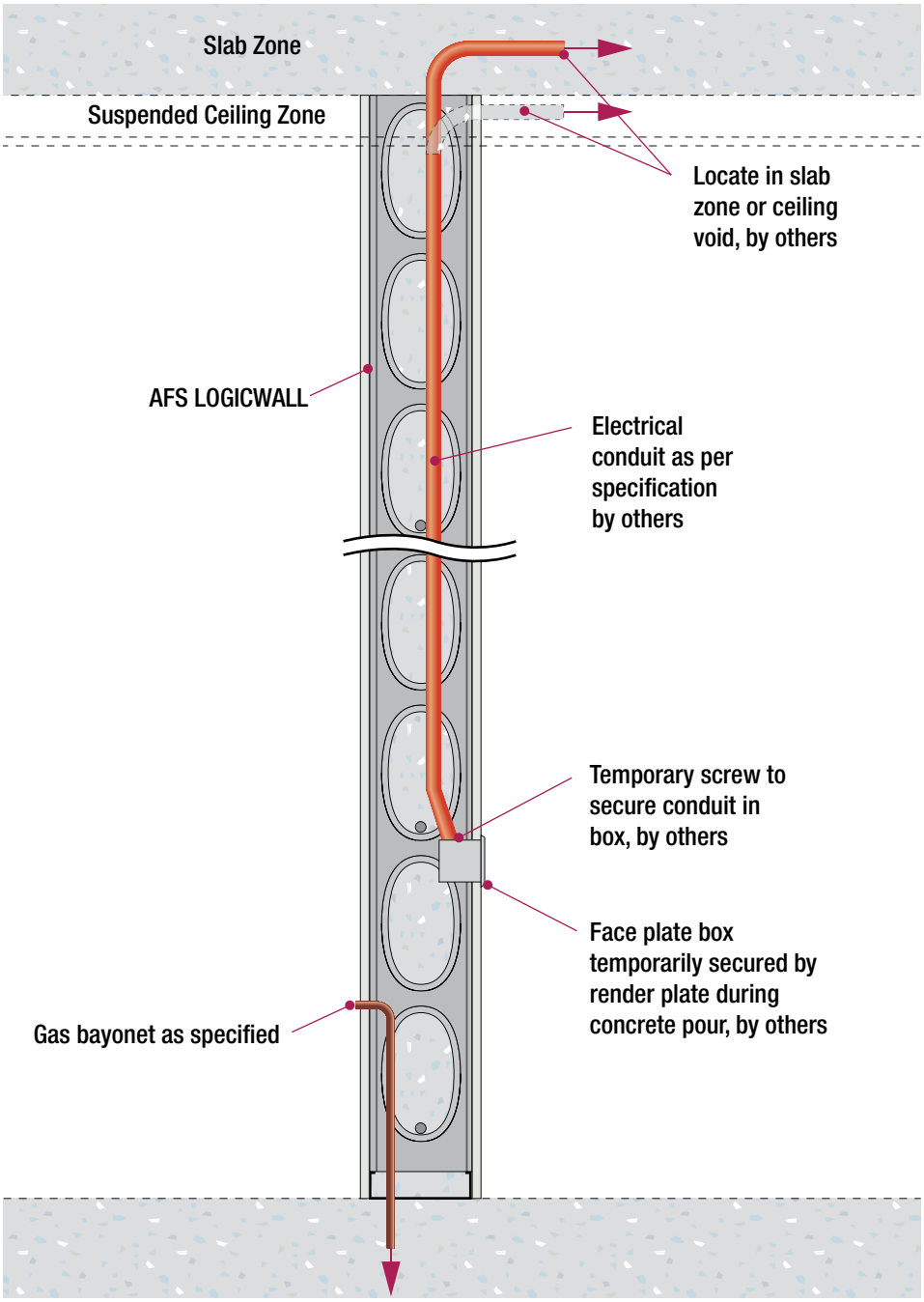
Temporary plywood screw fixed onto "liftrail" and onto AFS LOGICWALL panel. Remove after concrete pour

"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.

Horizontal and vertical reinforcement to structural engineers details, by others

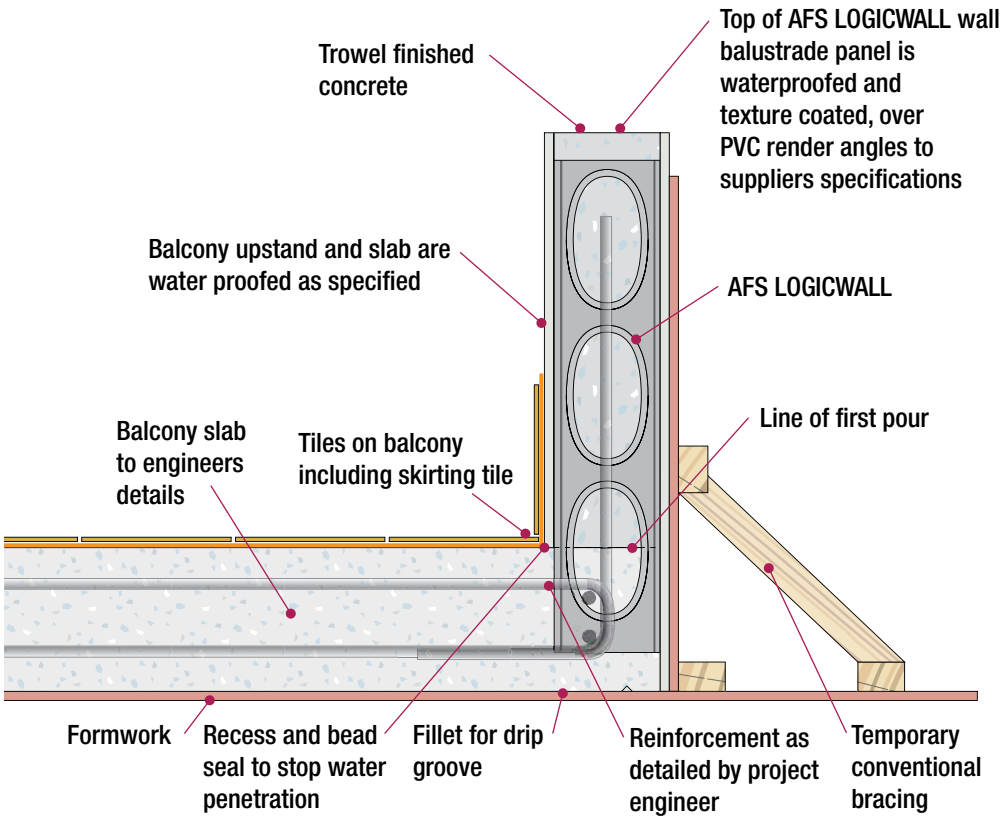
NOTE:
- Any and all "Cast-in" items should be clearly noted on drawings and it is the builders responsibility to negotiate with the AFS LOGICWALL installers as to who is responsible for the fitting/casting-in of these items.

I 2.8.2 Services

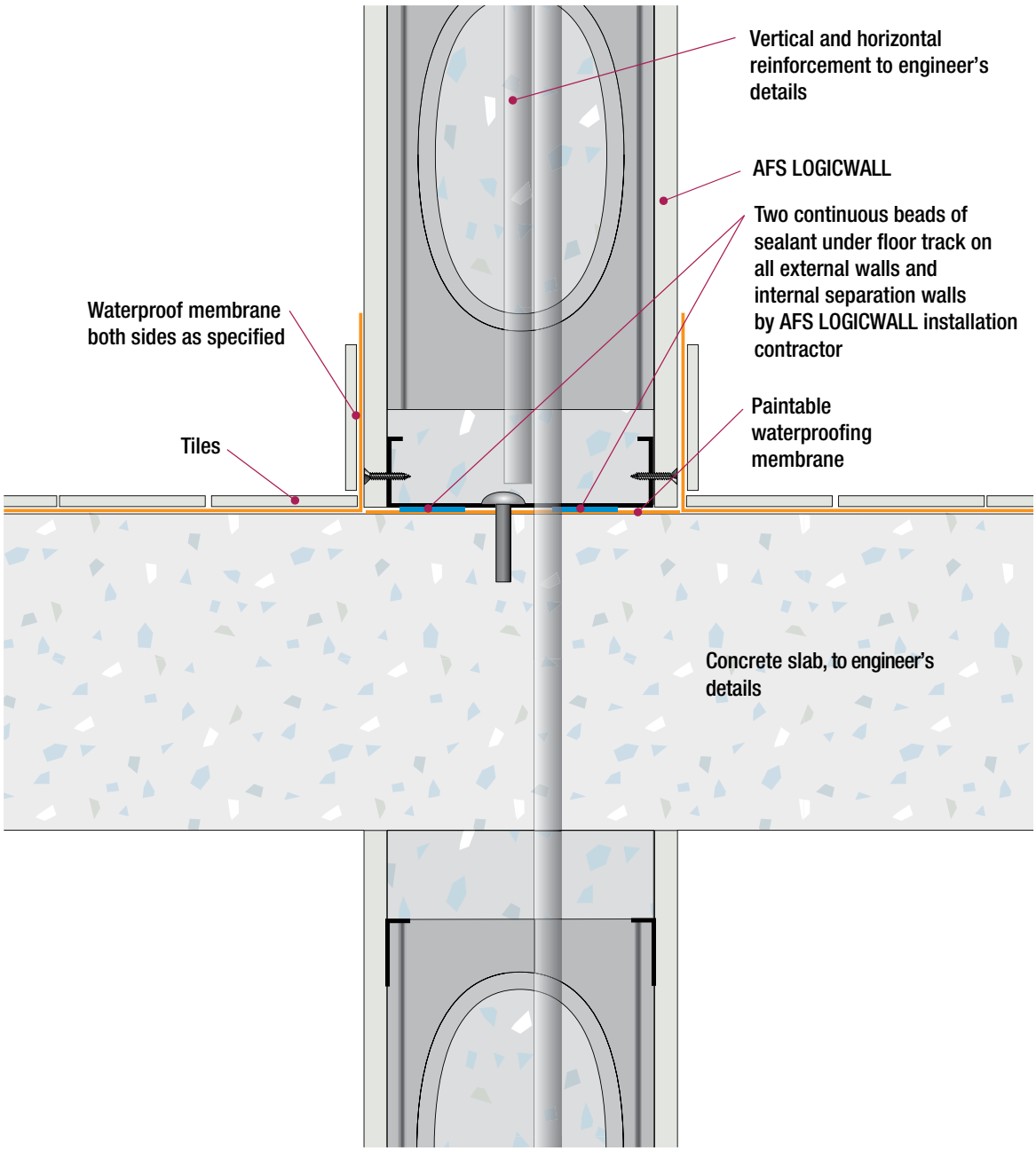


I 2.9 Balcony Walls

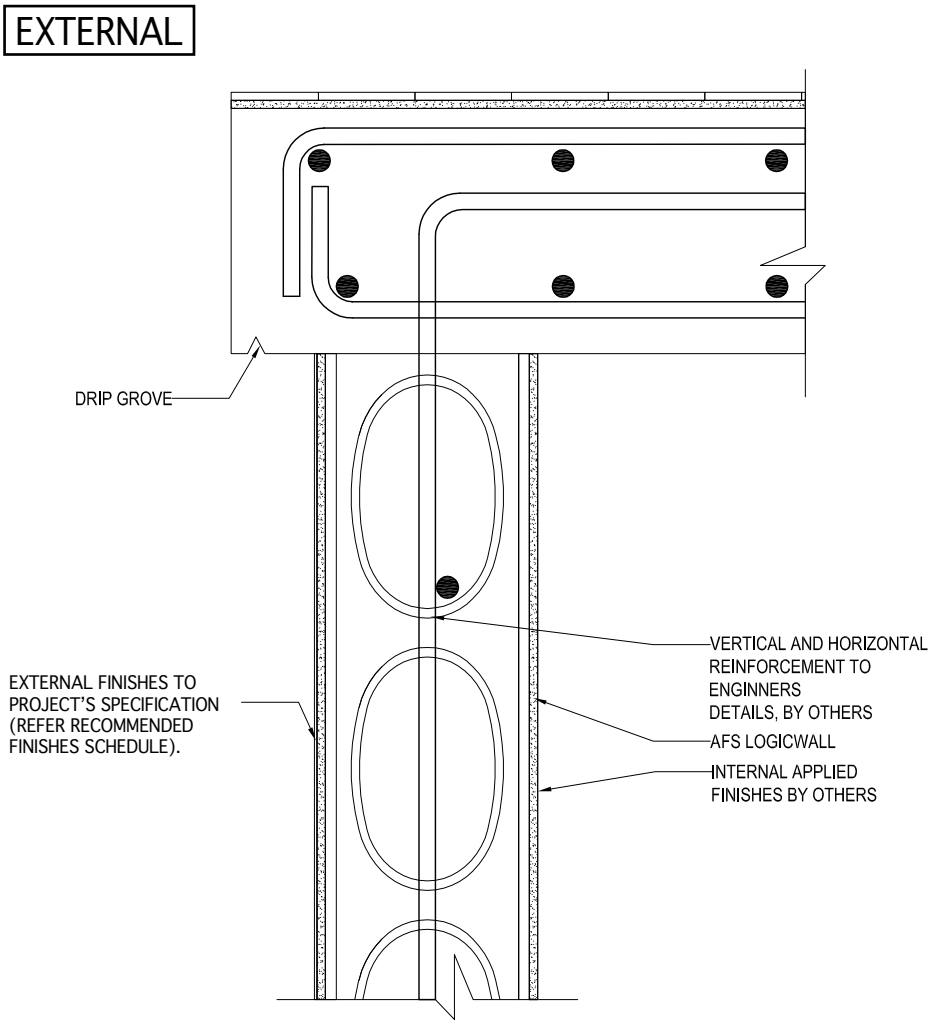
I 2.9.1 Balustrade Wall



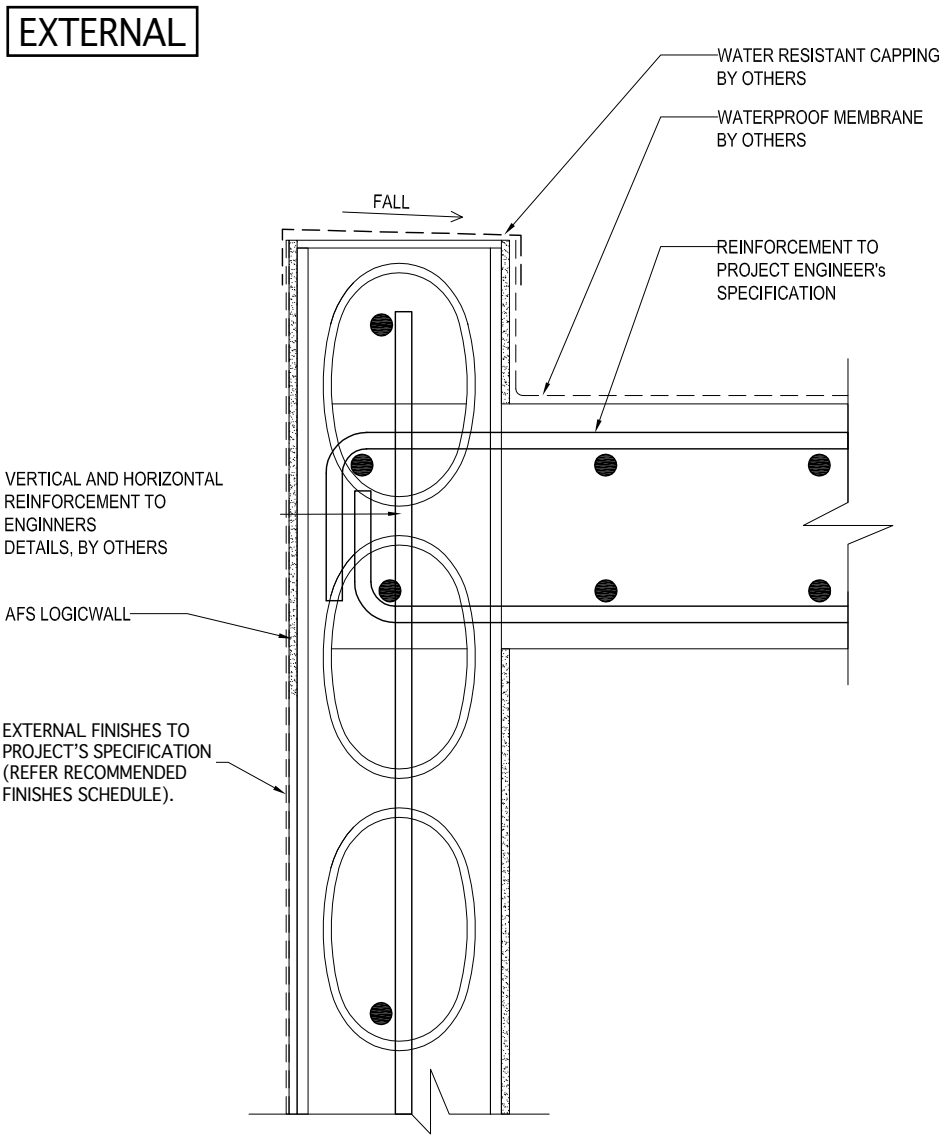
I 2.9.2 Balcony Dividing Wall



I 2.9.3 Balcony Wall Detail Without HOB

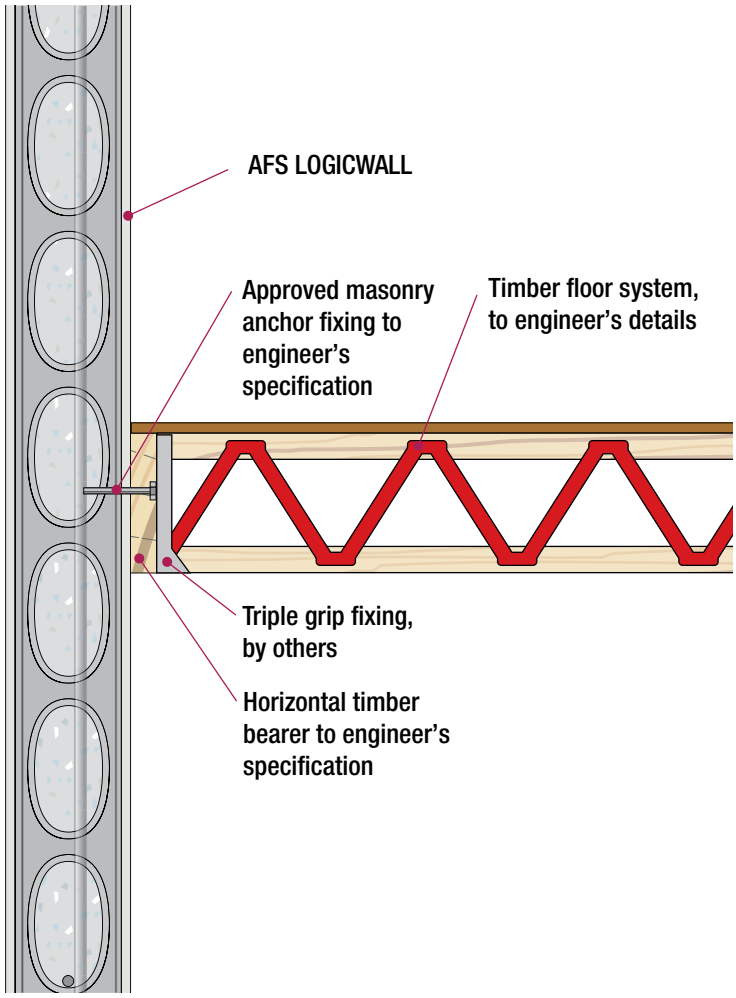


I 2.9.4 Balcony Wall Detail With HOB

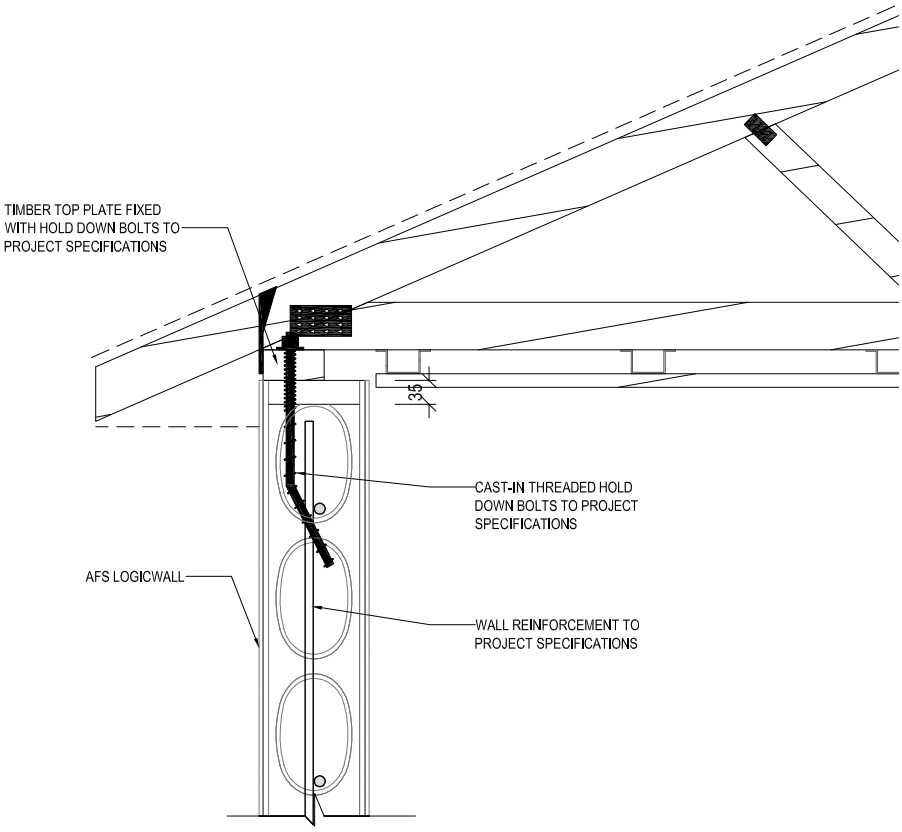


I 2.10 Timber Component Connections

I 2.10.1 AFS LOGICWALL® Wall Timber Floor Junction

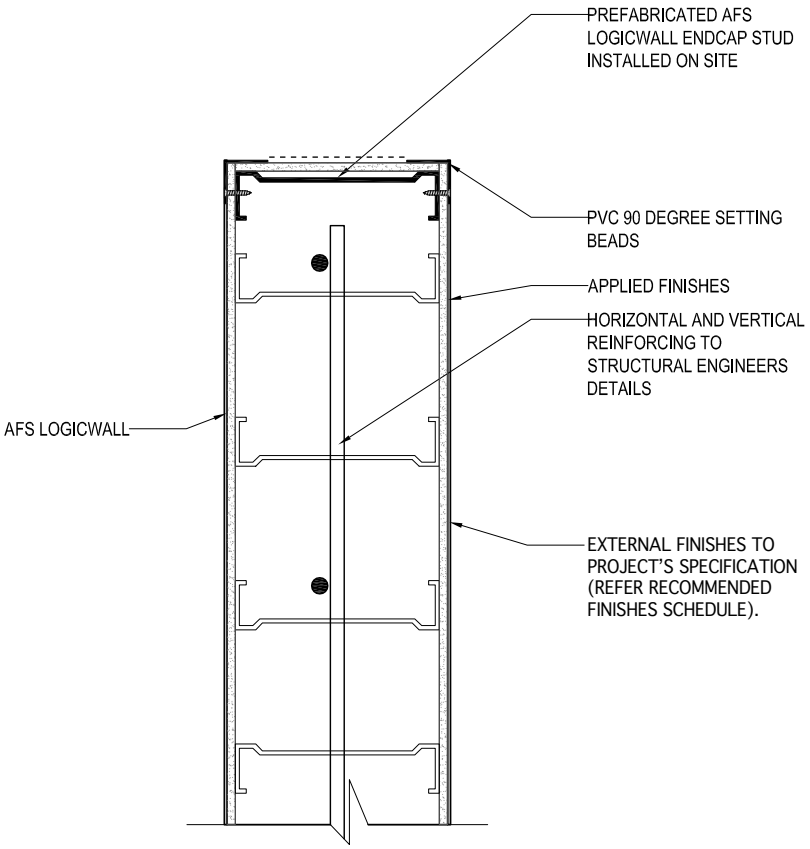


I 2.10.2 Timber Top Plate Connection



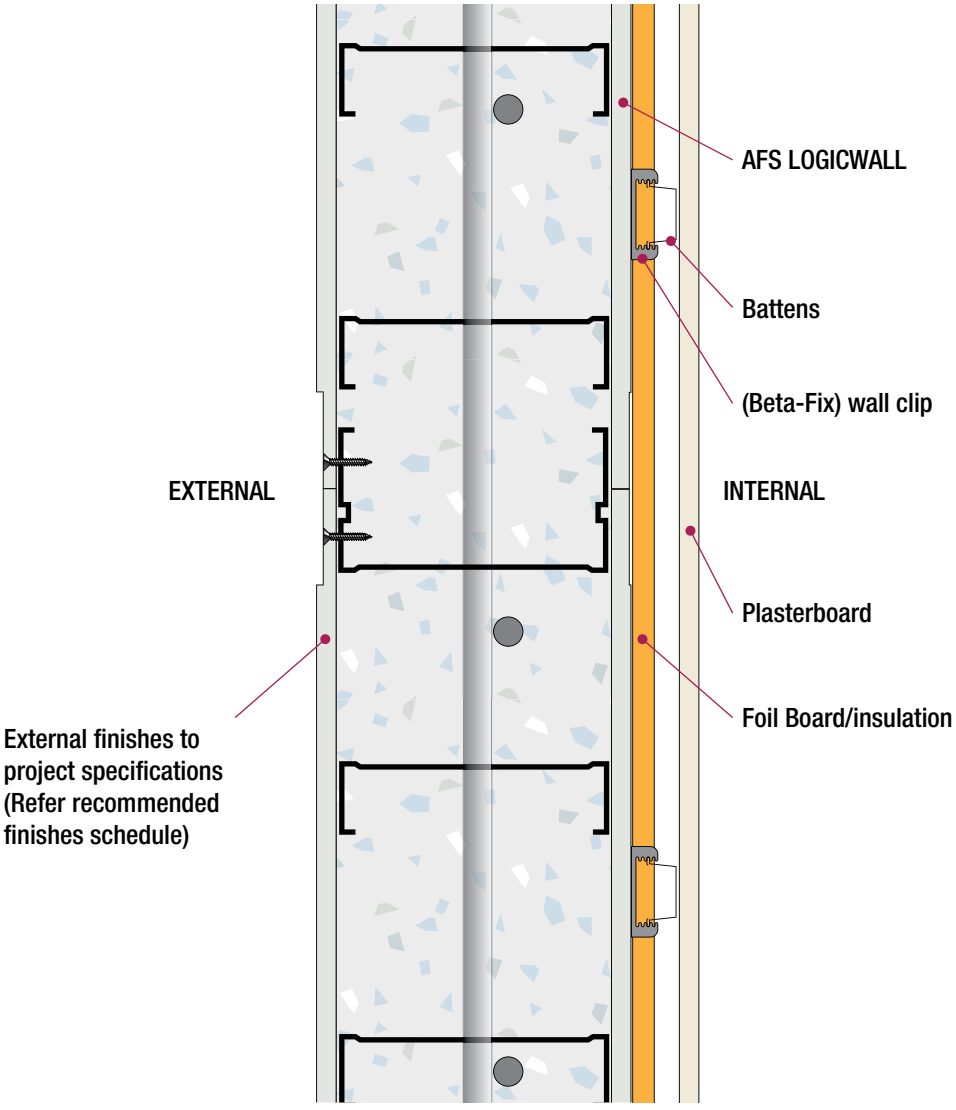
I 2.11 Blade Walls

I 2.11.1 AFS LOGICWALL® Blade Wall

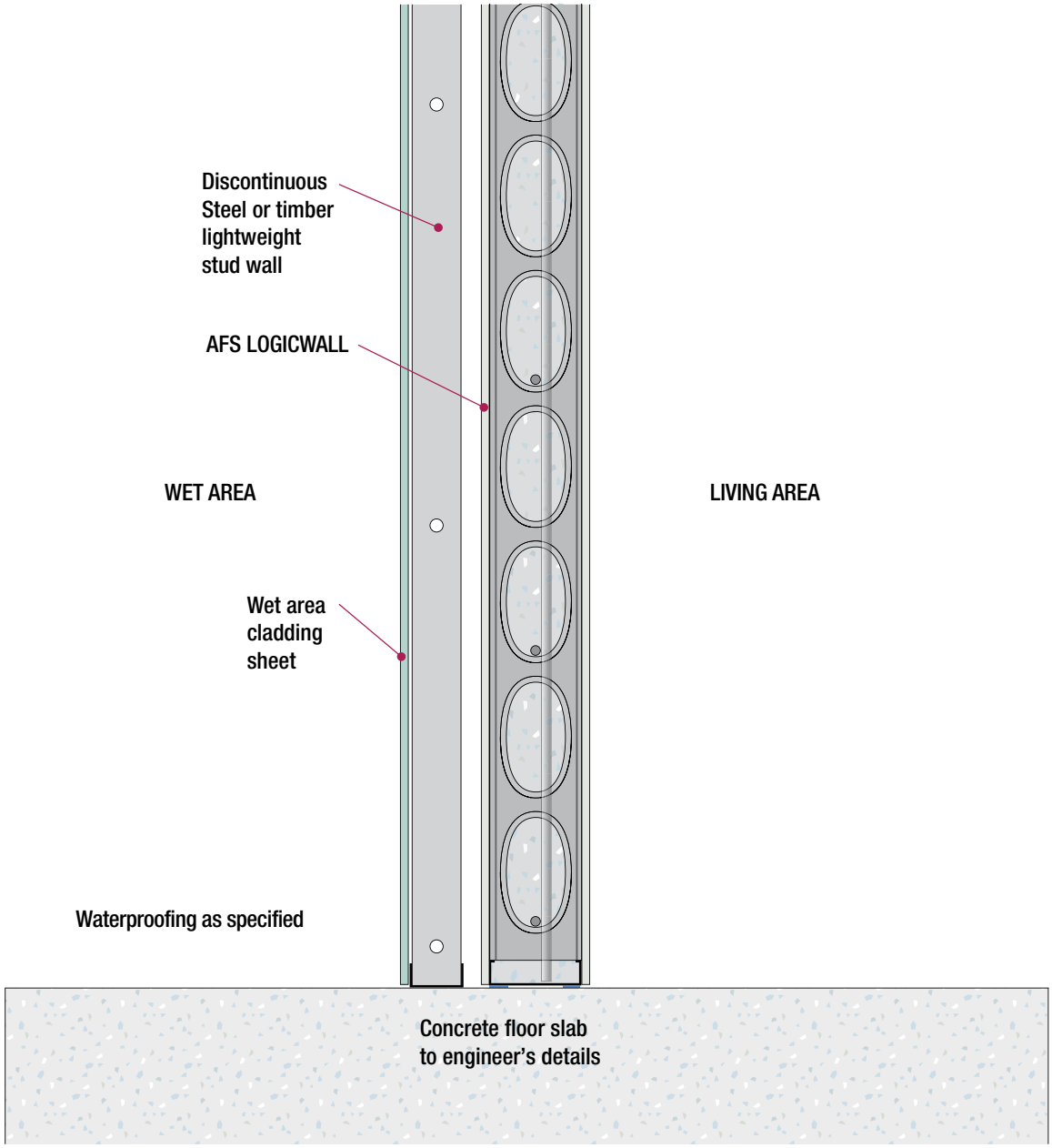


I 2.12 Acoustic & Thermal Details

I 2.12.1 AFS LOGICWALL® External Wall with Foil Board



I 2.12.2 AFS LOGICWALL® Separating Wall – Wet Area/Living Area or Wet to Wet Area where plumbing services are to be installed



I3 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

LOGICWALL™ STRUCTURAL SOLUTION

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

I3 Standard Architectural Notes continued

LOGICWALL™
STRUCTURAL SOLUTION

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.

I3 Standard Architectural Notes continued

LOGICWALL™
STRUCTURAL SOLUTION

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

I4 BIM Software

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 provide a complete package of standard details, library parts/ objects, wall families and 3D model components in the following file types:

- Revit
- ArchiCad
- DWG
- PDF (Standard Details)

I | Notes

I | Legal Statements

IMPORTANT LEGAL STATEMENTS

Reasonable efforts have been made to ensure the accuracy of this publication; however, any information and data contained herein is subject to change without notice. To ensure the information you are using is correct, AFS recommends you review the latest technical information available on the AFS website www.afswall.com.au, or alternatively call 1300 727 237 to speak to a Technical Representative.

DISCLAIMER

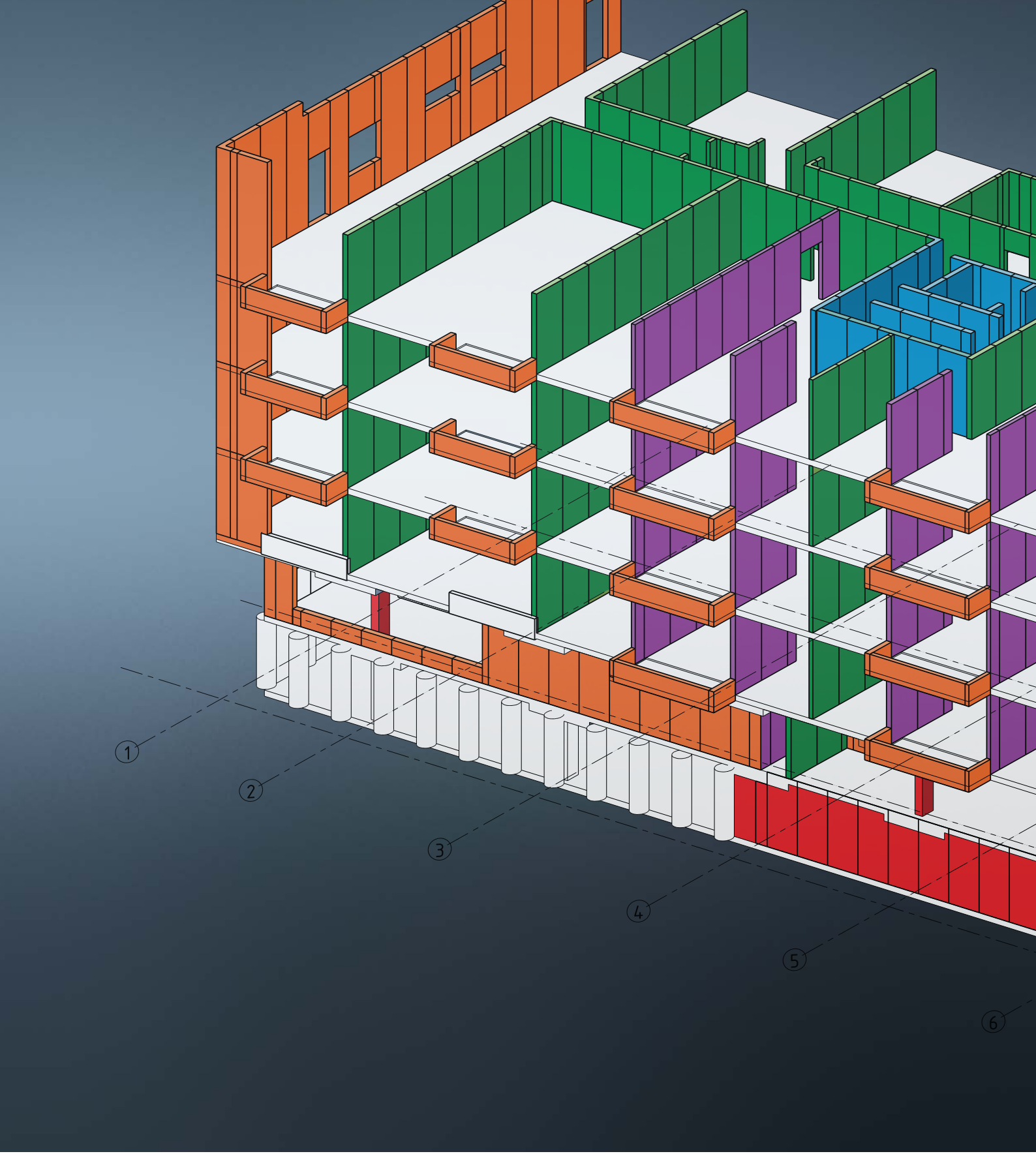
1. This technical manual named AFS Designer together with the design tables and associated information related to AFS LOGICWALL® has been prepared by AFS to assist design professionals using AFS LOGICWALL® including without limitation, developers, builders, engineers, architects or quantity surveyors with the design of structural walls.
2. It is the responsibility of the user to ensure that the use of this manual is appropriate and to exercise their own judgment when using this manual.
3. AFS does not accept any responsibility (whether for negligence or otherwise) for any consequence arising from the use or application of this manual.
4. The design and engineering of the structure of any building using AFS LOGICWALL® should only be undertaken by suitability qualified and experienced design professionals, engineers or consultants.
5. The full responsibility for the design, engineering and structural design, and certification of compliance with all relevant Australian Standards, BCA and any other statutory requirements at Local, State and Federal levels rest with the design professional, project engineer or project consultants including but not limited to the design engineer, acoustic consultant, energy efficiency consultant, fire engineer and any of their officers, employees, delegates, partners, agents and service providers of any nature.
6. AFS reserves the right to change the specifications of this manual without notice.
7. Please check with AFS that you have the latest version as the manual may be updated from time to time and certain details may change.
8. This disclaimer applies to the extent permitted by law.

DEFINITIONS

The use of the terms 'AFS LOGICWALL®' and 'AFS LOGICWALL® Walls' throughout the AFS Designer are as follows;

AFS LOGICWALL®: Refers to AFS LOGICWALL® panels as permanent formwork prior to being installed & corefilled with concrete.

AFS LOGICWALL® Walls: Refers to AFS LOGICWALL® walls installed with concrete corefill incorporated.



AFS WALLING SOLUTIONS

NATSPEC ProductPartner

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CSR