

Wall Construction Detailing & Finishing Treatment Guide

Slab Junctions, Retaining Walls, Basements & Shafts, Junctions, Openings, Terminations, Attachments and services, Finishing Treatments

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D1. Introduction

Volume 2 'Wall Construction Detailing & Finishing Treatments' forms part of a comprehensive afs rediwall® design guide which includes:

- Volume 1 – Design Performance and Compliance
- Volume 2 – Wall Construction Detailing & Finishing Treatments.
- Volume 3 – Installation Guide.

Downloads of these individual volumes are available via the Resource Centre at www.afsformwork.com.au

Disclaimer: This section of the afs rediwall® Design Guide is intended to represent good building practice in achieving structural design of rediwall®. 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 and designing rediwall®, including but

not limited to builders, designers, consultants and engineers to ensure that the use of rediwall® complies with all the relevant National Construction Code (NCC) requirements such as, but not limited to structural adequacy, acoustic, fire resistance/combustibility, thermal, and weatherproofing provisions. All diagrams, plans and illustrations used in this section, including any reinforcement shown, are supplied for indicative and diagrammatic purposes only. It remains the responsibility of those using rediwall® to ensure that reference is made to the project engineer's structural details for all construction and reinforcement requirements.

Overview

The architectural detailing and design of rediwall® 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.

Note:

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

This volume should be read in conjunction with Volume 1. Reference should be made to engineer's documentation for design details.

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



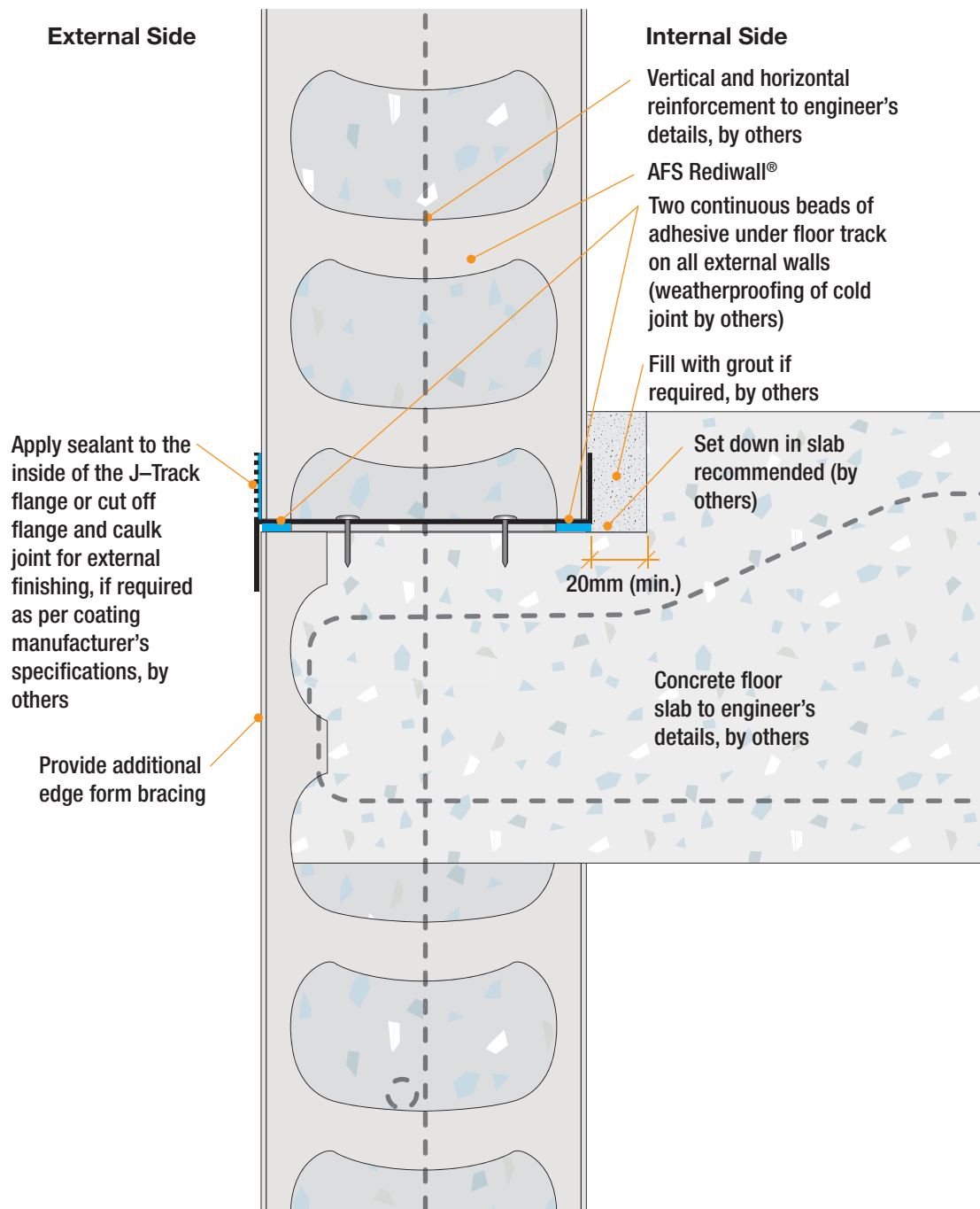
D2. Construction Details

Refer to Fire and Acoustic section for details on alternative finishing treatments.

The following diagrams are schematic and not necessarily to scale. They are intended to provide generic information.

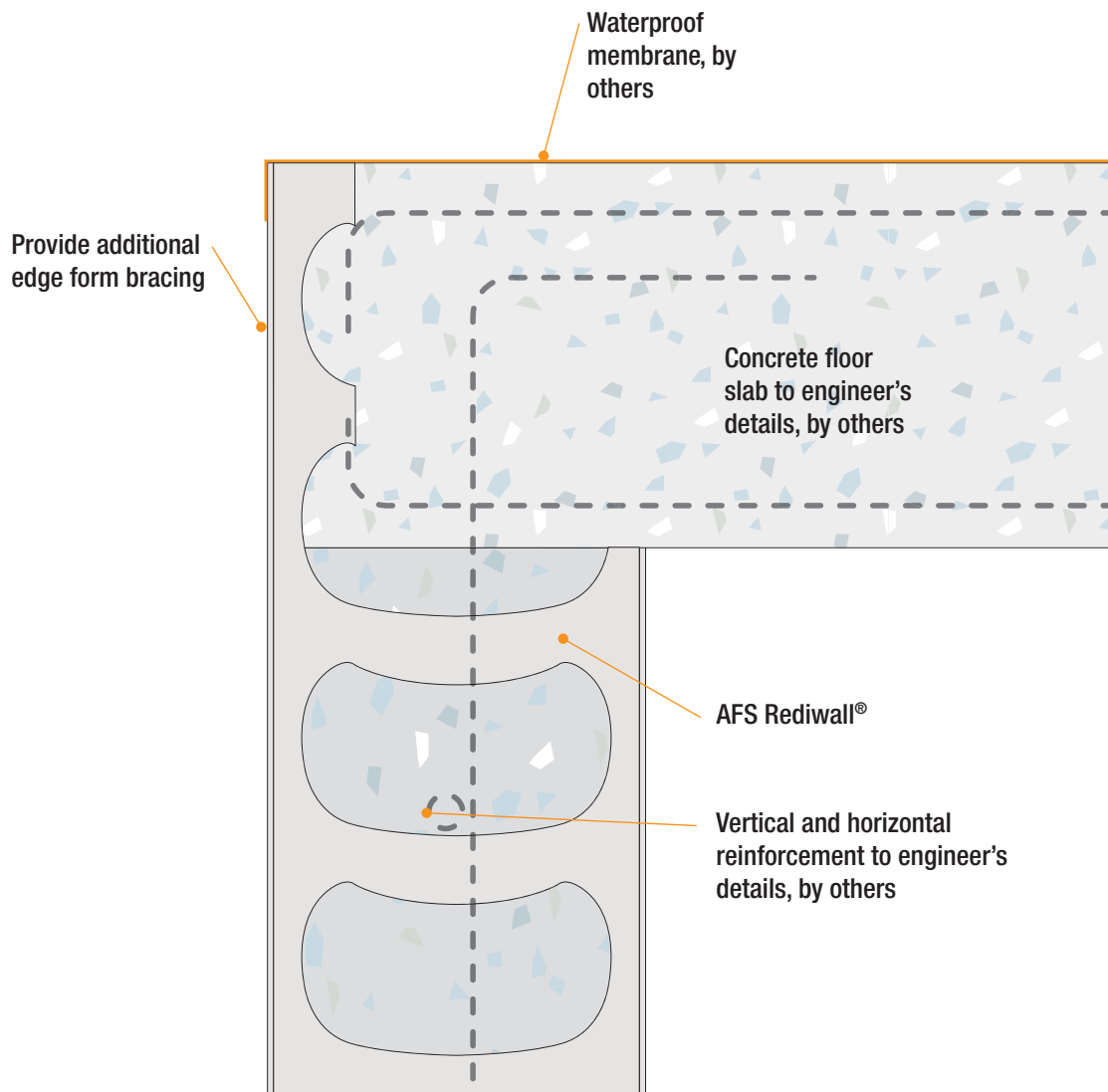
Slab Junctions

Fig D1: Horizontal Joint with Rebated Slab Edge



Note: Refer to "Volume 3 Installation Guide" for bracing details

Fig D2: Wall to Slab Junction



Note: Refer to "Volume 3 Installation Guide" for bracing details

Fig D3: External Wall/Slab Junction at Typical Raft Slab Above Ground

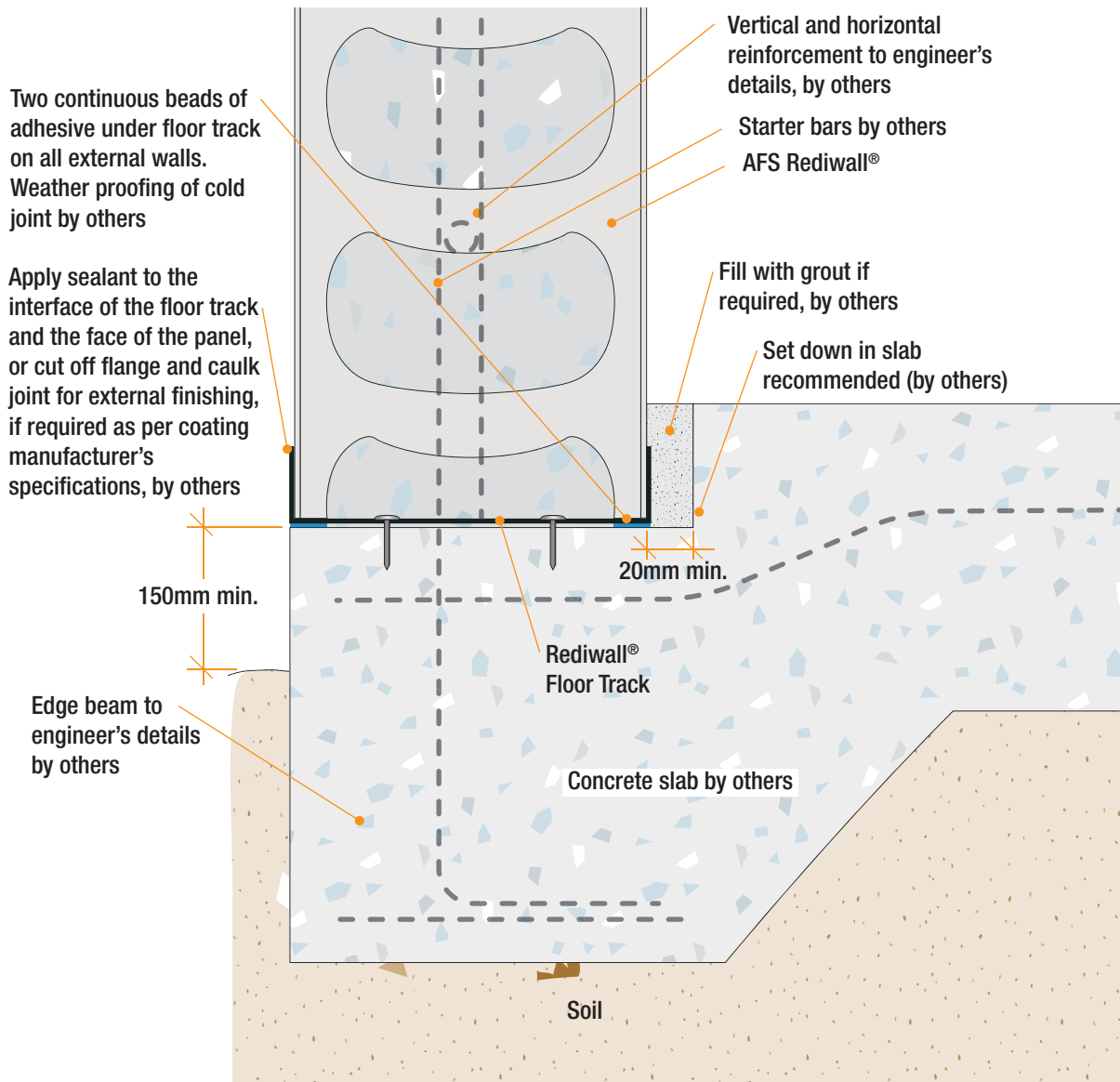


Fig D4: Balcony Wall

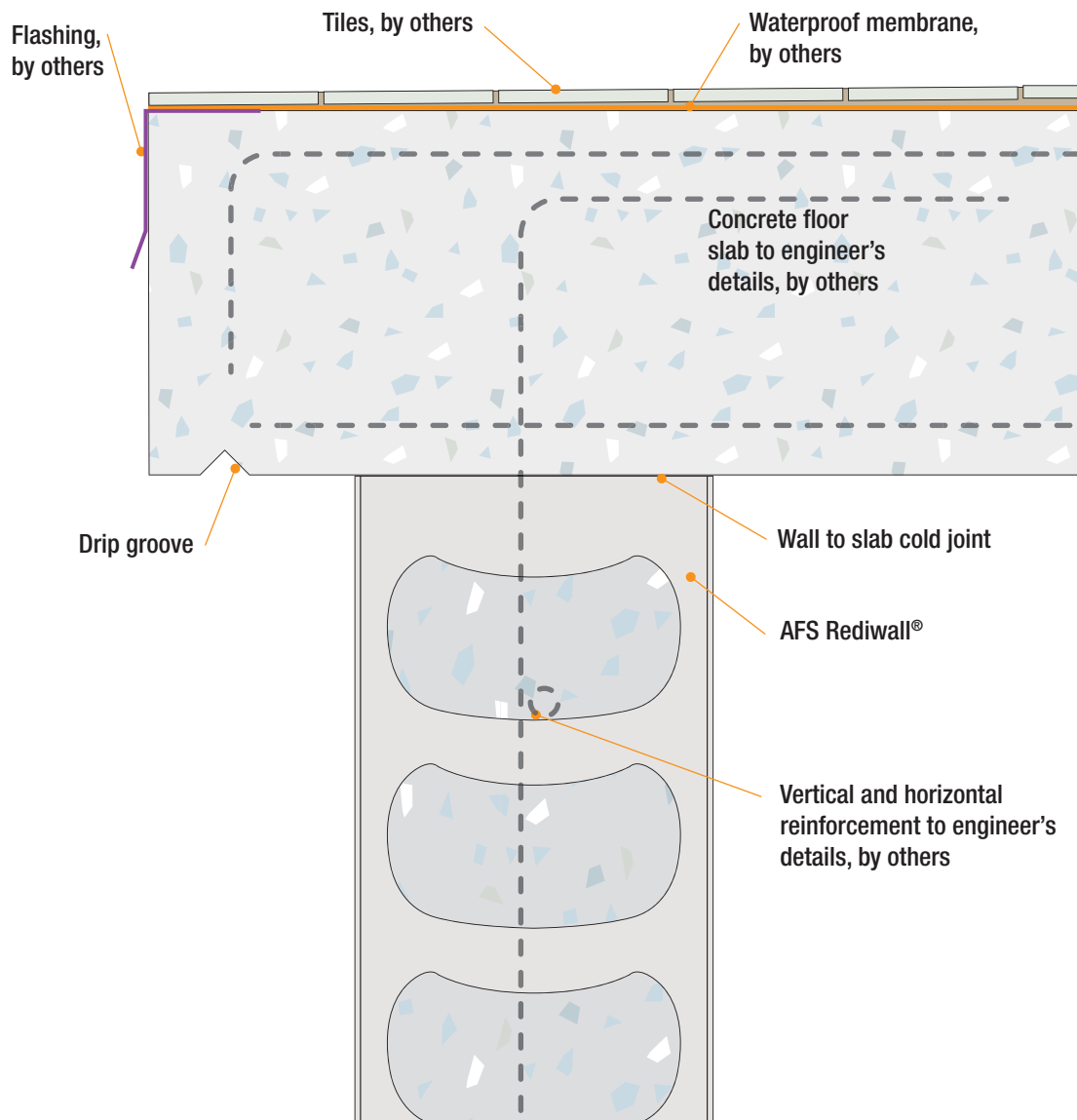


Fig D5: Step Floor or Stair Landing Within a Fire Isolated Void

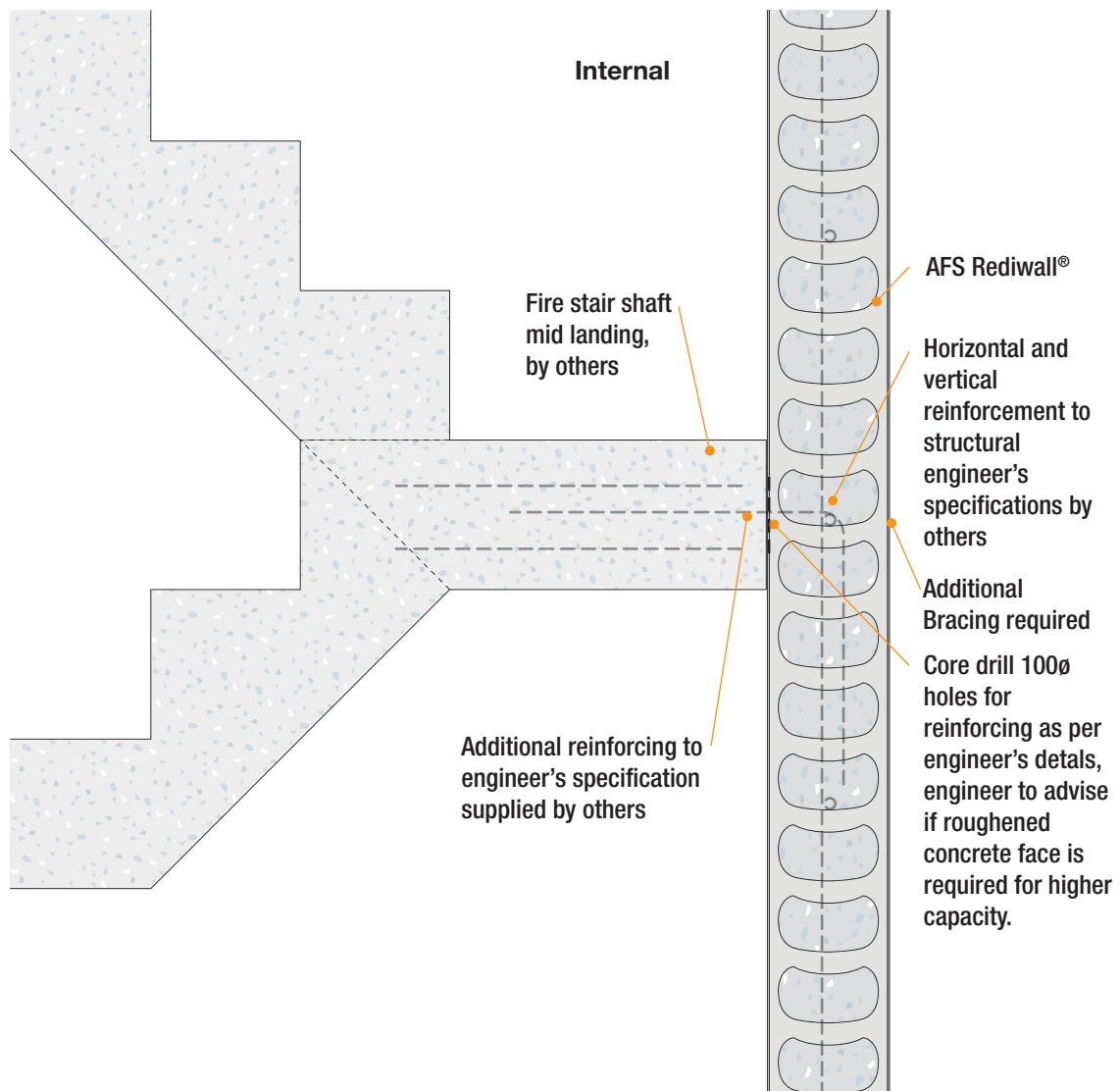


Fig D6: Junction with Post-Tensioned Slab (Internal Wall)

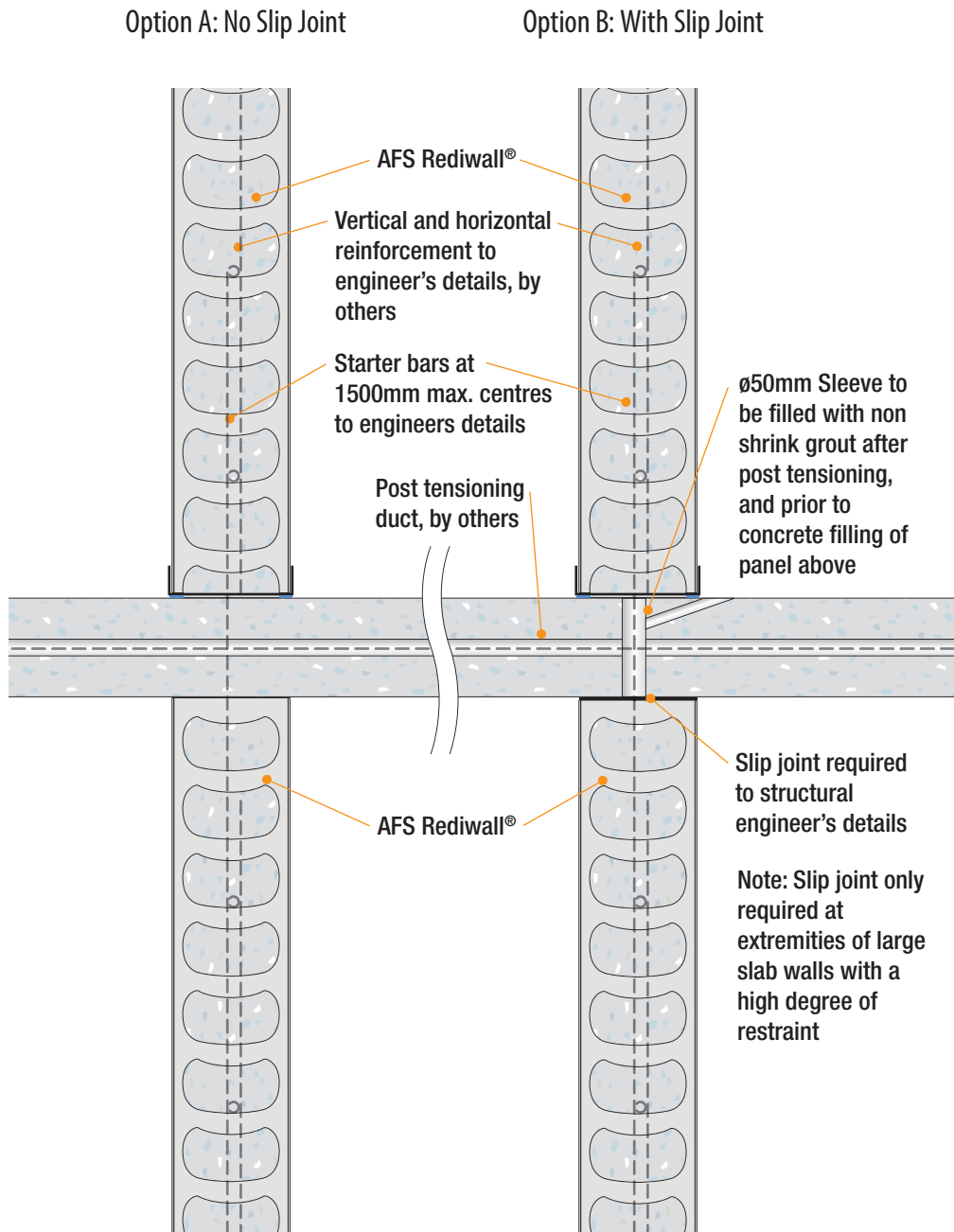
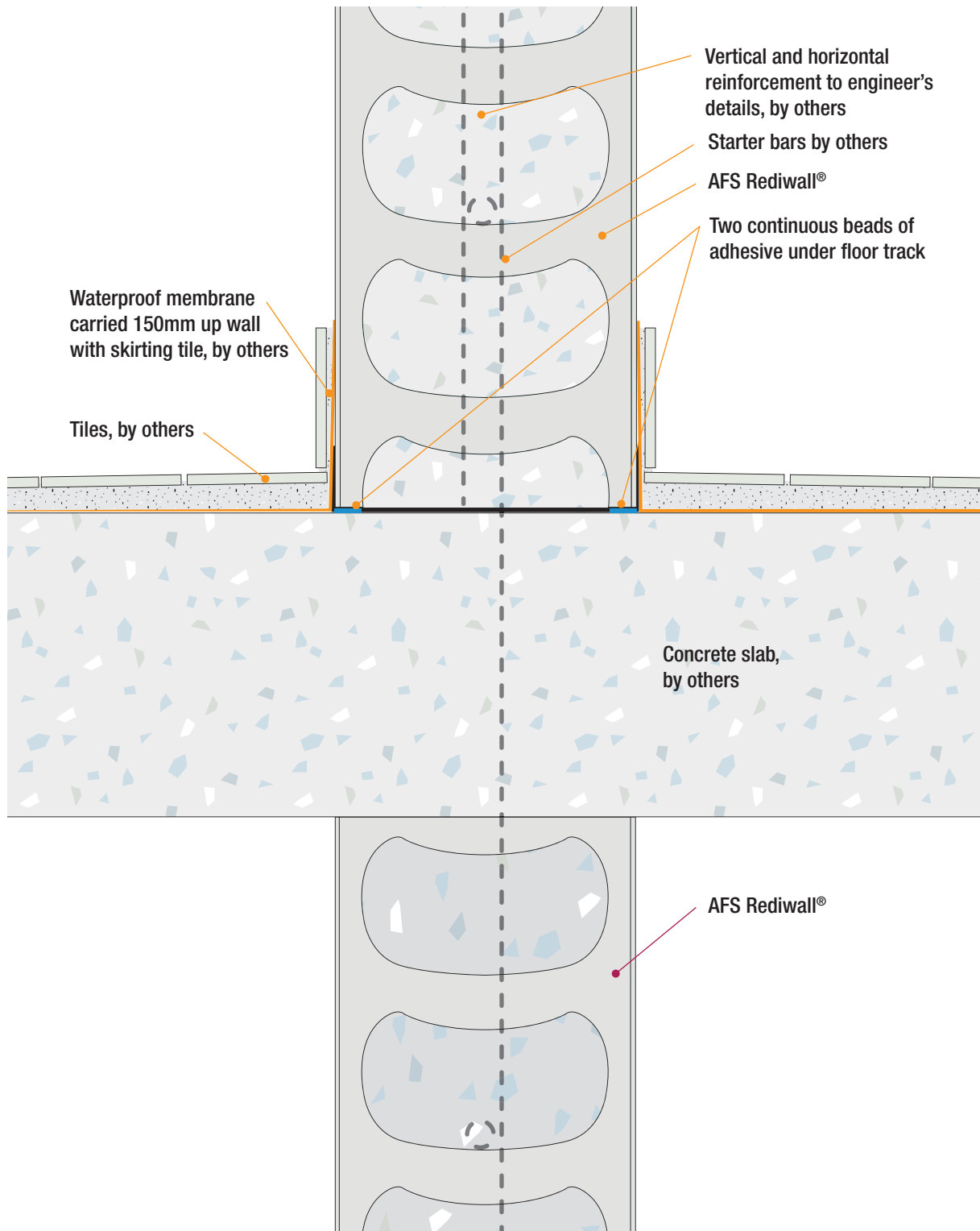


Fig D7: Balcony Dividing Wall



Retaining Walls

Fig D8: Retaining Wall or Basement Wall to Slab Junction

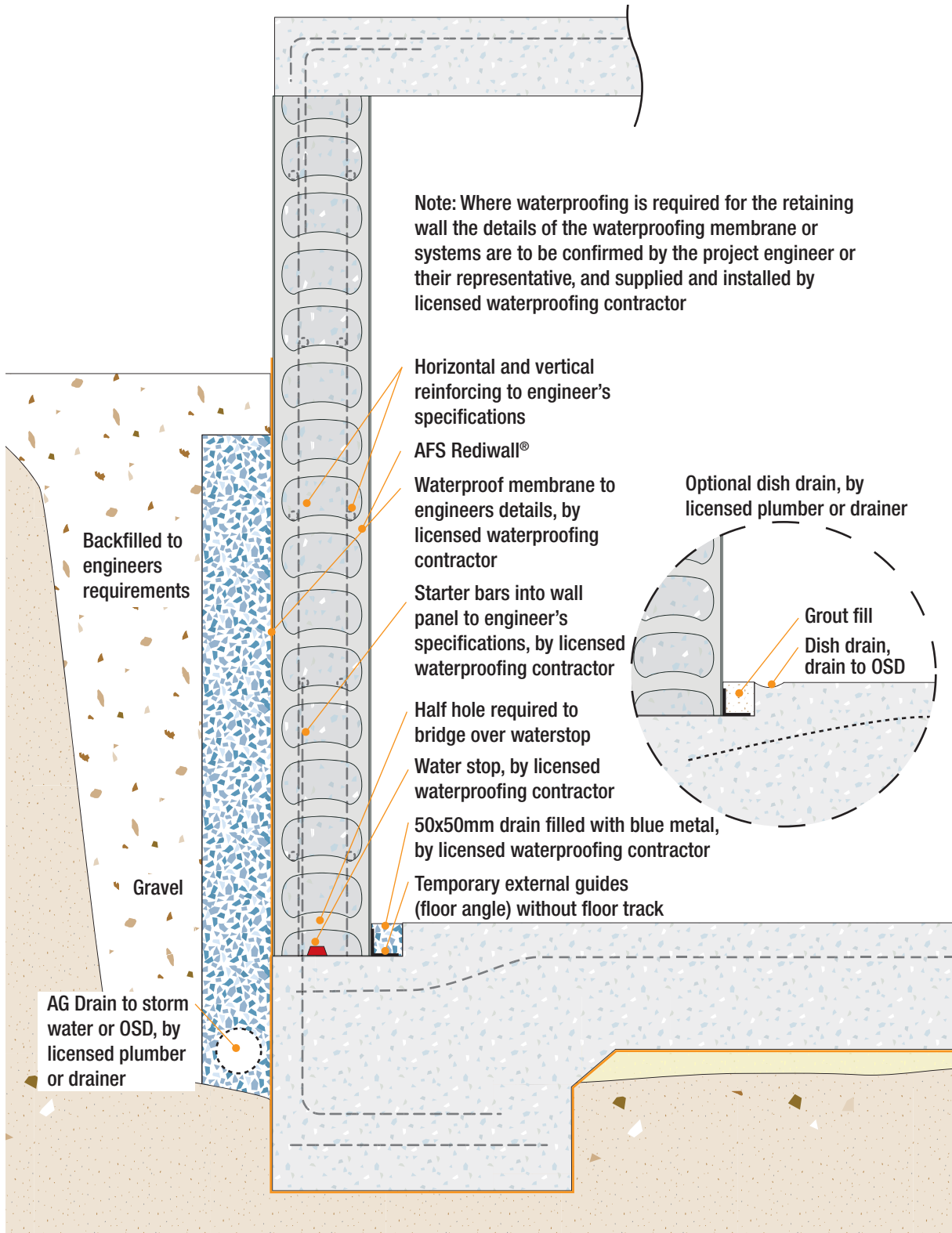


Fig D9: Cantilevered Retaining Wall (maximum height 3400mm)

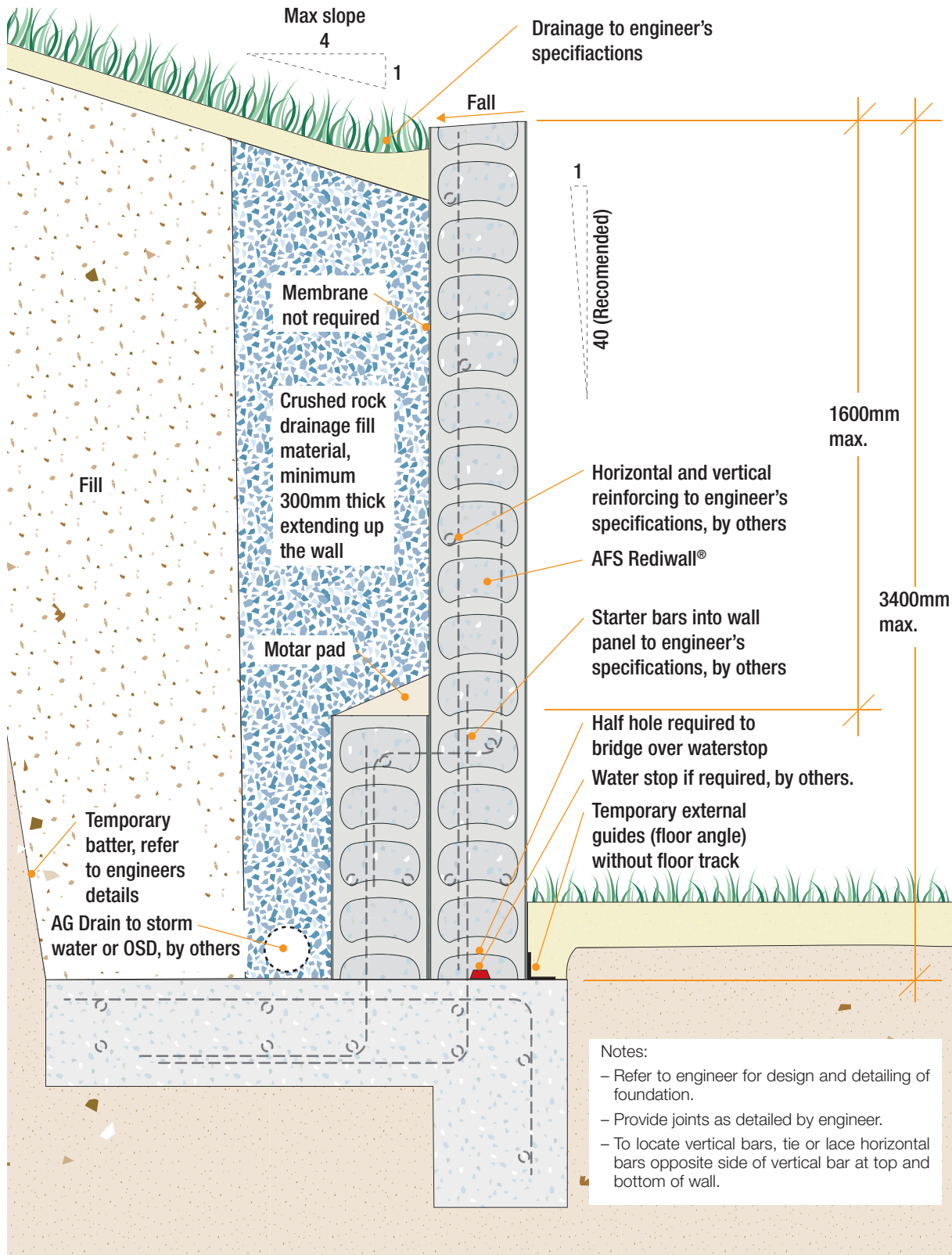
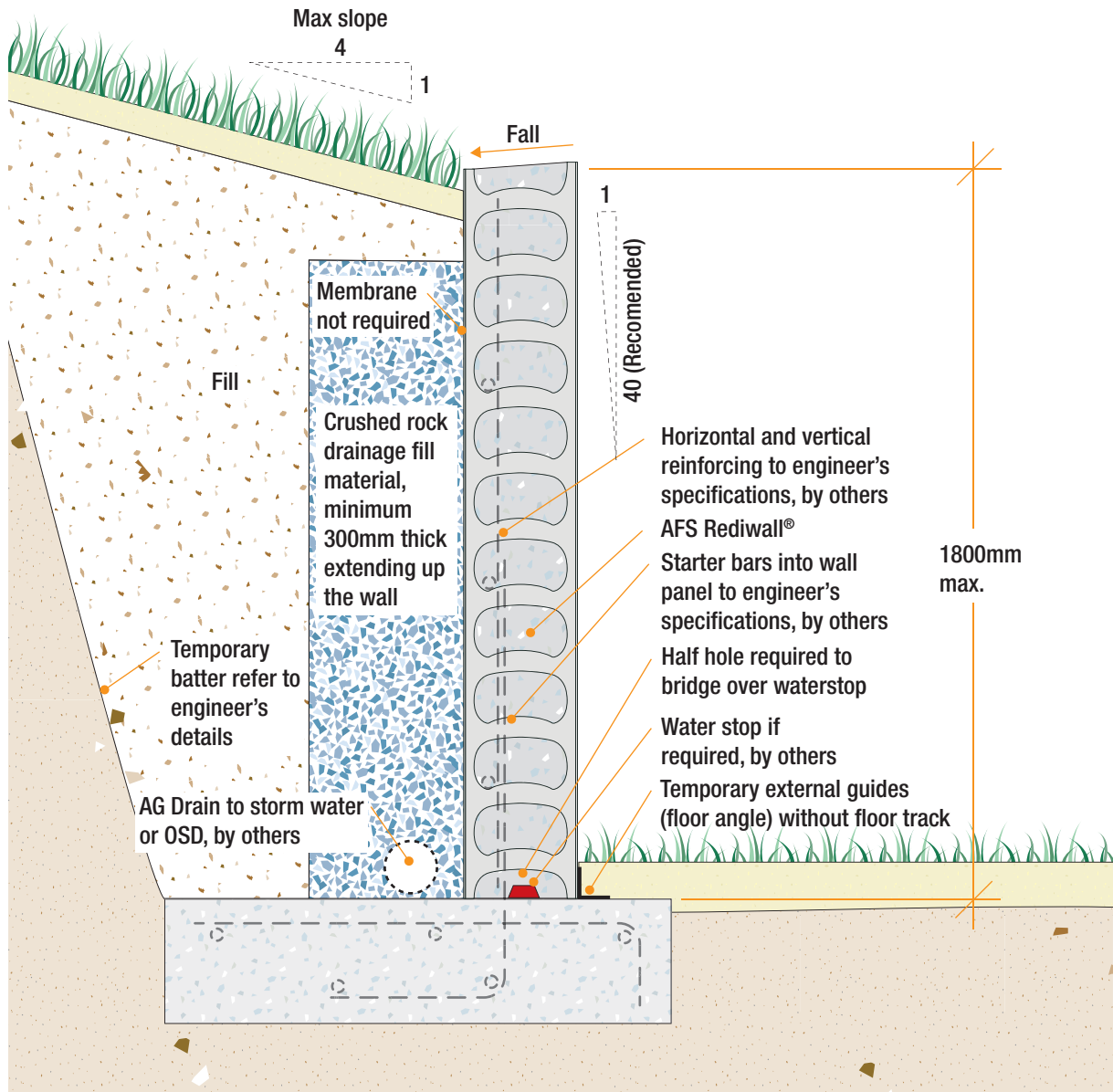


Fig D10: Cantilevered Retaining Wall (maximum height 1800mm)

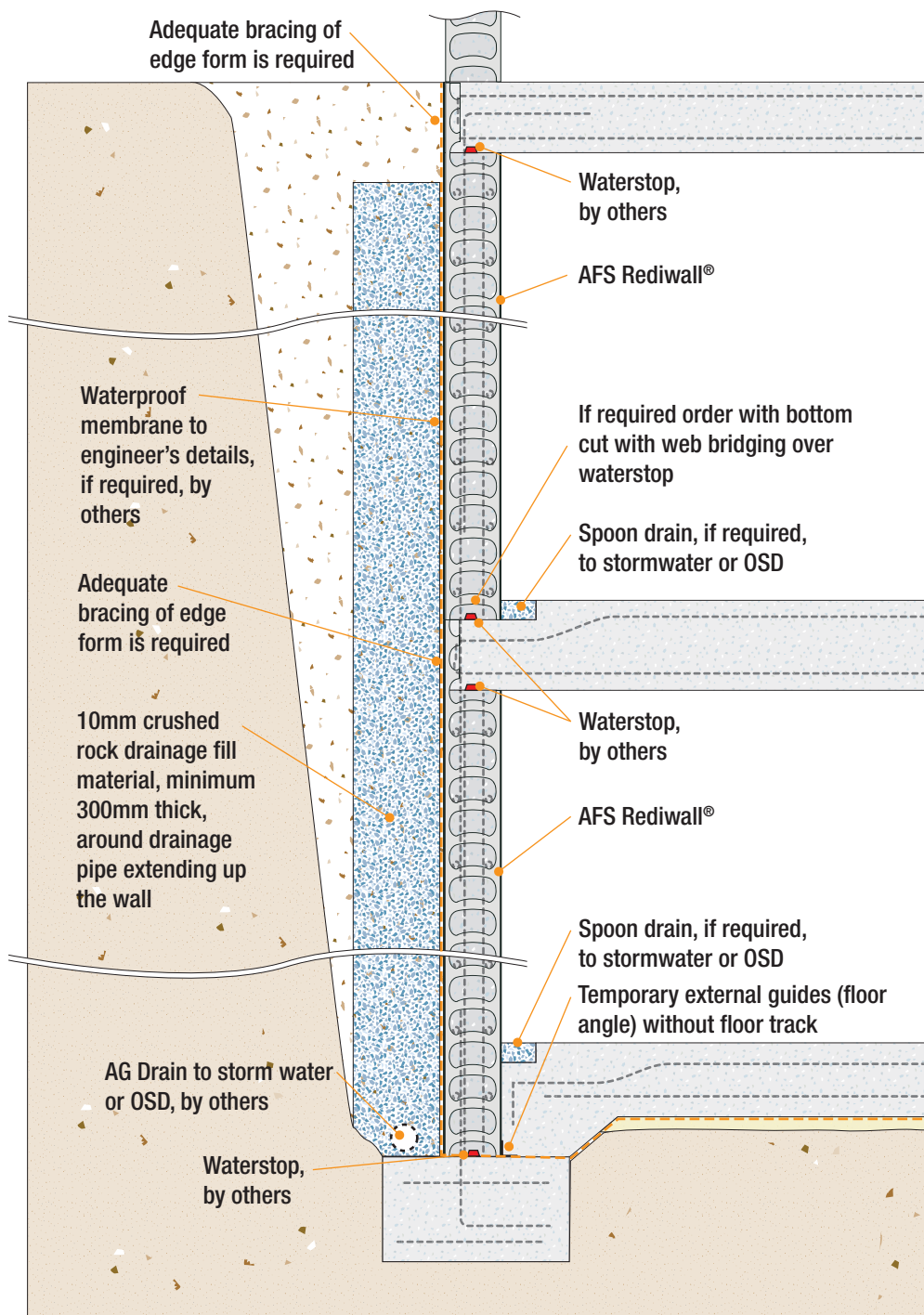


Notes:

- Refer to engineer for design and detailing of foundation.
- Provide joints as detailed by engineer.
- To locate vertical bars, tie or lace horizontal bars opposite side of vertical bar at top and bottom of wall.

Basements and Shafts

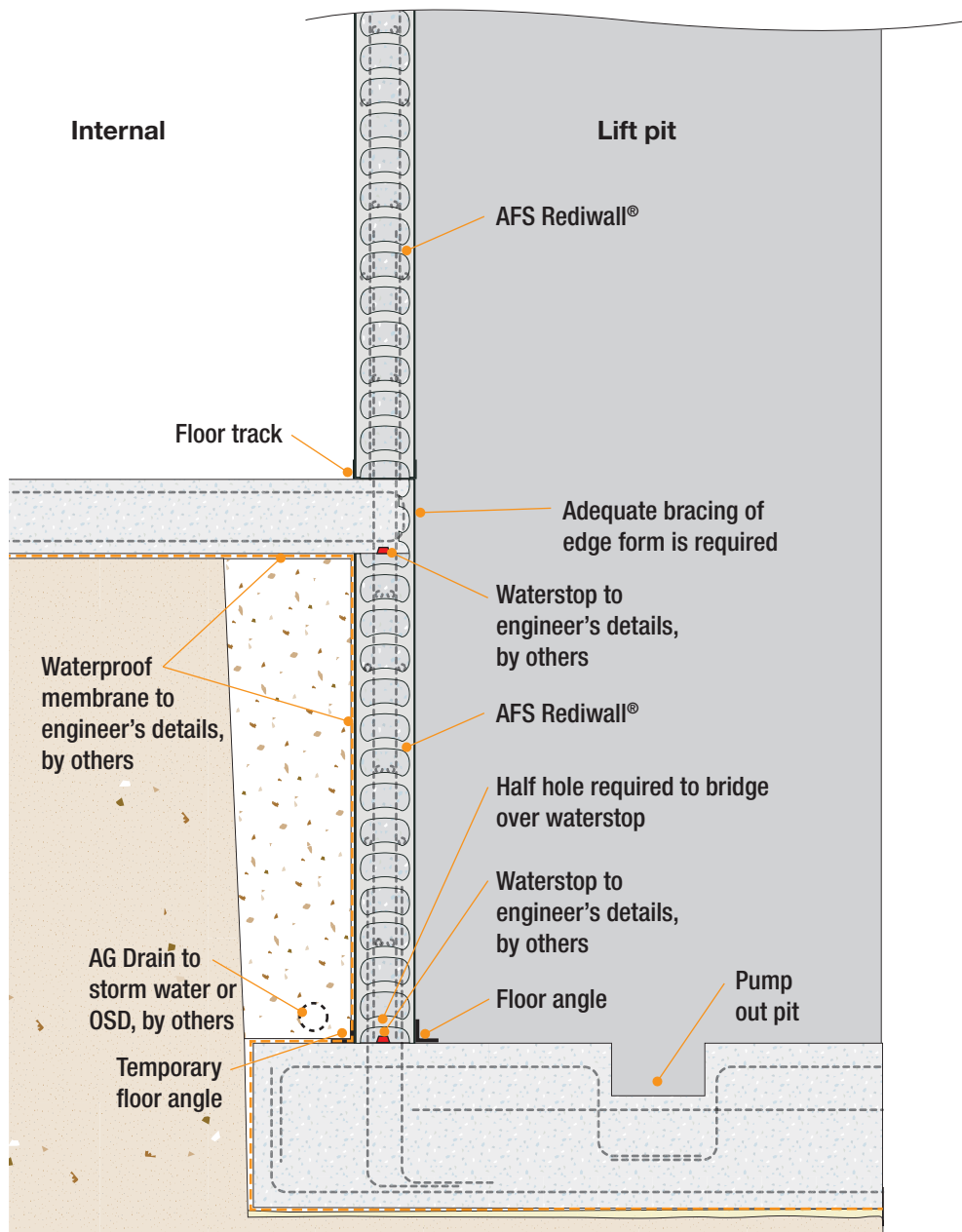
Fig D11: Typical Basement



Notes:

- Where waterproofing is required for the retaining wall the details of the waterproofing membrane or systems are to be confirmed by the project engineer or their representative, and supplied and installed by others.
- Refer to engineer for design and detailing of foundation.
- Provide joints as detailed by engineer.
- To locate vertical bars, tie or lace horizontal bars opposite side of vertical bar at top and bottom of wall.
- Refer to "Volume 3 Installation guide" for bracing details.

Fig D12: Typical Lift Pit

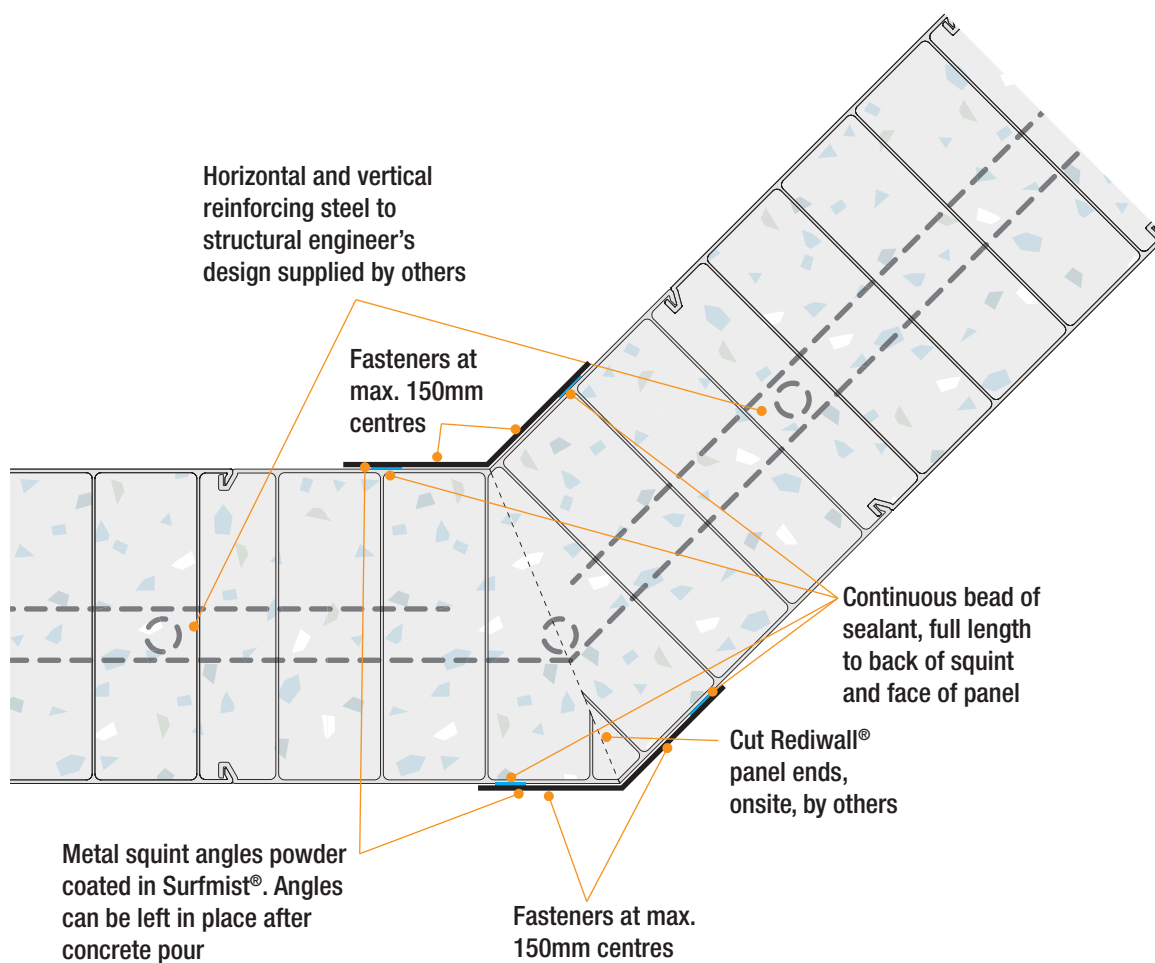


Notes:

- Where waterproofing is required for the retaining wall the details of the waterproofing membrane or systems are to be confirmed by the project engineer or their representative, and supplied and installed by others.
- Refer to engineer for design and detailing of foundation.
- Provide joints as detailed by engineer.
- To locate vertical bars, tie or lace horizontal bars opposite side of vertical bar at top and bottom of wall.
- Refer to "Volume 3 Installation guide" for bracing details.

Junctions

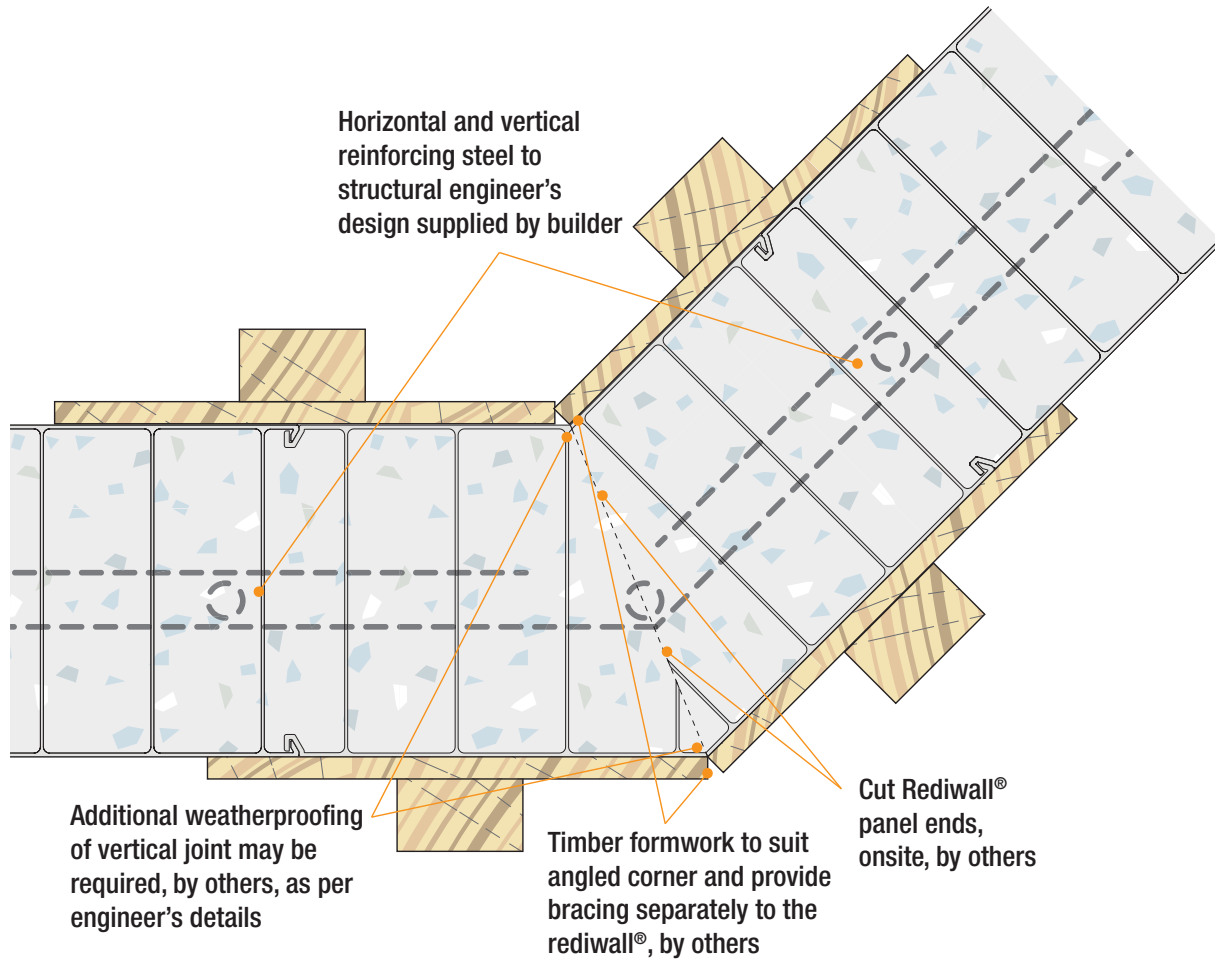
Fig D13: Corners with Squint Angles



Notes:

- Refer to Volume 3 – Installation Guide for bracing details.

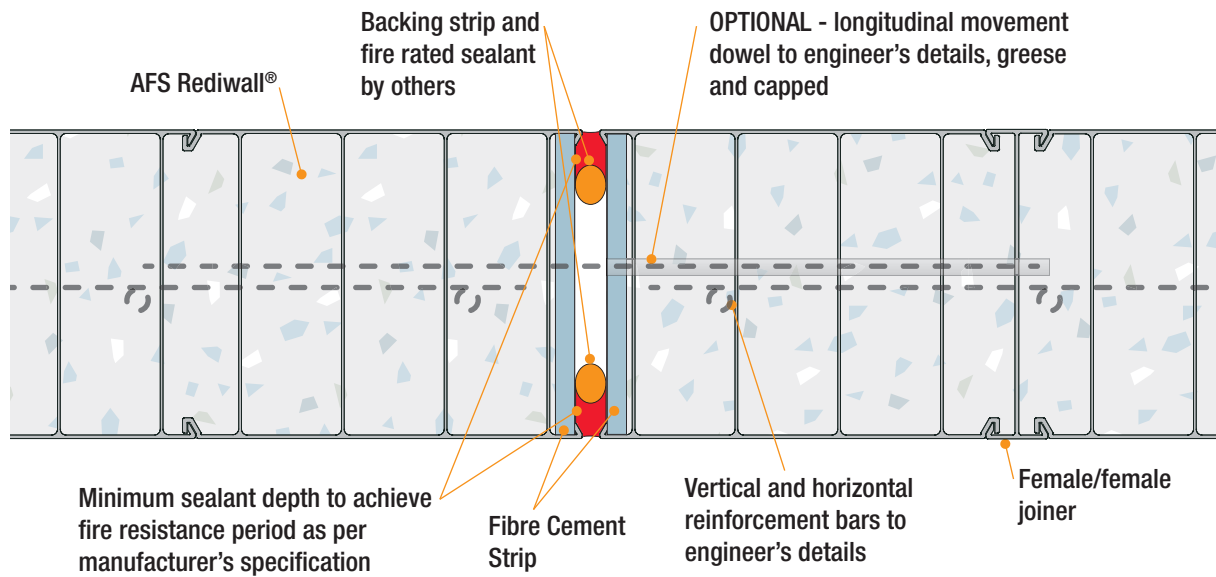
Fig D14: Corners with Timber Formwork



Notes:

- Refer to Volume 3 – Installation Guide for bracing details.

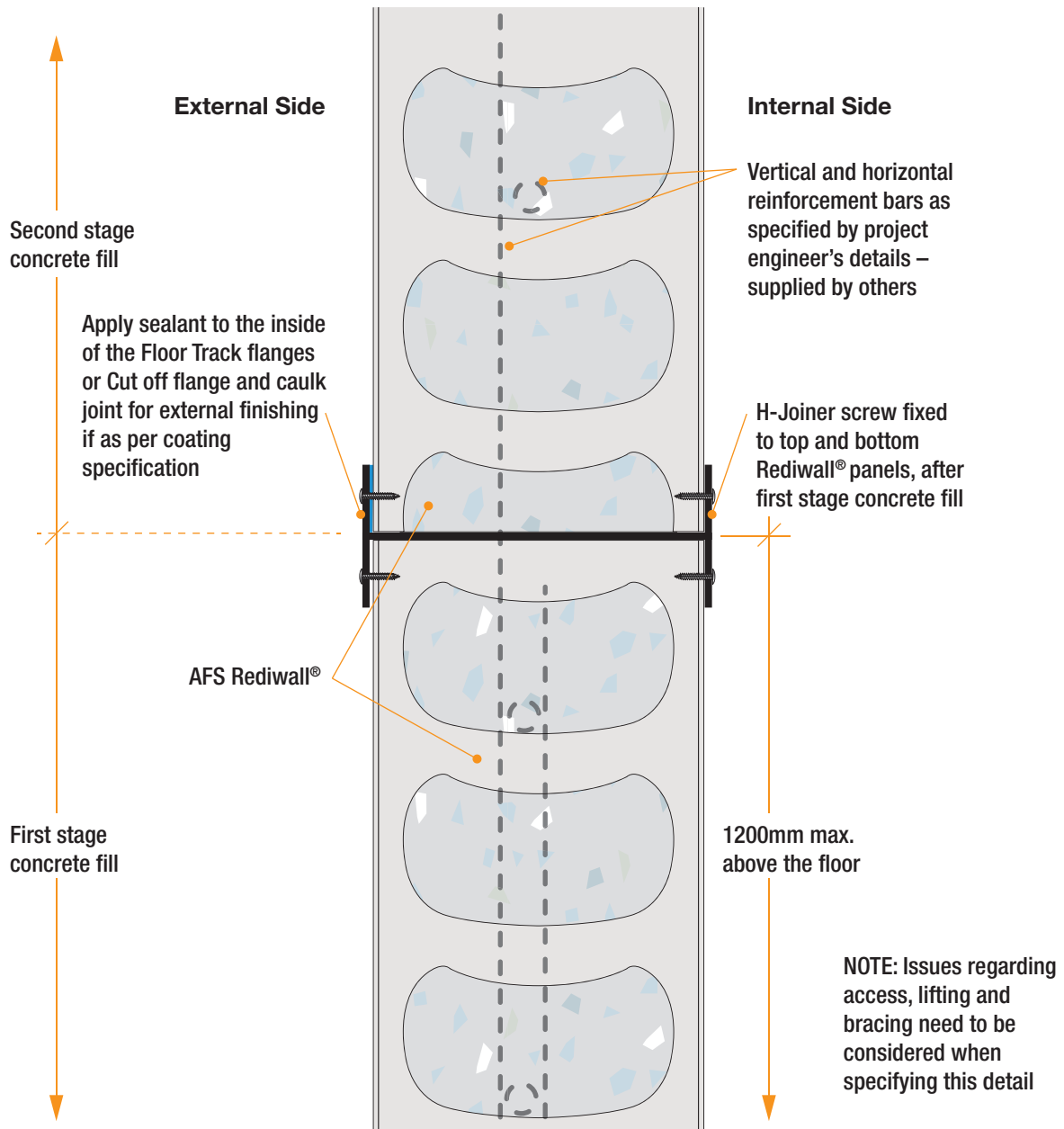
Fig D15: Movement Joint – Vertical Junction



Notes:

- Can be dowel jointed if required structurally.
- Fire rating to be considered in project specifications.
- Refer to Volume 1 – Design, Performance & Compliance Guide, specific wall applications section to determine where this detail can be applied.

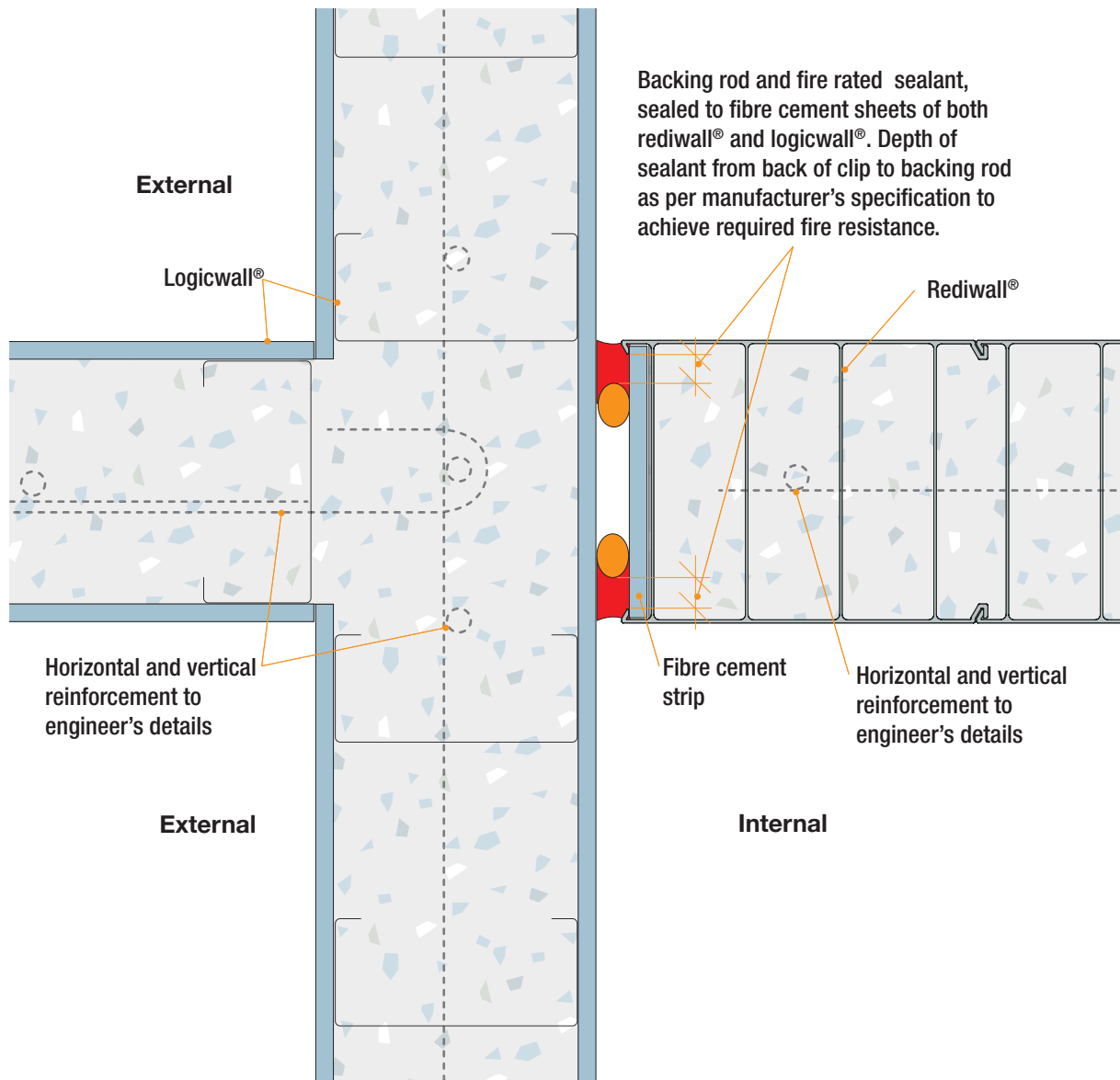
Fig D16: Double Height Wall – Horizontal Joint (2 Stage Concrete Fill)



Notes:

- Install second stage upper panels, H-Joiner, reinforcement after first stage concrete fill has occurred.

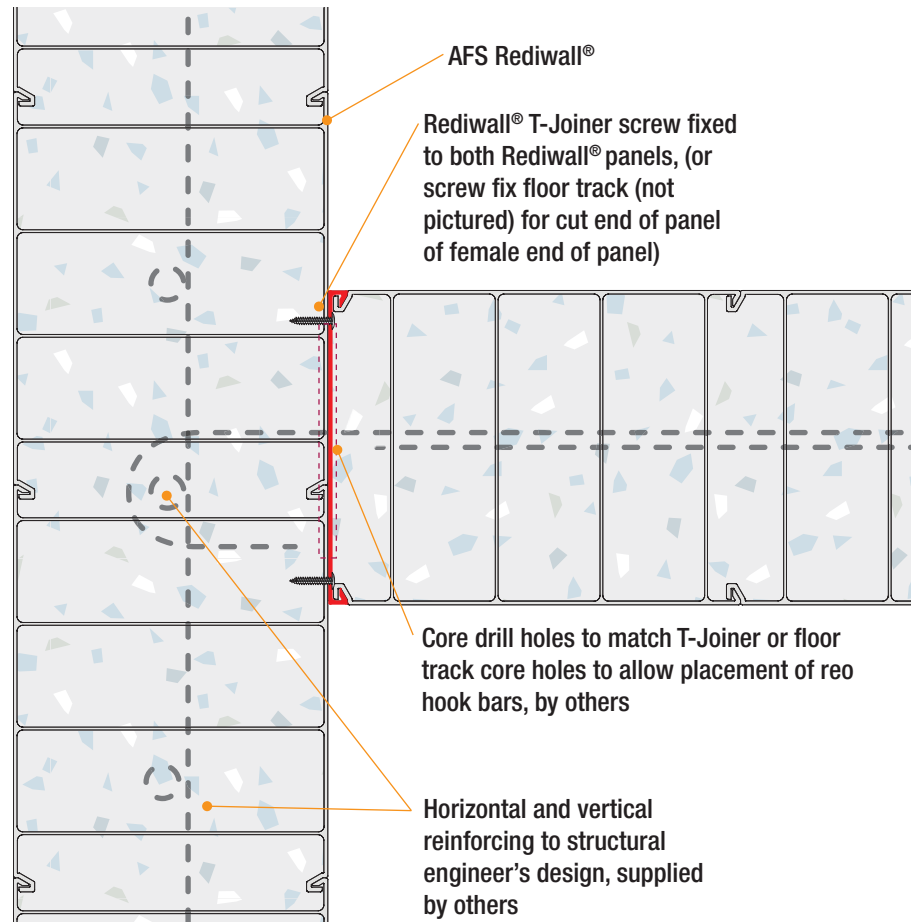
Fig D17: Junction of Rediwall® Party Wall and External Fire Rated Wall



NOTES:

Refer to Volume 1 – Design, Performance & Compliance Guide, specific wall applications section to determine where this detail can be applied.

Fig D18: Rediwall® T-Junction



NOTES:

Refer to Volume 1 – Design, Performance & Compliance Guide, specific wall applications section to determine where this detail can be applied.

Fig D19: Timber Floor Junction

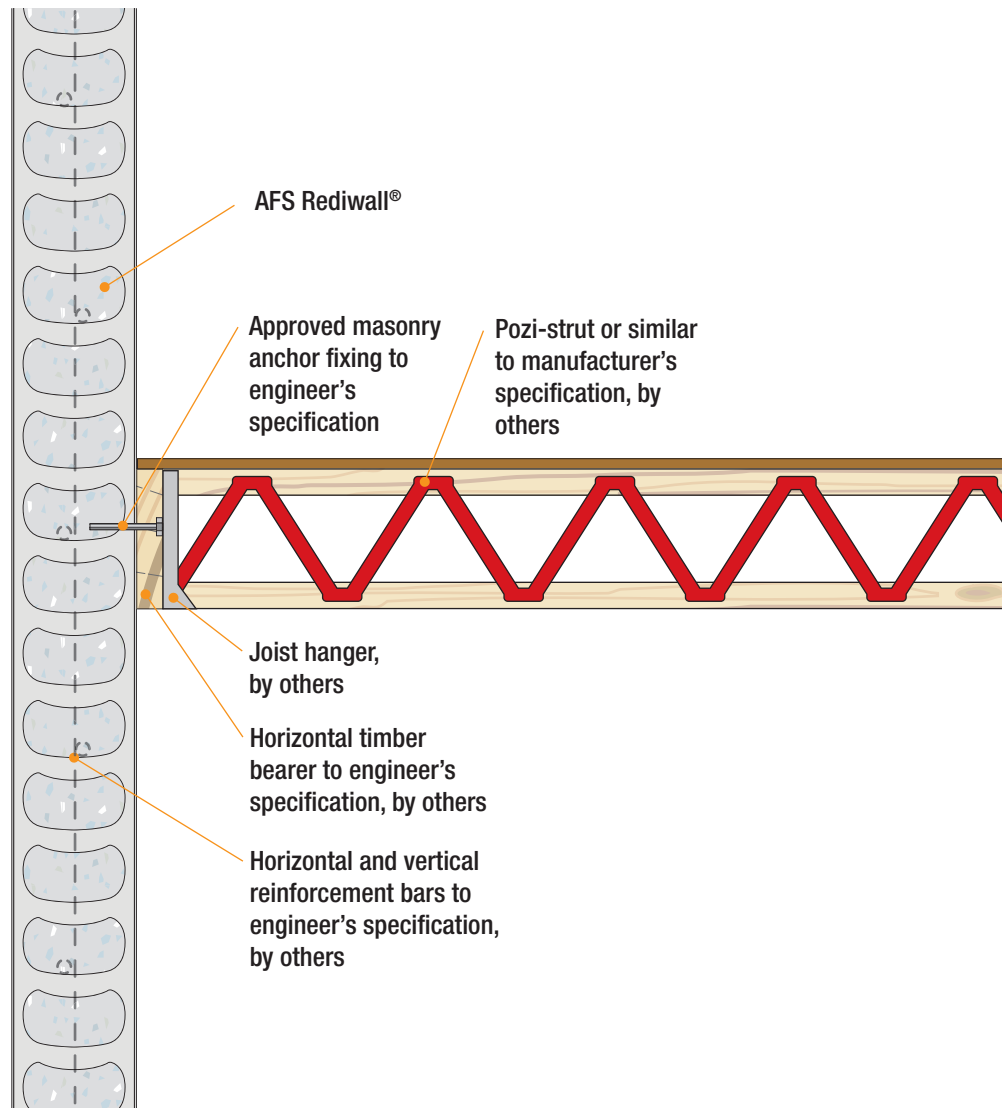
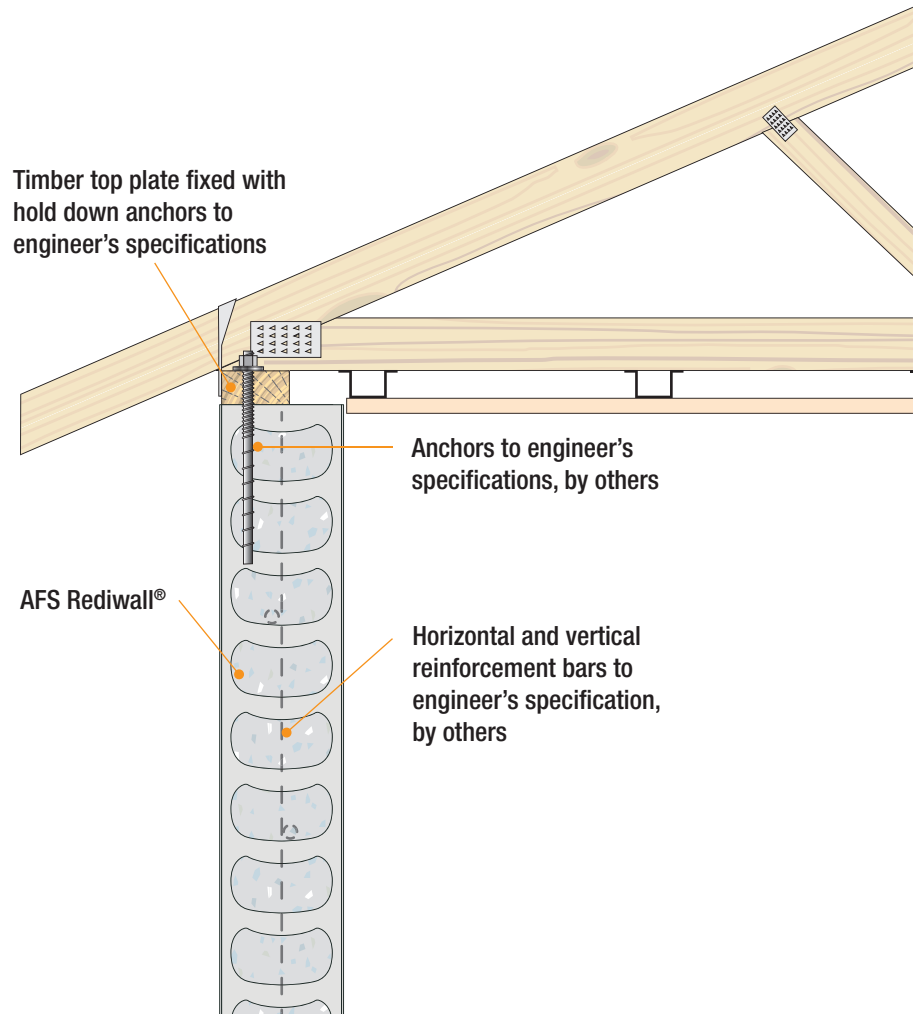


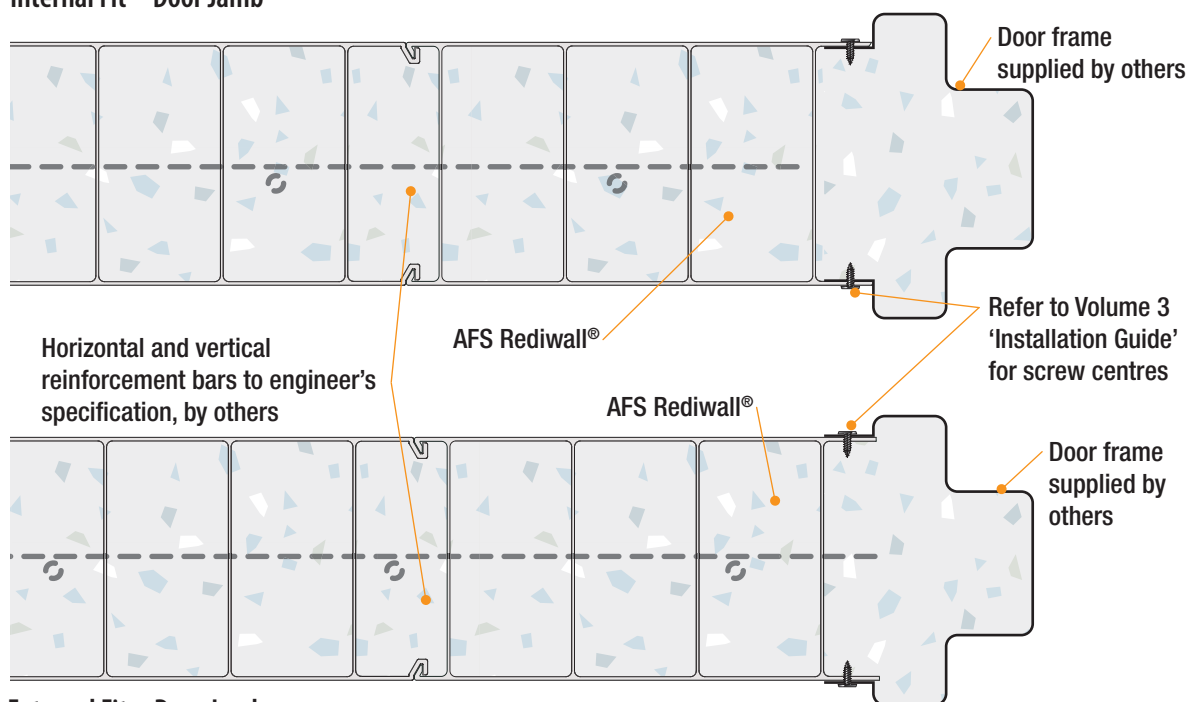
Fig D20: Timber Top Plate Connection



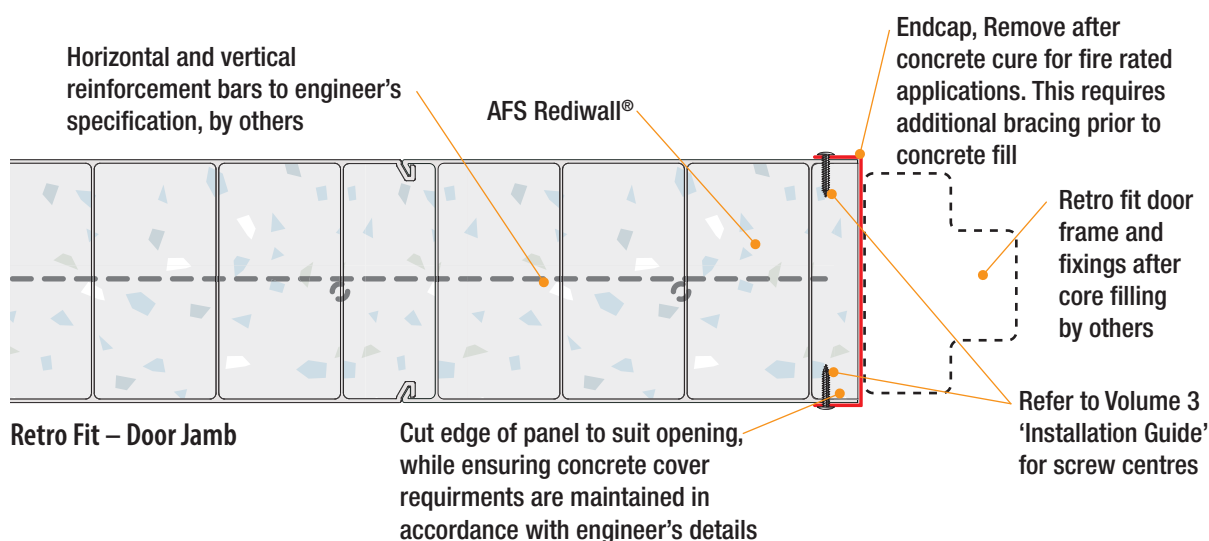
Openings & Wall Terminations

Fig D21: Door Jamb Options

Internal Fit – Door Jamb



External Fit – Door Jamb



Notes:

Always refer to door frame supplier for specific details on installation arrangement of frame to wall to ensure installation complies with door frame supplier's certification.

Fig D22: End Cap Options

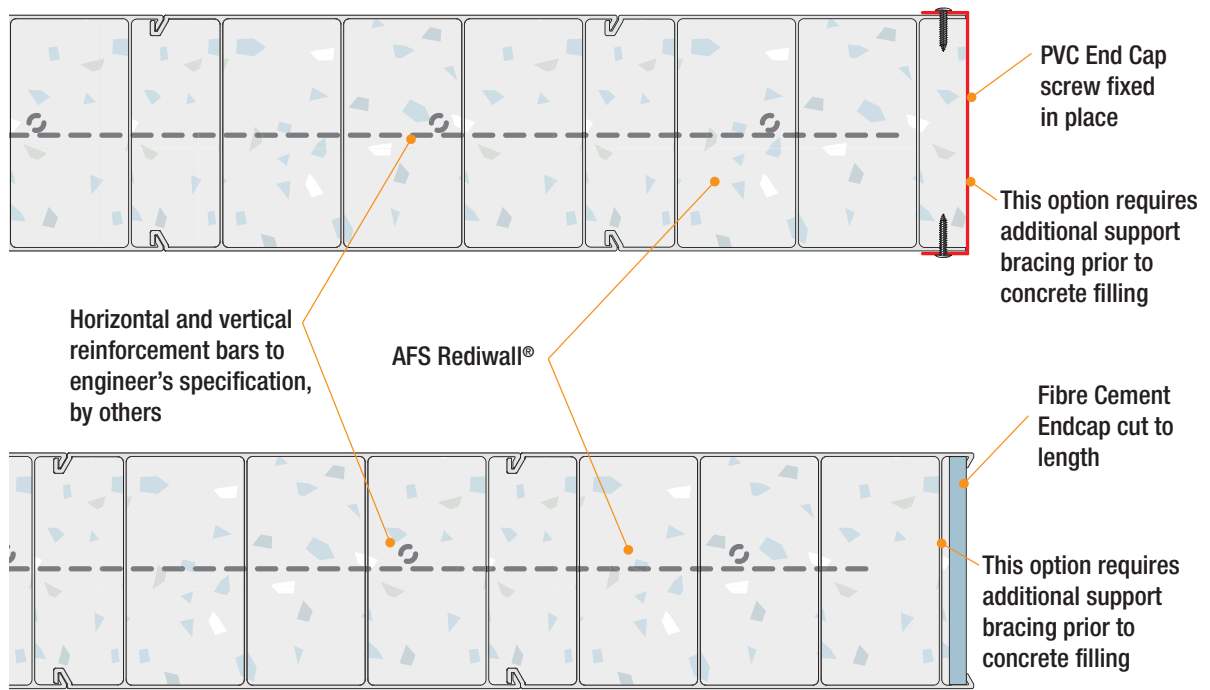
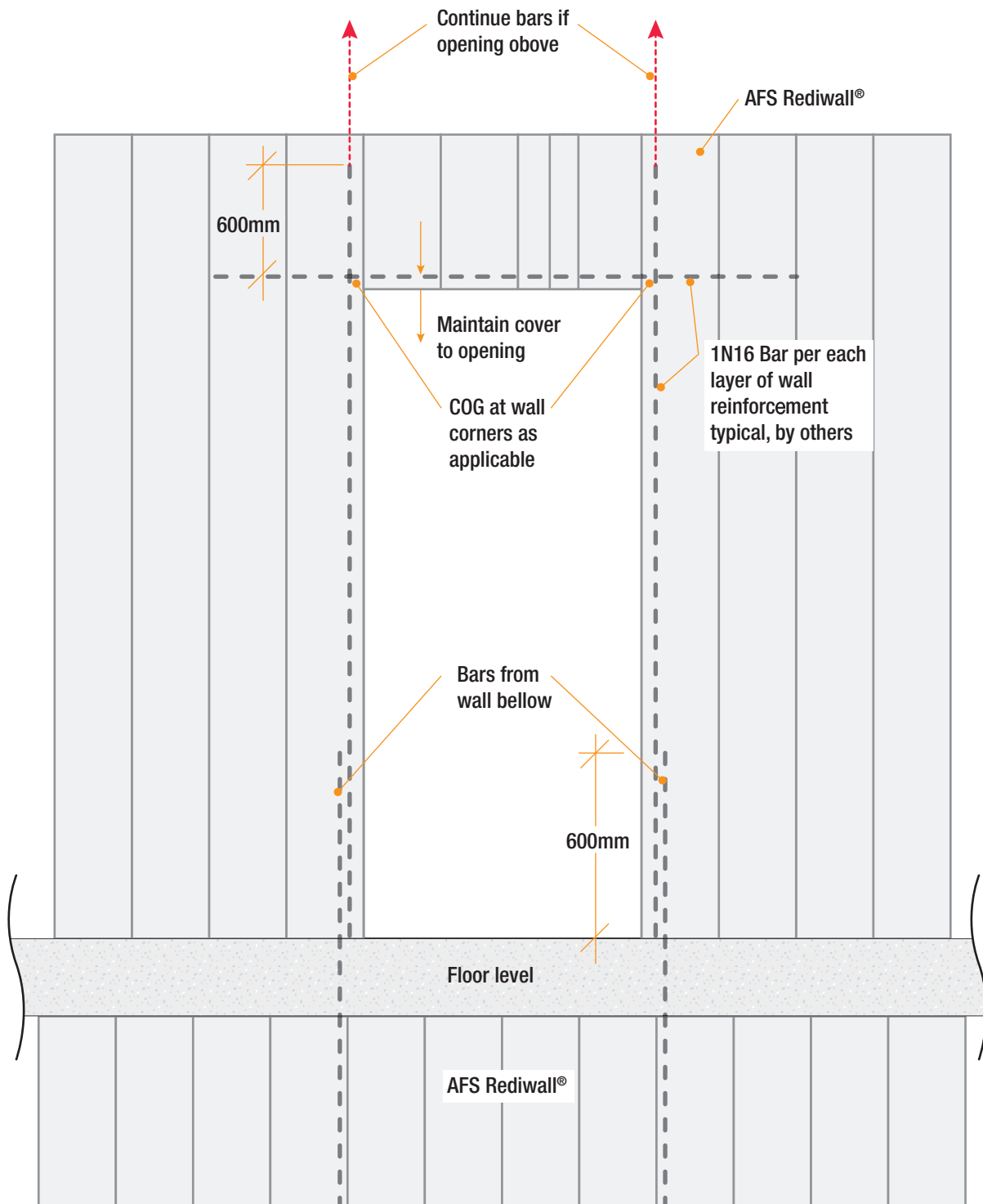


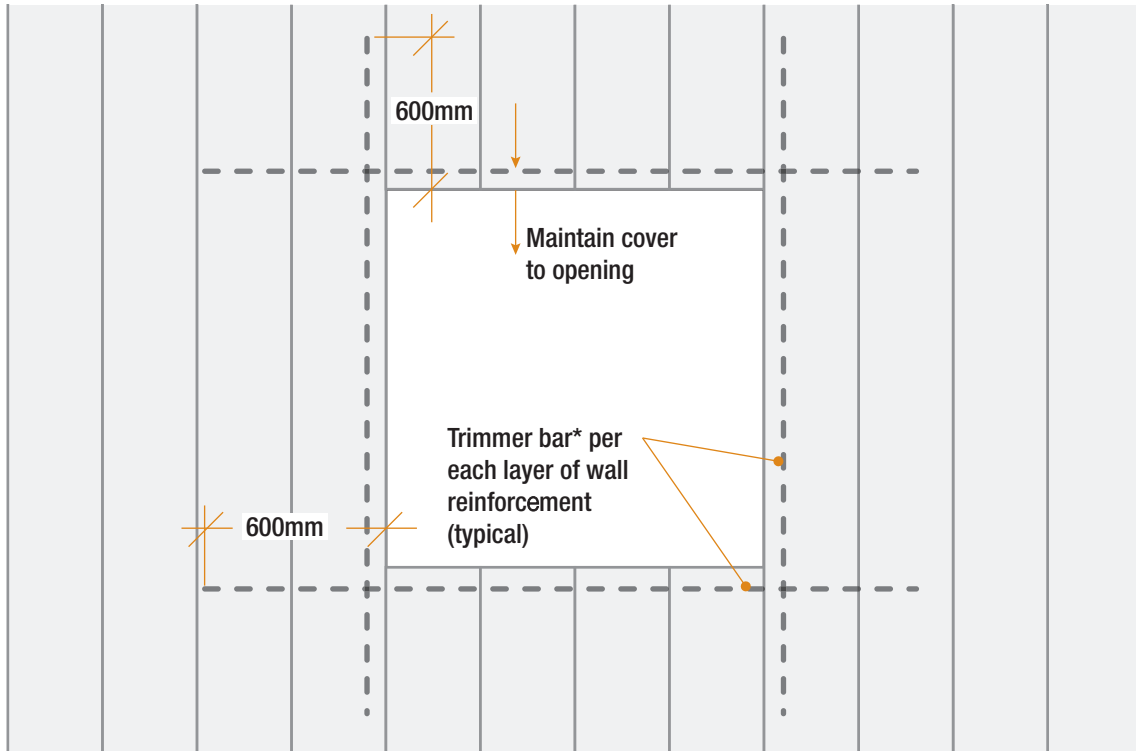
Fig D23: Typical Door Opening



Notes:

Always refer to engineer's details for specific reinforcement requirements for the door opening

Fig D24: Typical Wall Penetration



*Trimmer bars recommendations	
Wall penetration size (mm)	Recommended minimum trimmer bar size
250 – 600	1N12
601 – 1200	1N16

Alternatively refer to engineer's details.

Notes:

Always refer to engineer's details for specific reinforcement requirements for opening penetrations.

Fig D25: Typical Opening in Rediwall® - Side Elevation View

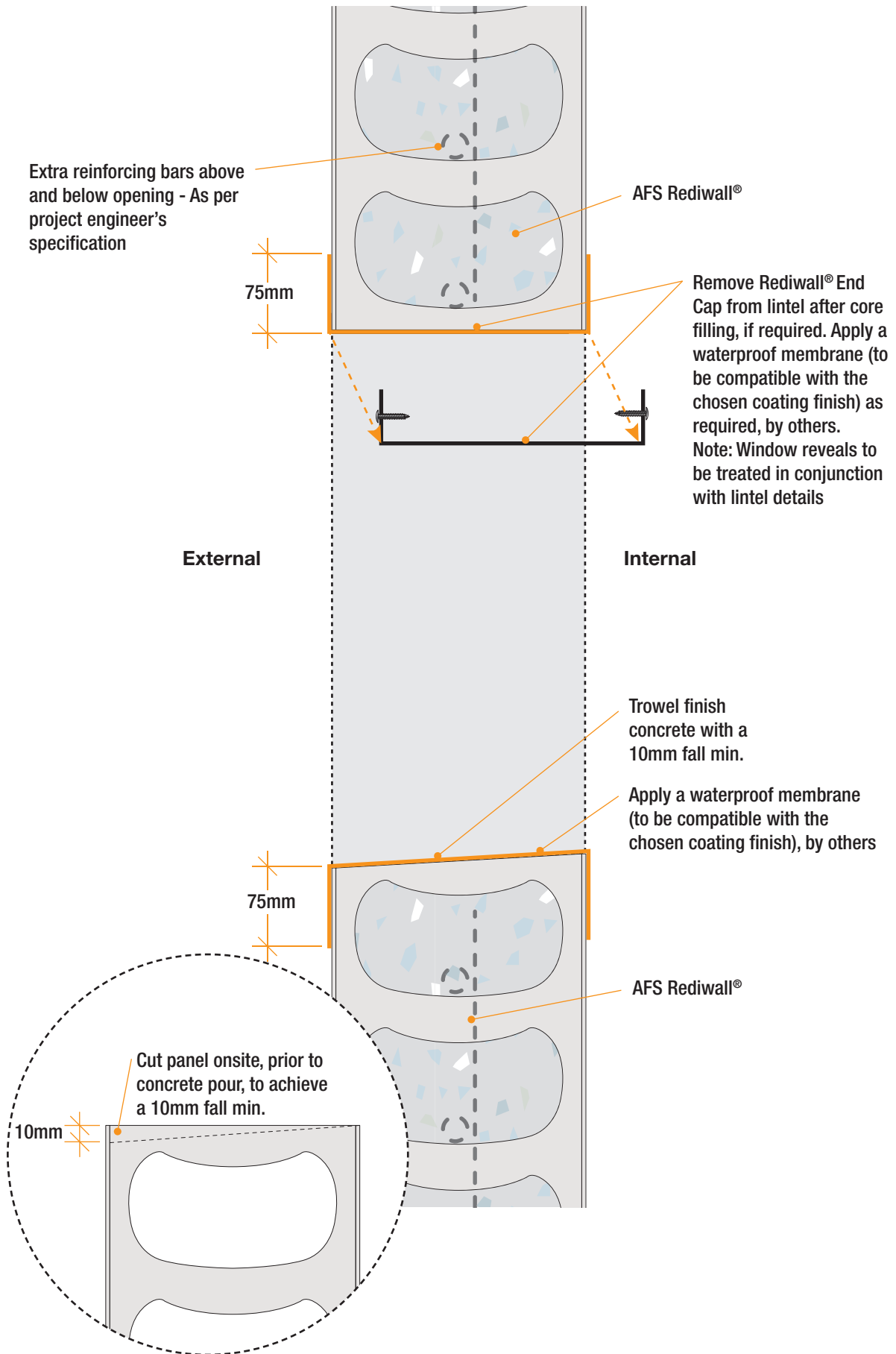
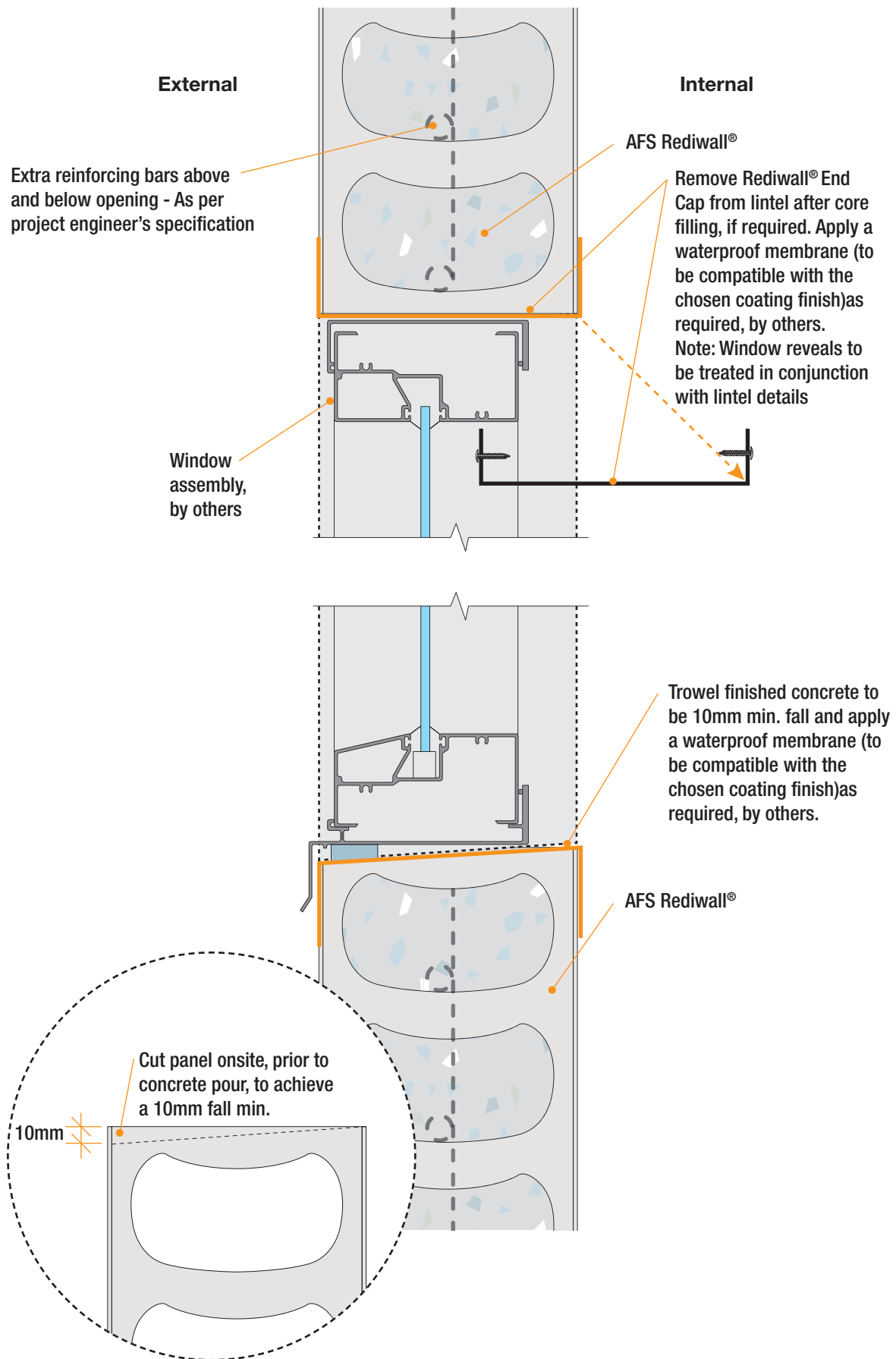
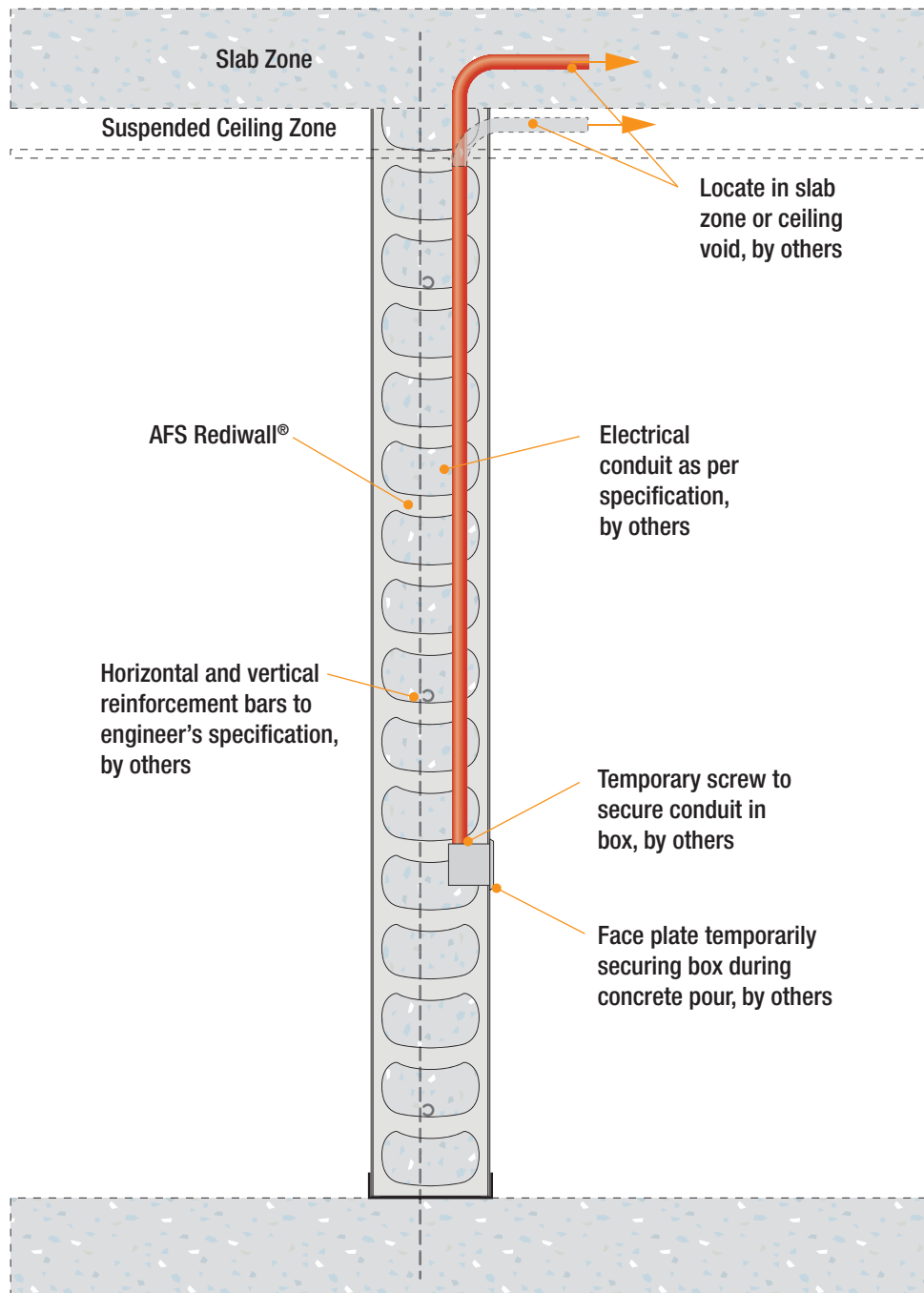


Fig D26: Window Opening - Side Elevation View



Attachments & Services

Fig D27: Services



Notes:

- Only non pressure services to be installed inside rediwall®
- Consideration to be given to fire and acoustic design when installing service boxes.
- Refer to Volume 1 Guide for more information in regards to full service penetration details.

Wall Systems

Fig D28: Typical Party Wall Detail (Continuous Construction)

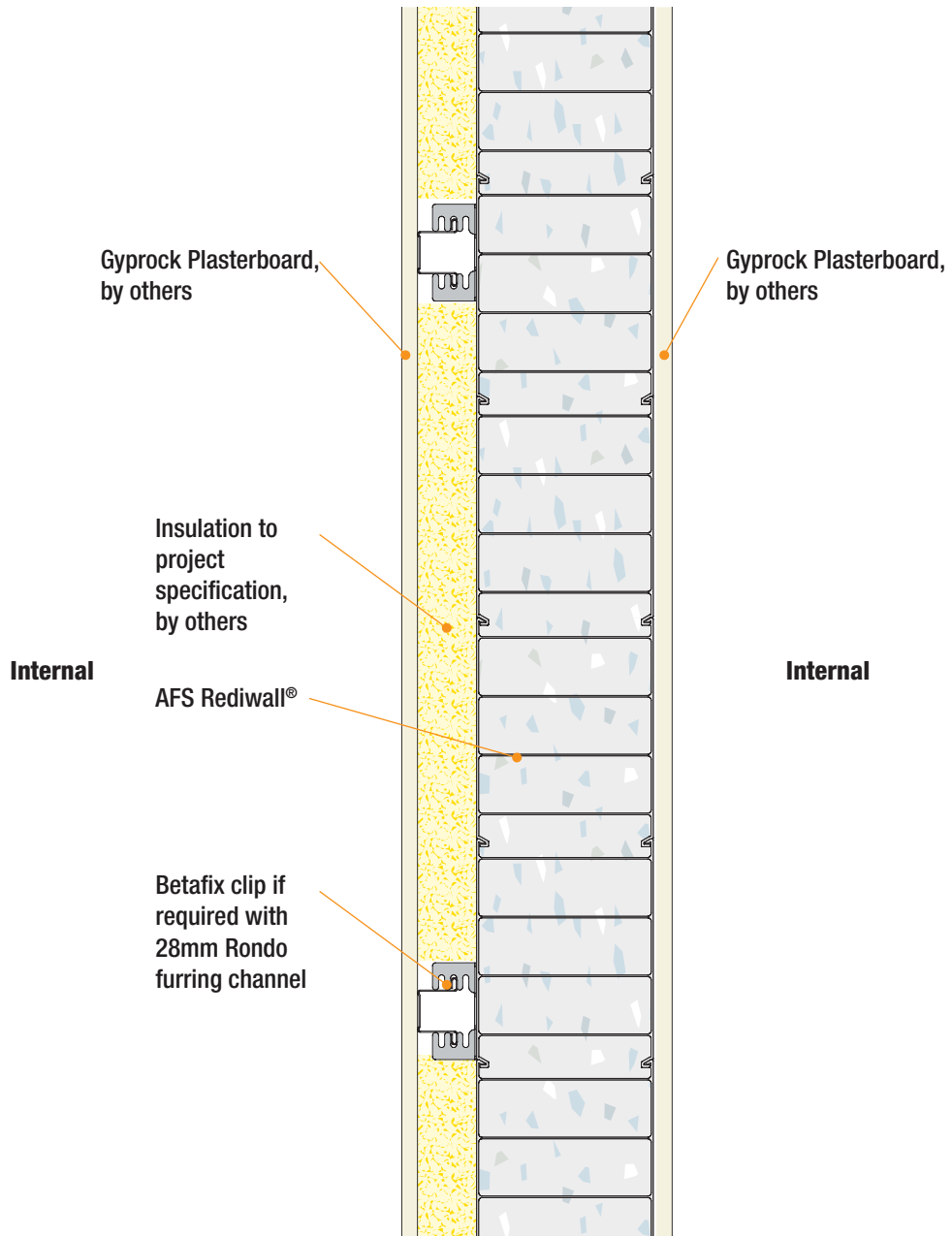


Fig D29: Typical Rediwall® External Wall with Internal Plasterboard Lining on Furring Channel (Continuous Construction)

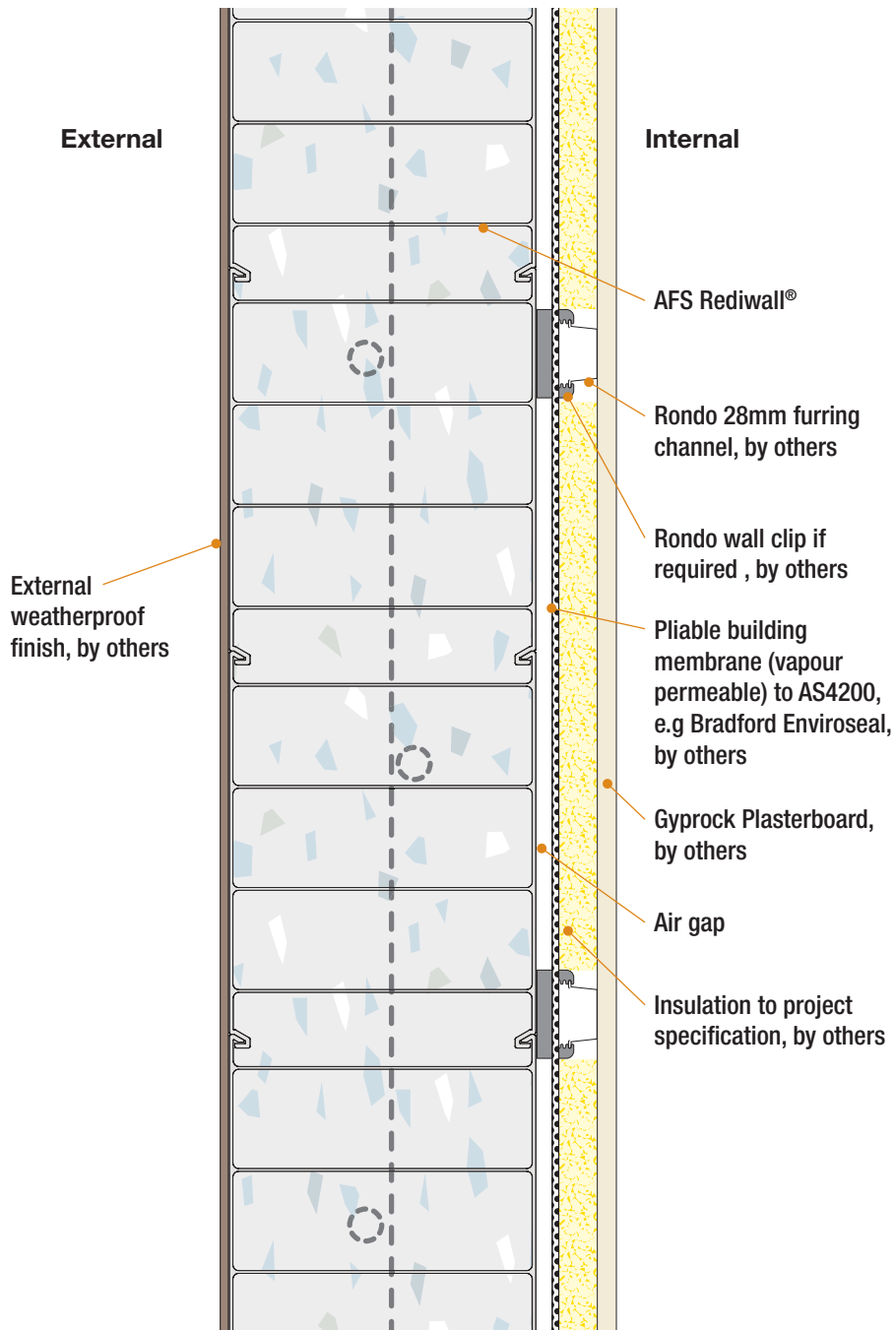


Fig D30: Typical Separating Wall (Discontinuous Construction)

Wet Area/Living Area or Wet to Wet Area (where Plumbing Services are to be installed to one side only)

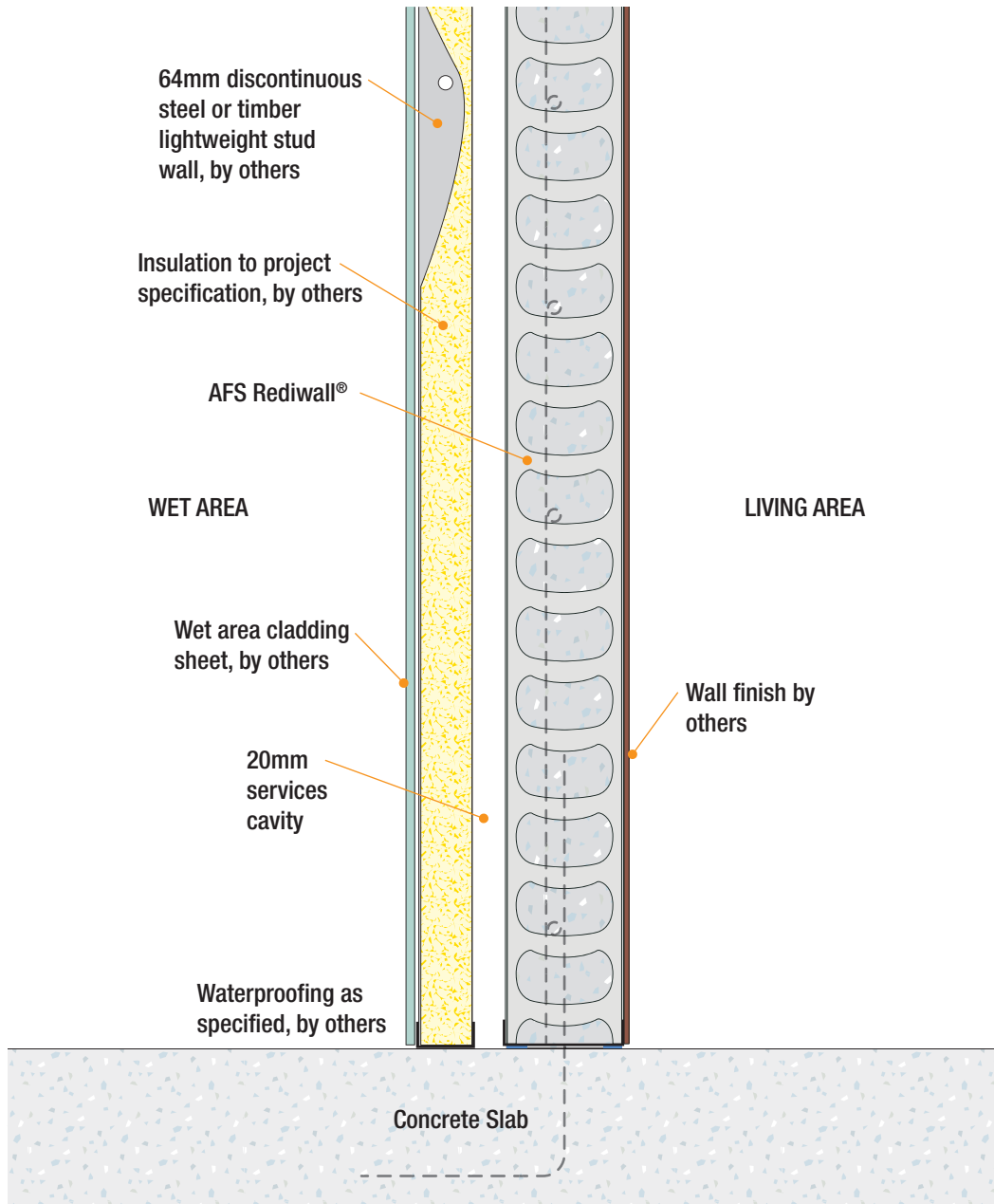


Fig D31: Rediwall® Boundary Wall Capping (Elevation View)

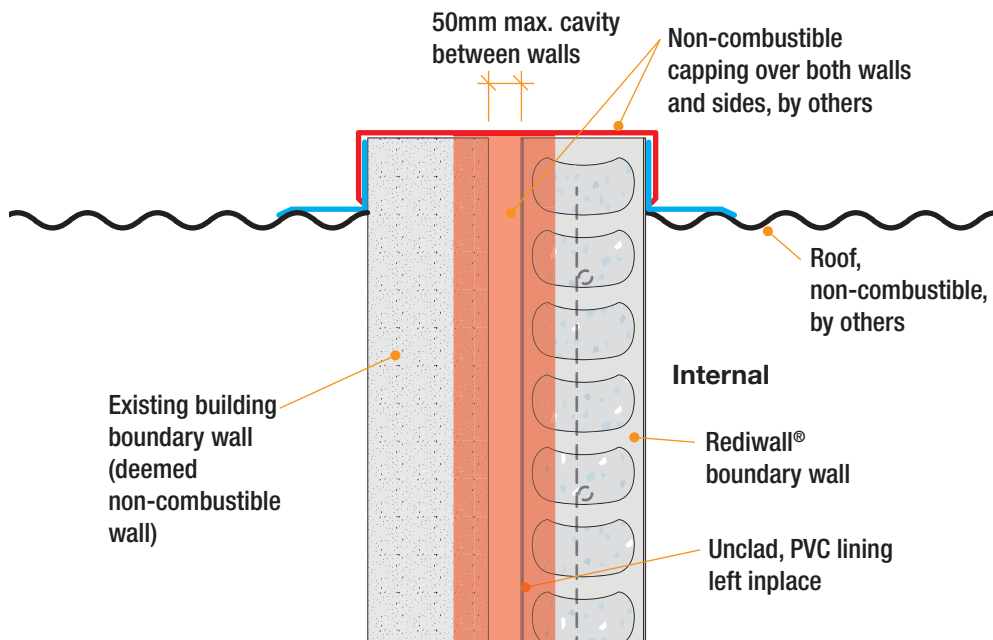
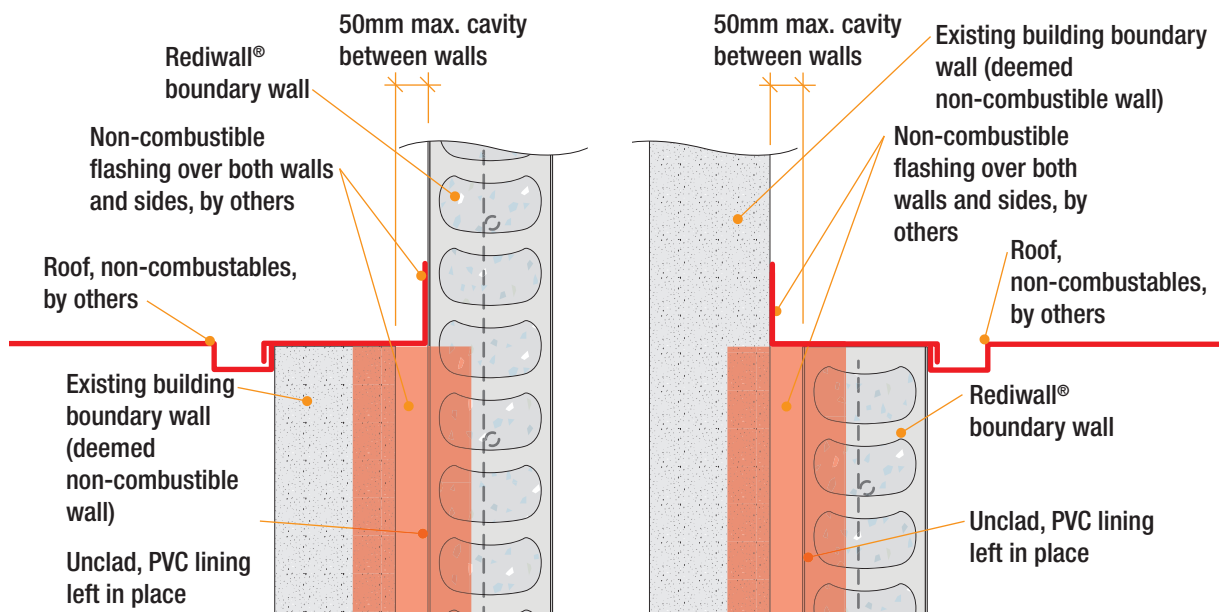


Fig D32: Rediwall® Boundary with Different Wall Heights



NOTES:

Refer to Volume 1 – Design, Performance & Compliance Guide, specific wall applications section to determine where this detail can be applied.

D3. Rediwall® Finishing Treatments

Introduction

The use of PVC in rediwall® permanent formwork provides a durable, attractive and water resistant surface for concrete walls. AFS rediwall® can be finished in a number of treatments for internal and external wall applications that enhance the overall wall system's:

- Acoustic, fire and non-combustibility performance,
- Architectural surface, and
- Weather resistance with external walls.

For best results these should be considered in the planning stages of the project and be clearly set out in the specifications.

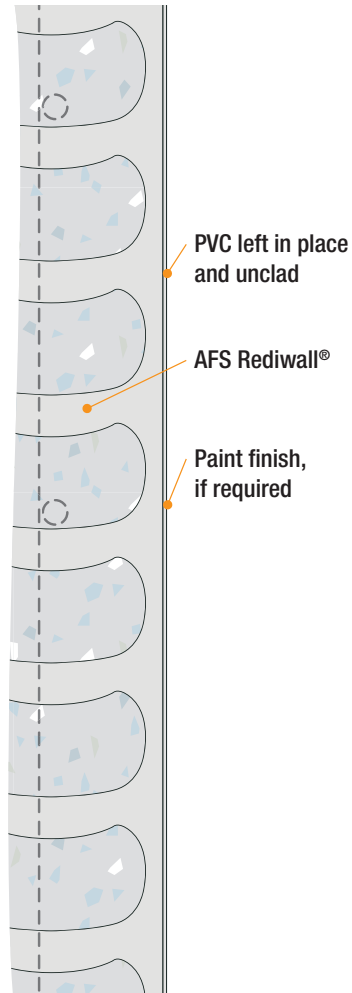
Rediwall® Non-Combustible Compliant Finishing Treatments

Rediwall® can use a variety of finishing treatments, these have been assessed by Stephen Grubits and Associates, Fire Safety Engineers for their suitability to meet non-combustibility requirements of the NCC. The various finishing treatments are shown in the following diagrams.

Reference should be made to TABLE A10 & TABLE A11 – Volume 1, to determine where the finishing treatments can be used, and any particular requirements that have been identified for each finish and application.

Fig D33: Unclad Rediwall® With PVC Lining Left In Place – Finish Type (a)

Finish Type (a)

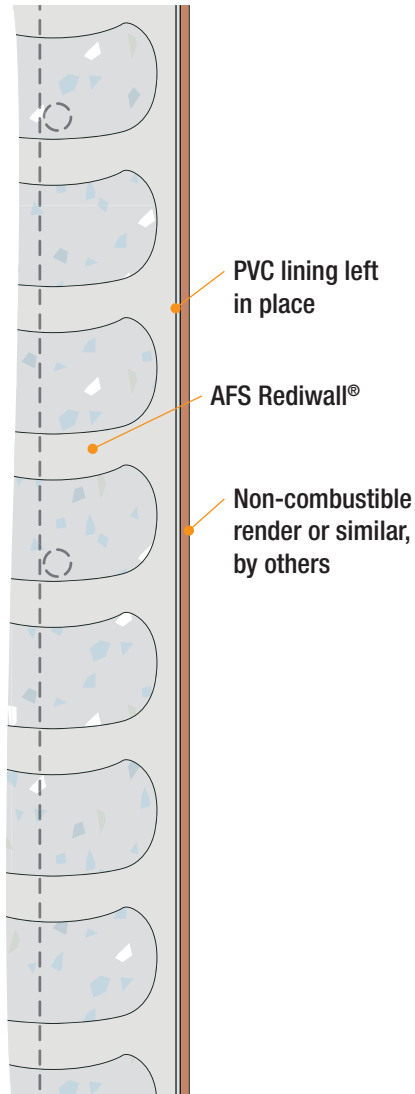


NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

– Ensure paint coating complies to requirements of the NCC.

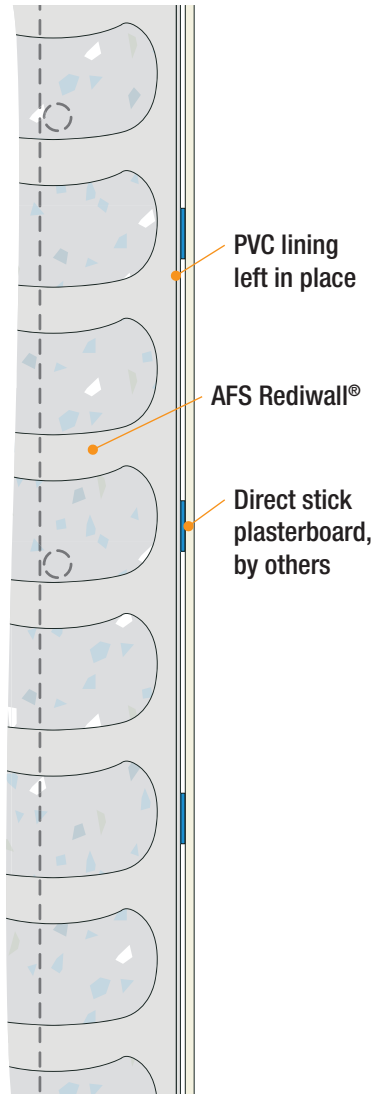
Fig D34: Non-Combustible Cement Render (or Similar Finish) Over Rediwall® PVC Lining – Finish Type (b)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

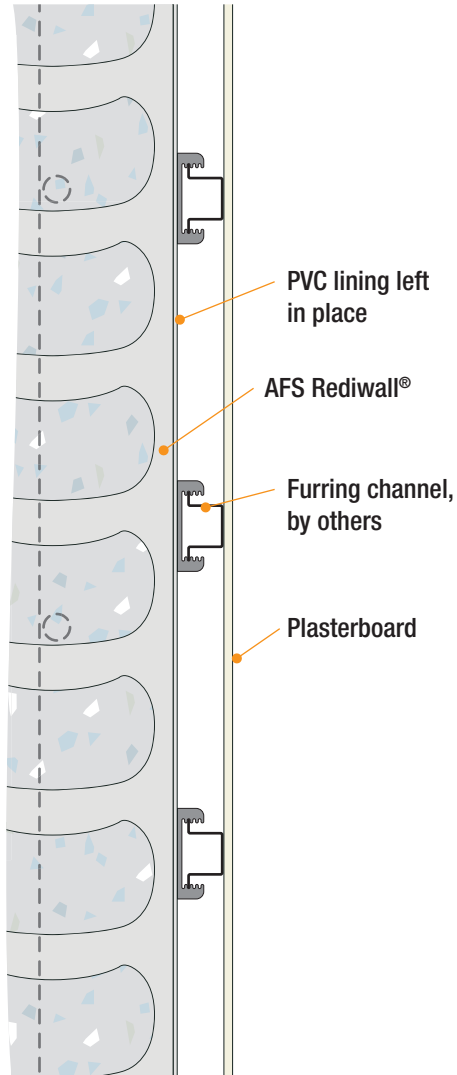
Fig D35: Plasterboard Direct Fixed To Rediwall® – Finish Type (c)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

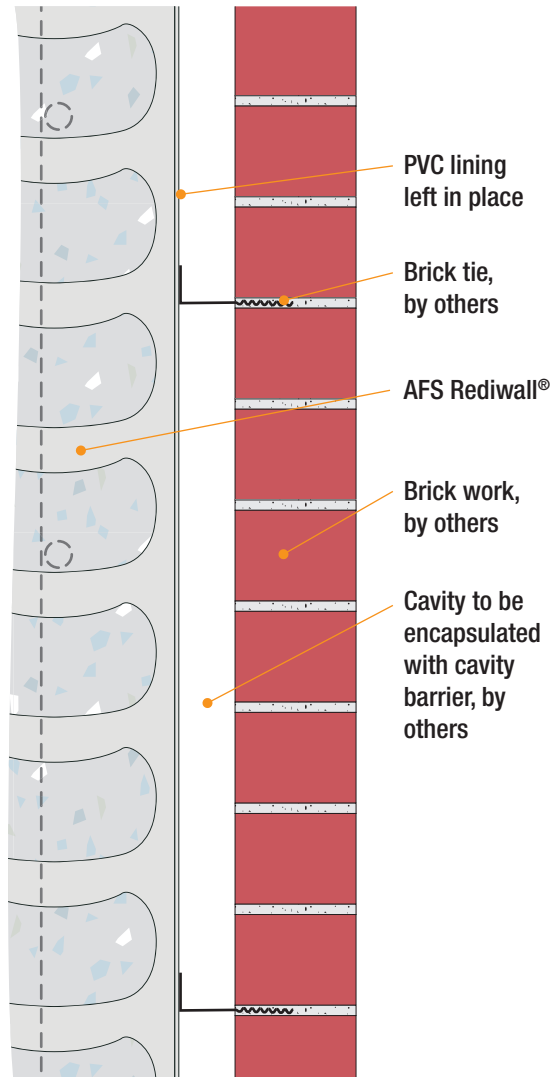
Fig D36: Plasterboard Lining and Horizontal Steel Furring Channels Fixed To Rediwall® – Finish Type (d)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

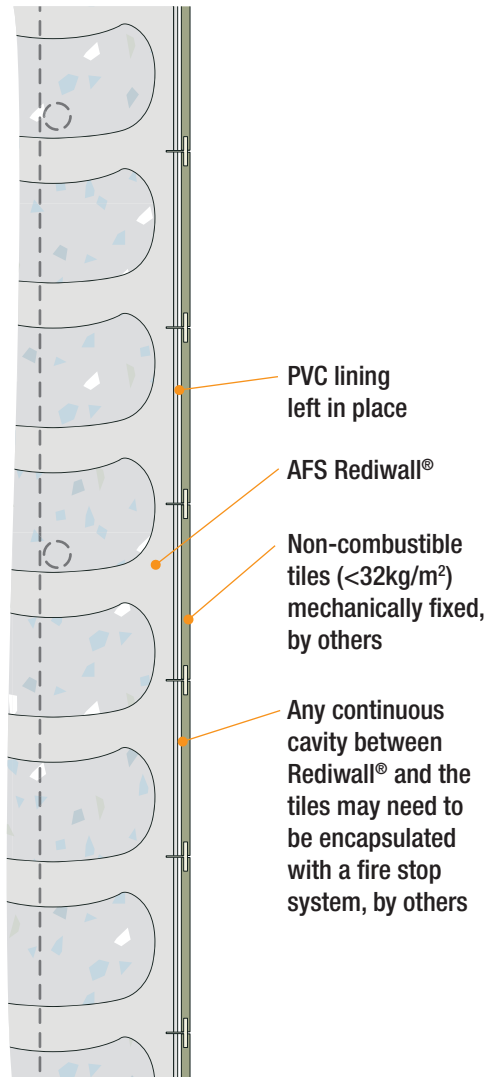
Fig D37: Rediwall® With Face Brick Exterior Skin – Finish Type (e)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

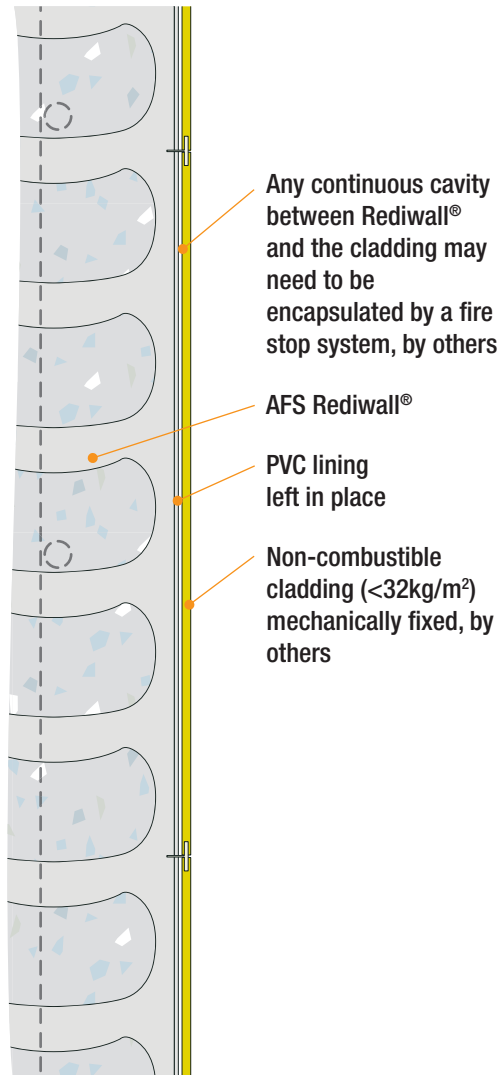
Fig D38: Tile System (<math><32\text{kg/m}^2</math>) Mechanically Fixed To Rediwall® – Finish Type (f)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

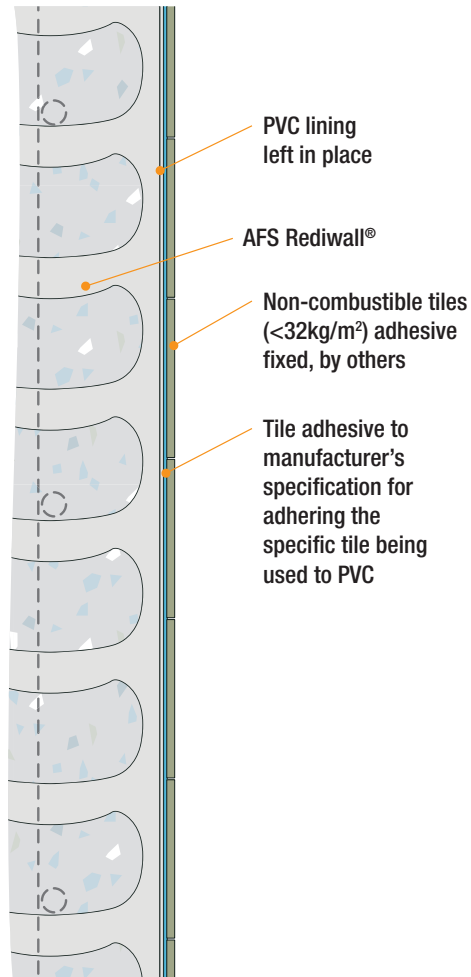
Fig D39: Mechanically Fixed Non-Combustible Cladding To Rediwall® – Finish Type (g)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

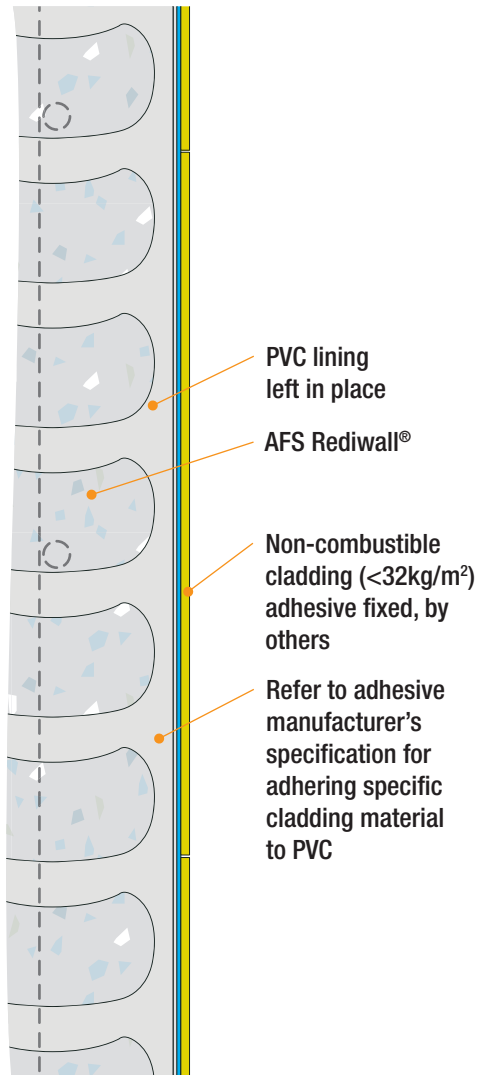
Fig D40: Tile System (<math><32\text{kg/m}^2</math>) Adhesive Fixed To Rediwall® – Finish Type (i)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

Fig D41: Adhesive Fixed Non-Combustible Cladding To Unclad Rediwall® – Finish Type (h)



NOTES:

Refer to Volume 1 – "TABLE A10: Summary of compliance with Performance Requirements & Essential Safety Precautions" to determine where this finish can be used.

NOTES:

A large grid of dotted lines for taking notes, consisting of 20 columns and 30 rows.

NOTES:

A large rectangular area filled with a grid of small, evenly spaced dotted lines, intended for writing notes.

PVC-based permanent formwork for basements, columns, blade & party walls, lift & stair cores, retaining walls and retention tanks



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