



OWNER INSPECTIONS

1300 471 805

booking@ownerinspections.com.au

<https://www.ownerinspections.com.au/>



EXPERT WITNESS REPORT

8 Example Street
Googong, NSW 2620

Client Name
JULY 19, 2024



Inspector

MAISON AZDARI

Senior Building Consultant & Expert Witness

1300 471 805

booking@ownerinspections.com.au

TABLE OF CONTENTS

1: + Inspection Details	4
2: Executive Summary	5
3: Inspection Summary	5
4: Instructions	6
5: Assumptions	7
6: Used Equipment	7
7: Other Experts' Opinion	8
8: Received Documents	9
9: Reference Documents	10
10: Inspector's Details	10
11: + Roof Drainage System	16
12: + House External	21
13: + External Wall/Cladding	46
14: + Site Drainage	52
15: + Garage/Carport/Driveway/Pathway	56
16: + Roof Space (Internal)	61
17: + House Internal	72
18: + Kitchen	79
19: + Bathrooms/Ensuites/Toilets	82

SUMMARY

⚠ 3.1.1 Inspection Summary - Expert's Opinion: Expert's opinion in summary



7.1.1 Other Experts' Opinion - Other Expert Reports Relied On: Reference to any opinions that haven't been well researched and why they haven't been



7.1.2 Other Experts' Opinion - Other Expert Reports Relied On: Any questions the expert has about the dispute that isn't in their area of expertise



7.1.3 Other Experts' Opinion - Other Expert Reports Relied On: An explanation about whether the report is incomplete or limited in scope in any way

🔧 10.2.1 Inspector's Details - Expert's Codes of Conduct: NCAT Procedural Direction 3 (2018)

⚠ 11.1.1 + Roof Drainage System - + Gutter and Fascia: + Remove debris

⚠ 11.1.2 + Roof Drainage System - + Gutter and Fascia: Wrong sloping gutter

⚠ 12.1.1 + House External - + Windows (External): + Rubber flashing adjustment required

⚠ 12.2.1 + House External - + Doors (External): Not parallel to the wall

⚠ 12.4.1 + House External - Boundry : Deviation from the Plans - Garage Boundary Wall

⚠ 12.5.1 + House External - Concrete: Deviation from the Plans: Right Side Pillar Misalignment

⚠ 12.5.2 + House External - Concrete: Deviation from the Plans: Middle Pillar Misalignment

⚠ 12.5.3 + House External - Concrete: Deviation from the Plans: Left Pillar Misalignment

⚠ 12.5.4 + House External - Concrete: Excessive Overhang of Front Brick Wall

⚠ 12.5.5 + House External - Concrete: Honeycombing



12.5.6 + House External - Concrete: Insufficient Alfresco and Verandah Support - Non-Compliance with Approved Plans

⚠ 12.6.1 + House External - Electrical: External Powerpoint Not waterproof

🔧 12.7.1 + House External - Plumbinb : Hot water systmet installed by owner

⚠ 12.8.1 + House External - Site cleaning : Cleaning

⚠ 13.1.1 + External Wall/Cladding - + Control Joints: + Missing - Not matched with plans

⚠ 13.1.2 + External Wall/Cladding - + Control Joints: + Sealant Required

⚠ 13.2.1 + External Wall/Cladding - + Weep holes: + Clearance less than 150mm (or 75mm for graded sites)



13.3.1 + External Wall/Cladding - Pathway: Lack of Clearance Between Brick Wall Cladding and Adjoining Paving

⚠ 14.1.1 + Site Drainage - + Site Grading: Grading Incomplete

⚠ 14.2.1 + Site Drainage - + Stormwater Drainage System (Underground): + Exposed Pipe - Insufficient cover



15.1.1 + Garage/Carport/Driveway/Pathway - + Automatic Roller/Sectional Door(s): Improper Installation of Garage Door Bracket with Uneven Gaps



15.2.1 + Garage/Carport/Driveway/Pathway - + Driveway/Pathways: Improper Spacing of Concrete Control Joints

⚠ 16.1.1 + Roof Space (Internal) - + Roof Structure: Multiple Roof Bracings Cut

- ⚠ 16.1.2 + Roof Space (Internal) - + Roof Structure: Untensioned Roof Metal Bracings
- ⚠ 16.2.1 + Roof Space (Internal) - + Sarking/Sisolation: Damaged or Cut Roof Sarking
- ⚠ 16.2.2 + Roof Space (Internal) - + Sarking/Sisolation: Unsealed Sarking Around Roof Vent Penetration
- ⚠ 16.2.3 + Roof Space (Internal) - + Sarking/Sisolation: Sagging Sarking Exceeding Allowance
- ⚠ 16.2.4 + Roof Space (Internal) - + Sarking/Sisolation: Loose and Unsecured Electrical Cables in Roof Space
- ⚠ 16.3.1 + Roof Space (Internal) - + Heating/Cooling Unit: Not Suspended
- ⚠ 17.1.1 + House Internal - + Doors (Internal): Nail Pops Throughout the Dwelling
- 🔧 17.2.1 + House Internal - Painting: Number of Coats
- ⚠ 17.2.2 + House Internal - Painting: Poor Quality Paintwork and Visible Plaster Joint Lines
- ⚠ 17.3.1 + House Internal - Plaster: Wall Surface Damage
- ⚠ 18.1.1 + Kitchen - + Cabinetry: Cabinet Benchtop Misalignment in Pantry
- ⚠ 18.2.1 + Kitchen - + Oven/Stove/Rangehood: Oven not installed
- ⚠ 18.3.1 + Kitchen - Caulking: Incomplete Caulking Under Island Bench
- ⚠ 19.1.1 + Bathrooms/Ensuites/Toilets - + Basin: + Seal around basins

1: + INSPECTION DETAILS

Information

General Information: Property Address

8 Example Street, Googong, NSW 2620

General Information: Type Of Building

Residential, House, Freestanding

General Information: Inspection(s) Date

19/07/2024

General Information: Weather Conditions

Dry

General Information: In Attendance

Home owner

General Information: Tribunal/Court Application Reference Number

Case No: XXXX/XXXXXXXX

General Information: Legal Advice

This report is a witness expert report and covers the technical side of the building only. The expert can present in the hearing if required (An extra charge applies). We highly recommend you get legal advice for the legal side of your matter.

Inspection Summary: The Purpose and Scope of the report

The purpose of this report:

The purpose of this report is to provide an independent and objective assessment of building defects and damages in accordance with the Australian Standards (AS), National Construction Codes (NCC), Building Acts and Regulations, and any other relevant authority documents. The findings of this report are intended to assist the jury in making an informed decision.

Scope of the Report:

The scope of this report is to identify and report any building defects and damages that are observed during the inspection process. The inspection will be conducted in accordance with the applicable industry standards and guidelines. The report will detail the nature, location, and extent of any defects or damages, as well as any relevant factors that may have contributed to their occurrence.

Limitations

+ Limitations
REASONABLE ACCESS TO THE PROPERTY WAS RESTRICTED BY:
Roof Space Due To Limited Crawl Space, Insulation

2: EXECUTIVE SUMMARY

Information

Executive Summary: Executive Summary

This report has been prepared in response to instructions from Client Name (the Home Owner).

This report outlines defects alleged by the Applicant/Home Owner, in work carried out by Builder Pty Ltd (the Builder) at 8 Example Street, Googong, NSW 2620 (the Property).

The Contract works (the Works) consisted of a new dwelling at the above address.

I inspected the property on 19/07/2024 and provided this report and my expert opinion based on the findings on the day of the inspection of the property and the documents I received from Home Owner and referenced Codes, Standards and other relevant industry data.

A summary of the alleged defective works is in the "Inspection Summary" section of this report.

3: INSPECTION SUMMARY

Information

Home Building Act 1989: Proceeding for BREACH OF WARRANTY - SEC 18E

- (1) Proceedings for a breach of a statutory warranty must be commenced in accordance with the following provisions—
 - (a) proceedings must be commenced before the end of the warranty period for the breach,
 - (b) the warranty period is **6 years for a breach that results in a major defect** in residential building work or **2 years in any other case,**

(c) the warranty period starts on completion of the work to which it relates (but this does not prevent proceedings from being commenced before completion of the work),

(d) if the work is not completed, the warranty period starts on—

(i) the date the contract is terminated, or

(ii) if the contract is not terminated—the date on which work under the contract ceased, or

(iii) if the contract is not terminated and work under the contract was not commenced—the date of the contract,

(e) if the breach of warranty becomes apparent within the last 6 months of the warranty period, proceedings may be commenced within a further 6 months after the end of the warranty period,

(f) a breach of warranty "becomes apparent" when any person entitled to the benefit of the warranty first becomes aware (or ought reasonably to have become aware) of the breach.

Home Building Act 1989: Major Defects & Building Elements - SEC 18E(4)

(4) In this section—

"major defect" means—

(a) a defect in a major element of a building that is attributable to defective design, defective or faulty workmanship, defective materials, or a failure to comply with the structural performance requirements of the National Construction Code (or any combination of these), and that causes, or is likely to cause—

(i) the inability to inhabit or use the building (or part of the building) for its intended purpose, or

(ii) the destruction of the building or any part of the building, or

(iii) a threat of collapse of the building or any part of the building, or

(b) a defect of a kind that is prescribed by the regulations as a major defect, or

(c) the use of a building product (within the meaning of the Building Products (Safety) Act 2017) in contravention of that Act.

[Note: The definition of "major defect" also applies for the purposes of section 103B (Period of cover).]

"major element" of a building means—

(a) an internal or external load-bearing component of a building that is essential to the stability of the building, or any part of it (including but not limited to foundations and footings, floors, walls, roofs, columns and beams), or

(b) a fire safety system, or

(c) waterproofing, or

(d) any other element that is prescribed by the regulations as a major element of a building.

Observations

3.1.1 Expert's Opinion

EXPERT'S OPINION IN SUMMARY



Defective Work

Multiple major and minor defects were identified during the inspection, along with some incomplete works. For a detailed breakdown of the findings, please refer to the full report.

4: INSTRUCTIONS

Information

Instructions: By Client - Home Owner

This report is prepared in response to the instructions received from Client Name (Home Owner)

5: ASSUMPTIONS

Information

Assumptions: Assumptions

I have assumed all information including the documents provided to me, is accurate.

I have assumed that, aside from compliance with Regulations, Code, Standards and Installation manuals, the workmanship was to be of reasonable trade quality.

Any work would be carried out by appropriately licensed and experienced contractors, using standard materials.

Where the material specification and installation manual were not supplied, I considered general specification/installation guide.

6: USED EQUIPMENT

Information

Used equipment: Digital Level - Bosch 120cm GIM 120

One of the industry's best and most accurate devices to measure the slope of the area in percentage, degree or mm/m. This device allows us to identify the non-compliance works with the highest accuracy and documentation.



Technical Data

Digital level	GIM 60	GIM 120
Article number	3 601 K76 710	3 601 K76 810
Dimensions		
– Length	24 in / 608 mm	49.2 in / 1250 mm
– Width	1.06 in / 27 mm	1.06 in / 27 mm
– Height	2.3 in / 59 mm	2.3 in / 59 mm
Measuring range	0–360° (4 x 90°)	0–360° (4 x 90°)
Measuring accuracy		
– 0°/90°	±0.05°	±0.05°
– 1–89°	±0.2°	±0.2°
Operating temperature	14 °F...122 °F / –10 °C...+50 °C	14 °F...122 °F / –10 °C...+50 °C
Storage temperature	–4 °F...158 °F / –20 °C...+70 °C	–4 °F...158 °F / –20 °C...+70 °C
Alkaline Batteries	4 x1.5V LR6 (AA)	4 x1.5V LR6 (AA)
Operating time, approx.	100 h	100 h
Automatic switch-off after approx.	30 min	30 min
Weight according to EPTA-Procedure 01/2003	1.5 lbs / 0.7 kg	2.9 lbs / 1.3 kg
IP 54 (dust and splash proof)	•	•

7: OTHER EXPERTS' OPINION

Observations

7.1.1 Other Expert Reports Relied On

REFERENCE TO ANY OPINIONS THAT HAVEN'T BEEN WELL RESEARCHED AND WHY THEY HAVEN'T BEEN



Information Only

The homeowner claims that the builder has applied only two coats of paint, despite the builder's quotation specifying three coats. As this matter is beyond my expertise, I cannot confirm whether two or three coats have been applied. In an email received from the homeowner on 12 September, she advised that she has engaged a Taubmans paint representative to conduct a paint test to determine the exact number of coats applied. The homeowner also mentioned that the results may take a few weeks, as advised by Taubmans. I am unable to comment further on this issue until the paint specialist's report is received.

7.1.2 Other Expert Reports Relied On

ANY QUESTIONS THE EXPERT HAS ABOUT THE DISPUTE THAT ISN'T IN THEIR AREA OF EXPERTISE

Information Only

The number of applied painting coats

7.1.3 Other Expert Reports Relied On

AN EXPLANATION ABOUT WHETHER THE REPORT IS INCOMPLETE OR LIMITED IN SCOPE IN ANY WAY

Information Only

The homeowner stated that the painter applied two coats of paint instead of three coats as per the specifications. I am unable to comment on the number of coats applied. A painting expert with the relevant testing device and report is required.

8: RECEIVED DOCUMENTS

Information

Received Documents: Photos provided by Client

Due to the requirement of excavating the ground to determine the foundation depth, the digging was carried out by the homeowner following instructions provided by the expert on how and where to dig. The homeowner also took photos of the excavation as per the expert's guidance. The expert believes that the photos received, related to the defects at the alfresco and verandah, accurately represent the conditions and have been provided in good faith.

Received Documents: Received Documents from Homeowner**Exchanged Building Contract**

Prepared by: Builder Pty Ltd
Dated: 19 Sep 2021

Quotation

Prepared by: Builder Pty Ltd
Dated: 10 Sep 2021

Building Inspection Report

Prepared by: Other Building Consultant
Dated: 04 March 2024

Working Drawings

Prepared by: Builder Pty Ltd
Dated: 13 Dec 2021

Engineering Drawings

Prepared by: Consulting Engineer
Dated: 27 Sep 2021

Roof Truss and Wall Frame Layouts

Prepared by: Supplier
Dated: 17 Feb 2022

9: REFERENCE DOCUMENTS

Information

Reference Documents: Home Building Act 1989

Reference Documents: National Construction Codes (NCC), Volume 2

Reference Documents: GUIDE TO STANDARDS AND TOLERANCES NSW - 2017

10: INSPECTOR'S DETAILS

Information

Expert Witness: Maison Azdari: Details, Qualifications and Experience

Expert's Details:

Full Name: Maison Azdari

Address: 97 Pacific Highway, North Sydney, NSW 2060

Email: enquiries@ownerinspections.com.au

Mobile: 1300 471 805

Inspector's Qualifications:

University Degree - Bachelor of Civil Engineering, 2001 - 2006

Recognised as a Professional Civil Engineer by ENGINEERS AUSTRALIA, 2009

Building Consultant Expert Witness Seminar, Master Builders

CPCCWHS3001 - Identify Construction Work Hazard and Select Risk Control Strategies, 2019

CPCCBC4026A - Arrange building applications and approvals, 2019

Cert IV in Building and Construction (Estimating), 2012

Cert IV in Building and Construction (Building), 2013

Diploma of Building and Construction (Building), 2013-2014

VIC: Registered Builder - (Unlimited) Victorian Building Authority (VBA) - Registration number: **DBU-41642**

NSW: Registered Builder - (Contractor) NSW Fair Trading - Registration number: **366172C**

QLD: Registered Builder (Open) & **Completed Residential Building Inspector**

Queensland Building & Construction Commission (QBCC) - Registration number: **15151453**

Completed Termite & Timber Pest Management Course, Including:

* CPPUPM3008 - Inspect for and report on timber pests, 2020-2021

* CPPPUM3010 - Control timber pests, 2020-2021

Welding Process and Inspection for Steel Structures certificate, 2009

Industrial Parts Welding Inspection Visual Testing Certificate (VT), 2010

Completed Part of "Bachelor of Law" in Victoria University, including the below units:

- * Australian Legal System in Context
- * Legal Research Method
- * Criminal Law

Inspector's Experience:

Over 17 years of experience in Design, Managing/Supervising/Inspecting various buildings and construction projects, including:

Designing Various Buildings overseas, 2006-2011

Supervision of various civil and commercial projects: Schools, Roads, Bridges, Apartments, Houses, 2004-2011

Supervision of various residential projects, 2011-2014

Project Cost Estimating, over 500 residential projects, 2014-2015

Building Various Residential Projects (Luxury, mid-range, townhouses), 2015-2019

Professional Building (residential and commercial) Inspections, 2006 - Present

Broad knowledge of National Construction Codes (NCC), AS/NZ Standards, Building Acts and Regulations

OVER 500 BUILDING INSPECTIONS WERE UNDERTAKEN ACROSS AUSTRALIA

Expert Witness: Maison Azdari: Statement that explains why the expert is qualified to make the report

I have completed hundreds of building inspection reports along with building many houses, townhouses and apartments since 2006 when I graduated from the university as a civil engineer and then got my builder licence in 2014. Combining my knowledge and experience in design, supervising and actual building, support me in providing accurate and honest reports in building processes and defects. I have gone through the Acts, Regulations and Standards and have a broad knowledge of the latest updates of building standards, Acts and regulations.

Expert Witness: Maison Azdari: Reference to any personal or professional relationship between the expert witness and the party for whom the report is prepared

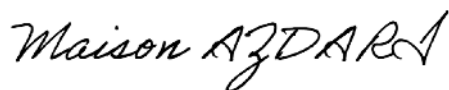
The expert has NO personal or professional relationship with the party for whom the report is prepared.

Expert Witness: Maison Azdari: Inspector's declaration and Signature - Maison Azdari

I have read the relevant Procedural Direction Note and followed the instructions in preparing this report and agree to be bound by it.

I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have to my knowledge been withheld from the Tribunal.

Signature:



Expert's Codes of Conduct: The Procedural Practice Note that Inspector read and followed for preparing this report and agree to be bound by it:

Observations



NCAT
NSW Civil &
Administrative
Tribunal

NCAT Procedural Direction 3**EXPERT EVIDENCE**

This Procedural Direction applies to:	Proceedings in which the rules of evidence apply. Proceedings in the Consumer and Commercial Division involving claims under the <i>Home Building Act 1989</i> (NSW) with a value greater than \$30,000. Proceedings in the Occupational Division for a "profession decision" as defined in cl 29(1) of Sch 5 to the NCAT Act. Any other proceedings in which the Tribunal directs that this Procedural Direction is to apply.
Effective Date:	28 February 2018
Replaces Procedural Direction:	NCAT Procedural Direction 3 (7 February 2014)
Notes:	You should ensure that you are using the current version of this Procedural Direction. A complete set of Procedural Directions and Guidelines is available on the Tribunal website at www.ncat.nsw.gov.au

Introduction

1. The Tribunal may rely on evidence from expert witnesses to reach a conclusion about a technical matter or area of specialised knowledge that is relevant to an issue to be determined in proceedings. It is important that experts' opinions are soundly based, complete and reliable.
2. The Tribunal is bound by the rules of evidence in proceedings in exercise of its enforcement jurisdiction, proceedings for the imposition of a civil penalty in exercise of its general jurisdiction, proceedings under the Legal Profession Uniform Law (NSW) or *Public Notaries Act 1997* concerning a question of professional misconduct and any other proceedings where so required by the relevant enabling legislation ("Evidence Rules Proceedings"), see, for example, s 35, s 38(2) and (3) and Sch 5 cl 20 of the NCAT Act. In Evidence Rules

- Proceedings, it is appropriate to require expert evidence to be prepared and presented in a manner which seeks to ensure its admissibility and usefulness.
3. In proceedings where the Tribunal is not bound by the rules of evidence, the acceptability of expert evidence is a question of weight not admissibility. Nonetheless, if those proceedings involve complex or difficult expert issues, it is appropriate to require expert evidence to be prepared and presented in a manner which seeks to ensure its usefulness.
 4. For proceedings to which it applies, this Procedural Direction sets out a code of conduct for expert witnesses.

Compliance and Other Matters

5. The Tribunal may excuse a party or an expert witness from complying with this Procedural Direction before or after the time for compliance.
6. In Evidence Rules Proceedings, a failure to comply with the code of conduct may, depending on the circumstances, render the report or evidence inadmissible or adversely affect the weight to be attributed to that report or evidence.
7. In non-Evidence Rules Proceedings, a failure to comply with the code of conduct does not render any expert report or evidence inadmissible but it may, depending on the circumstances, adversely affect the weight to be attributed to that report or evidence.
8. Nothing in this Procedural Direction prevents the Tribunal from giving any directions concerning expert witnesses or expert evidence that the Tribunal considers appropriate in any particular proceedings before the Tribunal.
9. This Procedural Direction is made by the President under s 26 of the *Civil and Administrative Tribunal Act 2013*.

Definitions

Word	Definition
NCAT Act	<i>Civil and Administrative Tribunal Act 2013</i>
NCAT Rules	<i>Civil and Administrative Tribunal Rules 2014</i>
Expert witness or expert	A person who has specialised knowledge based on the person's training, study or experience and who gives evidence of an opinion based wholly or substantially on that knowledge.

10. Words used in this Procedural Direction have the same meaning as defined in the NCAT Act and the NCAT Rules.

Application

11. This Procedural Direction applies in:
- (a) Evidence Rules Proceedings;
 - (b) proceedings in the Consumer and Commercial Division involving claims under the *Home Building Act 1989* (NSW) where the amount claimed or in dispute is more than \$30,000;
 - (c) proceedings in the Occupational Division for a "profession decision" as defined in cl 29(1) of Sch 5 to the NCAT Act; and
 - (d) any other proceedings in which the Tribunal directs that this Procedural Direction 3 is to apply,
- (together referred to as "Subject Proceedings").

Parties' and Experts' Duties

12. Any party who retains an expert to provide evidence or a report for the purposes of Subject Proceedings in the Tribunal must bring to the expert's attention the contents of this Procedural Direction, including the experts' code of conduct.

Experts' Code of Conduct

Application of code

13. This experts' code of conduct applies in respect of any expert witness engaged or appointed in Subject Proceedings:
- (a) to provide an expert's report for use in those proceedings; or
 - (b) to give opinion evidence in those proceedings.

General duty to the Tribunal

- 14. An expert witness has an overriding duty to assist the Tribunal impartially on matters relevant to the expert witness's area of expertise.
- 15. An expert witness's paramount duty is to the Tribunal and not to any party to the proceedings including the person retaining the expert witness.
- 16. An expert witness is not an advocate for a party.
- 17. An expert witness must abide by any direction given by the Tribunal.

Duty to work co-operatively with other expert witnesses

18. An expert witness, when complying with any direction of the Tribunal to confer with another expert witness or to prepare a joint report with another expert witness in relation to any issue, must:

- (a) exercise his or her independent, professional judgment in relation to that issue;
- (b) endeavour to reach agreement with any other expert witness on that issue; and
- (c) not act on any instruction or request to withhold or avoid agreement with any other expert witness.

Experts' reports

19. An expert's report must, either in the body of the report or in an annexure, include the following:
 - (a) an acknowledgement that the expert has read the experts' code of conduct and agrees to be bound by it;
 - (b) the expert's name, address and qualifications as an expert on the issue the subject of the report;
 - (c) the facts, and assumptions of fact, on which the opinions in the report are based (a letter of instructions may be annexed);
 - (d) the expert's reasons for each opinion expressed;
 - (e) if applicable, that a particular issue falls outside the expert's field of expertise;
 - (f) any literature or other materials used in support of the opinions;
 - (g) any examinations, tests or other investigations on which the expert has relied, including details of the qualifications of the person who carried them out;
 - (h) in the case of a report that is lengthy or complex, a brief summary of the report (to be located at the beginning of the report).
20. If an expert witness who prepares an expert's report believes that it may be incomplete or inaccurate without some qualification, the qualification must be stated in the report.
21. If an expert witness considers that his or her opinion is not a concluded opinion because of insufficient research or insufficient data or for any other reason, this must be stated when the opinion is expressed.
22. If an expert witness changes his or her opinion on a material matter after providing a report, the expert witness must immediately provide a supplementary report to that effect containing any relevant information referred to in paragraph 19.

Experts' conclaves, conferences and evidence

23. An expert witness must abide by any direction of the Tribunal:
 - (a) to attend a conclave or conference with any other expert witness;
 - (b) to endeavour to reach agreement on any matters in issue;

- (c) to prepare a joint report, specifying matters agreed and matters not agreed and reasons for any disagreement;
 - (d) to base any joint report on specified facts or assumptions of fact; and
 - (e) to give evidence concurrently with other experts.
24. An expert witness must exercise his or her independent, professional judgment in relation to such a conclave or conference and joint report, and must not act on any instruction or request to withhold or avoid agreement.

Wright J
President
23 February 2018

11: + ROOF DRAINAGE SYSTEM

Observations

11.1.1 + Gutter and Fascia

+ REMOVE DEBRIS**Defective Work**

There is a significant amount of debris in the gutters around the dwelling. All debris must be removed from the gutters as soon as possible to prevent it from entering the downpipes and causing water damage.

AS/NZS 3500.3:2021 Plumbing and drainage**4.5 Installation and testing****4.5.1 Installation**

Installation of each new or altered section of the roof drainage system shall conform to the following:

- (a) There shall be no restrictions to the free flow of stormwater due to —
 - (i) protrusions or other obstructions; or
 - (ii) debris (e.g. cement, mortar, clippings and similar debris).
- (b) All accessories shall be effectively fixed and securely anchored.





11.1.2 + Gutter and Fascia



Defective Work

WRONG SLOPING GUTTER

At the rear Alfresco, the slope of the gutter is negative, measuring 9mm/m away from the downpipe instead of the required minimum of 2mm/m towards the downpipe. This incorrect slope should be rectified to prevent potential defects such as water ponding in the gutter, which can lead to overflow during heavy rain, increased risk of water damage to the roof and surrounding structure, potential leakage into the dwelling, and accelerated deterioration of the gutter system due to stagnant water.

Gutters should be installed with the correct fall to avoid directing water away from downpipes or towards corners, which can lead to water damage and other associated issues. This ensures that water flows efficiently towards the downpipes without pooling in the gutters.

AS/NZS 3500.3:2021 Plumbing and drainage:**4.5.3 Eaves gutters**

Eaves gutters shall be installed as follows:

(a) *Gradients* — Deviations from nominal gradients shall be smooth and not cause permanent ponding.

NOTE 1 Where a building is likely to move due to reactive soils, gradients should not be flatter than —

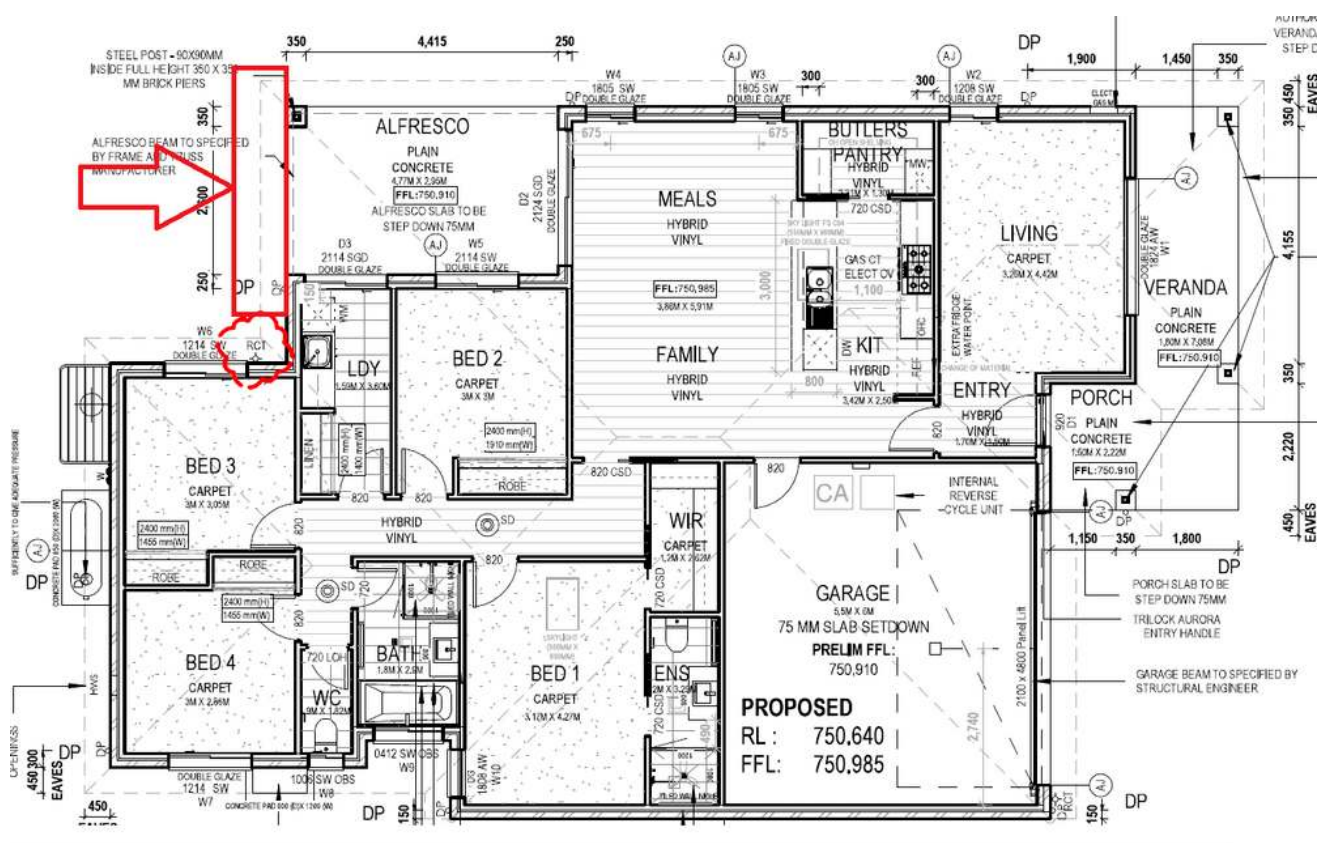
(a) 1:250 to achieve an effective gradient not flatter than 1:500; or

(b) 1:500 to achieve an effective gradient with no permanent ponding.

NOTE 2 Light condensation does not generally cause permanent ponding, whereas heavy condensation, particularly in conjunction with retained silt, can reduce the design lifetime of the product.

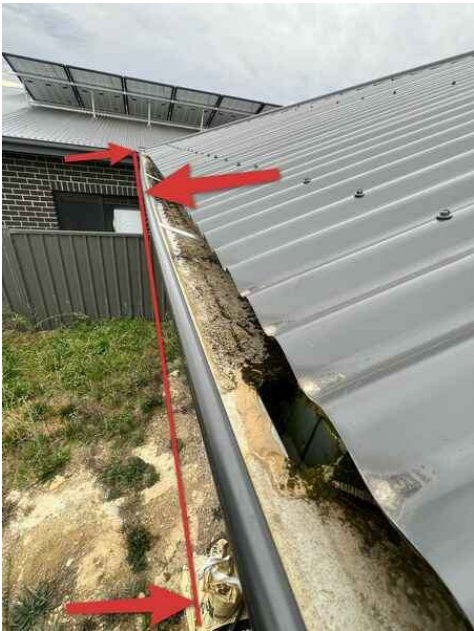
(b) *Lap joints* — For metal gutters with laps between 20 mm to 25 mm, the lap shall be fully sealed. Wider laps shall be sealed and fastened at each end of the lap rather than filling the total area.

(c) *Support systems* — Support systems shall be in accordance with [Clause 4.9](#).





Alfresco



Alfresco



12: + HOUSE EXTERNAL

Observations

12.1.1 + Windows (External)

+ RUBBER FLASHING ADJUSTMENT REQUIRED

The window rubber flashings need adjustment to ensure they sit properly between the window and cladding, preventing rainwater from entering the building. The current installation allows gaps that could lead to water ingress. The attached photo highlights a few instances of this issue, underscoring the need for corrective action.

NSW Guide to Standards and Tolerances 2017**9 Windows and doors****9.1 Installation of external windows and doors**

Unless documented otherwise, external windows and doors are defective if they are not installed and flashed in accordance with the manufacturer's installation instructions.



12.2.1 + Doors (External)

NOT PARALLEL TO THE WALL

The entry door is not parallel to the wall, with a deviation of 10mm at the bottom and 15mm in the middle. Measurements indicate discrepancies as follows:

- Bottom right: 95mm
- Bottom left: 105mm
- Left wall: 90mm
- Right wall: 75mm

These measurements highlight the misalignment and necessitate corrective action to ensure the door is properly aligned with the wall.



Bottom right



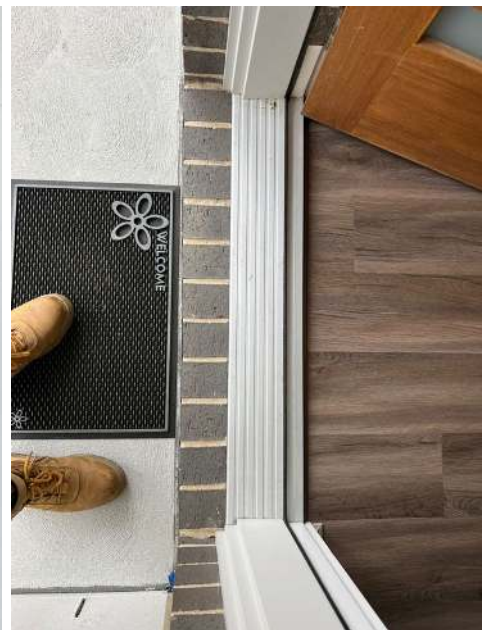
Bottom Left



Right Wall: 75mm



Left Wall



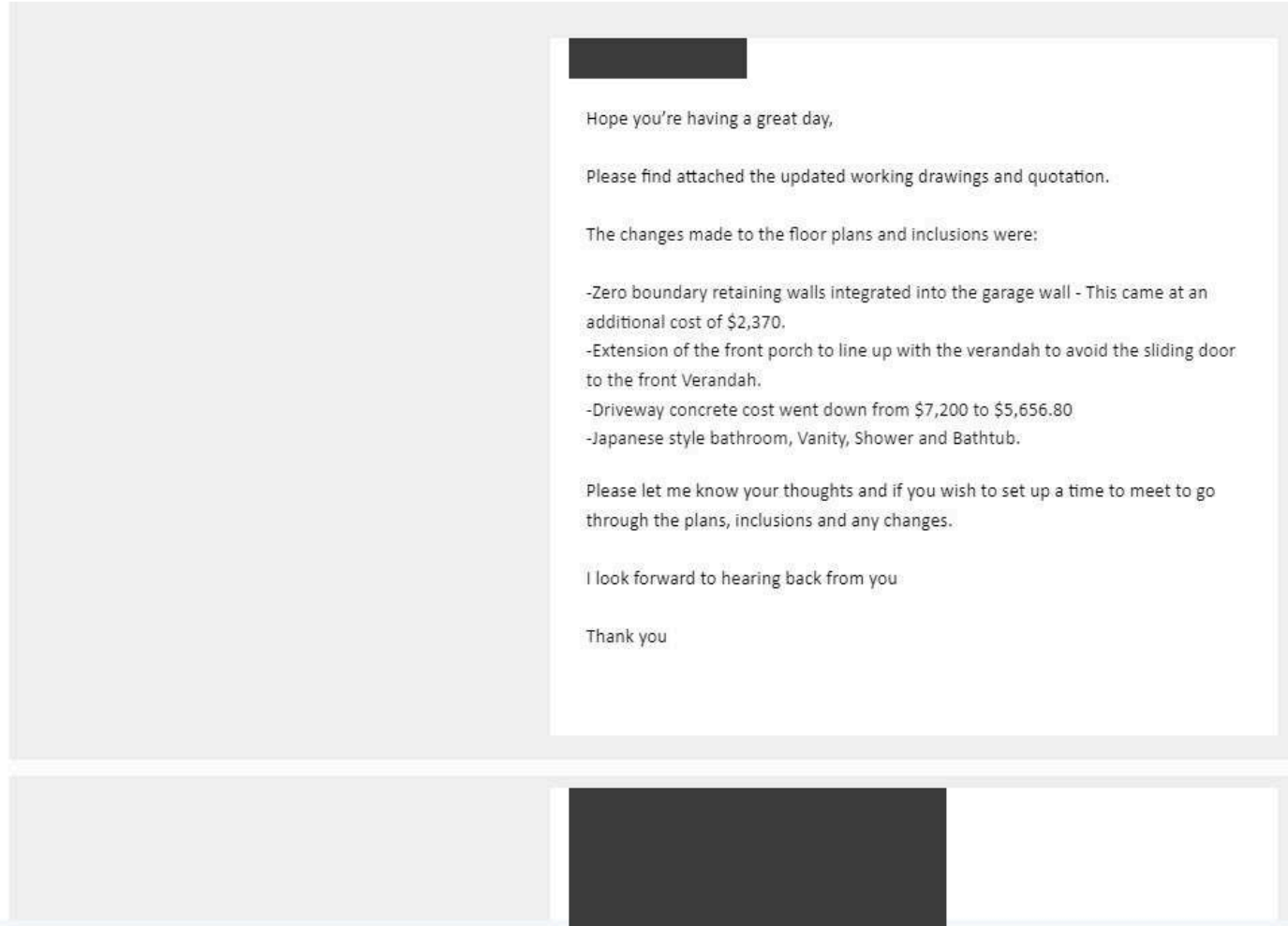
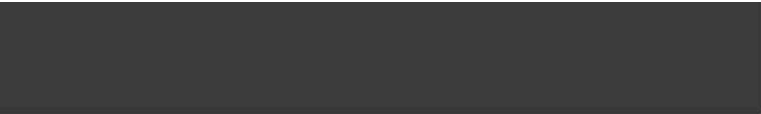
12.4.1 Boundry

DEVIATION FROM THE PLANS - GARAGE BOUNDARY WALL

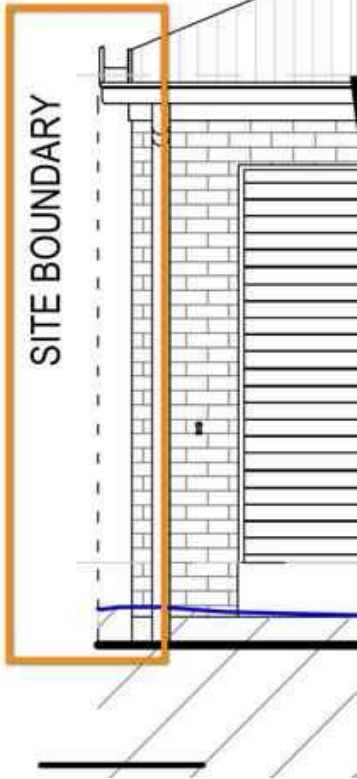


The approved plans show the garage's southern elevation gutter to be installed outside the wall, which positions the external garage wall 180mm from the boundary. However, the construction deviates from these plans as the gutter is installed on top of the garage wall, yet the wall has not been moved to align with the zero boundary. If the gutter had been installed outside the wall as per the plans, the wall could have been built on the boundary, potentially increasing the garage size by 0.18m x 5.5m (0.99m²). This discrepancy should be checked by the building surveyor.

The homeowner provided a copy of the email confirming the agreement with the salesperson from the Builder for \$2,370 for the zero-boundary garage wall. The homeowner will provide documentation to show that this amount has been paid to the builder.



FINING
NFILL
RAGE
DOOR

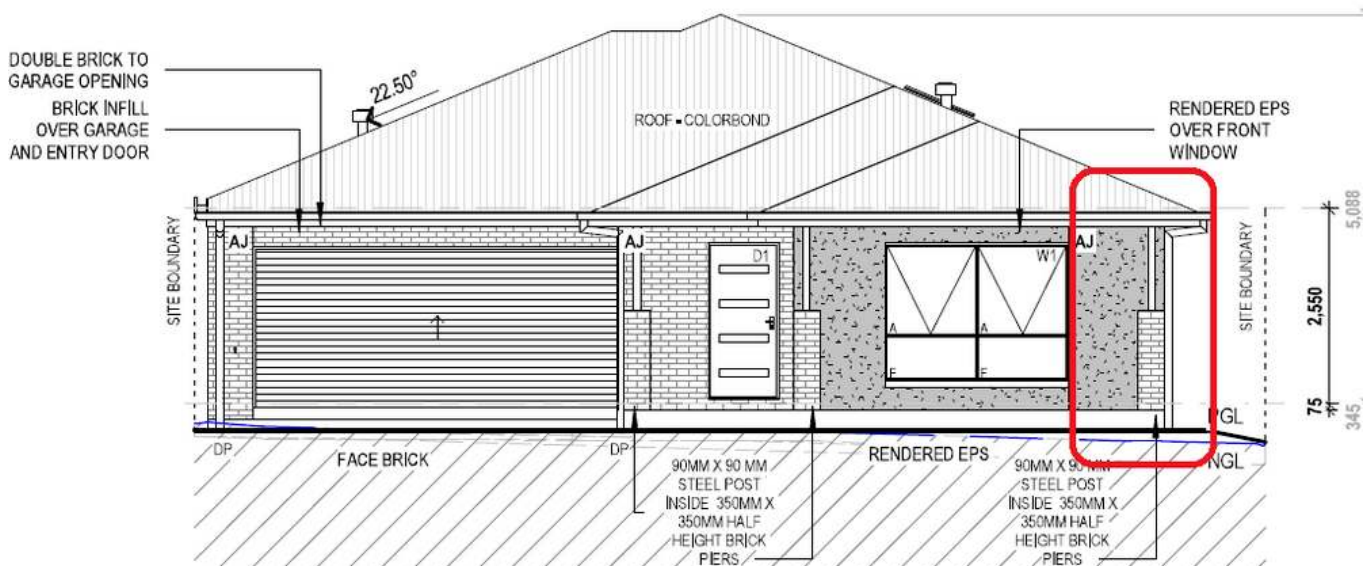
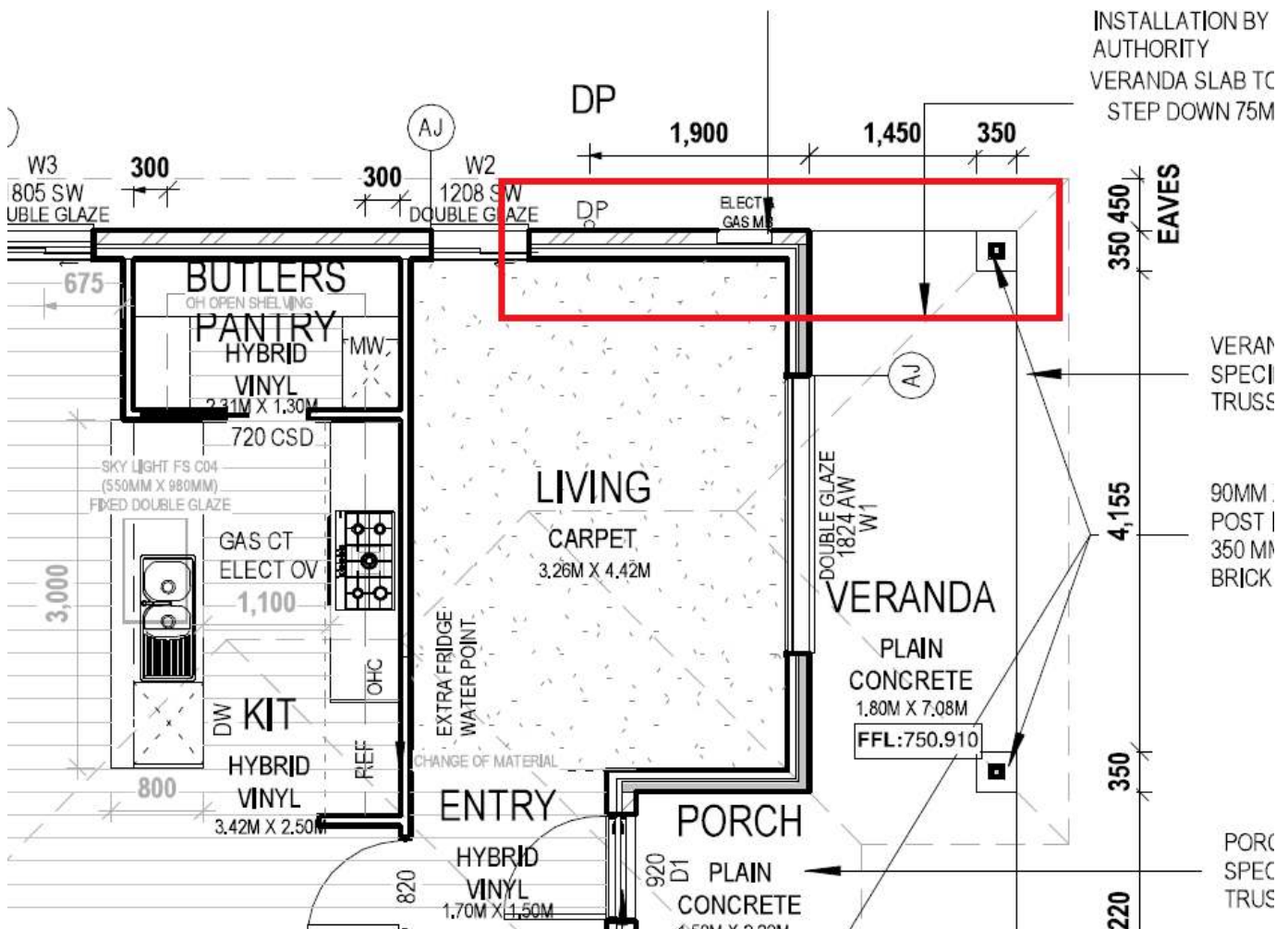


12.5.1 Concrete

DEVIATION FROM THE PLANS: RIGHT SIDE PILLAR MISALIGNMENT

Defective Work

The right side pillar's external face is designed to align with the northern external wall as per the approved plans. However, the pillar has been constructed approximately 127mm inside the intended position. This deviation has led to inadequate support for a 127mm wide section of the concrete path, resulting in a 45-degree corner crack. The observed crack indicates tension at the edge of the pillar, suggesting structural stress that caused the initial crack and may lead to further deterioration. This issue requires immediate attention to prevent potential future structural damage.

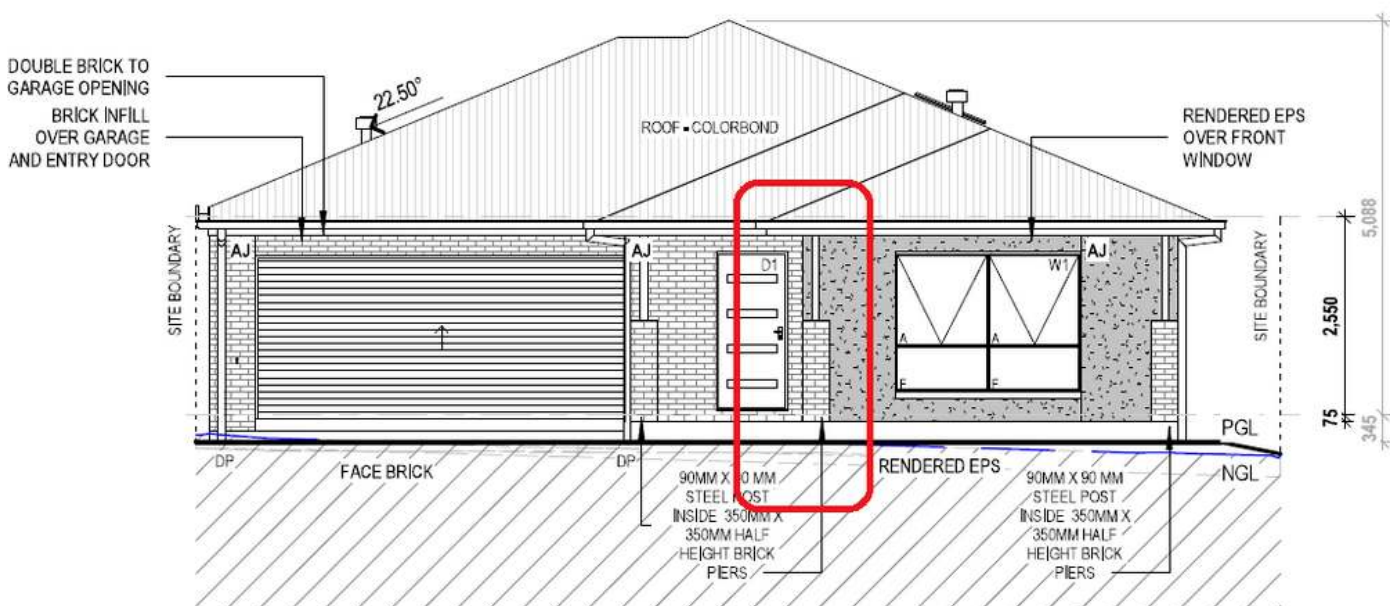
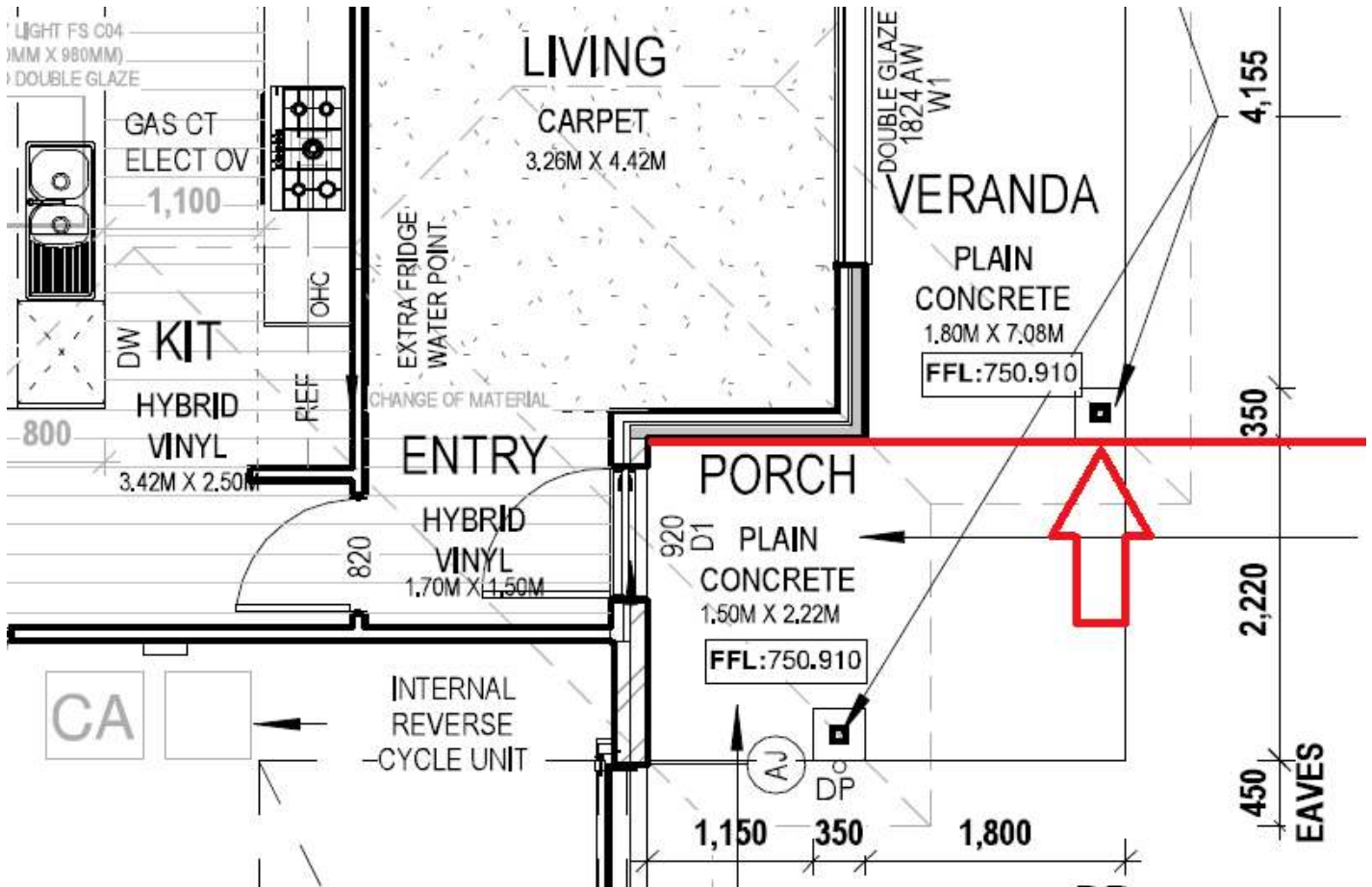


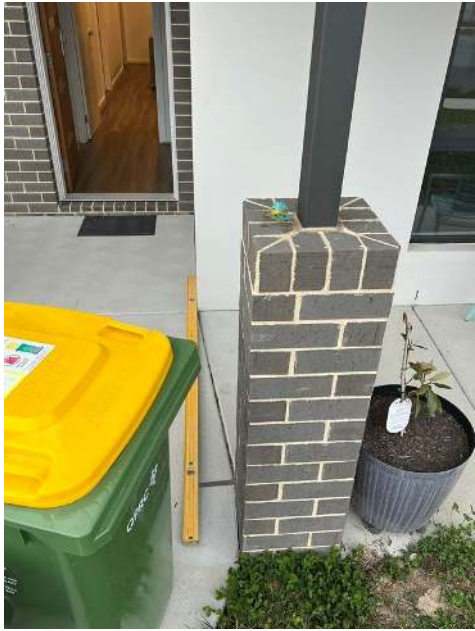


12.5.2 Concrete

DEVIATION FROM THE PLANS: MIDDLE PILLAR MISALIGNMENT

The working drawings specify that the middle pillar's southern face should be flush with the adjacent wall next to the entry door. However, the middle pillar has been constructed approximately 140mm north of the intended position.

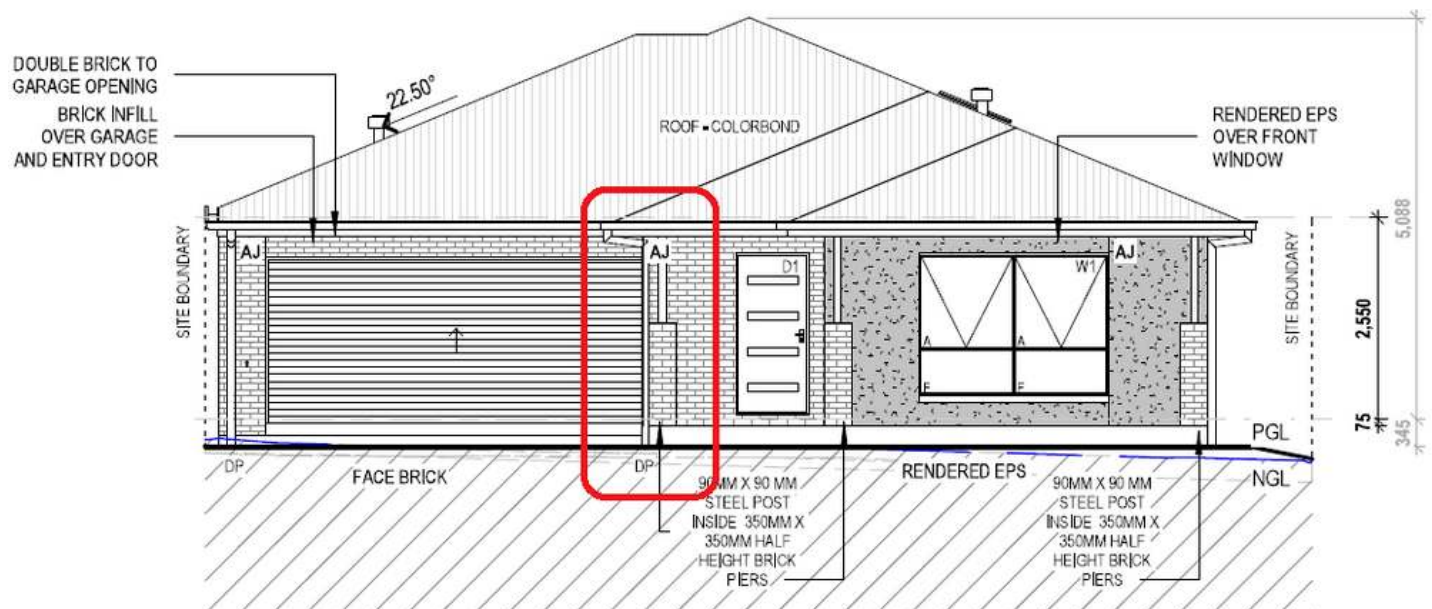
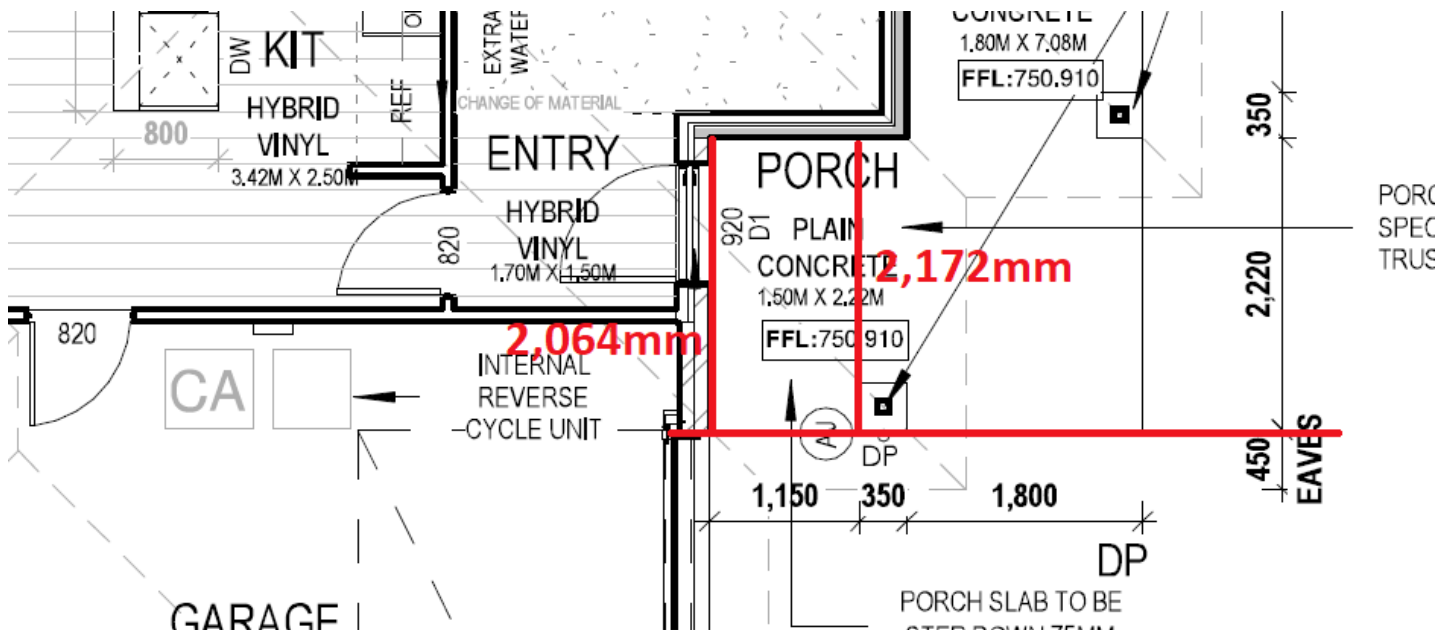




12.5.3 Concrete

DEVIATION FROM THE PLANS: LEFT PILLAR MISALIGNMENT

According to the working drawings, the left pillar should be in line with the internal face of the garage door wall. However, the pillar is constructed 108mm south of its intended position. The distance between the southern face of the pillar and the internal face of the garage door wall adjacent to the entry door should be equal. Currently, there is a 2064mm distance from the garage door internal wall and a 2172mm distance from the pillar, indicating a 108mm deviation from the plans. This discrepancy needs to be addressed to ensure alignment with the approved design specifications.





2,064mm



2,172mm



12.5.4 Concrete

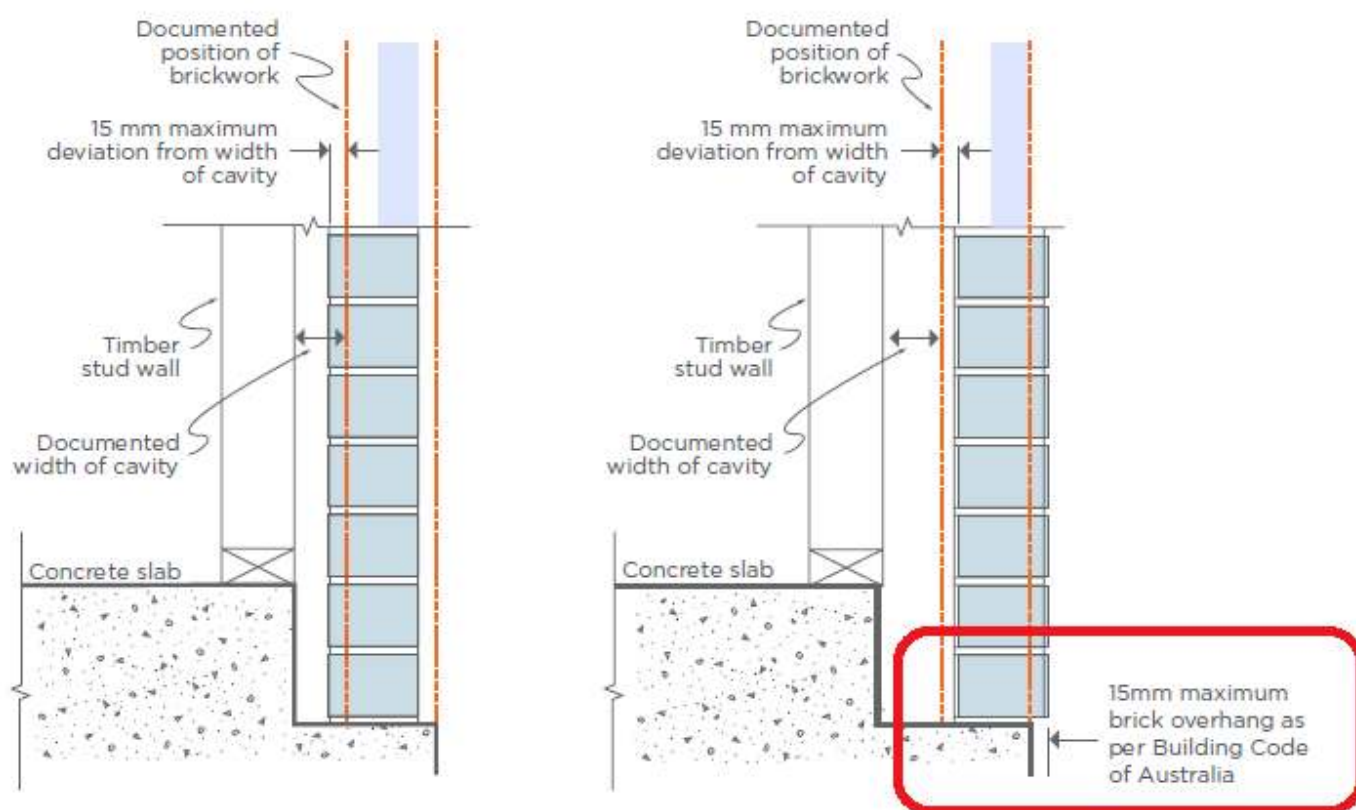


Defective Work

EXCESSIVE OVERHANG OF FRONT BRICK WALL

The brick wall at the front of the building **has a 50mm overhang**, exceeding the **maximum allowable 15mm** as per the National Construction Code (NCC). This excessive overhang compromises the structural integrity of the wall. In the short term, it may lead to instability and increased susceptibility to damage from external forces. Over time, the overhang can cause stress on the brickwork and mortar, potentially leading to cracks, water ingress, and deterioration of the wall's structural support.

To rectify this defect, the slab must be extended or additional concrete added to support the brick wall above. This can be achieved by attaching a properly reinforced concrete extension to the existing slab, ensuring it is securely bonded and integrated. An engineer to design the rectification details to ensure compliance with NCC standards and restore the structural integrity of the wall.

New South Wales Guide to Standards and Tolerances 2017**DIAGRAMS FOR TABLE 3.04 TOLERANCES IN MASONRY CONSTRUCTION**

L Note: Refer to the Building Code of Australia for minimum cavity width.

National Construction Codes (NCC) 2019

3.2.2.7 Edge rebates

Edge rebates for slab-on-ground, stiffened raft or *waffle raft* with masonry *cavity* or veneer construction must comply with the following:

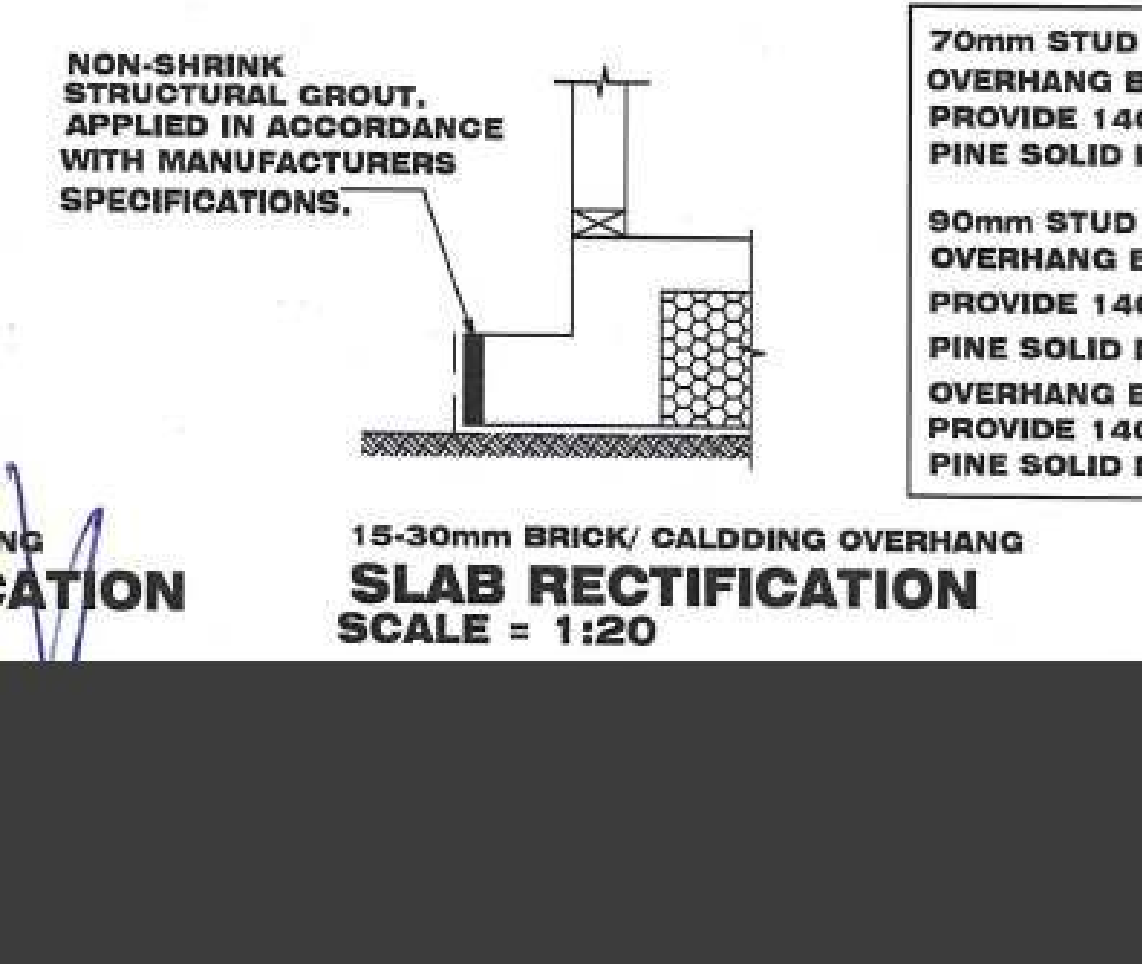
- (a) The rebate must not be less than 20 mm, except as provided for in (d).
- (b) Exterior masonry must not overhang more than 15 mm past the edge of the slab.
- (c) The edge rebate must be flashed and drained in accordance with Part 3.3.4 and where it cannot be flashed it must be filled with mortar.
- (d) Edge rebates are not *required* for *single leaf masonry*.

Explanatory information:

See 3.2.5.4 for minimum edge beam details.

The designer engineer provided the rectification method for up to 30mm overhang. A specific design for 50mm overhang by the engineer is to be provided.

Note: The access to under the overhang brick is restricted by the Verandah Concrete. To rectify this issue, the verandah concrete to be removed and repoured after the rectification.





12.5.5 Concrete

HONEYCOMBING

 Defective Work

Honeycombing has been observed around the edges of the concrete slab. This defect indicates areas where the concrete has not fully consolidated, resulting in voids and exposed aggregate. Honeycombing can significantly affect the structural integrity of the concrete, leading to reduced strength, potential ingress of water, and corrosion of reinforcement over time.

A high-strength repair mortar should be used to fill the voids, ensuring it is properly compacted and bonded to the existing concrete. An engineer should evaluate the extent of the honeycombing and provide specific instructions for the repair to ensure the slab's structural performance is restored.



12.5.6 Concrete



Defective Work

INSUFFICIENT ALFRESCO AND VERANDAH SUPPORT - NON-COMPLIANCE WITH APPROVED PLANS

The construction deviates significantly from the approved engineering drawings, primarily due to the improper alignment and connection between the surface concrete and the CF1 edge beams. Without immediate remediation—such as underpinning or reconstructing the beams to extend properly beneath the slabs—the alfresco and verandah slabs are at risk of significant settlement, cracking, and long-term structural failure.

In the alfresco and verandah sections (CF1), the construction does not align with the approved engineering drawings. The drawings specified that the CF1 edge beam should be 500mm high by 350mm wide, running directly beneath the concrete slab to support the alfresco and verandah slabs and prevent them from sinking. However, several issues have been identified:

1. Alfresco Section (BLUE Marked):

- A 580mm horizontal gap and a 150mm vertical gap exist between the edge beam and the surface concrete. This indicates that the structural concrete of the slab is not in contact with the CF1 beam, leaving a void filled with non-structural soil.

2. Alfresco Section (GREEN Marked):

- In this area, there is no connection at all between the edge beam and the slab, with a 500mm horizontal gap and a 100mm vertical gap. This large gap poses a significant risk of future slab sinking due to lack of structural support.

3. Verandah Section (YELLOW Marked):

- There is a 600mm horizontal gap and a 50mm vertical gap here. The misalignment of the slab to the CF1 beam compromises the structural integrity and load transfer capabilities.

4. Verandah Section (PURPLE Marked):

- A 600mm horizontal gap and 100mm vertical gap exist here. This section also shows poor connection between the surface concrete and the edge beam.

5. Verandah Section (ORANGE Marked):

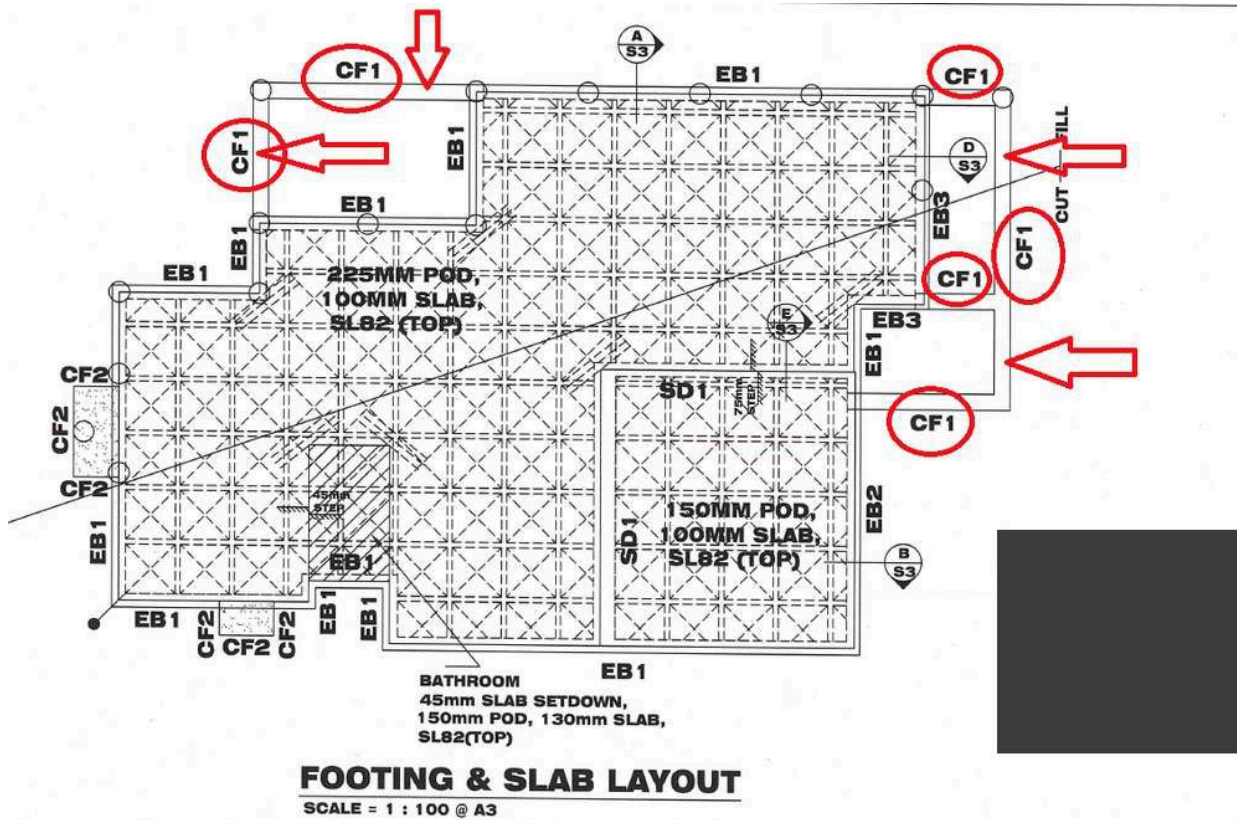
- A 300mm horizontal gap and 50mm vertical gap have been noted. Although smaller than other areas, this still presents a structural deficiency.

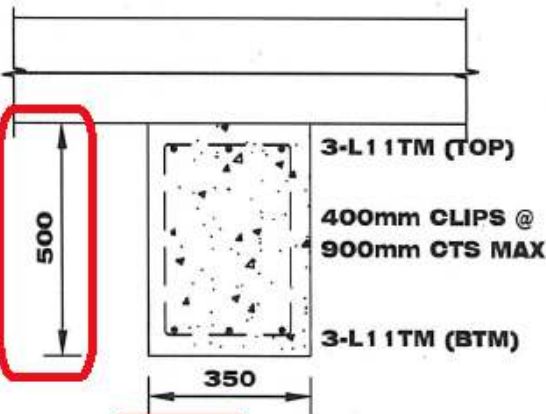
Potential Future Damage/Risk:

The fundamental issue here is that the concrete slabs for the alfresco and verandah were poured at a later stage, and the CF1 edge beams do not properly extend underneath to provide the necessary support. The soil, which has filled the void between the edge beams and slabs, is not a structural material and cannot adequately support the load of the slabs. As a result, the following risks are likely:

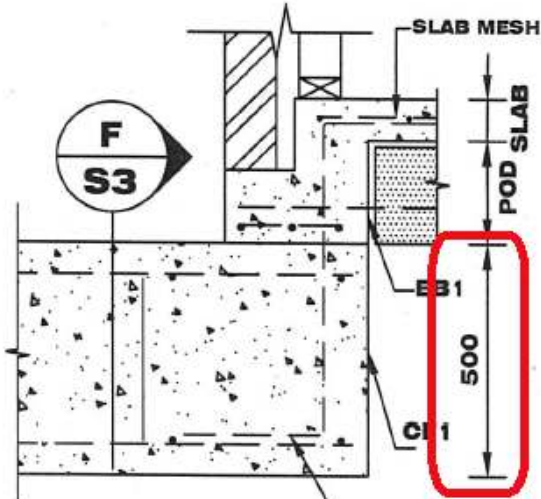
- **Slab Sinking and Settlement:** Over time, as the soil compacts or erodes, the unsupported sections of the alfresco and verandah slabs will begin to sink, leading to uneven surfaces and potential tripping hazards.

- **Cracking:** As the slabs settle unevenly due to insufficient support, they are likely to develop cracks, which could further undermine the stability of the structure.
- **Water Penetration:** Gaps between the concrete and the edge beams may allow water to penetrate beneath the slabs, further weakening the soil and accelerating the settlement process.
- **Misalignment with Piers:** In some areas, the edge beam CF1 is 500-600mm inside and not aligned with the bored piers, meaning that it cannot effectively transfer loads to the piers as designed. This could compromise the overall foundation integrity.





CF1
SECTION F
SCALE = 1:20



CF1 TYPICAL
CANTILEVED FOOTING
SCALE = 1:20

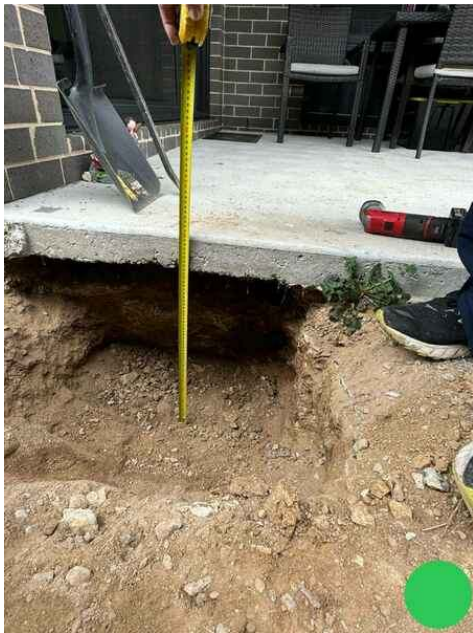
Ø 450mm DIA CONCRETE PIER TO MIN 500mm INTO NATURAL GROUND.

PIER DESIGN SUMMARY (u.n.o)

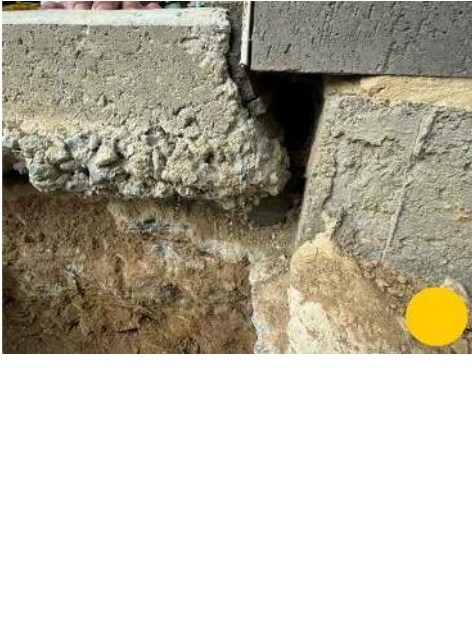
MEMBER		PIER SPACING (mm)
EDGE BEAMS		2400
INTERNAL & STEP BEAMS		2400x2400 GRID
INTERNAL RIB		2400x2400 GRID

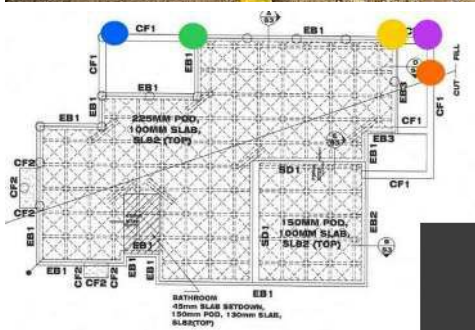
FOUNDATIONS	PIER Ø (mm)	SOCKET LENGTH (mm)
STIFF CLAY	450	500
SHALE	400	200
ROCK	300	100











12.6.1 Electrical

 Incomplete Work

EXTERNAL POWERPOINT NOT WATERPROOF

During the inspection of the alfresco area, it was observed that the installed power points and data points are not of the weatherproof type. These outlets are exposed to environmental factors common in outdoor settings, such as wind-driven rain, humidity, and condensation. The lack of appropriate weatherproofing poses safety risks and does not comply with the relevant Australian Standards.

AS/NZS 3000:2018 - Electrical installations (known as the Australian/New Zealand Wiring Rules) -
Clauses 4.3.1, 6.2.2 & 6.24

Electrical equipment exposed to the weather shall have a degree of protection of not less than IP33 or shall be provided with adequate additional protection.

Table 6.1 – Classification of External Influences:

Classifies areas such as alfresco spaces as AD3 (Rain) and AB2 (Humidity), requiring equipment suitable for damp and wet conditions.
AS/NZS 60529:2004 (Degrees of Protection Provided by Enclosures – IP Code):

Definition of IP Ratings:

IP33: Protection against ingress of solid foreign objects larger than 2.5 mm and water sprayed at an angle up to 60 degrees from the vertical.

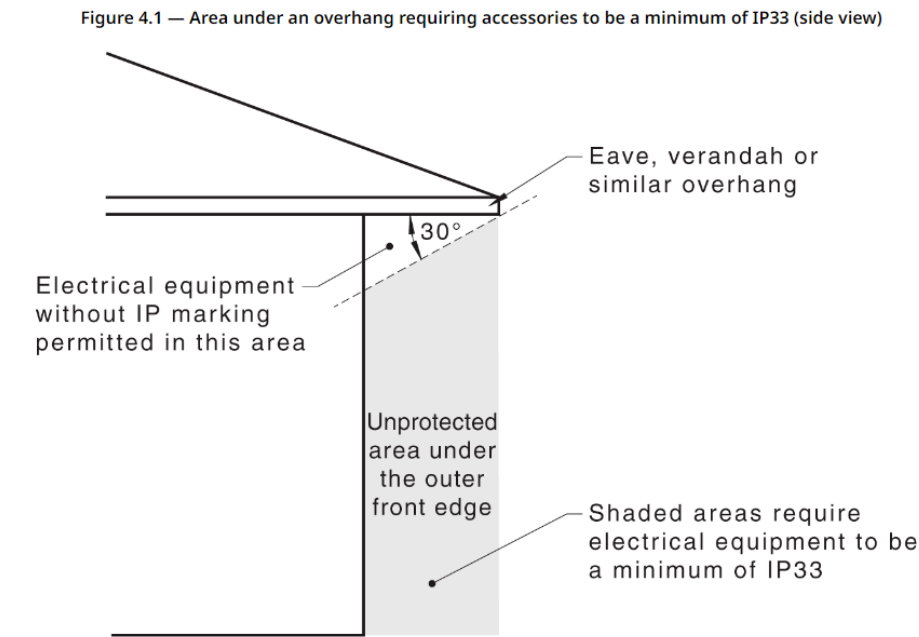
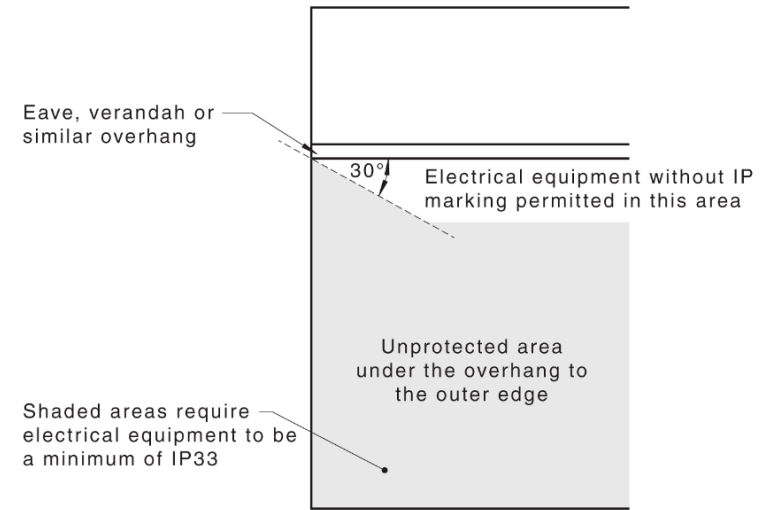


Figure 4.2 — Area under an overhang requiring accessories to be a minimum of IP33 (front view)



12.7.1 Plumbinb

HOT WATER SYSTMET INSTALLED BY OWNER

 Information Only

The homeowner claims the builder did not install the hot water system as specified in the contract, resulting in the homeowner having to pay a plumber to supply and install it. The expert cannot confirm this claim's validity. The homeowner is to provide relevant payment documents to NCAT.



12.8.1 Site cleaning

Incomplete Work

CLEANING

Rubbish and concrete leftovers from the construction phase remain on the site, violating the builder's obligation to clean the site prior to handover.

According to standard building contracts—such as the Housing Industry Association (HIA) NSW Residential Building Contract—the builder is required to remove all construction debris and waste from the site upon completion of the works. This obligation is typically outlined in clauses related to site cleanup or completion. Additionally, under the Home Building Act 1989 (NSW), Section 18B(a) stipulates that builders must carry out work in a proper and workmanlike manner, which includes leaving the site clean and free of construction waste prior to handover.



Item 8 of the building Contract:

8. Practical Completion		
All interior fit off items installed, including door furniture, bathroom fixtures, electrical, plumbing and gas fit off complete. Heating/cooling fit off. Silicon installed, flooring installed. Driveway, foot paths, decks and landings complete, house cleaned internally and externally. Free standing Bath Installed (if applicable) <u>Site cleaned and all excess items removed from site.</u> All robes cupboards and doors installed.	10.00%	\$35,136.58

13: + EXTERNAL WALL/CLADDING

Observations

13.1.1 + Control Joints

+ MISSING - NOT MATCHED WITH PLANS



Defect: The articulation joint specified on the plans at the rear of the building (where the water tank is located) has not been constructed.



Importance of Articulation Joints: Articulation joints are crucial in masonry construction as they allow for controlled movement of the building structure due to factors like thermal expansion and contraction, moisture changes, foundation settling, and material shrinkage. Without these joints, the masonry is unable to accommodate movement, which can lead to stress buildup within the walls.

Potential Future Issues: The absence of the required articulation joint may result in uncontrolled cracking of the brickwork over time. This can compromise the structural integrity of the wall, lead to water ingress, reduce the overall durability of the building, and potentially result in expensive repairs or remedial work in the future.

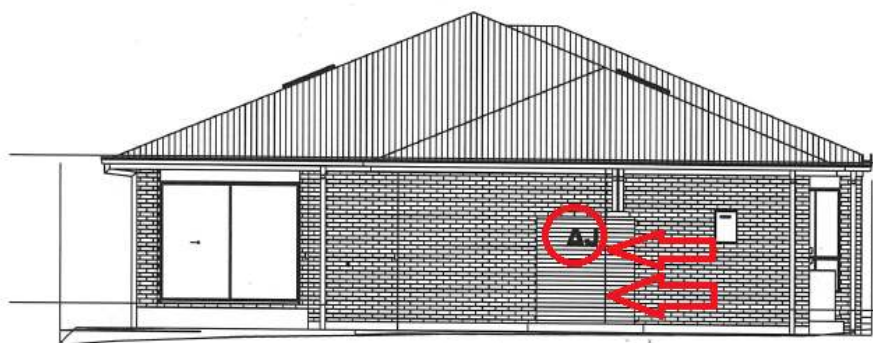
References:

Australian Standard AS 3700-2018 "Masonry Structures": This standard outlines the requirements for the design and construction of masonry structures, including the provision of movement joints. It specifies that movement joints (articulation joints) must be incorporated to accommodate predicted movement and prevent cracking.

Housing Provisions Standard 2022 [5.6.8]

By not constructing the articulation joint as specified, the builder has not complied with the documented plans and the relevant Australian Standards, which are integral to these references. This omission should be addressed promptly to prevent future structural issues.

5.6.8	Vertical articulation joints	[2019: 3.3.5.13]
(1) Vertical articulation joints must be provided in masonry walls in accordance with (2), except in walls constructed on <i>sites</i> where the soil classification is A or S (see 4.2.2). (2) Articulation joints between masonry elements must have a width of not less than 10 mm and be provided (see Figures 5.6.8a and 5.6.8b)— (a) in straight, continuous walls with openings less than 900 mm x 900 mm or walls without openings — at not more than 6 m centres and within 4.5 m, but not closer than 470 mm of all corners; and (b) in straight, continuous walls with openings more than 900 mm x 900 mm — at not more than 5 m centres and located so that they are not more than 1.2 m away from openings; and (c) where the height of the wall changes by more than 20% — at the position of change in height; and (d) where a wall changes in thickness; and (e) at control or construction joints in footings or slabs; and (f) at junctions of walls constructed of different masonry materials. (3) Articulation joints must not be located adjacent to arched openings. (4) Articulation joints must be filled with flexible sealant that is supported during installation by— (a) a compressible foam or polystyrene filler (see Figures 5.6.8d and 5.6.8e); or (b) a purpose made backer rod (see Figures 5.6.8c, 5.6.8d, 5.6.8e and 5.6.8f).		



NORTH ELEVATION

13.1.2 + Control Joints

+ SEALANT REQUIRED

Expansion joints in the masonry brickwork have not been sealed with mastic sealant, and mortar and debris have not been removed prior to sealing, which risks water ingress. Properly sealed expansion joints are essential for waterproofing, accommodating structural movement, and preventing masonry cracks and damage over time.



Incomplete Work

NSW Guide to Standards and Tolerances 2017

10.7 Covering movement control joints and damp-proof courses

Mouldings and inflexible covering strips are defective if they are installed across movement control joints and are fixed or restrained on both sides.

Applied finishes are defective if they impede the performance of any damp-proof course or sub-floor ventilation required in accordance with the Building Code of Australia.

With the exception of paint and recommended mastic sealants, render or other applied finishes are defective if they cover movement control joints.

Unless documented otherwise, flexible mastic or sealant is defective if it does not match as close as practicable the colour of the adjacent surface and has not been used in accordance with the manufacturer's installation instructions.



13.2.1 + Weep holes

+ CLEARANCE LESS THAN 150MM (OR 75MM FOR GRADED SITES)

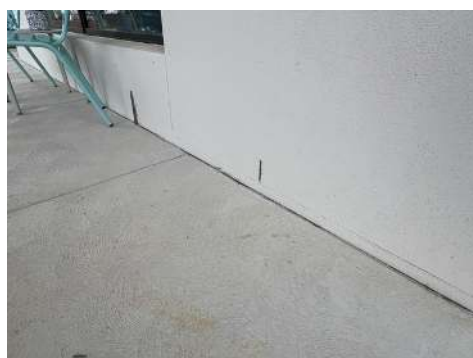
Incomplete Work

Defect: The bottom of the weep holes is not positioned at the required minimum height of 150mm (or 75mm for graded sites) above the adjacent surface level. Rectification is required to meet this standard.

Note: The weep holes must also be situated on top of the damp proof course (DPC) to ensure proper moisture control.

National Construction Codes (NCC) 2019:**3.3.5.8 Damp-proof courses and flashings — installation**

- (a) *Damp-proof courses* and *flashings* must be—
- (i) located so as to form a continuous damp-proofing barrier—
 - (A) around the bottom perimeter of walls where constructed on a concrete slab; and
 - (B) in walls and piers below suspended floors; and
 - (C) where a masonry wall passes through a roof; and
 - (D) where a roof abuts an external masonry wall; and
 - (E) to the bottom and tops of *windows* and doors and the like in accordance with (c), except a *damp-proof course* or a *flashing* need not be provided to the top of a *window* or door where the opening is protected by an eave of a width more than 3 times the height of the masonry veneer above the opening; and
 - (ii) continuous through the wall or pier and be visible from the outside face of the wall.
- (b) The location of a *damp-proof course* or *flashing* serving as a *damp-proof course*, must be not less than—
- (i) 150 mm above the adjacent ground level; or
 - (ii) 75 mm above the finished surface level of adjacent paved, concreted or landscaped areas that slope away from the wall; or
 - (iii) 50 mm above finished paved, concreted or landscaped areas complying with 3.1.3.3(b)(ii) and protected from the direct effects of the weather by a carport, verandah or the like; or





13.3.1 Pathway



Defective Work

LACK OF CLEARANCE BETWEEN BRICK WALL CLADDING AND ADJOINING PAVING

Defect: There is no clearance between the bottom of the brick wall cladding and the adjoining paving. To comply with the NCC, the paving should be lowered to provide the required clearance to ensure proper moisture management and termite protection.

Housing Provisions Standard 2022:

7.5.7 Clearance between cladding and ground

[2019: 3.5.4.7]

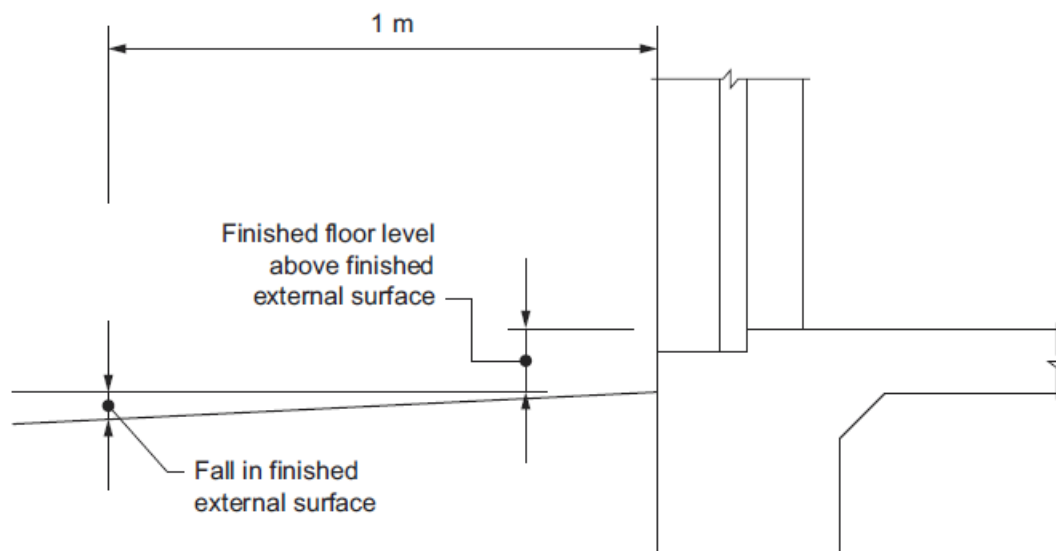
- (1) The minimum clearance from the bottom of the wall cladding to the adjoining *finished ground level* must be—
 - (a) 100 mm in *low rainfall intensity areas* or sandy, well-drained areas; or
 - (b) 50 mm above impermeable (paved or concreted) areas that slope away from the building in accordance with 3.3.3(a); or
 - (c) 150 mm in any other case.
- (2) Wall cladding must extend a minimum of 50 mm below the bearer or lowest horizontal part of the suspended floor framing.

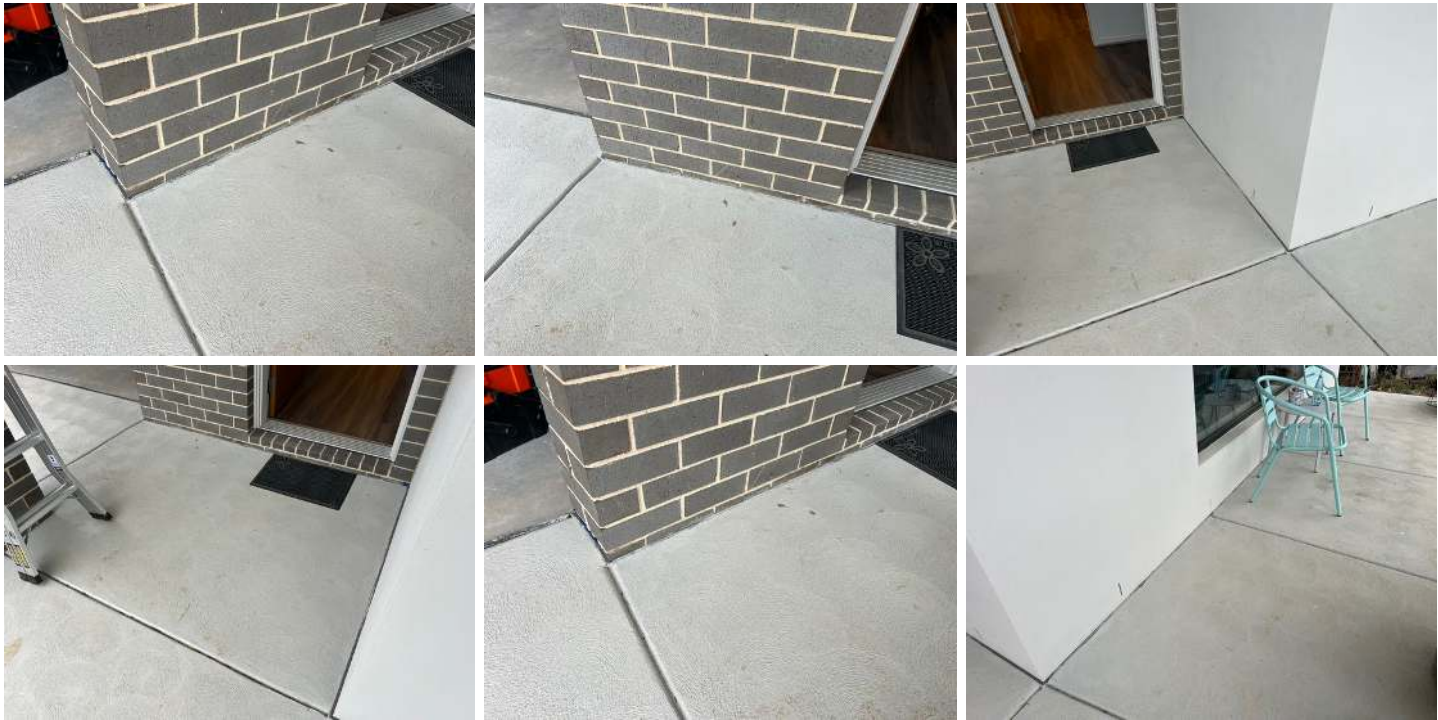
National Construction Codes (NCC) 2019:

3.5.4.7 Clearance between cladding and ground

- (a) The minimum clearance from the bottom of the wall cladding to the adjoining finished ground level must be—
 - (i) 100 mm in *low rainfall intensity areas* or sandy, well-drained areas; or
 - (ii) 50 mm above impermeable (paved or concreted) areas that slope away from the building in accordance with 3.1.3.3(a); or
 - (iii) 150 mm in any other case.
- (b) Wall cladding must extend a minimum of 50 mm below the bearer or lowest horizontal part of the suspended floor framing.

Figure 3.3.3a: Site surface drainage





14: + SITE DRAINAGE

Observations

14.1.1 + Site Grading

GRADING INCOMPLETE

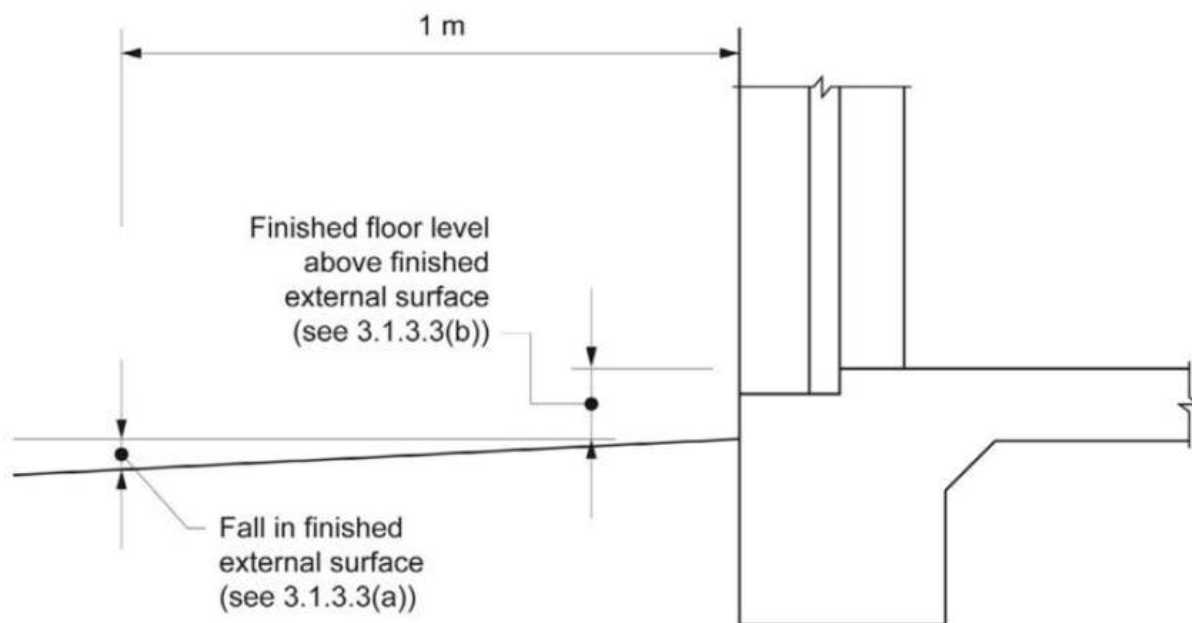
Grading must be completed in accordance with standards to ensure rainwater is directed away from the slab to prevent water pooling and potential damage.

National Construction Codes (NCC) 2019:**3.1.3.3 Surface water drainage**

Surface water must be diverted away from Class 1 buildings as follows:

- (a) Slab-on-ground — finished ground level adjacent to buildings:
the external finished surface surrounding the slab must be drained to move *surface water* away from the building and graded to give a slope of not less than (see [Figure 3.1.3.2](#))—
 - (i) 25 mm over the first 1 m from the building in *low rainfall intensity areas* for surfaces that are reasonably impermeable (such as concrete or clay paving); or
 - (ii) 50 mm over the first 1 m from the building in any other case.
- (b) Slab-on-ground — finished slab heights:
the height of the slab-on-ground above external finished surfaces must be not less than (see [Figure 3.1.3.2](#))—
 - (i) 100 mm above the finished ground level in *low rainfall intensity areas* or sandy, well-drained areas; or
 - (ii) 50 mm above impermeable (paved or concreted areas) that slope away from the building in accordance with (a); or
 - (iii) 150 mm in any other case.

Figure 3.1.3.2 Site surface drainage





14.2.1 + Stormwater Drainage System (Underground)

+ EXPOSED PIPE - INSUFFICIENT COVER

Defect: Inadequate Clearance Between Brick Wall Cladding and Stormwater Pipe

The clearance between the bottom of the brick wall cladding and the adjoining soil top must be a minimum of 150mm, with an additional 100mm from the soil top to the top of the stormwater pipe, for a total of **250mm**. However, the current clearance is only **68mm**, exposing the stormwater pipe and increasing the risk of damage due to mechanical impact, soil movement, or weather conditions.

Insufficient clearance could result in the stormwater pipe being damaged, leading to potential blockages, water ingress, or flooding around the building foundation. Over time, this could compromise the structural integrity of the slab and cause moisture-related issues within the building.

National Construction Codes (NCC) - 3.1.3.5 Stormwater drainage:

Cover to stormwater drains:

the cover to 90 mm Class 6 UPVC stormwater drains installed underground must be not less than:

- (i) under soil — 100 mm; or
- (ii) under paved or concrete areas — 50 mm; or
- (iii) under areas subject to light vehicle traffic—
- (A) reinforced concrete — 75 mm; or
- (B) paved — 100 mm.





15: + GARAGE/CARPORT/DRIVEWAY/PATHWAY

Observations

15.1.1 + Automatic Roller/Sectional Door(s)



Defective Work

IMPROPER INSTALLATION OF GARAGE DOOR BRACKET WITH UNEVEN GAPS

Defect: The garage door bracket is not properly seated on the brickwork, leaving a gap of **20mm on the left side and 26mm on the right side** between the bracket and the wall. This indicates improper installation, as the top of the bracket is resting on plaster instead of securely on the brickwork. This issue likely arises due to the size of the beam extending outside the brickwork, which is not typical for similar types of buildings.

Potential Future Issues: The uneven gap and improper support can cause the bracket to loosen over time, especially due to the vibrations from the garage door's regular operation. This may lead to misalignment or malfunction of the garage door, and the bracket's inadequate support could cause damage to both the plaster and the door mechanism. Additionally, it increases the risk of structural failure, leading to costly repairs.

This installation does not follow good building practices and requires immediate rectification to ensure the stability and longevity of the garage door system.





15.2.1 + Driveway/Pathways

 Defective Work

IMPROPER SPACING OF CONCRETE CONTROL JOINTS

Defect: The defect identified is that the distance between the concrete control joints has been noted up to 6 metres (6000 mm), while it should ideally be between 2400 mm and 3000 mm. Control joints are critical in concrete construction as they help manage and direct the natural cracking that occurs due to shrinkage, temperature changes, and other forces.

Structural Issue:

Control joints create a deliberate weak point in the slab to allow for the expansion and contraction of the concrete. By placing these joints at the correct intervals (2400-3000 mm), the concrete is encouraged to crack in a controlled manner along these predetermined lines. When the distance between joints is extended to 6 metres, the slab is more likely to develop random cracking in unintended locations. These cracks may be unsightly, difficult to repair, and potentially allow water and other contaminants to enter the slab.

Possible Future Issues:

- Uncontrolled Cracking:** Without properly spaced control joints, the concrete may crack in irregular, unpredictable locations. These cracks can be deeper and more difficult to repair than controlled cracks along a joint.
- Structural Integrity:** Over time, uncontrolled cracks can compromise the slab's structural integrity. This is especially problematic if the slab is load-bearing or supports heavy equipment, as the cracks can worsen and propagate under stress.
- Water Penetration:** Cracks that develop without control joints may allow moisture to penetrate the slab. Water infiltration can lead to corrosion of any reinforcement within the concrete and damage the foundation, leading to significant structural problems down the line.
- Aesthetic and Maintenance Issues:** Unplanned cracks can reduce the overall aesthetic quality of the concrete surface, potentially requiring costly repairs or resurfacing. Additionally, ongoing maintenance will likely be needed to seal and repair cracks that form outside the control joints.





16: + ROOF SPACE (INTERNAL)

Observations

16.1.1 + Roof Structure



Defective Work

MULTIPLE ROOF BRACINGS CUT

Defect: During the inspection, it was noted that multiple roof bracings had been cut. Roof bracings are critical structural components that help transfer loads from the roof to the supporting walls and ensure the overall stability of the roof structure.

Structural Impact:

Cutting these bracings will directly compromise the structural integrity of the roof, as the bracing system is designed to provide lateral stability and prevent deformation or collapse during wind or other external forces. Without proper bracing, the roof may become susceptible to:

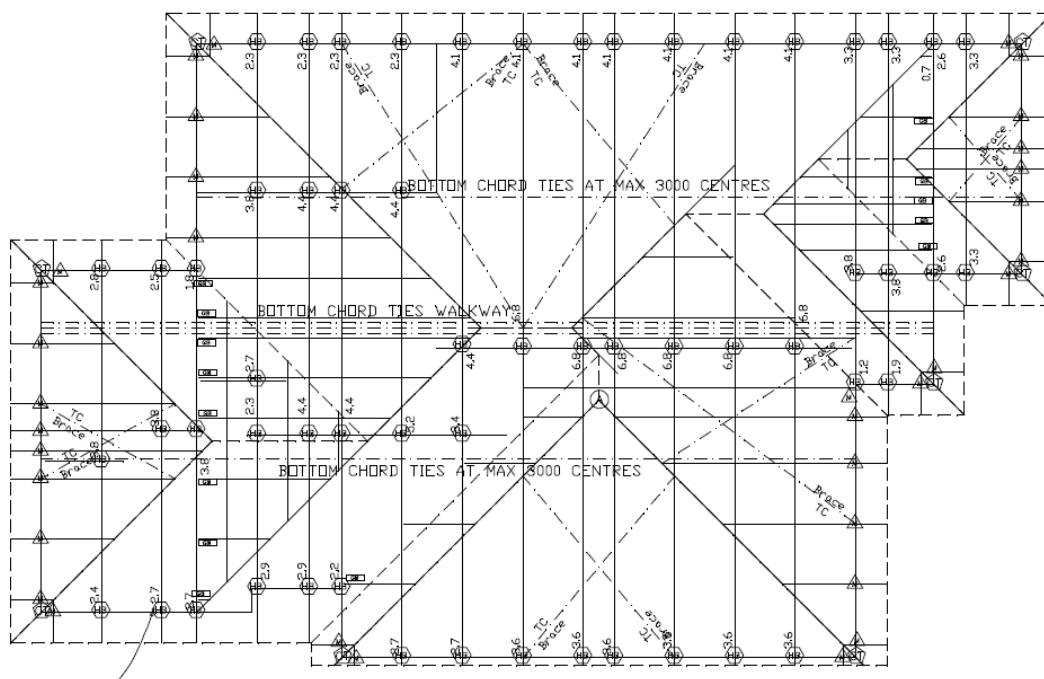
Excessive movement or shifting: This can cause further damage to the roof structure.

Increased stress on other components: With compromised bracing, the load distribution may become uneven, leading to overloading of other structural elements.

Risk of collapse: In extreme cases, especially during high winds or heavy loads, the absence of functional bracing can result in partial or full roof collapse.

Recommended Action:

Immediate repair or replacement of the cut roof bracings is necessary to restore the roof's structural integrity and ensure the safety and longevity of the building.





16.1.2 + Roof Structure

UNTENSIONED ROOF METAL BRACINGS**Defective Work**

During the inspection, multiple roof metal bracings were found to be untensioned, compromising the roof's structural stability. Properly tensioned bracings are essential to resist lateral forces such as wind and prevent roof movement. Untensioned bracings may lead to roof sagging, water leaks, and potential safety risks. Immediate corrective action is required to tension the bracings according to structural specifications to maintain the building's integrity and safety.



16.2.1 + Sarking/Sisolation

DAMAGED OR CUT ROOF SARKING

One or more sections of the roof sarking were noted to be damaged or cut.

Sarking, typically installed over roof trusses before the final roof covering, is essential in preventing condensation from forming on the underside of the roof and dripping onto the ceiling below. Without proper sarking, the risk of water leakage and moisture build-up increases, potentially leading to ceiling damage and structural issues.



16.2.2 + Sarking/Sisolation

UNSEALED SARKING AROUND ROOF VENT PENETRATION

The sarking around the roof vent penetration is not sealed, leaving the area vulnerable to water ingress.

To ensure the roof remains water-tight and prevents moisture from entering, the sarking should be sealed properly using appropriate sealing tape. Failure to do so may lead to potential leaks and damage to the underlying structure.



16.2.3 + Sarking/Sisolation



Incomplete Work

SAGGING SARKING EXCEEDING ALLOWANCE

Sarking has been observed sagging by over 65-100mm, which exceeds the allowable limit of 40mm. Sarking is designed to provide a protective layer that directs moisture away from the roof space, preventing water damage. When the sarking sags beyond its allowance, it creates low points where water can collect, also known as water ponding.

Possible Issues:

Water Ponding: Over time, accumulated water may saturate the sarking, weakening its effectiveness. Prolonged exposure to standing water increases the risk of water permeating through to the ceiling below, potentially leading to water leaks.

Moisture Damage: Persistent water accumulation may cause moisture to seep into the roof structure, leading to dampness in insulation, ceiling, or walls. This can result in mould growth, wood rot, and deterioration of insulation, reducing its thermal efficiency.

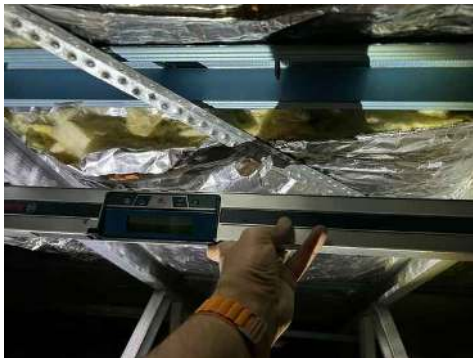
Structural Deterioration: If water leakage continues unchecked, it could damage the internal framework of the building, including roof trusses and timber elements, leading to costly repairs and potentially compromising structural integrity.

Reduced Lifespan of Roof Materials: Excessive sagging can strain the roofing materials, causing premature wear and tear, which might lead to increased maintenance costs or a shorter roof lifespan.

National Construction Codes (NCC) - 3.5.2.4**3.5.2.4 Sarking**

Sarking must—

- (a) be provided in accordance with [Table 3.5.2.2](#); and
- (b) comply with AS/NZS 4200.1 and be installed with—
 - (i) each adjoining sheet or roll being—
 - (A) overlapped not less than 150 mm; or
 - (B) taped together; and
 - (ii) sarking fixed to supporting members at not more than 300 mm centres; and
 - (iii) no sags greater than 40 mm in the sarking.





16.2.4 + Sarking/Sisolation

LOOSE AND UNSECURED ELECTRICAL CABLES IN ROOF SPACE

 Defective Work

During the inspection, it was noted that the electrical cables in the roof space have been left loose and are either **not fixed** or **not fixed properly**. This presents a potential **safety hazard** as loose cables may be subject to damage, increasing the risk of electrical faults, short circuits, or even fire. Additionally, improper cable management can lead to interference with other systems or create obstructions during any future maintenance or repairs.



16.3.1 + Heating/Cooling Unit



Defective Work

NOT SUSPENDED

The heating/cooling flexible ducts are not supported properly. Proper installation standards require that ducts be suspended or supported to prevent them from placing stress on the ceiling, reduce the risk of condensation or heat transfer, and ensure optimal airflow.

Why Should Ducts Be Suspended?

Weight Distribution: When ducts rest directly on the ceiling plaster, their weight may cause the ceiling to sag or crack over time, leading to structural damage.

Condensation Risk: Unsupported ducts can collect condensation, which could seep through the ceiling, causing moisture damage or mould growth.

Airflow Efficiency: Properly suspended ducts maintain the correct shape, preventing kinks or compression that could restrict airflow and reduce the system's efficiency.

Reference:

The installation of heating and cooling ducts is typically governed by the **Australian Standard AS 4254.1-2012: Ductwork for air-handling systems in buildings** – Flexible duct. This standard outlines requirements for the installation and support of flexible duct systems, including suspension methods to avoid damage to both the ducts and the ceiling structure.

The standard advises that ducts be supported at intervals that prevent sagging **every 1500mm max** for flexible ducts. Supports should also avoid crushing the duct, which can reduce airflow.

Figure 5.4.3(C) — Flexible duct installation — hanging

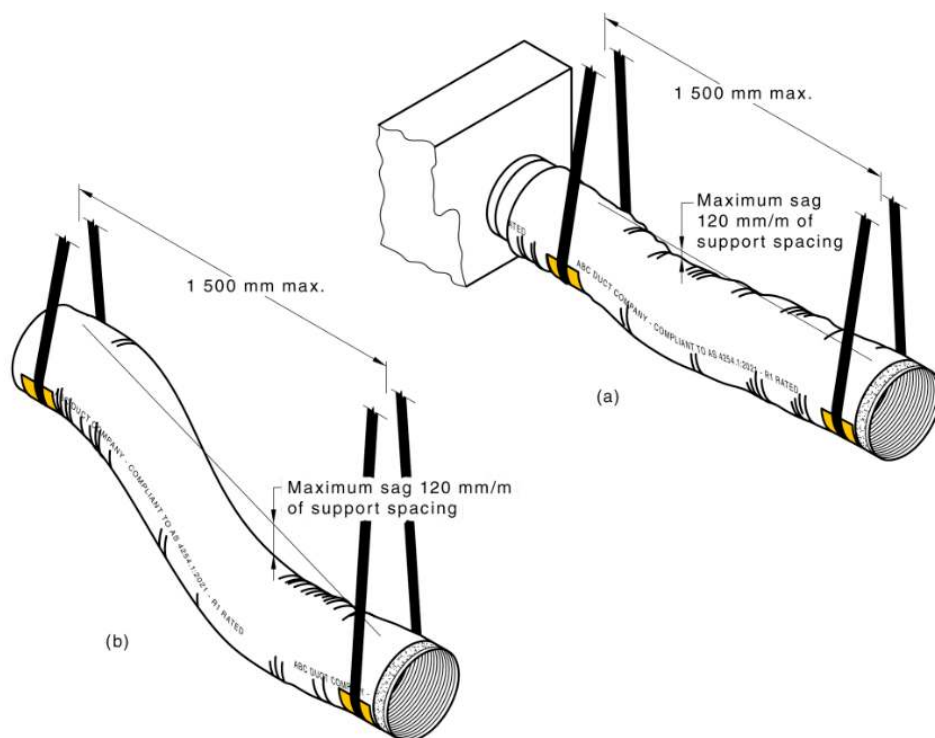


Figure 5.4.3(D) — Flexible duct installation

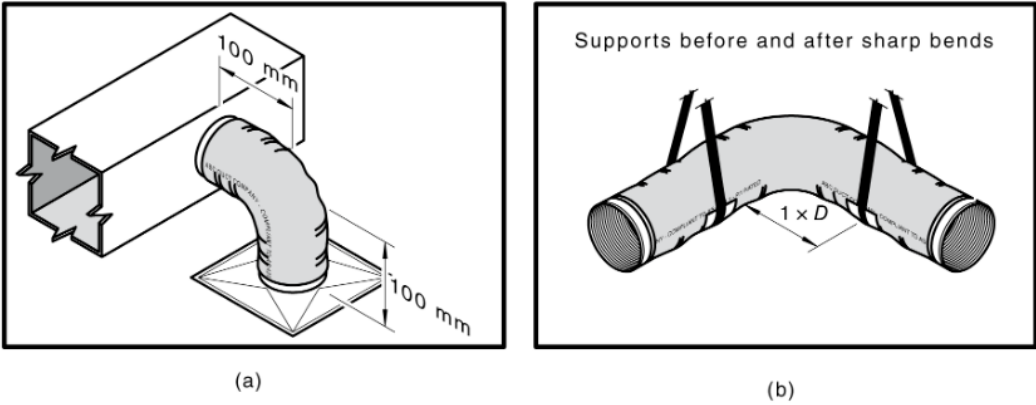
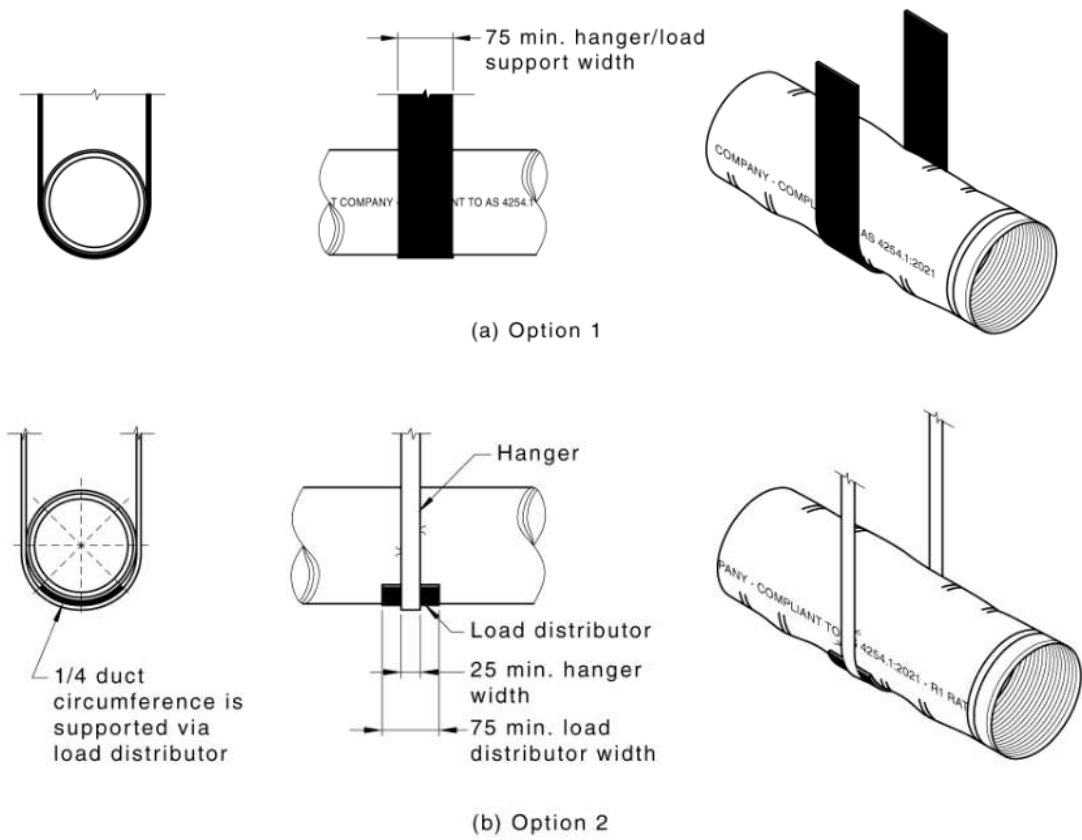


Figure 5.4.3(E) — Hanging saddle and load distribution support systems

Dimensions in millimetres





17: + HOUSE INTERNAL

Observations

17.1.1 + Doors (Internal)

**NAIL POPS THROUGHOUT THE DWELLING**

Several instances of nail popping have been observed throughout the dwelling, marked with flagging tape. Nail pops, caused by natural expansion, contraction, or improper installation, result in protruding nails or screws, leading to cosmetic damage and potentially weakening the surface structure.

Nail popping**10.19 Nail popping in surfaces**

Nail popping in sheeting is defective if it exists at handover or occurs within the first 24 months of completion and can be seen from a normal viewing position.







17.2.1 Painting



Information Only

NUMBER OF COATS

The homeowner claims that the builder has applied only two coats of paint, despite the builder's quotation specifying three coats. As this matter is beyond my expertise, I cannot confirm whether two or three coats have been applied. In an email received from the homeowner on 12 September, she advised that she has engaged a Taubmans paint representative to conduct a paint test to determine the exact number of coats applied. The homeowner also mentioned that the results may take a few weeks, as advised by Taubmans. I am unable to comment further on this issue until the paint specialist's report is received.

Costing Date: **10/09/2021****Specification: Must Have Inclusions - ACT Region**

continued from previous page...

Internal

- Ceiling height 2.4m ground floor
- Ceiling height 2.4m first floor (two storey)
- Flat finish type internal doors
- 75mm Cornice
- Ducted gas heating
- 3 coat paint system, washable acrylic paint to walls, architraves and skirting - 1 colour (Choose colour from selections studio)
- Flat white paint to ceiling and cornice
- Door stops to internal doors where required
- MDF staircase (two storey)
- External front door stained Savoy XS11 2040x820x40 translucent
- Governor entrance door knob lockable
- Lockable internal door handle to master bedroom (Choose from selections studio)
- Internal door handles (Choose from selection studio)
- Ceiling R4 and external wall R2 insulation batts - Excluding garage
- Foil sarking installed to external walls

17.2.2 Painting

POOR QUALITY PAINTWORK AND VISIBLE PLASTER JOINT LINES

The paintwork quality throughout the dwelling is substandard.

Plaster joint lines are visibly noticeable from a distance of 1.5 metres, indicating improper surface preparation or finishing. Additionally, poor architrave joints and other defective areas of paintwork have been observed, further diminishing the overall finish quality. Rectification is required to ensure that all surfaces, joints, and finishes meet acceptable standards for a professional appearance.

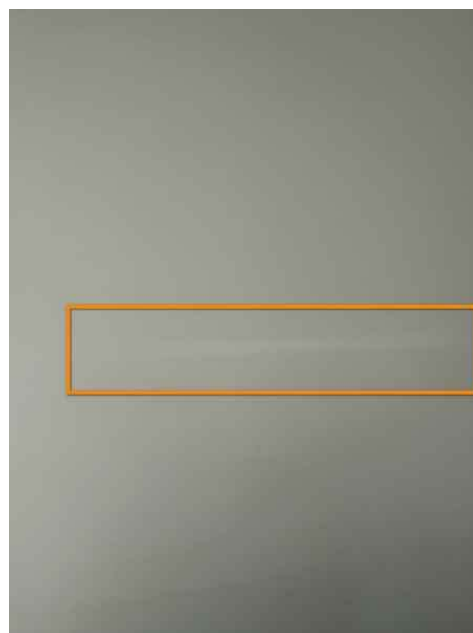
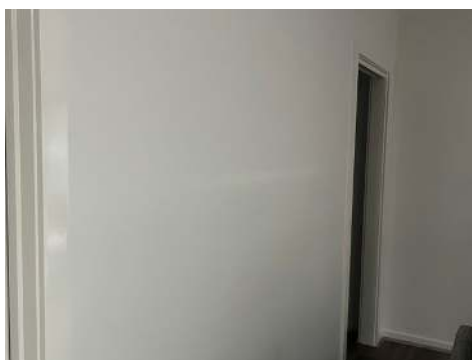
NSW Guide to Standards and Tolerances 2017:**13.2 Surface finish of paintwork**

Paintwork is defective if the application has blemishes such as paint runs, paint sags, wrinkling, dust, bare or starved painted areas, colour variations, surface cracks, irregular and coarse brush marks, sanding marks, blistering, non-uniformity of gloss level and other irregularities in the surface that are visible from a normal viewing position.

Paintwork is defective if the application results in excessive over-painting of fittings, trims, skirtings, architraves, glazing and other finished edges.

13.3 Nail and screw fixings

Fixings or unfilled depressions caused by fixings are defective in painted or stained surfaces if they can be seen from a normal viewing position.







17.3.1 Plaster

WALL SURFACE DAMAGE

 Incomplete Work

A noticeable chip or damage is observed on the wall surface, exposing the underlying material. This defect requires patching and repainting to restore the surface to its original condition and maintain aesthetic quality.



18: + KITCHEN

Observations

18.1.1 + Cabinetry

CABINET BENCHTOP MISALIGNMENT IN PANTRY

Incomplete Work

The benchtop in the pantry is not parallel to the surrounding cabinets, with a measured difference of **12mm on the left** side and **28mm on the right**, resulting in a **16mm discrepancy**. This misalignment is visually noticeable, particularly under the fixed light of the downlight, where the shadow accentuates the unevenness. Such a defect affects the overall finish and visual symmetry of the cabinetry, and rectification is required to realign the benchtop for a consistent appearance and proper installation.



18.2.1 + Oven/Stove/Rangehood

OVEN NOT INSTALLED

The oven is not installed.

 Incomplete Work



Specification: **Must Have Inclusions - ACT Region**
continued from previous page...

Costing Date:10/09/2021

Internal

- Ceiling height 2.4m ground floor
- Ceiling height 2.4m first floor (two storey)
- Flat finish type internal doors
- 75mm Cornice
- Ducted gas heating
- 3 coat paint system, washable acrylic paint to walls, architraves and skirting - 1 colour (Choose colour from selections studio)
- Flat white paint to ceiling and cornice
- Door stops to internal doors where required
- MDF staircase (two storey)
- External front door stained Savoy XS11 2040x820x40 translucent
- Governor entrance door knob lockable
- Lockable internal door handle to master bedroom (Choose from selections studio)
- Internal door handles (Choose from selection studio)
- Ceiling R4 and external wall R2 insulation batts - Excluding garage
- Foil sarking installed to external walls

Kitchen

- Overhead cupboards (Choose colour from selections studio)
- Under bench cupboards (Choose colour from selections studio)
- 1x Large pot draw (Choose colour from selections studio)
- 4x Cutlery draws (Choose colour from selections studio)
- Walk in pantry with melamine shelving (if shown on plan)
- Silicon between bench top and splash back tiles
- Microwave cavity
- 33mm laminate bench top with island bench over hang
- [WESTINGHOUSE WVE613SC 60cm 3 Function Oven](#)
- WESTINGHOUSE WHG643SB 60cm 4 Burner Cooktop
- WESTINGHOUSE WRR614SB 60cm slide out rangehood externally ducted
- Steel kitchen sink and mixer tap
- Kitchen splash back tiled (Choose colour from selections studio)
- Dishwasher cavity with provisions

18.3.1 Caulking

INCOMPLETE CAULKING UNDER ISLAND BENCH

 Incomplete Work

A section of the caulking under the cabinet island bench is incomplete. This can lead to gaps, which may allow moisture, dirt, or pests to accumulate, potentially causing damage to the structure and compromising the overall finish. Proper caulking should be applied to ensure a seamless and protected surface.



19: + BATHROOMS/ENSUITES/TOILETS

Observations

19.1.1 + Basin

+ SEAL AROUND BASINS

The basin premier must be sealed properly to prevent water leakage.

GUIDE TO STANDARDS AND TOLERANCES 10.09

Junctions between bench tops and adjoining surfaces are defective if they are not sealed with a suitable flexible sealant of matching or agreed colour.

Seals around items such as sinks, hand basins or the like are defective if the joint leaks or they are not installed in accordance with the manufacturer's installation requirements.

 Incomplete Work



Bathroom