



Friday, 13 December 2024

Attention: Name withheld

Address: Sample Property

Suburb withheld

VIC

Dear

Preliminary Expert Witness Report

The Property of/Applicant:	Name withheld
Address:	Sample Property Suburb withheld Victoria
Insurer:	[company withheld]
Insurer Policy No:	&
Building Contractor:	Name withheld T/[company withheld] (ABN Sole Trader)
Building Permit No:	[permit withheld]
Site Inspection Details:	26 th November 2024 – 2:06PM

1 INTRODUCTION/INSTRUCTIONS

1.1 Thank you for your instruction to inspect and report on the following:

- We have a VCAT order to engage an Expert Witness Report.
- During heavy rain periods water has entered the laundry, front entry and the sides of the soffit eaves lining and front of garage.
- We have engaged the council to inspect the current civil storm water design for compliance. Please find emailed response from council.
- We have sorted a licenced plumbing contractor to inspect and advise the condition of the roof and cost for repair. Please find quotation attached.
- Can you please inspect and inform us of the roof defects.
- Can you please provide a cost estimate for these defect works to be rectified.

2 PROPERTY DESCRIPTION

- 2.1 The Building Code of Australia (BCA), National Construction Code 2016 (NCC) defines this is a Class 1a structure, which is defined as:
- 2.2 “Class 1 – one or more buildings, which in association constitute-
- (a) Class 1a - Single dwelling being-
- (i) An attached house.
- Class 10 - a non-habitable building or structure being-
- (a) Class 10a – a non-habitable building being a private garage, carport, shed or the like.”
- 2.3 The dwelling is architecturally designed, with a slab on ground, internal stair well, above ground garage, these areas are classified as Class 10a.
- 2.4 The remainder of the house is classed 1a and is comprised of two bedrooms, master bedroom each with ensuite and walk in robe (WIR), kitchen & scullery room, family and dining rooms, study and living and an external outdoor living and alfresco area.
- 2.5 The property is a typical slab on ground with an engineered first floor to the residence. Which supports a pitched timber truss roofing system.
- 2.6 The property is a double story, Class 1(a) residential building. The residence was completed in 2021, I have been provided with the Occupancy Permit from the applicant.
- 2.7 The rendered cement based wall cladding including ground floor brick veneer walls and timber frame support a flat metal deck roof and a pitched concrete tiled roof structure.
- 2.8 The attached building is on a sloping site. The front façade of the property faces west
- 2.9 The overall area of the dwelling is, including the garage, and external areas is approximately 253 sqm.
- 2.10 The building age based on the Occupancy Permit issued July 2021 is approximately three years (3).

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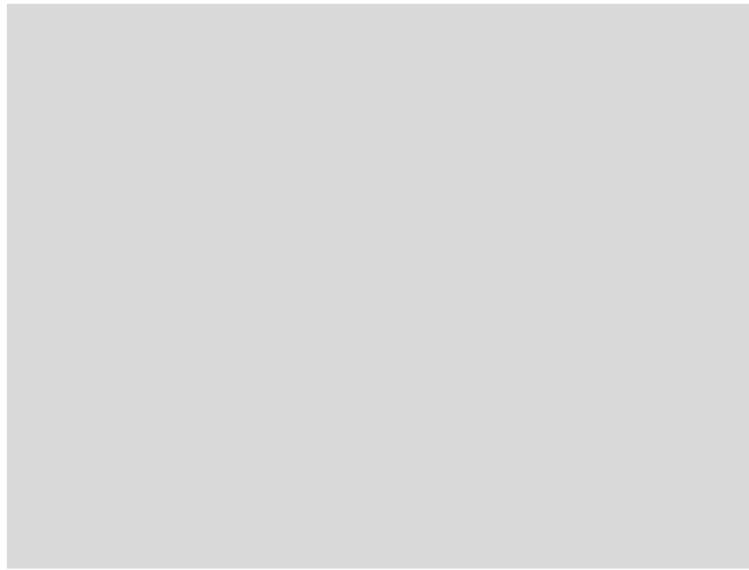


Photo showing the front western elevation of the property.

3 DOCUMENTS PROVIDED BY THE CLIENT.

3.1 The following documents have been provided by the applicant for review as part of my instructions for this job request.

- An email dated Tuesday 25th of November 2024, with the following attached:
 - A copy of the stamped architectural construction plans [company withheld] Pty Ltd dated 25th October 2018 15th June 2023.
 - A copy of the owner's plumbing roof inspection and quotation [company withheld] dated 19th May 2024.
 - A copy of the civil drainage design, [company withheld] dated 12th September 2018.
- Email dated 2nd December 2024 with the following attached:
 - Civil storm water inspection notice of non- compliance from City of [Name withheld] date 2nd December 2024.
 - A copy of the Building Permit issued by [company withheld] Pty Ltd; [Name withheld] consulting building surveyors dated 26th February 2020, Form 2 building permit.

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- A copy of the Building Permit issued by [company withheld] Pty Ltd; Name withheld consulting building surveyors dated 30th July 2021, Form 16 occupancy permit.

4 EXECUTIVE SUMMARY

4.1 The following is a summary of the events within this expert witness claim:

- A heavy rain event had occurred on approximately 27th July 2024.
- Water ingress had entered the front porch roof cavity.
- Water ingress had entered the roof cavity over the laundry ceiling.
- Further inspection revealed water damage to a soffit eave lining.
- Further inspection revealed roof drainage gutter had over flowed near the garage.
- Other minor damage to a wall flashing was also discovered.
- Owner undertook her own plumbing contractor inspection and quotation to rectify roof and surface ground drainage works dated 19th May 2024 by [company withheld] Plumbing valued at \$31,230 Inc GST thirty one thousand and two hundred and thirty dollars.
- The owner has recently been informed by the the local council Civil and Infrastructure the civil storm water and pit design has not been compliantly completed by the building contractor on the 2nd of December 2024.
- The value of the domestic building works to rectify building defects, incomplete works and resultant water damage is approximately \$60,000 sixty thousand dollars in the owner's opinion.

5 SITE INSPECTION/OBSERVATIONS AND DISCUSSIONS

5.1 I inspected the site on the 26th of November 2024 at 2:00PM and was met by the property owner Name withheld Herein referred to as the applicant. The applicant had taken ownership of the residence directly after completion in approximately 2022.

5.2 I can confirm I have been provided with the mandatory building permit and occupancy permit of this recently constructed residence. (Refer to Appendix B -Technical Requirements – Building Permit and Occupancy Permit within this report)

5.3 The weather conditions were clear and sunny at the time of my inspection.

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- 5.4 The building contractor was not present at the time of my inspection.
- 5.5 On entering the property, the applicant stated that approximately, four months ago during a heavy storm rain event water ingress had occurred. Large amounts of rain water entered the front porch roof cavity. The painted cement based ceiling lining was water stain as observed at the time of my inspection.(See photo nos. 1 and 2 - Appendix A of this report)
- 5.6 I was then taken around the external perimeter of the residential unit 1 and shown further water ingress. Damage to the soffit eave lining on the southern elevation was observed. Water staining was observed to the painted cement based sheeting from water ingress.(See photo nos. 3 - Appendix A of this report)
- 5.7 The applicant then directed my attention to the external garage where I was shown roof drainage guttering which had over flowed. The applicant informed me the entire gutter fills and a sheath of water overflows from the gutter during heavy storm events. I observed water marks along the guttering and downpipe which would indicate overflowing of storm water and down pipe blockage.(See photo nos. 4 and 6 - Appendix A of this report)
- 5.8 During my inspection I further observed minor damage to the external wall transfer flashing. This was positioned on the southern wall elevation. Water at the flashing joint showed signs of a poorly sealed lap joint. Discolouring down the brick wall below indicating a build-up of algae to the top of the Z flashing due to pooling of water to the flat section within the flashing. Due primarily from negative grading of the flashing during installation. Indicative of pooling due to poor installation. There appears no water ingress within the wall cavity.(See photo nos. 5 - Appendix A of this report)
- 5.9 The applicant was more concerned about internal water ingress which had occurred to the laundry. The painted plasterboard ceiling within the laundry had experienced water ingress. During heavy rain events it is alleged water drains into the roof cavity and through the ceiling down lights. I observed a blackened painted plasterboard ceiling which indicated long term water ingress and mould appearing to the surface of the plasterboard.(See photo nos. 7 - Appendix A of this report)
- 5.10 The applicant indicated she was of the belief the civil storm water drainage system within the common area was failing and incomplete. The applicant contacted the the local council to confirm if the civil approved drainage was compliant. The council attended the property on the 2nd of December 2024 and confirmed a non-compliant civil designed storm water drainage system had been installed by the building contractor.(See Appendix B - Technical Requirements- Emailed civil storm water design defects from the local council inspection notice within this report)
- 5.11 I observed civil drainage pit 4 and 5 to be in-complete and non-compliant. I refer to civil design undertaken by [company withheld] Civil

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Engineers; Drawing C2 dated 12th September 2018 which designed and required a pit (4) to the front of the residence. This was not the case at the time of my inspection.(See photo nos. 8 - Appendix A of this report)

- 5.12 The construction of the larger Pit (5) was also observed to be non-compliant. The concrete lid was not level and could not be positioned correctly. The drainage pipe within was crushed and water flow partially restricted.(See photo nos. 9 and 10 - Appendix A of this report)
- 5.13 The applicant alleged that Pit (3) further up the sloping concrete drive way overflowed during heavy rain events. This would indicate a blocked and restricted storm water drainage system. Sediment and water stains around the grate indicating an overflowed pit. This is also evidence why the roof drainage down pipes and gutters appeared to have blockage and over flow during heavy rain events.(See photo nos. 11,12,13 and 14 - Appendix A of this report)
- 5.14 I then concentrated my inspection to the front porch roof cover, box-gutter and rain head drainage system. I observed that the overflow provision of the box-gutter and rain head down pipe were under sized. This would indicate the box gutter would fill up with water during heavy rain events and over flow at the small outlet low end of the box-gutter. The rain head did not have a compliant overflow out let that would disperse storm water to the atmosphere if the down pipe was blocked. The size of this horizontal slot in the rain head is too small. Subsequently restricting storm water exiting from the box-gutter, resulting in overflow into the porch roof cavity. .(See photo nos. 15,16 and 17- Appendix A of this report)
- 5.15 I refer to the applicants provided stamped and approved construction plans and design commissioned at the time of construction 2018. It appears the design documents have not been followed and undertaken by the building contractor with regard the roof drainage requirements of this residence. Inadequate with regard box gutter installation, down pipes, and a non-compliant valley gutter installation.
- 5.16 I observed that the building contractor has contravened the designed architectural plans [company withheld] dated 25th October 2018 with down pipe placement. The building contractor has placed a first floor down pipe which drains onto the lower front porch roof cover. This contravenes the design requirements of the architectural hydraulic design and further contributes to large amounts of water into the box-gutter. This is considered a building defect by the building contractor.(See photo nos. 18 - Appendix A of this report)
- 5.17 I then inspected the roof cover over the laundry. I observed a roof drainage system and valley gutter installed to the northern roof elevation directly over the laundry. The architectural design requirements stipulate a box-gutter to be installed to this section of roof drainage system. I compliant box-gutter no less than 100mm deep by 200mm wide in full length required. The building

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contractor has contravened the designed architectural plans [company withheld] Pty Ltd dated 25th October 2018 with not installing a box-gutter. This is considered a building defect by the building contractor. (See photo nos. 19,20,21 and 22 - Appendix A of this report)

- 5.18 I am of the opinion a compliant roof drainage system and box-gutter has not been installed within the northern elevation of the residence. Alternatively, the building contractor has installed a non-compliant valley gutter which has failed and allowed water to enter the roof cavity over the laundry. This is considered defective building work by the building contractor. (Refer to Appendix B - Technical Requirements – Stamped Architectural Construction Plans of this report)
- 5.19 It appears that a box gutter overflow pipe installed to the front box-gutter is approximately 20mm in depth x 150mm in length externally from the rain head which had been installed at the time of construction. The size of this over flow pipe is inadequate to disperse rain water to the atmosphere during a heavy rain period event. These roof plumbing works are defective and considered non-compliant building works by the building contractor at the time of construction in 2020.
- 5.20 The applicant has provided myself a copy of the licenced plumbing contractor; [company withheld] quotation dated 19th May 2024. I refer to the contractors' observations with non-compliant plumbing works undertaken by the building contractor. The plumbing contractor has highlighted non-compliant and sub-standard workmanship undertaken. I recommend a full roof and drainage plumbing report be undertaken to support my observations and conclusions with regard defective building works. (Refer to Appendix B - Technical Requirements – Plumbing Contractors Quotation within this report)

6 CONCLUSION

6.1 My instructions were to inspect and report on the following:

- *We have a VCAT order to engage an Expert Witness Report.*
- *During heavy rain periods water has entered the laundry, front entry and the sides of the soffit eaves lining and front of garage.*
- *We have engaged the council to inspect the current civil storm water design for compliance. Please find emailed response from council.*
- *We have sorted a licenced plumbing contractor to inspect and advise the condition of the roof and cost for repair. Please find quotation attached.*
- *Can you please inspect and inform us of the roof defects.*
- *Can you please provide a cost estimate for these defect works to be rectified.*

The following summary and conclusion are as such:

6.2 **From my site inspection I can confirm the following: The residential building has a failed roof drainage and surface water civil drainage**

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system. There is also building defects highlighted at the time of my inspection:

6.3 The following works are considered Building Defects

Water ingress to the internal residence has been observed due to a failed roof drainage system. The box gutter to the front porch roof cover has failed during heavy rain periods and subsequently overflowed in the applicant's porch roof cavity. This is primarily due to a constructed box gutter and rain head roof drainage which has been inadequate to cope during rain events.

6.4 The rain head design undertaken to the front porch and the box gutter fail to drain water during heavy rain events. This is due to the design and insufficient size of the overflow requirements under Australian Standard (AS) 3500.

6.5 Recent front porch roof cover and roof drainage works are not compliant. The rain head undertaken was not compliant by the building contractor at the time of construction. It appears during construction the building contractor the rain heads do not over flow into the atmosphere as required should there be access storm water or a blocked down pipe. The rain head installed does not comply with AS3500.3 Installation Code for Metal roof and Wall Cladding, Section 5.3.2 Gutter Installation, (I) requirements for: i) Direction of discharge; ii) Straight guttering; iii) Sizing of Rain Head opening is to match the width of the box gutter. This is considered defective building work.

6.6 Furthermore, the building contractor has failed to install a box gutter to the side northern roof drainage system The box gutter was not installed however in lieu a valley gutter. The non-compliant valley gutter is not a viable alternative to a conventional box gutter. The gutter water direction must flow directly into the rain head and not at opposing directions of water flow. The valley gutter changes should have been undertaken in accordance with the designed and approved AS 3500 and approved by relevant acting building certifier. This is considered a building defect by the building contractor.

6.7 Box gutters if altered in any way must conform to AS3500.3 Installation Code for Metal roof and Wall Cladding, Section 5.3.2 Gutter Installation, (I) requirements for: i) Direction of discharge; ii) Straight guttering; iii) Sizing of Rain Head opening is to match the width of the box gutter

6.8 This is considered non-compliant building work undertaken by the building contractor at the time of construction. (See Appendix B Technical Requirement of this report).

6.9 A compliant box gutter should also allow for sufficient fall. This was not the case at the time of my inspection. The box gutter was holding water which contravenes design undertaken by the building contractor which must consider sections of the Australian Standard 3500 -The box gutters have the following design issues considered: i) Change of direction; ii) Lack sump; iii) Lack over flow devices; iv) Lack minimum gradient of 1:200; v) Have been

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installed with non-conforming overhang & x-section. All the above are required in accordance with AS3500.3 Stormwater Standard . Box Gutters shall have a constant slope of a minimum 1:200, AS3500.3 Section 3.7.4 Layout (g), (iii).

- 6.10 I recommend the box gutter gutters and valley gutters within Unit 1 to be fully replaced and achieve all compliance aspects for fall and support. Box gutter to have sumps installed. Rain heads to be fully sealed and have overflow discharge equivalent to box gutter capacity and in the same direction of water flow. Box Gutters to have overflows installed, discharging to the atmosphere; Flashings to be fully secured. Have suitable pressure flashings with robust fixing to comply with VBA requirements. Spreaders and down pipes to be increased in size. Roof sheets to be fully replaced and not patched in areas which is considered non-compliant workmanship.
- 6.11 It may not be able to fully make the constructed roof drainage to fully comply for the box gutter of the lower roof section, a sump and overflow will suffice. The rectification will need to be approved by the VBA plumbing inspectors or a performance based solution sort.
- 6.12 Hence, in my opinion the damage in the laundry and front porch is consistent with the failure of the roof drainage system design not being adhered to by the building contractor and not from any one-off storm event. The building contractor has further failed to undertake corrective building design and roof drainage system works in accordance with Australian Standard 3500 - Roof Drainage System Design.
- 6.13 We are of the opinion that the installed rain head after the time of original construction in 2021 can be considered a Building Defect. The recent observed roof works and rain head, box gutters and down pipes does not comply with this standard.
- 6.14 **Civil storm water sub-surface drainage :**
- 6.15 The designed civil stormwater drainage system has not been undertaken compliantly. Incomplete sections of the civil works and defective works were observed by the the local council civil inspection 2nd December 2024. This highlighted defective and incomplete works undertaken by the building contractor. This is considered defective building work. (See Appendix B - Technical Requirements – Civil sub-surface drainage design within this report)
- 6.16 The observed water ingress is a combination of a blocked storm water drainage system and poorly installed civil storm water sub-surface and surface drainage system installed by the building contractor.
- 6.17 The overflowing gutters is evidence of this. The storm water drainage system installed by the building contractor has failed. Water is entering the residence during heavy and normal rain periods. Not only has there been no remedial works undertaken to the civil design. There is no civil storm water drainage

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system connected to the legal point of discharge road gutter compliantly. Either a hydraulic engineer's design requirements or those under AS: 3500.

- 6.18 I believe this to be a defect for which the building contractor is responsible for its rectification.

6.14 Surface water drainage system

- 6.15 The current National Construction Codes (NCC) of Australia 2016 did apply at the time this dwelling was designed and constructed. The principle in the codes would apply to reinstate the applicant's property to prevent further damage to the residence.

- 6.16 NCC 2016 regarding water ingress and storm water design states the following:

P2.2.2. Weatherproofing "A roof and external wall (including wall junctions) must prevent the penetration of water that could cause -

- *(a) Unhealthy or dangerous conditions, or loss of amenity for occupants; and*
- *(b) Undue dampness or deterioration of building elements."*

Given water has now entered the residence front porch and laundry roof cavity, due to the poor or lack of corrective drainage systems. This is considered non-compliant building work. It is a failure to comply with the building code, P2.2.2 Weatherproofing (a) and (b).

- 6.17 The National Construction Code 2016 further states.

P2.2.1 Surface water to a building including any associated site work is to be constructed in a way that protects people and other property from the adverse effects of redirected surface water.

- 6.18 An installed compliant surface and sub-surface civil drainage system: Pit 5 and 4 surface drains positioned and functioning as civil engineered and designed, would prevent the observed water ingress to the residence. Surface storm water would be redirected away from the residence. The pit systems are incomplete and not compliant. The water flow is being not only restricted but allowing the storm water downpipes to overflow into the residence. This has contributed to water entering the residence. As such, drainage failure will continue to allow water to ingress into the residence during storm and heavy weather events.

- 6.19 This is supported by the engineer's drawings prepared by [company withheld] and Associates Pty Ltd dated 12th September 2018 which shows a design for this civil sub-surface and surface drainage requirements on sheets Drawing No; C2. (See Appendix B of this report)

- 6.20 This is considered defective building work by the building contractor.

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- 6.21 This is further supported by architectural plans from [company withheld] dated 25th of October 2018 which shows a design for box-gutter and down pipe positioning roof drainage system requirements on sheet A01. (See Appendix B of this report)
- 6.22 I further refer to the NCC 2016 regarding surface water prevention which states:
- P3.1.3.3 Surface water drainage Surface water must be diverted away from Class 1 buildings as follows:*
- *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 3.1.2.2) -*
 - *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) -*
 - *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)*
- 6.23 Water is not draining away from the residence. This is considered defective building work for which the building contractor is responsible for.
- 6.24 My recommendation that the box gutter to be altered to conform to AS3500.3 & HB39 Installation Code for Metal roof and Wall Cladding, Section 5.3.2 Gutter Installation, (I) requirements for: i) Direction of discharge; ii) Straight guttering; iii) Sizing of Rain Head opening is to match the width of the box gutter.
- 6.25 This is considered non-compliant building work undertaken by the building contractor at the time of construction 2021 and 2022. (See Appendix B Technical Requirement of this report).
- 6.26 First floor roof drainage spreaders disbursement and down pipes to be increased in size to areas which is considered non-compliant workmanship. It may not be able to achieve fully the spreader down pipe to disperse compliantly with reduced roof cover. Alternative deem to comply solution to be sort from a suitably qualified hydraulic engineer.

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- 6.27 Hence, in my opinion the damage in the residential building is consistent with the failure of the roof drainage system design and installation of a compliant box gutter and a rain head down pipe drainage system. This is not due from any one-off storm event. The building contractor has further failed to undertake corrective building design and roof drainage system works in accordance with Australian Standard 3500 - Roof Drainage System Design.
- 6.28 Further cost analysis is required by a full qualified and registered Quantity Surveyor to provide quantum to this claim.
- 6.29 I recommend a suitably qualified Hygienist inspect and take air quality and wall and ceiling surface evidence internally to the laundry and roof cavity to determine the presence of mould if or if not detected. Further destructive works to mould eradication me be required.

7 RESTRICTIONS

- 7.1 NOTE: Victoria is transitioning to the adoption of all NCC 2022 (National Construction Code) requirements. In consideration of the items raised in this report, and to ensure realistic and competitive costing are obtained, a provisional sum allowance would/should be nominated to address statutory upgrade requirements. The extent of upgrades will be determined as part of the quantity surveyors and building surveyors discretion for the new building works, as is consistent with best practice.

8 DECLARATION

- 8.1 The factual matters stated in this report are true, to the best of my knowledge. I have made all enquiries considered appropriate in review of this matter. The opinions stated in the report are genuinely held by myself, and I have referenced all matters I consider to be significant. I understand my duty to the court and believe I have complied with this duty to the best of my ability. To the best of my knowledge, there are no readily ascertainable additional facts that would assist me to reach a more reliable conclusion. (See Appendix B Technical Requirements -Annexure Curriculum Vitae of this report).

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Yours faithfully,



Brendan Brown

Diploma of Applied Science; Building Construction

Independent Building Consultant

VIC VBA Licence No: CCBL- 38810.

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APPENDIX A – PHOTOGRAPHIC SUPPLEMENT



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Photograph 3. shows the side south elevation and damaged eave lining from water ingress from overflowing gutters. This is due to blockage and restriction of the storm water system.



Photograph 4. shows the garage overflowing gutter during heavy rain events. No water ingress damage was observed to the garage. Water overflowing to the gutter and down pipe was evident.

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Photograph 5. shows the external southern elevation and water staining from a wall flashing. The wall flashing has not been correctly installed.



Photograph 6. shows the side garage section where water ingress has been alleged to have occurred. No visible water ingress damage was observed. Evidence of water marks does indicate a blocked or non-functioning roof drainage gutter and down pipe.

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Photograph 7. shows the internal laundry painted plasterboard ceiling with water stains and mould due to long term water ingress from a failed roof drainage system.



Photograph 8. shows the front section of the residence and the storm water point which required a storm water pit 4 not installed. This is considered in-complete building works by the building contractor.

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Photograph 9. shows the front civil storm water drainage system and Pit 5 which has not be certified by the local council Civil Engineer.



Photograph 10. shows the front drive way and civil pit 5 as being observed as non-compliant and not approved as civil drainage design by the local council Civil Division.

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Photograph 11. shows the civil storm water drainage system and pit 4 which overflows during heavy rain events.



Photograph 12. shows the civil drainage storm water system and a compliant pit 4 with a 150mm drainage sub-surface pipe. This pit and staining debris around the pit indicate overflowing during heavy rain events.

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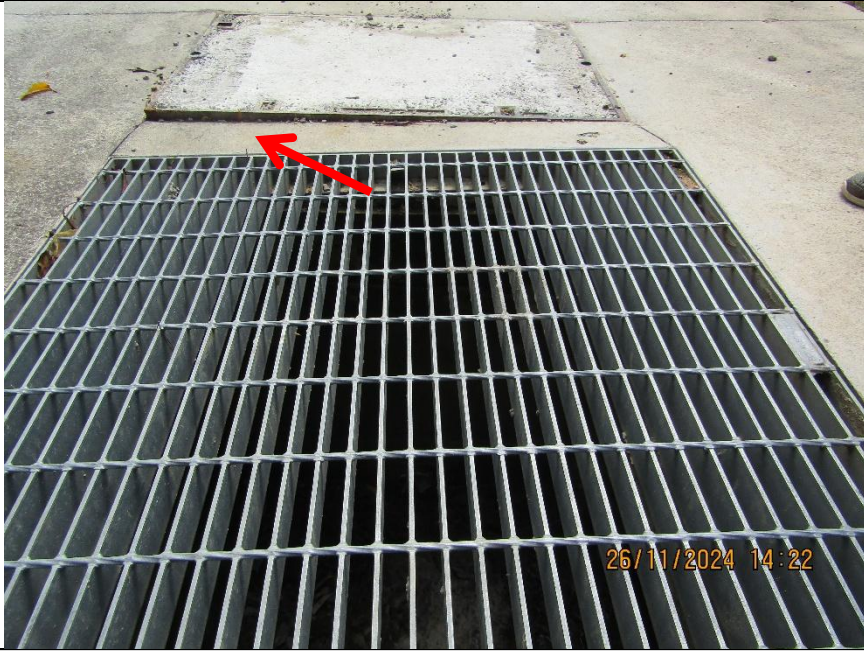
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Photograph 13. shows the civil storm water drainage and secondary baffle pit which is non-compliant. The concrete lid does not sit flush. This is considered non-compliant building work by the building contractor.



Photograph 14. shows the civil drainage pit 5 and a crushed and compromised storm water pipe within the pit. This is contributing to a poor flowing storm water drainage system during heavy rain events.

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Photograph 15. shows the front porch and rain-head including overflow slot which is not compliant. The rain-head is not dispersing rain water to the atmosphere during a heavy rain event adequately due to poor installation.



Photograph 16. shows the box gutter which is filling and overflowing into the porch roof cavity during heavy rain events.

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Photograph 17. shows the front porch and roof cover which is designed only to accommodate for a small roof surface area of storm water drainage.



Photograph 18. shows the upper roof and roof drainage down pipe dispersing additional storm water onto the porch roof cover. This is non-compliant building work as the porch was not designed to take the rain water from the upper roof. This also contravenes the hydraulic design of the roof.

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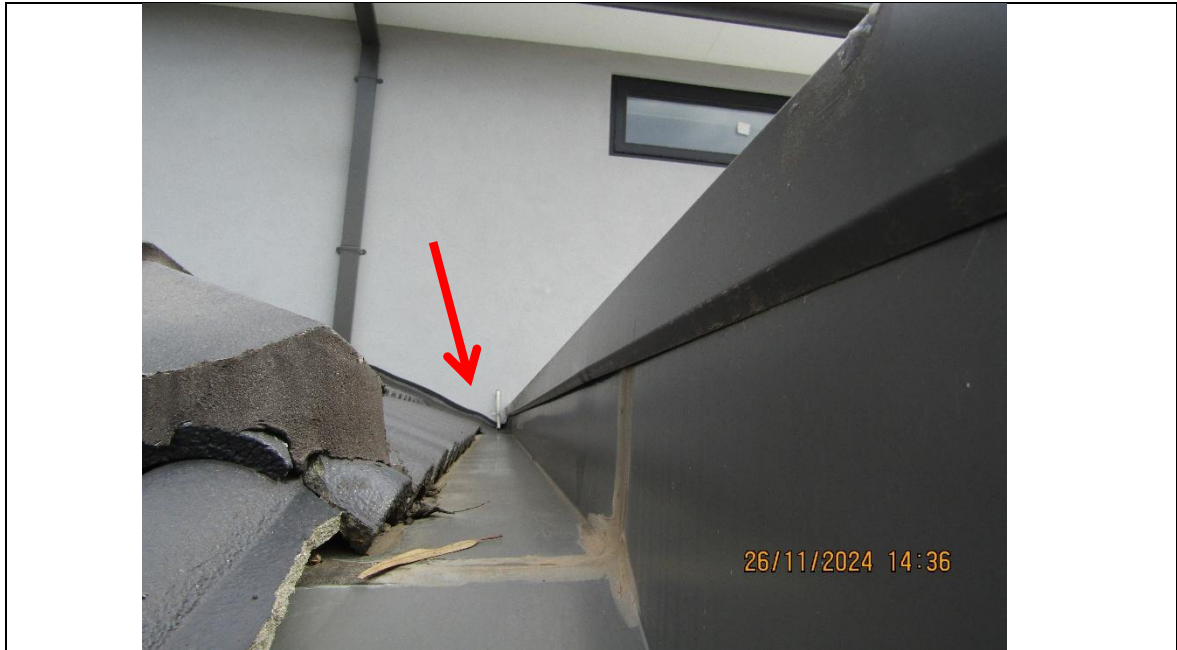
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Photograph 19. shows the valley gutter over the laundry. The design requires a box-gutter not a valley gutter. This is considered defective building work.



Photograph 20. shows the non-compliant valley gutter in lieu of a required box gutter. This valley gutter cannot cope with heavy rain event allowing water ingress within the roof cavity.

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Photograph 21. shows the spreader downpipe dispensing large amounts of water into the valley gutter. The valley gutter cannot cope with heavy rain events and subsequently water is entering the roof cavity over the laundry.



Photograph 22. shows the area where water ingress has occurred into the roof cavity, over the laundry. Note the 100mm depth required for a box-gutter at the end and wall junction has not been achieved. The building contractor has put lead flashing at the wall and valley gutter junction only.

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Claim Number: [company withheld]

Address: Sample Property

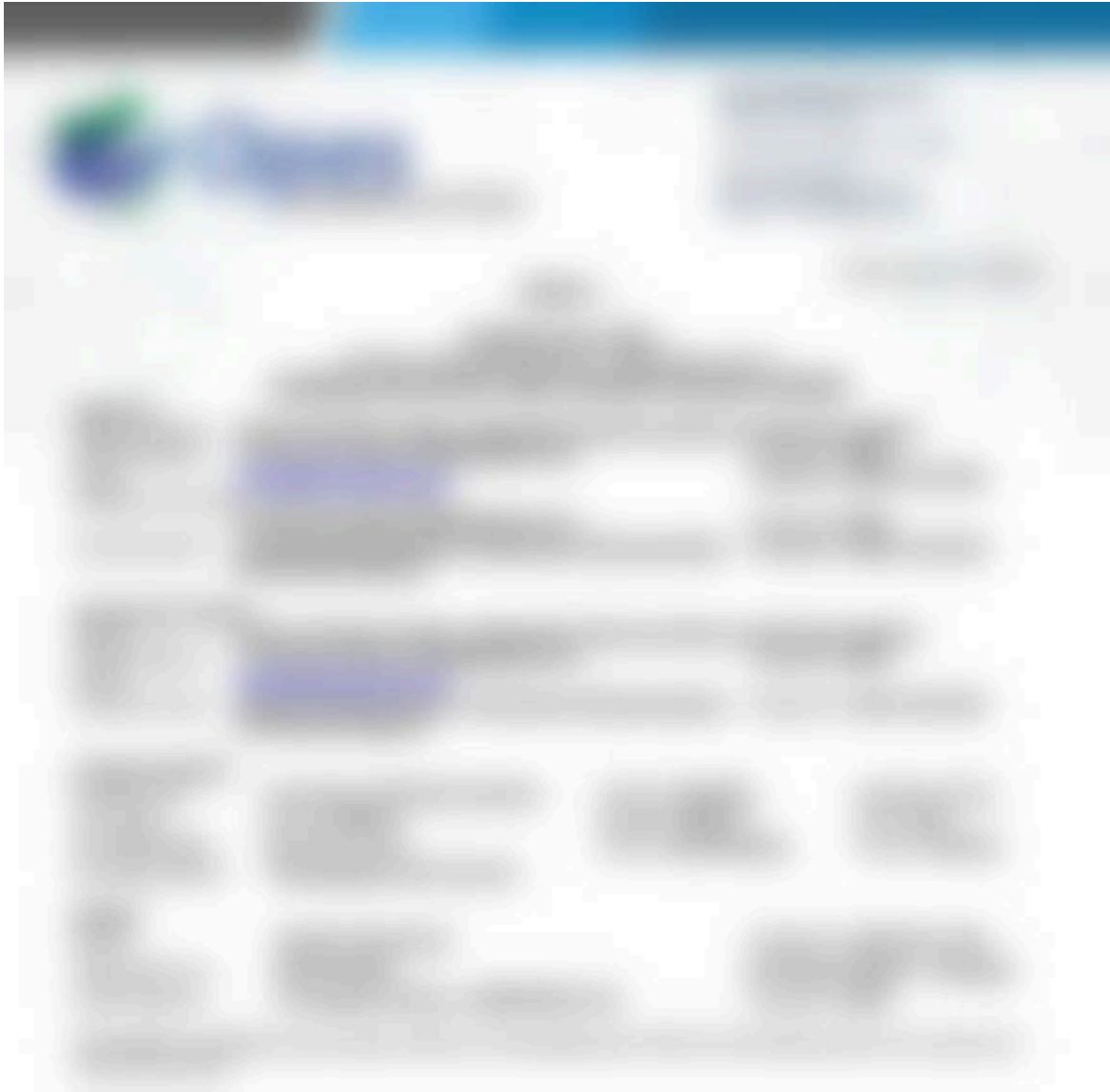
Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

APPENDIX B – TECHNICAL REQUIREMENTS

BUILDING PERMIT ISSUED 26TH FEBURARY 2020



Insured Owner: Name withheld

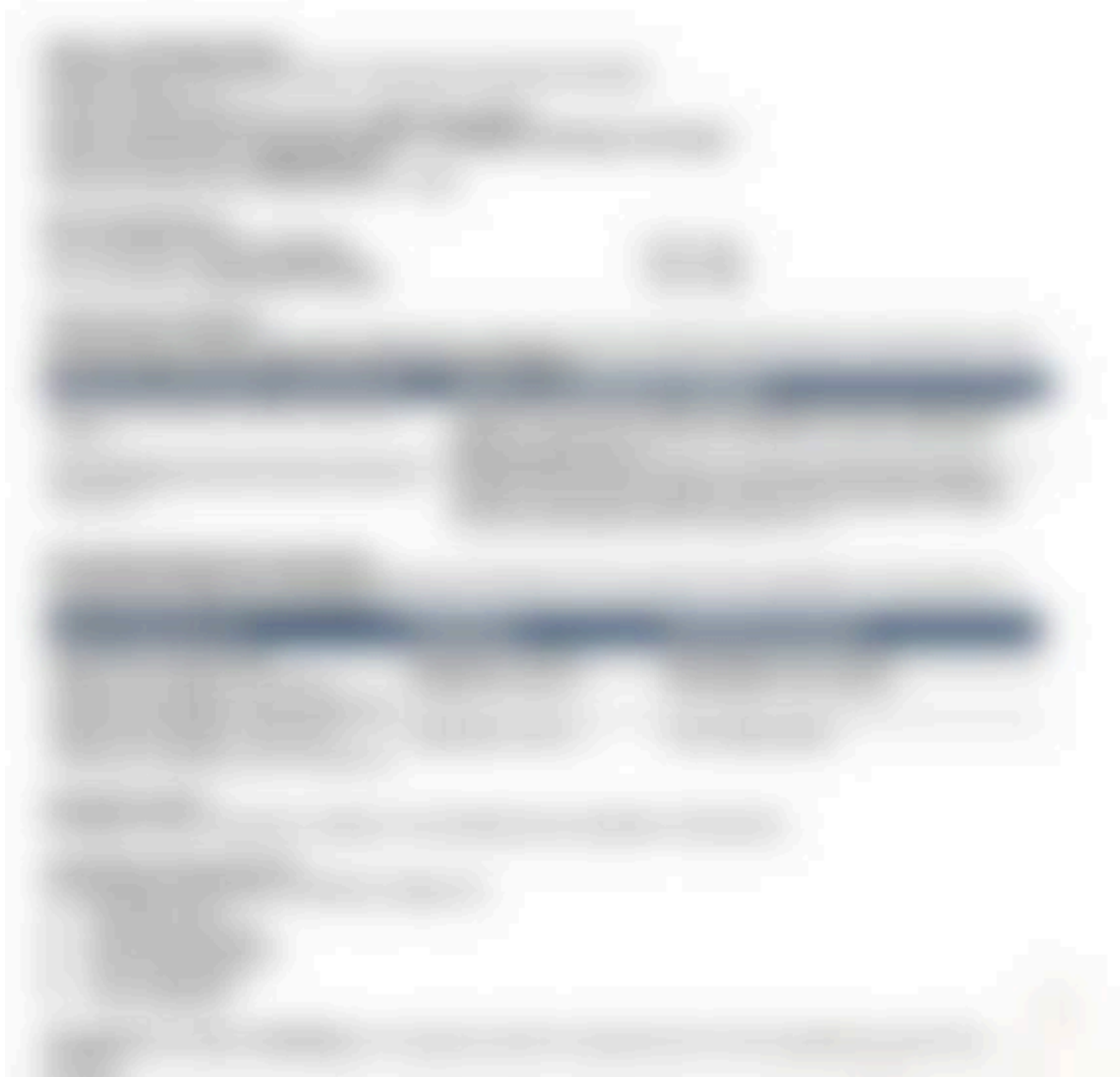
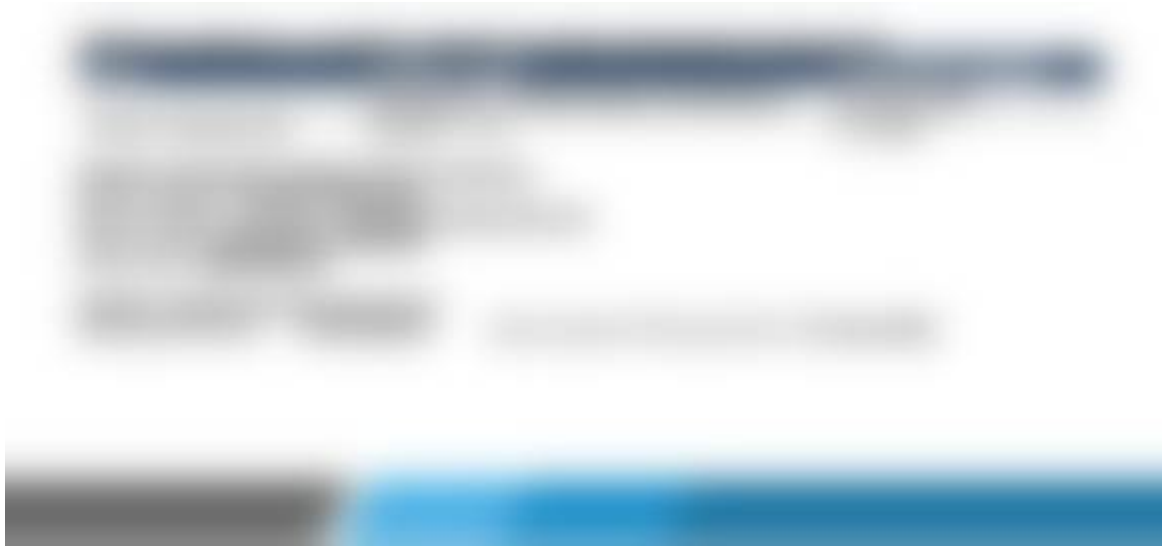
Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld

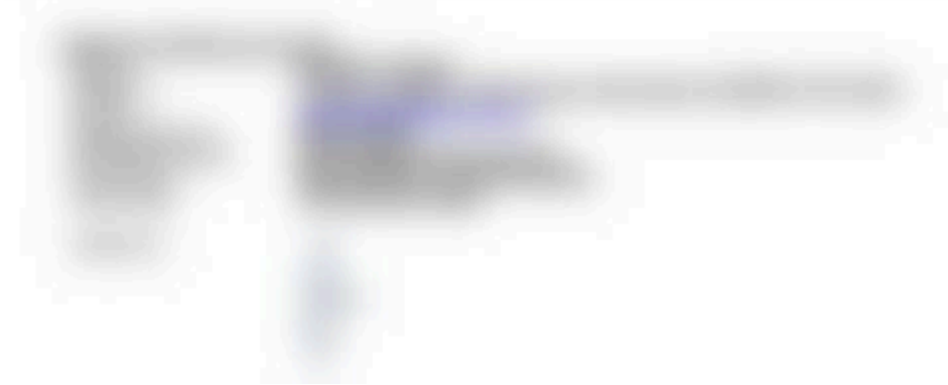
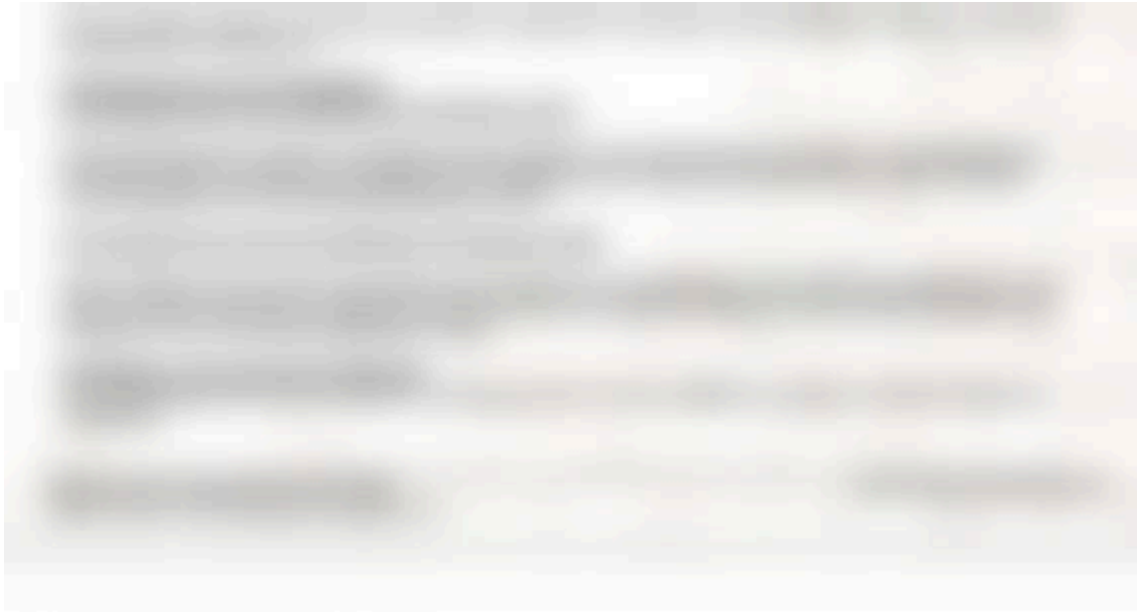
Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld

Claim Number: [company withheld]

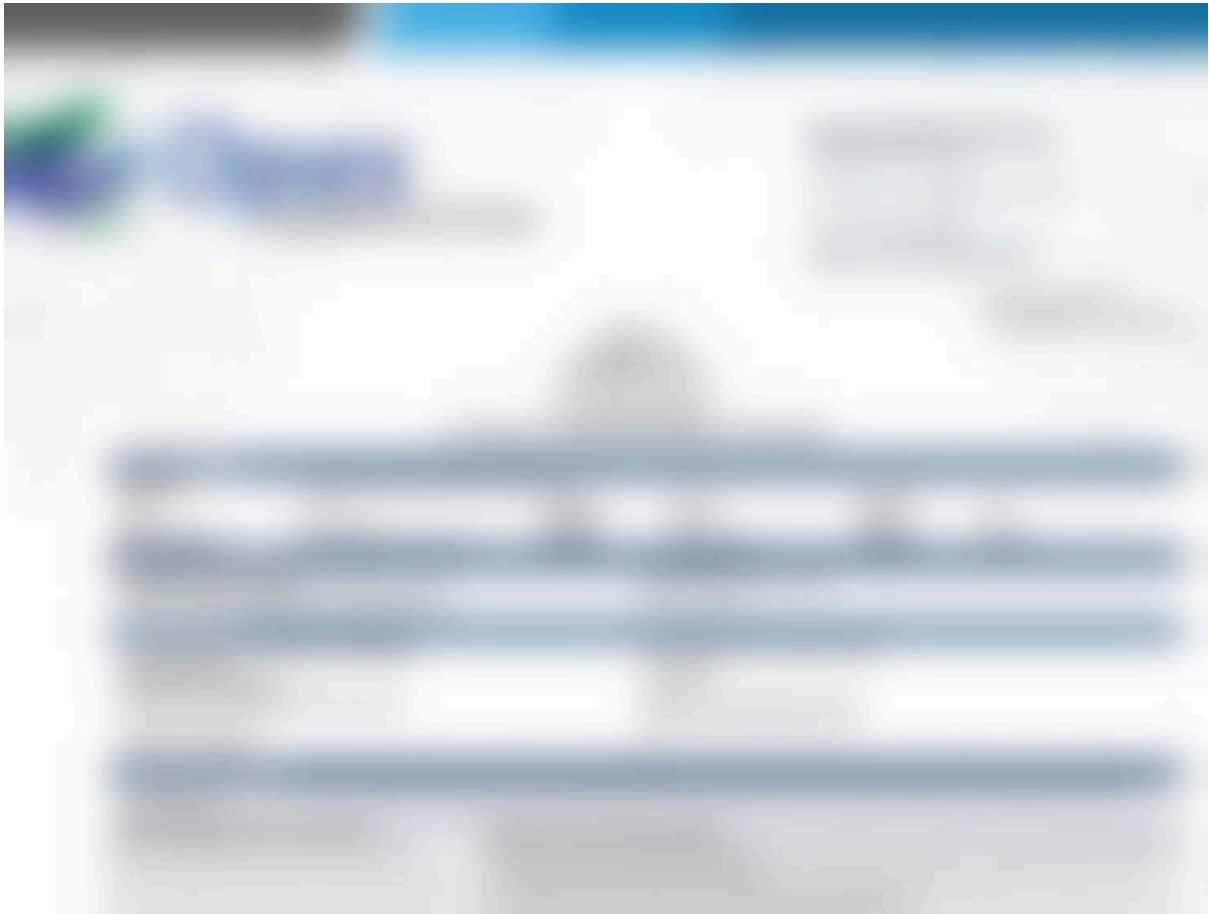
Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

OCCUPANCY PERMIT DATED 30TH JULY 2021



Insured Owner: Name withheld

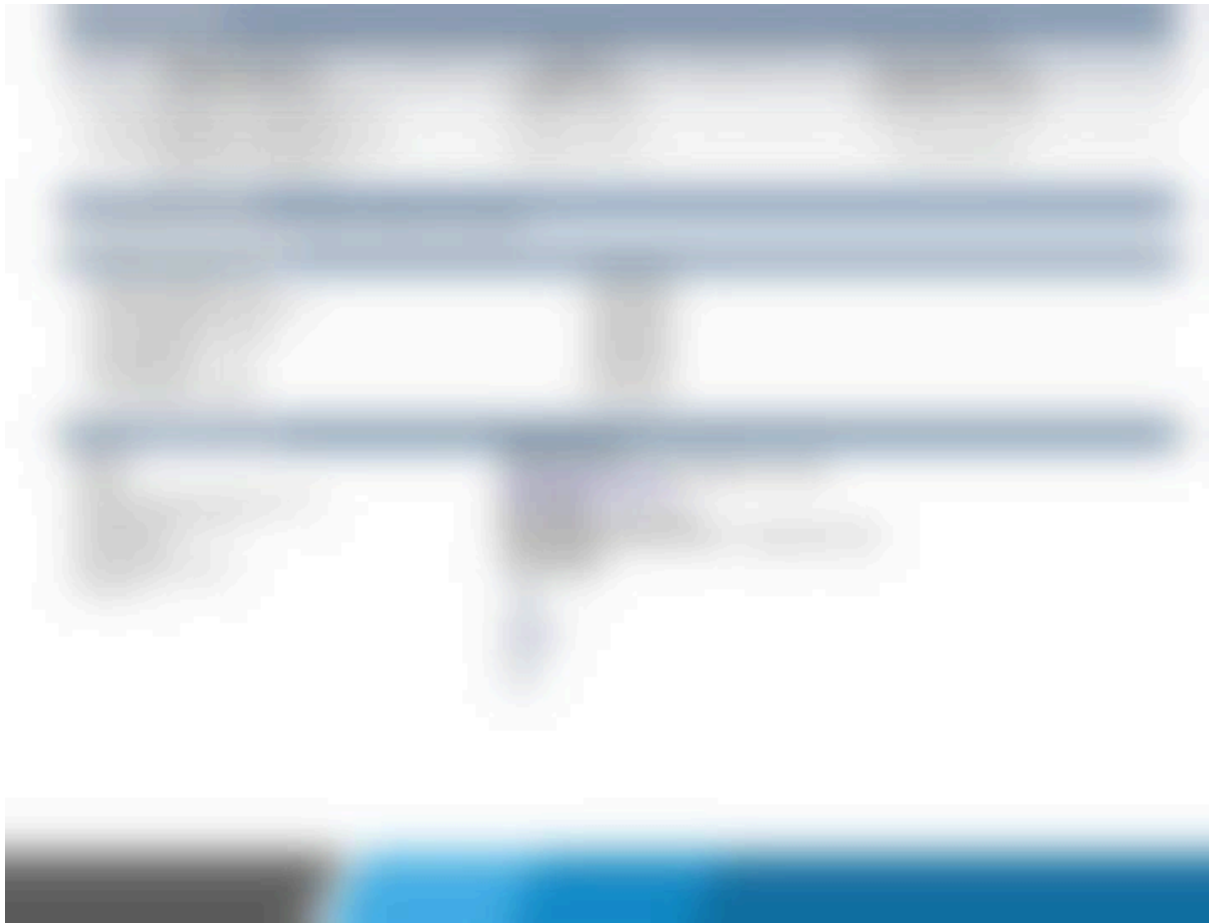
Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld
Claim Number: [company withheld]
Address: Sample Property
Building Contractor: Name withheld

Suburb withheld Victoria
T/A [company withheld]

ARCHITECTURAL APPROVED CONSTRUCTION PLANS [company withheld]
DATED 25TH OCTOBER 2018 – ROOF DRAINAGE DESIGN

NOTE THE AREAS IN RED MARKED AS WATER INGRESS DAMAGED AREAS.



Insured Owner: Name withheld

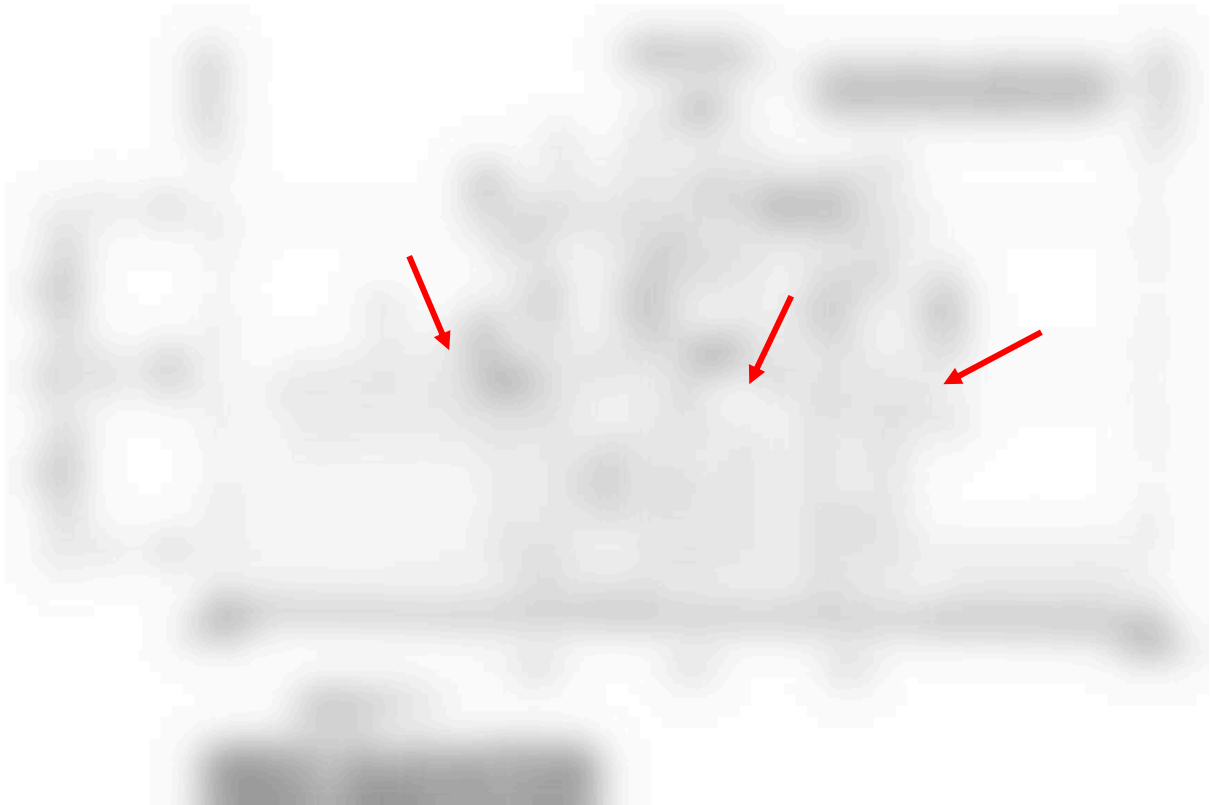
Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld
Claim Number: [company withheld]
Address: Sample Property
Building Contractor: Name withheld

Suburb withheld Victoria
T/A [company withheld]



Insured Owner: Name withheld

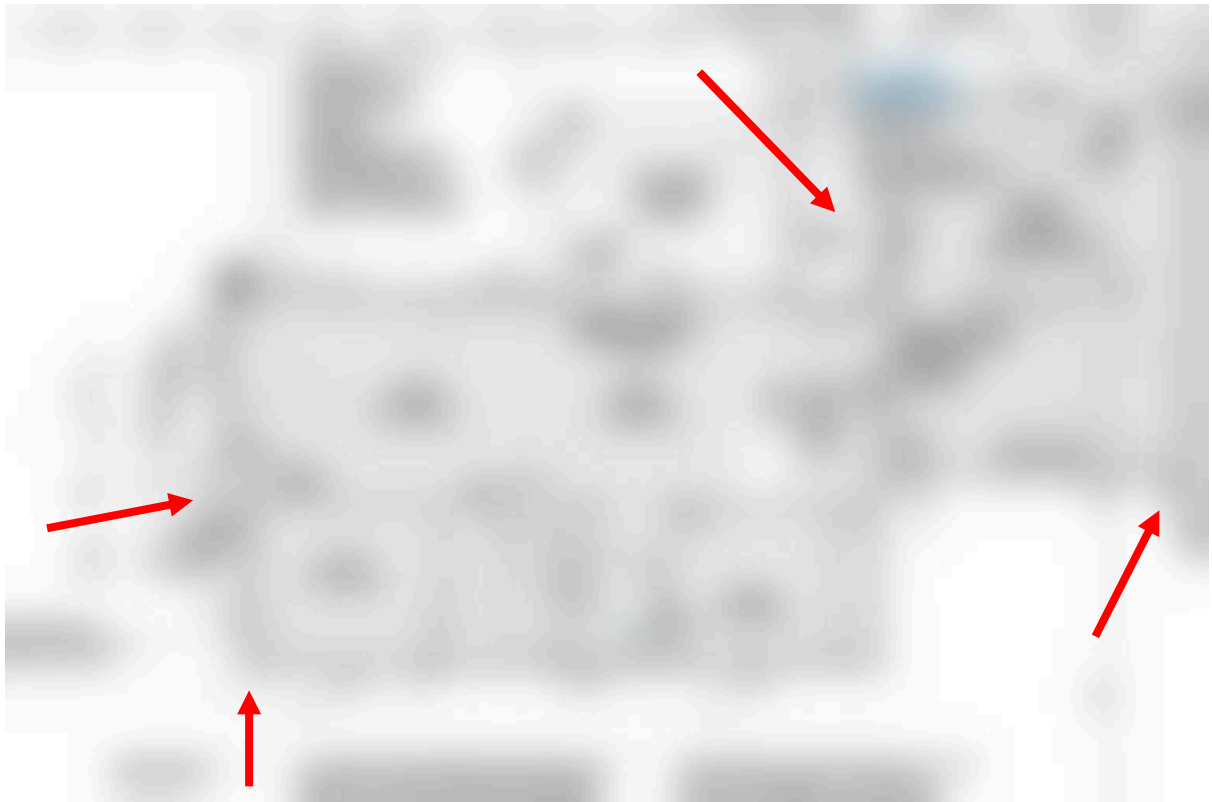
Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld

Claim Number: [company withheld]

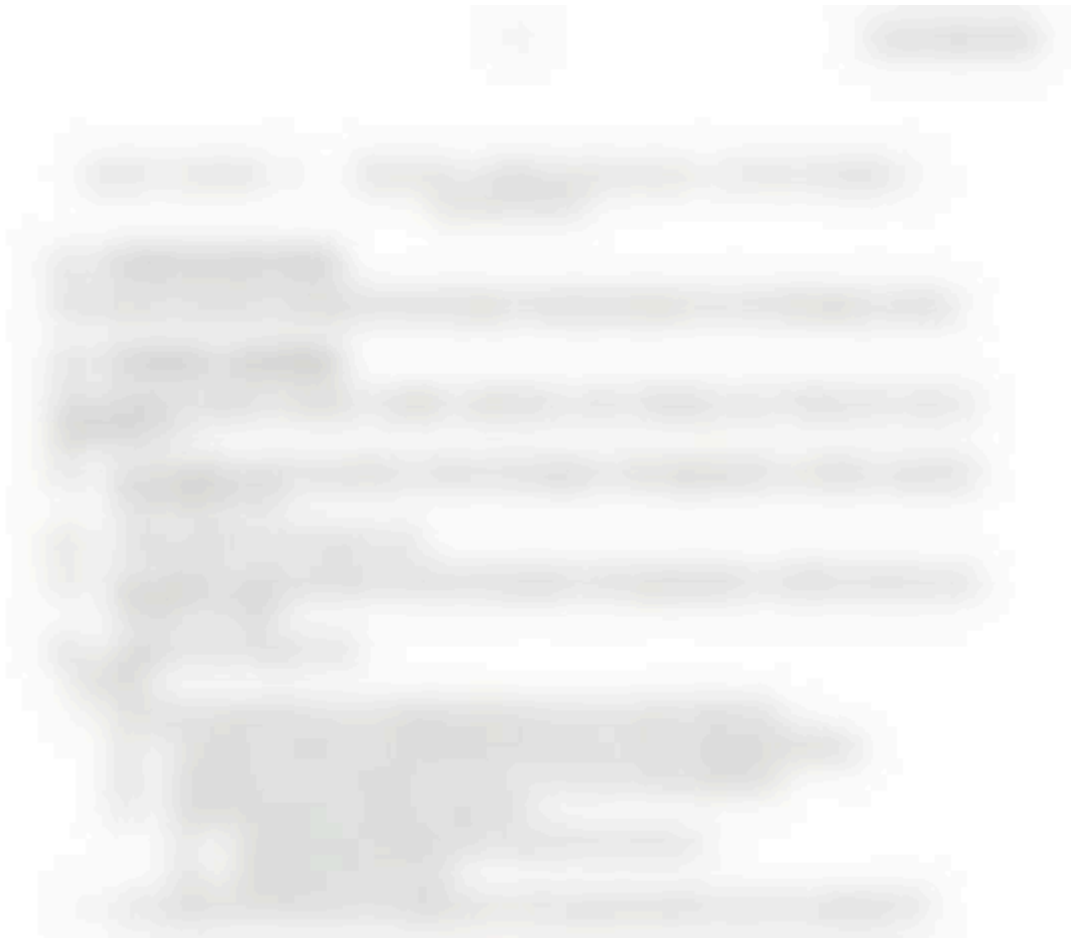
Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

AUSTRALIAN STANDARD (AS) -3500 – ROOF DRAINAGE SYSTEM DESIGN



Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld

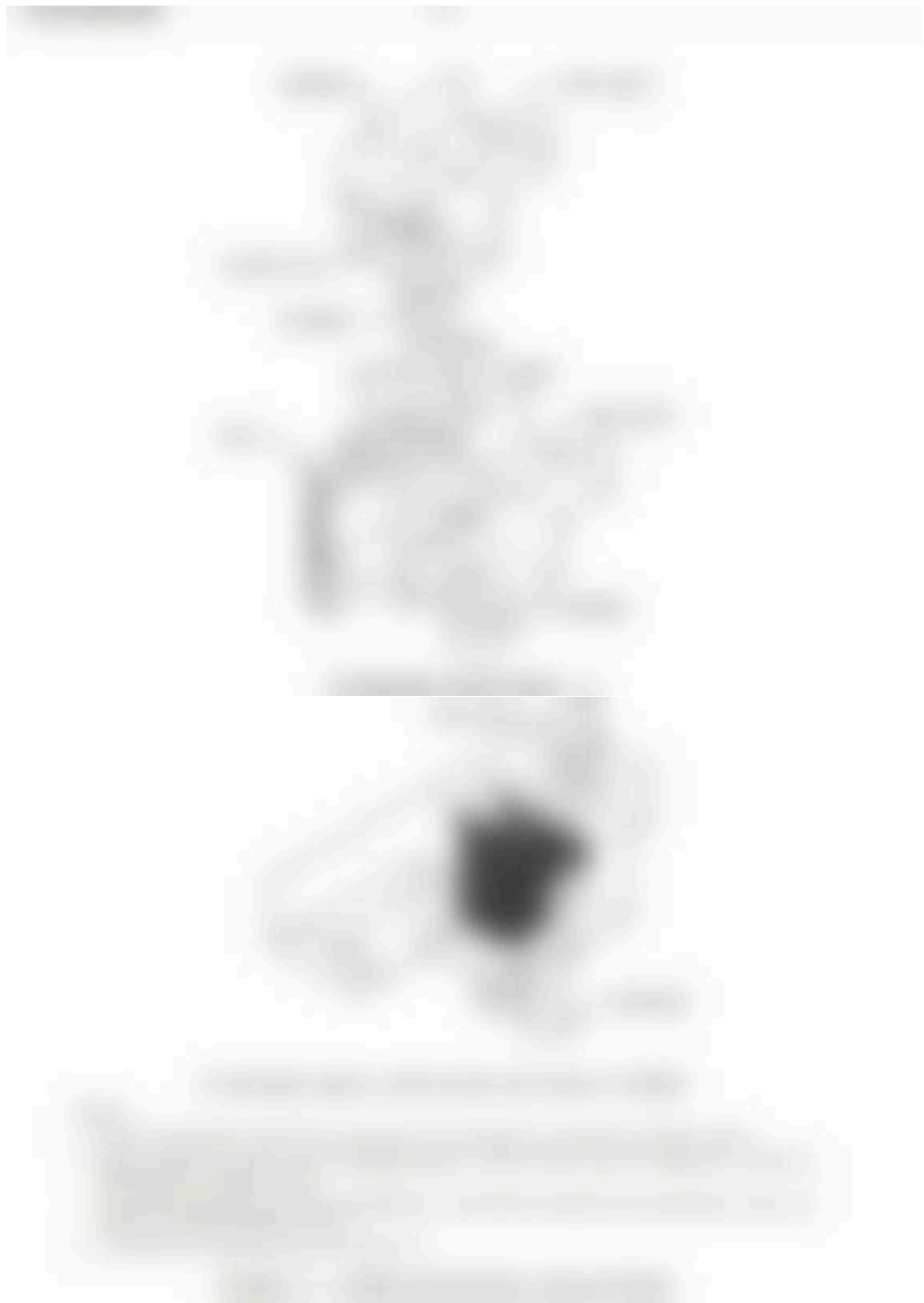
Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]



Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

MUNICIPAL COUNCIL COMPLIANCE INSPECTION RESULT

DATED 2ND DECEMBER 2024

CIVIL ENGINEERS INCOMPLETE WORKS SUMMARRY IN EMAIL

DATED 2ND DECEMBER 2024



Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

Other items

1. Could not open Pit5's downstream chamber gatic pit lid; cannot verify if there are **two 100mm dia 'house drain' pipe outlets**.
2. Cannot verify the **house drain connection** is done correctly into the Council drainage system, it is buried in the nature strip.
3. Cannot determine the **levels** and ensure that the pits and pipes was constructed to the endorsed plans.
4. Cannot access the rear of the site, could see that there is a **rainwater tank** – but the capacity is not determined; and nor could we determine the two 'charged' downpipes discharging into Unit1's rainwater tank.
5. The inspection opening/pipe riser that is located at the north-west corner of the site, it is unclear what purpose it has without CCTV confirming this; there seems to be some sort of channel at the bottom.



LICENCED PLUMBING SUB-CONTRACTOR AND ROOF QUOTATION FOR REPAIR BASED ON INSPECTION



Insured Owner: Name withheld

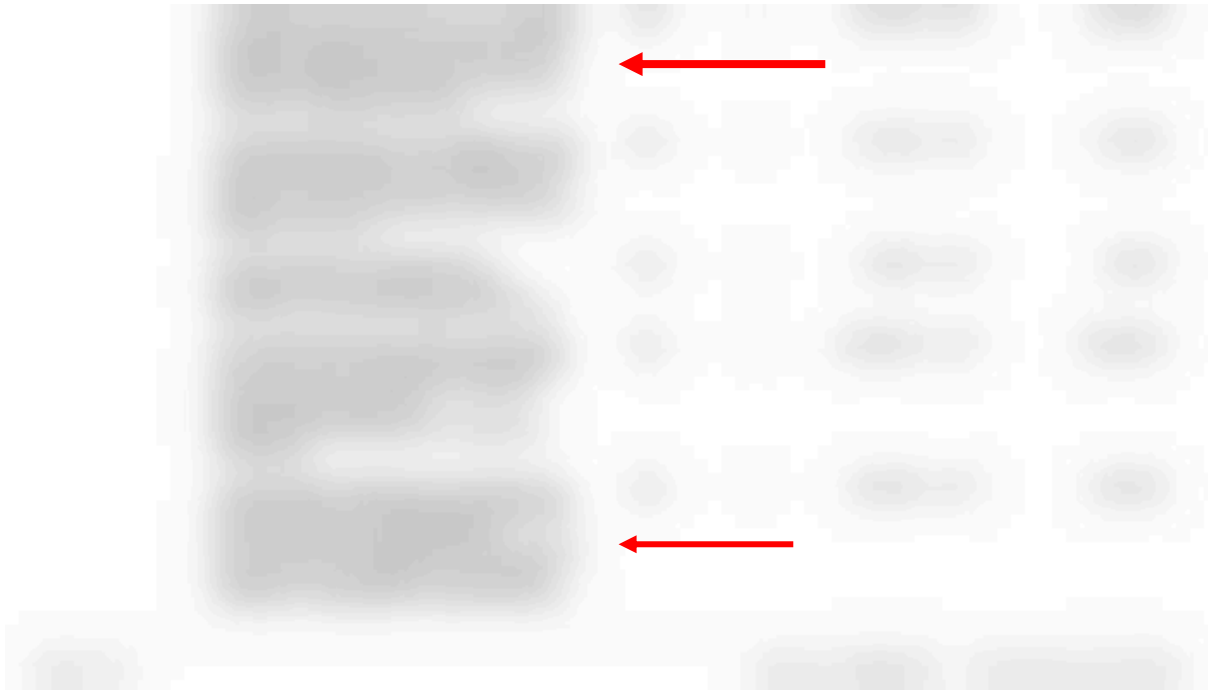
Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

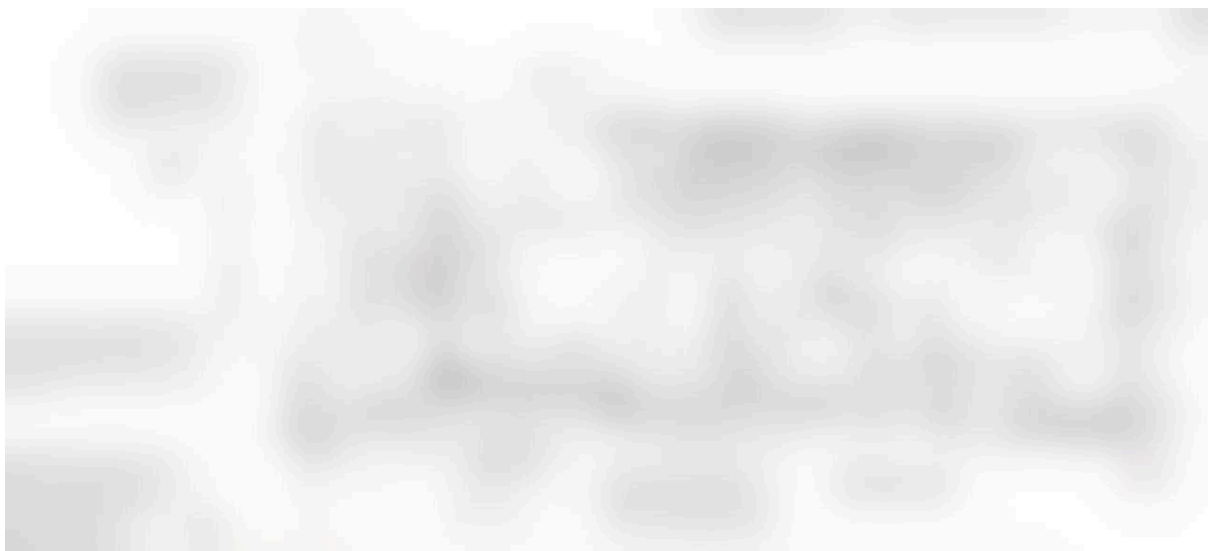


Tax	\$2,839.09
Total amount <i>including tax</i>	\$31,230.00

Page 2 of 2

Quote no: 000005548 Total amount: \$31,230.00

APPROVED AND STAMPED CIVIL DRAINAGE DESIGN BY [company withheld] AND ASSOCIATES DATED 20TH OCTOBER 2018.

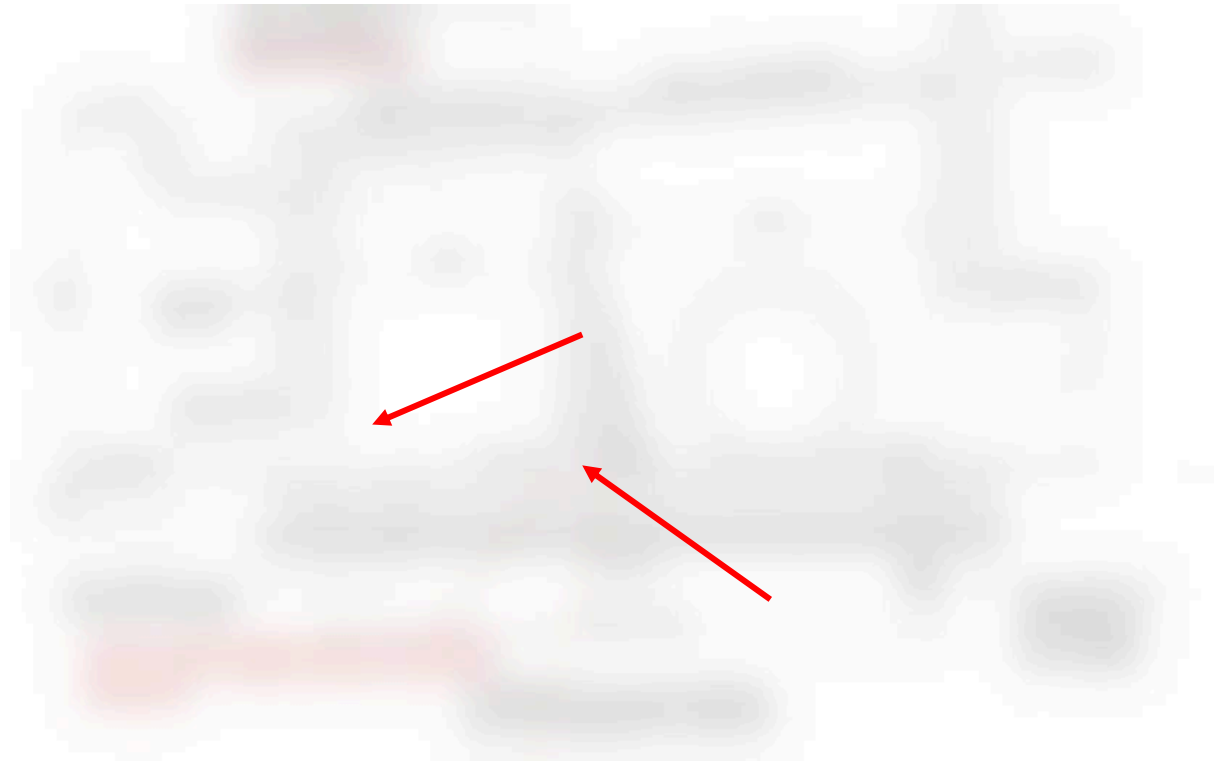


Insured Owner: Name withheld
Claim Number: [company withheld]
Address: Sample Property
Building Contractor: Name withheld

Suburb withheld Victoria
T/A [company withheld]

CIVIL DESIGN OF PIT 5 AND DRAINAGE POINT TO LEGAL POINT OF DISCHARGE (LPD).

NOTE THE 150MM DIAMETER PIPE TO BE CONFIRMED UNDERTAKEN BY THE BUILDING CONTRACTOR INTO THE COUNCIL KERB.



Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

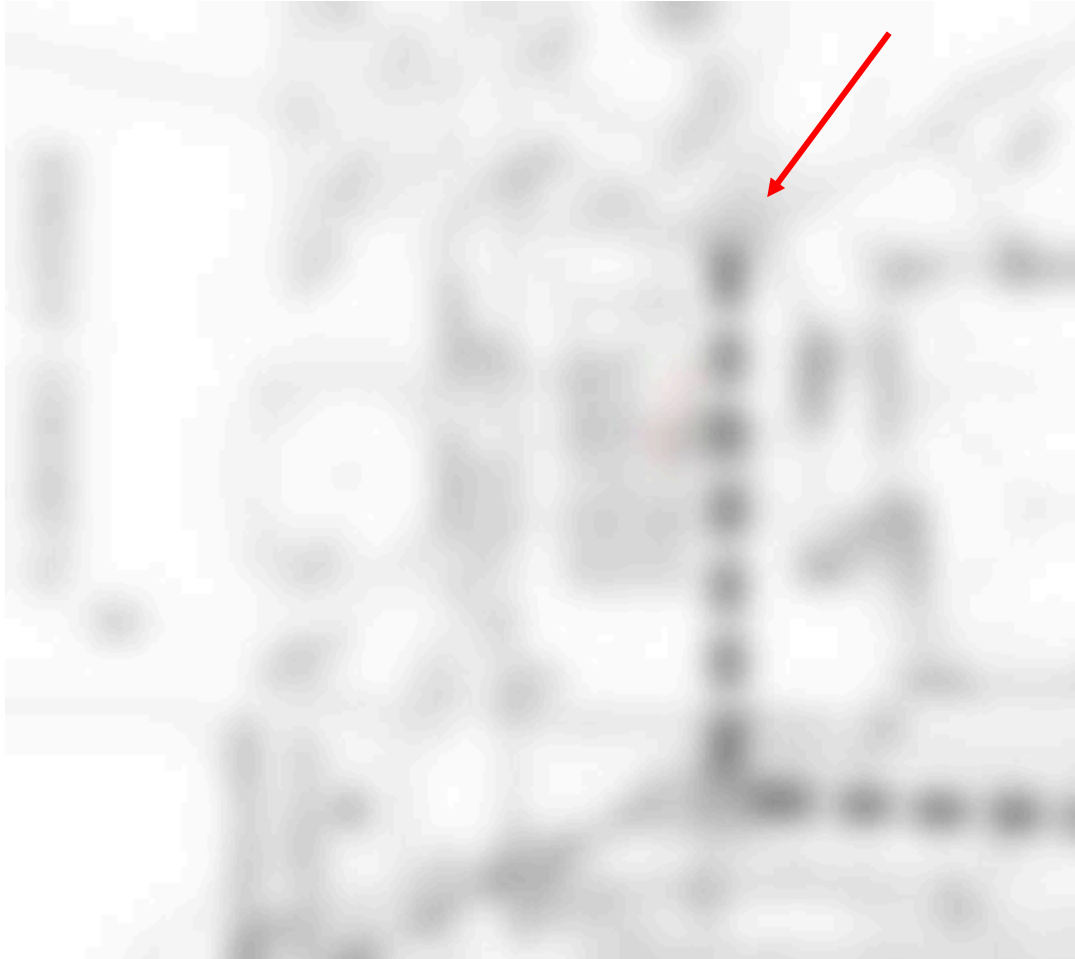
Suburb withheld Victoria

T/A [company withheld]

SITE DRAINAGE CIVIL PLAN INCLUDING SURFACE WATER

DRAINAGE PIT 4 POSITION MARKED IN RED.

THIS PIT HAS NOT BEEN INSTALLED ON 26TH NOVEMBER 2024 INSPECTION.



Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

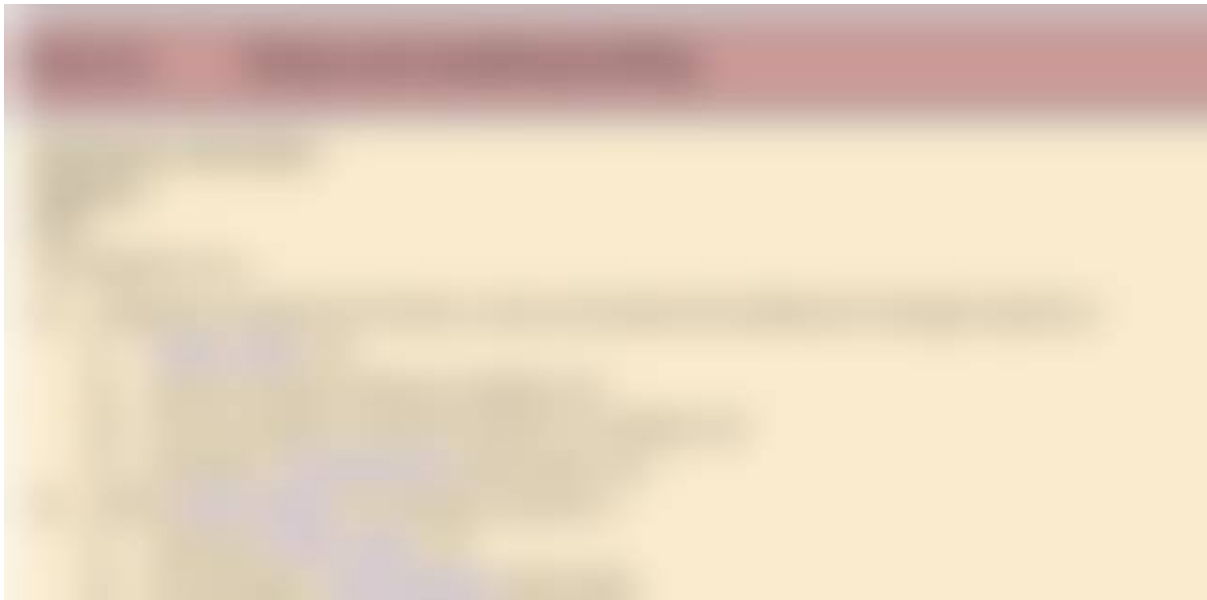
T/A [company withheld]

NCC (NATIONAL CONSTRUCTION CODE) 2016

BCA/NCC, PART 2.2



BCA/NCC, PART 2.2 DAMP & WEATHERPROOFING



BCA/NCC, PART 2.2.1



Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

AUTHORS CURRICULUM VITAE OF BRENDAN BROWN

QUALIFICATIONS AND EXPERTISE

Brendan John Brown is a qualified domestic and commercial builder. Currently registered as a Victorian Building Practitioner.

Brendan is qualified with a Diploma of Applied Science Building Construction in 1997. Entering the building industry in 1991 and has also worked within the domestic and commercial construction industry for the past 29 years.

As director of Highfield Group Australia Pty Ltd, PO Box 217, Surrey Hills VIC, he is currently working as a building consultant and project manager. Undertaking many projects as a builder, superintendent, project manager and building consultant providing technical and construction method advice and inspections for many projects.

Brendan has worked as a building consultant since 2007. Engaged for insurance warranty inspections. Undertaking many warranty claims for Censeo Building Consultants under QBE Warranty Insurance Division.

He has previously worked for Sergon Building Consultants in Sydney between 2007 and 2011, undertaken many investigations and causation reports for building damage, fault finding with damage and cost analysis for repair.

Currently he is engaged as a contract building consultant with Morse Building Consultancy Pty Ltd, Queensland since 2020.

Currently he is working as project manager on projects from high end homes in Balwyn \$5 million to large medium density projects in Bundoora 65 Town House development \$20million.

As a registered building practitioner since 2007 under the Victorian Building Authority, Brendan has completed many domestic and commercial projects.

- Sample Property Belmont, 36 Room Motel Commercial Refurbishment 2019-2020.
- Sample Property South Melbourne Commercial Office \$900K 2014-2015.
- Sample Property Preston 21 Unit Commercial Developments. \$2.8 Mil 2011-2012.
- Sample Property , Bentleigh Commercial Apartments \$1.5M 2014-2015.
- Sample Property , Bentleigh High End Domestic Home \$800K 2013-2014.
- Sample Property , Bentleigh High End Domestic Home \$900K 2011-2012.
- Sample Property , Sandhurst High End Domestic Home. (Display Home). \$500K 2008-2009.

Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]

Yours faithfully,



Brendan Brown

Independent Building Consultant

Diploma of Applied Science; Building Construction

Independent Building Consultant

VIC VBA Licence No - 38810.

Mobile - 1300 471 805

Insured Owner: Name withheld

Claim Number: [company withheld]

Address: Sample Property

Building Contractor: Name withheld

Suburb withheld Victoria

T/A [company withheld]