DEVELOPMENT APPLICATION

PDPLANPMTD-2026/063185

PROPOSAL: Dwelling

LOCATION: 42 Creese Drive, Richmond

RELEVANT PLANNING SCHEME: Tasmanian Planning Scheme - Clarence

ADVERTISING EXPIRY DATE: 14/09/2026 00:00:00

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 14/09/2026 00:00:00. In addition to legislative requirements, plans and documents can also be viewed at www.ccc.tas.gov.au during these times.

Any person may make representations about the application to the Chief Executive Officer, by writing to PO Box 96, Rosny Park, 7018 or by electronic mail to clarence@ccc.tas.gov.au. Representations must be received by Council on or before 14/09/2026 00:00:00.

To enable Council to contact you if necessary, would you please also include a day time contact number in any correspondence you may forward.

Any personal information submitted is covered by Council's privacy policy, available at www.ccc.tas.gov.au or at the Council offices.

City of Clarence
38 Bligh St Rosny Park
PO Box 96
Rosny Park TAS, 7018

03 6217 9500
clarence@ccc.tas.gov.au
ccc.tas.gov.au

Planning Application

Use this form to obtain planning approval for the use and development of land, including change of use, subdividing land into smaller lots, lot consolidation, or signage.

Please refer to the Planning Application checklist on the following pages to determine what documentation must be submitted with your application.

Proposal: New Residential Dwelling

Location: Lot 27 Creese Drive, Richmond

Personal Information Removed

exemptions may apply which may save you time on your proposal.

If you had pre-application discussions with City of Clarence, please provide planner's name:

Current use of site: Vacant Land

Does the proposal involve land administered or owned by the Crown or Council? Yes ☐ No ☒

Declaration

- I have read the Certificate of Title and Schedule of Easements for the land and am satisfied that this application is not prevented by any restrictions, easements or covenants.
- I authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation. I agree to arrange for the permission of the copyright owner of any part of this application to be obtained. I have arranged permission for Council's representatives to enter the land to assess this application
- I declare that, in accordance with Section 52 of the Land Use Planning and Approvals Act 1993, that I have notified the owner of the intention to make this application. Where the subject property is owned or controlled by Council or the Crown, their signed consent is attached.
- I declare that the information in this declaration is true and correct.

Acknowledgement

- I acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process; for display purposes during public consultation; and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.

Personal Information Removed

Planning Application checklist

Mandatory Documents
This information is required for the application to be valid. We are unable to proceed with an application without these documents.

- ☐ Details of the location of the proposed use or development.
- ☐ A copy of the current Certificate of Title, Sealed Plan, Plan or Diagram and Schedule of Easements and other restrictions for each parcel of land on which the use or development is proposed.
- ☐ Full description of the proposed use or development.
- ☐ Description of the proposed operation. May include where appropriate: staff/student/customer numbers; operating hours; truck movements; and loading/unloading requirements; waste generation and disposal; equipment used; pollution, including noise, fumes, smoke or vibration and mitigation/management measures.
- ☐ Declaration the owner has been notified if the applicant is not the owner.
- ☐ Crown or Council consent (if publically-owned land).
- ☐ Any reports, plans or other information required by the relevant zone or code.
- ☐ Fees prescribed by the City of Clarence.

Application fees (please phone 03 6217 9550 to determine what fees apply). An invoice will be emailed upon lodgement.

Additional Documents
In addition to the mandatory information required above, Council may, to enable it to consider an application, request further information it considers necessary to ensure that the proposed use or development will comply with any relevant standards and purpose statements in the zone, codes or specific area plan, applicable to the use or development.

- ☐ Site analysis and site plan, including where relevant:
  - Existing and proposed use(s) on site.
  - Boundaries and dimensions of the site.
  - Topography, including contours showing AHD levels and major site features.
  - Natural drainage lines, watercourses and wetlands on or adjacent to the site.
  - Soil type.
  - Vegetation types and distribution, and trees and vegetation to be removed.
  - Location and capacity of any existing services or easements on/to the site.
  - Existing pedestrian and vehicle access to the site.
  - Location of existing and proposed buildings on the site.
  - Location of existing adjoining properties, adjacent buildings and their uses.
  - Any natural hazards that may affect use or development on the site.
  - Proposed roads, driveways, car parking areas and footpaths within the site.
  - Any proposed open space, communal space, or facilities on the site.

- Main utility service connection points and easements.
- Proposed subdivision lot boundaries.

☐ Where it is proposed to erect buildings, detailed plans with dimensions at a scale of 1:100 or 1:200 showing:
- Internal layout of each building on the site.
- Private open space for each dwelling.
- External storage spaces.
- Car parking space location and layout.
- Major elevations of every building to be erected.
- Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites.
- Relationship of the elevations to natural ground level, showing any proposed cut or fill.
- Materials and colours to be used on rooves and external walls.

☐ Where it is proposed to erect buildings, a plan of the proposed landscaping showing:
- Planting concepts.
- Paving materials and drainage treatments and lighting for vehicle areas and footpaths.
- Plantings proposed for screening from adjacent sites or public places.

☐ Any additional reports, plans or other information required by the relevant zone or code.

This list is not comprehensive for all possible situations. If you require further information about what may be required as part of your application documentation, please contact City of Clarence Planning team on (03) 6217 9550.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
189888	27
EDITION	DATE OF ISSUE
1	02-Jan-2026

SEARCH DATE : 25-June-2026
SEARCH TIME : 03.43 pm

DESCRIPTION OF LAND

City of CLARENCE
Lot 27 on Sealed Plan 189888
Derivation : Part of 569A-2R-0P Gtd. to Thomas Daniel Cosgrove
Prior CT 189511/103

SCHEDULE 1

M932992 & M933512 TRANSFER to JAC MULTI ASSET PTY LTD
Registered 27-May-2022 at 12.02 pm

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP189888 COVENANTS in Schedule of Easements
SP189888 FENCING PROVISION in Schedule of Easements
SP184978, SP186408, SP186867, SP187236 & SP189511 COVENANTS in Schedule of Easements
SP186408, SP186867, SP187236 & SP189511 FENCING PROVISION in Schedule of Easements
SP11304 & SP184978 FENCING COVENANT in Schedule of Easements

UNREGISTERED DEALINGS AND NOTATIONS

N226517 PRIORITY NOTICE reserving priority for 90 days
TRANSFER JAC MULTI ASSET PTY LTD to WILSON HOMES TASMANIA PTY LTD Lodged by PAGE SEAGER on 18-May-2026 BP: N226517

OWNER: JAC MULTI ASSET PTY LTD

FOLIO REFERENCE: CT.189511/103

GRANTEE: PART OF 569A–2R–0P GRANTED TO THOMAS DANIEL COSGROVE & PART OF 5A–1R–22P GRANTED TO CATHERINE SHELVERTON & BRIDGET WARTON

PLAN OF SURVEY

BY SURVEYOR SAMUEL FRANKLIN HARVEY
ROGERSON AND BIRCH SURVEYORS
UNIT 1 – 2 KENNEDY DRIVE, CAMBRIDGE PARK
PH 6248–5898 MOB. 0402–476–360

CITY OF CLARENCE

SCALE 1:1500 LENGTHS IN METRES

REGISTERED NUMBER
SP189888

~~APPROVED~~ EFFECTIVE FROM - 2 JAN 2026

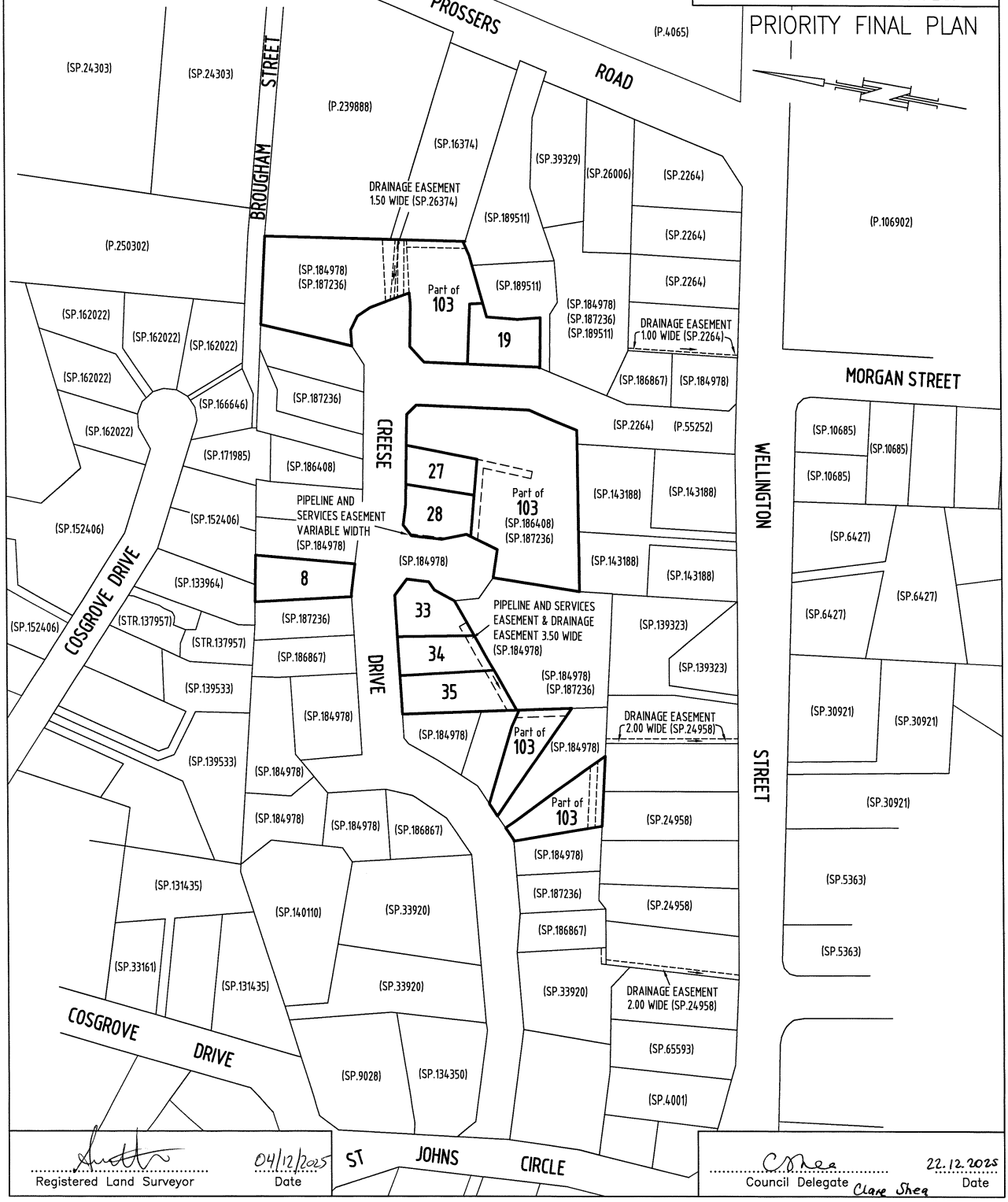
Recorder of Titles

LOT 103 IS COMPILED FROM CT.189511/103 & THIS SURVEY

INDEX PLAN

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

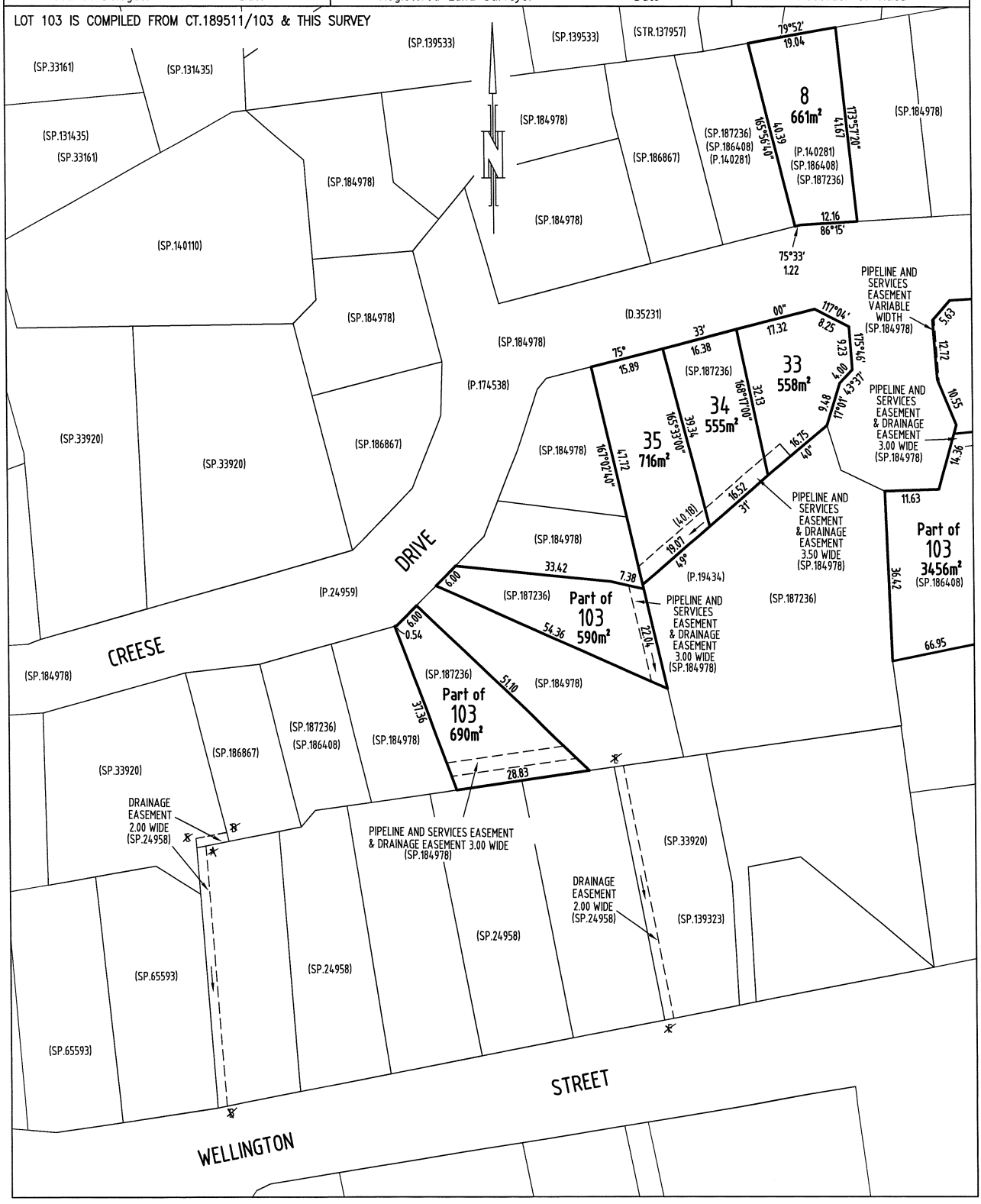
PRIORITY FINAL PLAN



Registered Land Surveyor — 04/12/2025 Date

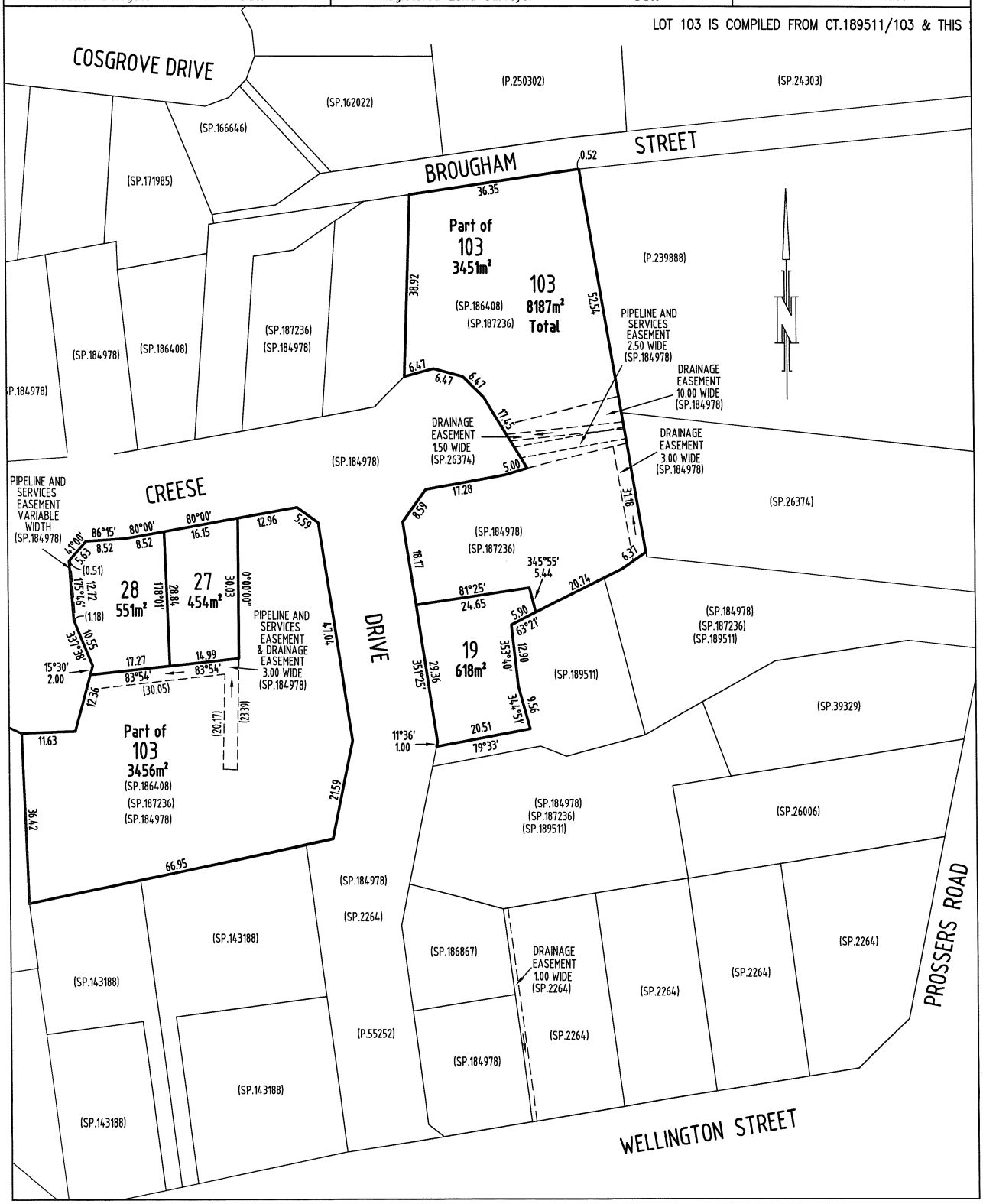
Council Delegate Clare Shea — 22.12.2025 Date

PLAN OF SURVEY ANNEXURE SHEET SHEET 1 OF 2 SHEETS	OWNER: JAC MULTI ASSET PTY LTD FOLIO REFERENCE: CT.189511/103 SCALE 1:750 LENGTH IN METRES	Registered Number SP 189888
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 22.12.2025 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 04/12/2025 Date	~~APPROVED~~ EFFECTIVE FROM - 2 JAN 2026 Recorder of Titles



PLAN OF SURVEY ANNEXURE SHEET SHEET 2 OF 2 SHEETS	OWNER: JAC MULTI ASSET PTY LTD FOLIO REFERENCE: CT.189511/103 SCALE 1:750 LENGTH IN METRES	Registered Number SP 189888
SIGNED FOR IDENTIFICATION PURPOSES CMee 22.12.2025 Council Delegate Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. 04/12/2025 Registered Land Surveyor Date	~~APPROVED~~ EFFECTIVE FROM - 2 JAN 2026 Recorder of Titles

LOT 103 IS COMPILED FROM CT.189511/103 & THIS



SCHEDULE OF EASEMENTS1	Registered Number
NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.	SP 189888

EASEMENTS AND PROFITS

Each lot on the plan is together with:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
(2) any easements or profits a prendre described hereunder.
Each lot on the plan is subject to:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
(2) any easements or profits a prendre described hereunder.
The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

Drainage

Lots 33, 34, 35 are SUBJECT TO a right of drainage in gross (in favour of Clarence City Council) over the land marked "PIPELINE AND SERVICES EASEMENT & DRAINAGE EASEMENT 3.50 WIDE (SP.184978)" passing through such lot on the plan.

Lot 103 is SUBJECT TO a right of drainage in gross (in favour of Clarence City Council) over the land marked "PIPELINE AND SERVICES EASEMENT & DRAINAGE EASEMENT 3.00 WIDE (SP.184978)" passing through such lot on the plan.

That part of Lot 103 formerly comprised in Lot 1 on P174538 is TOGETHER WITH a right of drainage over the land marked "DRAINAGE EASEMENT 2.00 WIDE (SP.24958)" on the plan.

That part of Lot 103 formerly comprised in Lot 1 on D40183 is TOGETHER WITH a right of drainage over the land marked "DRAINAGE EASEMENT 1.00 WIDE (SP.2264)" on the plan.

Lot 103 is SUBJECT TO a right of drainage in gross (in favour of Clarence City Council) over the land marked "DRAINAGE EASEMENT 1.50 WIDE (SP.26374)" passing through that lot on the plan.

Lot 103 is SUBJECT TO a right of drainage in gross (in favour of Clarence City Council) over the land marked "DRAINAGE EASEMENT 10.00 WIDE (SP.184978) " passing through that lot on the plan.

Lot 103 is SUBJECT TO a right of drainage in gross (in favour of Clarence City Council) over the land marked "DRAINAGE EASEMENT 3.00 WIDE (SP.184978)" passing through that lot on the plan.

Taswater

Lots 33, 34, 35 are SUBJECT TO a pipeline and services easement in gross (in favour of TasWater) over the land marked "PIPELINE AND SERVICES EASEMENT & DRAINAGE EASEMENT 3.50 WIDE (SP.184978)" ("the Easement Land") passing through that lot on the plan.

(USE ANNEXURE PAGES FOR CONTINUATION)

SUBDIVIDER: JAC MULTI ASSET P/L FOLIO REF: 189511/103 SOLICITOR: BUTLER McINTYRE & BUTLER (JS:252694)	PLAN SEALED BY: CLARENCE CITY COUNCIL DATE: 22nd December 2025 2019-003190 & 2024/046803 REF NO. Clare Shea Council Delegate
NOTE: The Council Delegate must sign the Certificate for the purposes of identification.	

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ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 2 OF 4 PAGES	Registered Number SP 189888
SUBDIVIDER: JAC MULTI ASSET P/L FOLIO REFERENCE: 189511/103	

Lot 103 is SUBJECT TO a pipeline and services easement in gross (in favour of TasWater) over the land marked "PIPELINE AND SERVICES EASEMENT & DRAINAGE EASEMENT 3.00 WIDE (SP.184978)" ("the Easement Land") passing through that lot on the plan.

Lot~~s~~ 28 ~~& 103 are~~ is SUBJECT TO a pipeline and services easement in gross (in favour of TasWater) over the land marked "PIPELINE AND SERVICES EASEMENT VARIABLE WIDTH (SP.184978)" ("the Easement Land") passing through that lot on the plan.

Lot 103 is SUBJECT TO a pipeline and services easement in gross (in favour of TasWater) over the land marked "PIPELINE AND SERVICES EASEMENT 2.50 WIDE (SP.184978)" ("the Easement Land") passing through that lot on the plan.

FENCING PROVISION
In respect to the lots on the plan the vendor (JAC Multi Asset Pty Ltd) shall not be required to fence

INTERPRETATION
"**TasWater**" means Tasmanian Water & Sewerage Corporation Pty Ltd (ACN 162 220 653) its successors and assigns

"**Pipeline and Services Easement**" means-
FIRSTLY, THE FULL AND FREE RIGHT AND LIBERTY for TasWater and its employees, contractors, agents and all other persons duly authorised by it, at all times to:

(1) enter and remain upon the Easement Land with or without machinery, vehicles, plant and equipment;
(2) investigate, take soil, rock and other samples, survey, open and break up and excavate the Easement Land for any purpose or activity that TasWater is authorised to do or undertake;
(3) install, retain, operate, modify, relocate, maintain, inspect, cleanse, repair, remove and replace the Infrastructure;
(4) run and pass sewage, water and electricity through and along the Infrastructure;
(5) do all works reasonably required in connection with such activities or as may be authorised or required by any law:
    (a) without doing unnecessary damage to the Easement Land; and
    (b) leaving the Easement Land in a clean and tidy condition;
(6) if the Easement Land is not directly accessible from a highway, then for the purpose of undertaking any of the preceding activities TasWater may with or without employees, contractors, agents and any other persons authorised by it, and with or without machinery, vehicles, plant and equipment enter the Lot from the highway at any vehicle entry and cross the Lot to the Easement Land; and
(7) use the Easement Land as a right of carriageway for the purpose of undertaking any of the preceding purposes on other land, TasWater reinstating any damage that it causes in doing so to any boundary fence of the Lot.

Director: ..... **Director:** .....

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

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ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 3 OF 4 PAGES	Registered Number SP 189888
SUBDIVIDER: JAC MULTI ASSET P/L FOLIO REFERENCE: 189511/103	

SECONDLY, the benefit of a covenant in gross for TasWater with the registered proprietor/s of the Easement Land and their successors and assigns not to erect any building, or place any structures, objects, vegetation, or remove any thing that supports, protects or covers any Infrastructure on or in the Easement Land, without the prior written consent of TasWater to the intent that the burden of the covenant may run with and bind the servient land and every part thereof and that the benefit thereof may be annexed to the easement herein described.

"**Infrastructure**" means infrastructure owned or for which TasWater is responsible and includes but is not limited to:

(a) sewer pipes and water pipes and associated valves;
(b) telemetry and monitoring devices;
(c) inspection and access pits;
(d) electricity assets and other conducting media (excluding telemetry and monitoring devices);
(e) markers or signs indicating the location of the Easement Land or any other Infrastructure or any warnings or restrictions with respect to the Easement Land or any other Infrastructure;
(f) anything reasonably required to support, protect or cover any other Infrastructure;
(g) any other infrastructure whether of a similar nature or not to the preceding which is reasonably required for the piping of sewage or water, or the running of electricity, through the Easement Land or monitoring or managing that activity; and
(h) where the context permits, any part of the Infrastructure.

RESTRICTIVE COVENANTS

Lots 8, ~~16~~, 19, 27, 28, 33, 34 & 35 (103) are subject to the covenants in SP186867, SP187236 and SP 189511 as follows;

1. Not to make any or permit or suffer the making of any alterations to the finished surface levels of the overland flowpath, swale drain or catch drain constructed within the area marked DRAINAGE EASEMENT 10.00 WIDE on the plan without prior consent in writing of Clarence City Council.

2. Not to make or permit or suffer the placement of any fencing within the drainage easement area with the exception of open style fencing that does not obstruct surface flows to or within the area marked DRAINAGE EASEMENT' 10.00 WIDE on the plan.

3. Not to make or permit or suffer the placement of any wall, structure, landscaping, or vegetation, with the exception of grass or turf within the area marked DRAINAGE EASEMENT 10.00 WIDE on the plan.

Director: ..... **Director:** .....

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

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ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 4 OF 4 PAGES	Registered Number SP 189888
SUBDIVIDER: JAC MULTI ASSET P/L FOLIO REFERENCE: 189511/103	

Executed by **JAC MULTI ASSET PTY LTD (ACN 636 512 082)**
pursuant to section 127(1) Corporations Act (Cth) 2001 by-

PETR KRIZ
Name of Director

Signature of Director

DEAN MURRAY COCKER
Name of Director

Signature of Director

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

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FLOOD HAZARD REPORT

LOT 32 – CREESE DRIVE, RICHMOND

CLARENCE CITY COUNCIL
12 AUGUST 2024

TABLE OF CONTENTS

Issuing Office: 117 Harrington Street, Hobart 7000 **JMG Project No. J240352CS**								
Document Issue Status								
Ver.	**Issue Date**	**Description**	**Originator**		**Checked**		**Approved**	
1	19.08.2024	DRAFT ISSUE FOR CLIENT REVIEW	CG		JB		CJM	
2	04.09.2024	DA ISSUE	CG		JB		CJM	

1. Introduction

JMG Engineers & Planners have been engaged by the JAC Group to conduct a Flood Hazard Report for Lot 32, Creese Drive, Richmond. This report forms the basis for a two-lot subdivision (Lot 32A and Lot 32B) development application to be submitted to Clarence City Council.

The flood hazard report has been prepared in accordance with clause C12.3.1 of Code 12.0 (Flood-Prone Areas Hazard) and incorporates the latest survey information. The study follows the guidelines of the Tasmanian Planning Scheme and references an existing Concept Services Report, which has been issued by JMG (30.07.2019) and has been accepted by Clarence City Council under the planning permit PDPLANPMTD-2019/003190. This report includes a comprehensive hydrological analysis of the site (see Appendix A). Additionally, a 2D analysis of unsteady flow has been performed using HEC-RAS to assess the range of potential flood risks at the site.

2. Tasmanian Planning Scheme (TPS) – Sorell

2.1 Flood Prone Areas Hazard Code - Purpose

The overarching objective of this report is to ensure the purpose of the code is met.

C12.1 Code Purpose

The purpose of the Flood-Prone Areas Hazard Code is:

C12.1.1 - To ensure that use or development subject to risk from flood is appropriately located and managed, so that:

a) People, property, and infrastructure are not exposed to an unacceptable level of risk.
b) Future costs associated with options for adaptation, protection, retreat or abandonment of property and infrastructure are minimised.
c) it does not increase the risk from flood to other land or public infrastructure.

C12.1.2 - To preclude development on land that will unreasonably affect flood flow or be affected by permanent or periodic flood.

2.2 Flood Prone Areas Hazard Code – Technical Detail

As this report intends to support the development of Standard Subdivision Lots, the relevant condition is C12.7 – Development Standards for Subdivision.

C12.7.1 Subdivision within a flood-prone hazard area.

Objective: That subdivision within a flood-prone hazard area does not create an opportunity for use or development that cannot achieve a tolerable risk from flood

2.3 Flood Prone Areas Hazard Code – Interpretation

In summary, to comply with regulations, any lot proposed in a flood-prone area must not enable development that cannot tolerate flood risks. This entails considering various factors such as the potential increase in flood risk for adjacent lands, the impact on public

infrastructure, the necessity to minimise future remediation efforts, potential access loss due to flooding, the importance of siting buildings outside flood-prone zones, and guidance from relevant authorities and flood hazard reports. Adhering to these criteria ensures that development within flood-prone areas is conducted in a manner that mitigates risks and promotes safety and resilience.

2.4 "Tolerable Risk"

A tolerable risk is defined as the lowest level of likely risk from the relevant hazard:

- *a) to secure the benefits of a use or development in a relevant hazard area; and*
- *b) which can be managed through:*
  - *i. routine regulatory measures; or*
  - *ii. by specific hazard management measures for the intended life of each use or development.*

When considering the 'lowest level of likely risk' it is useful to review the proposed development and its intended use against the Hazard Rating curves. Flood Hazard Rating is typically based on inundation depth and flow velocity as per *'Updating National Guidance on Best Practice Flood Risk Management (D. McLuckie et al., 2014)*, but it is important to note that these charts alone cannot exclusively define the level of risk associated with a development. Decisions regarding tolerable risk are more nuanced and often come down to engineering judgment.

3. Existing Parameters

The site is located on Creese Drive, Richmond, and covers a total area of 2,655 m^2. The natural surface grades at approximately 5% from both the western and eastern boundaries towards a central drainage path, which directs overland flow south through 35/37/37A Wellington Street to an existing creek. The flow path is approximately 3 meters wide and 65 meters long, with a 1% longitudinal fall. It is proposed that a 10m wide easement will be located centrally over this flow path, which will be on the western boundary of proposed lot 32B.

The present study will specifically examine the extent of possible flooding through Lot 32 during a 1% Annual Exceedance Probability (AEP) stormwater event, accounting for an 18.3% climate change factor (1% AEP + CC).

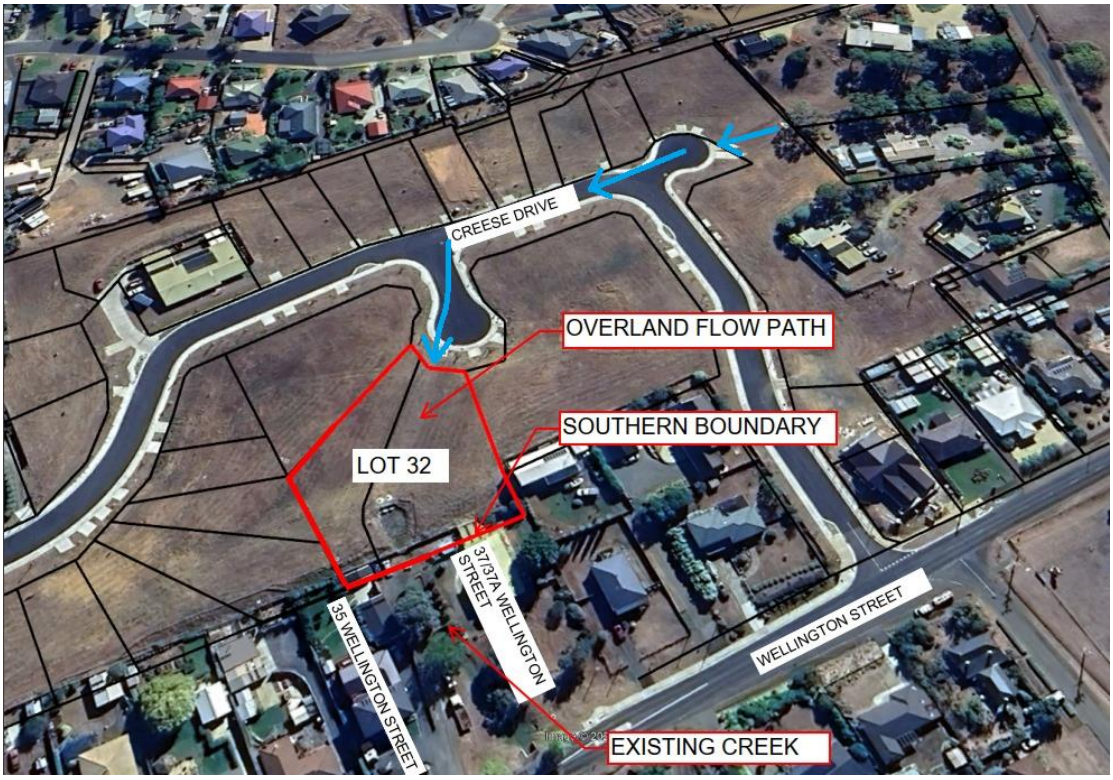

Figure 1: Site Locality Plan and Overland Flow Scheme

4. Hydrological and Runoff Peak Analysis

The hydrological study and hydrographs utilized in this report are based on the approved JMG report under application PDPLANPMTD-2019/003190 (Appendix A), specifically Section 11 (Drainage Results).

- 1% AEP + Climate Change = 4.65 m^3/s
- 5% AEP = 2.05 m^3/s

Given that the existing stormwater system is designed to accommodate the 5% AEP event, this study has considered the runoff as the difference between the 1% AEP + Climate Change scenario and the 5% AEP scenario. Consequently, the adopted peak runoff over a 6-hour period is approximately 2.60 m^3/s.

4.1 HEC-RAS (Overland Flow - 2D Analysis)

A HEC-RAS model has been used to undertake a 2D unsteady flow analysis using the overland peak flow from Section 4 of this report. The software is an ARR-recognised 2D modelling program, ideal for overland flows, depths, velocities and overland flood extents.

4.2 Surface, Geometry and Flow Boundaries

The analysed surface has been built considering the surface condition described in section 3. In addition, the geometry mesh has been defined as an appropriate region surrounding the watercourse.

The inflow and outflow set a suitable distance upstream and downstream from the target modelling area to ensure that the model has time to stabilise at the upstream end and is not influenced by backwater at the downstream end. The inflow boundary has been designated at the upstream end of Creese Drive, directing runoff towards the road and going through the site.

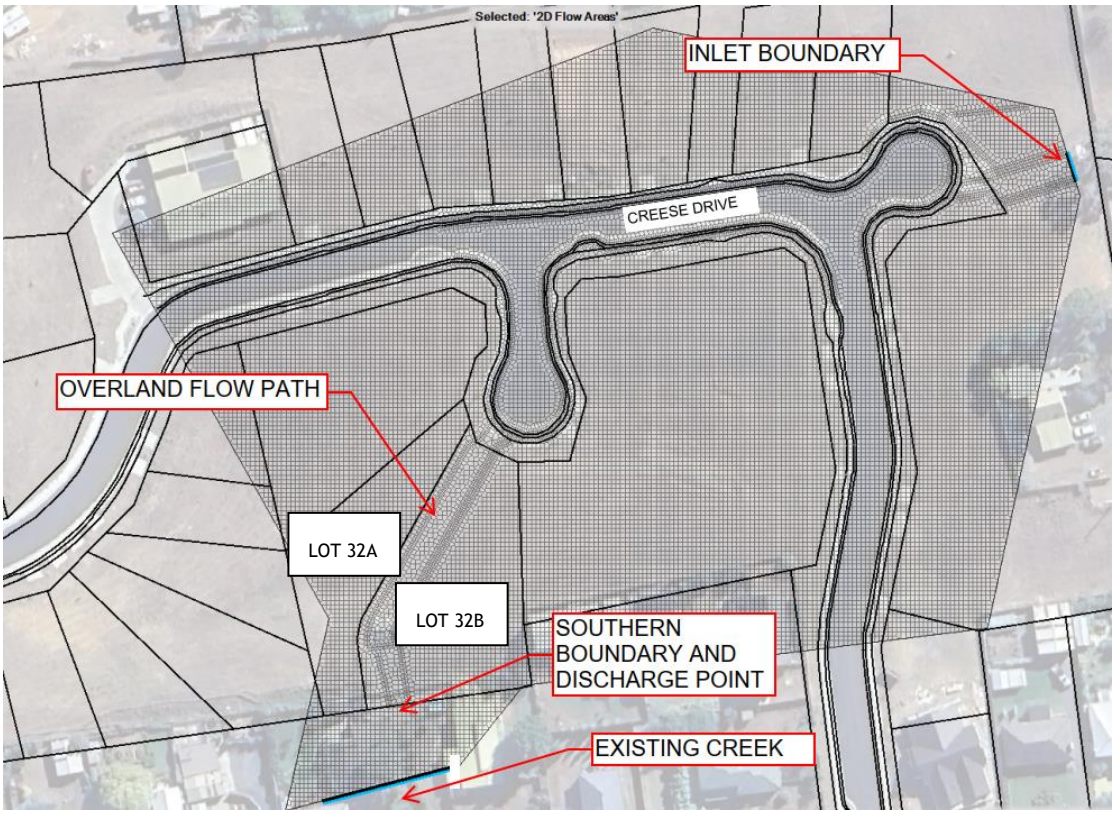

Figure 2: Inflow/Outflow Boundaries Scheme

Lastly, the model considers the following Mannings values:

- Roads, Driveway and Impervious Surfaces = 0.018
- Short Vegetation = 0.035

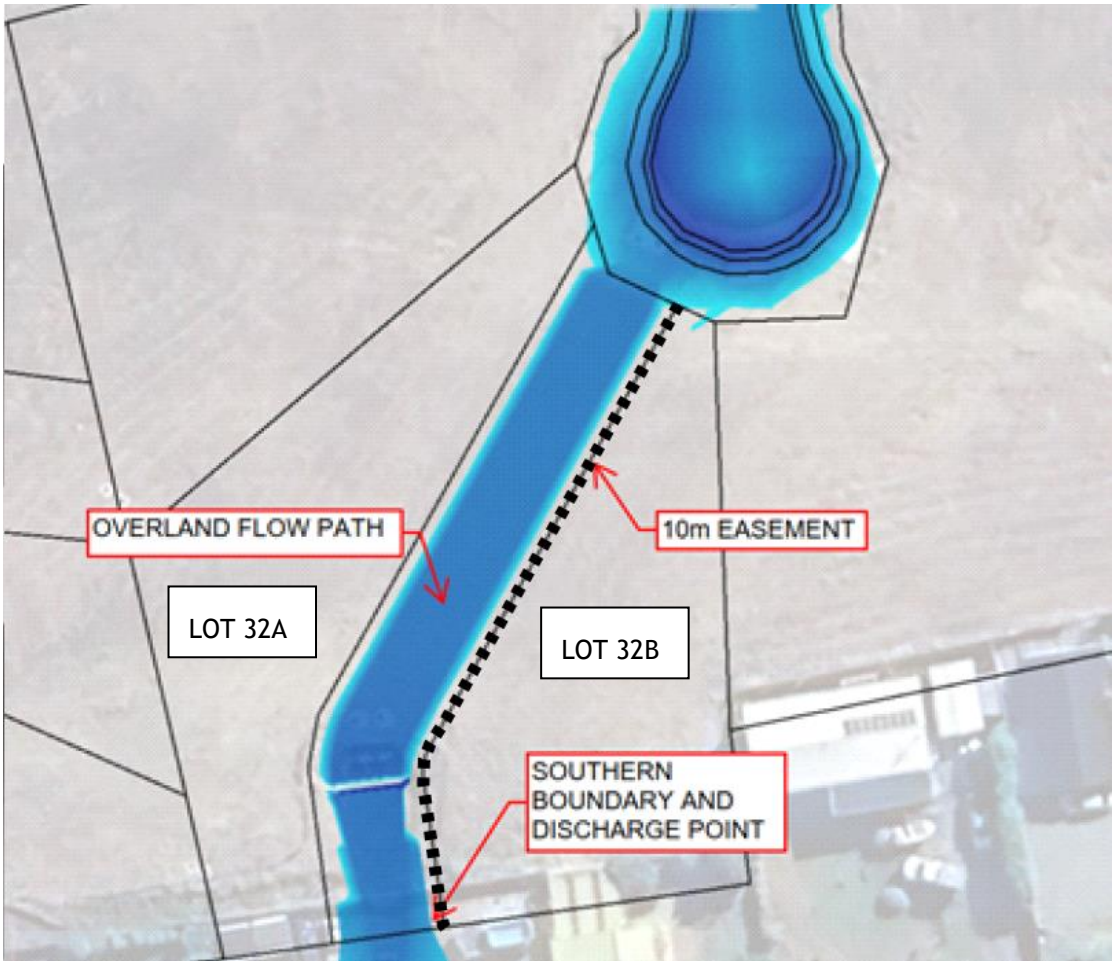

Figure 3: JMG - Flood Extents (1% AEP + CC)

It is evident that lot 32B, east of the 10m easement zone and 32A is outside the 1% AEP + CC (Annual Exceedance Probability with Climate Change) flood-prone area and demonstrates the proposed easement can adequately accommodate this condition. This proposed boundary arrangement is favourable to the subdivision development.

5. Flood Hazard Analysis

Flood Risk Hazard Levels are typically based on inundation depth and flow velocity per the following graphic and table from 'Updating National Guidance on Best Practice Flood Risk Management (D. McLuckie et al., 2014).

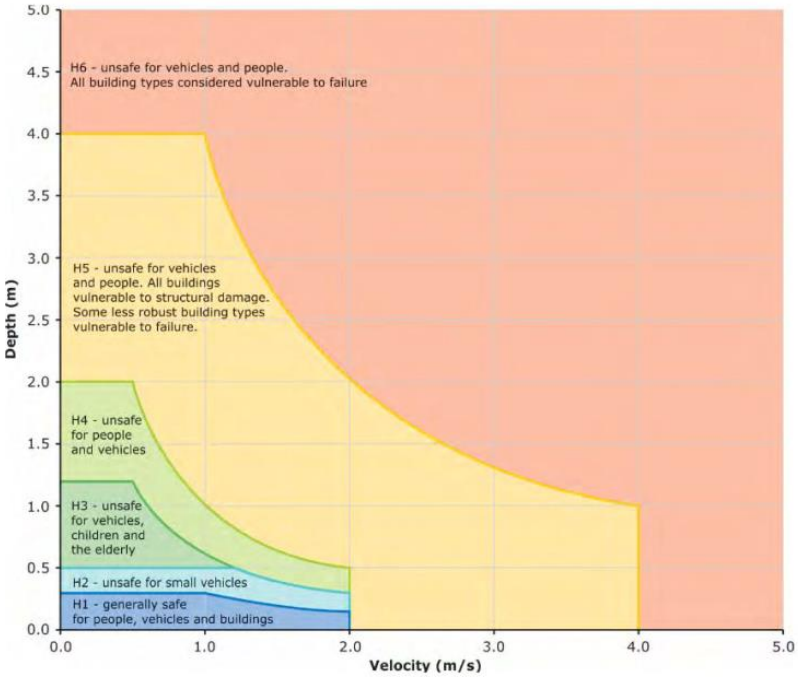

Figure 4: Combined Flood Hazard Curve Classification

Despite both envelopes being situated outside the 1% AEP + CC boundary extents, the lots are still susceptible to runoff from the calculated event along the 10m central easement. Figures 5 to 7 show the inundation depth, velocity and subsequent hazard rating.

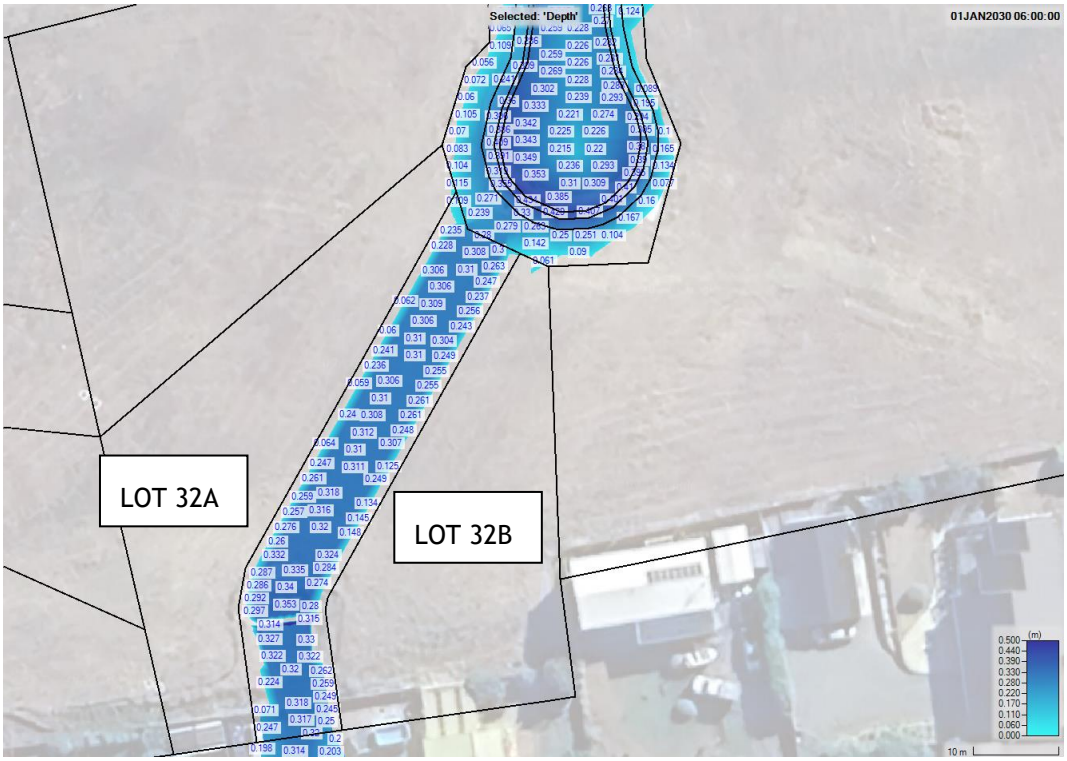

Figure 5: Screenshot from HEC-RAS (Maximum Depth 1%AEP + CC)

I:__PROJECTS\CS\2024\J240352CS - Lot 32 Creese Drive Richmond

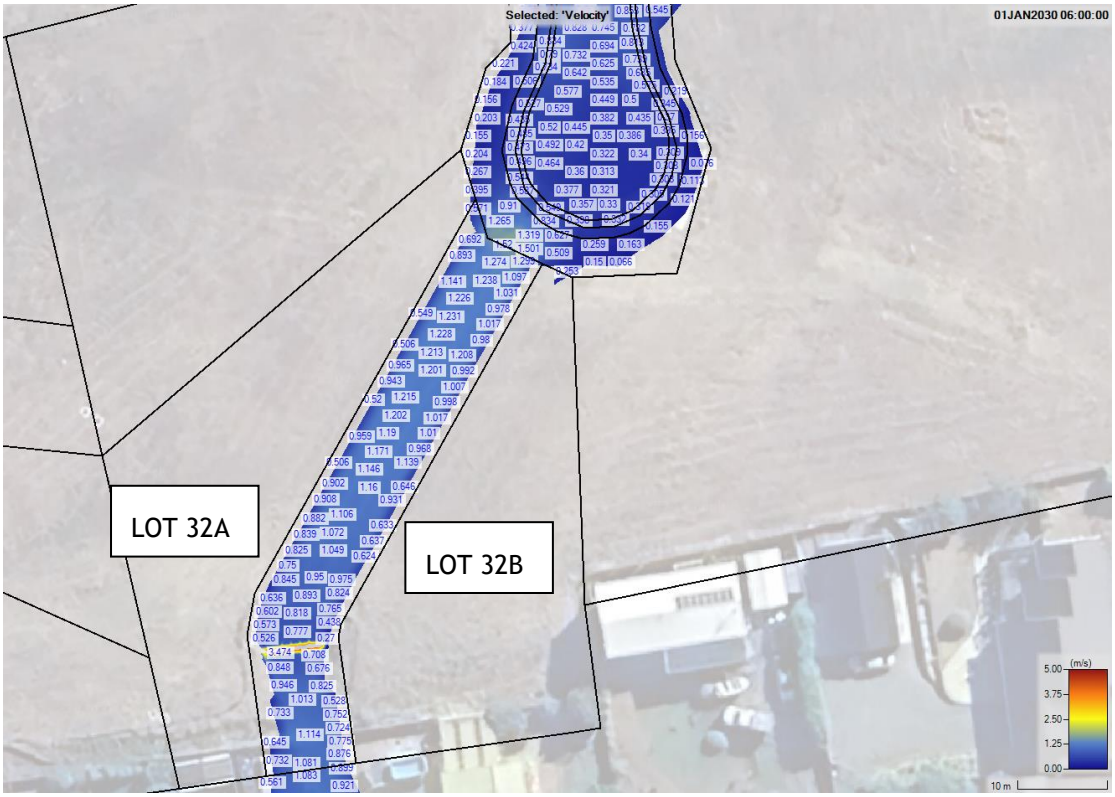

Figure 6: Screenshot from HEC-RAS (Maximum Velocity 1%AEP + CC)

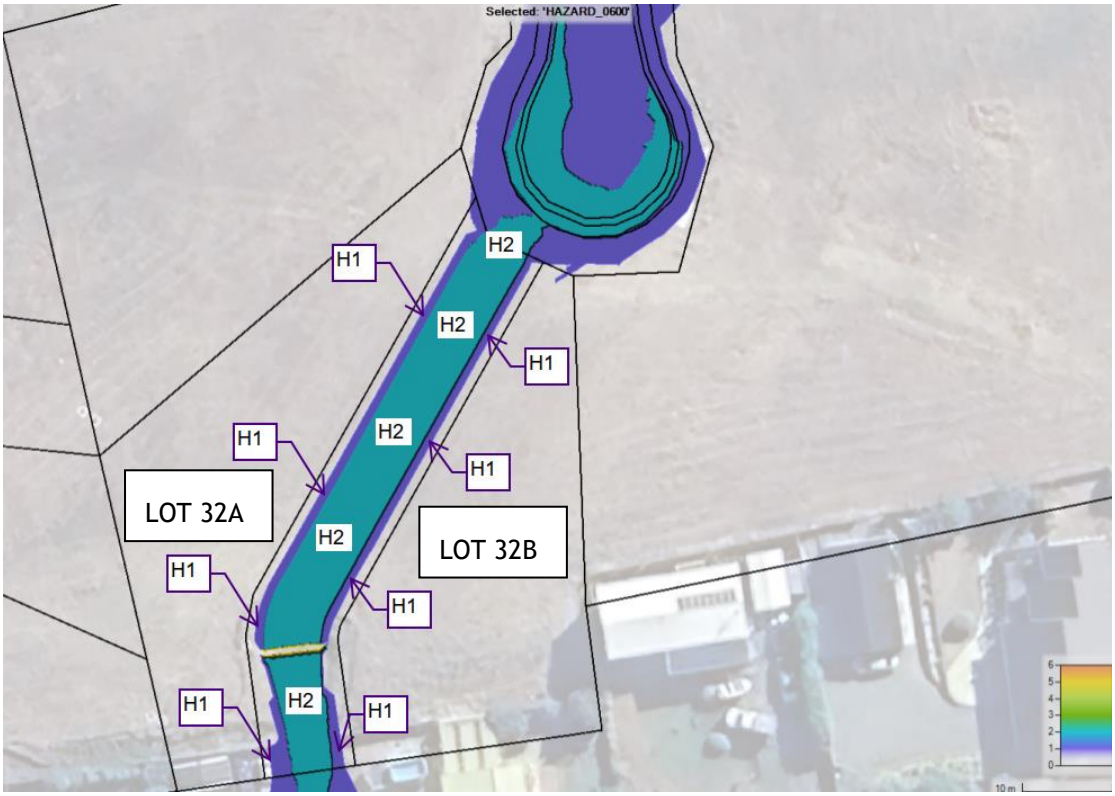

Figure 7: Screenshot from HEC-RAS (Hazard Map Results)

6. Conclusion and Recommendations

It can be concluded that Lot 32A is only exposed to a tolerable risk, as it lies wholly outside the designed flood extent. For Lot 32B, the constructed overland flow path through the 10.0m wide easement successfully accommodates the designed flood event (1% AEP + CC), and as such there is no risk to the remaining area of the lot.

Overall, both lots are able to contain a building area, vehicle access and services, complying with the Tasmanian Planning Scheme C12.7.1.

7. References

"Updating National Guidance on Best Practice Flood Risk Management" D. McLuckie et al 2014

Appendix A

Concept Services Report – Drainage Addendum (JMG Document)

CONCEPT SERVICES REPORT – DRAINAGE ADDENDUM

To Clarence City Council

PROPOSED SUBDIVISION

12 ST JOHN CIRCLE, RICHMOMND TASMANIA 7025

July 2019

Engineers & Planners
Your Vision is Our Mission

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4. Estimates are exclusive of GST, engineering fees, market escalation, associated builder's works, builder's margins, design contingency, project contingency.
5. As project scope becomes better defined it is strongly recommended that estimates are updated.

TABLE OF CONTENTS

1. INTRODUCTION

JMG Engineers and Planners prepared a Concept Services report for a proposed subdivision in Richmond Tasmania. Clarence City Council sought to clarify the report with respect to drainage aspects. In particular there is concern that the rationale formula may not be an appropriate analysis tool. Council is seeking to understand the results from an alternate analysis method and has suggested a runoff routing computerised catchment model, and to also review the drainage for compliance with Australian Rainfall and Runoff (AR&R 2016).

A Runoff Routing (ROR) model will be set up to simulate the catchment. Comparisons and compare results with the rationale formulae calculations. Other regional flood estimating tolls will also be examined.

The report will also discuss a number of other issues raised by Council about storm attenuation and lot fill and consider a number of improvements that can be made to the subdivision layout. General comments on the major/minor stormwater parameters adopted by Council will also be made.

2. EXECUTIVE SUMMARY

This report arrived at a number conclusions

- JMG's previous application of the rationale formulae was not in accordance with established and/or recognised procedures and severely underestimated the peak flow rate from the subdivision.
- Council's general concerns about the suitability of the rationale formulae are not founded. A comparison between the use of the rationale formulae and runoff routing and other methods suggested in AR&R 2016, indicate that they are no more precise given the absence of good and reliable calibration parameters.

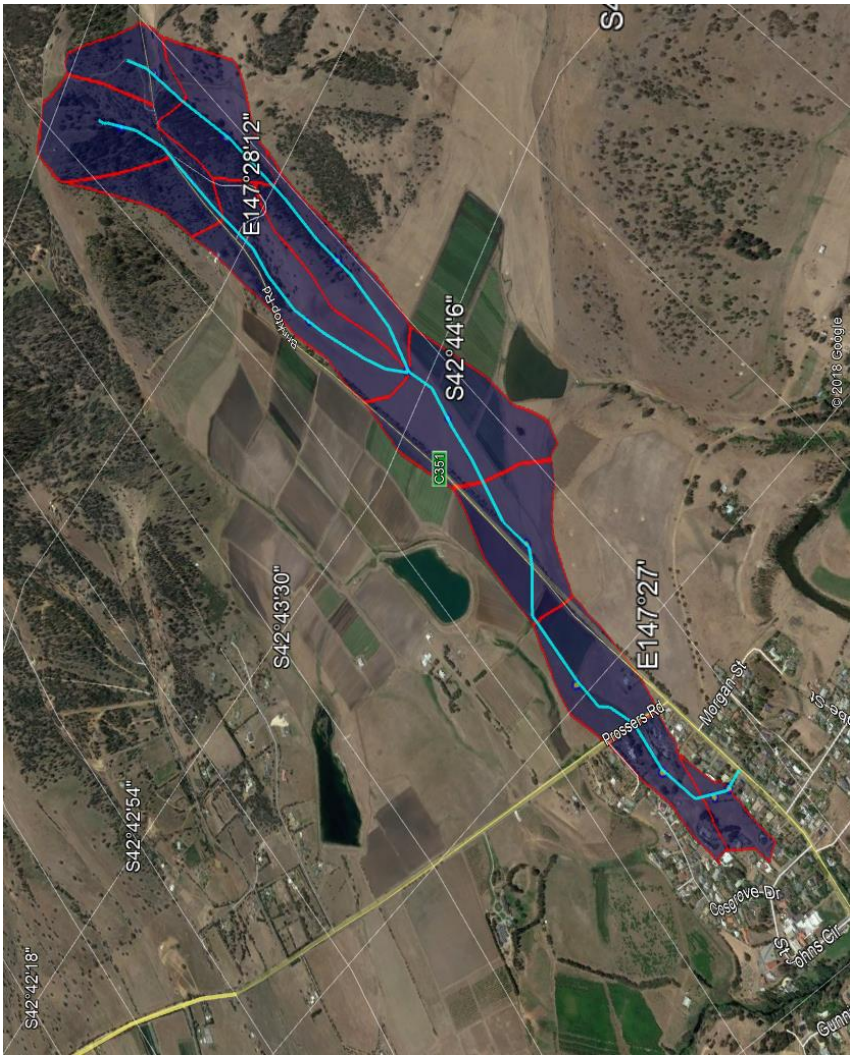
  These other methods include regional flood estimations and Runoff Routing involving hydrographs, temporal patterns and estimated of initial and continuing loss rates.

  More concerning is that parameters suggested for use in uncalibrated catchments produce a wide range of possible results, making these alternate methods much less able to be reasonably interpreted than the rationale formulae.
- The rational formulae therefore remains the surest way and the most more realistic way to estimate peak flow for a catchment of this type and size.
- The rationale formulae is also considered to be an appropriate methods to calibrate a hydrograph model requiring urbanization and/or analysis of detention storage.

3. SITE LOCATION AND CATCHMENT DESCRIPTION

The site is located in Richmond, North of Hobart

Figure 1 – Location within Tasmania



The terrain consists of two minor streams which merge half way down the catchment.

Figure 2 Catchment and terrain diagram – 3D

The area is some 1.01 km², with a stream length of nearly 3 km and an average catchment slope of some 4.2%.

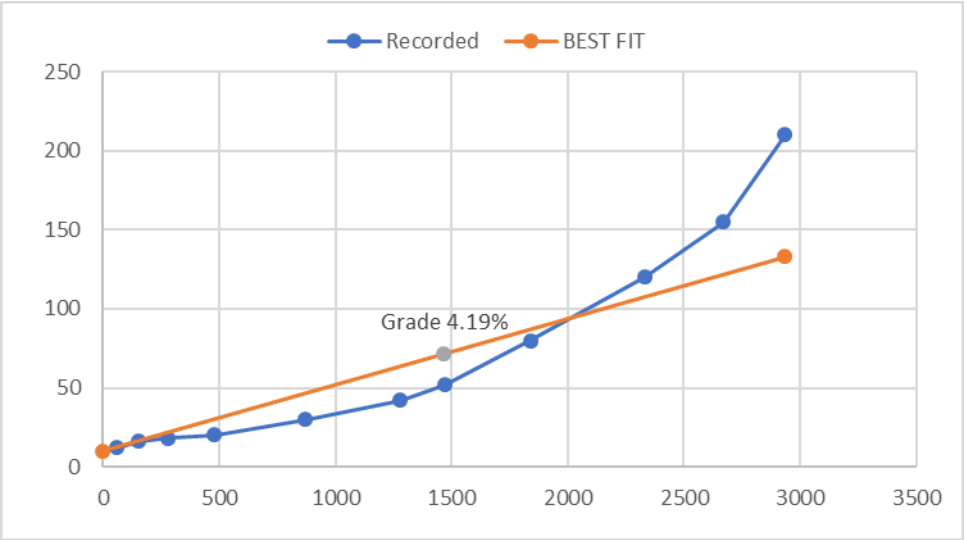


Figure 3 – Average Stream slope – Catchment D-K

The catchment was subdivided into 11 sub catchments and 13 stream lengths to form input into a Runoff Routing model.

The potential subdivision consists of catchment J & K, located at the catchment outlet

Figure 4 – Runoff Routing model Sub Catchment and stream length data sets

4. RATIONALE FORMULAE ANALYSIS - RURAL

The rationale formulae require the interpretation of two parameters:

- the time of concentration, representing the time for runoff to arrive form the and the furthest point of the catchment to the catchment outlet
- the coefficient of runoff – reresenting the proportion of rainfall to runoff, indicative of the permeability of the soil and vegetation cover.

Unusually shaped catchments may require the review of a partial area storm, where a shorter storm duration and a lesser area may produce greater runoff. The catchment in this example has a regular shape and is quite linear and would not require this review.

Length of main stream	=	2.934 km	Outlet to top of Catchment
Average mainstream Grade	=	4.19%	Figure 3
Area	=	101.24 Ha	

Time of Concentration = 80.5 mins Bransby -Williams Formulae
T= 58 * L /S^0.2 / A^0.1

Rainfall Intensity 1% AEP = 25.7 mm/ hr. BOM 2019

Co-efficient of Runoff – Horton's N = 0.035

Poorly grassed Interpreted curves – 1977, 1987 AR&R et al.

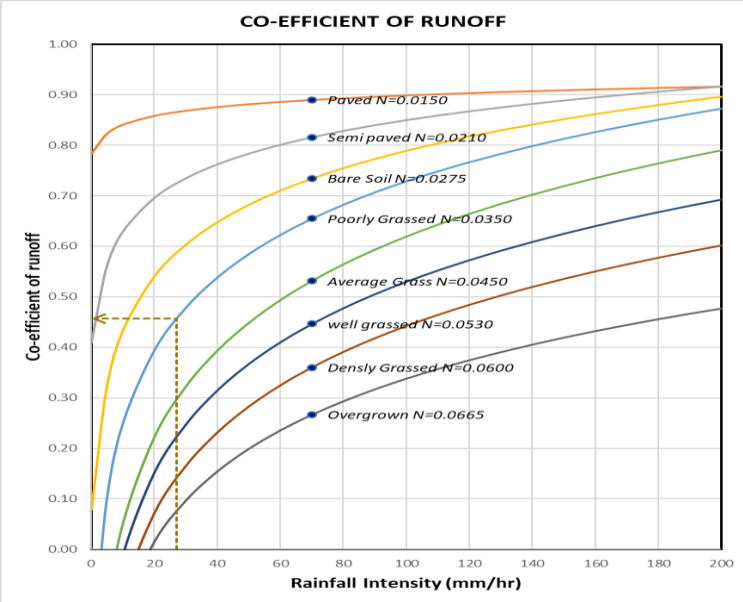


Figure 5 – Coefficient of runoff

CofR	= 0.45	
Q Peak	= 3.23 m^3/s	1% AEP

These results are different to the original services report which calculated a 1% AEP of 0.72 m3/s. The difference stems from the assessment of the coefficient of Runoff. This was understated in the original analysis at a value of C=0.11, due to the application of an urban %impervious formulae intended for Urban catchments.

This was not an appropriate application of the rational formulae and those results are to be abandoned in favour of these new calculations.

5. REGIONAL FLOOD FREQUENCY MODEL- Rural

The AR&R 2016 web site has a link to a regional flood frequency estimating model. It requires the entry of catchment outlet, centroid location and the catchment area.

Using this tool the following regional estimations were obtained.

AEP%	Discharge m^3/s (*)	5% Confid m^3/a	95% Confid m^3/s
50	0.27	0.12	0.63
20	0.48	0.21	1.11
10	0.66	0.26	1.70
5	0.86	0.28	2.53
2	1.17	0.30	4.13
1	1.44	0.32	5.83

This represents a large variation in possible results, and it has a peak flow much less than the rationale formulae, for the average (50%) confidence level (*).

The regional model consisted of 14 catchments ranging from 12 km2 to 1200 km2, with only one additional catchment at approximately 2 km2. The trial catchment is therefore an outrider to the surrounding examples and may not be wholly representative.

6. RUNOFF ROUTING INPUT – Rural

A runoff routing model was set up with the following sub areas:-

	AREA	%	HYET	CATCH	DISTANCE
	km2	IMP	#	DESC	km
	1.0124				**1.699**
A	0.103	0	7	0	2.710
B	0.0654	0	7	0	2.410
C	0.161	0	7	0	1.850
D	0.0831	0	7	0	2.670
E	0.1103	0	7	0	2.330
F	0.0934	0	7	0	1.840
G	0.15	0	7	0	1.280
H	0.1145	0	7	0	0.870
I	0.0757	0	7	0	0.480
J	0.0375	0	7	0	0.150
K	0.0185	0	7	0	0.060

The following stream lengths:-

	LENGTH	TYPE	SLOPE	F	Rel Delay Time
	Km	1,2,3,4	%		Av km
1	0.30	Natural		1.00	0.18
2	0.56	Natural		1.00	0.33
3	0.38	Natural		1.00	0.22
4	0.34	Natural		1.00	0.20
5	0.49	Natural		1.00	0.29
6	0.37	Natural		1.00	0.22
7	0.19	Natural		1.00	0.11
8	0.41	Natural		1.00	0.24
9	0.39	Natural		1.00	0.23
10	0.20	Natural		1.00	0.12
11	0.13	Natural		1.00	0.08
12	0.09	Natural		1.00	0.05
13	0.06	Natural		1.00	0.04

The following vectors:-

	VECTOR	Desc
1	1	SUB AREA A, Route through STREAM 1
2	2	+SUB AREA B, Route through STREAM 2
3	2	+SUB AREA C, Route through STREAM 3
4	3	Store HYD. And Zero
5	1	SUB AREA D, Route through STREAM 4
6	2	+SUB AREA E, Route through STREAM 5
7	2	+SUB AREA F, Route through STREAM 6
8	4	Add Stored HYD.
9	5	Route through STREAM 7
10	2	+SUB AREA G, Route through STREAM 8
11	2	+SUB AREA H, Route through STREAM 9
12	2	+SUB AREA I, Route through STREAM 10
13	7	PRINT HYDROGRAPH
14	5	Route through STREAM 11
15	2	+SUB AREA J, Route through STREAM 12
16	2	+SUB AREA K, Route through STREAM 13
17	7	PRINT HYDROGRAPH

7. RUNOFF ROUTING CONTROL PARAMETERS

Runoff routing is controlled by 2 main parameters: Kc and M in the Storage /Discharge equation

Storage =Kc*Kr* Discharge ^m $S=K*Q^{m}$

Kr is Catchment stream input dependent

Kc is the Storage Coefficient manually entered

M is Storage exponent manually entered

There are also two rainfall loss parameters: Initial Loss and continuing losses

Use of this model therefore requires the selection of 4 parameters.

Runoff routing models are best used when they can be calibrated to known rainfall and measured streamflow events. The rainfall losses and the storage parameters are adjusted to replicate the observed runoff. Once calibrated the model can then be modified to simulate a change in catchment values and/or rainfall events to satisfy the design need.

Rarely is data available to enable this process to be completed and use must be made of either formulae estimates of the model inputs, or by adjusting the model inputs to replicate flow rates devised and adopted by other methods.

Over the last 30 years it has been reasonably common to adopt rainfall loss parameters and to calibrate Kc to replicate an adopted rural flow, often developed by Rural Rationale Formulae.

In more recent times regional flood frequency analysis has also been used to select the adopted runoff value for larger rural areas.

Over the last few years there has been a reluctance in some quarters to continue to use the rational formulae.

AR&R 2016 states in Book 9 Section 5.4

> Design of Conveyance Networks with Computer Models
>
> 1. *Design of urban stormwater conveyance networks has a long history in Australia. Hand calculations using the urban Rational Method was discussed in the 1958, 1977 and 1987 editions of ARR as the most utilised method for estimation of stormwater inflows to conveyance or drainage networks. There is significant ongoing concern about the reliable characterisation of the parameters (such as runoff co-efficient and time of concentration) underpinning the Rational Method due to insufficient rainfal*l runoff observations in urban areas (**Coombes et al., 2015**).

Council has expressed similar views in its email to JMG. This is further discussed in section 10.0

7.1 ROR Parameters AR&R 2016

Concerns with the Rational formulae may well be justified but the ability to select reasonable values for Kc for runoff routing analysis, with confidence, is not particularly rewarding within the available literature for Tasmania.

AR&R 2016 in Book 7 -Application of Catchment Modelling systems states:

6.2.1.8. Tasmania

Morris (1982) *developed the following relation for 17 catchments (63 to 1780 km²) using m = 0.75:*

EQUATION (7.6.28)

$$Kc=4.86A^{0.32}$$

*Australian Rainfall and Runoff (**Pilgrim, 1987**) presents a relation developed by the Tasmanian Hydro Electric Commission for western Tasmania, with m = 0.75:*

EQUATION (7.6.29)

$$Kc=0.86A^{0.57}$$

Equation (7.6.28) *and* ***Equation (7.6.29)*** *are in good agreement for catchments near to 1000 km² but* ***Equation (7.6.28)*** *predicts larger K_c values for smaller catchments.*

In the absence of further data, equation ***Equation (7.6.29)*** *is recommended for Tasmania.*

For the catchment at Richmond this will produce a Kc between 0.86 and 4.87, a 500% difference. The smaller catchment of 1 km^2 is also well outside the range of the catchments used to derive these formulae, which are likely to be well above 1 km2. The Morris formulae used catchments greater than 63 km^2.

Kc is a measure of interstream storage "S", where S = K * Q^m. The larger K is the more storage is available in the flow profile. The value of Kc for steep rugged country where runoff will flow fast, and shallow can be expected to be much less than a value for Kc in rural plains where the runoff is slow and deep. This is the case for the two formulae above where the Tasmanian west coast Kc is much lower.

None the less AR&R 2016 makes the representation that the West Coast formulae should be adopted in the absence of other information. Whether a Kc developed for steep rugged country on the west coast of Tasmania is appropriate for use on the East Coast, or in Richmond, is a moot point, worthy of much more discussion and analysis then the simple statement made in AR&R 2016 to adopt the west coast values.

These two formulae were also both developed over 35-years ago, and it appears that no new research has been undertaken since 1987. Given the deskilling of many government departments that likely participated in the derivation of these formulae it many be many years before any new formulae are developed.

As a comparison Askew developed a generalised formulae published in AR&R 1977.

Kc = 2.12*A^.57

This yields a Kc of 2.14, which happens to be almost the average of 0.86 and 4.87.

Therefore any concern about *"….the reliable characterisation of the parameters (such as runoff coefficient and time of concentration) underpinning the rational formulae…"* are an equally apt description of the characterisation parameters for other computer based models including runoff routing models.

8. RAINFALL LOSSES & TEMPORAL PATTERNS

AR&R 2016 provides a data hub by which it is possible to develop storm losses for any location, although these are intended for rural use.

Using this resource, the initial and continuing losses for Richmond are:

Rainfall Initial Loss	27.0	mm
Rainfall continuing loss	4.2	mm/hr.

These are both high losses, and their use will assume that the catchment is dry rather than saturated prior to the rainfall event. It is not uncommon to assume a much lower initial and continuing loss, but these values recommended by AR&R will be adopted for the initial analysis.

Temporal pattern will be adopted from 1977 AR&R. Given the scale of the catchment this is not considered an unreasonable simplification.

9. ROR RURAL ANALYSIS

The following parameters were used for the initial ROR run, in accordance with the AR&R 2016 guidelines.

IL = 27 mm CL = 4.2 mm/hr.

Kc= 0.87 m = 0.75

9.1 RURAL RESULTS 1% AEP

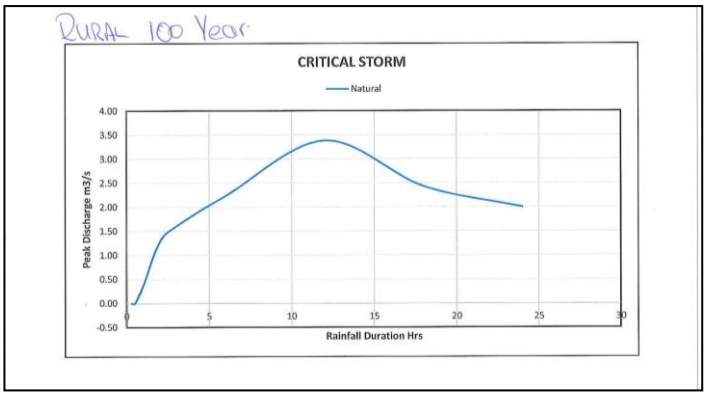


Figure 6 ROR Rural 1% AEP – Critical Storm

The Runoff Routing model was assessed for a range of storm durations from 20 minutes to 24 hours.

The critical storm was the 12 hour storm.

RUNOFF

Peak Q	**3.35**	m^3/s
Peak @	**6.00**	hrs
VOLUME	**29,051**	m3
CENTROID T	**6.34**	hrs
CENTROID Q	**0.64**	m^3/s

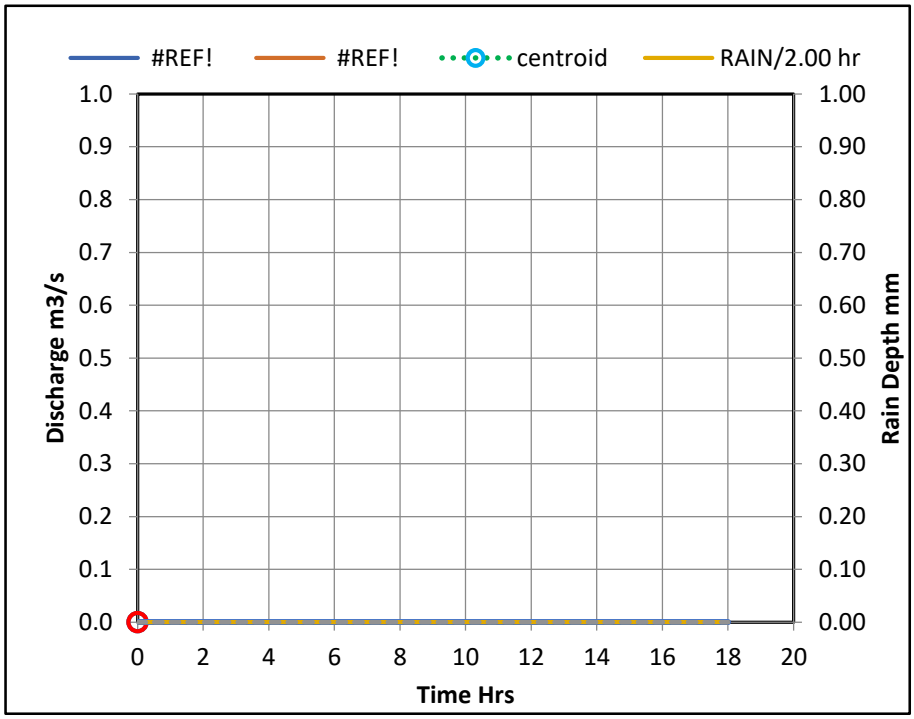


Figure 7 ROR RURAL 1% AEP 12 hour Hydrograph KC=0.87 M=0.75 IL=27mm CL=4.2mm/hr

The high losses show that no runoff occurs until 4 hours after the start of the 12 hour rainfall event. This is considered unlikely to be a reasonable result.

9.2 SENSITIVITY ANALYSIS RURAL 1% AEP

Given the range of possible Kc and rainfall loss values a sensitivity analysis was performed. The rational formula and the Regional flood frequency analysis results are also reported for comparison purposes.

ROR							Rational Formulae	Regional Flood Freq Analysis
IL mm	27	27	27	0	0	0		
CL mm/hr	4.2	4.2	4.2	4.2	4.2	4.2		
Kc	0.87	2.14	4.89	0.87	2.14	4.89		
M	0.75	0.75	0.75	0.75	0.75	0.75		
Q m^3/s	**3.35**	**2.11**	**1.24**	**4.61**	**3.00**	**1.30**	**3.23**	**1.44**
Tcrit hrs	12	12	18	6	6	12		

The peak flow ROR results vary from 1.24 to 4.61 m^3/s. a range of 350%.

Even within the same rainfall losses the range of discharges for different Kc is still significant, being from 1.24 to 3.35 with a 27mm initial loss and 1.3 to 4.61 with a 0 initial loss.

Clearly runoff routing, without the benefit of a rainfall and runoff data to calibration against does not yield any greater precision then the rationale formulae, despite any shortcomings that process may be perceived as having.

In much larger rural catchments regional flood frequency is likely to be more useful as a calibrating tool, however, in small catchment including this one, ROR has been shown not to be particularly illuminating using available model set up formulae.

The fact that the rationale formulae has meaningful parameters for time of concentration and proportion of runoff to rainfall, means that it is often more "rational" and simpler to interpret a reasonable value for these parameters.

It is much less intuitive to interpret meaningful parameters for m, Kc, IL and CL for ROR.

9.3 RURAL PEAK FLOW

In this example it is considered reasonable to adopt a 1% AEP Rural flow rate of approximately 3.25 m^3/s. This agrees reasonably with the Rational Formulae result of 3.23 m^3/s and compares well with the ROR results for

IL= 27 and	Kc = 0.87	➔	3.35 m^3/s	as recommended by ARR 2016, or
IL=0 and	Kc = 2.14	➔	3.00 m^3/s	as recommended by AR&R 1977

If detention storage was being considered for an extreme event in an urban environment the more reasonable ROR parameters are considered to be 0 initial loss and a Kc of 2.14.

The hydrograph for IL=0 and Kc= 2.14 is shown following.

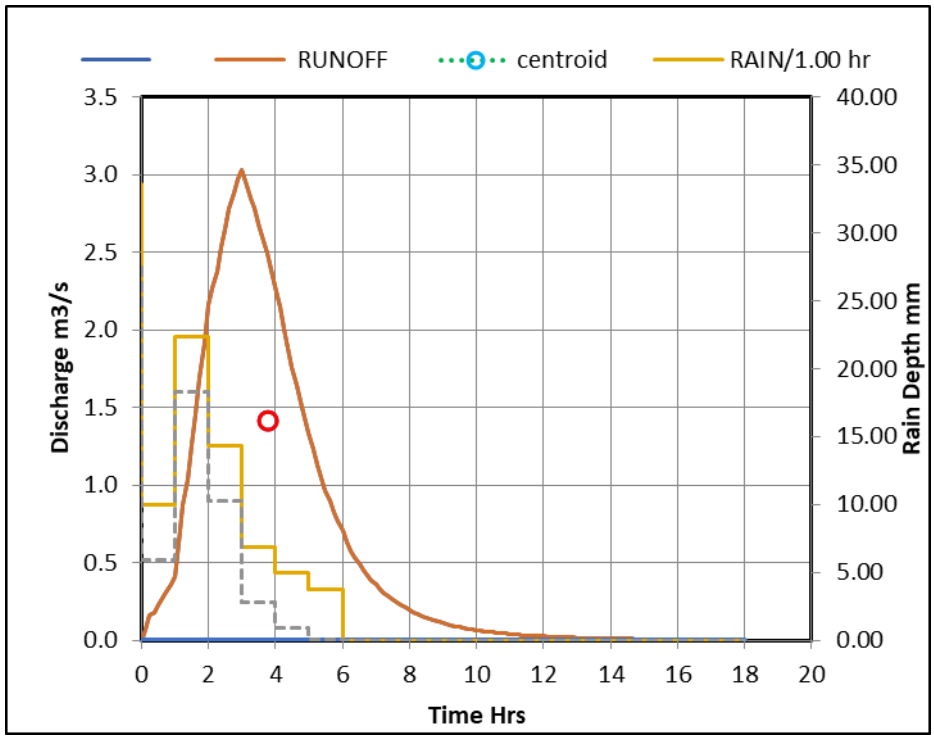


Figure 8 ROR RURAL 1% AEP 6-hour Hydrograph KC=2.14 M=0.75 IL=0 mm CL=4.2mm/hr

The 0 initial loss is considered to better represent reality where during a 6-hour critical storm, runoff occurs almost immediately after the beginning of rainfall, instead of many hours later.

It is not considered reasonable to have a 0 initial loss together with the lowest possible recommendation of Kc (0.87). The calculated peak discharge would be 4.7 m^3/s which is considered excessive.

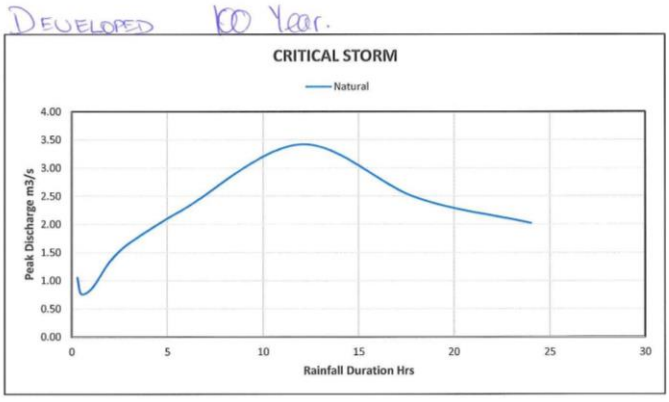
If peak flows are only to be considered, then the rational formulae still provide a reasonable result. This is considered likely to be true in many similar circumstances, and for larger but not excessive catchment sizes.

Decisions to abandon the Rational formulae in favour of more precise modelling techniques are premature unless better data sets are available.

10. DEVELOPED FLOWS

Changing the ROR Model to account for development is achieved by identifying a percent impervious (50% is used) for Catchments I & K, and altering the stream of reaches 11,12, & 13 to lined reaches at say 0.5%, instead of natural reaches.

Losses are diminished by the impervious percentage and stream storage is reduced by the streamlined reach lengths.



Using parameters of

IL = 27 CL= 4.2

Kc = 0.87 M= 0.75

1% AEP

The develop Critical Storm is still the 12-hour event, but the shorter duration storms show the effect of urbanization

Figure 9 1% AEP Developed Critical storm

RUNOFF

Peak Q	**3.39**	m^3/s
Peak @	**6.00**	hrs
VOLUME	**30,415**	m^3
CENTROID T	**6.17**	hrs
CENTROID Q	**0.68**	m^3/s

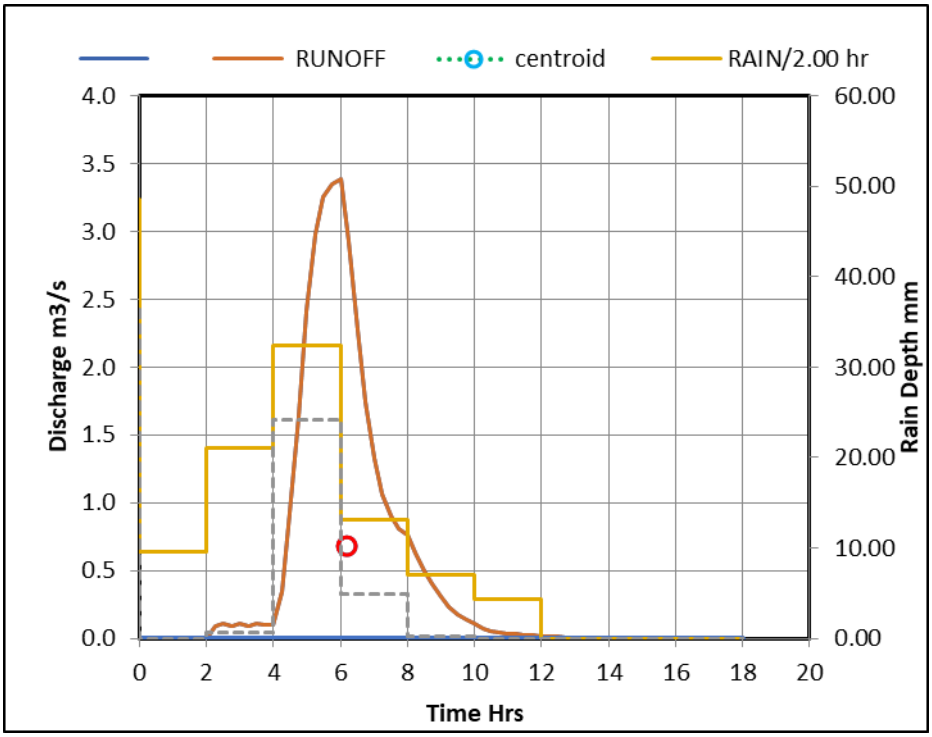


Figure 10 ROR DEVELOPED 1% AEP 12-hour Hydrograph KC=0.87 M=0.75 IL=27 CL=4.2

Urbanization has a minor effect on the total site peak runoff since the runoff from the lower area will be delivered early and before the peak arrives from the upstream rural catchment. This is especially so where the overall critical storm is between 6 and 12 hours.

Overall urbanization has increased ROR runoff from 3.35 to 3.39, an increase of 1.2%.

10.1DEVELOPED FLOWS – alternate AEPs

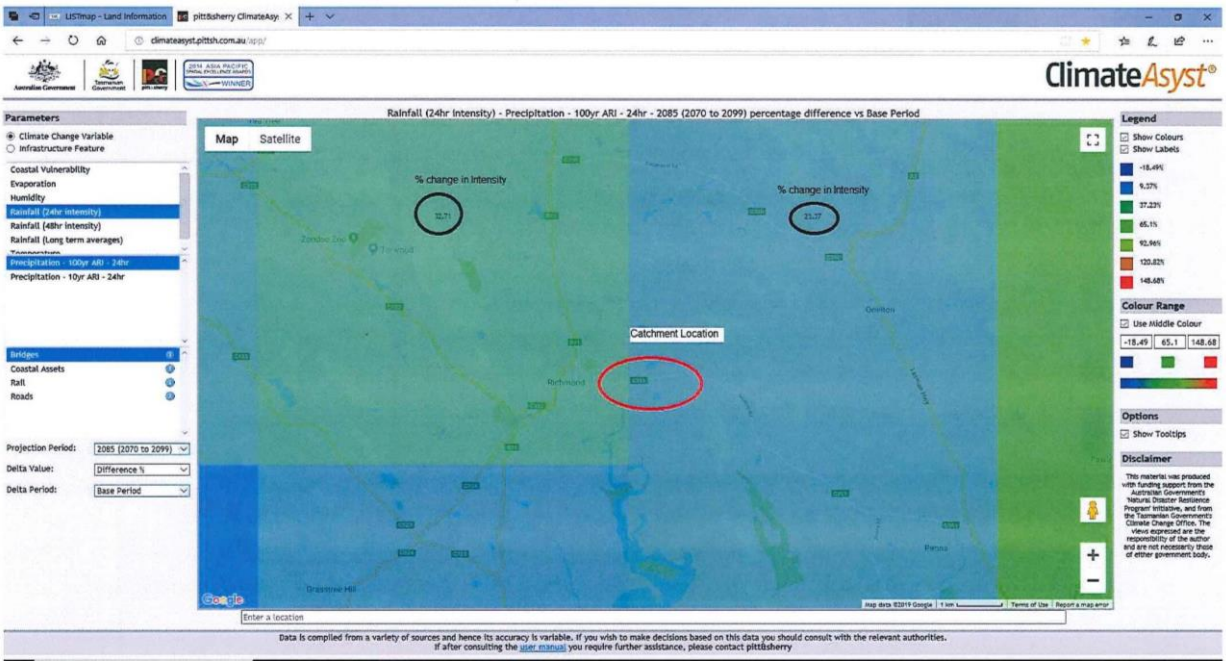
The rainfall depths were modified to assess the runoff from more frequent events, and from Climate change. The 12-hour event remained the critic storm whilst still using the initial Rainfall loss values of IL= 27 and CL = 4.2.

5% AEP	Q = 1.82 m^3/s	
20 % AEP	Q = 0.13 m^3/s	This is not a credible result

The more frequent events are heavily influenced by the large Initial losses. Often most, if not all, of the rainfall is consumed by the high losses. This reason alone is good justification for having zero initial losses, together with a higher Kc, as discussed in section 9.3.

Climate change was also assessed by accessing the Climate Assist Tool developed by Pitt & Sherry with funds provided by the Australian Government.

This tool shows that at the turn of the century – (2070 to 2099) the 100-year ARI 24 hour intensity at Richmond will likely increase by an average 28%.



Adopting this figure for all storm durations the 1% AEP will increase to

1% AEP – with Climate Change Q = 4.72 m^3/s 12-hour storm

In comparison the developed results with the more realistic input parameters, which are not recommended by AR&R.

IL = 0, Kc = 2.14, M=0.75 are:

20 % AEP	Q = 1.17 m^3/s	3-hour storm
5% AEP	Q = 2.06 m^3/s	6-hour storm
1% AEP	Q = 3.11 m^3/s	6-hour storm
Climate Change 1% AEP	Q = 4.45 m^3/s	6-hour storm

11. DRAINAGE RESULTS

We suggest that the appropriate values of developed runoff can be given with ROR with IL=0, CL= 4.2 Kc= 2.14 M= 0.75.

These results are shown below together with Rational formulae values, for comparison.

ADOPTED FLOWS

	UNDEVELOPED		DEVELOPED	
	ROR	Rational	ROR	Rational
20% AEP		1.31	1.17	
5% AEP		2.05	2.06	
1% AEP	3.00	3.23	3.11	
1% AEP + CC*		4.65	4.45	

CC* = Climate Change

The rational Formula provides an equally good interpretation of appropriate results as any runoff routing procedure. In fact, without rational formulae guidance as to an appropriate answer it would not be known which result ought to be adopted.

Accordingly, we do not share the concern with regard to the use of the rational method as runoff routing has been shown to be no more precise given the uncertainty of appropriate calibration parameters. The values for IL and Kc recommended in AR&R 2016, as required, are not conducive to producing realistic or practical results.

Adopting AR&R 2016 recommended parameters yields results that are most unrealistic with regard to the critical duration storm and the zero runoff levels form more frequent events.
for more frequent events.

We suggest that the Rational Formulae will remain a valuable and suitable analysis tool for some time yet, and decisions to abandon it are well premature.

JMG will adopt the Rational formulae results.

12. OTHER COUNCIL CONCERNS

- Hydraulic Inlets
  We have not reviewed a solution at this stage, and in-depth analysis ought not be required for a subdivision application services plan. Further discussion will be required in detailed design. The inclusion of an overland flow path avoids the need for detailed understanding of any drainage inlets.

  Climate change has been assessed as shown, but the planning scheme does not require its use.

- Hydraulic Outlet
  The Council has a concern with the proximity of adjoining property to the south. This is reasonable but it also relates to Councils stormwater strategy and planning scheme requirements.

  Council appears to have partly dealt with this outlet at Wellington Street, where it has acquired land to effectively control the headwaters of the culvert inlet. It is not possible however to join the public overland flow paths from the proposal with the existing public lands at the culvert. It is also not possible to direct the flow elsewhere as this is a natural creek and natural outlet.

  To limit high speed jet stream form the low flow drainage structures the headwall will be partially set back from the boundary.

  The 1% developed peak flows are only 4% higher after development compared to undeveloped flows, although there will be an increase in flow (but not above the peak) in shorter duration storms.

- Impacts from filling
  Council has a concern for the loss of attenuation and the resulting higher peak flows and quicker delivery of peaks to downstream areas. We do not agree with this concern.

  Filling of private land to protect and enhance lots cannot be regarded as decreasing attenuation or enhancing delivery of flows, unless the subdivision is specifically required for natural attenuation. That is not the case here.

Faster delivery of peak flows downstream can more realistically be attributed to the Council requirement to pipe the 5% AEP flows as the minor event. This requirement will result in more rapid response and shorten delivery times to increase the reaction form rainfall.

The use of major/minor storm strategies have been around for many decades. The major event is more often the 1% AEP for overland flows. Previously the conventional approach to the minor event was the 20% AEP. In earlier editions of AR&R this was defined as the 5-year ARI and was interpreted by placing gully pits and pipes to limit the flow width in gutters. This was to avoid aquaplaning of cars and splashing of pedestrians on footpaths. It was considered reasonable in an urban environment for pedestrians to expect some impediment from a passing car whilst walking on the footpath once every 5 years. As urban events are reasonably intense storm lasting only some 20 minutes this was a minor inconvenience.

More recently many councils have gradually increased the minor storm ARI from 5 year to 10 year and in the Glenorchy Area to 20-year years in residential and 50 years in Commercial. These latter two are extreme events. If indeed the major 1% AEP has been provided for then these extreme minor events are most likely unnecessary, will cost much more to develop and maintain, but the larger conveyance pipe area will have increased transmission speeds.

We would not support Council' s concern about attenuation loss due to lot filling. We would also support Council's review of its minor storm standards

- Storm Water Quality is not addressed in this addendum. This will be an item for review once the key concerns about appropriate drainage tools, discharge levels and stormwater strategy are further considered.

Signed
JOHNSTONE McGEE & GANDY

Geoff BRAYFORD
SENIOR CIVIL ENGINEER
Dip. Tech (Civil Eng), BE (hons), LGE (NSW), MBA,

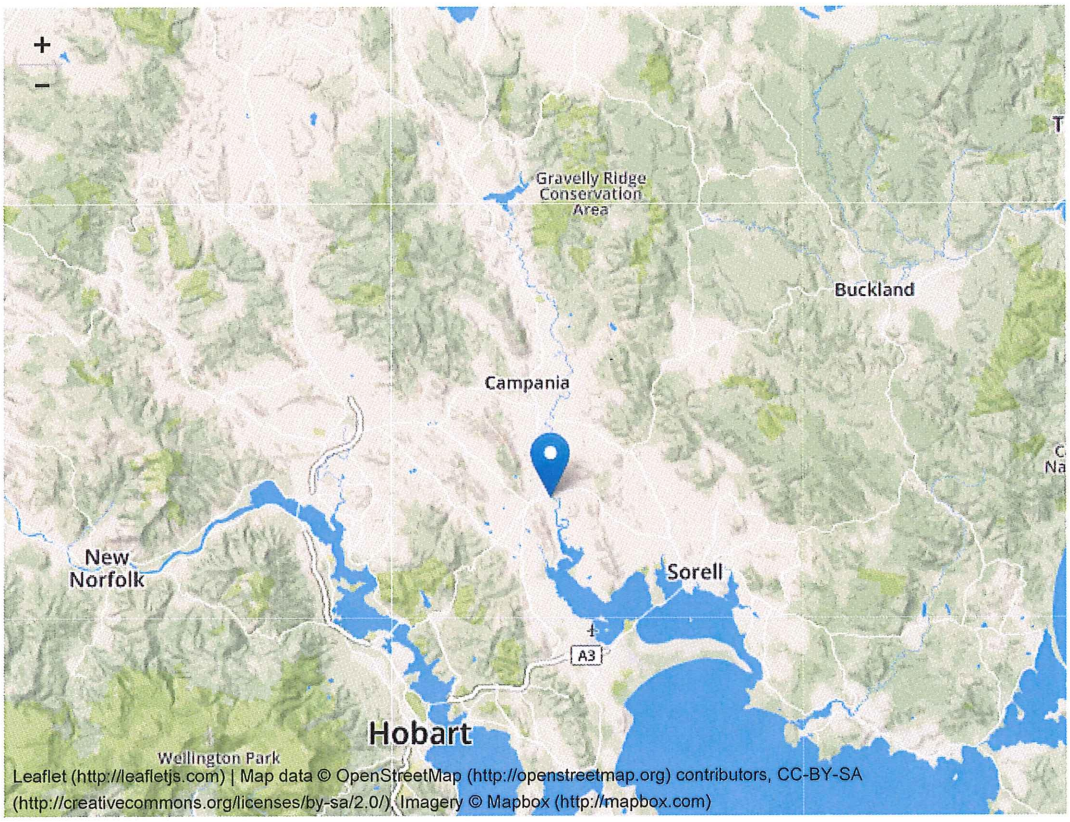
APPENDIX A

AR&R -Data HUB – Results

Australian Rainfall & Runoff Data Hub - Results

Input Data

Longitude	147.439
Latitude	-42.737
Selected Regions (clear)	
Storm Losses	show



Region Information

Data Category	Region
River Region	Coal River
ARF Parameters	Tasmania
Temporal Patterns	Southern Slopes (Tas)

Data

Storm Losses

Note: Burst Loss = Storm Loss - Preburst

Note: These losses are only for rural use and are **NOT FOR USE** in urban areas

id	25205.0
Storm Initial Losses (mm)	27.0
Storm Continuing Losses (mm/h)	4.2

Layer Info

Time Accessed	12 April 2019 08:19AM
Version	2016_v1

BOM IFD Depths

Click here (http://www.bom.gov.au/water/designRainfalls/revised-ifd/?year=2016&coordinate_type=dd&latitude=-42.737&longitude=147.439&sdmin=true&sdhr=true&sdday=true&user_labe to obtain the IFD depths for catchment centroid from the BoM website

No data	No data found at this location!

Layer Info

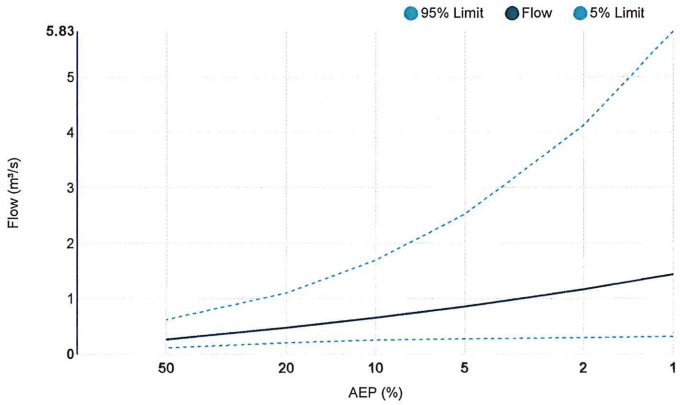
Time Accessed	12 April 2019 08:19AM

Download TXT (downloads/1555021190.txt) Download PDF (downloads/1555021190.pdf)

APPENDIX B

AR&R - Regional Flood Frequency Estimation Model

Results | Regional Flood Frequency Estimation Model



*The catchment has unusual shape. Results have lower accuracy and may not be directly applicable in practice.

AEP (%)	Discharge (m³/s)	Lower Confidence Limit (5%) (m³/s)	Upper Confidence Limit (95%) (m³/s)
50	0.270	0.120	0.630
20	0.480	0.210	1.11
10	0.660	0.260	1.70
5	0.860	0.280	2.53
2	1.17	0.300	4.13
1	1.44	0.320	5.83

Input Data

Date/Time	2019-04-09 16:23
Catchment Name	RICHMOND
Latitude (Outlet)	-42.735
Longitude (Outlet)	147.44
Latitude (Centroid)	-42.733
Longitude (Centroid)	147.455
Catchment Area (km²)	1.022
Distance to Nearest Gauged Catchment (km)	8.63
50% AEP 6 Hour Rainfall Intensity (mm/h)	4.661356
2% AEP 6 Hour Rainfall Intensity (mm/h)	9.691403
Rainfall Intensity Source (User/Auto)	Auto
Region	Tasmania
Region Version	RFFE Model 2016 v1
Region Source (User/Auto)	Auto
Shape Factor	1.23*
Interpolation Method	Natural Neighbour
Bias Correction Value	0.361

Statistics

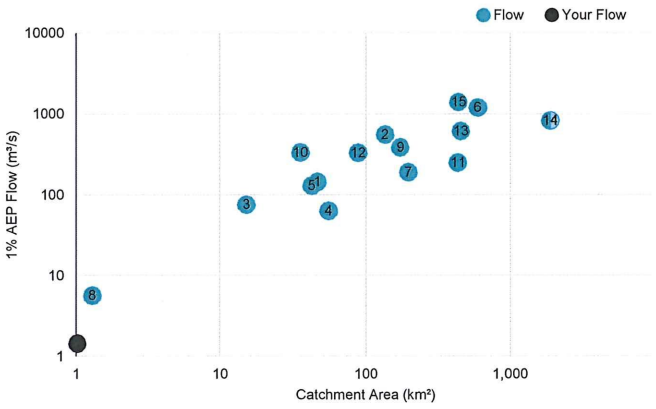
Variable	Value	Standard Dev
Mean	-1.373	0.552
Standard Dev	0.610	0.371
Skew	0.148	0.163

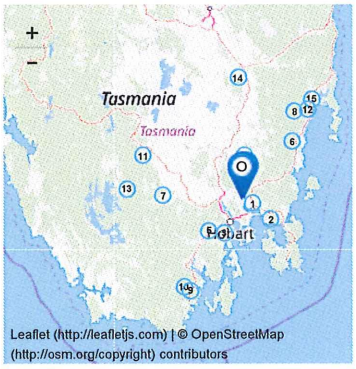
Note: These statistics come from the nearest gauged catchment. Details.

Correlation		
1.000		
-0.330	1.000	
0.150	-0.440	1.000

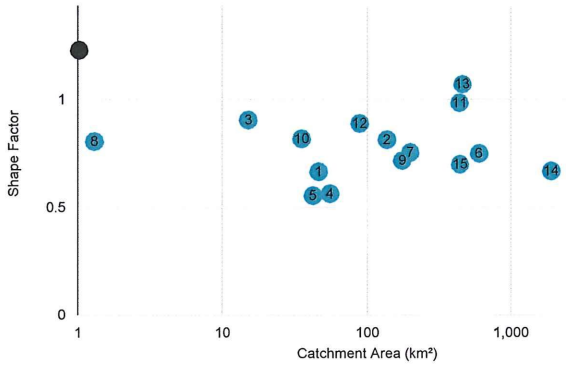
Note: These statistics are common to each region. Details.

1% AEP Flow vs Catchment Area

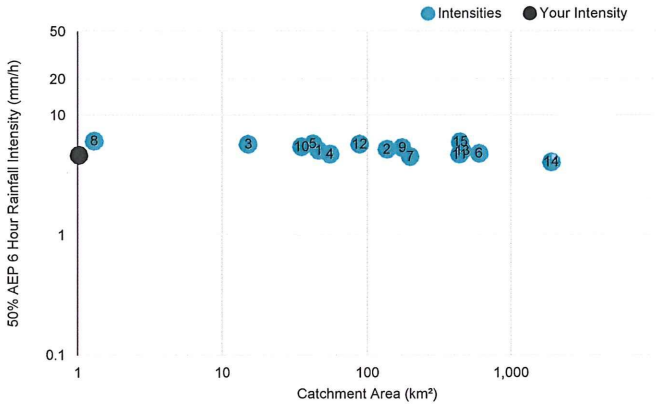




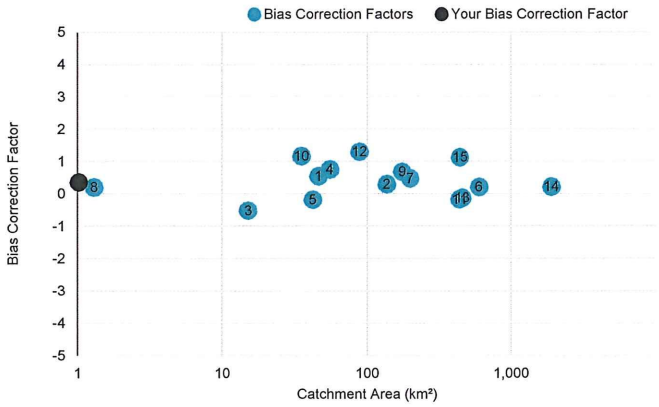
Shape Factor vs Catchment Area



Intensity vs Catchment Area



Bias Correction Factor vs Catchment Area



Download

TXT | Nearby | JSON

Method by Dr Ataur Rahman and Dr Khaled Haddad from Western Sydney University for the Australian Rainfall and Runoff Project. Full description of the project can be found at the project page (http://arr.ga.gov.au/revision-projects/project-list/projects/project-5) on the ARR website. Send any questions regarding the method or project here (mailto:admin@arr-software.org).

ENGINEERS AUSTRALIA
(http://www.engineersaustralia.org.au)

WESTERN SYDNEY UNIVERSITY
(http://www.uws.edu.au)

APPENDIX C

AR&R IFD Design Rainfall Depths

Australian Government
Bureau of Meteorology

Location

Label: Not provided

Latitude: -42.737 [Nearest grid cell: 42.7375 (S)]

Longitude: 147.439 [Nearest grid cell: 147.4375 (E)]

IFD Design Rainfall Depth (mm)

Issued: 12 April 2019

Rainfall depth for Durations, Exceedance per Year (EY), and Annual Exceedance Probabilities (AEP).
FAQ for New ARR probability terminology

	Annual Exceedance Probability (AEP)						
Duration	**63.2%**	**50%#**	**20%***	**10%**	**5%**	**2%**	**1%**
1 min	1.04	1.18	1.65	2.00	2.36	2.88	3.32
2 min	1.79	2.01	2.74	3.26	3.75	4.37	4.83
3 min	2.37	2.67	3.66	4.37	5.06	5.95	6.64
4 min	2.85	3.22	4.44	5.33	6.21	7.41	8.35
5 min	3.26	3.69	5.12	6.16	7.23	8.71	9.90
10 min	4.74	5.39	7.57	9.20	10.9	13.5	15.6
15 min	5.77	6.56	9.23	11.2	13.4	16.5	19.2
18 min	6.28	7.13	10.0	12.2	14.5	17.9	20.8
20 min	6.59	7.48	10.5	12.8	15.2	18.7	21.7
25 min	7.29	8.27	11.6	14.1	16.7	20.4	23.6
30 min	7.91	8.96	12.5	15.1	17.9	21.9	25.1
45 min	9.45	10.7	14.8	17.8	20.9	25.2	28.6
1 hour	10.7	12.1	16.7	19.9	23.2	27.7	31.3
1.5 hour	12.8	14.5	19.7	23.4	27.1	31.8	35.6
2 hour	14.6	16.4	22.3	26.3	30.3	35.4	39.2
3 hour	17.5	19.7	26.7	31.3	35.7	41.5	45.8
4.5 hour	20.9	23.7	32.0	37.4	42.6	49.4	54.4
6 hour	23.8	26.9	36.5	42.6	48.5	56.3	62.2
9 hour	28.2	32.1	43.7	51.3	58.5	68.4	75.8
12 hour	31.7	36.1	49.6	58.3	66.8	78.5	87.5
18 hour	36.9	42.2	58.5	69.3	79.9	94.9	107
24 hour	40.6	46.6	65.1	77.6	89.9	107	121
30 hour	43.5	49.9	70.2	84.1	97.7	117	133
36 hour	45.7	52.5	74.2	89.2	104	125	142
48 hour	49.1	56.4	80.0	96.7	113	137	155

72 hour	53.1	61.0	86.8	105	124	149	169
96 hour	55.5	63.7	90.3	109	129	155	176
120 hour	57.1	65.4	92.3	111	131	157	178
144 hour	58.3	66.8	93.5	112	132	158	179
168 hour	59.3	67.8	94.3	112	132	158	180

Note:
The 50% AEP IFD **does not** correspond to the 2 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 1.44 ARI.
* The 20% AEP IFD **does not** correspond to the 5 year Average Recurrence Interval (ARI) IFD. Rather it corresponds to the 4.48 ARI.

This page was created at **08:23 on Friday 12 April 2019 (AEST)**

APPENDIX D

Council Concerns – Email 8 March 2019 8:47 am

Part of Email only

Firstly, the report states that the hydrologic analysis has been conducted using the Rational Method in accordance with Australian Rainfall and Runoff. I assume that they have used the outdated 1987 version since the Rational Method is no longer recommended for anything other than small developments. Rainfall IFDs have been sourced from the BoM, however they have not stated whether they are 1987 or 2016 IFD values, nor have they shown the IFD values in any of their "calculations".

Hydrology

The report only provides an estimate of the 5% AEP peak flow from the upstream catchment, however plan C05 indicates that the twin DN750 pipes are sized to convey a 1%AEP peak flow. I assume that the pipes are sized to convey their estimated 5% AEP peak flow of 0.7m^3/s.

The use of the Rational Method is not applicable to the hydrologic analysis of this catchment. However by way of comparison I found my calculations from 2011 in which I estimated a 1% AEP peak flow rate of approximately 2.6m^3/s. This would roughly correspond to a 5% AEP peak flow of 1.8m^3/s. More recently I have undertaken 2D modelling of the catchment and my 1% peak flow from that work would correspond with a 5% AEP peak flow in the order of 3 m^3/s.

The report is also silent on climate change, hence I assume that no allowance has been made.

Recommendation: That the upstream catchment and the proposed development be re-analysed using appropriate runoff routing software in accordance with ARR2016, including making allowance for the effects of climate change on rainfall intensity.

Hydraulics - inlet

JMG have proposed to pipe the runoff from the upstream catchment through the subdivision. I would like to see a concept design for the inlet structure, and subject to reassessment of the upstream hydrology, preliminary calculations to demonstrate adequate hydraulic capacity (inlet) is required. And as this structure would be critical to the function of the stormwater system a risk assessment of a fully blocked scenario is desirable.

Recommendation: Provide concept design and preliminary calculations demonstrating that the inlet structure to the piped watercourse has adequate hydraulic inlet capacity. Provide a risk assessment of a fully blocked scenario.

Hydraulics – outlet

The proposal shows the piped watercourse stopping just short of the boundary with 37 Wellington Street. A box culvert providing vehicular access to the carport at the rear of 37 Wellington Street is situated within 1-2m of the boundary and would have a significant effect on the outlet capacity of the piped watercourse, and conversely the discharge from the piped watercourse would likely cause damage to the culvert.

Recommendation: That the piping of the watercourse extend through 37 Wellington Street, or stop well short of the boundary.

Hydraulics – impacts of proposed filling

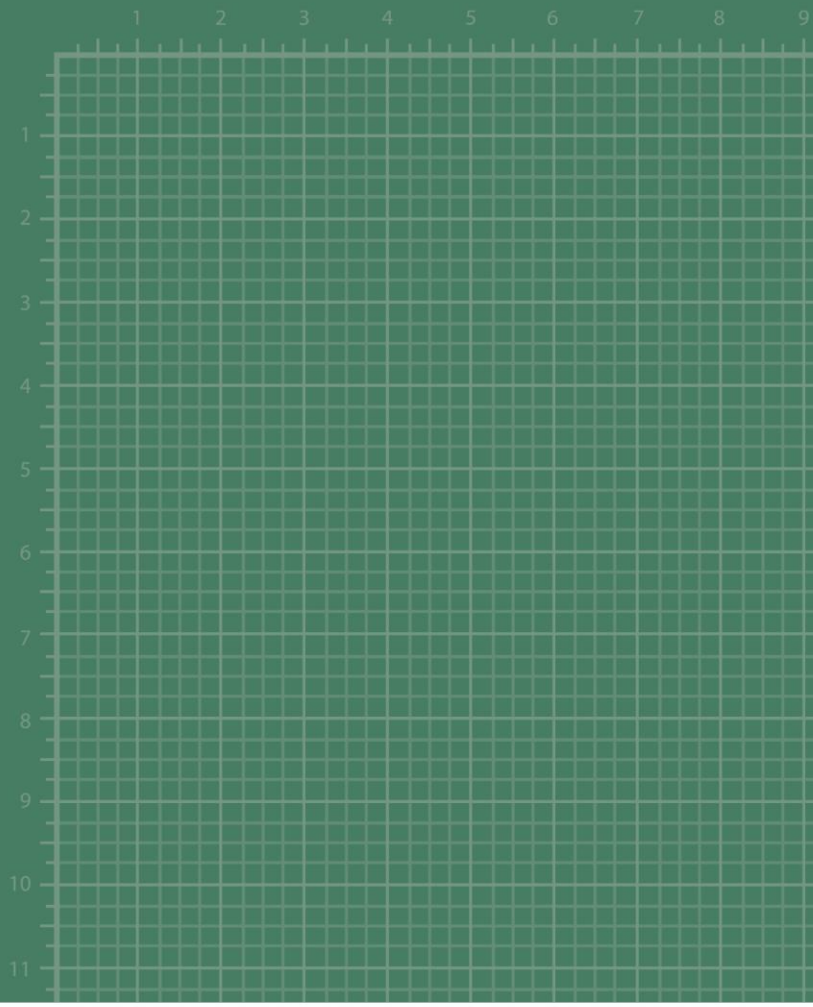
The proposed fill may have an effect on the hydraulics of the Wellington Street culvert by reducing the available natural attenuation of flows. Possible effects are: higher peak flood levels upstream of the development, and quicker time to peak and potentially higher peak flows downstream of the development.

Recommendation: Demonstrate that the proposed filling does not have any adverse impacts upstream or downstream of the development site.

SW Quality

What can I say? The screenshots are too small to be legible. What time period did they use? What is the actual proposal – detention or no detention? There seem to be two proposals. Detention would have negligible effect on the total annual flow from the catchment unless it is so big and takes so long to empty that water is lost through evaporation – something must be wrong. They need to provide more detail regarding the MUSIC model setup: What time period rainfall data are they using? Many years are incomplete and need to be excluded from analysis to prevent underestimating the pollutant loading, and hence overestimating the pollutant removal effectiveness.

More generally, I would think that some street scale WSUD features would be more appropriate than proprietary treatment devices (GPTs and Humeceptor – which isn't effective at removing nutrients by the way when you consider the "teabag effect"). I would happier with some street trees planted in proprietary structural cells.



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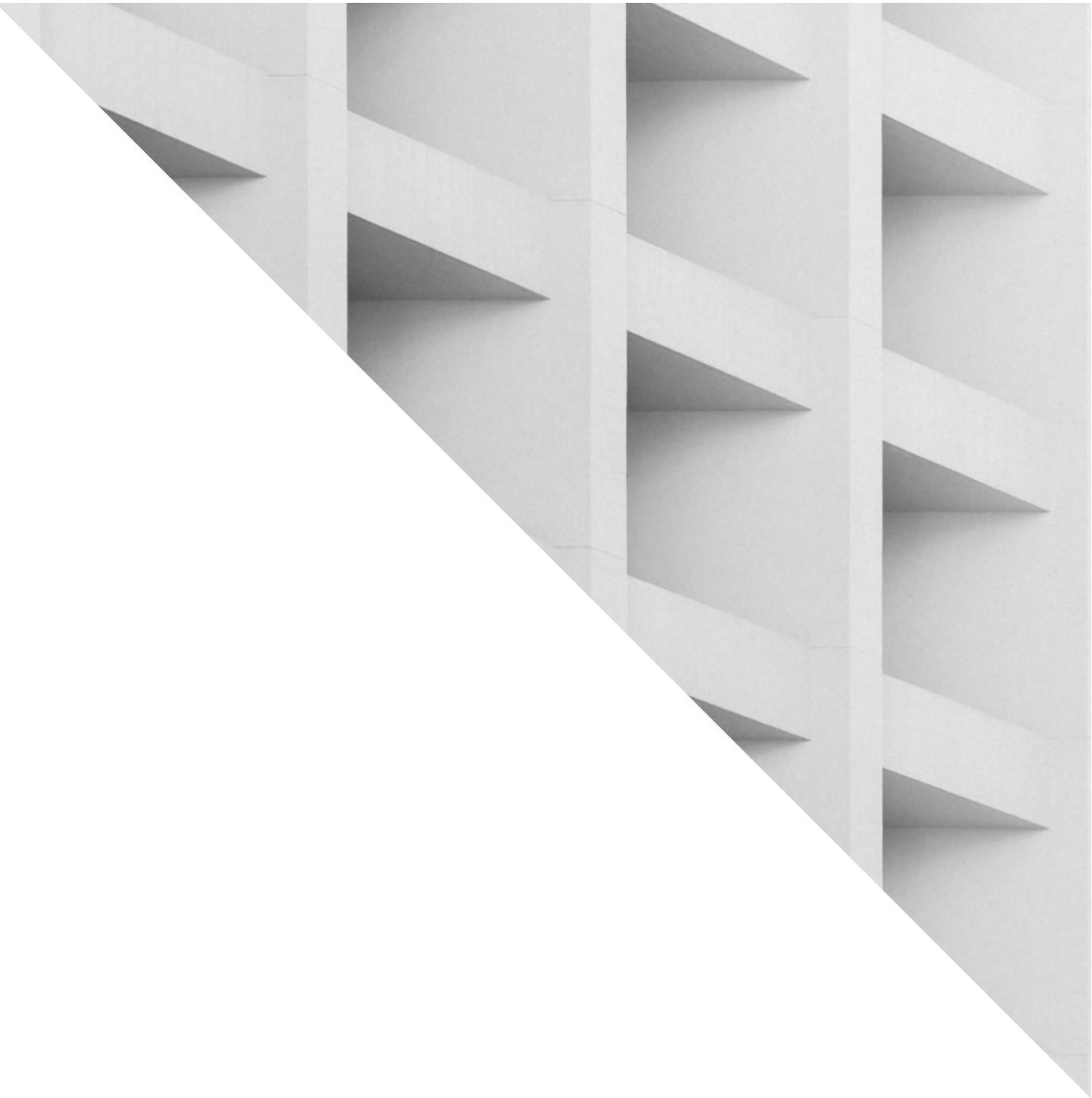

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DA

TASMANIAN PLANNING SCHEME

SHEET INDEX

TOTAL FLOOR AREAS

MAIN DWELLING, GROUND FLOOR

ALFRESCO	11.20
GARAGE	39.68
LIVING	144.16
PORCH	2.70
	197.74 m²

HIGHLY REACTIVE / PROBLEMATIC SOIL TYPE. REFER TO HYDRAULICS PLANS AND DETAILS PREPARED BY GANDY AND ROBERTS

AS & NCC COMPLIANCE

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH NCC 2022 AND APPLICABLE AUSTRALIAN STANDARDS AT TIME OF APPROVAL.

- SLAB IN ACCORDANCE WITH AS 2870. REFER TO ENGINEERS DETAILS FOR ALL SLAB DETAILS.
- BRICK CONTROL JOINTS PROVIDED IN ACCORDANCE WITH NCC 2022.
- ALL STEEL FRAMING TO BE DESIGNED TO AS 4100-2020 OR AS/NZS 4600-2018.
- INSULATION TO BE INSTALLED IN ACCORDANCE WITH NCC 2022 AND ALL APPLICABLE AUSTRALIAN STANDARDS.
- TERMITE PROTECTION IN ACCORDANCE WITH AS 3660 AND NCC 2022.
- GLAZING IN ACCORDANCE WITH AS 1288 AND NCC 2022.
- SMOKE ALARMS IN ACCORDANCE WITH AS 3786 AND NCC 2022.
- INTERNAL WATERPROOFING IN ACCORDANCE WITH NCC 2022 HOUSING PROVISIONS PART 10.2.
- EXTERNAL WATERPROOFING IN ACCORDANCE WITH AS 3740 AND AS 4654.
- WET AREA FLOORS TO FALL TO FLOOR WASTES AT MIN. 1:80 AND MAX. 1:50 GRADE (IF APPLICABLE).
- CONDENSATION MANAGEMENT IN ACCORDANCE WITH NCC 2022 HOUSING PROVISIONS PART 10.8.
- BUILDING SEALING IN ACCORDANCE WITH NCC 2022.
- SERVICES IN ACCORDANCE WITH NCC 2022.
- EARTHWORKS IN ACCORDANCE WITH AS 3798-2007.
- EXTERNAL WALL WRAP (SARKING) IN ACCORDANCE WITH NCC 2022 (IF APPLICABLE).
- EXHAUST FANS DUCTED TO OUTSIDE AIR (IF APPLICABLE).

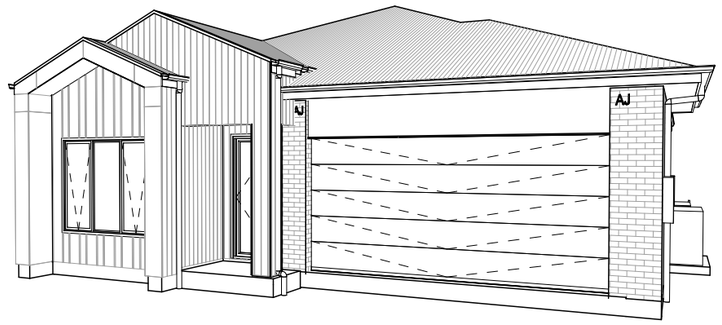
SITE SPECIFIC CONTROLS

CONTROL	DETAILS
ACID SULPHATE SOIL	NO
BIODIVERSITY	NO
BUILDING ENVELOPE	YES
BUSHFIRE	NO
CLIMATE ZONE (NCC)	ZONE 7 - COOL TEMPERATE
DESIGN WIND CLASSIFICATION	N2 (NOT EXPOSED)
DESIGN WIND SPEED	40.00 m/s (NOT EXPOSED)
ESTATE/DEVELOPER GUIDELINES	RICHMOND GREEN ESTATE
FLOOD OVERLAY	YES
HERITAGE	YES
LANDSLIP HAZARD	NO
MINIMUM FLOOR LEVEL	NO
NATURAL ASSET CODE	NO
NOISE ATTENUATION	NO
SALINE SOIL	NO
SHIELDING FACTOR	PS - PARTIAL SHIELDING
SITE CLASSIFICATION	P
SPECIFIC AREA PLAN OVERLAY	NO
TERRAIN CATEGORY	TC2
TOPOGRAPHIC CLASSIFICATION	T0
WATERWAY & COASTAL OVERLAY	YES
WIND REGION	A - NORMAL
WITHIN 1km CALM SALT WATER	NO
WITHIN 50km BREAKING SURF	NO
ZONING	GENERAL RESIDENTIAL

BUILDING CONTROLS & COMPLIANCE

CONTROL	REQUIRED	PROPOSED
SETBACKS		
FRONT	MIN. 4,500mm	5,177mm
GARAGE TO BOUNDARY	MIN. 5,500mm	5,515mm
SIDE A	MIN. 1,500mm	1,882mm
SIDE B	MIN. 1,500mm	1,820mm
REAR	MIN. 1,500mm	5,351mm
BULK & SCALE		
SITE AREA	454m²	
SITE COVERAGE	MAX. 50%	43.56%
LANDSCAPE		
NO APPLICABLE CONTROLS		
EARTHWORKS		
CUT DEPTH	MAX. 2,000mm	272mm
FILL DEPTH	MAX. 1,000mm	0mm
ACCESS & AMENITY		
PRIVATE OPEN SPACE	MIN. 24m²	24m²

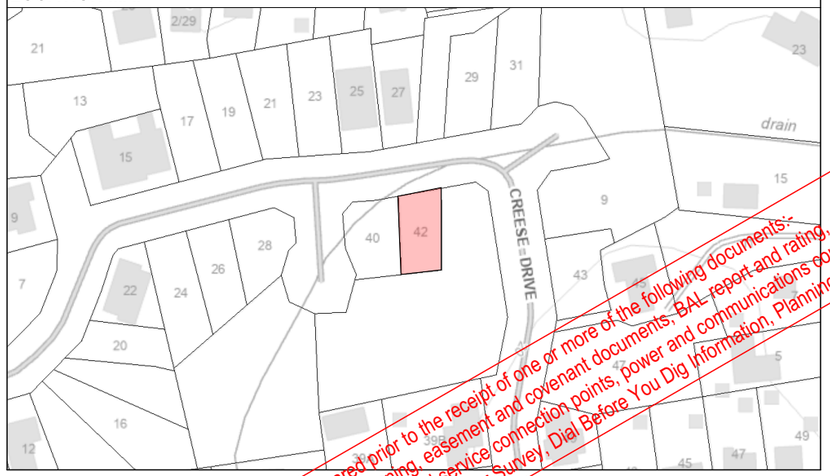
3D PERSPECTIVE



NOTE TO OWNER

THESE PLANS MAY FEATURE WORKS THAT ARE EXCLUDED FROM THE SCOPE OF WORKS WITH THE BUILDER, BUT THEY HAVE BEEN INCLUDED IN THESE DRAWINGS TO ASSIST IN THE OVERALL PLANNING AND ASSESSMENT OF THE BUILDING PROJECT. EXAMPLES OF SOME REGULARLY EXCLUDED WORKS INCLUDE DRIVEWAYS, RETAINING WALLS, SOLAR PANEL SPACING AND SITE DRAINAGE. PLEASE REFER TO YOUR SCOPE OF WORKS AND COLOUR SELECTIONS DOCUMENTATION FOR DETAILS OF INCLUDED WORKS. SOME DETAILS ARE INDICATIVE ONLY FOR EXAMPLE FLOORING, TILING, BRICKWORK AND CLADDING (EXPANSION JOINTS, ORIENTATION AND LAYOUT) AND ARE SUBJECT TO CHANGE.

LOCATION MAP



This Plan has been prepared prior to the receipt of one or more of the following documents:- Certificate of Title inclusive of lot specific zoning, easement and covenant documents, BAL report and rating, approved subdivision plans providing crossover locations and service connection points, power and communications connection point information, Geotechnical Site Investigation, Contour Survey, Dial Before You Dig information, Planning Approval.

BUILDING INFORMATION

GROUND FLOOR TOP OF WALL HEIGHT(S)	2605mm
NOTE: CEILING HEIGHT 45mm LOWER THAN TOP OF WALL	
ROOF PITCH (U.N.O.)	23.0°
ELECTRICITY SUPPLY	SINGLE PHASE
GAS SUPPLY	NONE
ROOF MATERIAL	SHEET METAL
ROOF COLOUR	N/A
WALL MATERIAL	BRICK VENEER CLADDING
SLAB CLASSIFICATION	TBC

INSULATION

ROOF	SARKING UNDER ROOFING
CEILING	R4.1 BATTS (EXCL. GARAGE & ALFRESCO)
EXT. WALLS	R2.0 BATTS (EXCL. GARAGE)
WALL WRAP	WALL WRAP TO ENTIRE HOUSE
INT. WALLS	R2.0 BATTS ADJACENT TO GARAGE AND AS PER PLAN
FLOOR	BIAX SLAB R0.60

NCC 2022 LIVABLE HOUSING COMPLIANCE

STEP FREE ENTRANCE LOCATION: N/A
ACCESSIBLE SANITARY COMPARTMENT LOCATION: TBD (GROUND FLOOR)
ACCESSIBLE SHOWER LOCATION: TBD (GROUND FLOOR)

GENERAL NOTES:

- THRESHOLD OF ACCESSIBLE SHOWER ENTRY TO BE MAX. 5mm.
- ~~THRESHOLD OF STEP FREE ENTRANCE DOOR TO BE MAX. 5mm.~~
- THRESHOLD OF INTERIOR DOORS SERVICING HABITABLE ROOMS, LAUNDRY, ACCESSBILE SANITARY COMPARTMENT AND ROOM CONTAINING ACCESSIBLE SHOWER TO BE MAX. 5mm.
- INTERIOR DOORS NOMINATED AS 870 TO ACHIEVE MIN. 820mm CLEAR OPENING.
- CORRIDORS CONNECTING HABITABLE ROOMS, ACCESSBILE SANITARY COMPARTMENT AND ROOM CONTAINING ACCESSIBLE SHOWER TO ACHIEVE MIN. 1000mm CLEARANCE BETWEEN FINISHED SURFACE OF OPPOSING WALLS (EXCL. SKIRTINGS).
- REFER TO APPLICABLE WET AREA PLANS AND INTERIOR ELEVATIONS FOR LOCATIONS OF REQUIRED WALL REINFORCEMENT FOR FUTURE GRAB RAIL INSTALLATION.

SUBJECT TO NCC 2022 (1 MAY 2023)
WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

PLAN ACCEPTANCE BY OWNER

SIGNATURE: DATE:

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DA PLAN SET

No.	AMENDMENT	SHEET	DATE	DRAWN	CHECK
4	DA PLAN SET - RFI RESPONSE	ALL	2026.07.31	HAB	-
3	DA PLAN SET - ISSUE	ALL	2026.07.31	HAB	-

WILSON HOMES

SPECIFICATION: DESIGNER
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	REVISION	DRAWN	
1	PRELIMINARY PLAN SET - INITIAL ISSUE	HAB	15/07/2026
2	PRELIM PLANS - INITIAL ISSUE	TDI	30/07/2026
3	DA PLAN SET - ISSUE	HAB	31/07/2026
4	DA PLAN SET - RFI RESPONSE	HAB	11/08/2026

CLIENT: WILSON COMPLETE
ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025
LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: COVER SHEET
SHEET No.: 1 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES:

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REFER TO SHEET 1 (COVER SHEET) FOR ALL BUILDING INFORMATION REGARDING:
- SUSTAINABILITY REQUIREMENTS
- SITE CLASSIFICATION
- GENERAL BUILDING INFORMATION

APPROX. CUT/FILL		
CUT	21.19m³	47.68t
FILL	25.73m³	57.89t
DIFFERENCE	4.54m³	10.22t
10 TONNES OF IMPORT FILL		
EXCLUDES DRIVEWAY CUT/FILL		

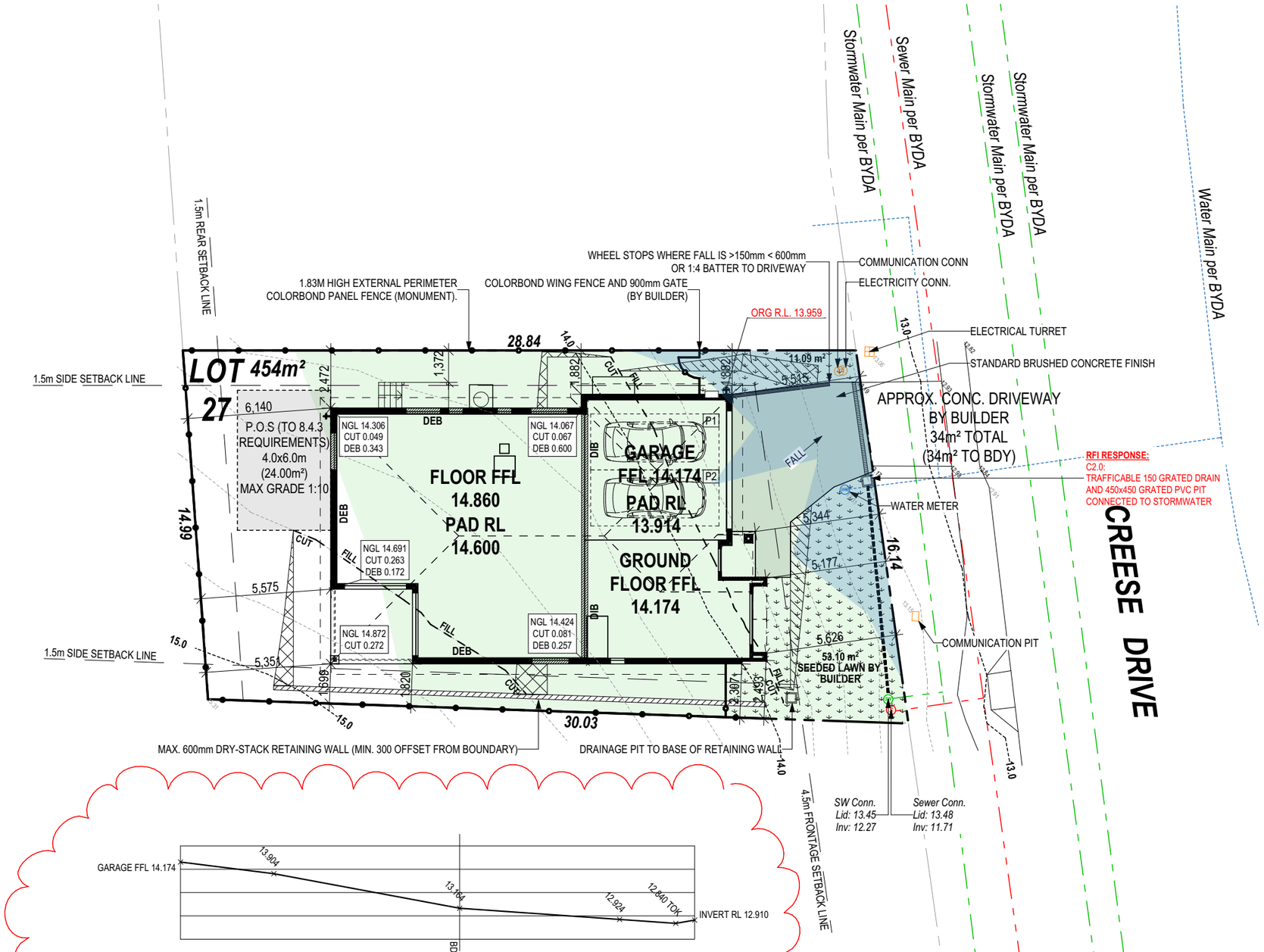
LOT SIZE:	**454m²**
HOUSE (COVERED AREA)**:**	**197.74m²**
SITE COVERAGE:	**43.56%**

DEB AREA

DROPPED EDGE BEAMS	
HEIGHT (mm)	**SURFACE AREA (m²)**
257	1.25
343	1.98
514	5.57
686	3.21
	12.02 m²

DRY STACK WALLS <1m HIGH:
ISLAND BLOCK & PAVING FREESTONE ECO RETAINING WALL INSTALLATION TO MANUFACTURER'S SPECIFICATION AND DETAILS

RFI RESPONSE:
8.4.2 SETBACKS AND BUILDING ENVELOPES FOR ALL DWELLINGS:
REFER WRITTEN RESPONSE.



DRIVEWAY DETAILS
SCALE: 1:100

RFI RESPONSE:
C2.0: PLEASE REFER DRIVEWAY DETAILS DIAGRAM FOR DRIVEWAY GRADIENT, TRANSITIONS & LENGTH TO INVERT AND BOUNDARY.

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WILSON HOMES

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CLIENT: WILSON COMPLETE		HOUSE DESIGN: ALBANY 20	HOUSE CODE: H-WDNALB10SA
ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025		FACADE DESIGN: SUSSEX	FACADE CODE: F-WDNALB10SUSXA
LOT / SECTION / CT: 27 / - / 189888	COUNCIL: CLARENCE	SHEET TITLE: SITE PLAN	SHEET No.: 2 / 18
		SCALES: 1:200	714844

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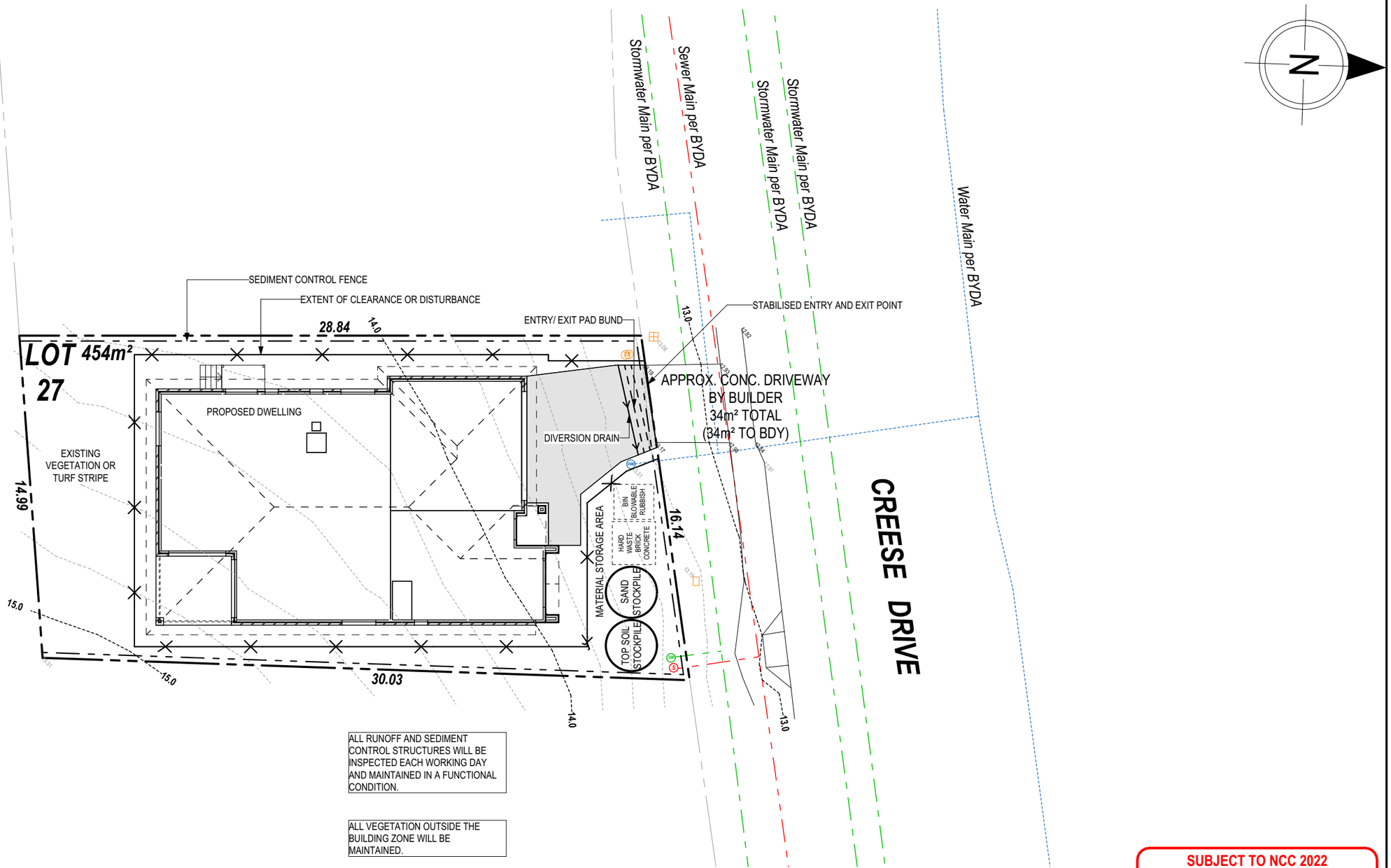
ALL VEGETATION OUTSIDE THE BUILDING ZONE WILL BE MAINTAINED.

OWNER TO STABILISE THE SITE ON COMPLETION OF THE BUILD WITH TURF LAWNS, GRASS SEEDS, NATIVE GROUND COVERS AND/ OR MULCH SPREAD TO A DEPTH OF 75-100mm

THE FOLLOWING IS A STANDARD APPROACH. SEDIMENT AND EROSION CONTROL MEASURES WILL BE REVIEWED PRIOR TO COMMENCING WORK AND INSTALLED BASED ON THE OUTCOME OF THAT REVIEW.

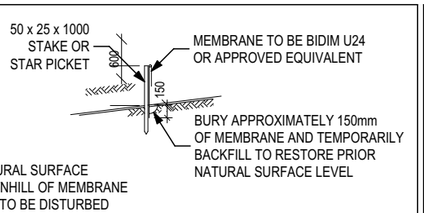
NOTES:
1. ALL EROSION AND SEDIMENT CONTROL STRUCTURES TO BE INSPECTED EACH WORKING DAY AND MAINTAINED IN GOOD WORKING ORDER.
2. ALL GROUND COVER VEGETATION OUTSIDE THE IMMEDIATE BUILDING AREA TO BE PRESERVED DURING THE BUILDING PHASE.
3. ALL EROSION AND SEDIMENT CONROL MEASURES TO BE INSTALLED PRIOR TO COMMENCEMENT OF MAJOR EARTHWORKS.
4. STOCKPILES OF CLAYEY MATERIAL TO BE COVERED WITH AN IMPERVIOUS SHEET.
5. ROOF WATER DOWNPIPES TO BE CONNECTED TO THE PERMAMENT UNDERGROUND STORMWATER DRAINAGE SYSTEM AS SOON AS PRACTICAL AFTER THE ROOF IS LAID.

6. DIVERSION DRAINS ARE TO BE CONNECTED TO A LEAGAL DISCHARGE POINT (COUNCIL STORMWATER SYSTEM, WATERCOURSE OR ROAD DRAIN).
7. SEDIMENT RETENTION TRAPS INSTALLED AROUND THE INLETS TO THE STORMWATER SYSTEM TO PREVENT SEDIMENT & OTHER DEBRIS BLOCKING THE DRAINS.

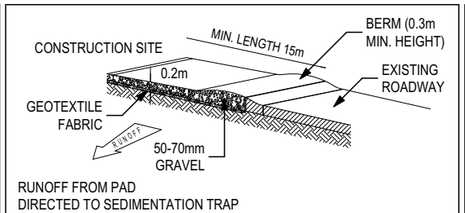


ALL RUNOFF AND SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED EACH WORKING DAY AND MAINTAINED IN A FUNCTIONAL CONDITION.

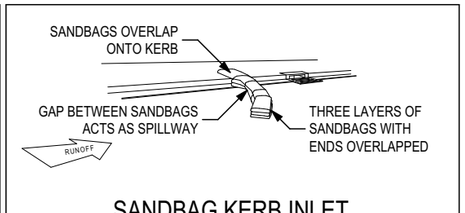
ALL VEGETATION OUTSIDE THE BUILDING ZONE WILL BE MAINTAINED.



SILT FENCING DETAIL



TEMPORARY CONSTRUCTION EXIT



SANDBAG KERB INLET SEDIMENTATION TRAP

SUBJECT TO NCC 2022 (1 MAY 2023)
WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

PLAN ACCEPTANCE BY OWNER

SIGNATURE: DATE:

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WILSON HOMES

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COPYRIGHT: © 2026	ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025	FACADE DESIGN: SUSSEX	FACADE CODE: F-WDNALB10SUSXA
	LOT / SECTION / CT: 27 / - / 189888	COUNCIL: CLARENCE	SHEET TITLE: SOIL & WATER MANAGEMENT PLAN
			SHEET No.: 3 / 18
			SCALES: 1:200

DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS ONLY. CHECK AND VERIFY DIMENSIONS AND LEVELS PRIOR TO THE COMMENCEMENT OF ANY WORK. ALL DISCREPANCIES TO BE REPORTED TO THE DRAFTING OFFICE.

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REFER TO SHEET 1 (COVER SHEET) FOR ALL BUILDING INFORMATION REGARDING:
- SUSTAINABILITY REQUIREMENTS
- SITE CLASSIFICATION
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ALL MECHANICAL VENTILATION TO BE DISCHARGED TO OUTDOOR AIR AS PER NCC 2022 REQUIREMENTS

FIRE RESISTANT PLASTERBOARD TO BE INSTALLED BEHIND COOKTOP

ALL GROUND FLOOR BULKHEAD AND SQUARE SET OPENING FRAMES TO BE 2455 ABOVE FFL UNLESS NOTED OTHERWISE

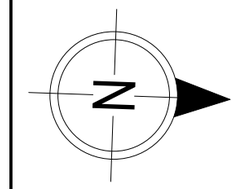
ALL GROUND FLOOR INTERNAL DOORS TO BE 2340 HIGH UNLESS NOTED OTHERWISE

REFER TO WINDOW AND DOOR SCHEDULES FOR FULL DETAILS OF ALL WINDOWS AND DOORS. PLEASE NOTE WINDOW AND DOOR SIZES ARE BASED ON MANUFACTURERS SPECIFICATIONS AT DEPOSIT STAGE AND MAY DIFFER SLIGHTLY TO THE SIZES NOMINATED IN THE SCOPE OF WORKS DUE TO MANUFACTURING CHANGES AT THE TIME OF CONSTRUCTION.

FINAL WINDOW AND EXTERIOR DOOR LOCATIONS MAY BE ADJUSTED ON SITE TO SUIT BRICKWORK GAUGE

ALL STAIR TREADS TO PROVIDE A MINIMUM SLIP RESISTANCE TO MEET NCC 2022 REQUIREMENTS

UNLESS NOTED OTHERWISE ALL ROOMS ARE REFERENCED AS FOLLOWS:



MAIN DWELLING, GROUND FLOOR	
ALFRESCO	11.20
GARAGE	39.68
LIVING	144.16
PORCH	2.70
	197.74 m²

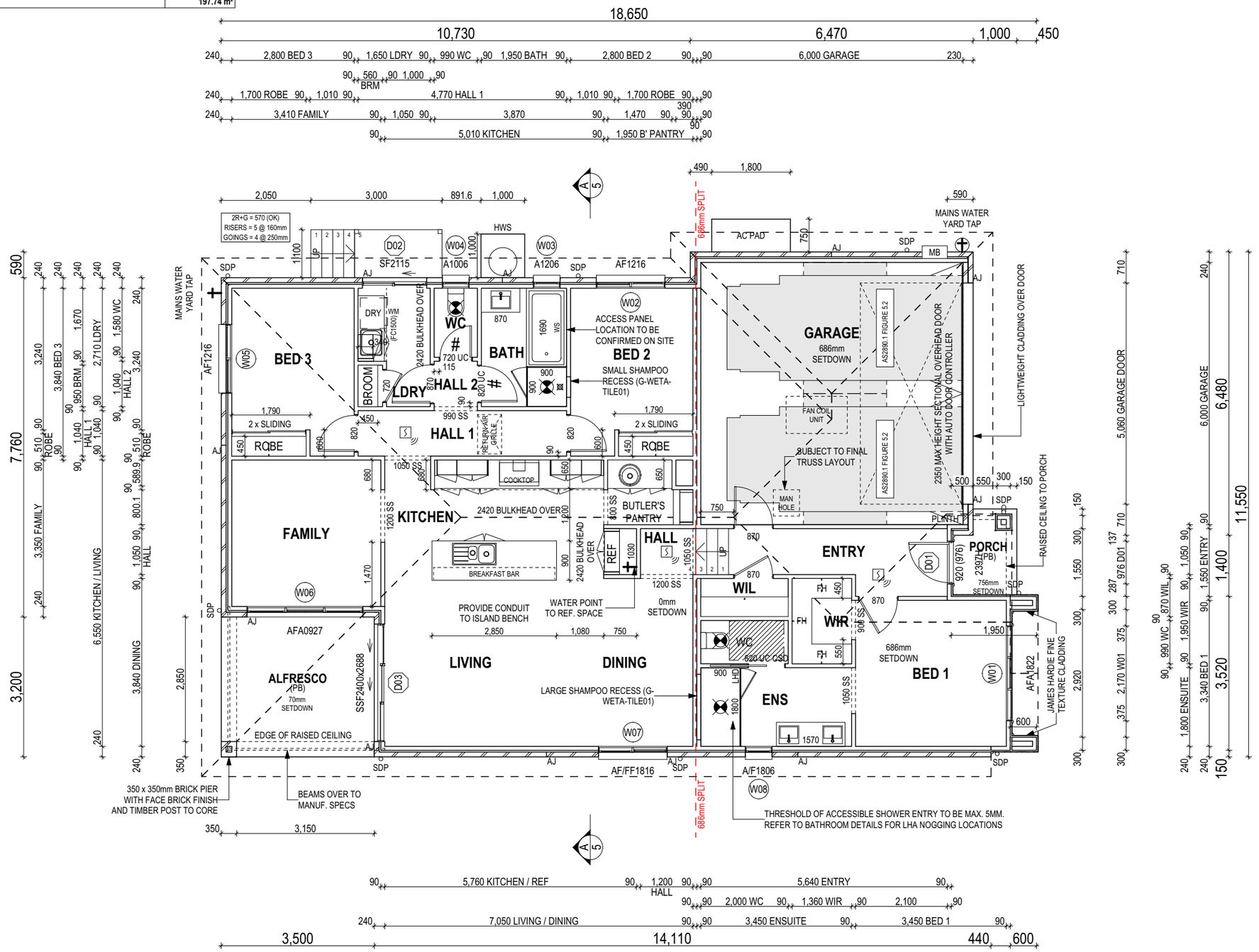
INSULATION TO BE INSTALLED IN ACCORDANCE WITH NCC AND RELEVANT AUSTRALIAN STANDARDS:
- R2.0 BATTS TO EXTERNAL WALLS (EXCLUDING GARAGE)
- R2.0 BATTS TO INTERNAL WALLS ADJACENT TO GARAGE / SUBFLOOR / ROOF SPACES / SKYLIGHTS
- R4.1 CEILING BATTS (EXCLUDING GARAGE, ALFRESCO & PATIO)
- SARKING UNDER ROOF
- WALL WRAP TO ENTIRE DWELLING

PROVIDE AND INSTALL SINGLE PHASE REVERSE CYCLE AIR CONDITIONING SYSTEM. NUMBER AND POSITIONING OF OUTLETS AND THE FINAL LOCATION OF THE RETURN AIR GRILLE WILL BE DETERMINED ON SITE BY THE AIR CONDITIONING CONTRACTOR AND IS SUBJECT TO TRUSS LAYOUT AND ANY OTHER CONSTRUCTION CONSTRAINTS.

FRAME MANUFACTURER TO PROVIDE CLEARANCE FOR PASSAGE OF FAN COIL UNIT FROM RETURN AIR OPENING TO FINAL FAN COIL LOCATION.

ANY PART OF THE FASCIA, GUTTERING OR DOWNPIPE THAT IS WITHIN 450mm OF ANY BOUNDARY IS TO BE NON-COMBUSTIBLE IN ACCORDANCE WITH NCC 2022

ALL EXTERIOR SLABS TO BE GRADED BY CONCRETER TO ACHIEVE APPROX. 1:100 FALL TO OUTSIDE EDGE WITH MAXIMUM CROSSFALL OF 30mm OVER ENTIRE SLAB.



LEGEND

HS / WS	HOB SPOUT / WALL SPOUT
	FACE BRICK / COMMON BRICK
	RENDER
	SOUND INSULATION
AJ	BRICK ARTICULATION JOINT
SDP	STANDARD DOWNPIPE
CDP	CHARGED DOWNPIPE
3D	DENOTES DRAWER SIDE
	MECHANICAL VENTILATION
L.B.W	LOAD BEARING WALL
PB	PLASTERBOARD
FC	FIBRE CEMENT
	THIS DOOR OPENS FIRST
	SMOKE ALARM
#	LIFT OFF HINGE
	WATER POINT
FW	FLOOR WASTE
GAS	GAS BAYONET

SUBJECT TO NCC 2022 (1 MAY 2023)
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CONDENSATION MANAGEMENT
LIVABLE HOUSING

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ALL DIMENSIONS ARE FRAME DIMENSIONS

WILSON HOMES

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	LOT / SECTION / CT: 27 / - / 189888	COUNCIL: CLARENCE	SHEET TITLE: GROUND FLOOR PLAN	SHEET No.: 4 / 18	SCALES: 1:100

	REVISION	DRAWN	
1	PRELIMINARY PLAN SET - INITIAL ISSUE	HAB	15/07/2026
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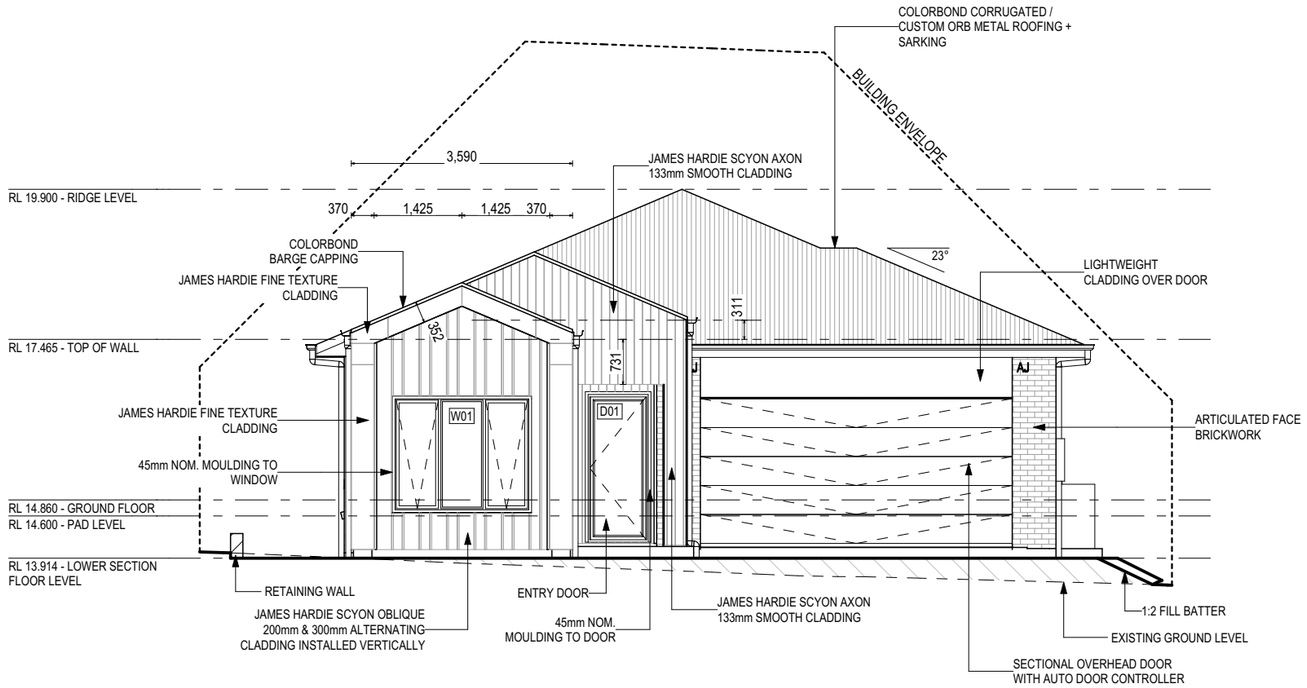
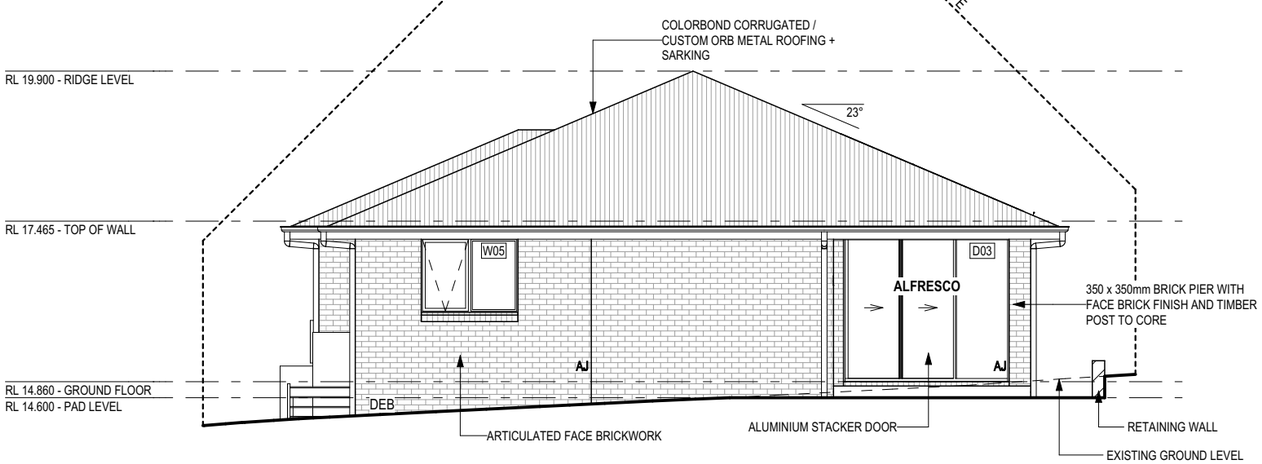
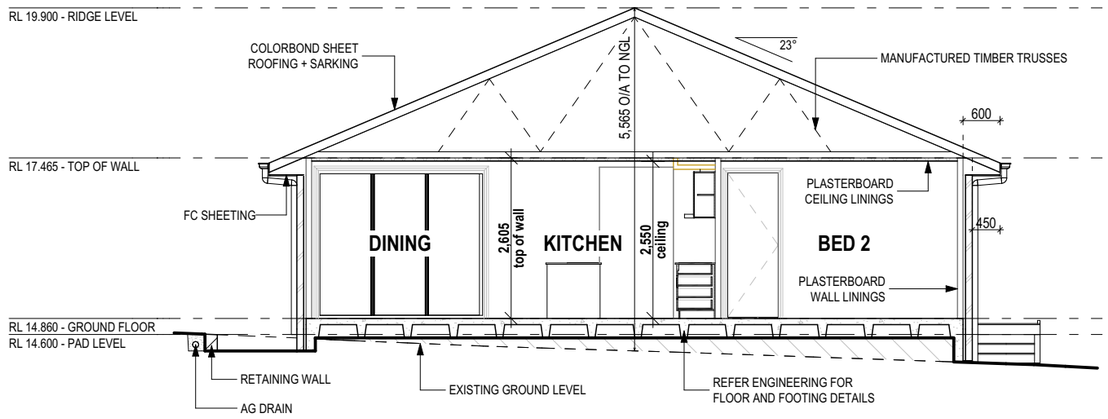


NORTH ELEVATION
SCALE: 1:100



SOUTH ELEVATION
SCALE: 1:100



SECTION A-A
SCALE: 1:100

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- GENERAL BUILDING INFORMATION

SOME DETAILS ON THIS SHEET ARE INDICATIVE ONLY FOR EXAMPLE BRICKWORK AND CLADDING (EXPANSION JOINTS, ORIENTATION AND LAYOUT) AND ARE SUBJECT TO CHANGE.

SH = SNAP HEADER SILL

BEDROOM WINDOW OPENINGS ABOVE 2m OFF THE SURFACE BENEATH TO BE RESTRICTED AS REQUIRED BY NCC 11.3.7 (VOLUME TWO)

ROOMS OTHER THAN BEDROOM WINDOW OPENINGS ABOVE 4m OFF THE SURFACE BENEATH TO BE RESTRICTED AS REQUIRED BY NCC 11.3.7 (VOLUME TWO)

REFER TO THE FOLLOWING DETAILS:
BRICK COURSING W-BRIC-001

SUBJECT TO NCC 2022 (1 MAY 2023)
WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

GLASS TYPE LEGEND

CLEAR | OBSCURE

WINDOW TYPE LEGEND

AWNING | DOUBLE HUNG | FIXED | LOUVRE | SLIDING

PLAN ACCEPTANCE BY OWNER

SIGNATURE: DATE:

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ALL CUT/FILL BATTERS ARE 1:2 MAX. GRADIENT

WILSON HOMES

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SCALES: 1:100

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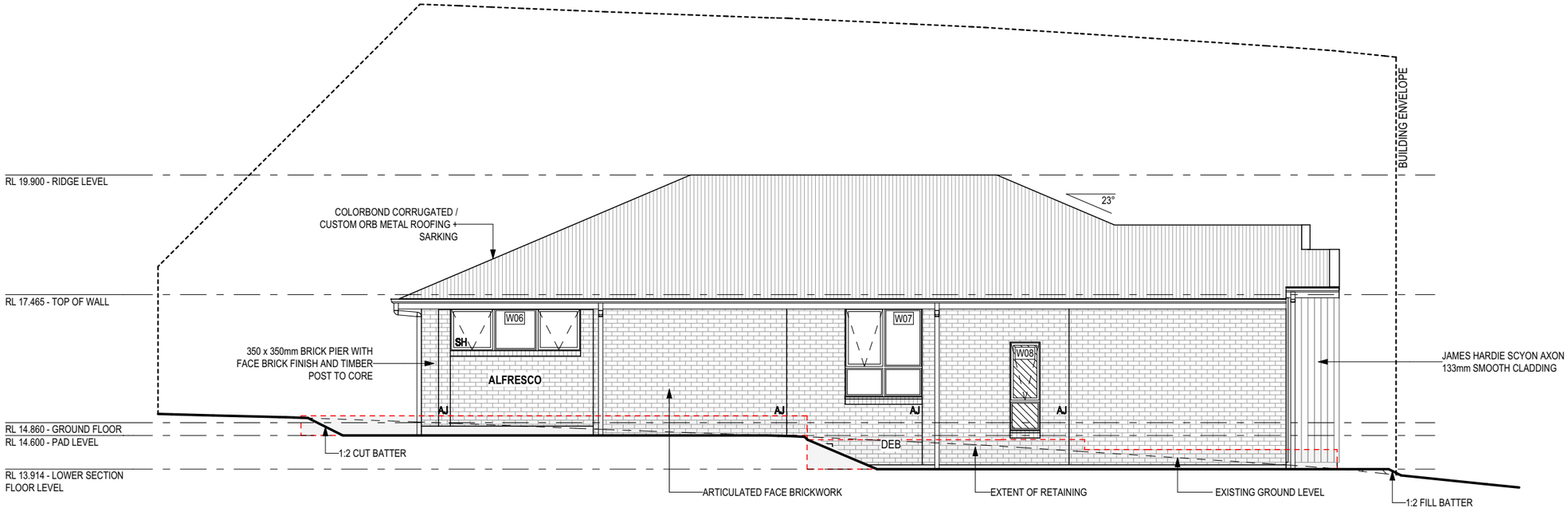
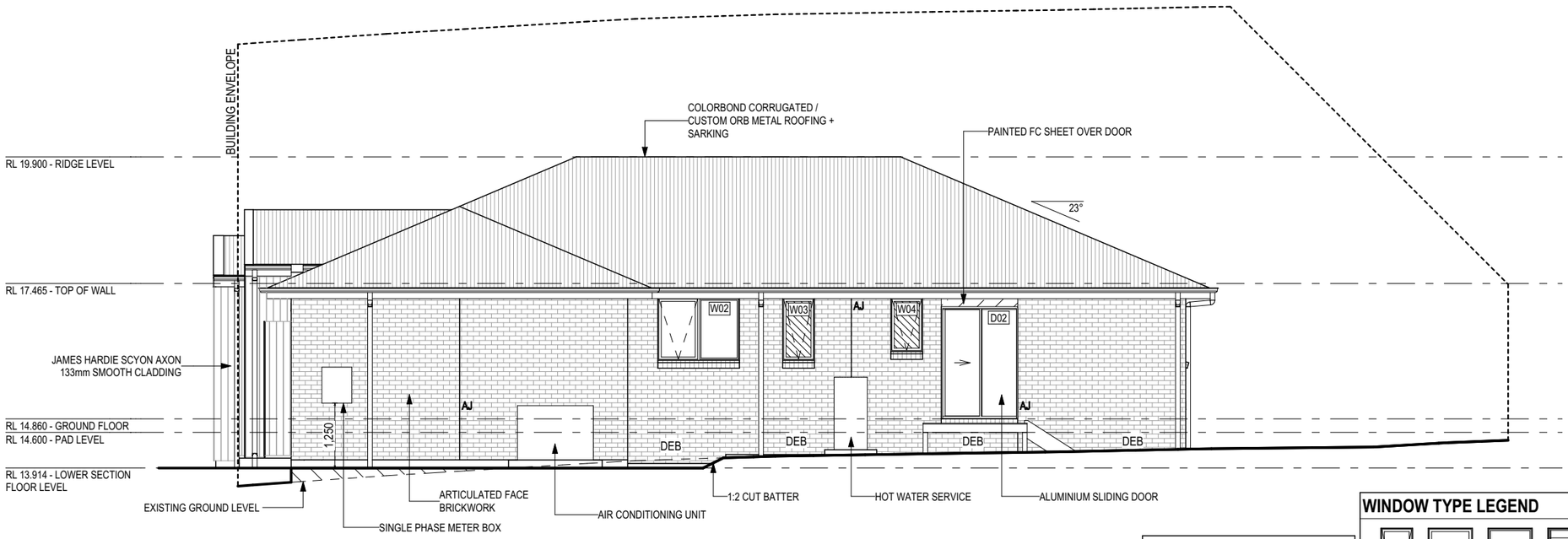


EAST ELEVATION
SCALE: 1:100



WEST ELEVATION
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CONDENSATION MANAGEMENT
LIVABLE HOUSING

ALL CUT/FILL BATTERS ARE 1:2 MAX. GRADIENT

GLASS TYPE LEGEND

CLEAR | OBSCURE

WINDOW TYPE LEGEND

AWNING | DOUBLE HUNG | FIXED | LOUVRE | SLIDING

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ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025		FACADE DESIGN: SUSSEX	FACADE CODE: F-WDNALB10SUSXA
LOT / SECTION / CT: 27 / - / 189888	COUNCIL: CLARENCE	SHEET TITLE: ELEVATIONS	SHEET No.: 6 / 18
			SCALES: 1:100

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714844

EXTERIOR WINDOW & DOOR SCHEDULE [1,2] ASSUME LOOKING FROM OUTSIDE

STOREY	ID	CODE[1]	TYPE	ROOM	HEIGHT	WIDTH	PERIMETER	AREA (m²)	FRAME TYPE	BAL RATING	SILL TYPE	ORIENT.	GLAZING AREA (m²)	GLAZING TYPE (SINGLE GLAZING U.N.O.)	ADDITIONAL INFORMATION[2]
WINDOW															
GROUND FLOOR	W01	AFA1822	AWNING	BED 1	1,800	2,170	7,940	3.91	ALUMINIUM	N/A	NONE	N	3.12	CLEAR, DOUBLE GLAZED	MP 723-723
GROUND FLOOR	W02	AF1216	AWNING	BED 2	1,200	1,570	5,540	1.88	ALUMINIUM	N/A	ANGLED	W	1.51	CLEAR, DOUBLE GLAZED	MP 785
GROUND FLOOR	W03	A1206	AWNING	BATH	1,200	610	3,620	0.73	ALUMINIUM	N/A	ANGLED	W	0.52	OBSCURE, DOUBLE GLAZED, TOUGHENED	
GROUND FLOOR	W04	A1006	AWNING	WC	1,030	610	3,280	0.63	ALUMINIUM	N/A	ANGLED	W	0.44	OBSCURE, DOUBLE GLAZED, TOUGHENED	
GROUND FLOOR	W05	AF1216	AWNING	BED 3	1,200	1,570	5,540	1.88	ALUMINIUM	N/A	ANGLED	S	1.51	CLEAR, DOUBLE GLAZED	MP 785
GROUND FLOOR	W06	AFA0927	AWNING	FAMILY	860	2,650	7,020	2.28	ALUMINIUM	N/A	SNAP HEADER	E	1.75	CLEAR, DOUBLE GLAZED	MP 883-883
GROUND FLOOR	W07	AF/FF1816	AWNING	DINING	1,800	1,570	6,740	2.83	ALUMINIUM	N/A	ANGLED	E	2.26	CLEAR, DOUBLE GLAZED	BP 600, MP 785/785
GROUND FLOOR	W08	A/F1806	AWNING	ENS	1,800	610	4,820	1.10	ALUMINIUM	N/A	ANGLED	E	0.80	OBSCURE, DOUBLE GLAZED, TOUGHENED	BP 600
							44,500 mm	**15.24**					**11.91**		
DOOR															
GROUND FLOOR	D01	920	SWINGING	ENTRY	2,397	976	6,746	2.34	ALUMINIUM	N/A	NONE	N	1.64	CLEAR	
GROUND FLOOR	D02	SF2115	SLIDING	LDRY	2,158	1,470	7,256	3.17	ALUMINIUM	N/A	SNAP HEADER	W	2.71	CLEAR, DOUBLE GLAZED, TOUGHENED	
GROUND FLOOR	D03	SSF2400x2688	STACKER	LIVING	2,400	2,688	10,176	6.45	ALUMINIUM	N/A	SNAP HEADER	S	5.70	CLEAR, DOUBLE GLAZED, TOUGHENED	
							24,178 mm	**11.96**					**10.05**		
							68,678 mm	**27.20**					**21.96**		

Manufacturer - Clark Windows			
Window Type	**Glazing**	**U-Value**	**SHGC**
Awning	**Single**	6.5	0.67
	Double	4.1	0.57
Fixed	**Single**	5.9	0.75
	Double	3.2	0.67
Sliding	**Single**	6.4	0.76
	Double	4.2	0.59
Fixed Pane	**Single**	5.9	0.75
	Double	3.2	0.67
Fixed Glass Panel Hinged Door	**Single**	6.0	0.62
	Double	4.3	0.55
Sliding Door	**Single**	6.1	0.74
	Double	3.6	0.66
Stacking Door	**Single**	6.3	0.74
	Double	3.8	0.66
135 deg. Awning Bay Window	**Single**	6.5	0.67
	Double	4.1	0.57
135 deg. Sliding Bay Window	**Single**	6.5	0.76
	Double	4.2	0.59
90 deg. Awning Bay Window	**Single**	6.5	0.67
	Double	4.1	0.57
90 deg. Sliding Bay Window	**Single**	6.5	0.76
	Double	4.2	0.59
Bifold Doors	**Single**	6.1	0.61
	Double	4.4	0.53

NOTE:
Windows supplied MUST HAVE Uw better and or equal to stated figures and SHGC within +/- 5% of stated figures. Restricted windows to have their openability restricted as per N.C.C 11.3.6.

SUBJECT TO NCC 2022
(1 MAY 2023)
WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

INTERIOR WINDOW & DOOR SCHEDULE

STOREY	QTY	CODE	TYPE	HEIGHT	WIDTH	GLAZING TYPE	ADDITIONAL INFORMATION
DOOR							
GROUND FLOOR	3	1050 SS	SQUARE SET OPENING	2,455	1,050	N/A	
GROUND FLOOR	2	1200 SS	SQUARE SET OPENING	2,455	1,200	N/A	
GROUND FLOOR	2	2 x SLIDING	SLIDING	2,445	1,700	N/A	
GROUND FLOOR	1	720	SWINGING	2,340	720	N/A	
GROUND FLOOR	1	720 UC	SWINGING	2,340	720	N/A	20mm UNDERCUT, LIFT-OFF HINGES
GROUND FLOOR	1	800 SS	SQUARE SET OPENING	2,455	800	N/A	
GROUND FLOOR	2	820	SWINGING	2,340	820	N/A	
GROUND FLOOR	1	820 UC	SWINGING	2,340	820	N/A	20mm UNDERCUT, LIFT-OFF HINGES
GROUND FLOOR	1	820 UC CSD	CAVITY SLIDING	2,340	820	N/A	20mm UNDERCUT
GROUND FLOOR	4	870	SWINGING	2,340	870	N/A	
GROUND FLOOR	1	900 SS	SQUARE SET OPENING	2,455	900	N/A	
GROUND FLOOR	1	990 SS	SQUARE SET OPENING	2,455	990	N/A	

REFER TO SHEET 1 (COVER SHEET) FOR ALL BUILDING INFORMATION REGARDING:
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- SITE CLASSIFICATION
- GENERAL BUILDING INFORMATION

NOTE: INTERNAL DOORS TO WET AREAS WITH MECHANICAL VENTILATION TO BE UNDERCUT 20mm

PICTURE, TV RECESS AND SS WINDOW OPENINGS				
QTY	**TYPE**	**HEIGHT**	**WIDTH**	**AREA (m²)**

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3	DA PLAN SET - ISSUE	HAB	31/07/2026
4	DA PLAN SET - RFI RESPONSE	HAB	11/08/2026

CLIENT: WILSON COMPLETE
ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025
LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: WINDOW & DOOR SCHEDULES
SHEET No.: 7 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES:

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NATURAL LIGHT AND VENTILATION

ROOM	AREA (m2)	WINDOW ID	LIGHT REQUIRED (m2)	LIGHT ACHIEVED (m2)	VENTILATION REQ`D (m2)	VENTILATION ACH`D (m2)
OPEN KITCHEN/ LIVING/ DINING	41.38 m²	W07, D03	4.14 m²	7.96 m²	2.07 m²	4.90 m²
BED 1	11.52 m²	W01	1.15 m²	3.12 m²	0.58 m²	2.40 m²
BED 2	10.54 m²	W02	1.05 m²	1.51 m²	0.53 m²	0.86 m²
BED 3	10.54 m²	W05	1.05 m²	1.51 m²	0.53 m²	0.86 m²
FAMILY	11.42 m²	W06	1.14 m²	1.75 m²	0.57 m²	1.38 m²

PART 10.5.1 LIGHT: Minimum 10% of the floor area of a habitable room required (natural light)

PART 10.6 VENTILATION: Minimum 5% of the floor area of a habitable room required. (An exhaust fan may be used for sanitary compartment, laundry or bathroom provided contaminated air discharges directly to the outside of the building by way of ducts).

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LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE

HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: CALCULATIONS
SHEET No.: 8 / 18

HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES:

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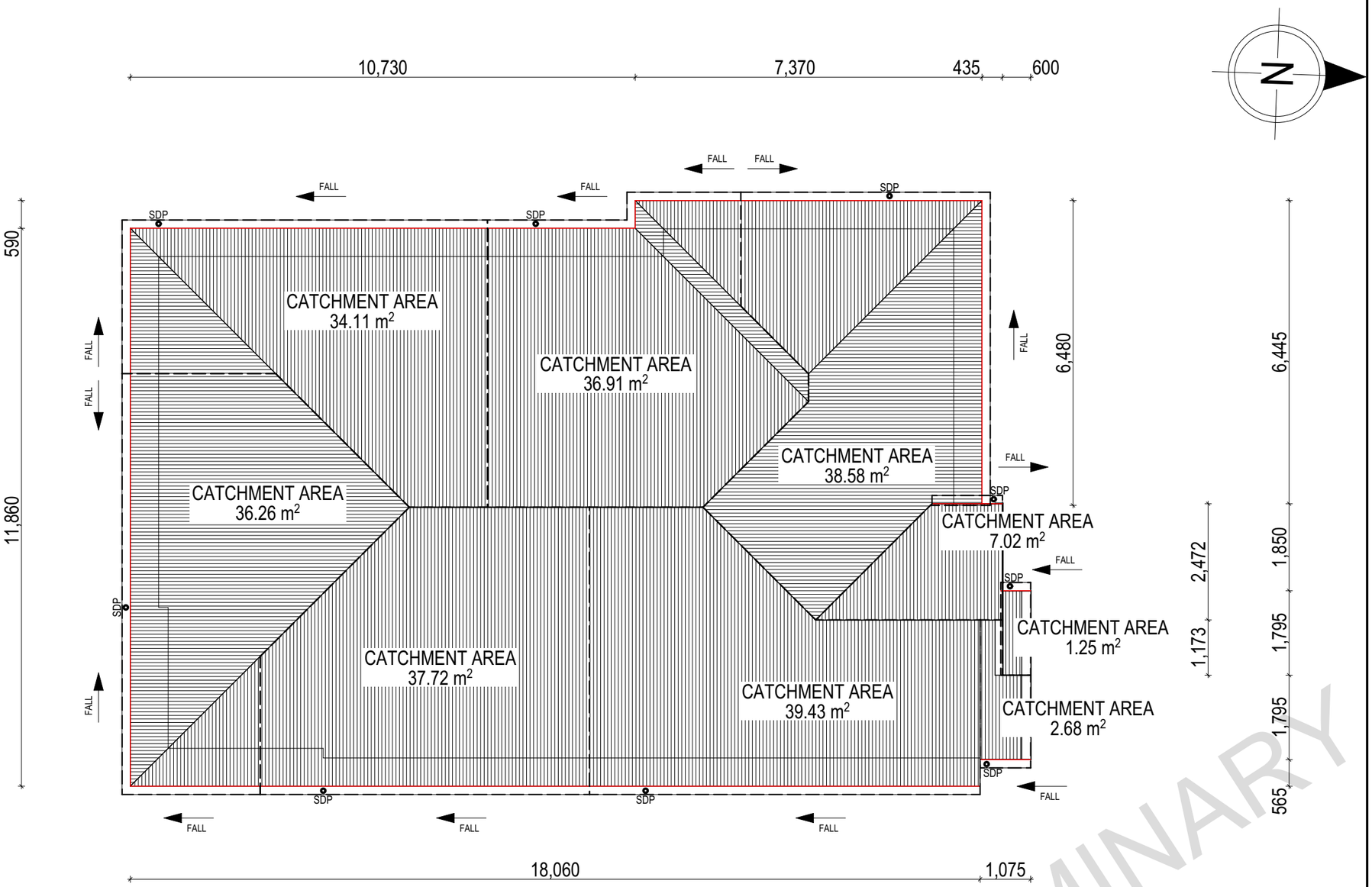

WHERE DOWNPIPES ARE FURTHER THAN 1.2m AWAY FROM VALLEY REFER TO N.C.C. 7.3.5(2)

POSITION AND QUALITY OF DOWNPIPES ARE NOT TO BE ALTERED WITHOUT CONSULTATION WITH DESIGNER.

AREA'S SHOWN ARE SURFACE AREAS/ CATCHMENT AREAS, NOT PLAN AREAS

Roofing Data

	223.51	Flat Roof Area (excluding gutter and slope factor) (m^2)
	244.92	Roof Surface Area (includes slope factor, excludes gutter) (m^2)

Downpipe roof calculations (as per AS/NZA3500.3:2021)

Ah	233.95	Area of roof catchment (including 115mm Slotted Quad Gutter) (m^2)
Ac	283.08	Ah x Catchment Area Multiplier for slope (Table 3.4.3.2 from AS/NZS 3500.3:2021) (1.21 for 23° pitch) (m^2)
Ae	6300	Cross sectional area of 57 x 115 Slotted Quad Gutter (mm^2)
DRI	86	Design Rainfall Intensity (determined from Table E1 from AS/NZS 3500.3:2021)
Acdp	64	Catchment area per Downpipe (determined from Figure 3.5(A) from AS/NZS 3500.3:2021) (m^2)
Required Downpipes	4.42	Ac / Acdp
Downpipes Provided	9	

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PRELIMINARY

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COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: ROOF DRAINAGE PLAN
SHEET No.: 9 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES: 1:100

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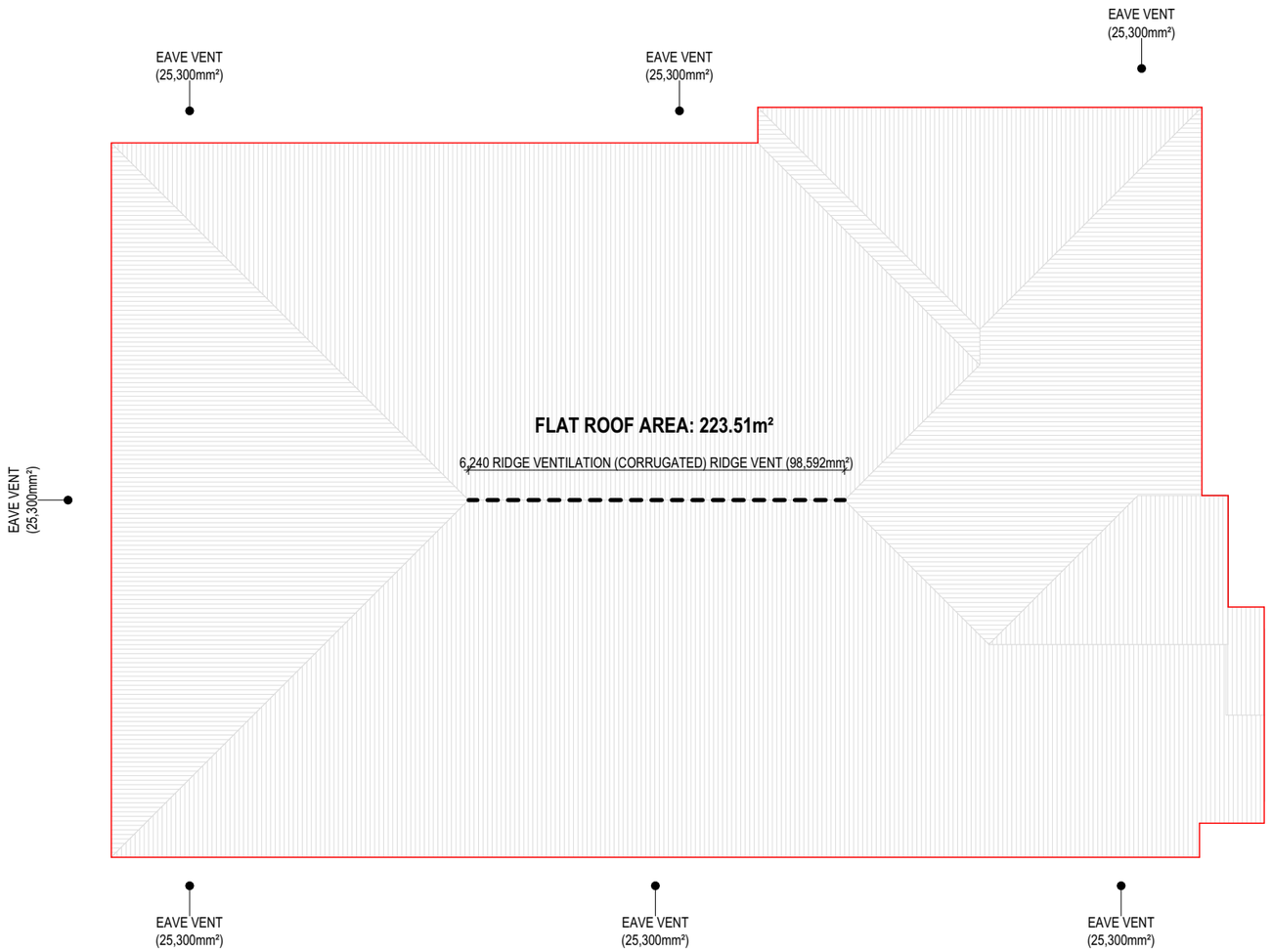

GROUND FLOOR 23° ROOF (ID 1)

ROOF LENGTH: 19.135m
ROOF PITCH: 23.0°
CEILING: FLAT
HIGH LEVEL VENTILATION REQUIRED: 95,670mm²
LOW LEVEL VENTILATION REQUIRED: 133,938mm²

ROOF SPACE VENTILATION

REFER TO ROOF PLAN FOR VENTILATION LOCATIONS		
GROUND FLOOR 23Â° ROOF		
LONGEST HORIZONTAL ROOF LENGTH		19.135m
ROOF PITCH		23.00°
HIGH LEVEL VENTILATION	REQUIRED	95,670mm² (5,000 x 19.135m)
	PROVIDED	98,592mm²
LOW LEVEL VENTILATION	REQUIRED	133,938mm² (7,000 x 19.135m)
	PROVIDED	177,100mm²
NO OF EAVE VENTS	REQUIRED	5.29
	PROVIDED	7

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LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: ROOF VENTILATION PLAN
SHEET No.: 10 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES: 1:100

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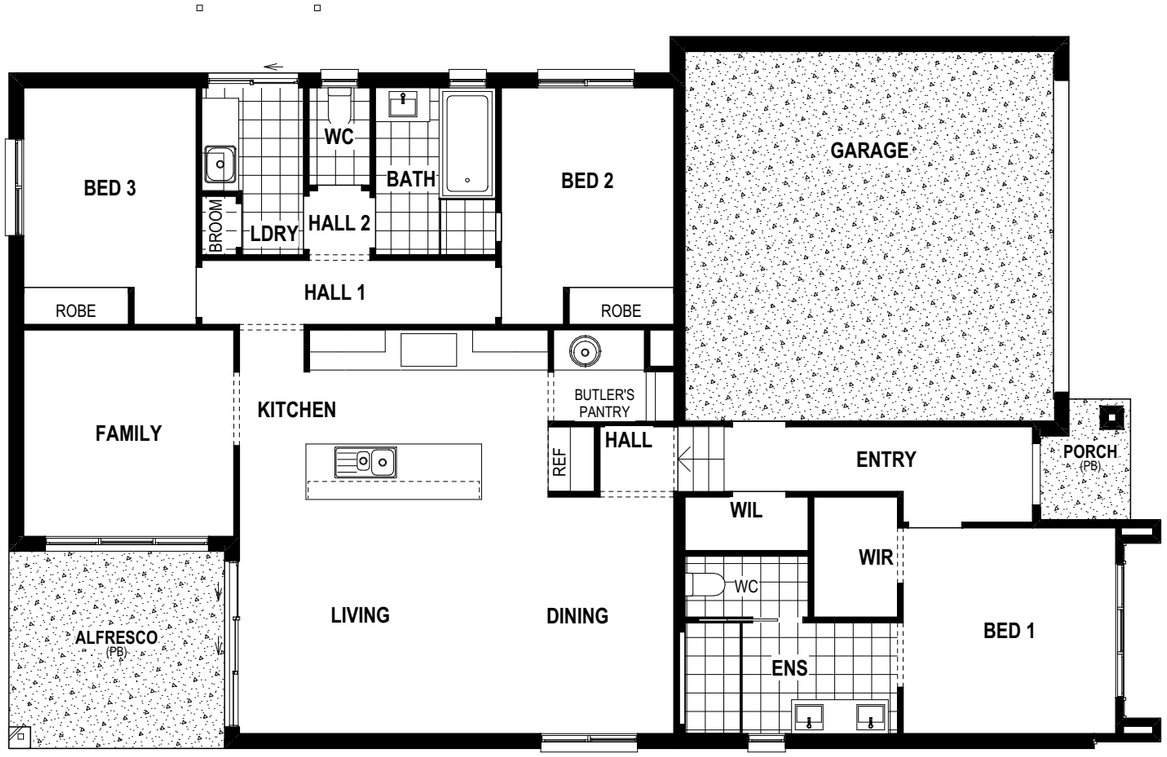
FLOOR TILES SHOWN ON PLAN DO NOT INDICATE THE SIZE OR JOINT LOCATIONS OF THE ACTUAL FLOOR TILES.
TIMBER FLOORING SHOWN ON PLAN DOES NOT INDICATE THE BOARD SIZE OR DIRECTION OF THE ACTUAL FLOORING.

COVERINGS LEGEND

- NO COVERING
- COVER GRADE CONCRETE
- CARPET
- LAMINATE
- TILE (STANDARD WET AREAS)
- TILE (UPGRADED AREAS)
- DECKING



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COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: FLOOR COVERINGS
SHEET No.: 11 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES: 1:100

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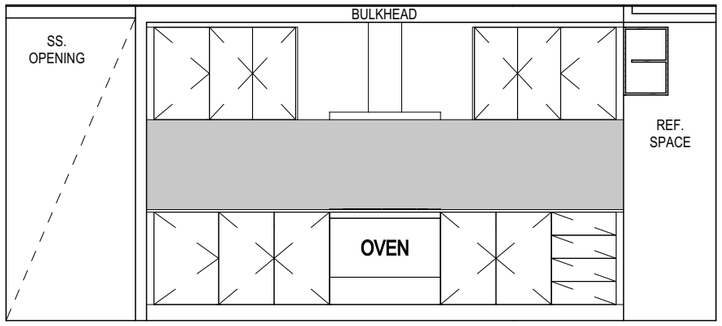
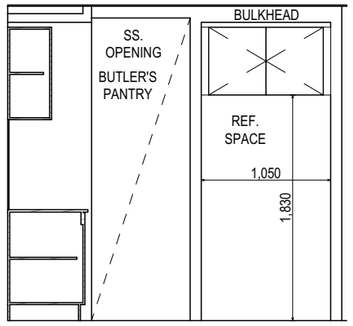


ELEVATION A
SCALE: 1:50



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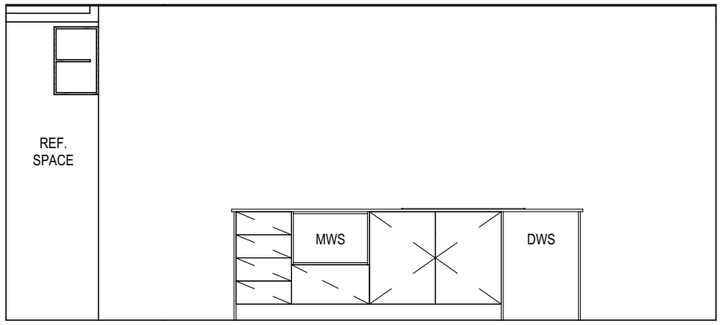
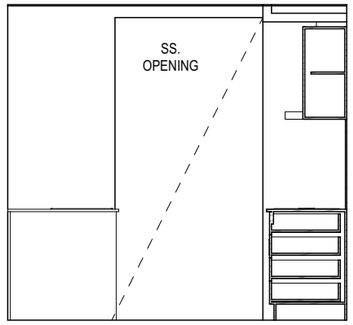


ELEVATION C
SCALE: 1:50



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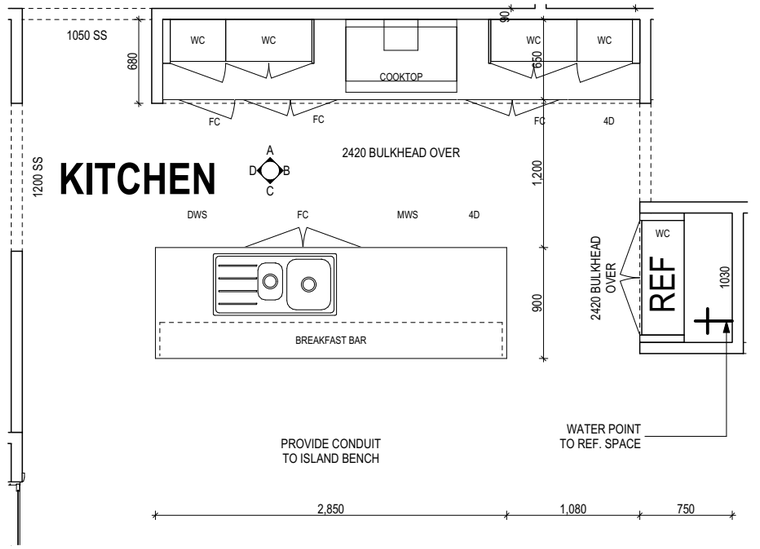
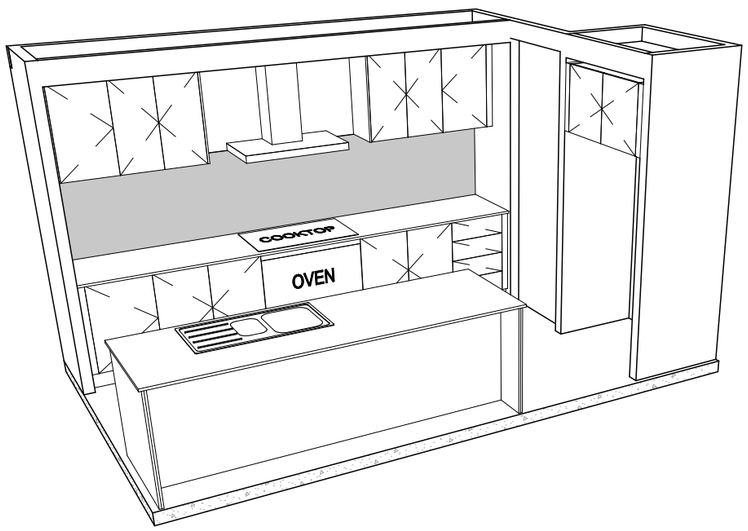
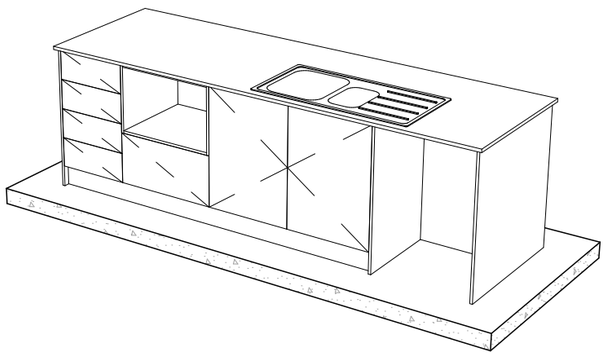
SCALE: 1:50



KITCHEN PLAN
SCALE: 1:50





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- GENERAL BUILDING INFORMATION

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WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

PLAN ACCEPTANCE BY OWNER

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SIGNATURE: DATE:

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ALL DIMENSIONS ARE FRAME DIMENSIONS

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CLIENT: WILSON COMPLETE		HOUSE DESIGN: ALBANY 20	HOUSE CODE: H-WDNALB10SA
ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025		FACADE DESIGN: SUSSEX	FACADE CODE: F-WDNALB10SUSXA
LOT / SECTION / CT: 27 / - / 189888	COUNCIL: CLARENCE	SHEET TITLE: KITCHEN DETAILS	SHEET No.: 12 / 18
			SCALES: 1:50

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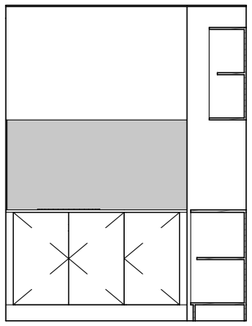
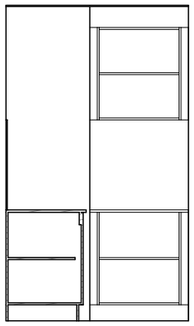


ELEVATION A
SCALE: 1:50



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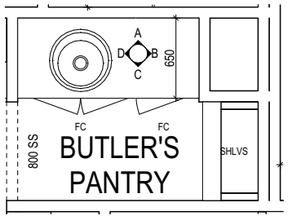
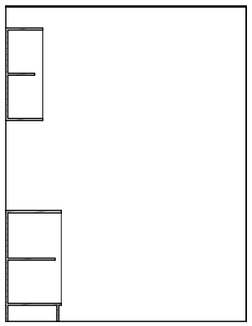


BUTLER'S PANTRY PLAN
SCALE: 1:50



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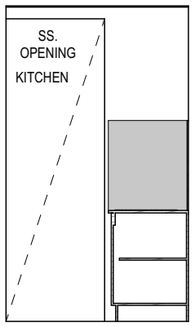

ELEVATION D
SCALE: 1:50

SUBJECT TO NCC 2022
(1 MAY 2023)
WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

PLAN ACCEPTANCE BY OWNER

SIGNATURE: DATE:

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WILSON HOMES

SPECIFICATION: DESIGNER	CLIENT: WILSON COMPLETE	HOUSE DESIGN: ALBANY 20	HOUSE CODE: H-WDNALB10SA
COPYRIGHT: © 2026	ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025	FACADE DESIGN: SUSSEX	FACADE CODE: F-WDNALB10SUSXA
	LOT / SECTION / CT: 27 / - / 189888 — COUNCIL: CLARENCE	SHEET TITLE: BUTLER'S PANTRY DETAILS — SHEET No.: 13 / 18	SCALES: 1:50

	REVISION	DRAWN	
1	PRELIMINARY PLAN SET - INITIAL ISSUE	HAB	15/07/2026
2	PRELIM PLANS - INITIAL ISSUE	TDI	30/07/2026
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714844

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REFER TO THE FOLLOWING DETAILS:
VANITY DETAILS G-VANI-001
WINDOW OVER BATH HOB D-WIND-ALU001
STANDARD BATH HOB D-WETA-BATH003
WET AREA TILING LAYOUTS D-WETA-TILE002
SQUARE SET WINDOWS G-WIND-SSET02
FULL HEIGHT TILING D-LINI-WETA

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- SUSTAINABILITY REQUIREMENTS
- SITE CLASSIFICATION
- GENERAL BUILDING INFORMATION

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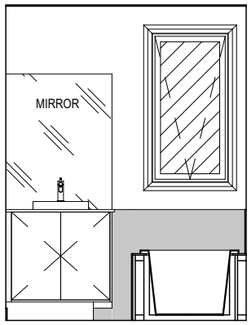
LEGEND

RSHR	RAIL SHOWER
ROSE	SHOWER ROSE
ELBW	SHOWER ELBOW CONNECTION
MIX	MIXER TAP
HT	HOT TAP
CT	COLD TAP
HS	HOB SPOUT
WS	WALL SPOUT
SC	STOP COCK
TRH	TOILET ROLL HOLDER
TR-S	TOWEL RAIL - SINGLE
TR-D	TOWEL RAIL - DOUBLE
TL	TOWEL LADDER
TH	TOWEL HOLDER
TR	TOWEL RACK
TMB	TUMBLER HOLDER
RNG	TOWEL RING
RH	ROBE HOOK
SHLF	SHELF
SR	SHAMPOO RECESS
SOAP	SOAP HOLDER



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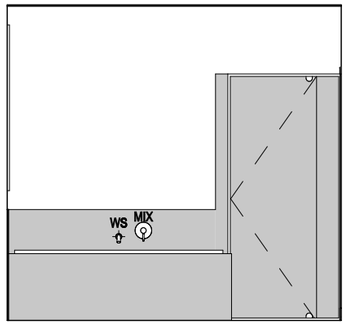

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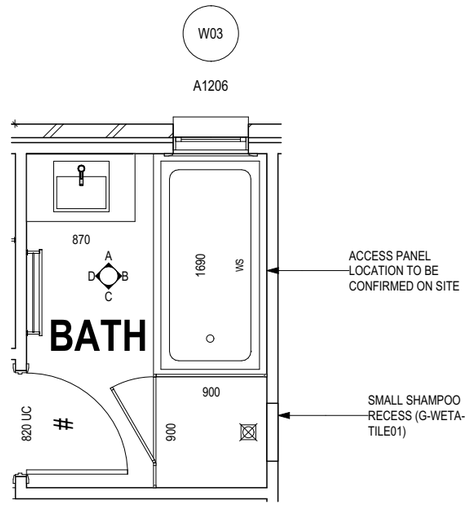

BATHROOM PLAN
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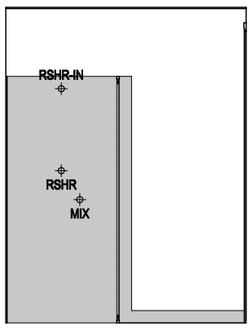

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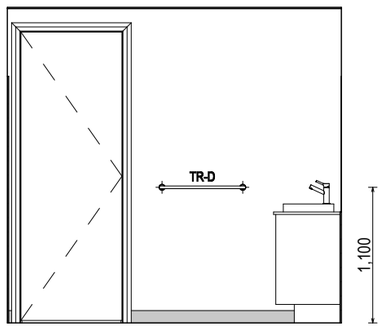

ELEVATION D
SCALE: 1:50

SUBJECT TO NCC 2022 (1 MAY 2023)
WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

PLAN ACCEPTANCE BY OWNER

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CLIENT: WILSON COMPLETE
ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025
LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: BATHROOM DETAILS
SHEET No.: 14 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES: 1:50

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Template Version: 24.043

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RNG	TOWEL RING
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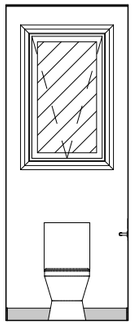

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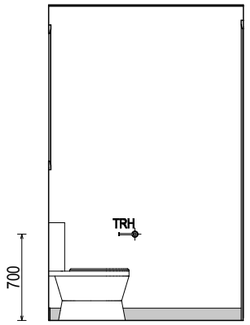

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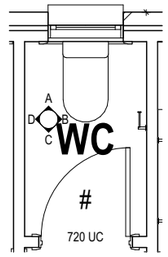
W04

A1006



BATH WC PLAN
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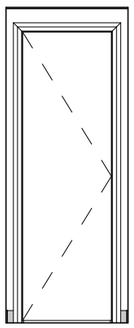

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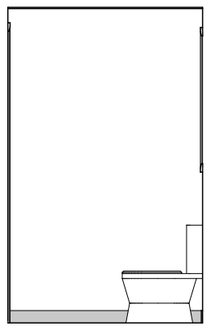

ELEVATION D
SCALE: 1:50

SUBJECT TO NCC 2022 (1 MAY 2023)
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LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: WC DETAILS
SHEET No.: 15 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES: 1:50

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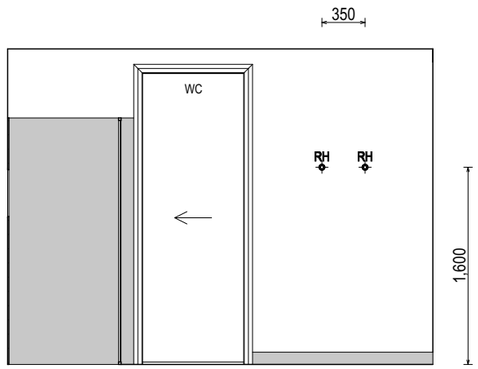

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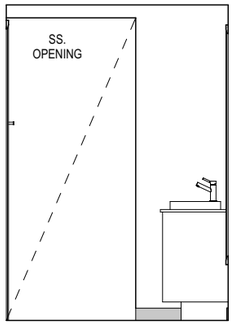

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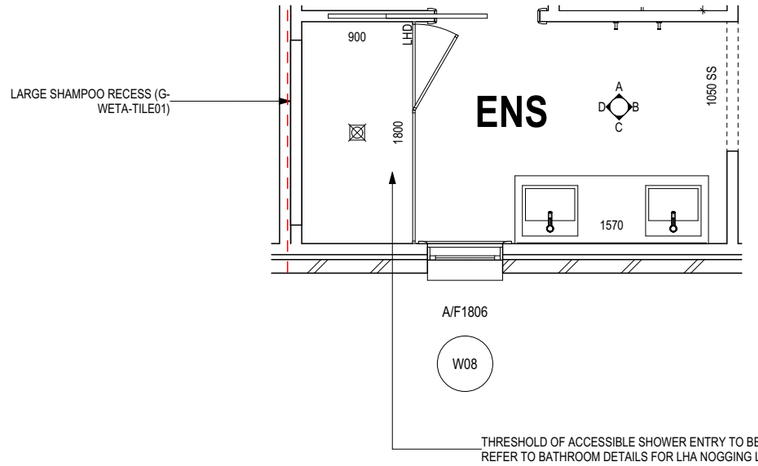

ENSUITE PLAN
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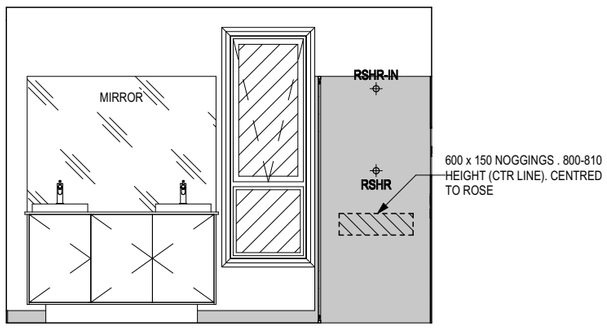

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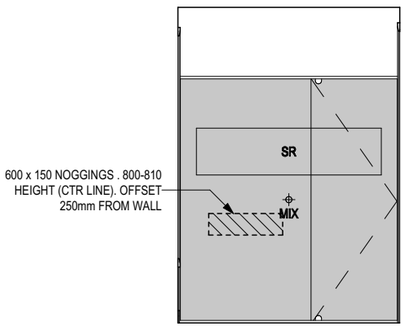

ELEVATION D
SCALE: 1:50

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CONDENSATION MANAGEMENT
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LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE
HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: ENSUITE DETAILS
SHEET No.: 16 / 18
HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES: 1:50

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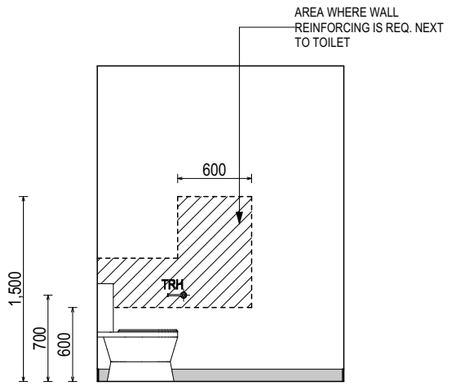

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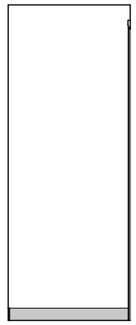

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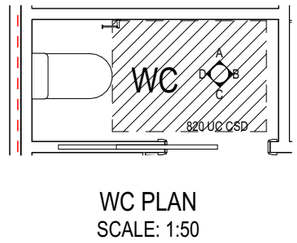

WC PLAN
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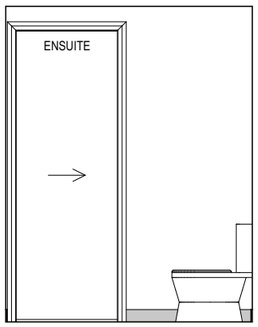

ELEVATION C
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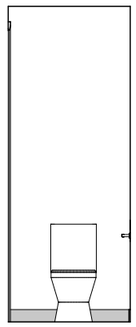

ELEVATION D
SCALE: 1:50

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CONDENSATION MANAGEMENT
LIVABLE HOUSING

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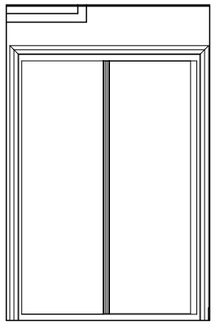
PROVIDE ADDITIONAL NOGGING TO LAUNDRY FOR FIXING OF WALL MOUNTED CLOTHES DRYER AS PER D-FRAM-ELEC006



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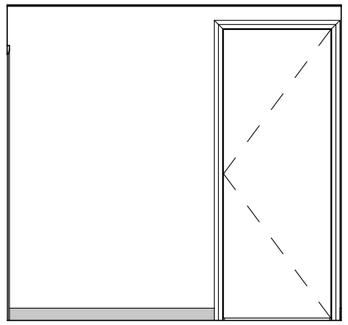
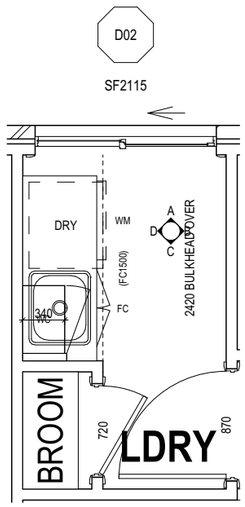
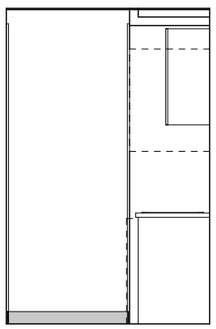


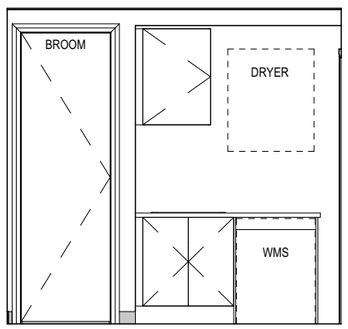
ELEVATION B
SCALE: 1:50



LAUNDRY PLAN
SCALE: 1:50



ELEVATION C
SCALE: 1:50



ELEVATION D
SCALE: 1:50

SUBJECT TO NCC 2022 (1 MAY 2023)
WATERPROOFING & PLUMBING
CONDENSATION MANAGEMENT
LIVABLE HOUSING

PLAN ACCEPTANCE BY OWNER

SIGNATURE: DATE:

SIGNATURE: DATE:

PLEASE NOTE THAT VARIATIONS WILL NOT BE ACCEPTED AFTER THIS PLAN ACCEPTANCE HAS BEEN SIGNED

ALL DIMENSIONS ARE FRAME DIMENSIONS

WILSON HOMES

SPECIFICATION: DESIGNER
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	REVISION	DRAWN	
1	PRELIMINARY PLAN SET - INITIAL ISSUE	HAB	15/07/2026
2	PRELIM PLANS - INITIAL ISSUE	TDI	30/07/2026
3	DA PLAN SET - ISSUE	HAB	31/07/2026
4	DA PLAN SET - RFI RESPONSE	HAB	11/08/2026

CLIENT: WILSON COMPLETE
ADDRESS: LOT 27 CREESE DRIVE, RICHMOND TAS 7025
LOT / SECTION / CT: 27 / - / 189888
COUNCIL: CLARENCE

HOUSE DESIGN: ALBANY 20
FACADE DESIGN: SUSSEX
SHEET TITLE: LAUNDRY DETAILS
SHEET No.: 18 / 18

HOUSE CODE: H-WDNALB10SA
FACADE CODE: F-WDNALB10SUSXA
SCALES: 1:50

DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS ONLY. CHECK AND VERIFY DIMENSIONS AND LEVELS PRIOR TO THE COMMENCEMENT OF ANY WORK. ALL DISCREPANCIES TO BE REPORTED TO THE DRAFTING OFFICE.

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