Meander Valley Council
Working Together

PLANNING NOTICE

An application has been received for a Permit under s.57 of the Land Use Planning Approvals Act 1993:

APPLICANT:	**David Denman & Associates - PA\25\0229**
PROPERTY ADDRESS:	**3 Cook Street HADSPEN & 42 Main Street HADSPEN (CT's: 15968/1 & 177892/1)**
DEVELOPMENT:	**Subdivision (2 lots to 4 lots) & Demolition of Single dwelling & Residential outbuilding - lot design, flood-prone area.**

The application can be inspected until **Tuesday, 11 November 2025**, at www.meander.tas.gov.au or at the Council Office, 26 Lyall Street, Westbury (during normal office hours).

Written representations may be made during this time addressed to the General Manager, PO Box 102, Westbury 7303, or by email to planning@mvc.tas.gov.au. Please include a contact phone number. Please note any representations lodged will be available for public viewing.

If you have any questions about this application please do not hesitate to contact Council's Planning Department on 6393 5320.

Dated at Westbury on 25 October 2025.

Jonathan Harmey
GENERAL MANAGER

APPLICATION FORM

PLANNING PERMIT

Land Use Planning and Approvals Act 1993

- Application form & details MUST be completed **IN FULL**.
- Incomplete forms will not be accepted and may delay processing and issue of any Permits.

Meander Valley Cou
Working Together

OFFICE USE ONLY

Property No: | | | | | | **Assessment No:** | | - | | | | | - | | |

DA | | **PA** | | **PC** | |

- Is your application the result of an illegal building work? ☐ Yes ☑ No Indicate by ✓ box
- Have you already received a Planning Review for this proposal? ☐ Yes ☑ No
- Is a new vehicle access or crossover required? ☑ Yes ☐ No

PROPERTY DETAILS:

Address: 3 COOK ST + 42 MAIN ST

Certificate of Title: 15968/1 - 177892/1

Suburb: HADSPEN 7290

Lot No:

Land area: 3 Cook - 2061 42 MAIN - 5501 (m²) / ha

Present use of land/building:

(vacant, residential, rural, industrial, commercial or forestry)

- Does the application involve Crown Land or Private access via a Crown Access Licence: ☐ Yes ☑ No
- Heritage Listed Property: ☑ Yes ☐ No

DETAILS OF USE OR DEVELOPMENT:

Indicate by ✓ box ☐ Building work ☐ Change of use ☑ Subdivision ☐ Demolition ☐ Forestry ☐ Other

Total cost of development *(inclusive of GST)*: $

Includes total cost of building work, landscaping, road works and infrastructure

Description of work: BOUNDARY ADJUSTMENT - 42 MAIN ST + 3 COOK ST & SUBDIVIDE 3 COOK ST INTO 3 LOTS

Use of building: –

(main use of proposed building – dwelling, garage, farm building, factory, office, shop)

New floor area: – m²

New building height: – m

Materials: External walls: – Colour: –

Roof cladding: – Colour: –

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
15968	1
EDITION	DATE OF ISSUE
2	06-Jun-2023

SEARCH DATE : 22-Oct-2025
SEARCH TIME : 08.39 AM

DESCRIPTION OF LAND

Town of HADSPEN
Lot 1 on Sealed Plan 15968
Derivation : Part of Lot 2 Sec. A. Gtd. to T. Turner. Part of Lot 1 Sec. A. Gtd. to S. Jones.
Prior CT 3909/53

SCHEDULE 1

N118590 TRANSFER to BOBHOLDCO PROPERTY PTY LTD Registered 06-Jun-2023 at 12.01 PM

SCHEDULE 2

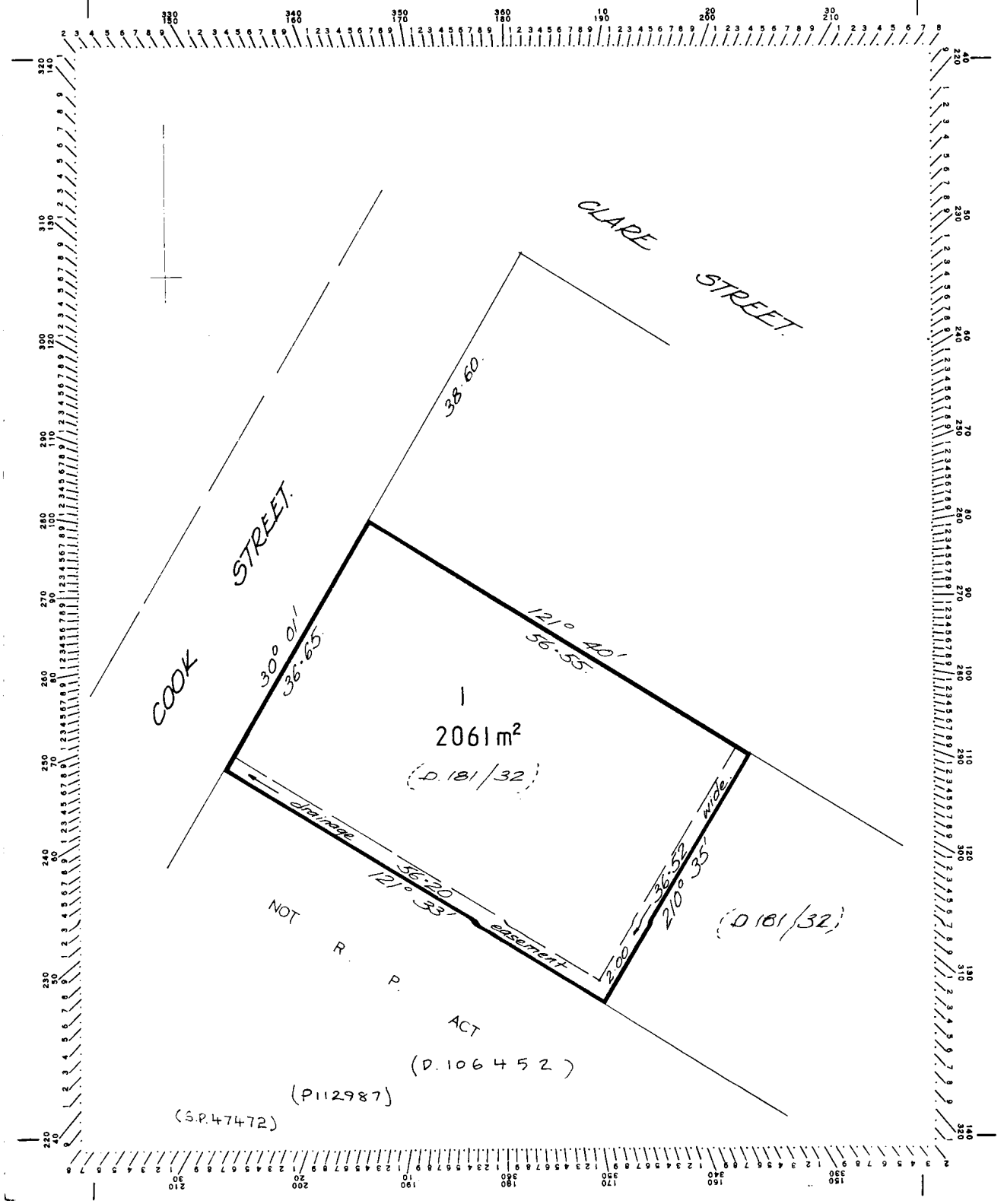
Reservations and conditions in the Crown Grant if any
SP 15968 EASEMENTS in Schedule of Easements benefiting or burdening this land
SP 15968 COVENANTS in Schedule of Easements
SP 15968 FENCING COVENANT in Schedule of Easements
120596 BOUNDARY FENCES CONDITION in Transfer

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SP 15968

Owner: Ronald Edward Clarke & Vera Lillian Clarke	**PLAN OF SURVEY** by Surveyor G. J. Walkem of land situated in the TOWN OF HADSPEN SEC. A SCALE 1: 500 MEASUREMENTS IN METRES	**Registered Number:** S. P 15968
Title Reference: C.T. 2673/99 Lot 2		**Effective from:** 2 SEP 1981 ACTING Recorder of titles
Grantee: Parts of 1A 3R 12P & 1A 0R 5P Lot 1 gtd to T. Turner & Samuel Jones respectively Thomas		



SCHEDULE OF EASEMENTS

PLAN NO. S.P 15968

NOTE:—The Town Clerk or Council Clerk must sign the certificate on the back page for the purpose of identification.

The Schedule must be signed by the owners and mortgagees of the land affected. Signatures should be attested.

THIS SCHEDULE CONSISTS OF 1 PAGE/S

EASEMENTS AND PROFITS

Each lot on the plan is together with:—

(1) such rights of drainage over the drainage easements shewn 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 à prendre described hereunder.

Each lot on the plan is subject to:—

(1) such rights of drainage over the drainage easement shewn 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 à prendre described hereunder.

Lot 1 on the plan is subject to a right of drainage (appurtenant to the balance of the land remaining in Certificate of Title 2673/99 at the date of acceptance hereof excluding the lot on the plan) over the drainage easement shown on the plan

The direction of the flow of water through the drainage easement shewn on the plan is indicated by arrows.

COVENANTS:

The Owner of ~~each~~ Lot 1 shown on the Plan covenants with the Vendors (Ronald Edward Clarke and Vera Lillian Clarke) that the Vendors shall not be required to fence.

The Owner of ~~each~~ Lot 1 shown on the Plan covenants with the said vendors Ronald Edward Clarke and Vera Lillian Clarke and the Owners for the time being of the said balance or any part thereof to the intent that the burden of these covenants may run with and bind the Covenantor's Lot and every part thereof and that the benefit thereof may be annexed to and devolve with the said balance and each and every part thereof to observe the following stipulations namely :-

(a) That the main building erected on any Lot shall not be used for any purpose other than a private dwelling house;

(b) That no engine or machinery worked or driven by steam gas electricity or other mechanical power and used for any trade operations shall be erected affixed or placed on any part of any Lot and no trade manufactory or business whatsoever shall be carried on or to be permitted or suffered to be carried on on any part of any Lot (but the letting of residential flats shall not be deemed to be a trade or business within the meaning of these covenants.

(c) That not more than one main building shall be erected on any Lot.

~~(d) That there shall not be erected any building or outbuilding (excluding carport) on any lot with outer walls other than of masonry brick or brick veneer construction;~~

(e) That no hoarding or other structure for the purpose of exhibiting any advertisement or sign shall be erected or placed or suffered to be upon any part of any Lot other than shall relate to the letting of any Lot;

Covenant (d) was deleted by me pursuant to a Request to Amend No. A877517 made under Section 481 of the Local Government Act 1962.

Acting Deputy Recorder of Titles
20/12/1983

SIGNED by the said RONALD EDWARD CLARKE)
and the said VERA LILLIAN CLARKE the)
registered proprietors of the lands in)
Certificate of Title 2673/99 in the)
presence of:-)

x R E Clarke
R E CLARKE

x V. L. Clarke
V. L CLARKE

Witness : Barry Le.
Address : 26 West Barrack St, Devonport.
: Burnie.

Certified correct for the purposes of the Real Property Act 1862, as amended.

.....
Subdivider/Solicitor for the Subdivider

This is the schedule of easements attached to the plan of RONALD EDWARD
(*Insert Subdivider's Full Name*)
CLARKE AND VERA LILLIAN CLARKE affecting land in
C. T. 2673/99
(*Insert Title Reference*)

Sealed by MUNICIPALITY OF WESTBURY on 2ND FEBRUARY 19 81

.....
Council Clerk/~~Town Clerk~~

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RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
177892	1
EDITION	DATE OF ISSUE
3	16-May-2025

SEARCH DATE : 22-Oct-2025
SEARCH TIME : 08.41 AM

DESCRIPTION OF LAND

Town of HADSPEN
Lot 1 on Plan 177892
Derivation : Whole of Lot 1 (1A-0R-5P) Granted to Samuel Jones and Part of Lot 2 (1A-3R-12P) Granted to Thomas Turner
Prior CTs 200570/1 and 250941/1

SCHEDULE 1

M949764 TRANSFER to BOBHOLDCO PROPERTY PTY LTD Registered 22-Jul-2022 at 12.01 PM

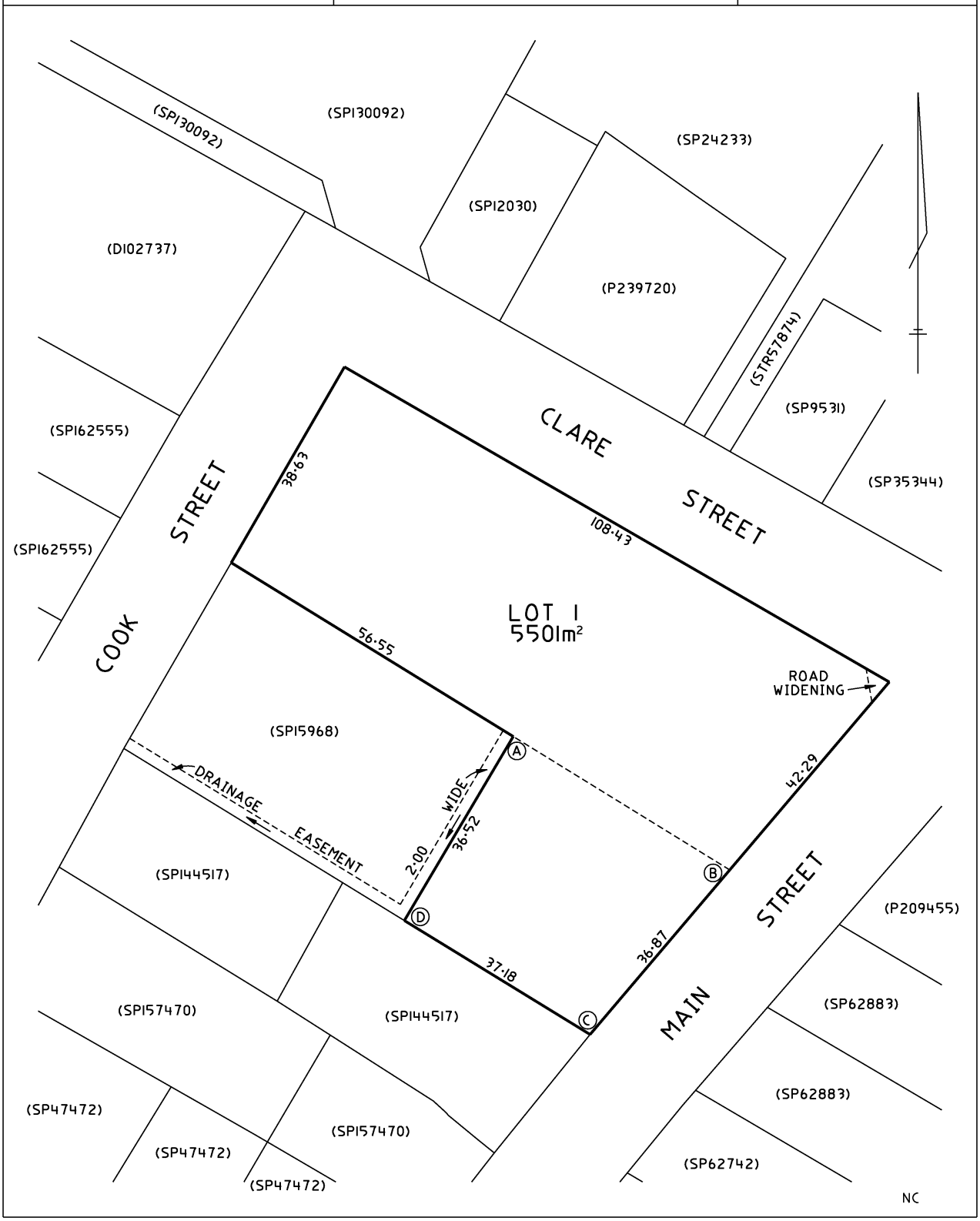
SCHEDULE 2

Reservations and conditions in the Crown Grant if any
BENEFITING EASEMENT: (appurtenant to the land marked ABCD on Plan 177892) right of drainage over the land marked Drainage Easement 2.00 wide on Plan 177892
120596 BOUNDARY FENCES CONDITION in Transfer
E7154 ADHESION ORDER under Section 110 of the Local Government (Building and Miscellaneous Provisions) Act 1993 Registered 02-Oct-2019 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER FOLIO REFERENCE F.R.200570/1 F.R.250941/1 GRANTEE WHOLE OF LOT 1, 1A-0R-5P GTD TO SAMUEL JONES PART OF LOT 2, 1A-3R-12P GTD TO THOMAS TURNER	PLAN OF TITLE LOCATION TOWN OF HADSPEN (SECTION A) FIRST SURVEY PLAN No. 181/32 D COMPILED BY LTO SCALE 1: 600 LENGTHS IN METRES	Registered Number P.177892 APPROVED 1 OCT 2019 Recorder of Titles



Issue ID	Revision ID	Description	Date
01	-	FOR DA	18.03.25
	01	STAGED SUBDIVISION ANNOTATION	31.07.25
	02	ADDED SW CONNECTIONS, CROSS OVER DETAILS, EXISTING WATER & SEWER CONNECTIONS, PROPOSED TASWATER EASEMENT & INFRASTRUCTURE	
	03	POTENTIAL FUTURE DEVELOPMENT FOOTPRINT	
	04	ADDED FINISHED FLOOR LEVEL ANNOTATION	04.09.25
	05	SW CONNECTION TO PIT	
02		FOR DA RFI	25.09.25

PROJECT: RED FEATHER INN

ADDRESS: 42 MAIN STREET, HADSPEN

CLIENT: TAS WALKING Co.

DESIGN DEVELOPMENT
NOT FOR CONSTRUCTION

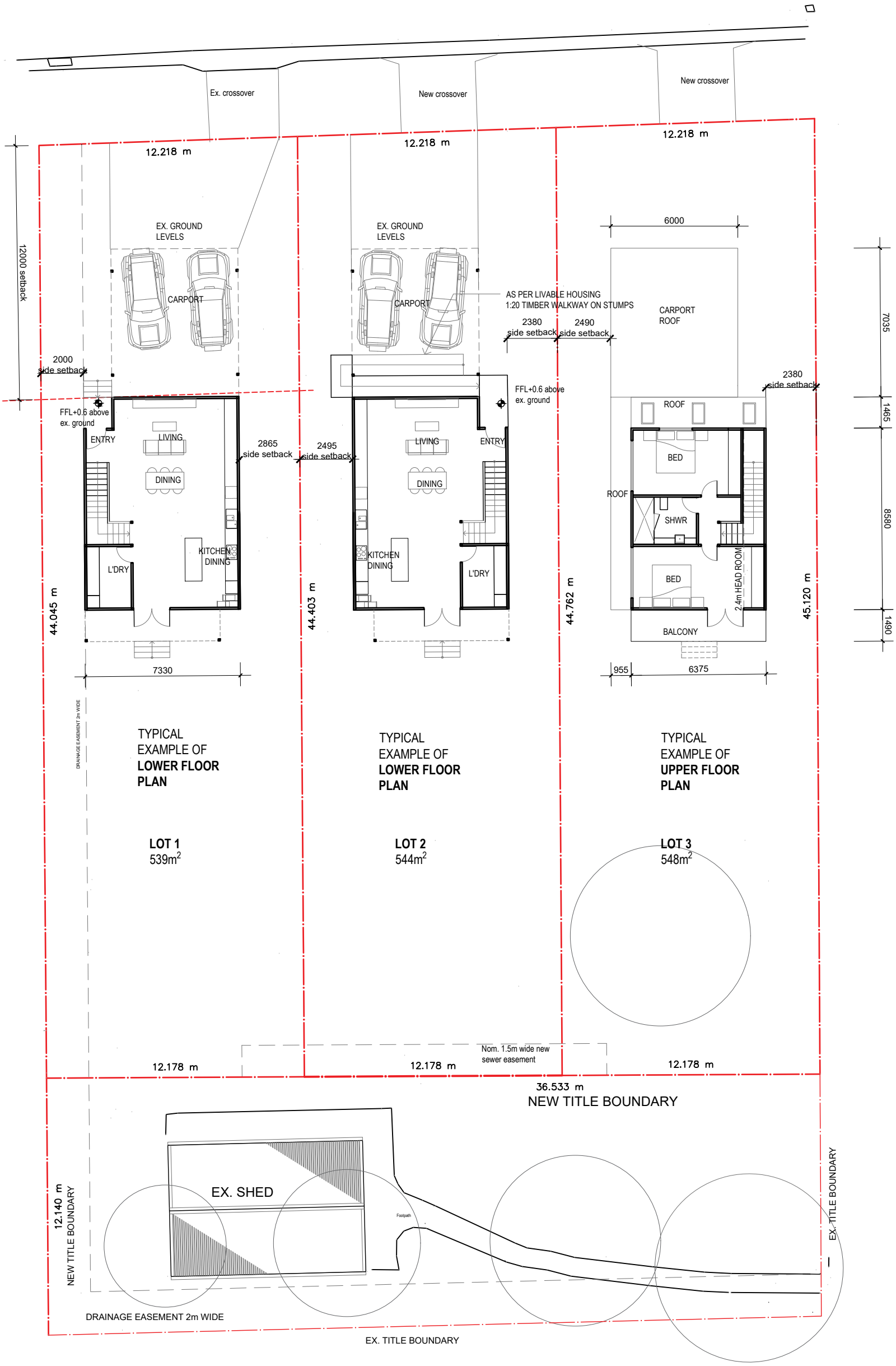
DAVID DENMAN & ASSOC.
7 / 59 WILLIAM STREET
LAUNCESTON, TAS 7250
phone: 03 6334 4899
email: admin@denman.studio
www: denman.studio

DAVID DENMAN + ASSOCIATES
denman.studio / architects

drawing: SUBDIVISION PLAN
scale: 1:500 @ A3
date: 25.09.25

dwg #: DA - 01 - 02

D:\Dropbox\Current Jobs\TWCO COOK STREET\3 - DRAWINGS\3 COOK STREET 2010.dwg



The Examples of Single dwelling developments are only for illustrative purposes, and are not part of this application.

Issue ID	Revision ID	Description	Date
01	-	FOR DA RFI	18.03.25
			31.07.25
			04.09.25

PROJECT: RED FEATHER INN

ADDRESS: 42 MAIN STREET, HADSPEN

CLIENT: TAS WALKING Co.

DESIGN DEVELOPMENT
NOT FOR CONSTRUCTION

DAVID DENMAN & ASSOC.
7 / 59 WILLIAM STREET
LAUNCESTON, TAS 7250
phone: 03 6334 4899
email: admin@denman.studio
www: denman.studio

DAVID DENMAN + ASSOCIATES
denman.studio / architects

drawing: EXAMPLE OF FUTURE DEVELOPMENT
scale: 1:200 @ A3
date: 25.09.25

dwg #: DA - 02 - 01

0m 2m 10m

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prepared for

Tasmanian Walking Company

3 Cook Street Hadspen

FLOOD HAZARD REPORT

FE_25618

23 July 2025

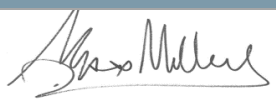
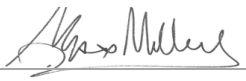
flüssig Engineers

L4/ 116 BATHURST ST
HOBART TASMANIA 7000
ABN: 16 639 276 181

Document Information

Title	Client	Document Number	Project Manager
3 Cook Street, Hadspen Flood Hazard Report	**Tasmanian Walking Company**	FE_25618	**Max W. Möller** *BEng, FIEAust, EngExec, CPEng, NER, APEC Engineer, IntPE(Aus.)* *Managing Director / Principal Hydraulic Engineer*

Document Initial Revision

REVISION 00	Staff Name	Signature	Date
Prepared by	Max W. Moller ***Principal Hydraulic Engineer***		17/07/2025
Prepared by	Ash Perera ***Senior Hydraulic Engineer***		17/07/2025
Prepared by	Christine Keane ***Senior Water Resources Analyst***		17/07/2025
GIS Mapping	Fraser Cumming ***GIS Specialist***		17/07/2025
Reviewed by	John Holmes ***Senior Engineer***		23/07/2025
Authorised by	Max W. Möller ***Principal Hydraulic Engineer***		23/07/2025

Document Revision History

Rev No.	Description	Reviewed by	Authorised by	Date

Contents

List of Tables

List of Figures

Acronyms

AEP: Annual Exceedance Probability
ARR: Australian Rainfall and Runoff
CC: Climate Change
CFT: Climate Futures Tasmania
DEM: Digital Elevation Model
RCP: Representative Concentration Pathway
TPS: Tasmanian Planning Scheme

1. Introduction

Flüssig Engineers has been engaged by **Tasmanian Walking Company**, to undertake a site-specific flood hazard report for the proposed workshop buildings at number 3 Cook Street, Hadspen in the Meander Valley Council municipality. The purpose of this report is to determine the hydraulic characteristics on the existing and post-development scenarios and the flood hazard for the 1% AEP plus climate change (CC).

1.1 Development

The proposed development involves demolishing the existing dwelling and subdividing the land at 3 Cook Street, Hadspen, into 3 separate lots. Where the lot sizes include 532 m^2 for Lot 1, 544 m^2 for Lot 2 and 548 m^2 for Lot 3 from west to the east of the property. The plan also includes relocation of an existing 70 m^2 shed to the title of 42 Main Street, Hadspen. The site is approximately 1,800 m^2 and contains an existing 210 m^2 house and small shed of 10 m^2. This development triggers the Flood-Prone Areas Hazard Code as the development falls within Meander Valley Council, flood prone areas.

1.2 Objectives and Scope

This flood analysis has been written to meet the standards of the Tasmanian Planning Scheme - Meander Valley (TPS), with the intent of understanding the development risk with respect to riverine flooding. The objectives of this study are:

- Provide an assessment of the site's flood characteristics under the combined 1% AEP + CC scenario.
- Provide comparison of flooding for pre- and post-development against acceptable and performance criteria.
- Provide flood mitigation recommendations for the development, where appropriate.

1.3 Limitations

This study is limited to the objectives of the engagement by the client, the availability and reliability of data, and including the following:

- The flood model is limited to a 1% AEP + CC worst case temporal design storm.
- All parameters have been derived from best practice manuals and available relevant studies (if applicable) in the area.
- All provided data by the client or government bodies for the purpose of this study is deemed fit for purpose.
- The study is to determine the effects of the new development on flooding behaviour and should not be used as a full flood study into the area without further assessment.

1.4 Relevant Planning Scheme Requirements

Table 1. TPS Planning Scheme Requirements

Planning Scheme Code	Objective
C12.6.1 Building and works within a flood prone area	(a) building and works within a flood-prone hazard area can achieve and maintain a tolerable risk from flood; and (b) buildings and works do not increase the risk from flood to adjacent land and public infrastructure.
C12.7.1 Subdivision within a flood-prone hazard area	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. Model Build

2.1 Overview of Catchment

The contributing catchment for 3 Cook Street, Hadspen is approximately 23.35 ha. The land use of the catchment is zoned mostly General Residential, with some small areas of Local Business, Utilities and Recreation with the specific site being zoned General Residential.

Due to the development site distance from the South Esk River, its catchment was not included in the model.

Figure 1 below outlines the approximate contributing catchment for the 3 Cook Street, Hadspen proposed development site.

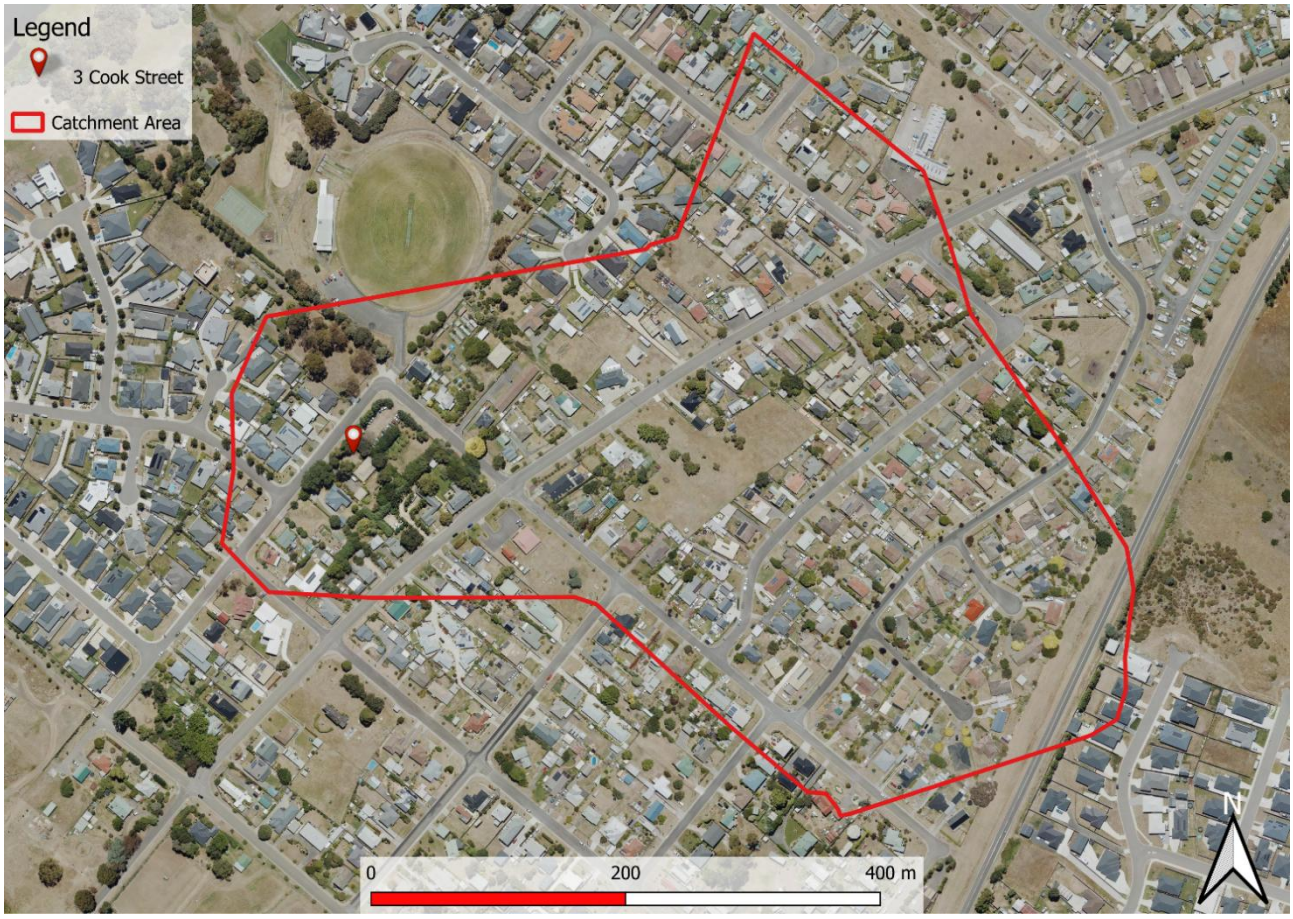


Figure 1. Contributing Catchment, 3 Cook Street, Hadspen

2.2 Hydrology

The following Table 2 shows the combined initial and continuing rainfall loss values adopted for the RAFTS full and localised catchment model. These values were based on detailed aerial imagery, and site visit. The values were conservatively selected using best practice and guidance from the *Australian Rainfall & Runoff Revision Project 6 – Urban Catchments Stage 2 Report*.

Table 2. Parameters for RAFTS catchment

Catchment Area (ha)	Initial Loss Perv/imp (mm)	Continuing Loss Perv/imp (mm/hr)	Manning's N pervious	Manning's N impervious	Non-linearity factor
23.35	19/1	4.8/0.0	0.045	0.02	-0.285

2.2.1 Design Rainfall Events

TPS 2021 requires modelling of flood events of 1% AEP (100yr ARI) for the life of the development. Therefore, the design events assessed in this analysis are limited to the 1% AEP + CC design events. Due to the size and grade of the catchment the peak rainfall time was restricted to between 10min – 4.5 hrs. Figure 2 shows the box and whisker output for the 1% AEP model run. The model shows that the 1% AEP 30-minute storm temporal pattern 9 was the worst-case median storm. Therefore, this storm event was used within the hydraulic model.

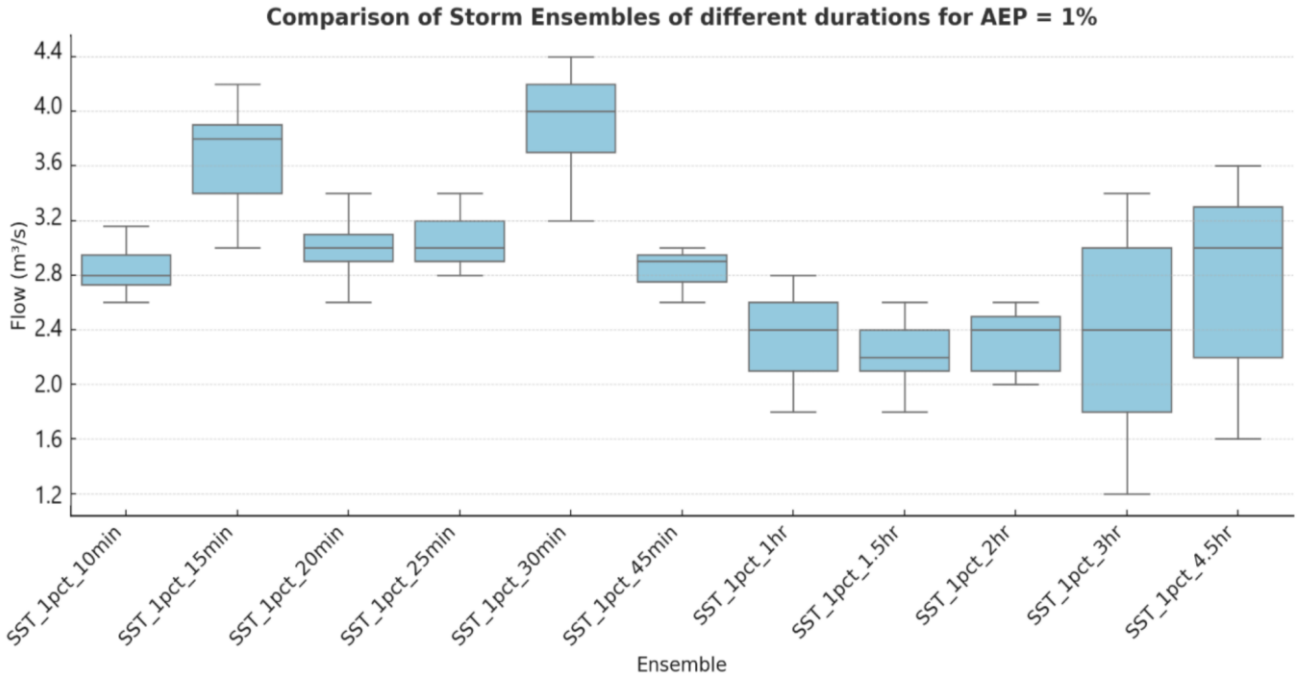


Figure 2. AEP 1% Box and Whisker Plot

2.2.2 Climate Change

As per the ARR 2019 Guide for Flood Estimation (Version 4.2), the recommended approach for estimating increases in rainfall due to climate change projections for the year 2100 scenario.

According to Table 3 of the guide, a multiplication factor of 1.86 is adopted for rainfall durations of less than 1 hour under the SSP5-8.5 at 2100 scenario for the localised catchment. This factor accounts for the anticipated intensification of extreme rainfall events due to climate change impacts and adopted by Council.

Table 3. Climate Change Increases

Parameter	Localised Catchment SSP5-8.5 @ 2100
<1 - hour Rainfall Intensity	86% Increase

2.3 Hydraulics

A 1D-2D hydraulic model was created to determine the flood level through the target area.

2.3.1 Calibration/Validation

This catchment has no stream gauge to calibrate the model against a real-world storm event. Similarly, there is little historical information available, and no past flood analysis undertaken to validate against the flows obtained in the model.

2.3.2 Survey

The 2D surface model was taken from LiDAR 2019 to create a 1m cell size DEM. For the purposes of this report, 1m cells are enough to capture accurate flow paths. The DEM with hill shading can be seen below (Figure 3).

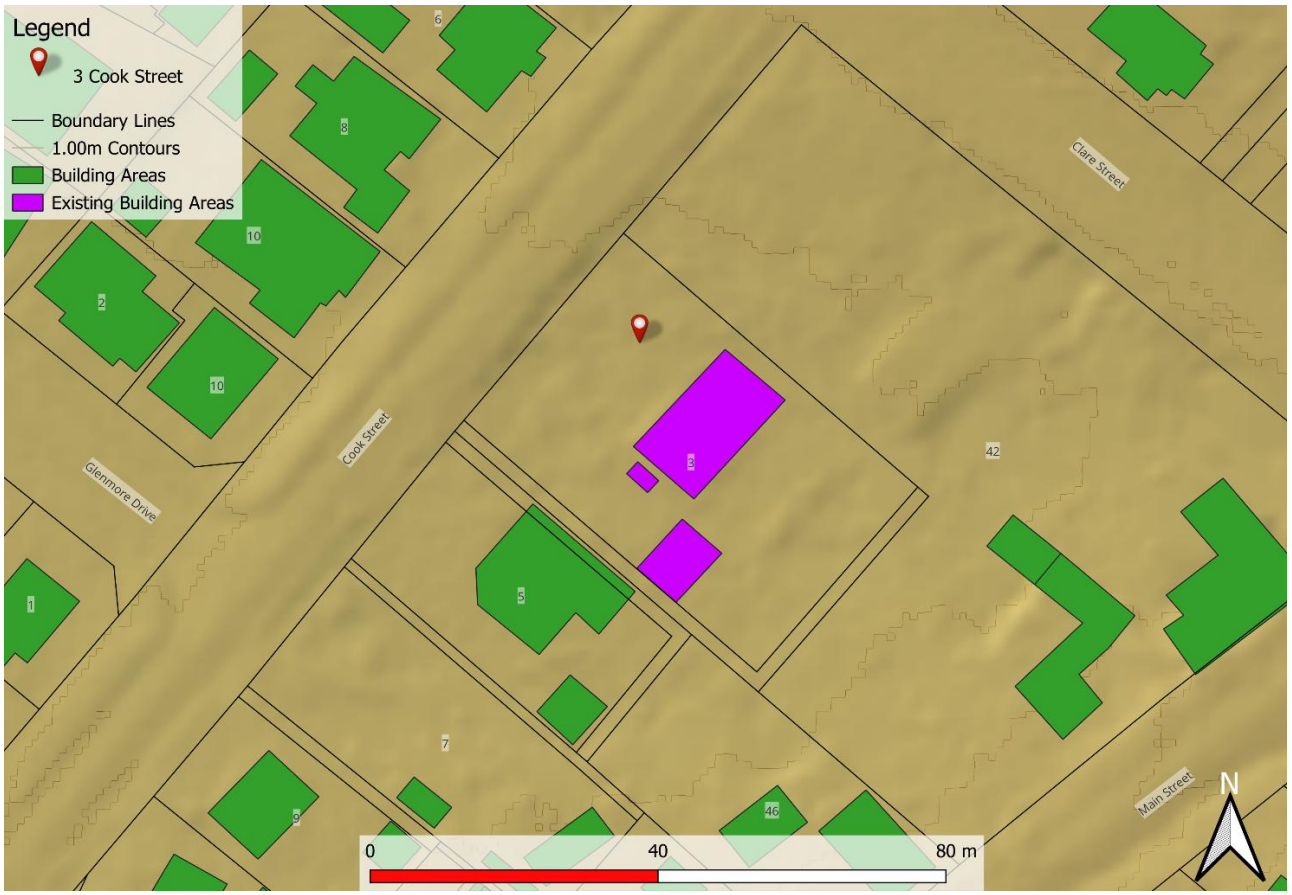


Figure 3. 1m DEM (Hill shade) of Lot Area, 3 Cook Street

2.3.3 Roads

Roads often form the basis for overland flow in high frequency events; however, the kerb and channel are not always picked up by the DEM surface. To correct for the drainage lines, mesh polygons were used to delineate road corridors with the roads incorporating a z-line along the gutter to ensure the kerb invert is represented in the mesh.

2.3.4 Buildings

Specifically, residential houses and commercial buildings were integrated into the DEM by elevating the corresponding grid cells representing these structures by a standardised height of 0.3 meters above the natural ground surface. Subsequently, the re-sampled grids were utilised to establish the Infoworks ICM model, thus forming a foundational framework for the subsequent analysis and simulation of flood dynamics.

This method allows for flow through the building if the flood levels/ pressure become great enough. The aim is to mimic flow through passageways such as doors, windows, and hallways.

2.3.5 Walls

All significant fences and retaining structures were incorporated into the 2D model as 2D linear wall elements. Pallet fences were modelled with a maximum height of 250 mm, representing the estimated depth at which they are likely to collapse during a 1% AEP rainfall event. Solid material walls were modelled using a realistic height to reflect their structural integrity and expected behaviour under flood conditions.

2.3.6 Structures

In the process of crafting a two-dimensional grid to depict the ground surface of the floodplain, we initiated by re-sampling high-resolution LiDAR data to generate a digital elevation model (DEM) through the utilisation of GIS software.

Within this procedure, the attention was directed towards identifying and incorporating pertinent features such as residential structures, commercial buildings, walls, and roadways. Ensuring the comprehensive inclusion of these features within the re-sampled DEM was of utmost importance.

2.3.7 Roughness (Manning's n)

The model grid's roughness and equivalent Manning's n values were derived from land use data. Table 4 shows Manning's values used in the model. Values for this layer were derived from the ARR 2019 Guidelines. These parameters have proven effective in previous flood mapping projects undertaken in Tasmania.

Table 4. Manning's Coefficients (ARR 2019)

Land Use	Roads	Open Channel	Rural	Residential	Parks	Buildings	Piped Infrastructure
Manning's n	0.018	0.035	0.04	0.045	0.05	0.3	0.013

3. Model Results

The result of 1% AEP + CC were run through the pre-development and post-development model scenarios to compare the changes to flooding onsite and to surrounding properties.

3.1 Pre-Development Scenario

As shown in Figure 4, the site at No.3 Cook Street, Hadspen lies within an existing overland flow path under the 1% Annual Exceedance Probability (AEP) flood scenario, receiving runoff primarily from the east and north-eastern catchment. The catchment is localised and predominantly contained within and immediately surrounding the property boundary.

Overland flow enters the site from the eastern corner, following natural topography. Flow paths are well defined, with runoff moving slowly through the site concentrating around the existing dwelling. The modelling indicates low to moderate flood depths, generally less than 0.3 m, and low velocities across most of the property.

Overall, the pre-development flood behaviour demonstrates that flow paths are predominantly confined, with shallow, low velocity floodwaters moving through the lot under natural conditions. This baseline understanding provides a reference point for assessing potential impacts of future development.

3.2 Post-Development Scenario

Post-development modelling of the 1% AEP + CC 2100 scenario assessed the influence of transferring the existing shed to lot 42 Main Street, the demolition of the existing house and proposed associated lot layout on existing overland flow behaviour (refer Figure 5.)

The modelling demonstrates that the proposed development has been positioned to integrate with the site's natural hydrology. The primary overland flow path entering from the eastern boundary remains unobstructed, with flow continuing to follow the natural topographic gradients towards the western side of the lot.

The location of the transferred shed is located alongside the defined primary flow corridor, as evidenced by post-development depth and velocity results. Flood depths across the flow path remain generally consistent with pre-development conditions, predominantly less than 0.3 m, with velocities remaining moderate across the site and comparable to pre-development flows. A small area of localised ponding

is evident within Lot 1 of the proposed subdivision, associated with the low lying topography in this location which was also indicated in the pre-development conditions.

Importantly, the modelling indicates that the proposed development does not generate any adverse impacts to adjacent properties:

- There is no measurable increase in flood depths or velocities downstream or on neighbouring lots.
- There is no flow diversion or increased accumulation within or beyond the property.

Flow across Cook Street also remains consistent with pre-development conditions, with shallow depths and moderate velocities.

Overall, the post-development results confirm that the integrity of the existing overland flow path is maintained, and the development will not adversely alter local flood behaviour. The proposed design ensures that both flood conveyance and storage remain functional, with no adverse impacts introduced by the development, with little to no opportunity for a future development to result in an unacceptable risk regarding flooding.

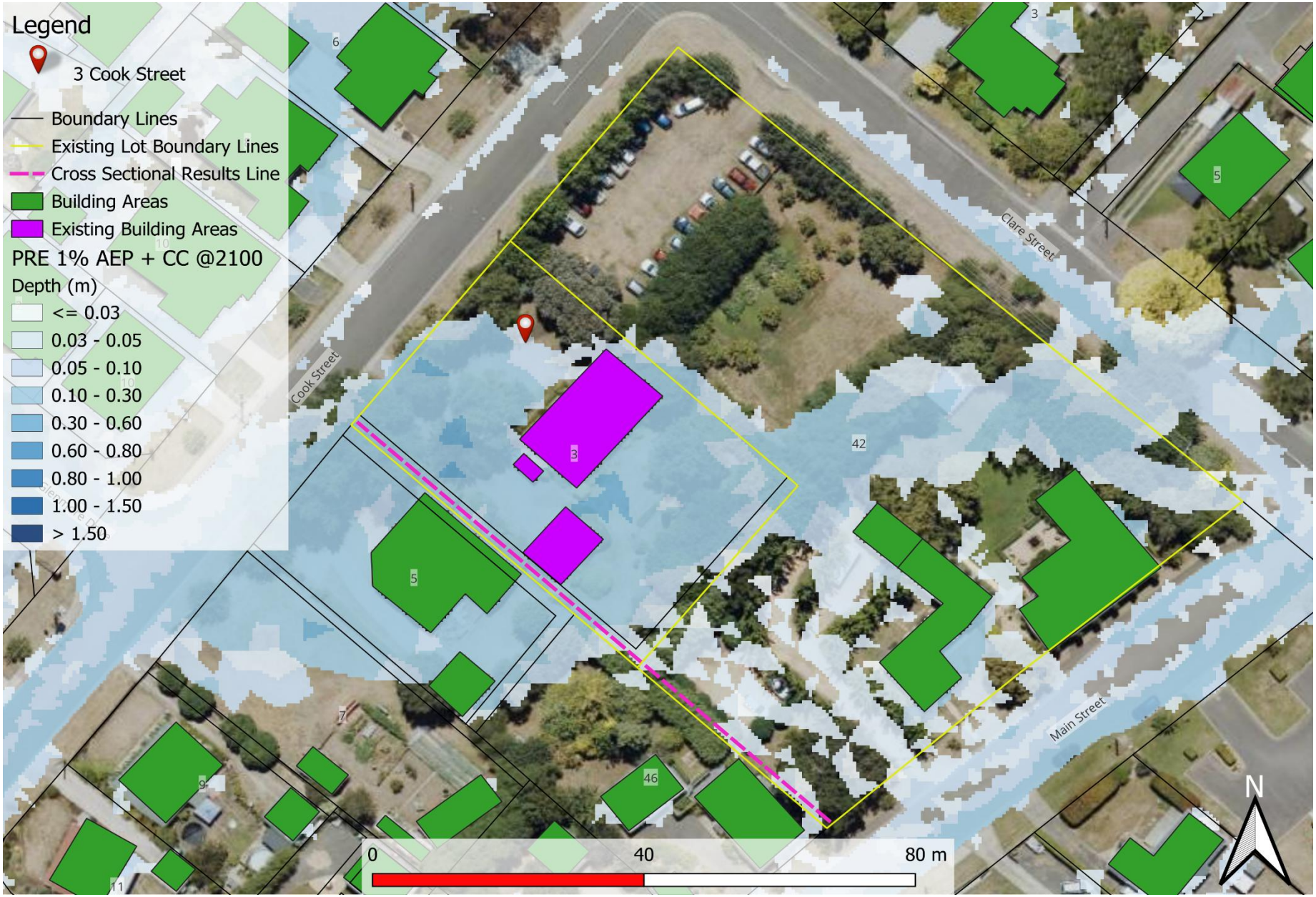


Figure 4. Pre-Development 1%+CC Flood Depths and extents

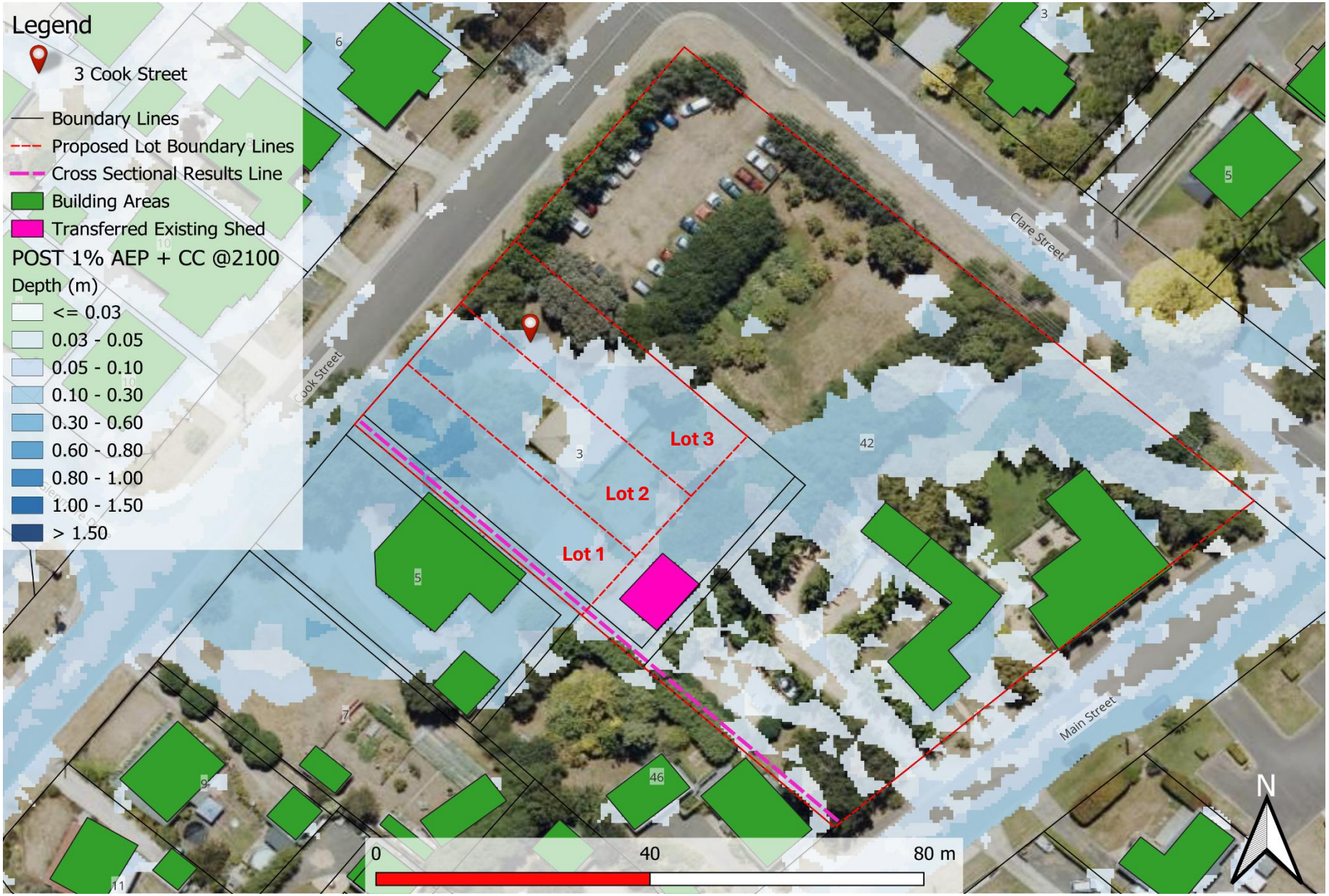


Figure 5. Post Development 1%+CC Flood Depth and extents

3.3 Displacement of Overland Flow on Third Party Property

Managing overland flow is a key part of the flood impact assessment for the proposed development at No. 3 Cook Street, Hadspen. The layout, including defined lot boundaries, demolition of the existing house and translocating the existing shed to 42 Main Street Hadspen, has been designed to retain access and possible building envelopes to the proposed three adequately sized lots ranging in size from approximately 540 – 548 m^2.

In its current state, overland flow enters from the eastern boundary, moves through the site following the local topography, and exits to the west. This flow is guided by the existing topography and does not cause significant impacts on neighbouring properties, maintaining the pre-development behaviour.

The proposed development maintains this natural flow path. The transferred shed is moved to a location towards the edge of the overland flow path, preserving the site's flood conveyance capacity. Modelling of the 1% AEP scenario confirms that flood behaviour remains consistent with pre-development conditions, with no increase in flood depth, velocity, or flow displacement onto neighbouring land.

3.4 Development Effects on Stormwater Discharge

Figure 6 below shows the discharge hydrograph at the cross-sectional results line on the south-western lot boundary for 3 Cook Street area only. The graph was captured in the model for both pre- and post-development runs and combined in a graph to demonstrate the change in net-discharge.

It demonstrates that there is a negligible increase in the net discharge of 0.07 m^3/s between the pre-and post-development discharge. There also a minor increase in velocity to 0.50 m/s in the post-development model from a relatively slow moving 0.45 m/s in the predevelopment. These minor increases are primarily due to the removal of the existing house and translocation of the shed which allows a smoother, unobstructed flow path across the lot, however, these changes are negligible and are more likely due to model sensitivity than having any adverse impact on stormwater discharge or flooding.

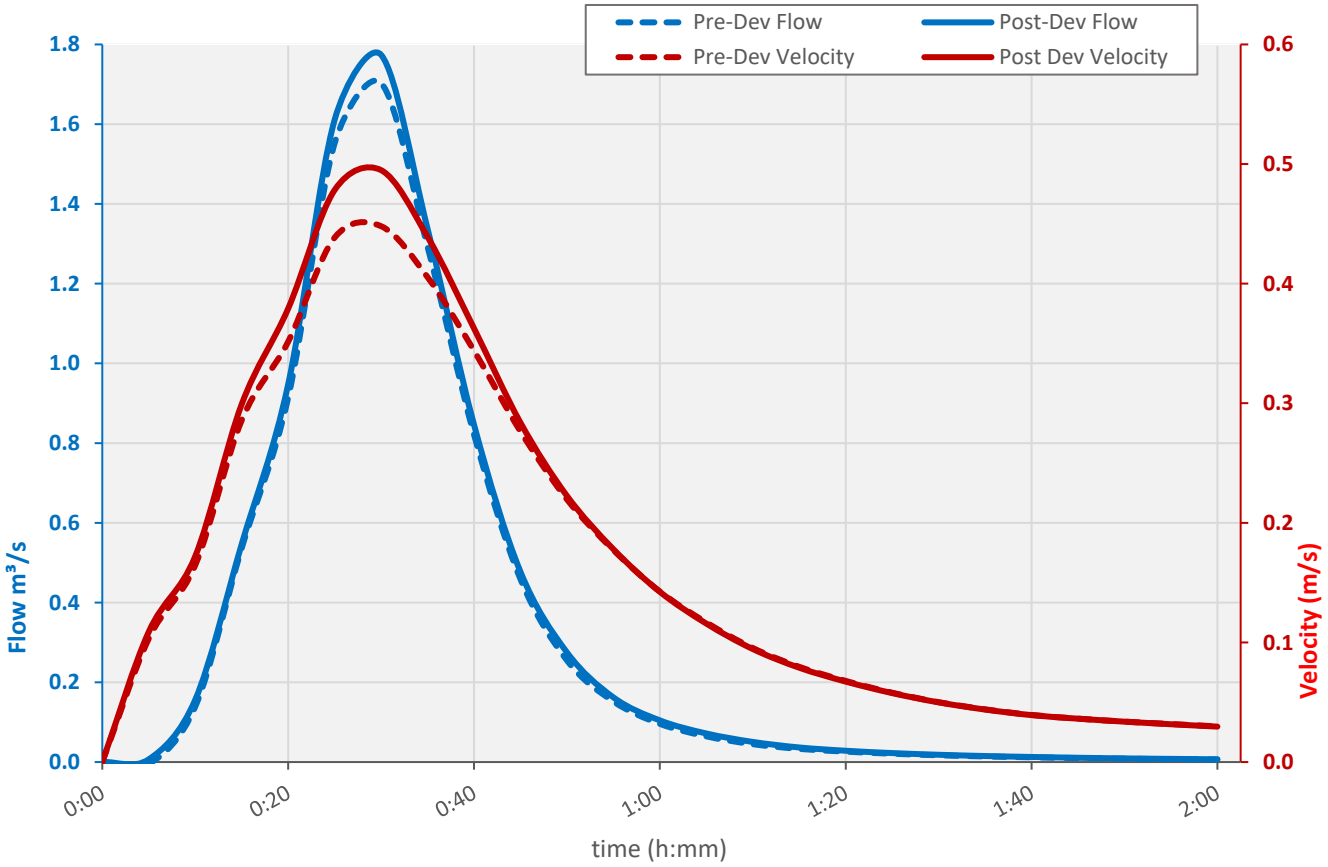


Figure 6. Pre and Post Development Net Discharge 1% AEP +CC, 3 Cook Street.

4. Flood Hazard

Appendix A presents the hazard classifications for the pre and post-development scenario. The pre-development hazard maps show that a majority of the site is classified as H1 with a small area of H2 classified flooding in the centre of the existing lot due to the obstruction of the overland flow path by the existing building locations. In the post-development model, the removal of the house and translocation of the shed to the edge of the overland flood path reduces the obstruction of the overland flow path, resulting in the entire subdivided area being classified as H1.

In both pre- and post-development scenarios, the transferred shed envelope remains fully within the H1 zone, clear of any higher hazard classifications. Although each of the three proposed lots are affected by an overland flood path, the opportunity to construct dwellings on these lots would have an acceptable risk to flooding if the overland flow path can be maintained by any proposed habitable buildings being constructed on piers. This would also be able to be achieved without the need for any significant future flood remediation works. The corresponding hazard maps for both scenarios are provided in Appendix A.

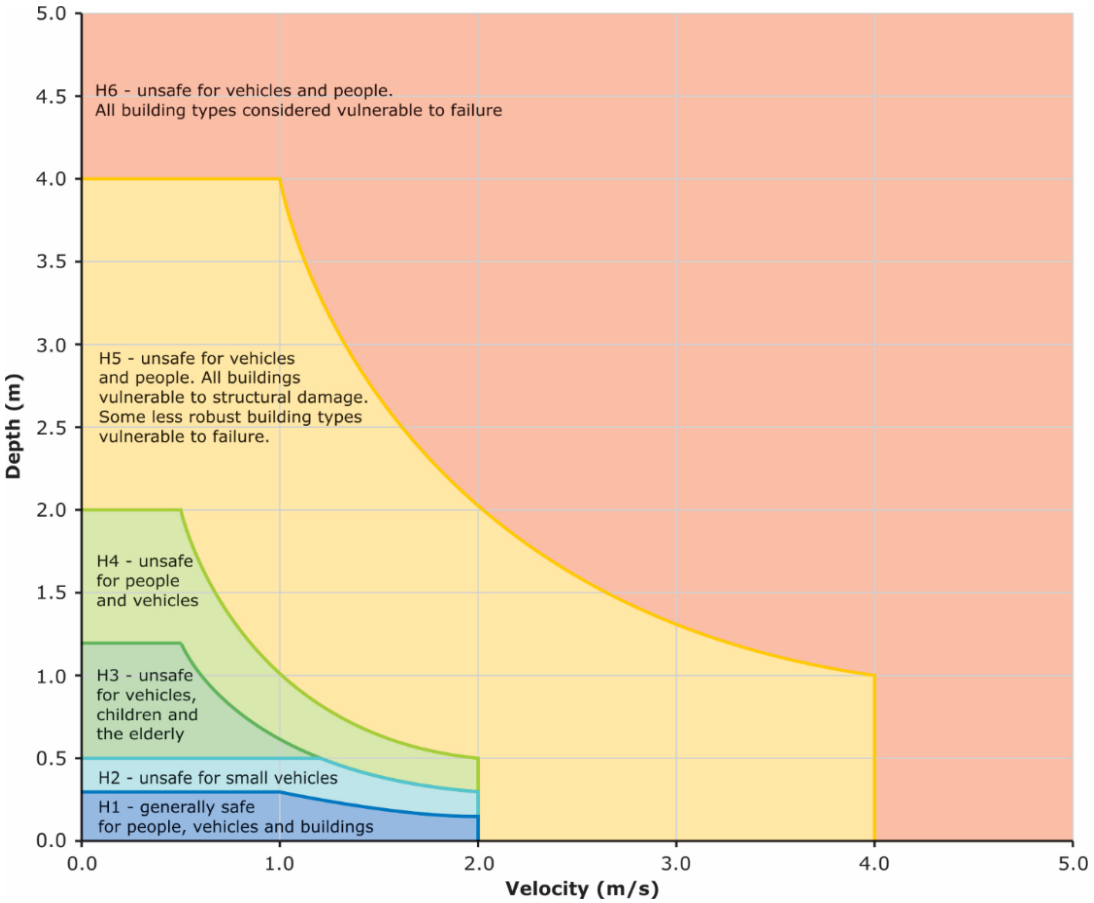


Figure 7. Hazard Categories Australian Disaster and Resilience Handbook

4.1 Tolerable Risk

Flood analysis into the lot at 3 Cook Street, Hadspen shows the proposed subdivided land is located within a shallow overland flow path with majority of the surrounding area rated low (H1) hazard rating in the 1% AEP plus climate change event. This means the site is considered generally safe for all ages, and structures.

Velocities and depths, although relatively small, still present some risks from erosion and debris movement. It is recommended that any proposed structures undertake a hydrostatic/hydrodynamic analysis to ensure suitability. Assuming appropriate structural considerations are applied, it is deemed that any structures proposed that would be intended to be habitable buildings, can achieve a tolerable risk to flooding over its asset life, assuming the recommendations of this report are adhered to.

5. Report summary against TPS-Meander Valley

Table 5. TPS C12.6.1 Building and works within a flood prone area.

C12.6.1 Building and works within a flood prone hazard area			
Objective: (a) building and works within a flood-prone hazard area can achieve and maintain a tolerable risk from flood; and (b) buildings and works do not increase the risk from flood to adjacent land and public infrastructure.			
Performance Criteria			
P1.1		**P1.1**	
Buildings and works within a flood-prone hazard area must achieve and maintain a tolerable risk from a flood, having regard to:		Response from flood report	
(a)	the type, form, scale and intended duration of the development;	(a)	Existing dwelling demolished and translocating the existing shed to neighbouring lot at 42 Main Street, Hadspen.
(b)	whether any increase in the level of risk from flood requires any specific hazard reduction or protection measures;	(b)	No increase in the level of flood risk.
(c)	any advice from a state authority, regulated entity or a council; and	(c)	N/A
(d)	the advice contained in a flood hazard report.	(d)	Flood report and recommendations provided within.
Performance Criteria			
P1.2		**P1.2**	
A flood hazard report also demonstrates that the building and works:		Response from Flood Report	
(a)	do not cause or contribute to flood on the site, on adjacent land or public infrastructure; and	(a)	There is no increase in the level of risk within the lot, adjacent land and to surrounding infrastructure.
(b)	can achieve and maintain a tolerable risk from a 1% annual exceedance probability flood event for the intended life of the use without requiring any flood protection measures.	(b)	Can achieve tolerable risk without flood protection measures provided the recommendations are followed.

Table 6. TPS C12.7.1 Subdivision within a flood-prone hazard area

C12.7.1 Subdivision within a flood-prone hazard area			
Objectives: 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.			
Performance Criteria			
A1		**P1**	
Each lot, or a lot proposed in a plan of subdivision, within a flood-prone hazard area, must not create an opportunity for use or development that cannot achieve a tolerable risk from flood, having regard to:		Response from flood report	
(a)	any increase in risk from flood for adjacent land;	(a)	No opportunity of an increase in flood risk on adjacent land if proposed buildings are constructed on piers allowing the natural overland flow path to be maintained.
(b)	the level of risk to use or development arising from an increased reliance on public infrastructure;	(b)	The use within the proposed subdivision would not provide an opportunity to increase the risk of additional reliance on public infrastructure.
(c)	the need to minimise future remediation works;	(c)	There is no need for significant remediation works if the recommendations within the report are followed as the proposed lots are affected by the lowest hazard classification of H1.
(d)	any loss or substantial compromise by flood of access to the lot, on or off site;	(d)	Access to each subdivided lot is at a maximum hazard rating of H1 which is acceptable.
(e)	the need to locate building areas outside the flood-prone hazard area;	(e)	Building areas can be achieved within H1 hazard areas if constructed on piers allowing unobstructed overland flow path.
(f)	any advice from a state authority, regulated entity or a council; and	(f)	N/A
(g)	the advice contained in a flood hazard report.	(g)	Refer to this report and recommendations.

6. Conclusion

The Flood Hazard Report for 3 Cook Street, Hadspen has reviewed the potential pre- vs post-development flood scenarios.

The following conclusions were derived in this report:

1. A comparison of the post-development peak flows for the 1% AEP at 2100 were undertaken against the Tasmanian Planning Scheme – Meander Valley, C12.6.1 & C12.7.1.
2. An increase of 0.01 m in peak flood depths to 0.30 m for the 1% AEP +CC at the cross-sectional line in the post-development model compared to the pre-development model.
3. Peak discharge sees an increase of 0.07 m^3/s to 1.77 m^3/s from pre- to post-development, riverine flood scenarios.
4. There is an increase of 0.05 m/s in velocity between pre-development and post-development scenarios to 0.50 m/s.
5. The pre-development model shows the hazard from flooding in the development area is H1 with a small area of H2 hazard classification which is reduced in the post-development scenario following demolition of the house.

7. Recommendations

Flüssig Engineers therefore recommends the following engineering design be adopted for the subdivision and future use to ensure the proposed works meets the Flood Prone Areas Hazard Code:

1. Any future structures on the new lots within the overland flow path should be constructed on piers to allow unobstructed flow. This will minimise the risk of adverse impacts on neighbouring lots or downstream infrastructure. Otherwise, a new flood hazard assessment will be required for any future development.
2. Future use of the site must remain consistent with areas deemed safe under the hazard classifications outlined in the Australian Rainfall and Runoff (ARR) Disaster Resilience Guidelines.
3. Any future structures proposed within the identified flood extent and not addressed in this report will require a separate flood assessment to evaluate potential impacts.

Based on the assessment undertaken in this Flood Hazard Report, the proposed development satisfies the relevant acceptable solutions and performance criteria of the Tasmanian Planning Scheme 2021.

8. Limitations

Flüssig Engineers were engaged by **Tasmanian Walking Company**, for the purpose of a site-specific Flood Hazard Report for 3 Cook Street, Hadspen as per C12.6.1 and C12.7.1 of the Tasmanian Planning Scheme - Meander Valley 2021. This study is deemed suitable for purpose at the time of undertaking the study. If the conditions of the development should change, the plan will need to be reviewed against all changes.

This report is to be used in full and may not be used in part to support any other objective other than what has been outlined within, unless specific written approval to do otherwise is granted by Flüssig Engineers.

Flüssig Engineers accepts no responsibility for the accuracy of third-party documents supplied for the purpose of this flood report.

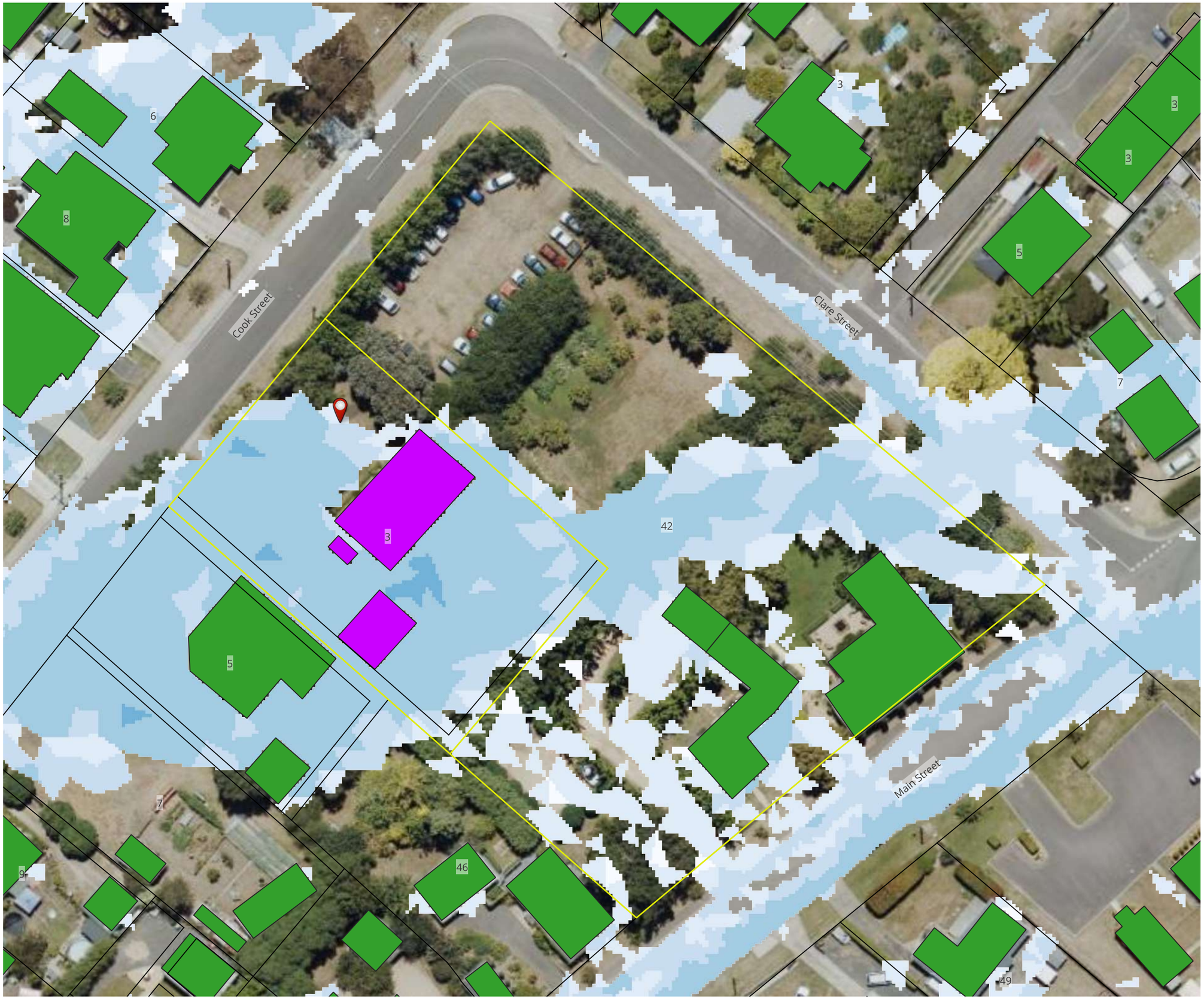
9. References

- Australian Disaster Resilience Guideline 7-3: Technical flood risk management guideline: Flood hazard, 2014, Australian Institute for Disaster Resilience, CC BY-NC.
- Austroads, 2013, Guide to Road Design Part 5: Drainage – General and Hydrology Considerations.
- Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I (Editors), 2019, Australian Rainfall and Runoff: A Guide to Flood Estimation, Commonwealth of Australia.
- Geoscience Australia, 2010, National Exposure Information System (NEXIS), Commonwealth of Australia.
- Grose, M.R., Barnes-Keoghan, I., Corney, S.P., White, C.J., Holz, G.K., Bennett, J., Bindoff, N.L., 2010, Climate Futures for Tasmania: General Climate Impacts Technical Report, Antarctic Climate and Ecosystems Cooperative Research Centre, Hobart.
- T.A. Remenyi, N. Earl, P.T. Love, D.A. Rollins, R.M.B. Harris, 2020, Climate Change Information for Decision Making – Climate Futures Programme, Discipline of Geography & Spatial Sciences, University of Tasmania.
- Engineers Australia, 2023, Floodplain Management: Best Practice Principles and Guidelines.
- Standards Australia, 2009, AS/NZS 3500.3: Plumbing and Drainage – Stormwater Drainage.
- Meander Valley Interim Planning Scheme 2015 and Meander Valley Draft Local Provisions Schedule 2022 – Overlays and Flood-Prone Areas (Tasmanian Planning Scheme).
- Department of Premier and Cabinet, Tasmania, 2019, State Special Climate Change Provisions for Hazard Management Areas – Flood Prone Land Guidelines.
- IPCC, 2021, Sixth Assessment Report: Climate Change 2021 – The Physical Science Basis, Intergovernmental Panel on Climate Change.
- State Emergency Service Tasmania, 2020, Flood Policy and Practice in Tasmania: Operational Guidelines.

10. Appendices

Appendix A Flood Maps

PRE 1% AEP + CC @ 2100



Legend

3 Cook Street

Boundary Lines

Existing Lot Boundary Lines

Building Areas

Existing Building Areas

PRE 1% AEP + CC @2100

Depth (m)

- <= 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 0.30
- 0.30 - 0.60
- 0.60 - 0.80
- 0.80 - 1.00
- 1.00 - 1.50
- > 1.50

0 10 20 m

meters

N

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- 15-07-2025 - Flussig Engineers Map CRS: GDA94 / MGA zone 55 EPSG:28355

PRE 1% AEP + CC @ 2100

Cook Street
Clare Street
Main Street
6
8
3
3
3
5
7
42
3
5
7
9
46
49

Legend

3 Cook Street

Boundary Lines
Existing Lot Boundary Lines
Building Areas
Existing Building Areas

PRE 1% AEP + CC @2100
Velocity (m/s)
<= 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
> 2.00

0 10 20 m
meters

N

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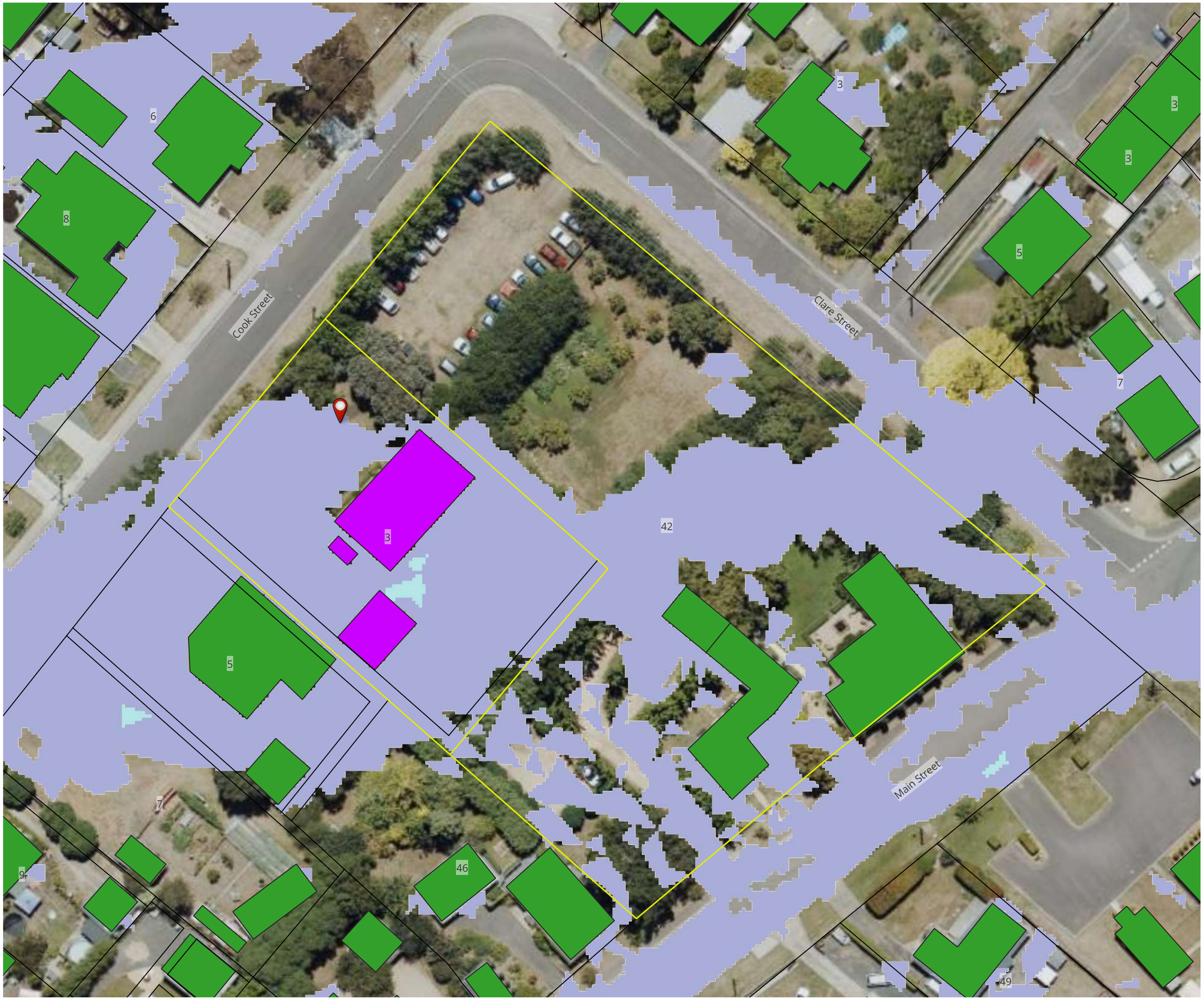
PRE 1% AEP + CC @ 2100



Legend

3 Cook Street

Boundary Lines

Existing Lot Boundary Lines

Building Areas

Existing Building Areas

PRE 1% AEP + CC @2100

Hazard

H1

H2

H3

H4

H5

H6

0 10 20 m

meters

N

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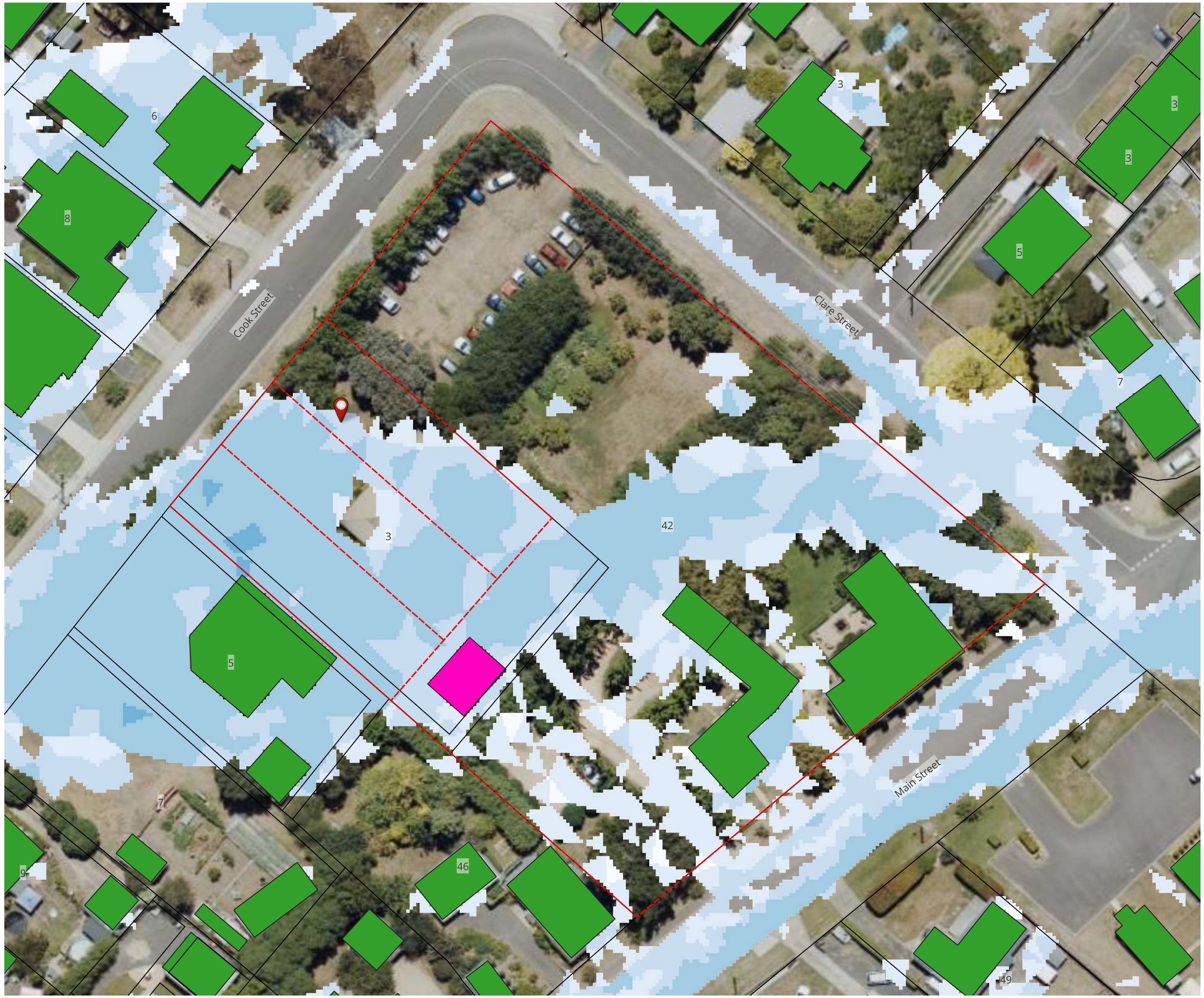
POST 1% AEP + CC @ 2100



Legend

3 Cook Street

Boundary Lines

Proposed Lot Boundary Lines

Building Areas

Transferred Existing Shed

POST 1% AEP + CC @2100

Depth (m)

- <= 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 0.30
- 0.30 - 0.60
- 0.60 - 0.80
- 0.80 - 1.00
- 1.00 - 1.50
- > 1.50

0 10 20 m

meters

N

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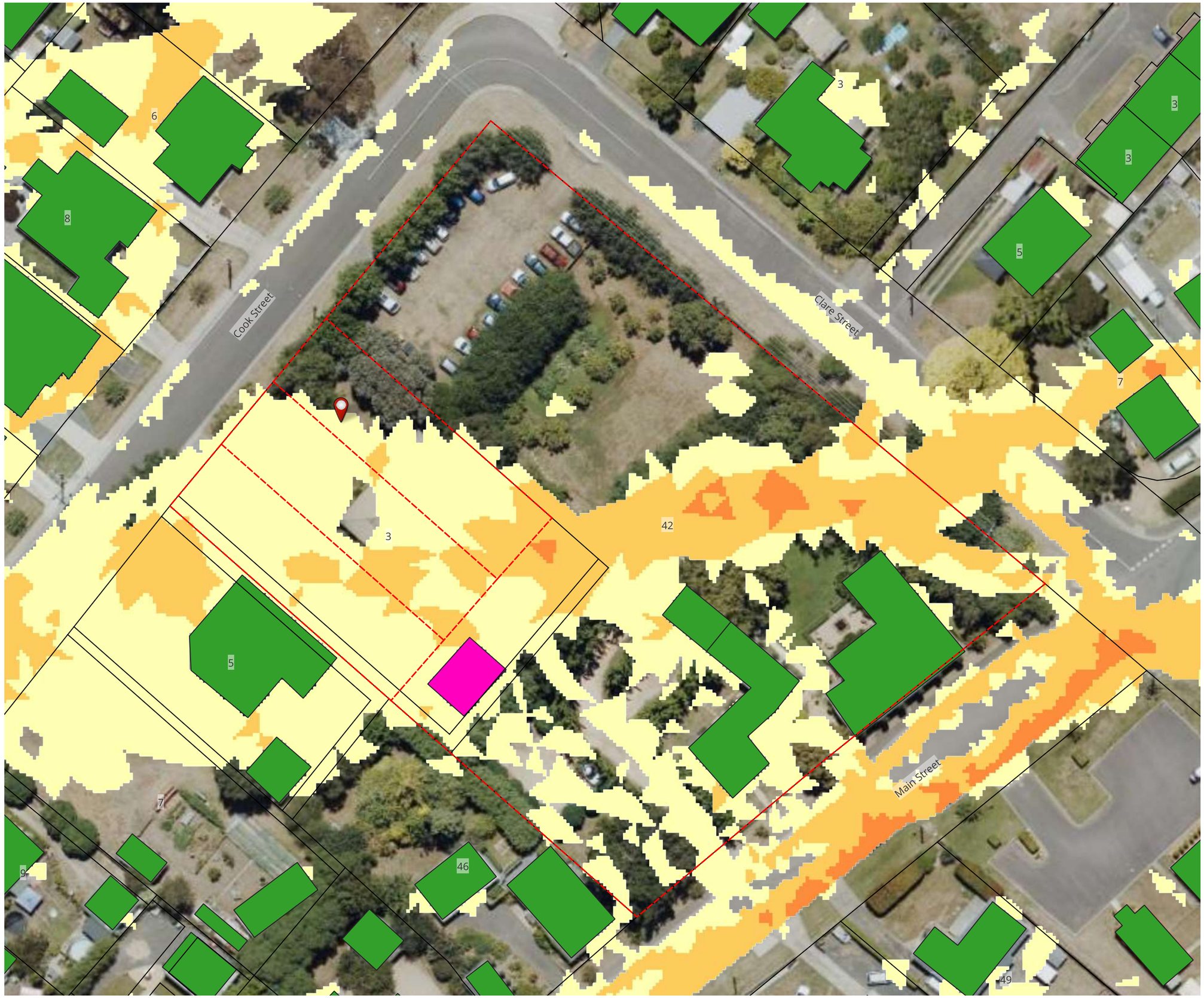
POST 1% AEP + CC @ 2100



Legend

- 3 Cook Street
- Boundary Lines
- Proposed Lot Boundary Lines
- Building Areas
- Transferred Existing Shed

POST 1% AEP + CC @2100

Velocity (m/s)

- <= 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

0 10 20 m

meters

N

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POST 1% AEP + CC @ 2100

Legend

3 Cook Street

- Boundary Lines
- Proposed Lot Boundary Lines
- Building Areas
- Transferred Existing Shed

POST 1% AEP + CC @2100

Hazard

- H1
- H2
- H3
- H4
- H5
- H6

0 10 20 m

meters

N

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Contact Project Manager: **Max Möller**

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A: Level 4, 116 Bathurst Street
Hobart TAS 7000

Sent: Thursday, 2 October 2025 5:41 PM
To: Geoff Clark
Cc: Tiekun Lu
Subject: RE: PA\25\0229 - Section 54 Request for Additional Information - 3 Cook Street & 42 Main Street HADSPEN - Subdivision (2 lots - 4 lots)

Hi Geoff,

In relation to the information requested by the planning officer from Meander Valley Council, we confirm that the reported flood level is based on the flood hazard report. The "nominated" 300 mm in our response below is only a conceptual allowance and must not be relied upon for future buildings without an updated flood analysis to confirm tolerable risk. This is particularly important if future buildings are proposed on slab, with solid walls, or include any basement, excavation, or fill.

The flood report has been prepared in response to the proposed subdivision layout and the removal and relocation of the existing shed. It should not be revised further, as the information below addresses Council's concerns.

The responses are:

1. *Please nominate an indicative clear height of the piers in the Flood Hazard Report, marked in yellow for each of the 3 lots on the Figure 1 (at the end of this letter).*

Flussig Engineers Response:

LOT 1:
Flood depth: 0.297 m
Flood level: 141.43 m AHD
Minimum finish floor level (conceptual only): 141.73 m AHD

LOT 2:
Flood depth: 0.225 m
Flood level: 141.44 m AHD
Minimum finish floor level (conceptual only): 141.74 m AHD

LOT 3:
Flood depth: 0.120 m
Flood level: 141.50 m AHD
Minimum finish floor level (conceptual only): 141.80 m AHD

2. *The flood report does not consider any cut and fill required for driveway and access to the lot, and its implication on the flood hazard. Please clarify.*

Flussig Engineers Response:

The proposed drawings received do not show any internal driveways that could be included in the flood model. For the purposes of the assessment, we have only incorporated the external apron crossovers in accordance with the required in any standard subdivision design approach. These crossovers are located almost entirely outside the flood extent and do not affect the overall flood assessment results.

If any further information is required, please let us know.

Regards.

Max W. Möller
BEng, FIEAust, EngExec, CPEng, NER, APEC Engineer, IntPE(Aus)
Managing Director / Senior Principal Civil Hydraulic Engineer

31 July 2025

DAVID DENMAN + ASSOCIATES
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Planning Report

3 Cook St, Hadspen, TAS 7290

The following report outlines our submission against the relevant clauses of the Tasmanian Planning Scheme.

Contents

Tasmanian Planning Scheme

Zones

Use class:

Qualification:

8.0 General Residential Zone

8.6 Development Standards for Subdivision

8.6.1 Lot design

0bjective:
That each lot:
(a) has an area and dimensions appropriate for use and development in the zone;
(b) is provided with appropriate access to a road;
(c) contains areas which are suitable for development appropriate to the zone purpose, located to avoid natural hazards; and
(d) is orientated to provide solar access for future dwellings.

A1
Each lot, or a lot proposed in a plan of subdivision, must:
(a) have an area of not less than 450m² and:
(i) be able to contain a minimum area of 10m x 15m with a gradient not steeper than 1 in 5, clear of:
a. all setbacks required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; and
b. easements or other title restrictions that limit or restrict development; and
(ii) existing buildings are consistent with the setback required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2;
(b) be required for public use by the Crown, a council or a State authority;
(c) be required for the provision of Utilities; or
(d) be for the consolidation of a lot with another lot provided each lot is within the same zone.

P1
Each lot, or a lot proposed in a plan of subdivision, must have sufficient useable area and dimensions suitable for its intended use, having regard to:
(a) the relevant requirements for development of buildings on the lots;
(b) the intended location of buildings on the lots;
(c) the topography of the site;
(d) the presence of any natural hazards;
(e) adequate provision of private open space; and
(f) the pattern of development existing onestablished properties in the area.

Submission: P1 Complies – Given the narrow and length nature of the subject site, a slightly narrower house footprint will be applied for future development.
(a) Relevant requirements for development of buildings on the lot:
The proposed lot 2 and lot 3 can contain a useable building area of 9.2 m x 16.4 m and 8.7m x 17.25m for

lot 1. which allows for compliant building design in accordance with applicable planning controls, including building setbacks and site coverage limits, and have minimum area equivalent to 10m x 15m.
(b) Intended location of buildings on the lot:
Future dwellings can be located within the identified building envelope, allowing appropriate boundary setbacks, vehicle access, and private open space, without affecting flow paths.
(c) Topography of the site:
The land is generally flat, suitable for standard residential construction. No significant cut or fill is anticipated.
(d) Presence of any natural hazards:
A Flood Hazard Report (Flüssig Engineers, FE_25618, Rev00) has been prepared for the site in accordance with Clauses C12.6.1 and C12.7.1 of the Tasmanian Planning Scheme – Meander Valley.
The report concludes:

- Flood depths and velocities are minor (peak depth 0.30 m, velocity 0.50 m/s) under the 1% AEP + CC scenario;
- Flood hazard level is low (H1) for the proposed lot;
- The report recommends that future dwellings within the overland flow path be constructed on piers or stumps to avoid obstruction to floodwaters.

Accordingly, the lot is considered suitable for development with minor, manageable flood risk, in line with the relevant hazard codes.
(e) Adequate provision of private open space:
The proposed lot size and orientation allow for sufficient private open space alongside compliant dwelling placement.
(f) Pattern of development on established properties in the area:
The lot design is consistent with existing development patterns in the surrounding area, where similarly shaped lots are common.