



## **DEVELOPMENT APPLICATION**

### **PDPLANPMTD-2024/042256**

**PROPOSAL:** Two Lot Subdivision (One New & One Existing)

**LOCATION:** 20 Raminea Road, Lindisfarne

**RELEVANT PLANNING SCHEME:** Tasmanian Planning Scheme - Clarence

**ADVERTISING EXPIRY DATE:** 08 July 2024

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 08 July 2024. In addition to legislative requirements, plans and documents can also be viewed at [www.ccc.tas.gov.au](http://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](mailto:clarence@ccc.tas.gov.au). Representations must be received by Council on or before 08 July 2024.

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](http://www.ccc.tas.gov.au) or at the Council offices.

# Clarence City Council



## APPLICATION FOR DEVELOPMENT / USE OR SUBDIVISION

The personal information on this form is required by Council for the development of land under the Land Use Planning and Approvals Act 1993. We will only use your personal information for this and other related purposes. If this information is not provided, we may not be able to deal with this matter. You may access and/or amend your personal information at any time. How we use this information is explained in our **Privacy Policy**, which is available at [www.ccc.tas.gov.au](http://www.ccc.tas.gov.au) or at Council offices.

Proposal:

1 Lot Subdivision

Location:

Address 20 Raminea Road  
Suburb/Town Lindisfarne Postcode 7015

Current Owners/s:

Applicant:

**Personal Information Removed**

Tax Invoice for application fees to be in the name of: (if different from applicant)

Estimated cost of development

\$

Is the property on the Tasmanian Heritage Register?

Yes

No

(if yes, we recommend you discuss your proposal with Heritage Tasmania prior to lodgement as exemptions may apply which may save you time on your proposal)

If you had pre-application discussions with a Council Officer, please give their name

Current Use of Site:

Residential

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. Where the application is submitted under Section 43A, the owner's 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.*

Applicant's Signature:

Signature  Date 15/2/24

**PLEASE REFER TO THE DEVELOPMENT/USE AND SUBDIVISION CHECKLIST ON THE FOLLOWING PAGES TO DETERMINE WHAT DOCUMENTATION MUST BE SUBMITTED WITH YOUR APPLICATION.**

SEARCH OF TORRENS TITLE

VOLUME 217713	FOLIO 5
EDITION 4	DATE OF ISSUE 11-Sep-2017

SEARCH DATE : 15-Feb-2024  
SEARCH TIME : 02.27 PM

DESCRIPTION OF LAND

City of CLARENCE  
Lot 5 on Plan 217713  
Derivation : Part of 2,560 Acres Gtd. to T.G. Gregson.  
Prior CT 2655/90

SCHEDULE 1

M648781 TRANSFER to AMANDA JANE HERBERT Registered  
11-Sep-2017 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any  
M646252 MORTGAGE to Members Equity Bank Limited Registered  
11-Sep-2017 at 12.02 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

ORIGINAL - NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1469  
TASMANIA  
REAL PROPERTY ACT, 1862, as amended



CERTIFICATE OF TITLE

Register Book  
Vol. Fol.

2655 90

NOTE--REGISTERED FOR OFFICE  
CONVENIENCE TO REPLACE

Cert. of Title Vol. 538 Fol. 30

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

*A. Imlach*  
Recorder of Titles.



DESCRIPTION OF LAND

TOWN OF LINDISFARNE  
THIRTY SEVEN PERCHES AND THREE QUARTERS OF A PERCH on the Plan hereon

FIRST SCHEDULE (Continued overleaf)

WILLIAM PEPPER of Hobart, Tally Clerk *William Pepper*

SECOND SCHEDULE (Continued overleaf)

NO. A5055 MORTGAGE to The Director of War Service Homes  
Produced 7th November, 1952 at 11.15 a.m.  
(SGD.) A. IMLACH (L.S.)  
Recorder of Titles.

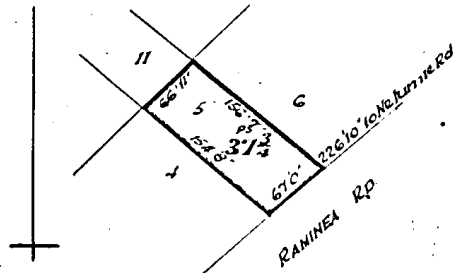
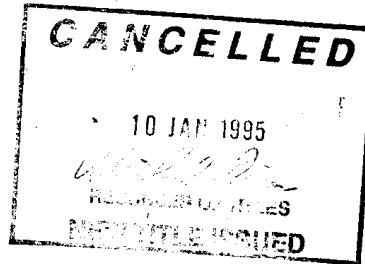
DISCHARGED B51230  
(19.6.1986)

*A. Imlach*  
Acting Recorder of Titles

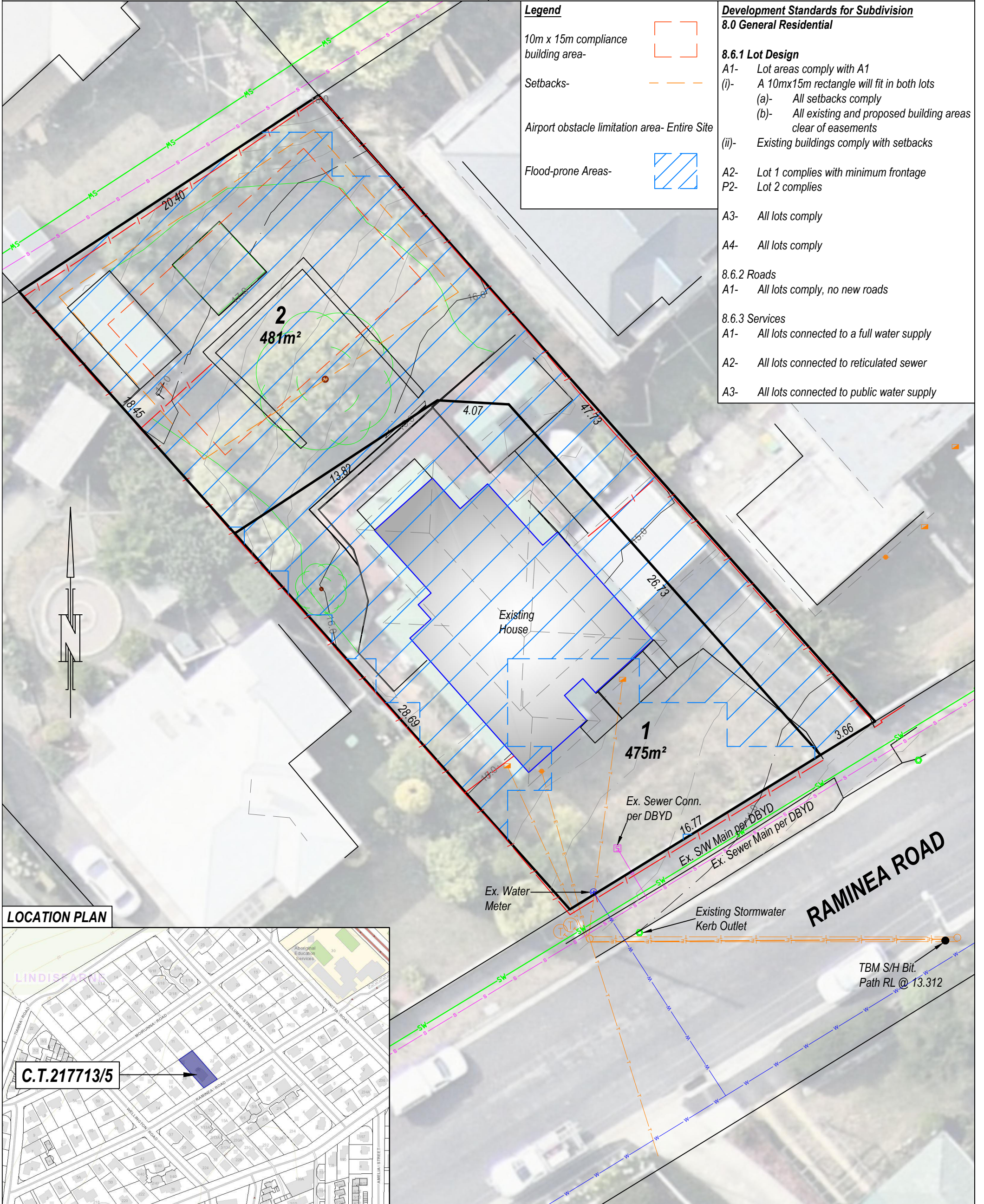
THE RECORDER OF TITLES ARE NO LONGER SUBSISTING.

Lot 5 of this plan consists of all the land comprised in the above-mentioned cancelled folio of the Register.

REGISTERED NUMBER  
217713



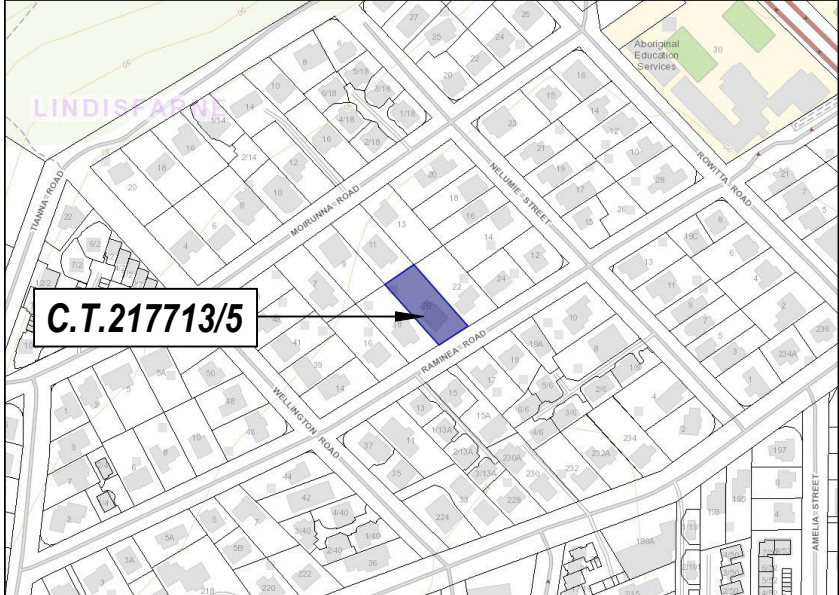
Part of 2560acs. Gtd. to T. G. Gregson Meas. in Ft.&Ins. 2/15 M.  
FIRST Edition, Registered  
Derived from C.T. Vol. 538 Fol. 30 1977 Transfer A5054 C. C. Goodrick



Legend	
10m x 15m compliance building area-	
Setbacks-	
Airport obstacle limitation area- Entire Site	
Flood-prone Areas-	

Development Standards for Subdivision 8.0 General Residential	
<b>8.6.1 Lot Design</b>	
A1-	Lot areas comply with A1
(i)-	A 10mx15m rectangle will fit in both lots
(a)-	All setbacks comply
(b)-	All existing and proposed building areas clear of easements
(ii)-	Existing buildings comply with setbacks
A2-	Lot 1 complies with minimum frontage
P2-	Lot 2 complies
A3-	All lots comply
A4-	All lots comply
<b>8.6.2 Roads</b>	
A1-	All lots comply, no new roads
<b>8.6.3 Services</b>	
A1-	All lots connected to a full water supply
A2-	All lots connected to reticulated sewer
A3-	All lots connected to public water supply

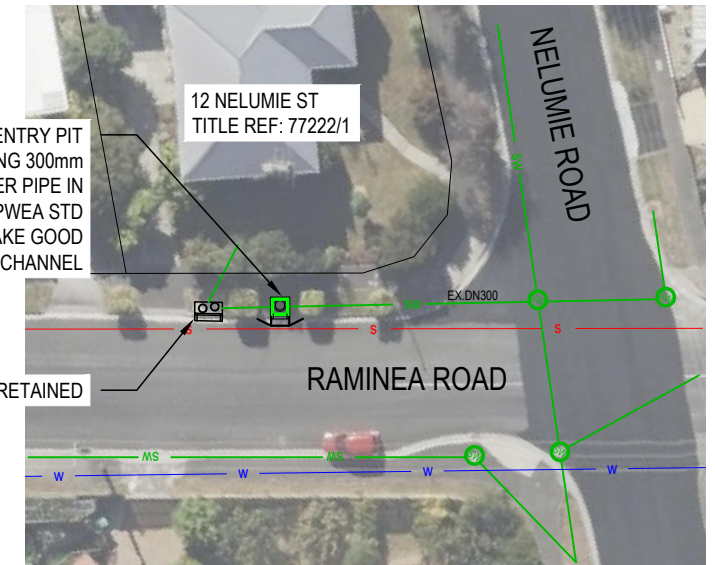
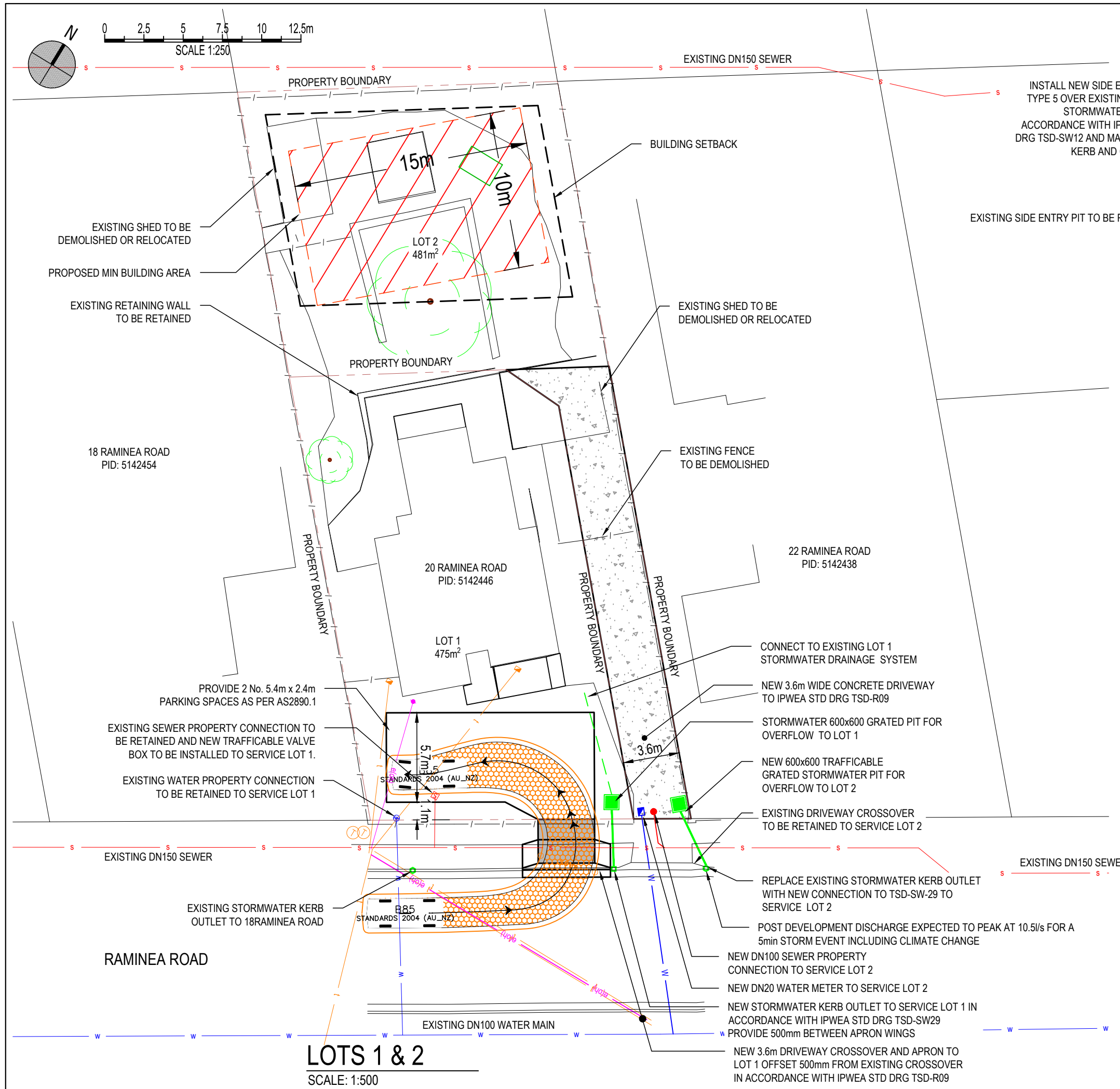
**LOCATION PLAN**



REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D				
C				
B				
A	Update boundaries	LH	02/10/23	LH

**OWNER:** AMANDA J. HERBERT  
**TITLE REFERENCE:** C.T.217713/5  
**LOCATION:** 20 RAMINEA ROAD, LINDISFARNE

Proposed Subdivision		
Date:	11/09/2023	Reference: HERBA01 15077-02
Scale:	1:200 (A3)	Municipality: CLARENCE



INSTALL NEW SIDE ENTRY PIT TYPE 5 OVER EXISTING 300mm STORMWATER PIPE IN ACCORDANCE WITH IPWEA STD DRG TSD-SW12 AND MAKE GOOD KERB AND CHANNEL

**RAMINEA ROAD SIDE ENTRY PIT UPGRADE DETAIL**  
SCALE: 1:500

DA2	05.06.2024	SEP UPGRADE SHOWN
DA1	09.02.2024	DEVELOPMENT APPROVAL ISSUE
P1	31.01.2024	PRELIMINARY ISSUE
REV	DATE	REMARK

SAFETY IN DESIGN REPORT PER WHS REGULATIONS

The following risks which are unique to this design have been identified:	NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.	

**JMG**  
JOHNSTONE MCGEE & GANDY PTY LTD

117 Harrington Street, Hobart, Tas (03) 6231 2555  
49-51 Elizabeth Street, Launceston, Tas (03) 6334 5548  
www.jmg.net.au info@jmg.net.au info@jmg.net.au

PROJECT  
**20 RAMINEA ROAD,  
LINDISFARNE 7015  
1 LOT SUBDIVISION**

TITLE  
**CIVIL DRAWINGS  
GENERAL ARRANGEMENT**

Accepted CJM (Discipline Head)	Date 12.06.2024
Accepted AIH (Team Leader)	Date 12.06.2024
Approved BBG (Principal)	Date 12.06.2024

This document must be signed "Approved" by JMG to authorise it for use. JMG accept no liability whatsoever for unauthorised or unlicensed use.

SCALES @ A3	DESIGNED BY	DRAWN BY
1:250	CJM	CG
	PLOT DATE	12/06/2024

DO NOT SCALE. Use only figured dimensions. Locations of structure, fittings, services etc on this drawing are indicative only. CONTRACTOR to check Architects & other project drawings for co-ordination between structure, fabric, fixtures, fittings, services etc. CONTRACTOR to site check all dimensions and exact locations of all items. JMG accepts no responsibility for dimensional information scaled or digitally derived from this document.

PLOT DETAILS GA PLANS.DWG

PROJECT NO. **230826CS**

DWG NO.	REVISION
<b>C01</b>	<b>DA2</b>

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# FLOOD HAZARD ASSESSMENT

20 RAMINEA ROAD, LINDISFARNE

AMANDA HERBERT  
DECEMBER 2023



JMG



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### Appendix A - JMG - Moirunna Road - Hydraulic Capacity

Issuing Office: 117 Harrington Street, Hobart 7000								
JMG Project No. J230826CS								
Document Issue Status								
Ver.	Issue Date	Description	Originator		Checked		Approved	
1	18/12/2023	Issued for Client Review	CAG		RWH		CJM	
2.	09/02/2024	Issued for DA Approval	CAG	<i>[Signature]</i>	CJM	<i>[Signature]</i>	CJM	<i>[Signature]</i>

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## 2. Limitations

This report is limited to a range of parameters as per below:

- The hydrology and hydraulic models are restricted and limited to a 1% AEP + Climate Change storm event, considering an ensemble analysis. Adopting the medium storm event from 5min to 12h time analysis, per AR&R 2019 requirements.
- All parameters have been derived from best practice manuals and available relevant studies, including AR&R 2019 guidelines and Clarence City Council advice.
- The present analysis is to be used only for the subject area and should not be used as a general flood study for the region.

## 3. Site Visit and Observations

JMG attended site on 28 November 2023 and made the following observations.

The contributing catchment is separated into two distinct regions:

- The upper region is an undeveloped rural area, part of the Natone Hill Bush Reserve.
- The lower portion of the catchment is a residential area, incorporating the subject site.

There are no clearly defined overland flow paths throughout either of these catchments. Runoff from the rural catchment is first intersected by Tianna Road. Tianna Road has a kerb and channel along its low side that will capture and direct runoff to the low point outside No. 16.



Figure 2: Natone Hill Bush Reserve Discharge Point to Tianna Road

Flows not captured in the piped network are suspected to pass through this property and continue down through No. 8 or 10 Moirunna Road, before flowing into the road corridor of Moirunna Road. Moirunna Road has a continuous fall to the north-east at grades starting at approximately 6% before flattening to 3% at the crossover to No. 11. At a grade of 2.5% the kerb and channel are calculated to have a capacity of 0.580m<sup>3</sup>/s. There is no low point in Moirunna Road upstream of the subject site, with the road generally maintaining a 2.5% longitudinal grade before flattening out to around 1.0% at the intersection with Nelumie Street reducing the road capacity to 0.370m<sup>3</sup>/s.



Figure 3: 8 & 10 Moirunna Road - Point of Discharge



Figure 4: Moirunna Road. Varies 1-6% Grade to Nelumie Street

Overland flow that travels down Moirunna Road to the west of Wellington Road diverts down the Wellington Road corridor. Figure 5 demonstrates the crossfall of Moirunna Road and how flows will be directed down Wellington Street.



Figure 5: Diversion of Overland Flow at (Wellington - Moirunna Road) Intersection



Figure 6: 3D View and Predicted Overland Flow Vectors

#### 4. Catchment Analysis

The surface has been developed from two different sources. A combination of a survey undertaken on 11 September 2023 by Rogerson & Birch Surveyors and a Digital Elevation Model tile, Lidar Image, obtained from Anzlic Committee on Surveying and Mapping (ICSM) - Elvis (Elevation and Depth Foundation Spatial Data) website. The surface covers an area from downstream of the subject site (below Raminea Road) and extends up to the TasWater Water Reservoir at the top of the hill within the Natone Hill Bush Reserve.

The contributing catchment is separated into rural and residential areas as indicated in Figure 7. The rural catchment covers 2.26 ha and has an average slope of 20%. This catchment discharges flow along the northern side of Tianna Road.

The residential catchment covers 1.42Ha and features varying slopes from 13 to 18%. Runoff is produced from impervious surfaces like roofs, roads, and driveways, as well as pervious areas such as gardens and landscaping. The overland flows from the residential catchment will generally flow down the contours allowing for the regular obstructions, before being

intersected by Moirunna Road. These flows have the potential to impact the subject site by entering from the rear of the property.

As such, it is expected the main flow from the catchment will arrive onto Moirunna Road, between Nos. 6 & 8.

To set the outlet of the catchment immediately upstream of the subject site there is an assumption there is an overland flow path through 20 Raminea Road. A hydraulic analysis is required to determine if the flows will break out from the Moirunna Road corridor, or if they will be safely conveyed around the subject site.

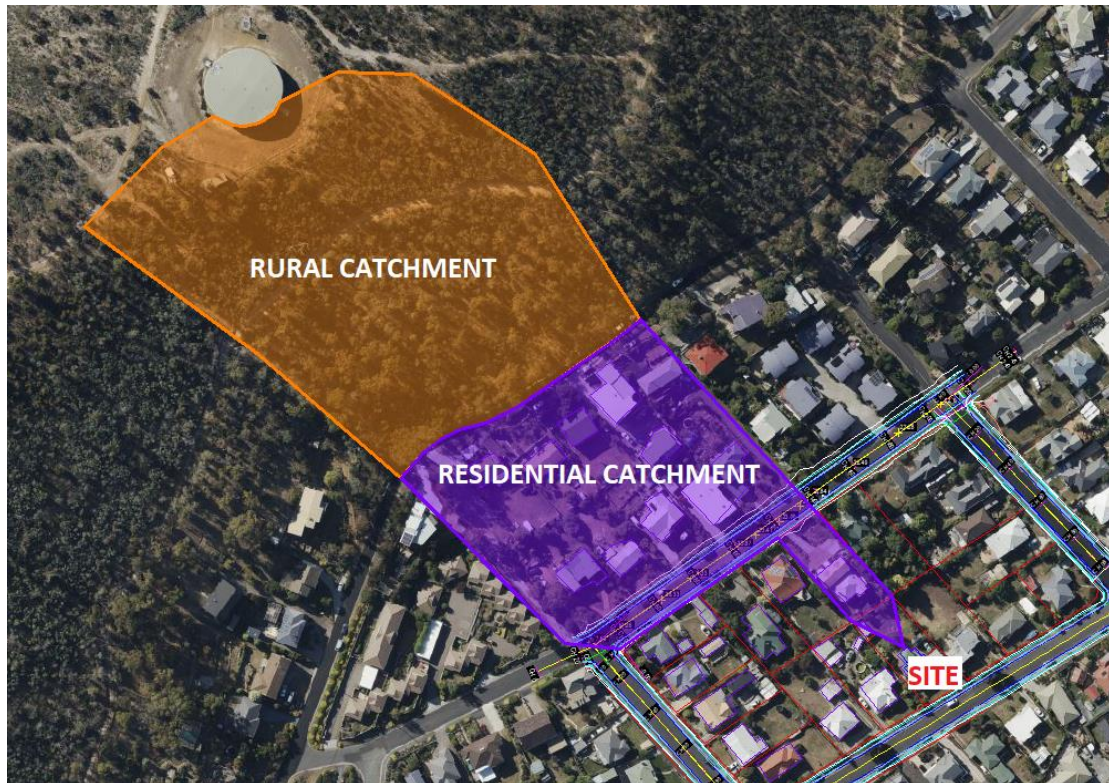


Figure 7: Catchment 1 Delineation

Table 1: Catchment Parameters (Summary)

Name	Area (ha)	Avg. Slope (%)	Longest Flow Path (m)	Catchment Discharge Level (m)
Rural	2.26	20	160	44.0
Residential	1.42	13-18	128	54.0*

## 5. Hydrology

### 5.1 Hydrologic Modelling and General Parameters

The following flows have been calculated using the hydrological modelling software Watercom DRAINS (DRAINS). All meteorological data (Rainfall IFDs, temporal patterns, rainfall pre-burst data and climate change factors) was extracted from the Australian Rainfall & Runoff (ARR) Data Hub and the Bureau of Meteorology (BOM). These parameters are all region-specific based on the following coordinates:

- Longitude: 147.353
- Latitude: -42.845

The ARR Data Hub (which sources information from the *Climate Change in Australia* Website) provides projections for Interim Climate Change Factors. ARR advise the design of significant stormwater infrastructure is to be based on a predicted Climate Change increase in the year 2100, but the Data Hub only provides data up until 2090. A linear extrapolation is applied to the data set to determine the factor for the year 2100.

Table 2: Climate Change, Allowance

Location	Otago, Tasmania
Representative Concentration Pathway (RCP)	8.5
Year	2090
Factor	3.090 (16.3%)
Year	2100
<b>Factor (Extrapolated)</b>	<b>18.3%</b>

The overland flow rates have been calculated using two different hydrological models - RAFTS and IL-CL. RAFTS models are recommended for rural catchments, whereas IL-CL models are more suitable for urban environments.

The Initial and Continuing Losses for both hydrological models are based on recommendations provided over email from CCC Senior Stormwater Engineer - Hannah Atkins. A 20mm initial loss value & 2mm/hr continuing loss were adopted.

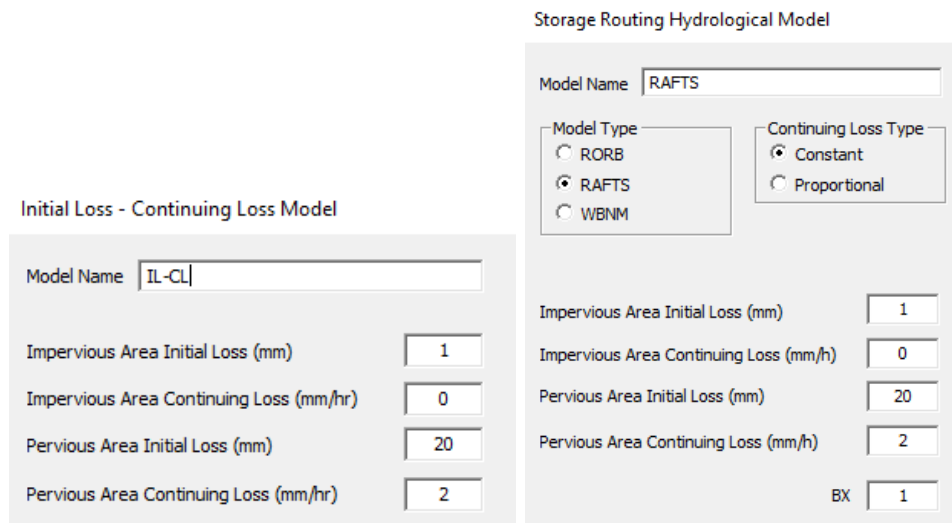


Figure 8: Screenshot from Drains - Hydrological Parameters - Model (IL-CL & RAFTS)

## 5.2 Sub-Catchment Properties and Results

The following properties have been adopted for the rural catchment:

Table 3: Physical Parameters for Typical Rural Sub-Catchment

Condition	Manning's 'n' value	Percentage Impervious
Rural Catchment	0.04	0

As there is no formal flow path for the rural portion of the catchment the n-value should reflect the likely overgrown and unmaintained nature of the flow routes. A Manning's n-value of 0.040 is typically selected for natural streams with some obstacles and pools, and although this value is more likely to be on the low (conservative) end of the likely range, it is considered appropriate for adoption in this scenario.

The following properties have been adopted for the residential catchment:

The flow path times through the residential catchment was calculated using the kinematic wave equation. These equations rely on a 'retardance coefficient value - n\*' with the following values used where appropriate within the model.

Table 4: Retardance Coefficient n\*

Surface Type	Roughness Coefficient n*
Concrete or Asphalt	0.01-0.013
Bare Sand	0.01-0.016
Graveled Surface	0.012-0.03
Bare Clay-Loam Soil (eroded)	0.012-0.033
Sparse Vegetation	0.053-0.130
Short Grass Prairie (Veldt or Scrub)	0.10-0.20
Lawns	0.17-0.48

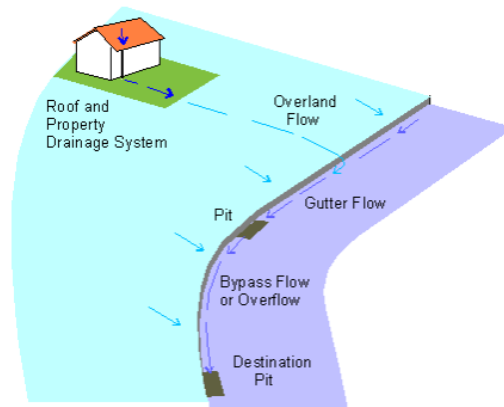


Figure 9: Screenshot from Drains - Overland Flow Scheme

Sub-Catchment Data

Sub-catchment name: RESIDENTIAL      Sub-catchment area (ha): 1.42

Hydrological Model:  Default model       You specify

Use:  abbreviated data       more detailed data

Note: The additional times you specify will be added to the times calculated from flow path length, slope and roughness to get the total times of concentration.

IL-CL

	EIA	RIA	PA
Percentage of area	25	15	60
Additional time (mins)	0	0	0
Flow path length (m)	250	250	250
Flow path slope (%)	13	13	18
Retardance coefficient n*	0.01	0.08	0.3

Where EIA = Effective Impervious Area  
RIA = Remaining Impervious Area  
PA = Pervious Area

Figure 10: Screenshot from Drains - Catchment Pervious/Impervious Conditions with Retardance Coefficient n\*



Maximum flow in RURAL for each storm

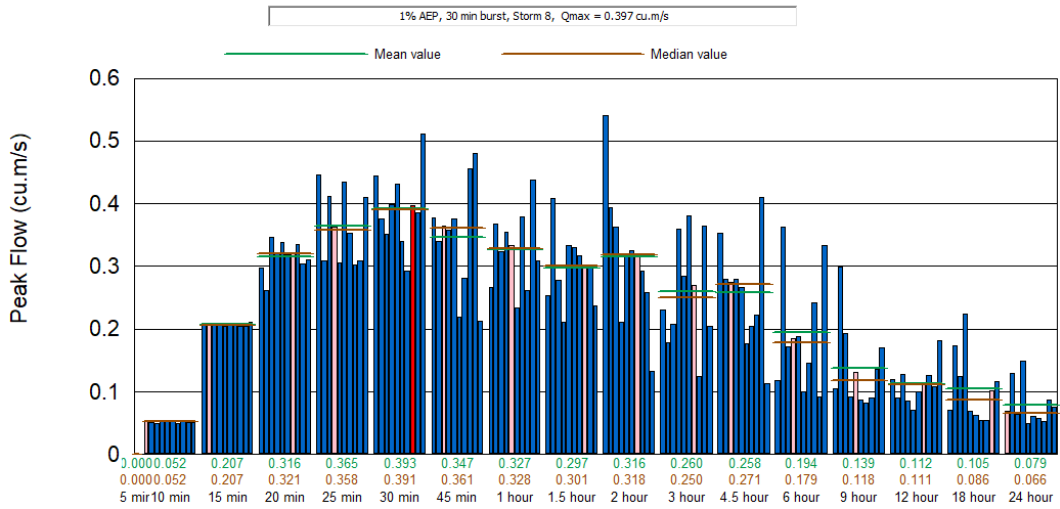


Figure 11: Screenshot from Drains - Peak Flow Chart (Rural Catchment)

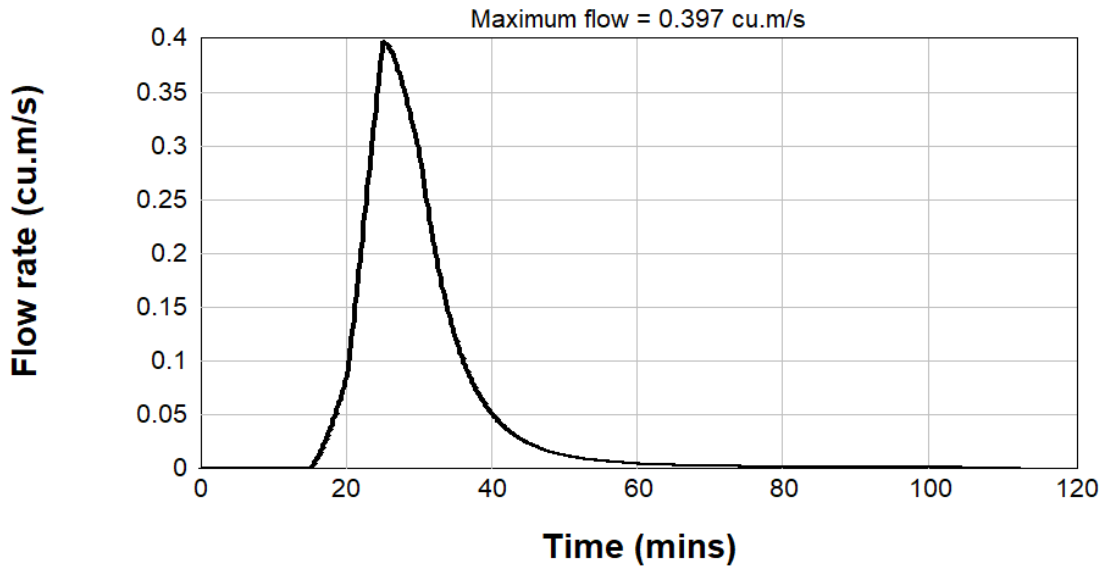


Figure 12: Screenshot from Drains - Median Total Hydrograph (Rural Catchment)

Maximum flow in RESIDENTIAL for each storm

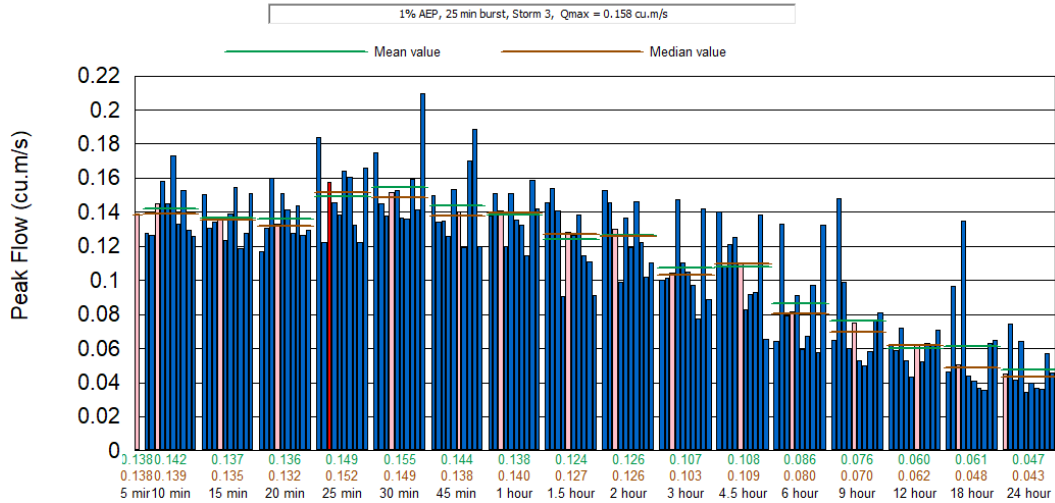


Figure 13: Screenshot from Drains - Peak Flow Chart (Residential Catchment)

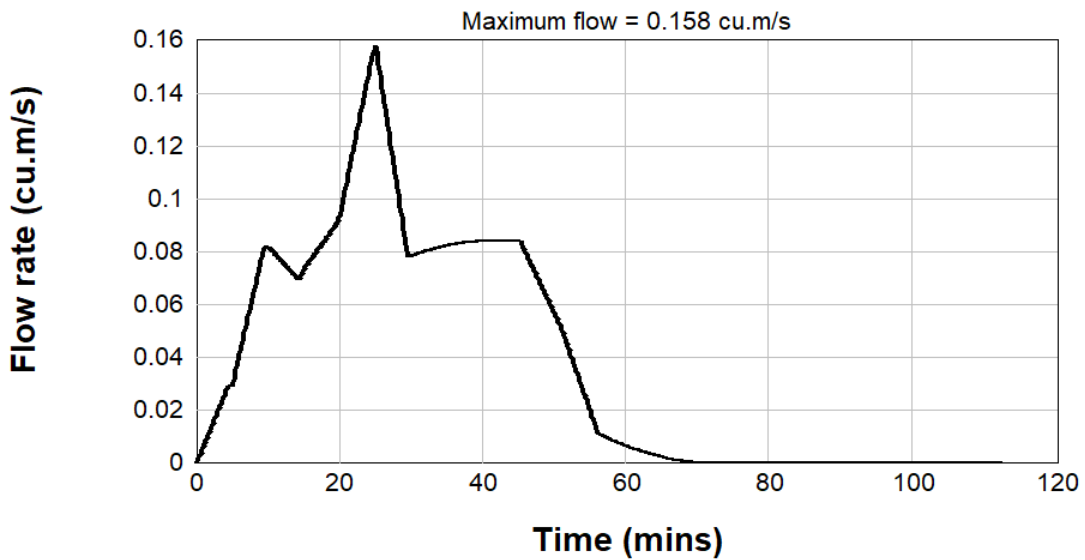


Figure 14: Screenshot from Drains - Median Total Hydrograph (Residential Catchment)

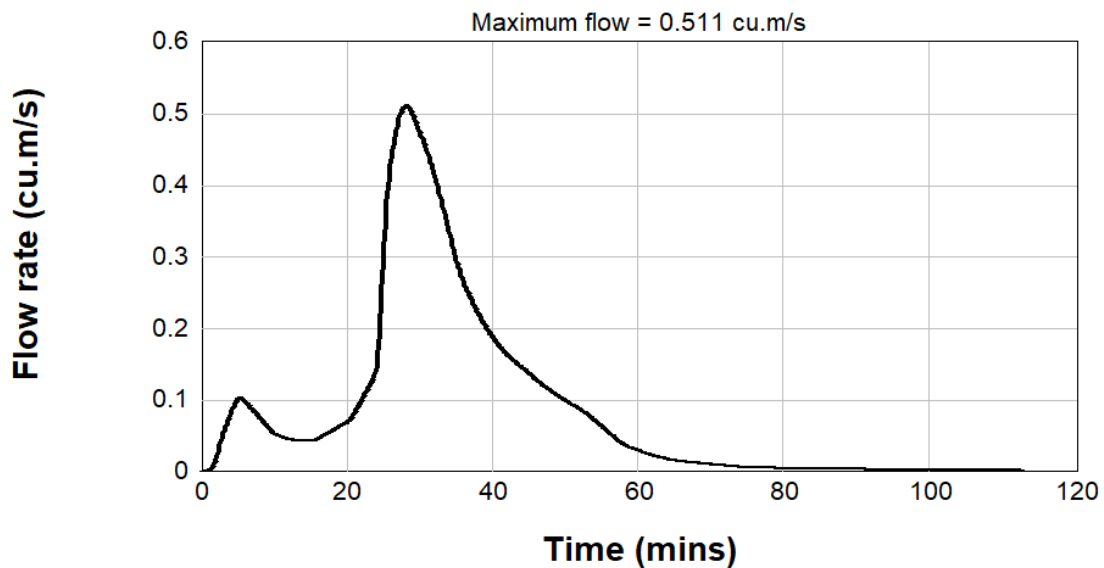


Figure 15: Screenshot from Drains - Median Total Hydrograph (Combined Catchment: Rural and Residential)

The peak flow predicted from the overall catchment is 0.51m<sup>3</sup>/s.

## 6. Hydraulics

### 6.1 HEC-RAS (2D Analysis)

A HEC-RAS model has been used to undertake a 2D unsteady flow analysis using the flow from Figure 15. The software is an ARR-recognised 2D modelling program, ideal for overland flows, depths, velocities, and overland flood extents.

### 6.2 Surface, Geometry and Flow Boundaries

The analysed surface has been built considering the parameters described in Section 4. In addition, the geometry mesh has been defined as an appropriate region surrounding the watercourse.

The inflow has been set on the downstream side of the No. 6 Moirunna Road property - the expected location of discharge from the upstream catchment. The total flow rate of 0.51m<sup>3</sup>/s was input to the model at this point, which is a conservative approach as the flow at this point would be less than the total flow due to a smaller contributing catchment.

The location of the inflow and outflow from the model were set a suitable distance upstream/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.



Figure 16: Screenshot from HEC-RAS - Geometry and Mesh

### 6.3 HEC-RAS Results

The following results present the maximum water depth, velocity, and water surface elevation (WSE) for the 1% AEP + CC.



Figure 17: HEC-RAS Screenshot: Maximum Depths

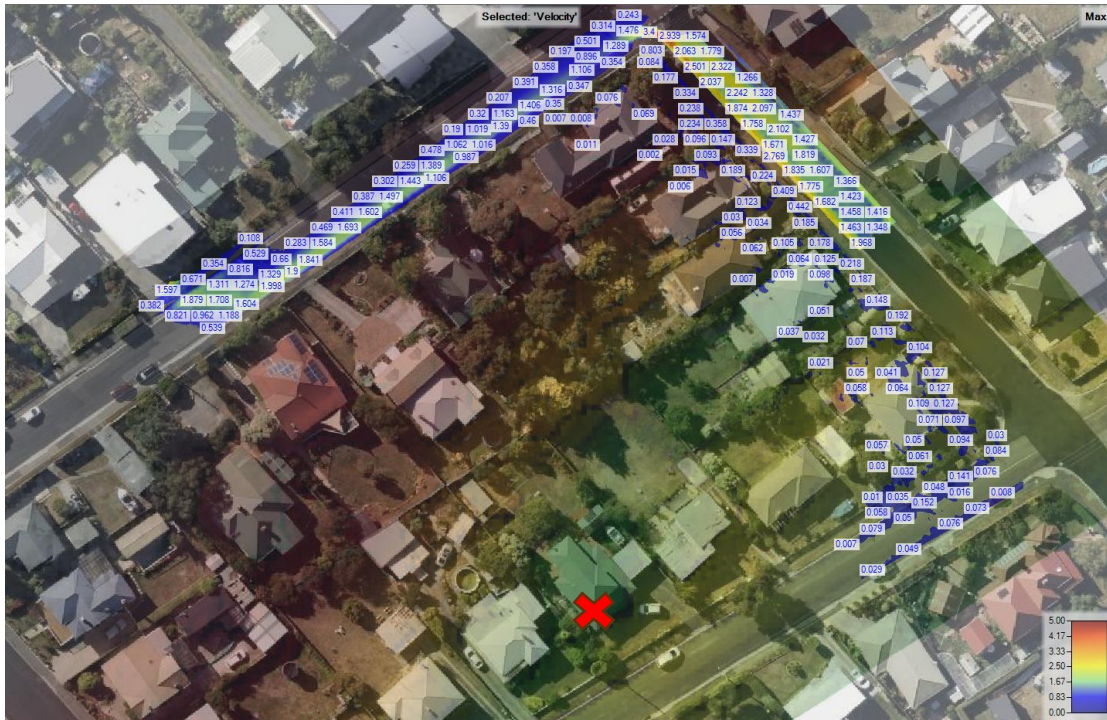


Figure 18: HEC-RAS Screenshot: Maximum Velocity

## 7. Summary of Results

The HECRAS modelling confirms the observations from the on-site investigation that inundation of the proposed development is very unlikely.

The variation between these results and the CCC mapping is due to the exclusion of specific features from the Council model. CCC modelling is undertaken on a basic Lidar surface, and features such as kerb and channel are excluded from these calculations. Due to the hydraulic efficiency of roads with kerb and channel they often form overland flow routes and as such must be considered as part of any hydraulic analysis.

Figures 17, 18, and 19 provide clear evidence that Moirunna Road can convey the predicted 1% AEP + CC flow safely around the subject site. Additionally, as predicted in sub-topic 3 of the present document, the overland flow only exceeds the footpath levels where the longitudinal road grade reduces to 1.0%, approximately 60.0m downstream of 11 Moirunna Road.

## 8. Flood Hazard Rating

As the site experiences no overland flow from the nominated development is not susceptible to flooding, and no Flood Hazard Rating can be assigned.

## 9. Tasmanian Planning Scheme - Clarence

### *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.*

### **Acceptable Solutions - A1**

*Each lot, or a lot proposed in a plan of subdivision, within a flood-prone hazard area, must:*

- a) be able to contain a building area, vehicle access, and services, that are wholly located outside a flood-prone hazard area;*
- b) be for the creation of separate lots for existing buildings;*
- c) be required for public use by the Crown, a council or a State authority; or*
- d) be required for the provision of Utilities.*

#### **JMG Response:**

As there is no inundation of the proposed development, the acceptable solution is met.

## **10. Conclusion**

This report concludes that there is negligible risk of flooding to the proposed development at 20 Raminea Road, Lindisfarne and as a result is in conformance with the acceptable solution A1 for 'Clause C12.7.1 - Subdivision within a flood-prone hazard area' of Tasmanian Planning Scheme - Clarence.

## APPENDIX A

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### JMG - Moirunna Road - Hydraulic Capacity

# Channel Report

## Kerb and Channel - Capacity

### Gutter

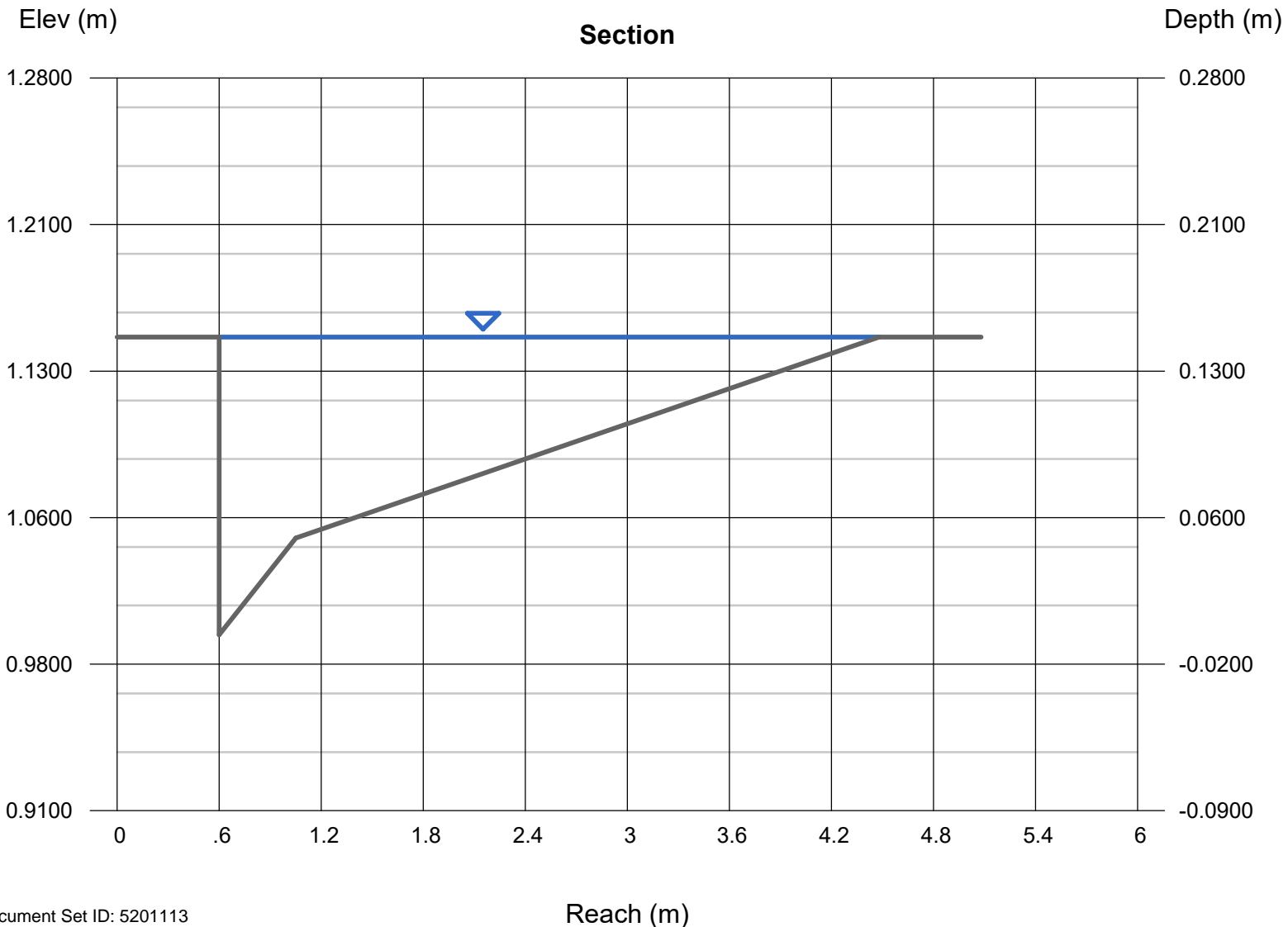
Cross Sl, Sx (m/m)	= 0.030
Cross Sl, Sw (m/m)	= 0.110
Gutter Width (m)	= 0.4500
Invert Elev (m)	= 1.0000
Slope (%)	= 2.5000
N-Value	= 0.012

### Highlighted

Depth (m)	= 0.1524
Q (cms)	= 0.5773
Area (sqm)	= 0.2339
Velocity (m/s)	= 2.4682
Wetted Perim (m)	= 4.0367
Crit Depth, Yc (m)	= 0.2256
Spread Width (m)	= 3.8800
EGL (m)	= 0.4631

### Calculations

Compute by:	Q vs Depth
No. Increments	= 10





# Channel Report

## Kerb and Channel - Capacity

### Gutter

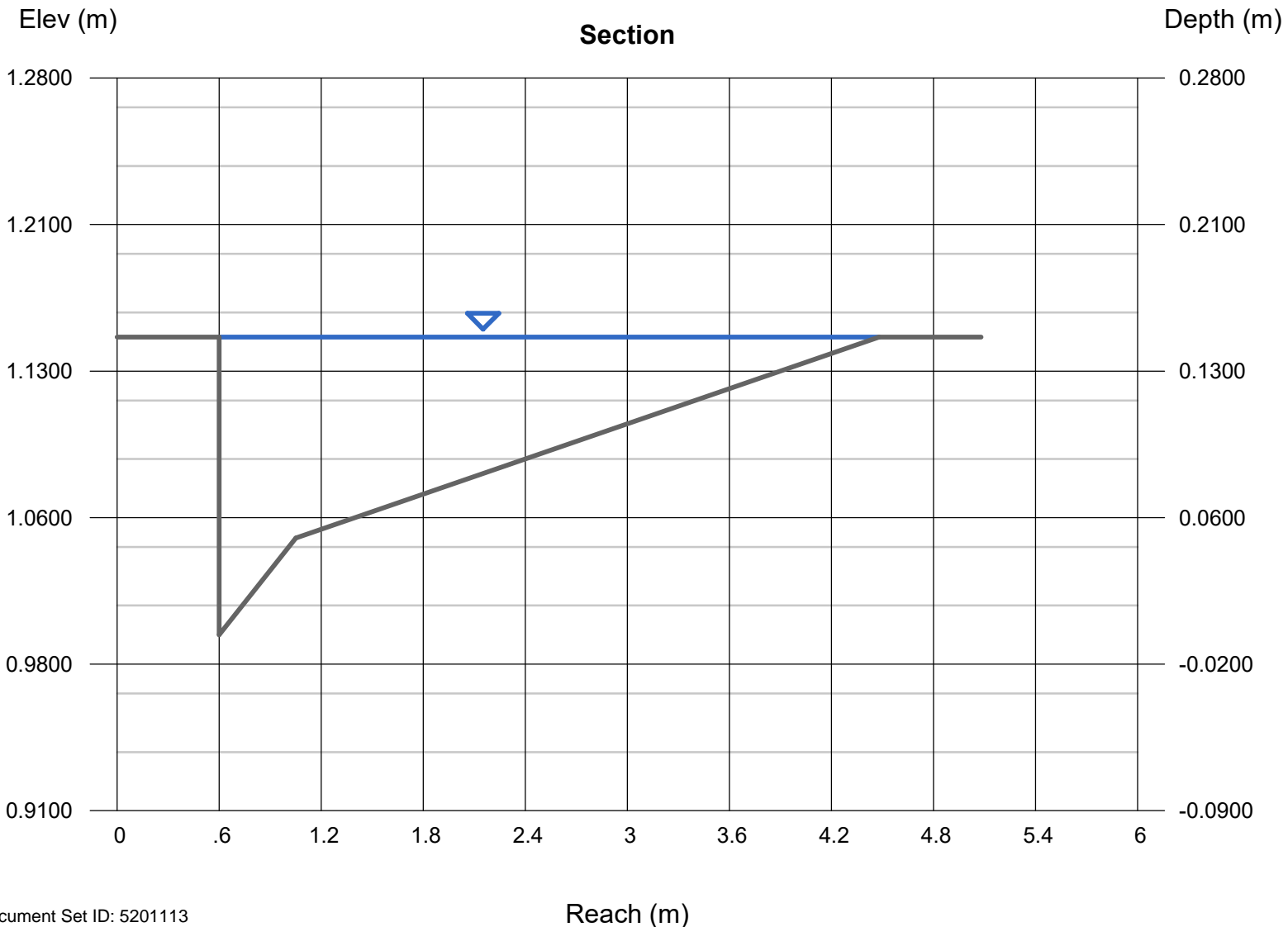
Cross Sl, Sx (m/m) = 0.030  
Cross Sl, Sw (m/m) = 0.110  
Gutter Width (m) = 0.4500  
Invert Elev (m) = 1.0000  
Slope (%) = 1.0000  
N-Value = 0.012

### Highlighted

Depth (m) = 0.1524  
Q (cms) = 0.3651  
Area (sqm) = 0.2339  
Velocity (m/s) = 1.5610  
Wetted Perim (m) = 4.0367  
Crit Depth, Yc (m) = 0.1920  
Spread Width (m) = 3.8800  
EGL (m) = 0.2767

### Calculations

Compute by: Q vs Depth  
No. Increments = 10





ACN 009 547 139 | ABN 76 473 834 852

117 HARRINGTON STREET, HOBART (03) 6231 2555  
49-51 ELIZABETH STREET, LAUNCESTON (03) 6334 5548

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