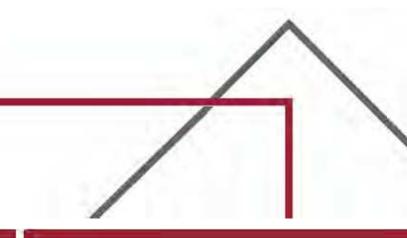


# Eden, Twofold Bay, Towamba River Flood Study

Volume 2 - Maps

Bega Valley Shire Council

Flood Study



## 25 October 2019



**Rhelm Pty Ltd** ABN: 55 616 964 517

Level 1, 50 Yeo Street Neutral Bay NSW 2089 Australia

## Lead Author:

Emma Maratea contact@rhelm.com.au

## **Document Control**

Rev	Effective Date	Description of Revision	Prepared by:	Reviewed by:
Stage	1 Report			
0	16 January 2017	Template for Baird	Emma Maratea	NA
1	2 February 2017	Internal Draft for Review	Emma Maratea Luke Evans Sean Garber Holly Watson	Rhys Thomson
2	6 February 2018	Issue to Council	Luke Evans	Emma Maratea
Stage	2 Report	-		
0	16 August 2018	Internal Version	Emma Maratea	NA
1	10 September 2018	Issue to Council	Emma Maratea Luke Evans Sean Garber Holly Watson	Rhys Thomson
Stage	3 Report	•		·
0	2 July 2019	Issue to Council	Emma Maratea Luke Evans Sean Garber	Rhys Thomson
Stage	4 Report	•	·	·
0	25 October 2019	For Public Exhibition	Luke Evans	Emma Maratea

**Prepared For:** Bega Valley Shire Council

Eden, Twofold Bay, Towamba River Flood Study Project Name:

**Rhelm Reference:** J1053\_R03\_Rev0\_Vol-2

**Document Location:** C:\Dropbox (Rhelm)\Jobs\J1053 - Eden Flood Study\4. Reports\Stage 4 Report Draft for Exhibition\J1053\_R04\_Stage\_4\_Rev0\_Vol-2.docx

**Client Reference: Exhibition Flood Study** 

The report has been prepared and reviewed by suitably qualified persons. The scope of the report is based on the client brief and/or the Rhelm written fee proposal and assumes information provided by the client and sourced from other third parties is fit for purpose unless otherwise stated. The findings rely on a range of assumptions that are noted in the report.

Eden, Twofold Bay, Towamba River Flood Study



This document, Minnegang Creek Flood Study – Stage 3 Report [2019], is licensed under the Creative Commons Attribution 4.0 Licence, unless otherwise indicated.

## Please give attribution to: © Wollongong Council (2019)

We also request that you observe and retain any notices that may accompany this material as part of the attribution.

## Notice Identifying Other Material and/or Rights in this Publication:

The author of this document has taken steps to both identify third-party material and secure permission for its reproduction and reuse. However, please note that where these third-party materials are not licensed under a Creative Commons licence, or similar terms of use, you should obtain permission from the rights holder to reuse their material beyond the ways you are permitted to use them under the 'fair dealing' provisions in the Copyright Act 1968. Please see the Table of References at the rear of this document for a list identifying other material and/or rights in this document.

### **Further Information**

For further information about the copyright in this document, please contact: Wollongong Council 41 Burelli Street, Wollongong council@wollongong.nsw.gov.au +612 4227 7111

### DISCLAIMER

The Creative Commons Attribution 4.0 Licence contains a Disclaimer of Warranties and Limitation of Liability. In addition: This document (and its associated data or other collateral materials, if any, collectively referred to herein as the 'document') was produced by Rhelm Pty Ltd for Wollongong Council only. The views expressed in the document are those of the author(s) alone, and do not necessarily represent the views of Wollongong Council. Reuse of this document or its associated data by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based upon the contents of this document.

Eden, Twofold Bay, Towamba River Flood Study

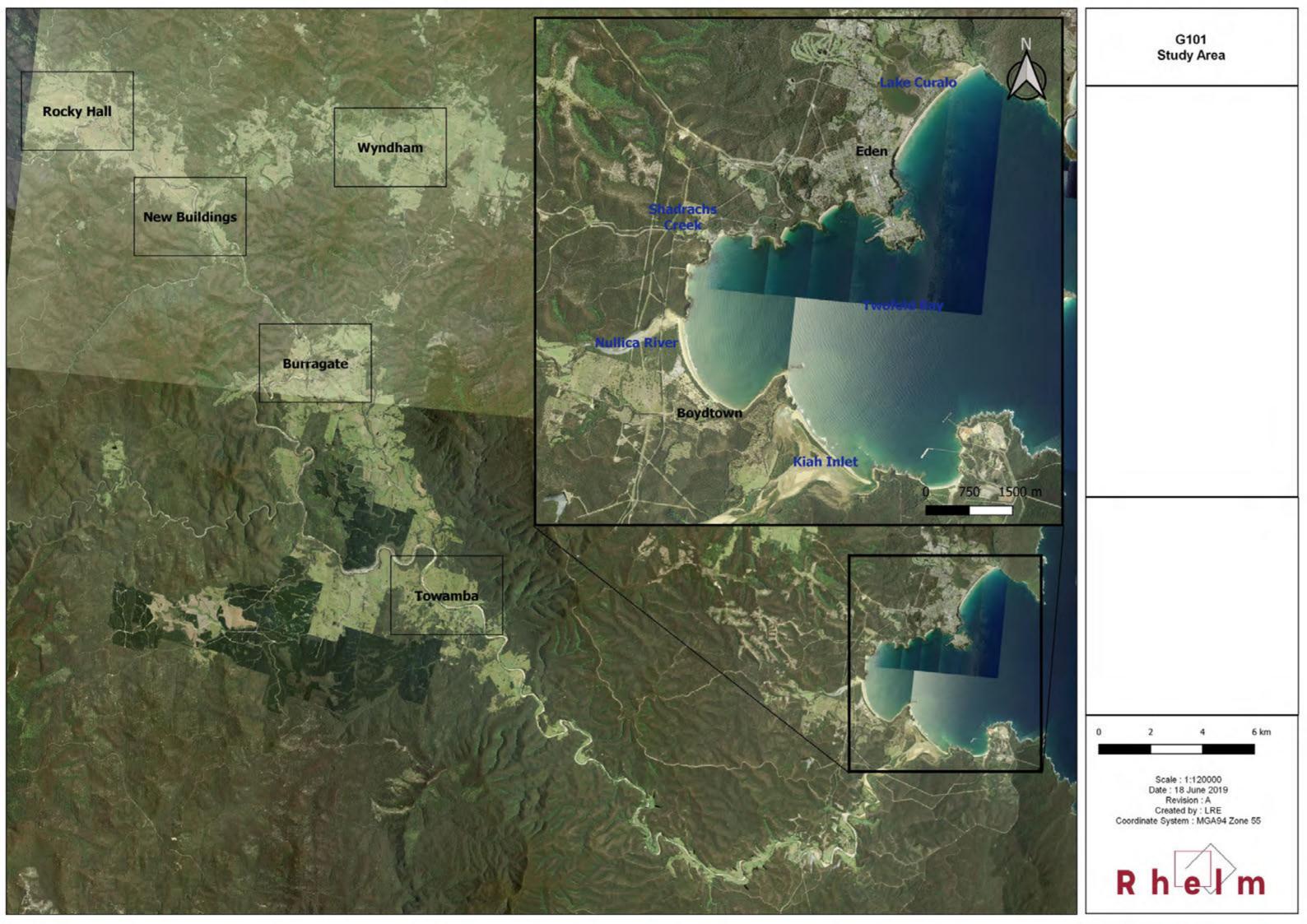
# R h e m Volume 2 - Maps

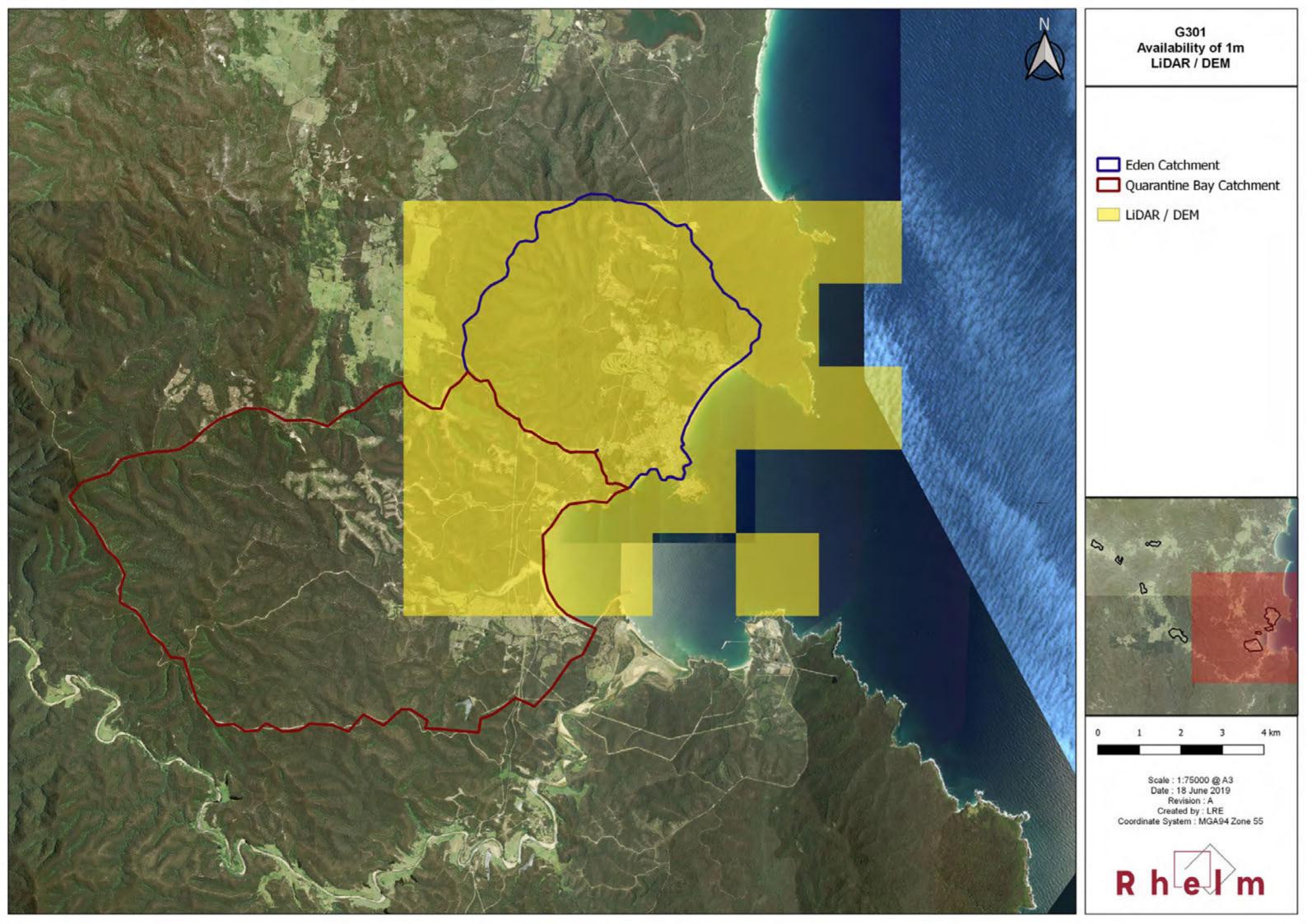
Map Series G517

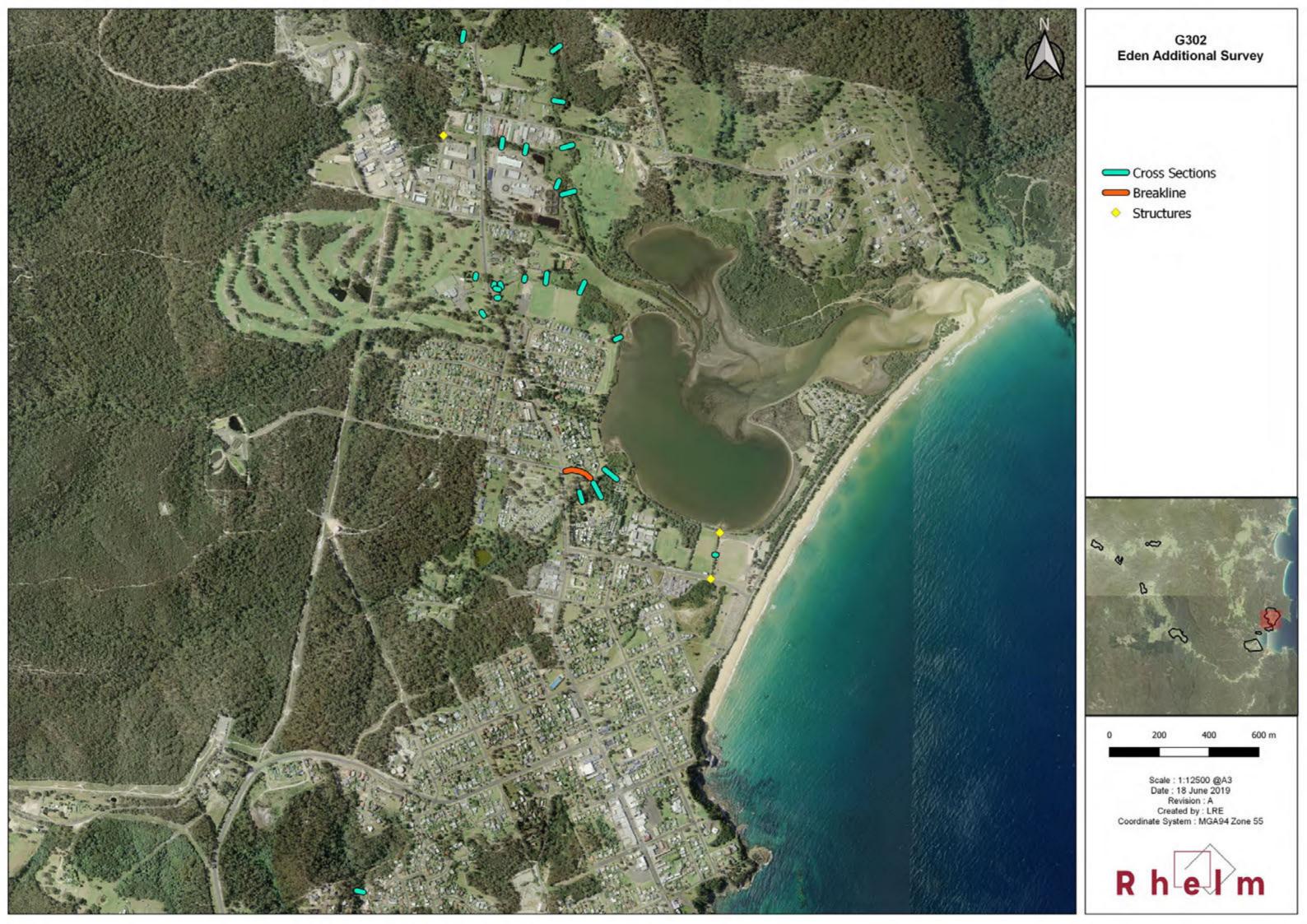
Coastal Model SLR Impacts (ICOLLs Only)

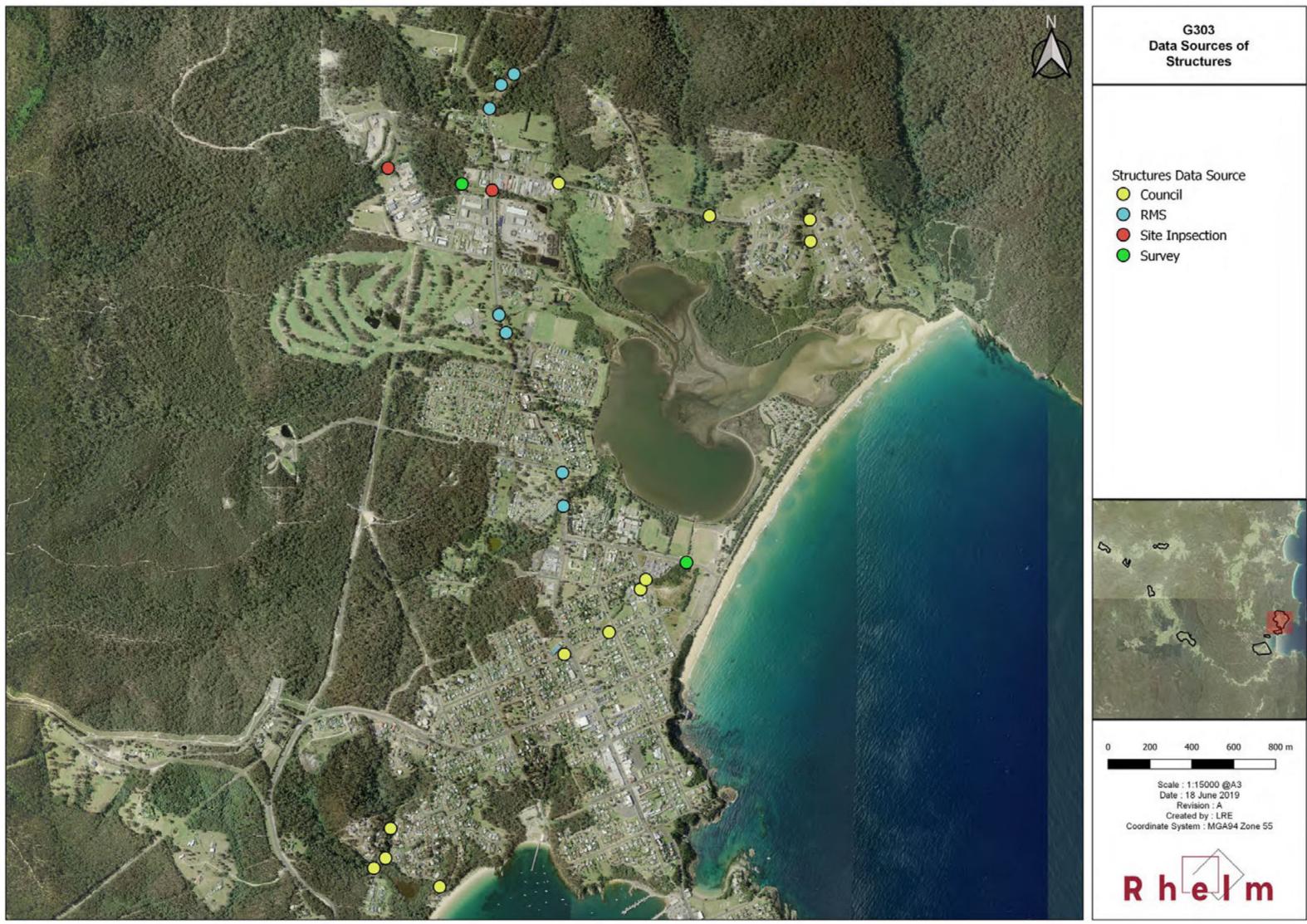
Map G101	Study Area		
Map G301	Available LiDAR Survey	Map Series G601-1	PMF Depths
Map G302	Eden Additional Survey	Map Series G601-2	1% AEP Depths
Map G303	Data sources of Structures	Map Series G601-3	10% AEP Depths
Map G304	Rainfall Gauge Locations	Map Series G602-1	PMFVelocity
		Map Series G602-2	1% AEP Velocity
Map G501	Eden Subcatchments	Map Series G602-3	10% AEP Velocity
Map G502	Nullica River, Shadrachs and Boydtown Subcatchments	Map Series G603-1	PMF Hazard
Map G503	Towamba River Subcatchments	Map Series G603-2	1% AEP Hazard
Map G504	Rocky Hall Model Area	Map Series G604	Flood Function
Map G505	New Buildings Model Area	Map Series G605	Coastal Inundation
Map G506	Wyndham Model Area	Map Series G606	Tidal Inundation
Map G507	Burragate Model Area		
Map G508	Towamba Model Area	Map Series G701	Flood Planning Area
Map G509	Eden Hydraulic Model Features	Map Series G702	Flood Emergency Response Classifications
Map G510	Nullica River and Boydtown Creek Model Extent	Map Series G703	Road Overtopping
Map G511	Shadrachs Creek Model Extent	Map Series G704	Cumulative Impacts (Eden only)
Map G512	Towamba 2011 Hydraulic Model Calibration		
Map G513	Towamba 1978 Hydraulic Model Calibration		
Map G514	Eden community observations with 20% AEP results		
Map G515	Eden community observations with 1% AEP results		
Map Series G516	ARR87 Differences		

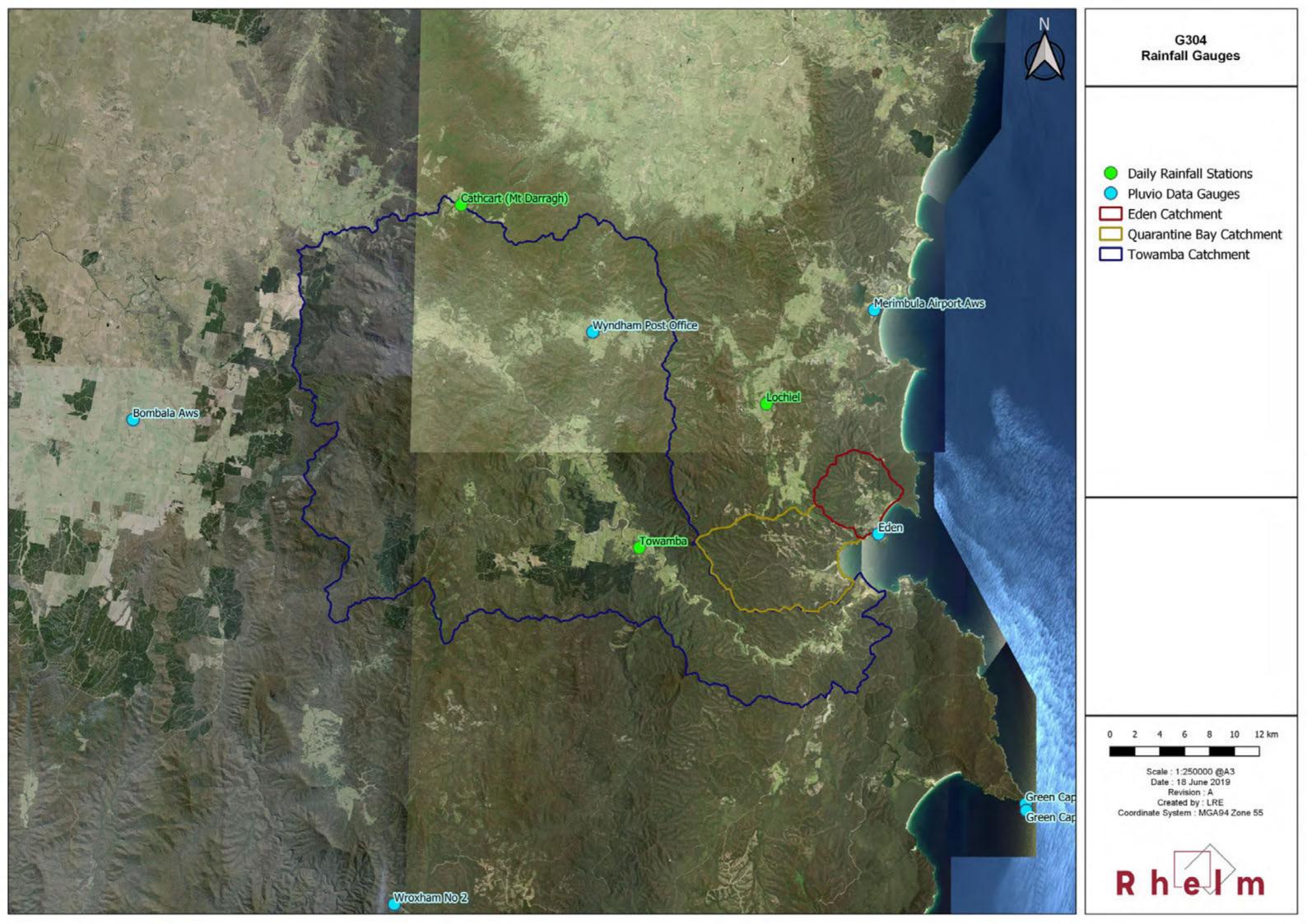
Eden, Twofold Bay, Towamba River Flood Study

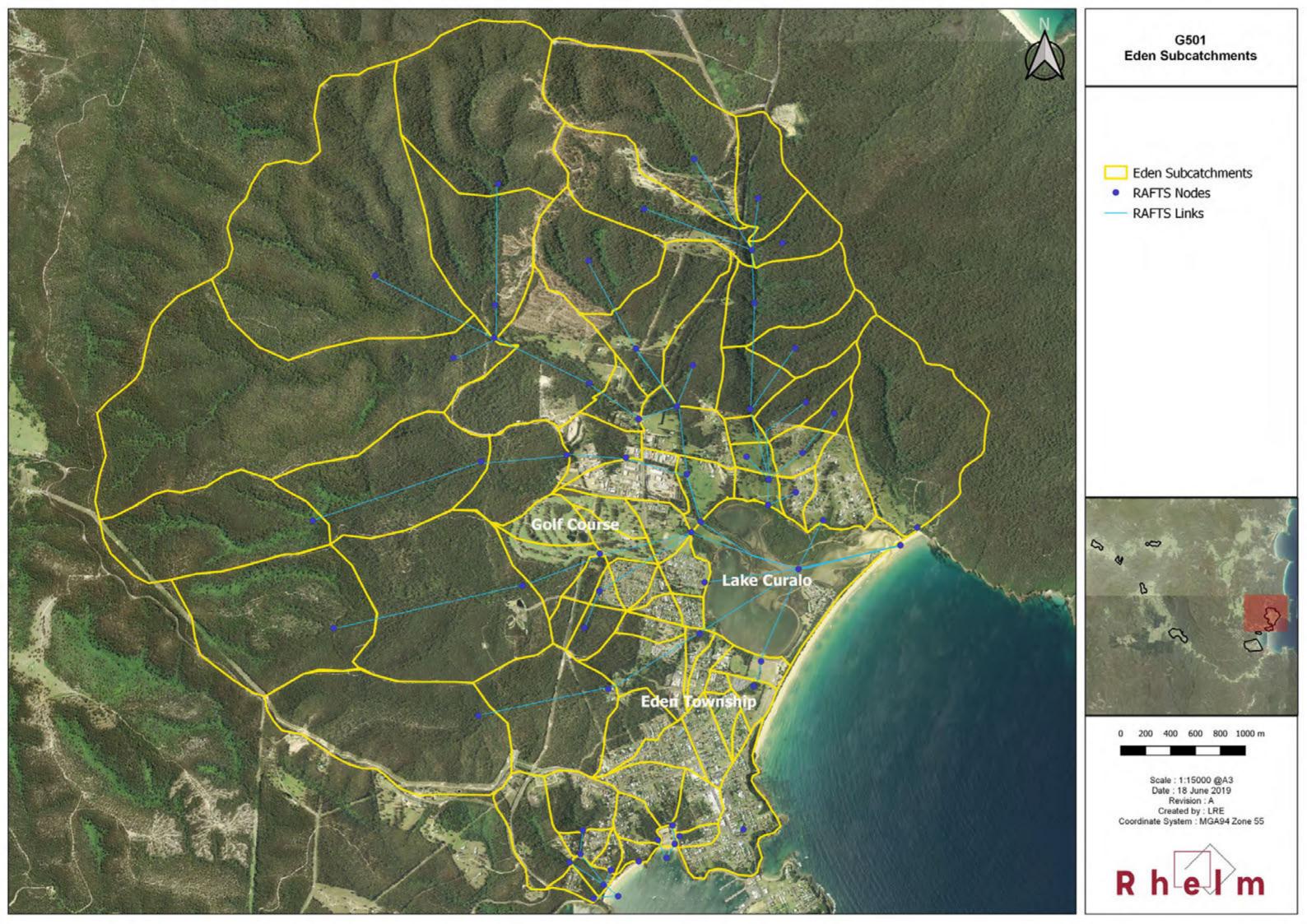


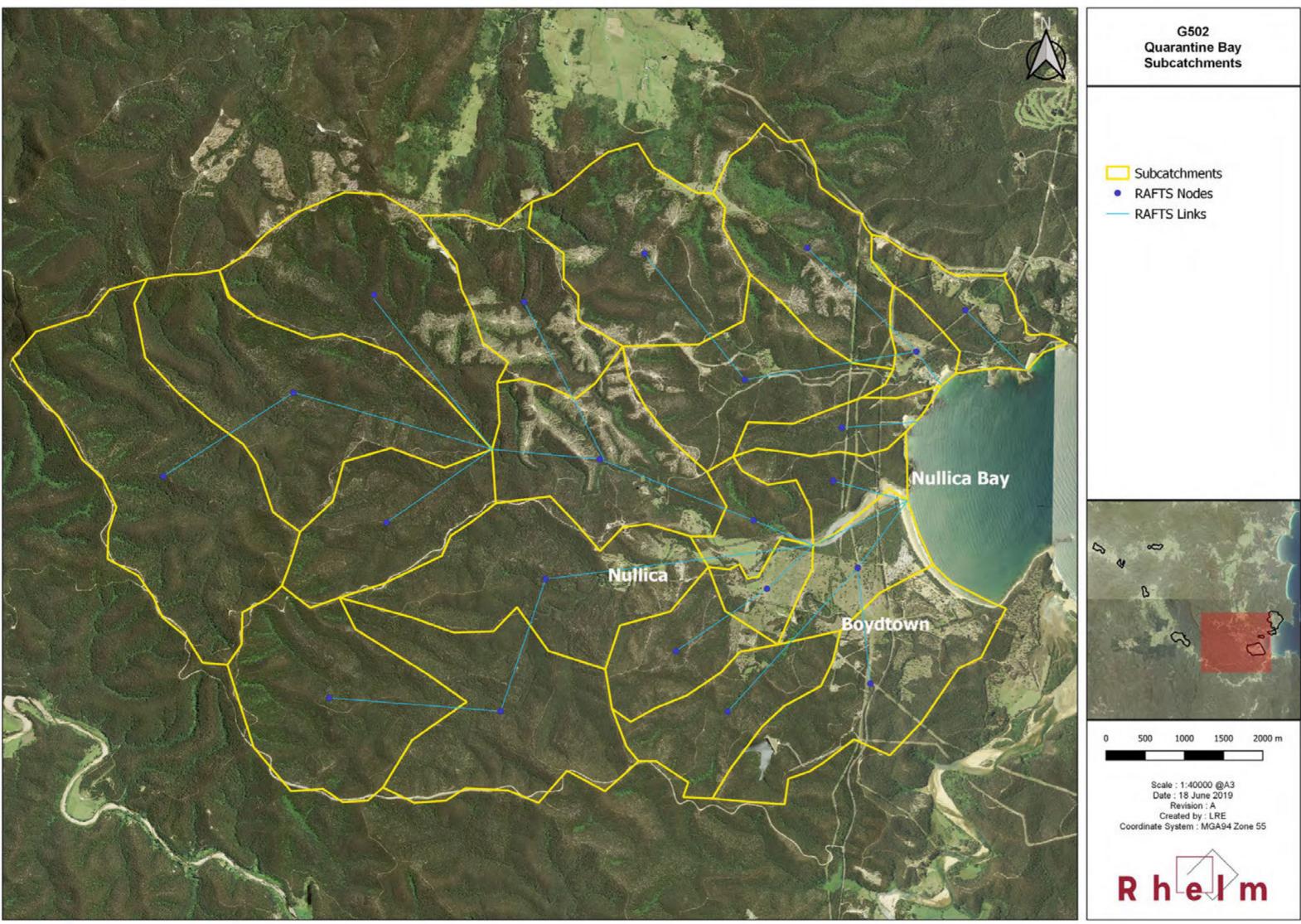


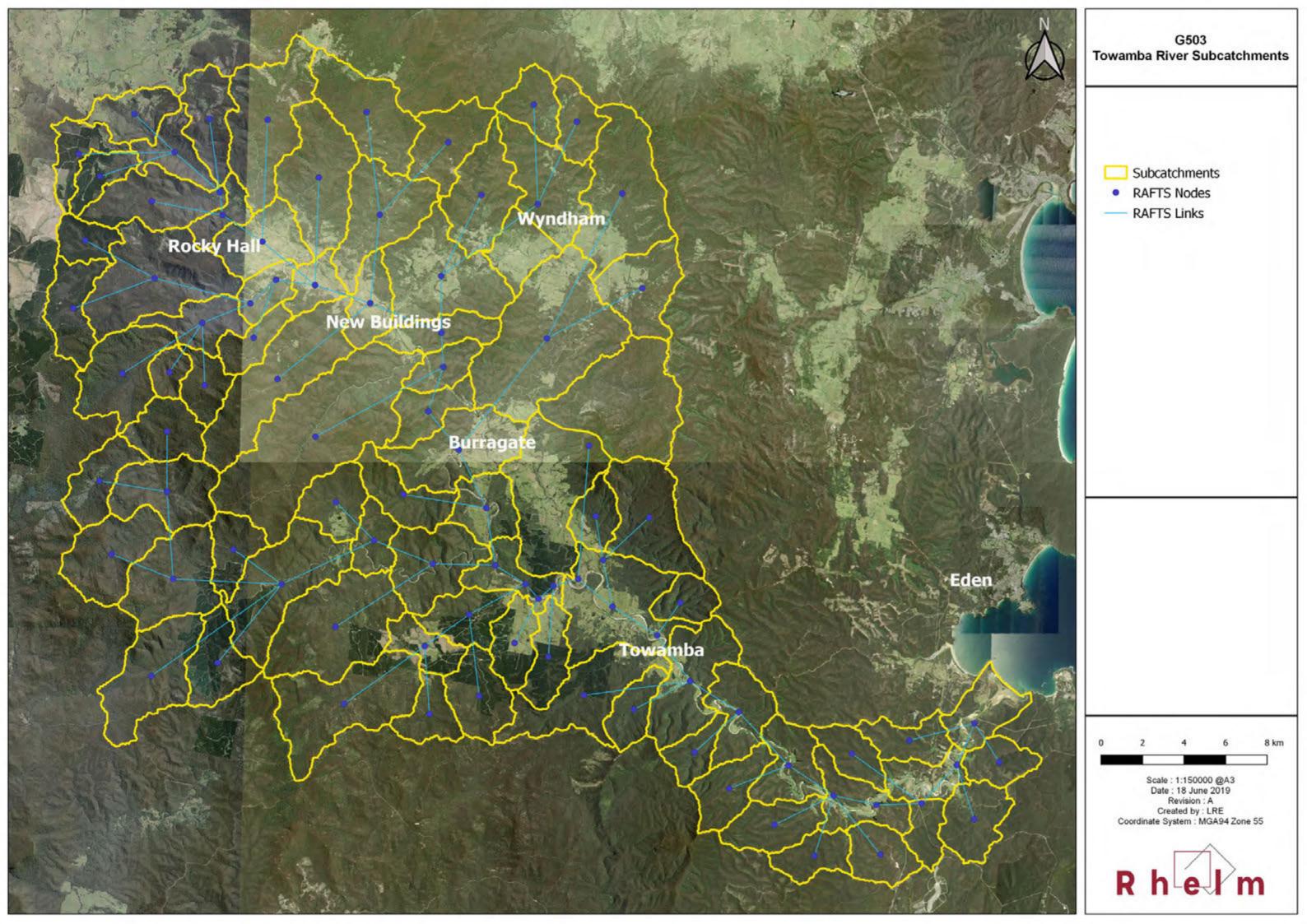


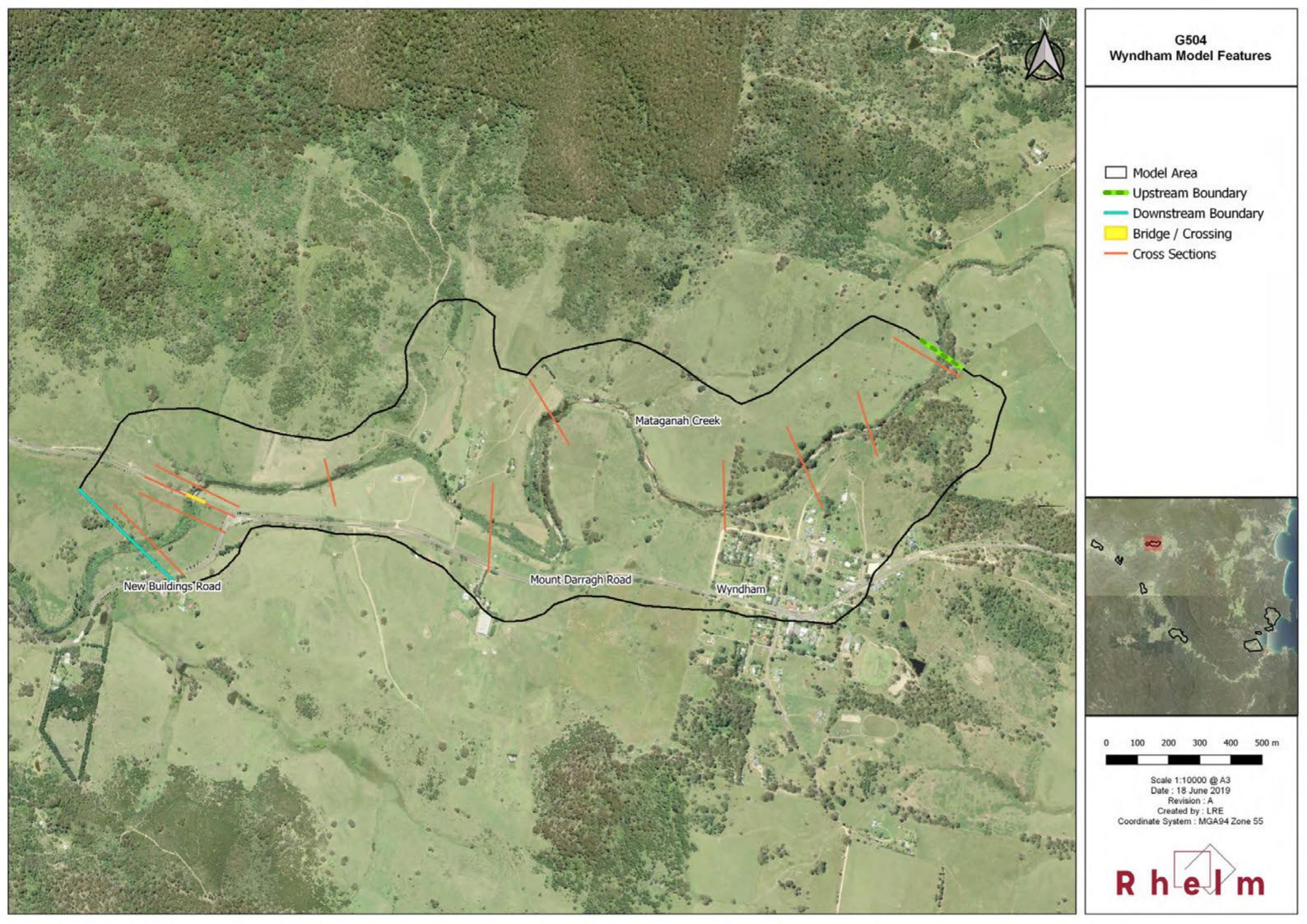


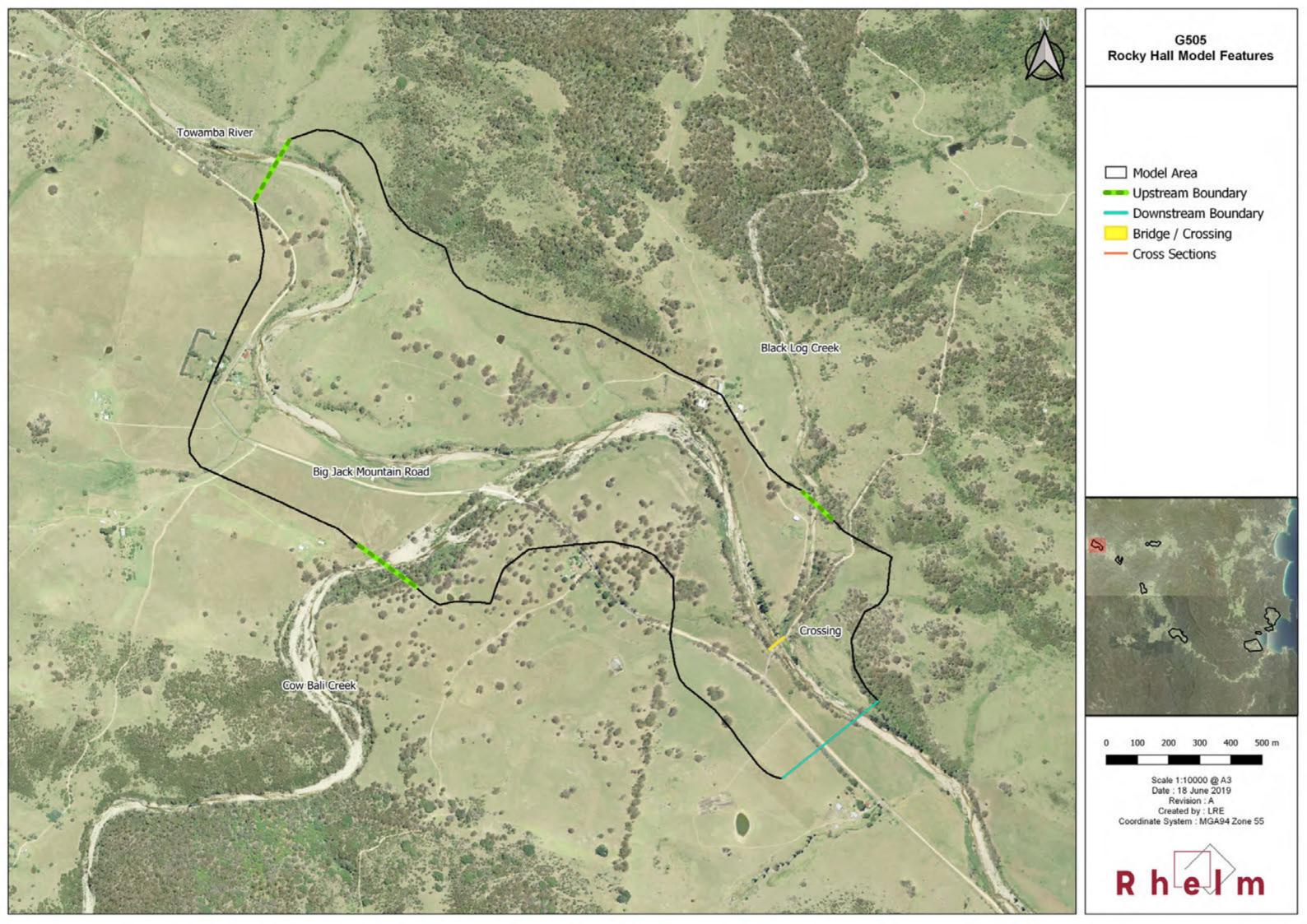




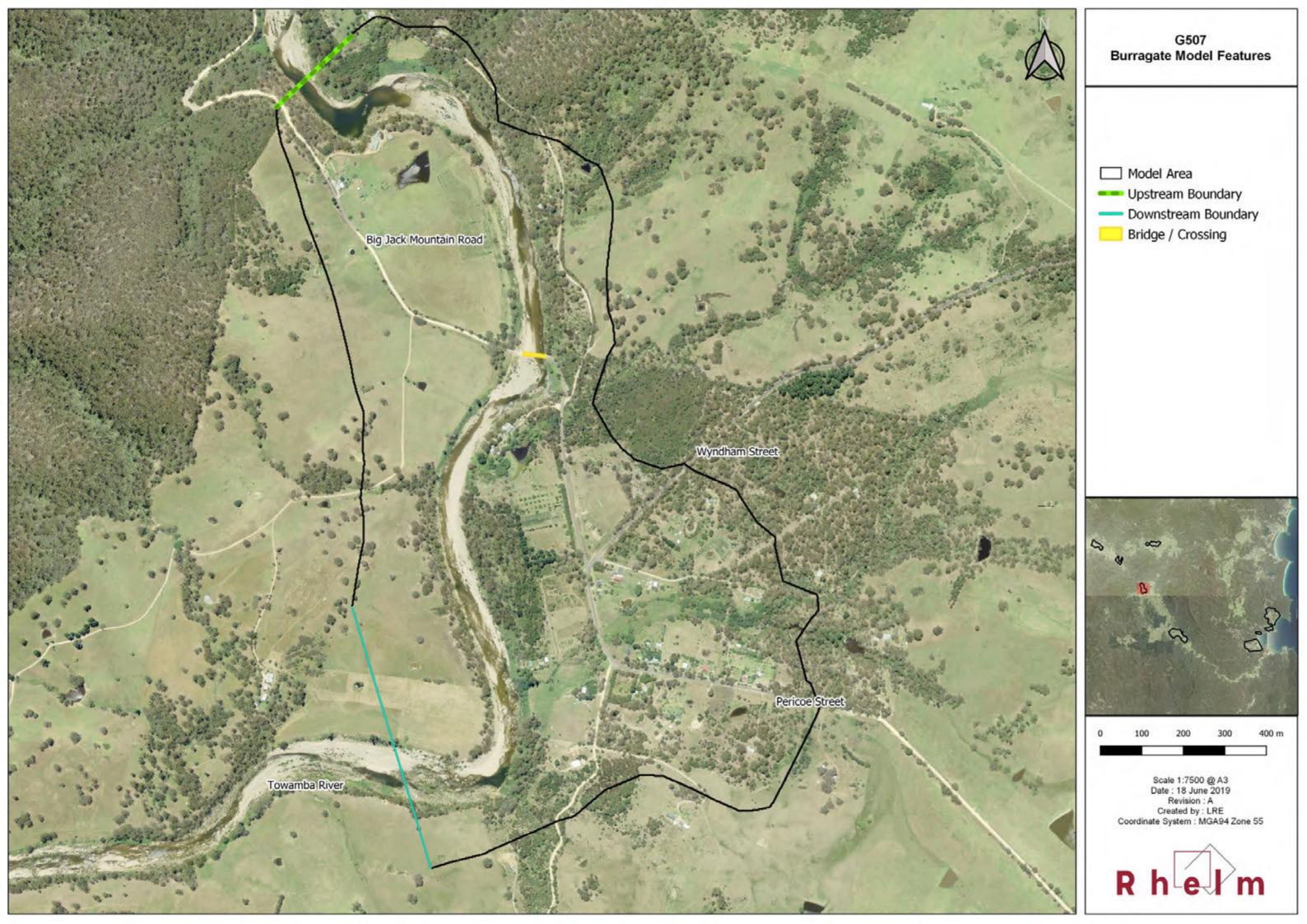




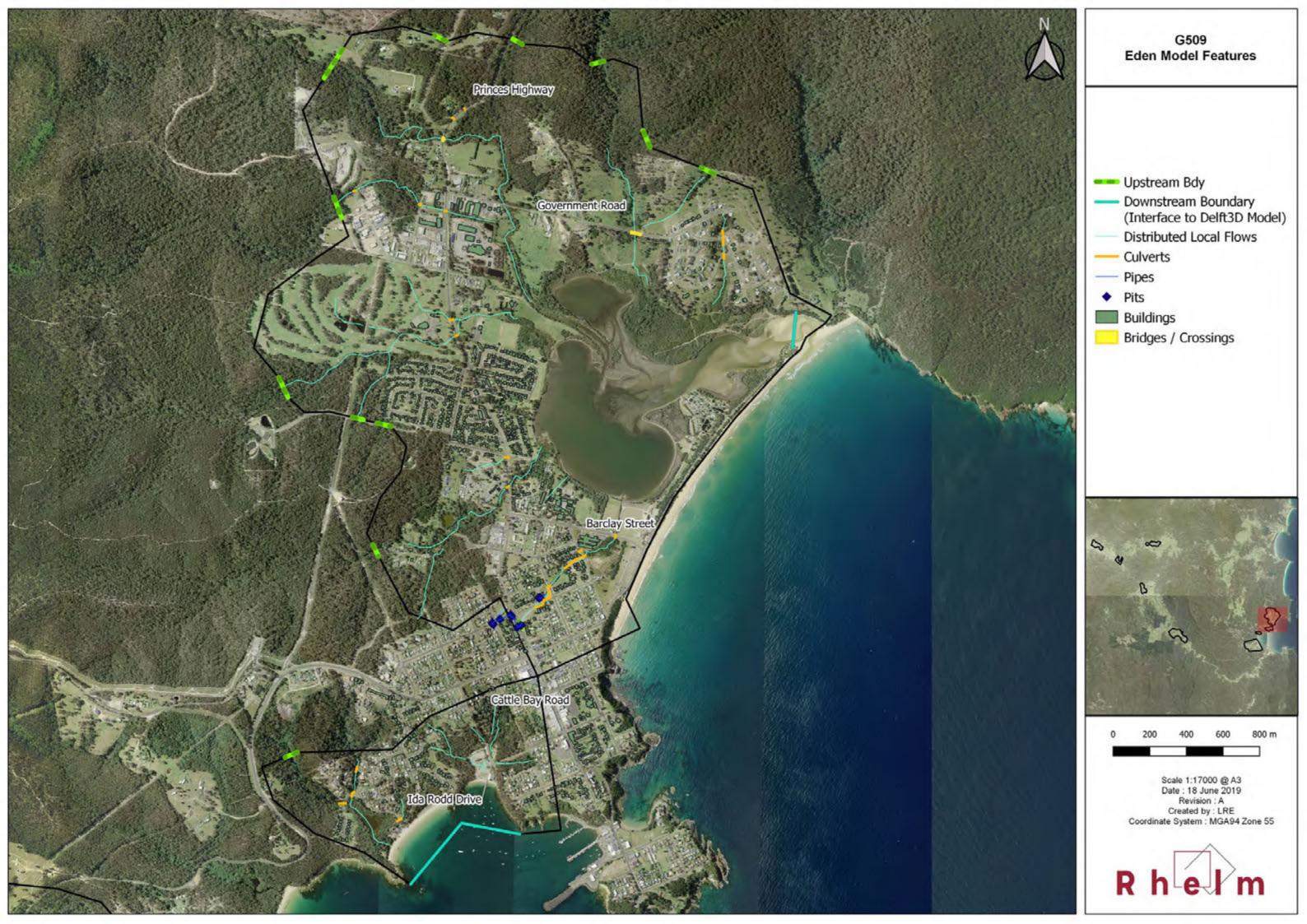


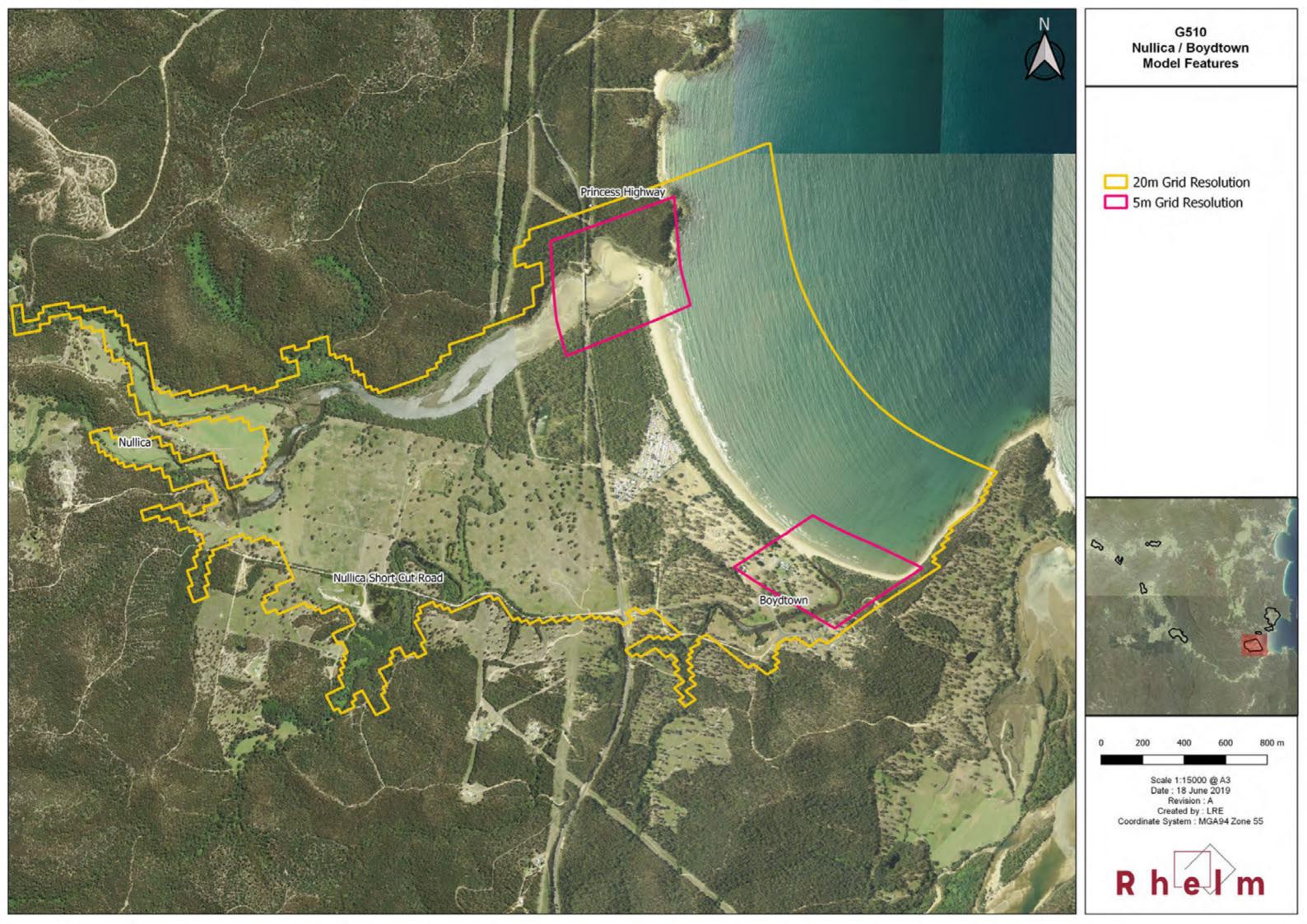


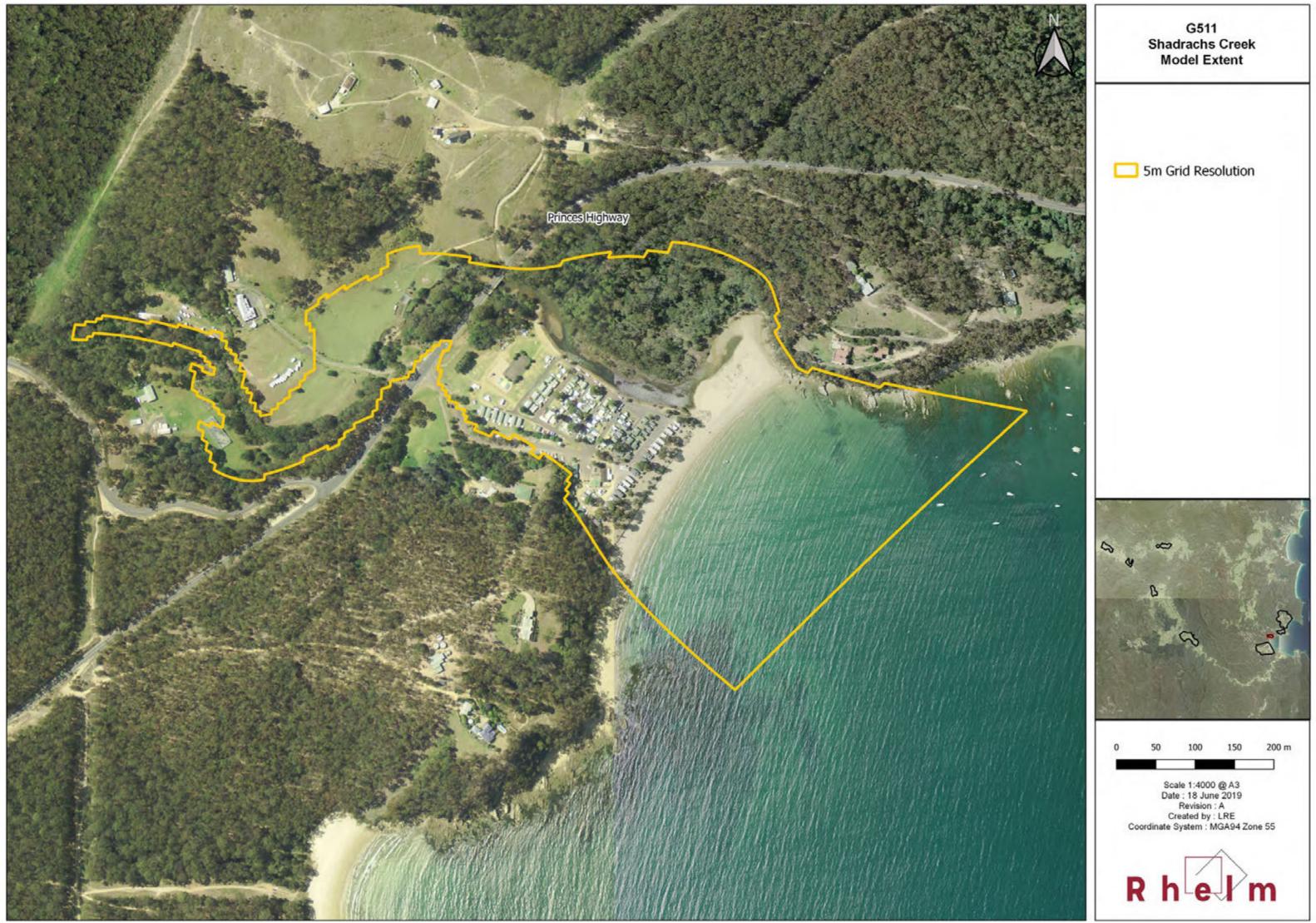




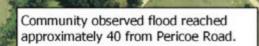












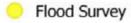
10

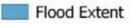
Survey: 36.56 mAHD Model: 36.39 mAHD Difference: -0.13m



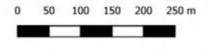
## G513 Towamba 1978 Calibration

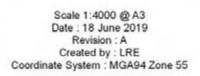
Community Flood Extent











R h e m

## Eden - North

1480

roperty access gets flooded Bridge destroyed in 1978 flood

Bridge destroyed in 1978 flood

Dense vegetation cause erosion and flooding issues

Highway overtopped when culvert blocked

1978 Event destroyed bridge. Upgraded crossing has not been overtopped.

AND THE REAL PROPERTY AND Eden - South

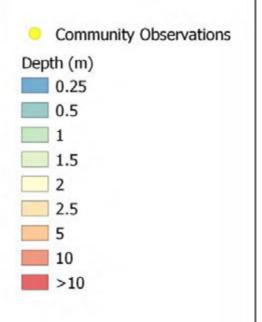
Road floods at low point

Local drainage issues

Lagoon can breakout



## G514 20% AEP Flood Depths & Community Observations





Scale 1:125000 @ A3 Date : 18 June 2019 Revision : A Created by : LRE Coordinate System : MGA94 Zone 55

400



## Eden - North

1480

Property access gets flooded Bridge destroyed in 1978 flood

Bridge destroyed in 1978 flood

Dense vegetation cause erosion and flooding issues



Highway overtopped when culvert blocked

1978 Event destroyed bridge. Upgraded crossing has not been overtopped.

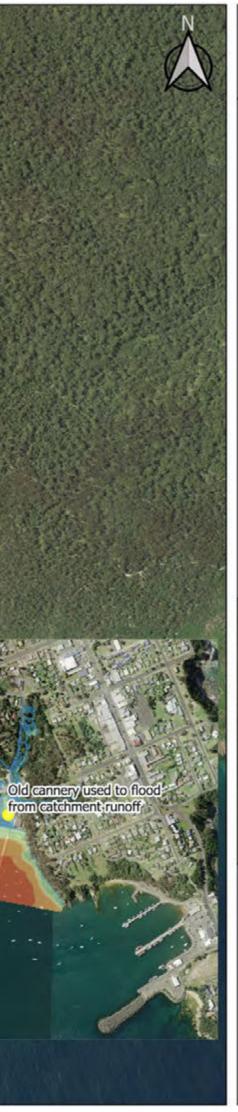
Road floods atlow point

BUT BALL

Local drainage issues

Eden - South

Lagoon can breakout



## G515 1% AEP Flood Depths & Community Observations

