Draft Planning Proposal

National Circularity Centre

Part Lot 1 DP 1264640 Lagoon Street and Ridge Street, North Bega

For Regional Circularity Cooperative Limited

5 December 2023

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ATTACHMENTS

Project details

Project number	**0123**
Project title	National Circularity Centre
Document title	Draft Planning Proposal National Circularity Centre
Client	Regional Circularity Co-operative Limited
Property	Part Lot 1 DP 1264640 & Ridge Street, North Bega
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Version	Draft: 29 November 2023
	Draft Rev A: 5 December 2023

Report title: This report is to be cited as the *Draft Planning Proposal National Circularity Centre,* prepared by Zenith Town Planning Pty Ltd, dated 5 December 2023.

Acknowledgements: This document has been prepared by Zenith Town Planning Pty Ltd with the assistance of the Regional Circularity Cooperative Limited, Bega Valley Shire Council and Cox Architects.

PART 1: OBJECTIVES AND INTENDED OUTCOMES

This Planning Proposal has been prepared to support a proposal by the Regional Circularity Co-operative Limited to develop the National Circularity Centre (the Centre) on a gateway site in North Bega. The Planning Proposal has been prepared in accordance with section 3.33 of the *Environmental Planning and Assessment Act 1979*.

The purpose of the Planning Proposal is to amend *Bega Valley Local Environmental Plan (LEP) 2014* to ensure that all proposed uses in the Centre are permitted with or without consent.

The Centre is to accommodate a range of commercial and community uses including:

- A visitors centre and tourism-oriented showroom demonstrating applications of circular economy principles,
- Business events and conferencing space, plus modular meeting rooms for hire to support industry, educational and community events,
- A circularity innovation hub and start-up accelerator, to be jointly operated with assistance from the University of Wollongong,
- Embedded technology to provide an immersive experience both within the Centre and online, and
- A providore and café offering environmentally friendly, low carbon and locally-grown fresh produce, and which can be scaled up to support events held at the Centre.

The intended outcome of the Planning Proposal is to permit all of these proposed uses with consent and to ensure flexibility so that the Centre may evolve to encompass land uses that are tailored to the period and community.

The amendment to *Bega Valley LEP 2013* is categorised as 'standard' as it relates to the addition of permissible land uses in Schedule 1 and the proposed development is consistent with the strategic planning framework.

PART 2: EXPLANATION OF PROVISIONS

It is proposed to amend *Bega Valley LEP 2013* to list Part Lot 1 DP 1264640, No. 10 Lagoon Street, Bega and a road reserve known as Ridge Street in Schedule 1 Additional permitted uses with development for the purposes of retail premises, a function centre, an entertainment facility and a community facility as permitted with consent.

The Schedule 1 entry is to apply to the site as shown in Figure 1 below.

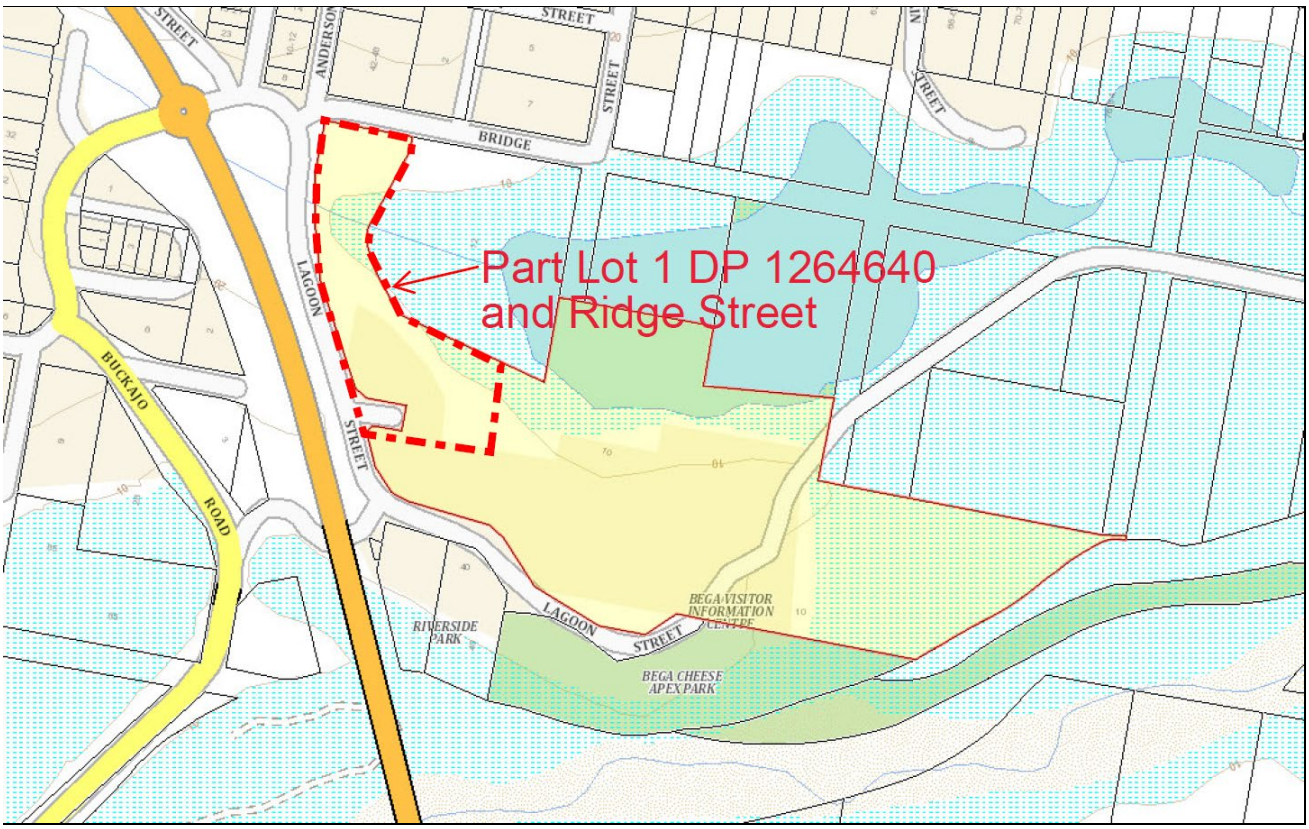

Figure 1: Land to which the proposed Schedule 1 entry will apply

Background

Lot 1 DP 1264640 is an irregular shaped allotment of approximately 9 hectares. The north-western portion of the site which covers an area of approximately 1.5 hectares is to be used for development of the Centre. This area is currently vacant other than a building located at the southern end which is to be demolished. This

building was originally used as an indoor recreational facility and more recently as a training centre for Bega Cheese staff. Surrounding development is dominated by industrial uses, open space, farmland and low density residential development to the north. Ridge Street is located at the south-western corner of the subject area. It has been used to gain access to a vacant commercial building and is currently in the process of closure.

The site is zoned E4 General Industrial. The National Circularity Centre will be a *mixed use development* because it will comprise a number of land uses. The proposed land uses, their LEP definition and the permissibility of each use in the E4 zone are given in Table 1 below.

Table 1: Proposed land uses, Bega Valley LEP 2013 definitions and permissibility in zone E4 General Industrial

Land use	LEP definition	Permissible/Prohibited
Gift shop/tourism	Information & education centre (visitor information centre)	Permissible
	Retail premises	Prohibited
Offices/meeting rooms	Office premises	Permissible
	Ancillary use	Permissible
Exhibition rooms	Information & education centre	Permissible
Café	Food & drink premises	Permissible
	Take away food & drink premises	Permissible
Amenities	Ancillary use	Permissible
Hall	Function centre	Prohibited
	Entertainment centre	Prohibited
	Community facility	Prohibited
Kitchen	Ancillary use	Permissible
Storage/workshop	Ancillary use	Permissible
Auditorium	Function centre	Prohibited
	Entertainment centre	Prohibited
	Community facility	Prohibited

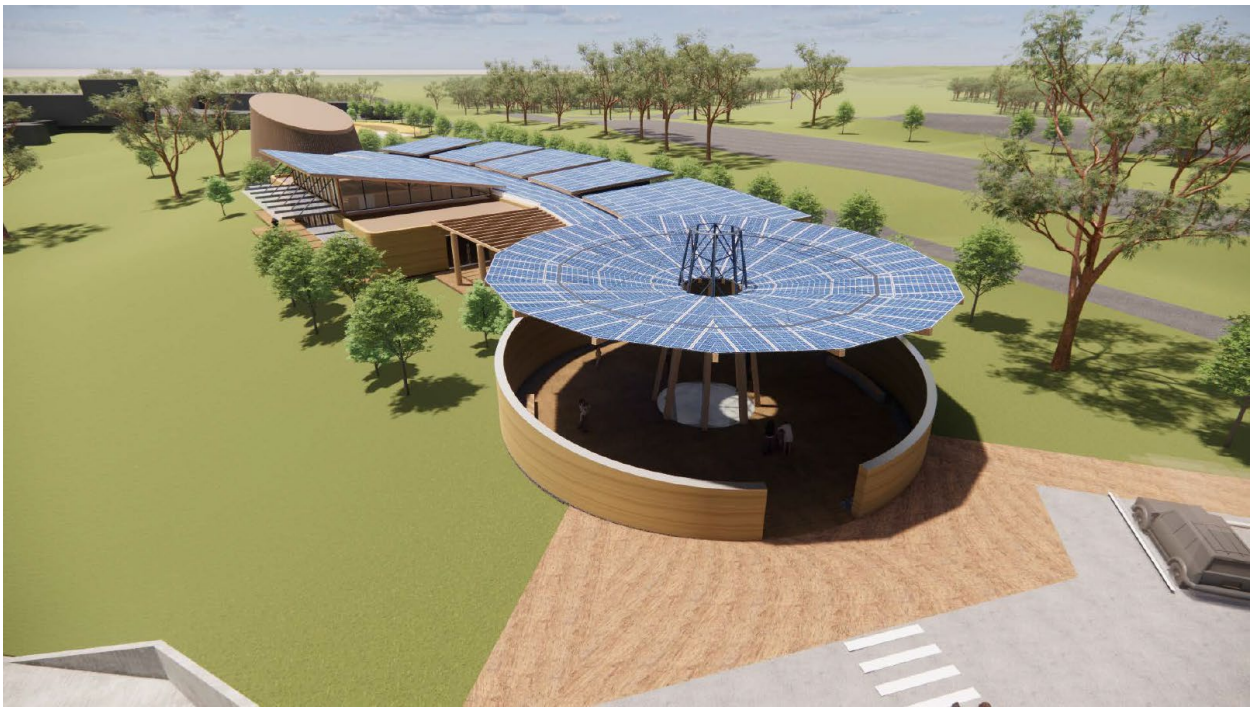

Figure 2: Architectural perspective (draft) looking south over the National Circularity Centre.

Source: Cox Architects, 1 June 2023

PART 3: JUSTIFICATION OF STRATEGIC AND SITE-SPECIFIC MERIT

Justification for the proposed amendment to *Bega Valley LEP 2013* is presented by way of a response to each of the questions posed in the *Local Environmental Plan Making Guideline* issued by the NSW Department of Planning and Environment in September 2022.

SECTION A: NEED FOR THE PLANNING PROPOSAL

Q1. Is the planning proposal a result of an endorsed local strategic planning statement, strategic study or report?

The planning proposal is not the result of an endorsed local strategic planning statement, strategic study or report. It has come about through selection of the site for the development of the National Circularity Centre and the need to ensure that all proposed and potential future uses are permitted. Nonetheless, the Centre meets and addresses certain actions of the *Bega Valley Local Strategic Planning Statement 2040* particularly beneath *Planning Priority 5 Agriculture, Forestry and Aquaculture* and *Planning Priority 7 Tourism* by providing a platform to promote sustainable primary industry practices and facilities for visitors to celebrate and lean about sustainability and circularity.

The National Circularity Centre will also contribute to the desired future character of Bega as espoused in the LSPS. The Centre will provide cultural and educational opportunities and preserve the quality of landscapes through a sensitively designed development that is visible from the Princes Highway.

Q2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

There are two means to achieve permissibility for all uses proposed in the National Circularity Centre. These are:

a) Amend the land use table for zone E4 General Industrial to list the prohibited land uses that are proposed to be developed in the National Circularity Centre (retail premises, function centre, entertainment facility, community facility) as permissible, or

b) Insert an entry into Schedule 1 Additional permitted uses of *Bega Valley LEP 2013* to list Part Lot 1 DP 1264640, No. 10 Lagoon Street, Bega and Ridge Street in Schedule 1 Additional permitted uses

with development for the purposes of retail premises, a function centre, an entertainment facility and a community facility as permitted with consent.

Method b) inserting an entry to Schedule 1 of *Bega Valley LEP 2013* is the preferred alternative for the following reasons:

- Including development for the purposes of retail premises, a function centre, an entertainment facility and a community facility as permitted with consent will enable flexibility for the Centre to evolve and change or add new uses over time, and
- The prohibited uses may be suited to the selected site but not on all land that is zoned E4. Making all proposed uses permissible within the E4 zone generally may lead to development proposals on other land that are not consistent with zone objectives and may lead to land use conflict.

PART 3: JUSTIFICATION OF STRATEGIC AND SITE-SPECIFIC MERIT

SECTION B: RELATIONSHIP TO STRATEGIC PLANNING FRAMEWORK

Q3. Will the planning proposal give effect to the objectives and actions of the applicable regional, or district plan or strategy (including any exhibited draft plans or strategies)?

a) South East and Tablelands Regional Plan 2036

The *South East and Tablelands Regional Plan 2036* applies to Bega Valley local government area. Relevant goals and actions relate to a connected and prosperous economy, a diverse interconnected environment, healthy and connected communities, and sustainable housing choices.

The National Circularity Centre is being designed by Cox Architecture using world-leading sustainability and circularity principles, including through the use of rammed earth, recycled materials, and solar panels. A key ambition for the Centre will be to attract research and education events and programs, business events including sustainable housing providers and associated groups, with a view towards promoting methodologies for sustainable housing development to planners, architects, and developers across Australia and internationally.

The Planning Proposal will enable development that will implement the following directions of the *South East and Tablelands Regional Plan 2036*:

- Direction 5 Promote agricultural innovation, sustainability and value-add opportunities,
- Direction 6 Position the region as a hub of renewable energy excellence, and
- Direction 9 Grow tourism in the region.

The purpose of the National Circularity Centre will be to promote sustainable practices and the principle of circularity. It will be an attraction to residents and visitors and will utilize recycled materials and solar panels.

b) Draft South East and Tablelands Regional Plan 2041

The *Draft South East and Tablelands Regional Plan 2041* is a review of the current regional plan and was exhibited during August – September 2022 and again during December 2022 and January 2023. The draft plan has five themes:

1. Recognising Country, people and place
2. Enhancing sustainable and resilient environments
3. Leveraging diverse economic identities
4. Planning for fit for purpose housing and services
5. Supporting a connected and active region

The National Circularity Centre will support these themes, in particular *enhancing sustainable and resilient environments* by assisting to create resilient places and communities. Below is an extract from *Objective 9 support the development of a circular economy*.

The Bega Valley is an ideal location for a circular economy project, as its contained location enables the measurement of the impact on all natural and man-made resources. The project is a jointly funded $100m initiative between private enterprise, the community and the NSW government. It includes small and large businesses, universities and international expertise. The initial focus will be on agriculture and aquaculture as these are the area's strengths. Key priority enabling projects include:

- *establishing a Bega Valley circular cooperative*
- *Bega biodiversity and carbon trading desk*
- *on farm smart water storage network*
- *Bega smart food and logistics program*
- *regional circularity baseline assessment of material flows*

Q4. is the planning proposal consistent with a council LSPS that has been endorsed by the Planning Secretary or GSC, or another endorsed local strategy or strategic plan?

a) Bega Valley Local Strategic Planning Statement 2040

The *Bega Valley Local Strategic Planning Statement 2040* provides directions for land use planning and decision-making through to 2040. A number of challenges are listed in the LSPS including economic growth and diversification, and climate resilience and adaptation. In response the LSPS includes the following vision:

Land use in Bega Valley Shire supports the activities, infrastructure and natural environment that enhance our quality of life and enable us to become more resilient to challenges.

The National Circularity Centre aligns with a number of planning priorities outlined in the Statement including protection of the natural environment, achieving the goal of being carbon neutral by 2050, the inclusion of Aboriginal people and their culture, and promoting tourism to capitalise on natural and cultural assets.

By being sensitively designed for a highly visible site from the Princes Highway, the National Circularity Centre will also contribute to the desired future character of Bega and will provide cultural and educational opportunities. The Centre will highlight the township of Bega as the regional centre and a focus for commerce, tourism and liveability.

The Centre through the use of new technologies and renewable energy will assist the transition to being carbon neutral by setting an example for future development and at the same time facilitating new business and employment opportunities including in the tourism sector.

b) Bega Valley Economic Development Strategy

The *Bega Valley Economic Development Strategy* focuses on five outcomes to improve economic wellbeing:

- Embracing business and a stronger economy
- Providing the foundations
- Embracing opportunity
- Partnering for success
- Enhancing visitor experiences

The National Circularity Centre is aligned to the goals of the economic development strategy with a particular focus on enhancing visitor experiences, creating new opportunities for business through the concept of circularity, and building key partnerships across and beyond the region to facilitate economic resilience.

The Centre is also aligned to the action to "*Advocate, Support and Deliver visitor experiences to maximize the social, cultural, environmental and economic wellbeing of the community through sustainable tourism*".

c) Bega Valley Shire Climate Resilience Strategy 2050

The *Bega Valley Shire Climate Resilience Strategy 2050* reflects the policy directions of Australian and state governments. Key response areas are:

- Natural systems
- Preparing for natural hazards
- Liveable and connected places
- Safe, healthy and inclusive community
- Diverse and thriving economy
- Energy security
- Food security

The National Circularity Centre supports the *Climate Resilience Strategy* across all key response areas. The project will focus on providing a safe and inclusive space for the community to connect, diversifying Bega's current economic income profile and contribute to world-leading circularity programs and research to improve environmental outcomes and resilience in the region.
Specifically, the Centre will contribute to the strategy's target to *'Increase the value of the visitor economy'* by 2050 by attracting new forms of tourism to the region, including educational tourism, business tourism and eco-tourism, making Bega Valley 'the home of circularity' in Australia.

d) Commercial Land Strategy 2040

The *Commercial Land Strategy 2040* examines demographic and industry characteristics, trends in commercial centres due to technology, national and global influences and opportunities for business growth in the towns and villages of Bega Valley Shire. A commercial centre hierarchy is established to differentiate each centre and support the level of provision of goods and services in the future. Changes to land use zones, development standards and other planning controls are recommended to revitalise and promote economic growth.

Recommendations that are made in the strategy include amendments to business zones to facilitate commerce and to ensure that the supply of business zoned land is sufficient to cater for growth and the changing commercial environment.

e) Bega Valley Industrial Land Review

The aim of the *Bega Valley Industrial Land Review* is to support the sustainable economic development of Bega Valley Shire by ensuring that sufficient industrial land is available to expand existing industries and to develop new industries. The study analyses recent local and national trends in industrial development and identifies opportunities for and the barriers to industrial growth. Further investigation into the constraints to

development of existing zoned land and the potential for development of an eco-industry park are investigated.

The industrial land at North Bega is recognised as providing a developed entrance to the township with high amenity through neighbouring rural landscapes and an open character. Exposure to the Princes Highway presents an opportunity through ease of access for travelling motorists and freight vehicles.

At the time of writing in 2016, there were 107 lots in the North Bega industrial area, ranging in size from 256m^2 up to 84,701m^2 of vacant land in the ownership of an agricultural produce industry. In terms of supply of vacant industrial land, there was estimated to be a potential yield of 44 lots across all zoned industrial land at a lot size of 2,000 square metres which accounted for services and environmental constraints.
Some land is affected by terrestrial biodiversity, natural resources and riparian lands and watercourses, however, it was found that development of any vacant or underutilised land can be carried out in a manner that would not cause adverse impacts.

Q5. Is the planning proposal consistent with any other applicable State and regional studies or strategies?

a) Far South Coast Regional Economic Development Strategy

The *Far South Coast Regional Economic Development Strategy 2018–2022* sets out a long-term economic vision and associated strategy for the local government areas of Bega Valley and Eurobodalla. The National Circularity Centre is aligned to the vision outlined in this strategy with a focus on developing and diversifying the region's tourism footprint, supporting primary industries and businesses to differentiate through circularity and enhancing regional economic resilience through diversification and attracting new talent to the area through world-leading research and development opportunities.

Specifically, the Centre aligns with the following elements of this strategy:

Support the development and growth of the Region's tourism sector and overall lifestyle appeal – with the Centre acting to diversify beyond leisure visits and towards a greater inclusion of educational, eco and business tourism.

Grow the participation and supply of skilled labour and enhance regional economic resilience – By reducing the seasonality of the tourism sector, it is expected that careers within the tourism and hospitality sectors

will become more appealing, particular to younger individuals. A year-round tourism offering will also seek to make the region more economically resilient.

Q6. Is the planning proposal consistent with applicable State Environmental Planning Policies?

Table 2 below identifies the applicability and consistency of the Planning Proposal with all State Environmental Planning Policies. It is noted in Table 1 that the provisions of certain SEPPs may need to be considered during assessment of the forthcoming development application for the National Circularity Centre.

Table 2: The Planning Proposal and SEPPs

Policy	Applicability	Consistency
SEPP (Biodiversity and Conservation) 2021	Applicable	A test of significance has been carried out and it was found that no threatened species, flora species or fauna habitat occurs on the land. The development that will be enabled by the proposed amendment to *Bega Valley LEP 2013* will not trigger the *Biodiversity Offset Scheme* thresholds and a *Biodiversity Development Assessment Report* will not be required. The Planning Proposal and the proposed development are consistent with the objectives of *SEPP (Biodiversity and Conservation) 2021*
SEPP (Building Sustainability Index Basix) 2004	Not applicable	To be considered with the DA for the National Circularity Centre
SEPP (Exempt and Complying Development Codes) 2008	Not applicable	Details of all development proposed with for the National Circularity Centre will be provided in the DA
SEPP (Housing) 2021	Not applicable	There is no residential accommodation proposed as part of the National Circularity Centre
SEPP (Industry and Employment) 2021	Not applicable	Chapter 3 Advertising and signage is to be considered with the DA for the National Circularity Centre
SEPP 65 –Design Quality of Residential Apartment Development	Not applicable	There is no residential accommodation proposed as part of the National Circularity Centre
SEPP (Planning Systems) 2021	Not applicable	To be considered with the DA for the National Circularity Centre. If the proposed development qualifies as regionally significant development

Policy	Applicability	Consistency
		due to a CIV of more than $30 million or as a community facility with a CIV of more than $5 million then the DA will need to be determined by a regional planning panel
SEPP (Precincts – Central River City) 2021	Not applicable	The site (Lot 1 DP 1264640) is not identified as being subject to this policy
SEPP (Precincts – Eastern Harbour City) 2021	Not applicable	The site (Lot 1 DP 1264640) is not identified as being subject to this policy
SEPP Amendment (Flooding) 2021	No effect	This policy gave effect to the *Standard Instrument (Local Environmental Plans) Amendment (Flood Planning) Order 2021* by repealing clause 6.3 of *Bega Valley LEP 2013*. The Order inserted clause *5.21 Flood planning* in *Bega Valley LEP 2021* as a compulsory clause. Council elected not to adopt optional *clause 5.22 Special flood considerations*. The matter of flooding is addressed in Table 3 and in the response to Question 9 below.
SEPP (Precincts – Regional) 2021	Not applicable	The site (Lot 1 DP 1264640) is not identified as being subject to this policy
SEPP (Precincts – Western Parkland City) 2021	Not applicable	The site (Lot 1 DP 1264640) is not identified as being subject to this policy
SEPP (Primary Production) 2021	Not applicable	The proposed development to be enabled by the amendment to *Bega Valley LEP 2013* does not contain any primary production land uses
SEPP (Resilience and Hazards) 2021	Not applicable	The site is not located in a coastal management area and the proposed development does not include hazardous or offensive development
SEPP (Resources and Energy) 2021	Not applicable	The proposed development to be enabled by the amendment to *Bega Valley LEP 2013* does not contain an extractive industry or mining
SEPP (Transport and Infrastructure) 2021	Applicable	Section 2.122 Traffic-generating development may apply to the proposed development of the National Circularity Centre depending on whether the location of access to the site is within 90 metres of the Princes Highway (a classified road) or if car parking areas, commercial premises, food and drink premises or take away food and drink premises are of a specified size and capacity. This is to be

Policy	Applicability	Consistency
		determined by way of a traffic impact assessment submitted with the DA.

Q7. Is the planning proposal consistent with applicable Ministerial Directions (section 9.1 Directions)?

Table 3 below identifies the consistency of the Planning Proposal with relevant Local Planning Directions.

Table 3: Evaluation of Local Planning Directions

Local Planning Direction	Objectives	Compliance
1.1 Implementation of Regional Plans	to give legal effect to the vision, land use strategy, goals, directions and actions contained in Regional Plans	The Planning proposal is consistent with Local Planning Direction 1.1 through enabling development that will implement the following directions of the *South East and Tablelands Regional Plan 2036*: • Direction 5 Promote agricultural innovation, sustainability and value-add opportunities, • Direction 6 Position the region as a hub of renewable energy excellence, and • Direction 9 Grow tourism in the region. The purpose of the National Circularity Centre will be to promote sustainable practices and the principle of circularity. It will be an attraction to residents and visitors and will utilize recycled materials and solar panels. The Planning Proposal will also support key themes in the *draft South East and tablelands Regional Plan 2041* in particular *enhancing sustainable and resilient environments* by assisting to create resilient places and communities. Reference is made to the project beneath Objective 9 of the Plan which is to *support the development of a circular economy*.
1.4 Site Specific Provisions	to discourage unnecessarily restrictive site specific planning controls	It is identified in the Planning Proposal that the best means to achieve permissibility for all land uses proposed in the National

Local Planning Direction	Objectives	Compliance
		Circularity Centre is through listing the site and uses in Schedule 1 Additional permitted uses. It is not proposed to include any development standards or drawings in the Schedule 1 provision. The Planning proposal is consistent with Local Planning Direction 1.4.
4.1 Flooding	(a) to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005, and (b) to ensure that the provisions of an LEP that apply to flood prone land are commensurate with flood behaviour and includes consideration of the potential flood impacts both on and off the subject land.	The Planning Proposal is consistent with Local Planning Direction 4.1. A Flood Impact and Risk Assessment has been prepared by Rhelm Pty Ltd (November 2023) with reference to and is consistent with relevant plans, policies and guidelines, including the *NSW Flood Prone Land Policy*, the *Flood Impact and Risk Assessment Flood Risk Management Guideline LU01* and the 2023 Floodplain Risk Management Manual 2023 which has replaced the 2005 Manual. The planning proposal does not seek to rezone land within the flood planning area from Recreation, Special Purpose or Conservation Zones to a Residential, Business, Industrial or Special Purpose Zones. The land is currently zoned industrial and the intent is to permit additional uses on the subject site. The Flood Impact and Risk Assessment demonstrates that within the flood planning area, the proposed development does not: · Permit development in 1% AEP floodway areas, · Result in significant impacts to other properties, · Include residential development, · Include any flood sensitive land uses, · Permit development to be carried out without development consent, or · Increase emergency management requirements for events up to the FPL. Bega Valley Shire Council has not adopted the optional clause that applies Special Flood Considerations in Bega Valley LEP 2014.

Local Planning Direction	Objectives	Compliance
		The *Bega and Brogo Rivers Floodplain Risk Management Study and Plan* (Cardno, 2018) has been used by Rhelm Pty Ltd during preparation of Flood Impact and Risk Assessment. This assessment included the development of an additional flood model for the local catchment in accordance with the *Flood Risk Management Manual* (2023). The local catchment model was prepared using the same methodology and model parameters as the riverine risk management study.
4.3 Planning for Bushfire Protection	(a) to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and (b) to encourage sound management of bush fire prone areas	The Planning proposal is consistent with Local Planning Direction 4.3. The subject site is mapped as bushfire prone land. Consultation with the NSW RFS has already occurred prior to preparation of the Planning Proposal as part of the Scoping process. The *Planning for Bushfire Protection 2019* guideline has been considered in this Planning Proposal. The proposal will not enable inappropriate development or affect the ability to carry out hazard reduction in the area. The site is bounded by managed land on three sides and cleared land that adjoins the riparian zone of an unnamed waterbody. The development application will be accompanied by bushfire assessment that ensures that the final building designs and site layout include asset protection zones, accessways, water supplies and other bushfire management measures that comply with *Planning for Bushfire Protection 2019*. The Planning Proposal is to be submitted before site designs and layout are finalized and the DA is lodged. The Schedule 1 Additional permitted use entry cannot contain any drawings of the development meaning that determining compliance with PBP 2019 cannot occur until plans are final.
4.4 Remediation of Contaminated Land	to reduce the risk of harm to human health and the environment by ensuring that contamination and remediation are considered by planning proposal authorities	The Planning proposal is consistent with Local Planning Direction 4.4. The site is not known to be contaminated or listed in a register of contaminated land held by Bega Valley Shire Council or the EPA. There are no records that indicate that the site has been used for a purpose listed in Table 1 to the contaminated

Local Planning Direction	Objectives	Compliance
		land planning guidelines although agricultural uses may have occurred in the distant past. However, the site has been filled with inert material sourced from Bega town centre. A preliminary investigation will be carried out and a report submitted with the development application for the National Circularity Centre. If necessary, remediation, carried out in accordance with a remediation action plan, can ensure that the land is suitable for the proposed development.
5.1 Integrating Land Use and Transport	to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives: (a) improving access to housing, jobs and services by walking, cycling and public transport, and (b) increasing the choice of available transport and reducing dependence on cars, and (c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and (d) supporting the efficient and viable operation of public transport services, and (e) providing for the efficient movement of freight.	Local Planning Direction 5.1 does not apply directly to the Planning Proposal as the intended outcome does not include creating, altering or removing a zone relating to urban land. The Planning Proposal seeks to include additional uses on a specific site within an existing employment zone. However, the Planning Proposal is in accordance with the *South East and Tablelands Regional Plan 2036* and the *draft South East and Tablelands Regional Plan 2041* both of which give effect to the objectives of Local Planning Direction 5.1.
7.1 Employment Zones	to: (a) encourage employment growth in suitable locations, (b) protect employment land in employment zones, and (c) support the viability of identified centres	The Planning proposal is consistent with Local Planning Direction 7.1 in that it is expected that the National Circularity Centre will satisfy the objectives of the direction by directly generating 18.7 full time equivalent jobs and boosting the local economy through spending on local trades and professionals which will have indirect flow-on effects through income earned and spent in the local area. The land area of zone E4 General Industrial will not be altered and will remain zoned E4. The proposed development that will be enabled by the Planning Proposal will not reduce floor space for employment or industrial uses as the site is in the ownership of Bega Cheese which is a major industrial use

Local Planning Direction	Objectives	Compliance
		and local employer. The subject land is surplus to the needs of Bega Cheese although the Heritage Centre is to be relocated to be a component of the national Circularity Centre. The proposed use of the site is envisioned in the draft *South East and Tablelands Regional Plan 2041*.

PART 3: JUSTIFICATION OF STRATEGIC AND SITE-SPECIFIC MERIT

SECTION C: ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACT

Q8. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected because the proposal?

A *Flora and Fauna Assessment* has been carried out by Local Environmental Solutions in May 2023. The purpose of the assessment is to determine the potential impact on any threatened species and endangered ecological communities that are present on the development site and in the vicinity of the site. The findings and recommendations of the assessment are given below. Reference should be made to the *Flora and Fauna Assessment* that is appended to this Planning Proposal as Attachment E for further information or clarification of any matter concerning the assessment and recommendations.

Methodology for the biodiversity assessment involved desktop research and a site inspection. The assessment covered details of recorded sightings of threatened species and identification of vegetation communities in the vicinity of the development site. The *Flora and Fauna Assessment* provides a test of significance in accordance with requirements of the *Biodiversity Conservation Act 2016* and also satisfies requirements of the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.

Findings

The assessment concluded that:

- *Assessment pathway:* The development proposal will not trigger the Biodiversity Offset Scheme thresholds set out under the BC Act. A Biodiversity Development Assessment Report (BDAR) will not be required as a condition of consent.
- *Threatened ecological communities:* No threatened ecological communities were found to occur on the Subject Site.
- *Threatened flora species:* No threatened plant species occur on the Subject Site.
- *Threatened fauna habitat:* No threatened fauna habitat features were identified on the Subject Site. However, the culvert opening and stormwater infrastructure next to the Subject Site were identified as potential roost habitat for the threatened fishing bat Southern Myotis. It is understood that there are no plans to modify or disturb the stormwater infrastructure as part of this proposal.

- *Sensitive receptors:* The site drains into a large natural lagoon and a 2nd order stream which joins the Coopers Gully creek and the Brogo/Bega River system, approx. 600 m further east. Appropriate erosion and sediment controls measures must be set in place to avoid impacts on these waterbodies and riparian areas.
- *Key Threatening Processes:* There is a potential that construction activities could further spread the noxious weeds that occur on site, including notable High Threat Weeds (Fireweed, African Lovegrass, Paspalum, Kikuyu). These HTW should be removed prior to works. Appropriate precautions must also be taken to manage any risk of spread of noxious weeds during construction and occupation.
- *Connectivity:* The development will not contribute to fragmentation and loss of connectivity in the local area.

Recommendations

The following recommendations are made in the *Flora and Fauna Assessment:*

- Any future plans to modify the stormwater infrastructure in the locality, in particular the large culvert east of the Subject Site, must consider impact significance to the Southern Myotis (*Myotis macropus*). A Test of Significance for this species would need to be completed.
- Effective soil and water management plans must be put in place to avoid run-off, siltation and contamination of downstream lagoon and riparian zones.
- Native vegetation of local provenance and non-invasive pasture grasses should be used in revegetation and future landscaping works.
- Weed management and hygiene protocols must be implemented during construction to prevent further spread of High Threat Weeds.

Q9. Are there any other likely environmental effects of the planning proposal and how are they proposed to be managed?

a) Stormwater, erosion and sediment control

Stormwater enters the site from land to the west that is elevated above the subject site and flows across the site and into an unnamed waterbody that eventually enters the Bega River. A culvert has been constructed at the northern end of the site to direct stormwater from a natural drainage line underground from the industrial land west of the Princes Highway.

Stormwater management systems can be designed to collect rainwater from buildings and overland flows then dispose of excess water into the public drainage system. Erosion and sediment controls would also be installed to prevent impacts on the water quality of downstream water bodies. All future works would be located greater than 40 metres from the watercourse located to the east of the development site.

Details of erosion and sediment control will need to be addressed at a conceptual level as part of stormwater management design in the development application followed by an erosion and sediment control plan for the construction certificate.

b) Natural hazards

Flooding

A *Flood Impact and Risk Assessment* has been carried out by Rhelm Pty Ltd (December 2023) in accordance with the requirements set out in the *Flood Impact and Risk Assessment: Flood Risk Management Guide LU01* prepared by the Department of Planning and Environment as an accompanying guide to the recently released *Flood Risk Management Manual* (2023). The aim of the assessment is to define the existing flood behaviour in the catchment and to assess and address, if necessary, the potential impacts arising from the proposed future development of the site.

The assessment involved:

- a review of available data and studies, in particular the *Bega and Brogo Rivers Floodplain Risk Management Study and Plan* (Cardno, 2018) which was used to define the riverine flood behaviour,
- constructing a local catchment flood model to define the flood behaviour arising from local catchment events,
- defining the existing flood behaviour (depth, levels, velocity, and hazard) for both the local catchment and riverine flood events,
- carrying out an iterative assessment of potential landforms to determine a landform that was feasible and did not result in adverse flood impacts,
- a review of flood risk across the Precinct,
- an assessment of flood warning time and potential emergency response and evacuation for the Precinct, and
- a review of Council's existing plans and policies and Local Planning Direction 4.1 (March 2022) to ensure that the proposed Precinct development is compatible with these controls.

The Flood Impact and Risk Assessment found that:

Flood risk is primarily mitigated through:

- Raising the building pad to the FPL was sufficient to prevent flooding of the site for all local catchment flood events, up to and including the PMF, and
- Overland flow through the site was managed by a depressed vegetated corridor, with additional capacity provided for the PMF by allowing flow through the adjacent carpark.

In achieving flood mitigation through site raising, no significant flood impacts result on adjacent properties.

The confidence in the flood modelling was confirmed through sensitivity testing:

- Sensitivity testing demonstrated that the flood behaviour and risk through and surrounding the site was not significantly affected by culvert blockage assumptions, and
- Local catchment PMF flooding was found to be somewhat sensitive to the roughness of the proposed overland flow path. It is recommended that the proposed vegetation types and densities in this region keep this in mind to ensure sufficient conveyance is provided for the PMF to prevent overtopping of the building pad.

The recommended emergency response for the site is:

- Evacuation for riverine flood events, and
- Shelter in place for local catchment flood events.

Sufficient warning time was found to be available from existing riverine gauges to enable evacuation of the site in advance of a riverine flood. Further warning time would be available if rainfall forecasts were used to inform site closure and evacuation.

It is acknowledged that despite the mitigation measures above there is a significant residual flood risk from rare and extreme riverine flood events that cannot be mitigated. PMF flood depths of approximately 6 metres occur across the site.

Overall, the development was found to be compliant with all planning and development controls and the requirements of the Local Planning Direction 4.1.

Bushfire

The site is mapped as bushfire prone land category 3. The proposed development does not constitute or include a *special fire protection purpose* as defined in section 100B of the *Rural Fires Act 1997*.

The site is cleared and there is scattered vegetation within 100 metres of the boundaries. This comprises single free-standing trees on the same site to the south of the development area, on the adjoining property to the east including riparian vegetation, and a cluster on a vacant piece of land that is an 'island' between Anderson Street and the Princes Highway. All surrounding land other than the riparian zone of the waterbody to the east is considered managed land and is maintained by slashing.

A bushfire assessment will accompany the development application that considers the bushfire attack level of the property and makes recommendations concerning asset protection zones, building standards, access arrangements and the like. The assessment will be based upon final building designs and site layout submitted with a development application.

c) Land contamination and geotechnical features

Fill comprising soil and inert materials such as concrete and broken bricks have been placed at the northern end of the site to provide a level surface and to enable installation of the culvert for stormwater drainage. The area south of the culvert has been largely filled with clean decomposed granite. The material was sourced from excavations for construction of the Sapphire Marketplace in Auckland Street, Bega and deposited on Lot 1 DP 1264640 during 2010/2011 in accordance with strict rolling and compaction protocols imposed through development consent.

A search of historical imagery provided online by the NSW Government has been undertaken. The earliest available image was taken in 1957. This and an image from 1971 indicate that a structure, most likely a dwelling, existed near Ridge Street. A second structure was erected at the north-western corner of the site sometime after 1957 and before 1971. An aerial image taken in 1989 reveals that the site had been cleared of both structures and has remained vacant since. It Is unlikely that chemicals or other land uses of the site have caused contamination.

A preliminary contamination assessment will be carried out and submitted with the development application. The assessment would determine whether the fill is potentially contaminated based on the source and composition of the fill as well as any former uses of the site that may have caused contamination. The

assessment will specify remediation procedures in the unlikely event that the land is found to be contaminated.

A *Geotechnical Investigation Report* has been prepared by ACT Geotechnical Engineers Pty Ltd that describes the subsurface conditions of the site including the composition and structure of fill, and provides recommendations for building footing design, excavation conditions, excavation support, preparation of subgrades, stability of cut and fill batters, retaining wall design, earthquake classification and site drainage advice. This report is to be submitted with the development application.

d) Heritage

Indigenous cultural heritage

The generic due diligence process outlined in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* has been implemented to ensure that Aboriginal cultural heritage issues are addressed during the preparation of this Planning Proposal. The purpose of due diligence is to identify any items or places of significance to the Indigenous community and to determine ways in which to avoid impacting on cultural heritage. This process follows the following five steps:

1. *Will the activity disturb the ground surface?*

Yes. Earthworks will involve excavation to install building footings, to lay and compact the base for accessways and car parking, and trenching to install cabling, water, sewer and stormwater infrastructure.

2a. Search the AHIMS database

In accordance with the code, an on-line search was carried out of the *Aboriginal Heritage Information Management Service (AHIMS)* that is maintained by Heritage NSW. The search was carried out on 11 April 2023 and is appended as Attachment B. The search applied to the whole of Lot 1 DP 1264640 with a buffer of 50 metres. The findings are that:

- No Aboriginal sites are recorded in the search area, and
- No Aboriginal places have been declared in or near Lot 1 DP 1264640.

It is noted that surveys for Aboriginal objects have not been carried out in all parts of NSW and Aboriginal objects may exist on a parcel of land even though they have not been recorded in *AHIMS*. Further, not all

known Aboriginal sites are registered on the *AHIMS* database and not all sites consist of physical evidence or remains, e.g. dreaming and ceremonial sites.

2b. Activities in areas where landscape features indicate the presence of Aboriginal objects

The development area does not possess landscape features that indicate the presence of Aboriginal objects. The site has been filled and levelled and used for informal car parking in recent times. There is historical imagery evidence that the development area was occupied by a dwelling and a second structure in the mid twentieth century.

3. Can you avoid harm to the object or disturbance of the landscape features

There are no outstanding or sensitive landscape features within the development area. The development area has been disturbed and cleared and does not possess significant landscape features that indicate the presence of Aboriginal objects.

4. Desktop assessment and visual inspection

The desktop assessment found that no known Aboriginal objects are listed in *AHIMS*. A site inspection was carried out on 12 April 2023 and found no obvious evidence of any artefacts or items of cultural significance on the surface of the land.

5. Further investigations and impact assessment

An extensive search of *AHIMS* records is not considered necessary given that there are no Aboriginal sites or places that have been recorded on the development site.

The property lies within the area managed by Bega Local Aboriginal Lands Council. The LALC has been consulted by the Regional Circularity Cooperative Limited (the proponent) and advised of the plans to develop the National Circularity Centre.

As not all culturally significant items or places are made public and listed on AHIMS, Bega LALC has been requested to assist by providing details of any known cultural heritage items and, if necessary, to conduct a site survey prior to commencement of works.

Non-Indigenous cultural heritage

The are no items of non-Indigenous heritage significance listed in Schedule 5 Environmental heritage of *Bega Valley LEP 2013* in the immediate vicinity of the site of the proposed National Circularity Centre.

The nearest listed items are I584 Federation residence located at 3 Parrabel Street which is about 360 metres north-west of the site at the closest point and I018 Yarranung homestead at 47 Angledale Road which is about 380 metres north-east of the site at the closest point. Both of these items are of local significance. There are no visual or physical connections between these two heritage properties and the site.

It is unlikely that any 'relics' as defined in the *Heritage Act 1977* exist on the site. The site has been filled with inert materials sourced predominantly from the site of Sapphire Marketplace. A search of historical imagery provided online by the NSW Government has been undertaken. The earliest available image was taken in 1957. This and an image from 1971 indicate that a structure, most likely a dwelling, existed near Ridge Street. A second structure was erected at the north-western corner of the site sometime after 1957 and before 1971. An aerial image taken in 1989 reveals that the site had been cleared of both structures and has remained vacant since.

There is no evidence of structures or land uses that relate to early settlement of Bega and that would give rise to the presence of relics.

e) Scenic amenity

As noted in the *Bega Valley Enterprise Land Review*, industrial land at North Bega benefits from high amenity scenic amenity due to proximity to rural landscapes and the open character of the area. An unnamed waterbody located east of the site provides a natural backdrop set amongst farm land. Elsewhere, and particularly west of the Princes Highway, the landscape has an industrial character spread over rolling hills.

Internationally recognised architectural firm Cox Architecture has commenced designing the National Circularity Centre to reflect the importance of the location and to utilise sustainable and circular building features. The Centre will present as a visually prominent entry building rather than a typical industrial building thereby enhancing scenic amenity and contributing to the progressive character of the community of Bega.

f) Land use conflict

Development in the vicinity of the site is dominated by industrial uses, open space, farm land and low density residential development to the north. Existing industrial development is located west of the Princes Highway and on the same land owned by Bega Cheese south of the site that is the subject of the Planning Proposal.

Land to the east of the site is zoned E4 General Industrial and is currently vacant. Further east the land is zoned RU1 Primary Production and RE1 Public Open Space.

Permissibility of the proposed uses on land that is zoned E4 General Industrial will enable development that is better suited to the location which adjoins land zoned R5 Large Lot Residential and R2 Low Density Residential. Development of the subject site would not preclude industrial development on adjoining land zoned E4 to the east.

Potential noise emissions associated with access arrangements and out-of-hours usage of facilities such as the auditorium will be assessed and a report submitted with the development application. The report would make recommendations concerning attenuation measures to mitigate noise impacts on receptors in the vicinity of the site, having regard to background noise levels and specified noise management levels.

Q10. Has the planning proposal adequately addressed any social and economic effects?

Funding of the development is to be by way of a grant of $14 million made to the Regional Circularity Co-operative Limited under the Regional Tourism Activation Fund Round 2. A private co-contribution of $5 million brings the total amount available for the development to $19 million. The timeline for official opening of the Centre is mid-2026. It is estimated that 78.9% of the funding will be spent in regional NSW and that 18.7 full time equivalent jobs will be created or retained to deliver the development. It is anticipated that over 400,000 persons would access the National Circularity Centre annually, rising to 500,000 by the end of the 2020s.

The Centre will bring employment benefits to the local and regional economy. Preference will be given to local contractors for the construction phase which would include surveyors, planners and builders. There will be flow-on effects of the income paid to personnel involved in construction and to future employees when the Centre is operational. This coupled with spending by visitors and patrons of the facility will generate demand to other linked businesses for goods and services, such as visitor accommodation, catering services and cleaning businesses.

The social impact of the sustained boost to the local economy will be positive through this additional demand for goods and services. The Centre will send positive messages to residents and visitors to Bega Valley Shire about local support for sustainability and the circular economy. This in turn will inspire more sustainable business and household practices leading to a greater sense of well-being within the wider community. The Centre is to include meeting rooms, an auditorium and communal space that will increase the provision of community facilities rather than place demand on existing capacities.

PART 3: JUSTIFICATION OF STRATEGIC AND SITE-SPECIFIC MERIT

SECTION D: STATE AND COMMONWEALTH INTERESTS

Q11. Is there adequate public infrastructure for the planning proposal?

Infrastructure requirements to service the site and the proposed development are available and currently provided to the site. A dial-before-you-dig enquiry has obtained maps indicating the location of infrastructure assets under the management of Bega Valley Shire Council, Essential Energy and Telstra. These are appended as Attachment C.

a) Water and sewerage

There would be no augmentation of trunk infrastructure required to facilitate water supply to and sewerage disposal from the proposed development. The Centre will demonstrate the principles of sustainability by capturing rainwater for use in amenities and facilities on site.

Engineers at Bega Valley Shire Council have confirmed that there is both the spare capacity and infrastructure assets of the water supply and sewerage systems in the immediate area that will enable direct connection of the National Circularity Centre to these systems.

There is a 150mm PVC gravity sewer line towards the southern end of the proposed site, and there is a 100 mm water main currently servicing the Bega Cheese training centre. A short extension of the water main would be required to extend the main under the driveway/carpark of the training centre. This would also include construction of an inground fire hydrant.

b) Power

Electricity is supplied to Lot 1 DP 1264640 by Essential Energy. There is planned to be an upgrading of transformers over the latter half of 2023. This will enable supply to the proposed National Circularity Centre in addition to Bega Cheese.

The Centre will demonstrate the principles of sustainability by generating, storing and utilising electricity on site using solar panels and a battery energy storage system.

Figure 3: Architectural perspective (draft) of the entry to the National Circularity Centre.
Source: Cox Architects, 1 June 2023

c) Traffic management

The site of the proposed National Circularity Centre is located east of the Princes Highway at North Bega. A large roundabout on the highway provides access to residential and industrial land to the east, industrial land to the west and through traffic to and from Bega.

The site is bound by Bridge Street along the northern boundary and Anderson Street to the east, both of which are local roads and provide gravel entry access. Ridge Street is located at the southern end of the development area. Further south Anderson Street becomes Lagoon Street which continues on to the Bega Cheese industrial complex.

Based on the *Bega Valley Development Control Plan 2013*, preliminary estimates are that approximately 98 car parking spaces are required to cater to the range of proposed uses that will be provided at the Centre, plus space for the loading/unloading of deliver vehicles. These car parking areas are to be provided at the northern end of the Centre off Bridge Street and at the southern end off Ridge Street.

A *draft Traffic and Parking Assessment* has been prepared by McLaren Traffic Engineering & Road Safety Consultants to accompany the development application. The assessment aims to specify any road upgrades that are required to ensure road safety and to cater for the expected volumes of traffic generated by the development having regard to any applicable provisions of *SEPP (Transport and Infrastructure) 2021*. The assessment also reports on the adequacy of on-site car parking spaces and the arrangement of car parking areas to cater for the range of land uses noting that shared arrangements may be appropriate based on the hours of operation of proposed uses.

The *draft Traffic and Parking Assessment* concludes that:

- Draft architectural plans include the provision of 101 parking spaces (including 89 car parking spaces, 7 caravan spaces and 5 coach parking spaces) within a proposed at grade carpark, satisfying Council's DCP requirements and the anticipated 85th percentile parking demand.
- Council's DCP requires the provision of seven (7) bicycle parking spaces and nil (0) motorcycle parking spaces which have been provided onsite resulting in compliance with parking space provision requirements.
- The parking areas of the site have been assessed against the relevant sections of AS2890.1:2004, AS2890.2:2018 and AS2890.6:2022 and have been found to satisfy the objectives of each standard. Swept path testing has been undertaken and the results are reproduced in an annexure to the report.
- The traffic generation of the proposed development has been estimated to be some 121 vehicle trips in the AM peak period (95 in, 26 out), 121 vehicle trips in the PM peak period (26 in, 95 out) and 142 vehicle trips in the Saturday peak period (71 in, 71 out). The impacts of the traffic generation have been modelled using SIDRA INTERSECTION 9.1, and indicate that there will be no adverse impact to the performance of the intersections as a result of traffic generated by the development.

Q.12 What are the views of state and federal public authorities and government agencies consulted in order to inform the Gateway determination?

A Scoping Report was prepared dated 14 April 2023. This report was provided to Bega Valley Shire Council, forwarded to the Department of Planning and Environment and then distributed to relevant NSW Government agencies. Copies of written feedback are appended as Attachment D.

Key points raised in feedback from state agencies are given below.

a) Transport for NSW

TfNSW has reviewed the information and has no objection to the proposed changes in the scoping proposal, and provides points of consideration for the project moving forward in Attachment 1.

Discussion with TfNSW is strongly encouraged during the preparation of the Traffic Impact Assessment (TIA) due to the traffic volume generation and potential requirement for upgrades on the state road network.

Comment: A draft traffic impact assessment has been prepared and will be submitted with the forthcoming development application. Further liaison with Transport for NSW will take place during assessment of the development application.

b) Heritage NSW

Before finalising any draft Planning Proposal, the Council should be satisfied that all necessary heritage assessments have been undertaken and that any impacts have been sufficiently addressed. Council's assessment should include, but not be limited to a search of:

- *the State Heritage Inventory, and*
- *the Aboriginal Heritage Information Management System.*

It is recommended that a comprehensive Aboriginal cultural heritage assessment is needed and should inform this planning proposal.

Based on the information provided, we have reviewed the planning proposal against our records and do not believe that there are any identified impacts on items listed on the State Heritage Register. In relation to historic archaeology, if the proponent has not already undertaken their own investigation to assess the likelihood of 'relics' and any subsequent management required under the Heritage Act 1977, they should do so.

Comment: Details of any items listed in Schedule 5 Environmental heritage of *Bega Valley LEP 2013* are noted in Section C of this Planning Proposal. This includes proximity to the subject site and any visual or physical connections between the subject site and heritage items. The likelihood or any relics existing on the site is also considered in Section C.

A due diligence assessment of Indigenous cultural heritage is included in Section C. Bega Valley Shire Council has advised that, if necessary, an Aboriginal cultural heritage assessment be actioned after receipt of the Gateway Determination and for the forthcoming development application.

c) NSW Rural Fire Service

The Planning Proposal report shall included an assessment in regard to Section 4.3 of the Ministerial Directions issued in accordance with 9.1 of the Environmental Planning & Assessment Act 1979 and the relevant sections of Chapter 4 - Strategic Planning of Planning for Bush Fire Protection 2019. This shall include (but is not limited to) an assessment of the proposed future land uses and their compliance with Planning for Bush Fire Protection 2019.

Comment: Details of the bushfire category and surrounding vegetation is provided in section C. A bushfire impact assessment will be actioned after receipt of the Gateway Determination and submitted with the forthcoming development application.

d) NSW State Emergency Service

The SES have been made aware of the Planning Proposal and the proposed development and have not identified any issues of concern. Written advice is yet to be received.

On the basis of the responses to the scoping report a draft planning proposal was prepared (dated 6 July 2023) and submitted to Bega Valley Shire Council. In June 2023 Council endorsed the planning proposal and forwarded it to the Department of Planning and Environment. A gateway determination was issued for PP-2023-1231 advising that the planning proposal should not proceed as:

1. It is inconsistent with section 9.1 Direction 4.1 (Flooding) and the inconsistency has not been justified.
2. The site is highly flood prone and introducing a broader range of uses to the site is likely to result in greater risk to life and property.

In response to the gateway determination further meetings were held with the Department of Planning and Environment and it was agreed that a flood assessment be prepared to inform a fresh planning proposal. This has been done – the findings of the Flood Impact and Risk Assessment by Rhelm Pty Ltd are provided in this Planning Proposal along with a revised response to Local Planning Direction 4.1 (Flooding).

Further consultation will be carried out with public authorities if specified in the Gateway determination.

PART 4: MAPS

The land affected by this Planning Proposal is described as Part Lot 1 DP 1264640 Lagoon Street, Bega that is zoned E4 General Industrial under *Bega Valley LEP 2013*. There are no changes proposed to the maps that form part of *Bega Valley LEP 2013*.

The following maps are appended to this Planning Proposal:

- Attachment C: Maps of infrastructure assets
- Attachment E: Cadastre map of the development site (Lot 1 DP 1264640) and surrounding land
- Attachment F: Aerial photograph of the development site (Lot 1 DP 1264640) and surrounding land
- Attachment G: Map of the proposed development area (Part Lot 1 DP 1264640 and Ridge Street)
- Attachment H: Map of the current zoning of Lot 1 DP 1264640

PART 5: COMMUNITY CONSULTATION

Two meetings have been held with Bega Valley Shire Council officers during March 2023 – the first with the Planning Services Co-ordinator and the second with the Planning Services Co-ordinator and the Acting Manager Planning and Sustainability. Specific matters to be assessed and approaches to carrying out amendments to *Bega Valley LEP 2013* were identified and discussed at these meetings.

Consultation with key stakeholders has been carried out during April and May 2023 by way of meetings and on-site discussions. These meetings have been attended by representatives of Bega Valley Shire Council, the Department of Regional NSW, Bega Business Chamber, Sapphire Destination Marketing, Eden Port Authority, Bega Heritage Centre, the Sapphire Coast Producers Association, the University of Wollongong, Bega Local Aboriginal Lands Council and South East Arts.

The purpose of this consultation was to share information regarding the development, to identify potential future usage by each organisation and to gain feedback on the design of the Centre.

Future consultation will be carried out in accordance with provisions of the *Environmental Planning and Assessment Act 1979* and the Gateway determination.

The Planning Proposal is categorised as 'standard' which means that the period of public exhibition be 20 days.

Notification and display of the Planning Proposal will be on council's website www.begavalley.nsw.gov.au and on the Planning Portal. Documentation will be available for viewing in hard copy for at Council's offices. The notice will include a description of:

- The objectives and intended outcomes,
- the land affected by the Planning Proposal,
- Information on where and when the Planning Proposal can be inspected,
- contact details for submissions and the date that submissions close, and
- whether Bega Valley Shire Council is the Local Plan-Making Authority.

The following material will be available for inspection during the public exhibition period:

- The planning proposal,
- The Gateway determination, and
- Relevant strategies.

Any public agency consultation as specified in the Gateway determination would be carried out during the public exhibition period.

Note that it is intended to lodge the development application for the National Circularity Centre soon after the Gateway determination is issued to enable concurrent exhibition of the Planning Proposal and development application,

PART 6: PROJECT TIMELINE

The following project timeline is proposed. The period from the issue of a Gateway determination to the date of notification may be affected by matters raised in submissions received during the exhibition period and at the public hearing (if required), and the subsequent decisions of Council regarding the content of the planning proposal. Detailed drafting of the legal instrument will be carried out by Parliamentary Counsels Office.

Table 4: Project timeline

Action	Day/month/year
Submission of Scoping Report	14 April 2023
Consideration by Council and resolution to submit for Gateway determination	December 2023
Gateway determination	February 2023
Agency consultation	March 2023
Public exhibition	March 2023
Public hearing (if required)	March 2023
Consideration of submissions & finalisation of document	April 2023
Council endorsement	April 2023
Submission to Department of Planning & Environment	April 2023
Drafting of legal instrument by PCO	May 2023
Gazettal of LEP amendment	May 2023

Attachment A

Flora & fauna assessment

Flora and Fauna Assessment

Part Lot 1 DP 1264640, Lagoon Street, Bega

Location photo (E. Larsen, 10 May 2023)

MAY 2023

Prepared by **Local Environmental Solutions**

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1. BACKGROUND

This Flora and Fauna Assessment has been prepared for the Regional Circularity Co-operative, as part of a DA for an area of land known as Lot 1 DP1264640, Lagoon Street, North Bega (Figure 1-1). The development footprint, understood to be approximately 1.5 ha of the 9 ha Lot, will be referred to as the 'Subject Site' in the following assessment.

The DA will require development consent under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and must comply with the Biodiversity Conservation Act 2016 (BC Act).

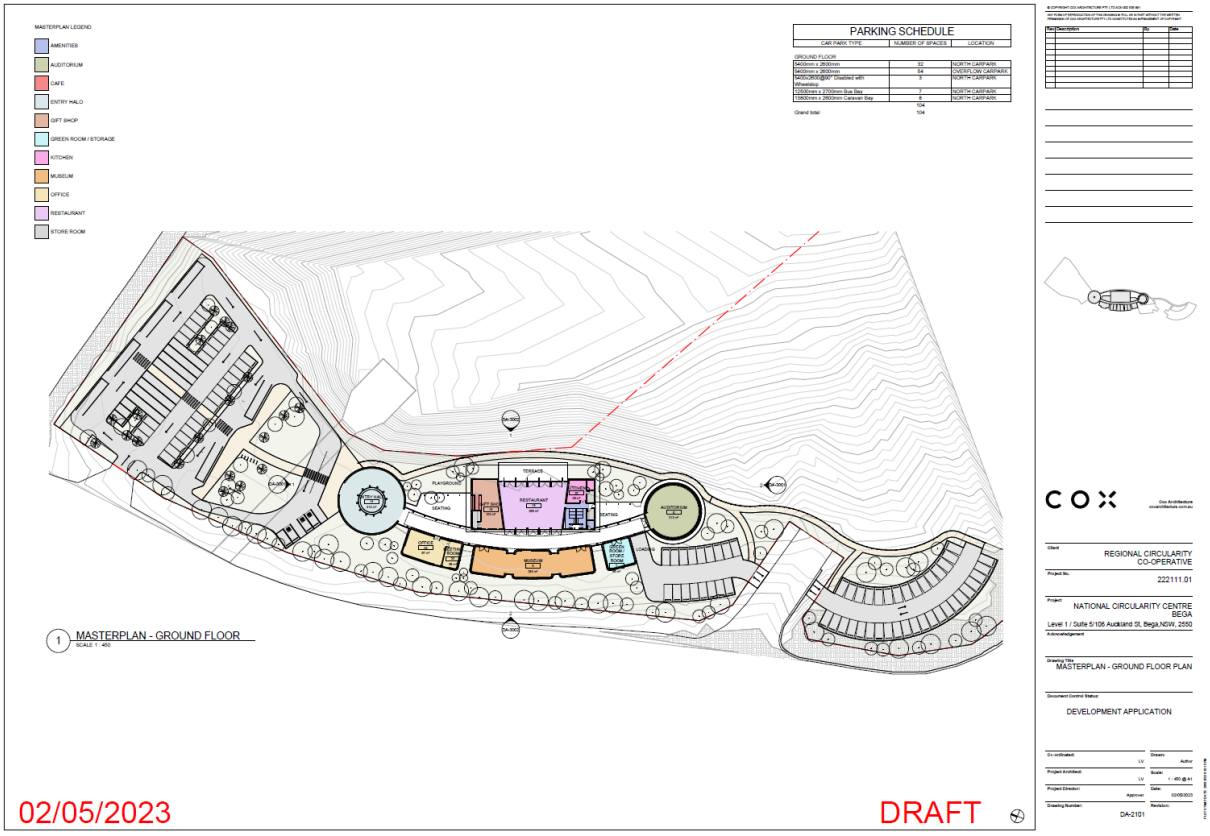
The objectives of this assessment are to:

- assess the proposed clearing against the Biodiversity Offset Scheme (BOS) thresholds, set out under the BC Act, and
- assess the potential for significant impacts on threatened entities under the BC Act and the Australian Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act).

It is assumed in this assessment that standard environmental safeguards will be implemented for the proposal as required by BVSC and other relevant government authorities.

Figure 1-1 Location of the Subject Site (in red) (SixMaps 2023).

Figure 1-2 Site layout plan (Cox Architecture May 2023).



2. APPLICABILITY OF THE NSW BIODIVERSITY OFFSET SCHEME

Under the BC Act, a Biodiversity Development Assessment Report (BDAR) is required for developments that trigger one of the three Biodiversity Offset Scheme (BOS) entry thresholds. Most such developments will generate an offset requirement that must be met as a condition of consent. The following was determined for this DA:

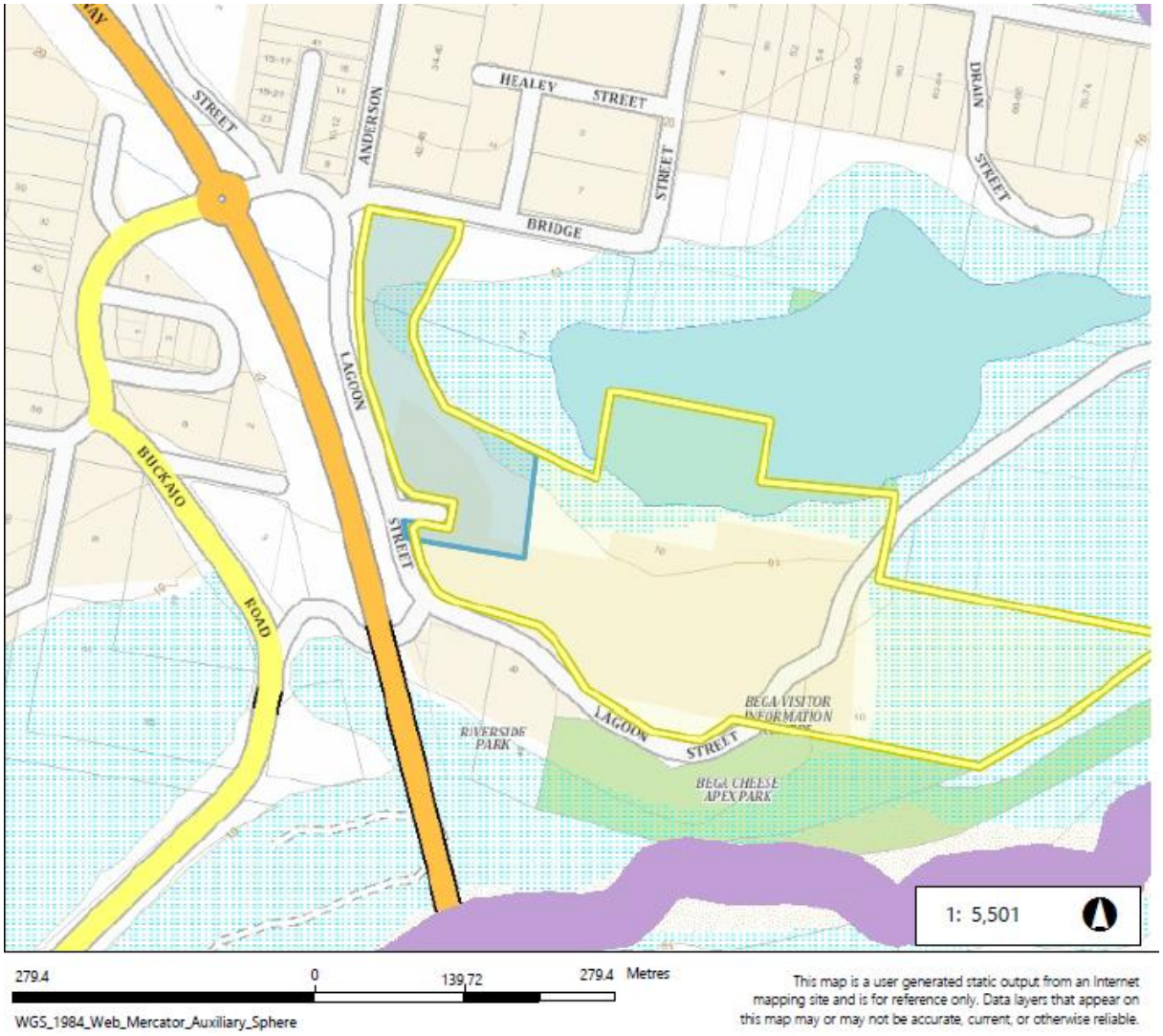
1. **BOS 'Clearing area' threshold:** Our site investigations found that the vegetation on site is almost entirely exotic (see Section 3.2). Therefore, the native vegetation clearing threshold of 0.5 ha will not be triggered for this proposal.

2. **BOS 'Biodiversity Values Map' threshold:** The proposal does not intersect an area mapped with High Biodiversity Values (NSW DPE 2023, see Figure 2-1).

3. **BOS 'Impact significance' threshold:** The BOS is triggered if the proposal has the potential to cause significant impacts on threatened biological entities (species, populations or threatened ecological communities), or will contribute significantly to a listed Key Threatening Process. The following flora and fauna assessment considers the impact potential based on:
   - a site inspection by senior ecologist to verify the extent of clearing, identify plant community types, search for threatened flora species, and assess threatened fauna habitat.
   - desktop assessment of threatened entity records in the locality and region (NSW and Commonwealth listings),

- supporting Assessments of Significance (5-part-tests) for threatened entities with potential to be impacted, if required.

Figure 2-1 Biodiversity Values Map (NSW DPE, accessed 9 May 2023). Lot 1 DP1264640 in yellow. Impact area shaded blue. Areas mapped with biodiversity values in purple.



3. FLORA AND FAUNA ASSESSMENT

3.1 Methods

1. **Desktop assessment:** The following database searches were carried out (9 May 2023) to obtain current lists of threatened biological entities (species, populations, ecological communities) and listed Key Threatening Processes that may occur at the locality:
   - The NSW BioNet Atlas search tool was used to find known records of threatened entities in NSW (species and communities) within 10km of the subject site (See Appendix B).
   - The Department of the Environment's 'Protected Matters' search tool was used to identify known records of species listed as threatened or migratory under the Australian EPBC Act within a 10km radius from the subject site.

- The NSW Department of Planning and Environment's online search tool was used to search for listed Key Threatening Processes in the South-East Corner Bioregion.

2. **Site inspections:** Site inspections were undertaken for 1 hr on 10 May 2023 and ½ hr on 12 May by a senior ecologist and assistant. All identifiable flora species on the Subject Site were recorded (Appendix A), and a cover abundance was estimated for the key dominant species. The estimates of cover were based on general observations and quadrats were not used for this assessment. Due to the timing of the survey, it is possible that some spring and summer-flowering species will have been missed. Most of these are likely to be exotic species.

   The most likely original Plant Community Type (PCT) was identified by checking remnant forest patches on neighbouring sites with comparable topography and aspect (in this case the banks and lagoons of Bega River to the south of the Subject Site), and by referring to the Department of Planning and Environment's State Vegetation Type Map and the NSW BioNet Vegetation Classification database (DPE 2023).

3.2 Results

3.2.1 Locality, aspect, drainage, land use

The Subject Site is located on a cleared and levelled flat on the eastern side of the Princes Highway in the Bega industrial area north of the Bega River. It is surrounded by roads and residential and industrial lots to the north, west and south, and by cleared farmland used for cropping and cattle grazing to the east. The site drains into a large natural lagoon, situated approx. 100 m east of the site. The lagoon is part of the Coopers Gully catchment which joins the Brogo/Bega River system, approx. 600 m further east. The Subject Site vegetation has been completely cleared, except for a row of small trees (five stems, likely planted) in the south-east corner. The site is currently used as a parking area for Bega Cheese.

3.2.2 Database searches

The NSW BioNet and the EPBC Act Protected Matters Search Tool database searches for threatened entities and communities identified a number of threatened fauna or flora species with the potential to occur within the locality (refer to Attachment B). These species, and the proximity of local records to the site, were considered with specific reference to the habitat available onsite in the following assessment.

3.2.3 Vegetation zones and Plant Community Types

The Subject Site has been subject to severe disturbance (clearing, levelling with fill/gravel, and regular mowing) over a long period of time. As a result, the vegetation on site consists almost entirely of disturbance-tolerant exotic grasses and weeds, predominantly Couch (**Cynodon dactylon*, >80% of vegetation cover), Paspalum (**Paspalum dilatatum*), Kikuyu (**Cenchrus clandestinus*), and African Lovegrass (**Eragrostis curvula*). Native plant species were found to be near non-existent, overgrown and outcompeted. The few trees and shrubs on site, limited to a row of young River Oaks (**Casuarina Cunninghamia*), four ornamental Bottlebrushes (*Callistemon spp.*) and a drooping Willow in the south-eastern corner of the Subject Site, appear to have been planted.

Plant Community Type: The Plant Community Type most likely to have occurred on site prior to clearing is PCT 4084 *Southern Escarpment River Oak Forest,* described as '40 Riverine Forest' in Miles (2000). Riverine Forest is dominated by River Oak, with understorey species including the small tree *Acacia mearnsii,* shrubs *Acacia floribunda* and *Hymenanthera dentata* and grasses *Microlaena stipoides* and *Oplismenus aemulus.* The plant community occurs on the gravelly river banks of the lower Brogo River and the Bega River (north of Bega). **The PCT is not listed as a Threatened Ecological Community.**

3.2.4 Threatened Flora Species

None of the threatened flora species recorded from the region have habitat requirements which are likely to be met on this site.

3.2.5 Weeds

The following 'High Threat Weeds' (NSW Noxious Weeds Act 1993) occur on the Subject Site. High Threat Weeds must be controlled to avoid further spread:

- **African Lovegrass** (**Eragrostis curvula*)
- **Fireweed** *(*Senecio madagascariensis)*
- **Kikuyu** (**Cenchrus clandestinus*)
- **Paspalum** (**Paspalum dilatatum*)

3.2.6 Threatened fauna and fauna habitat features

A habitat evaluation was undertaken for all threatened entities previously recorded within 10 km of the subject site (NSW BioNet Atlas Search and EPBC Act Protected Matters Search 9 May 2023 – see Attachment B). Further candidate species and communities for evaluation were determined by the ecologist. On-site searches for threatened fauna habitat and/or signs of presence within the boundaries of the Subject Site was conducted on 10 and 12 May 2023.

The site was checked for the following habitat attributes:

- Habitat trees: mature trees [>80cm DBH], dead stags and hollow-bearing trees **– none present**
- Dead fallen timber, coarse woody debris, rocks, and boulders – **none present**
- Caves or human-made tunnels/culverts suitable as bat roost – **present next to Subject Site**
- Waterways, riparian habitat, soaks, and pools – **present next to Subject Site**
- Stick nests and dreys – **none present**
- Yellow-bellied Glider feed trees **– none present**
- Owl roosts and nests (pellet/whitewash search) –**none present**
- Feed trees of the Glossy Black Cockatoo – **none present**
- Spotted-tail Quoll scats/latrines (*Dasyurus maculatus*) – **none present**
- Bandicoot and potoroo diggings – **none present**
- Wombat burrows – **none present**
- Koala scats – **none present**

The row of River Oaks in the south-east corner of the site were checked by visual inspection. No hollows or visible signs of use by fauna were observed, including roosting features (dens, dreys, nests etc.), or any signs of use as feed trees.

The fauna habitat quality of the proposal site is considered to be near non-existent due to the absence of native vegetation and the severity of disturbance. It is possible that threatened woodland birds and microbat species may fly through the site while foraging, but the proposal would not result in significant impact on any population of these highly mobile species given the lack of roosting or breeding sites.

3.2.7 Large culvert (potential Southern Myotis habitat)

A large culvert close to the eastern boundary of the Subject Site may constitute suitable roosting habitat for the Southern Myotis (*Myotis macropus*), a threatened microbat known to occur in the locality. The Southern Myotis is one of only two Australian "fishing" bats; it feeds by trawling its specially adapted feet along the water's surface for aquatic invertebrates and small fish. It generally roost in groups of 10-15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. There are recent observations of Southern Myotis roosts in similar stormwater channels elsewhere in the township of Bega (A. Morrison, pers. comm. 2022).

The culvert is part of the stormwater infrastructure that leads water from the Princes Highway and under the Subject Site to the Bega River catchment. There are no plans to modify the stormwater channels or the culvert opening as part of the proposal (pers. comm. L. Barnes, 120523). However, should any future work on site require modification or disturbance of the stormwater infrastructure, the presence and habitat value for the Southern Myotis must be assessed prior to works in order to avoid and minimise impacts on this threatened species. A Test of Significance for the Southern Myotis would need to be completed as part of a Review of Environmental Factors (REF).

3.2.8 Waterways and riparian habitat

The site drains into a large natural lagoon, then a 2nd order stream which joins the Coopers Gully creek and the Brogo/Bega River system, approx. 600 m further east. The proposed development may indirectly impact on these aquatic and riparian habitats if sediment-laden and polluted water is allowed to flow downslope (e.g. from exposed soils or stockpiles during construction, roads and hard surfaces). This may occur during stormwater events, especially if there are inappropriate erosion and sediment controls onsite during the construction phase of development. It is assumed in this report that adequate erosion and sediment control measures will be set in place to avoid impacts on riparian zones.

3.2.9 Wildlife connectivity

Due to the absence of corridor vegetation (trees, shrubs, tall ground cover) on the Subject Site, the proposal will not contribute to further fragmentation and loss of wildlife connectivity in the locality.

4. ASSESSMENT OF SIGNIFICANCE

No significant impacts on threatened flora or fauna species, endangered populations or ecological communities are considered likely given the very poor habitat quality of the vegetation to be removed as part of this proposal. The development proposal will not contribute significantly to any Key Threatening Processes.

It is assumed that no modifications or disturbance of the stormwater channels and culvert openings near the Subject Site will be required as part of this project, and that the potential habitat value of the stormwater infrastructure for microbats therefore will remain intact. Any future plans to modify stormwater infrastructure in the locality must consider the impact significance to the threatened fishing bat Southern Myotis. It is also assumed that appropriate soil and water management controls will be set in place to avoid erosion, sedimentation damage and contamination of downstream water bodies and riparian zones.

There is a potential that clearing and building activity could further spread the noxious weeds that occur on the Subject Site, including notable High Threat Weeds (Fireweed, African Lovegrass, Kikuyu and Paspalum). Appropriate precautions must be taken to manage this risk during construction and landscaping.

5. CONCLUSIONS

This report outlined the assessment pathway for the development proposal under the BC Act and provided an assessment of the flora and fauna values of the Subject Site. It was determined that:

- *Assessment pathway:* The development proposal will not trigger the Biodiversity Offset Scheme thresholds set out under the BC Act. A Biodiversity Development Assessment Report (BDAR) will not be required as a condition of consent.
- *Threatened ecological communities:* No threatened ecological communities were found to occur on the Subject Site.
- *Threatened flora species:* No threatened plant species occur on the Subject Site.
- *Threatened fauna habitat:* No threatened fauna habitat features were identified on the Subject Site. However, the culvert opening and stormwater infrastructure next to the Subject Site were identified as potential roost habitat for the threatened fishing bat Southern Myotis. It is understood that there are no plans to modify or disturb the stormwater infrastructure as part of this proposal.
- *Sensitive receptors:* The site drains into a large natural lagoon and a 2nd order stream which joins the Coopers Gully creek and the Brogo/Bega River system, approx. 600 m further east. Appropriate erosion and sediment control measures must be set in place to avoid impacts on these waterbodies and riparian areas.
- *Key Threatening Processes:* There is a potential that construction activities could further spread the noxious weeds that occur on site, including notable High Threat Weeds (Fireweed, African Lovegrass, Paspalum, Kikuyu). These HTW should be removed prior to works. Appropriate

precautions must also be taken to manage any risk of spread of noxious weeds during construction and occupation.

- *Connectivity:* The development will not contribute to fragmentation and loss of connectivity in the local area.

6. RECOMMENDATIONS

- Any future plans to modify the stormwater infrastructure in the locality, in particular the large culvert east of the Subject Site, must consider impact significance to the Southern Myotis (*Myotis macropus*). A Test of Significance for this species would need to be completed as part of a Review of Environmental Factors (REF).
- Effective soil and water management plans must be put in place to avoid run-off, siltation and contamination of downstream lagoon and riparian zones.
- Native vegetation of local provenance and non-invasive pasture grasses should be used in revegetation and future landscaping works.
- Weed management and hygiene protocols must be implemented during construction to prevent further spread of High Threat Weeds.

ATTACHMENTS

Appendix A: Flora Species List

Appendix B: Known records of threatened entities (species and communities) within 10km of the subject site (NSW BioNet Atlas, EPBC Act Protected Matters Search, 9 May 2023)

REFERENCES

Harden G (Ed.) (2002) *Flora of New South Wales*. Vol. 1-3 & 4. NSW University Press, Kensington.

Keith D and Ashby E (1992) *Vascular Plants of Conservation Significance in the South East Forests of New South Wales*. Occasional Paper No 11 NSW National Parks and Wildlife Service, Sydney.

Keith D, Miles J and Mackenzie BDE (1999) Vascular Flora of the South East Forests region, Eden, NSW, *Cunninghamia* Vol. 6 (1).

Miles J (2000) *State of Vegetation Report for the Bega Valley Shire*. Bega Valley Shire Council, Bega.

Miles J (2007) *Recognition and Management of Endangered Ecological Communities in the South East Corner of NSW. Southern Rivers Catchment Management Authority*. Bega. Landcom (2004) *Managing Urban Stormwater: Soils and Construction*, Volume 1, 4th edition.

NSW Department of Planning and Environment, *BioNet Vegetation Classification*. Accessed May 2023.

NSW Flora Online, *National herbarium of NSW*, Royal Botanic Garden, Sydney Australia.

NSW Office of Environment and Heritage, *NSW Threatened species profiles*, available from: www. Environment.nsw.gov.au/threatenedSpeciesApp.

Appendix A: Flora Species List

Relative abundance is given by a cover abundance scale (modified Braun-Blanquet):

1 1 to a few individuals present, less than 5% cover
2 many individuals present, but still less than 5% cover
3 5 - < 20% cover
4 20 - < 50% cover
5 50 - < 75% cover
6 75 – 100% cover

*Introduced species are preceded by an asterisk

Scientific name	Common name	Family	Relative abundance
TREES			
Casuarina cunninghamia	River Oak	Casuarinaceae	1
**Salix sp.*	Willow	Salicaceae	1
Callistemon sp.	Bottlebrush	Myrtaceae	1
FORBS			
**Arctotheca calendula*	Capeweed	Asteraceae	1
**Conyza sp.*	Fleabane	Asteraceae	1
**Gamochaeta americana*	Cudweed	Asteracea	1
**Hypochaeris glabra*	Smooth Catsear	Asteraceae	1
**Hypochaeris radicata*	Flatweed	Asteraceae	1
**Modiola caroliniana*	Red-flowered Mallow	Malvaceae	1
**Oxalis conrniculata*	Woodsorrel	Oxalidaceae	1
**Plantago lanceolata*	Plantain	Plantagenaceae	1
**Portulaca oeacea*	Purslane	Portulacacea	1
**Senecio madagascariensis*	Fireweed	Asteraceae	1
**Soliva sessilis*	Bindyi	Asteraceae	1
**Stellaria media*	Common Chickweed	Caryophyllaceae	1
**Taraxacum officinale*	Dandelion	Asteraceae	1
**Trifolium repens*	White Clover	Fabaceae	1
**Trifolium tomentosum*	Woolly Clover	Fabaceae	1
**Verbena bonariensis*	Purpletop	Verbenaceae	1
Wahlenbergia sp.	Bluebell	Campanulaceae	1
GRASSES ETC			
**Cenchrus clandestinus*	Kikuyu Grass	Poaceae	4
**Chloris virgata*	Feathertop Rhodes Grass	Poaceae	1
**Cynodon dactylon*	Couch	Poaceae	6
**Cyperus aggregatus*	Flatsedge	Cyperaceae	1
**Eragrostis curvula*	African Lovegrass	Poaceae	3
Eragrostis leptostachya	Paddock Lovegrass	Poaceae	1
**Paspalum dilatatum*	Paspalum	Poaceae	1
**Sporobolus africanus*	Parramatta Grass	Poaceae	1

Appendix B: NSW BioNet Atlas and EPBC Act search for threatened entities

The table below lists the threatened entities, including ecological communities and species, that are known to occur or may occur in the area to be adversely affected by the works. Candidate species and communities were determined on 9 May 2023 using the following online database search tools, applying a 10km search buffer:

- **NSW Bionet Atlas database** for species, populations and communities listed under the NSW Biodiversity Conservation Act 2016 (BC Act), and
- **EPBC Act Protected Matters Search Tool** for threatened species and communities listed under the Environment Protection and Biodiversity Conservation Act (EPBC Act).

On-site assessments of habitat suitability and likelihood of occurrence for these species and communities in the study area were conducted on 10 and 12 May 2023, and were based on presence of habitat, proximity of nearest records and mobility of the species. The assessment of possible impact is based on the nature of the proposal, the ecology and sensitivity of the species and its likelihood of occurrence. The evaluation considered all available ecological information about the proposal site, including the results of site investigations.

NSW Status (BC Act):
V = Vulnerable
E = Endangered

Commonwealth Status (EPBC Act):
V = Vulnerable
E = Endangered
CE = Critically Endangered

Species and communities	NSW status	Cth. status	Habitat suitability?	Possible impact?
Threatened Ecological Communities				
Brogo Wet Vine Forest in the South East Corner Bioregion	E	E	No	No
Lowland Grassy Woodland in the South East Corner Bioregion	E	CE	No	No
River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	CE	No	No
Plants				
Bega Wattle *Acacia georgensis*	V	V	No	No
Thick-lipped Spider-orchid *Caladenia tessellata*	E	V	No	No
Pretty Beard Orchid *Calochilus pulchellus*	E		No	No
Chef's Cap Correa *Correa baeuerlenii*	V	V	No	No
Leafless Tongue-orchid *Cryptostylis hunteriana*	V	V	No	No
Hoary Sunray *Leucochrysum albicans, subs. tricolor*	E	E	No	No
Tall Knotweed *Periscaria elatior*	V	V	No	No
Pomaderris cotoneaster *Pomaderris cotoneaster*	E	E	No	No
Parris' Pomaderris *Pomaderris parrisiae*	V	V	No	No

Species and communities	NSW status	Cth. status	Habitat suitability?	Possible impact?
Austral toadflax *Thesium australe*	V	V	No	No
Scrub Turpentine *Rhodamnia rubescens*	E	CE	No	No
Swamp Everlasting *Xerochrysum palustre*		V	No	No
Birds				
Blue-billed Duck *Oxyura australis*	V		No	No
Australasian Bittern *Botaurus Poiciloptilus*	E	E	No	No
White-bellied Sea-Eagle *Haliaeetus leucogaster*	V		No	No
Little Eagle *Hieraaetus morphnoides*	V		No	No
Gang-gang Cockatoo *Callocephalon fimbriatum*	V	E	No	No
Glossy Black-Cockatoo *Calyptorhynchus lathami*	V	V	No	No
Brown Treecreeper *Climacteris picumnus victoriae*	V		No	No
Grey Falcon *Falco hypoleucos*	V	V	No	No
Swift Parrot *Lathamus discolor*	E	CE	No	No
Diamond Firetail *Stagonoplaura guttata*	V		No	No
Little Lorikeet *Glossopsitta pusilla*	V		No	No
Barking Owl *Ninox connivens*	V		No	No
Masked Owl *Tyto novaehollandiae*	V		No	No
Regent Honeyeater *Anthochaera phrygia*	E	CE	No	No
Scarlet Robin *Petroica boodang*	V		No	No
Flame Robin *Petroica phoenicea*	V		No	No
Diamond Firetail *Stagonopleura guttata*	V		No	No
Mammals				
Spotted-tailed Quoll *Dasyurus maculatus*	V	E	No	No
Koala *Phascolarctos cinereus*	E	E	No	No
Yellow-bellied Glider *Petaurus australis*	V	V	No	No
Squirrel Glider *Petaurus norfolcensis*	V		No	No
Grey-headed Flying-fox *Pteropus poliocephalus*	V	V	No	No
Yellow-bellied Sheathtail-bat *Saccolaimus flaviventris*	V		No	No

Species and communities	NSW status	Cth. status	Habitat suitability?	Possible impact?
Eastern Coastal Free-tailed Bat *Micronomus norfolkensis*	V		No	No
Eastern False Pipistrelle *Falsistrellus tasmaniensis*	V		No	No
Southern Myotis *Myotis macropus*	V		**Possible – nearby culvert and other existing stormwater infrastructure may provide suitable roosting habitat**	**No – no modification of existing stormwater infrastructure is planned as part of this proposal**
Greater Broad-nosed Bat *Scoteanax rueppellii*	V		No	No
Large Bent-winged Bat *Miniopterus orianae oceanensis*	V		No	No
Frogs				
Giant Burrowing Frog *Heleioporus australiacus*	V	V	No	No
Green and Golden Bell Frog *Litoria aurea*	E	V	No	No
Watson's Tree Frog *Litoria watsoni*	E	E	No	No
Southern Stuttering Frog *Mixophyes balbus*	E	V	No	No

Attachment B

AHIMS search results

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 0123

Client Service ID : 771635

Zenith Town Planning

P O Box 591

Moruya New South Wales 2537

Attention: Allen Grimwood

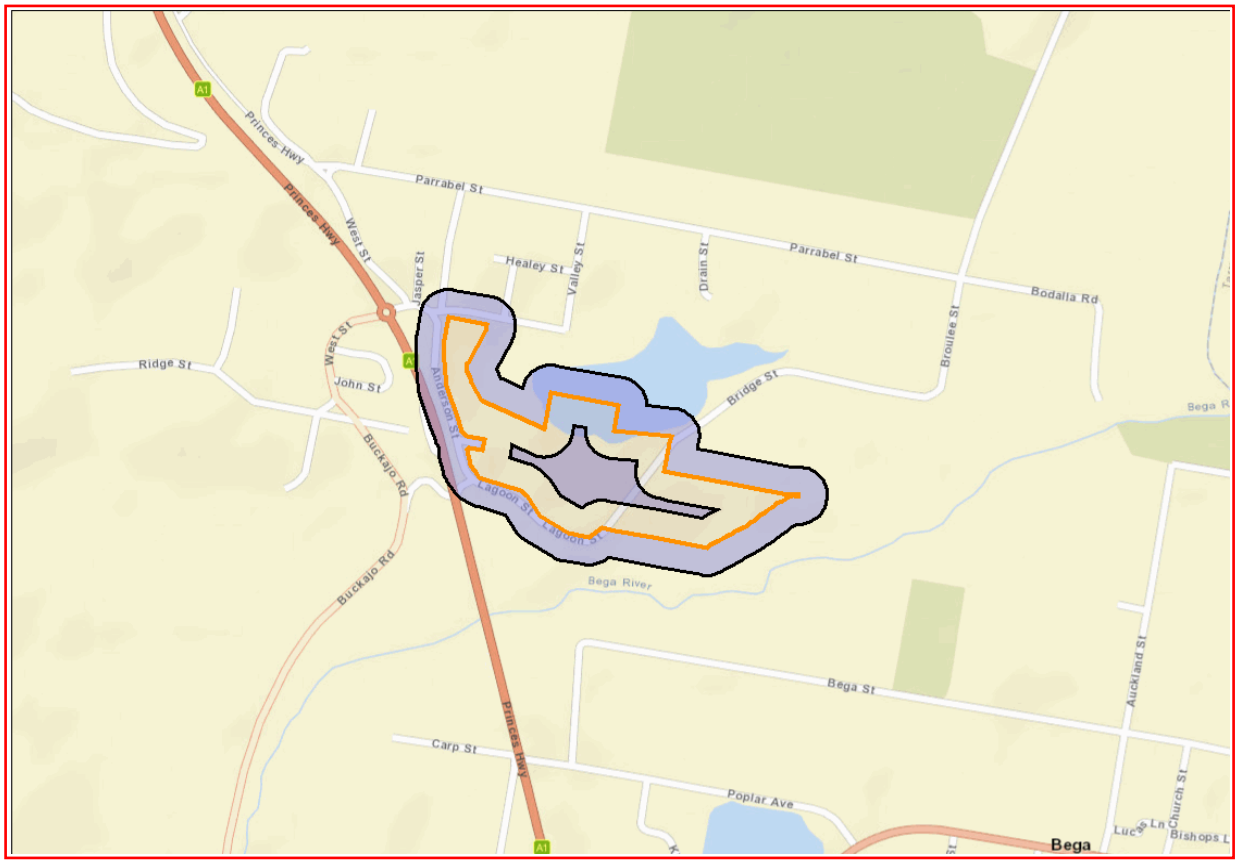
Email: zenithplan@bigpond.com

Date: 11 April 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 1, DP:DP1264640, Section : - with a Buffer of 50 meters, conducted by Allen Grimwood on 11 April 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Attachment C

Maps of infrastructure assets

Seq # 225245304
Job # 34310336
Provided by: Bega Valley Shire Council

Legend

- BYDA Enquiry
- Detailed map page

Please refer to map sheet(s) for details

N

Scale 1:3,500

0 37.5 75 150 m

Disclaimer: This map is a representation of the information currently held by Bega Valley Shire Council. While every effort has been made to ensure the accuracy of the product, Council accepts no responsibility for any errors or omissions.

Index Sheet

Plans generated 30/05/23 (valid for 28 days)

Plans generated by SmarterWX™ Automate

Seq # 225245304
Job # 34310336
Provided by: Bega Valley Shire Council

Legend

- BYDA Enquiry
- Water Pipes
- AC Water Pipes
- Isolation Valve
- Flushing Point
- Above Ground Air Valve
- Flushing Point Type 2
- Village Check Valve
- Flow Meter
- Isolation Valve Closed
- Odour Control Unit
- Strormwater Drainage Pits
- Stormwater Drainage Pipes

N

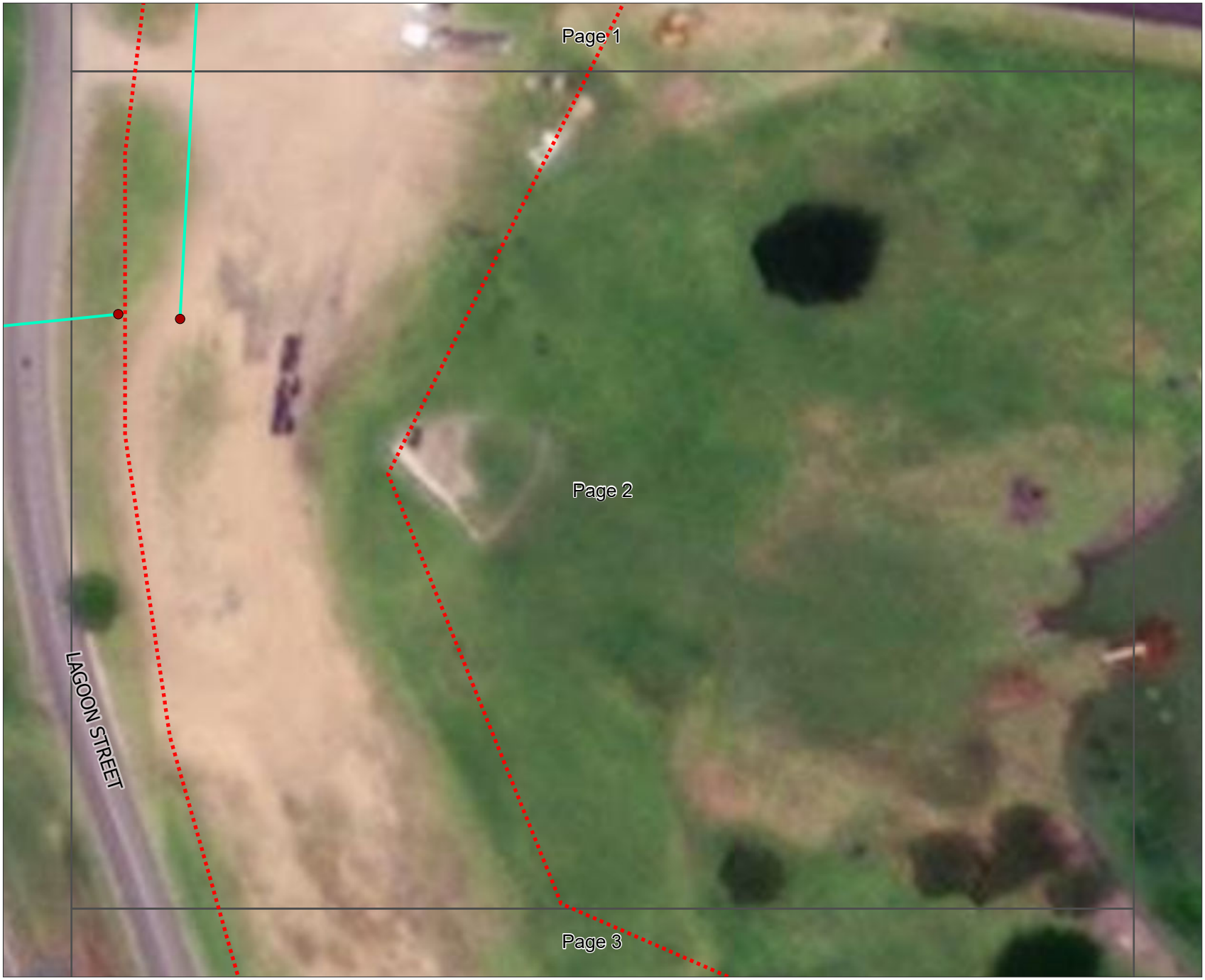
Scale 1:1,000

0 10 20 40 m

Plans generated 30/05/23 (valid for 28 days)

Plans generated by SmarterWX™ Automate

Seq # 225245304
Job # 34310336
Provided by: Bega Valley Shire Council



Legend

- BYDA Enquiry
- Isolation Valve
- Flushing Point
- Above Ground Air Valve
- Flushing Point Type 2
- Village Check Valve
- Flow Meter
- Isolation Valve Closed
- Odour Control Unit
- Strormwater Drainage Pits
- Stormwater Drainage Pipes

N

Scale 1:1,000

0 10 20 40 m

Plans generated 30/05/23 (valid for 28 days)

Plans generated by SmarterWX™ Automate

Seq # 225245304
Job # 34310336
Provided by: Bega Valley Shire Council

Legend

- BYDA Enquiry
- Water Pipes
- Gravity pipe; Vent Pipe
- PSS reticulation
- AC Sewer Pipes
- Isolation Valve
- Flushing Point
- Above Ground Air Valve
- Flushing Point Type 2
- Village Check Valve
- Flow Meter
- Isolation Valve Closed
- Odour Control Unit
- Strormwater Drainage Pits
- Stormwater Drainage Pipes
- Manholes

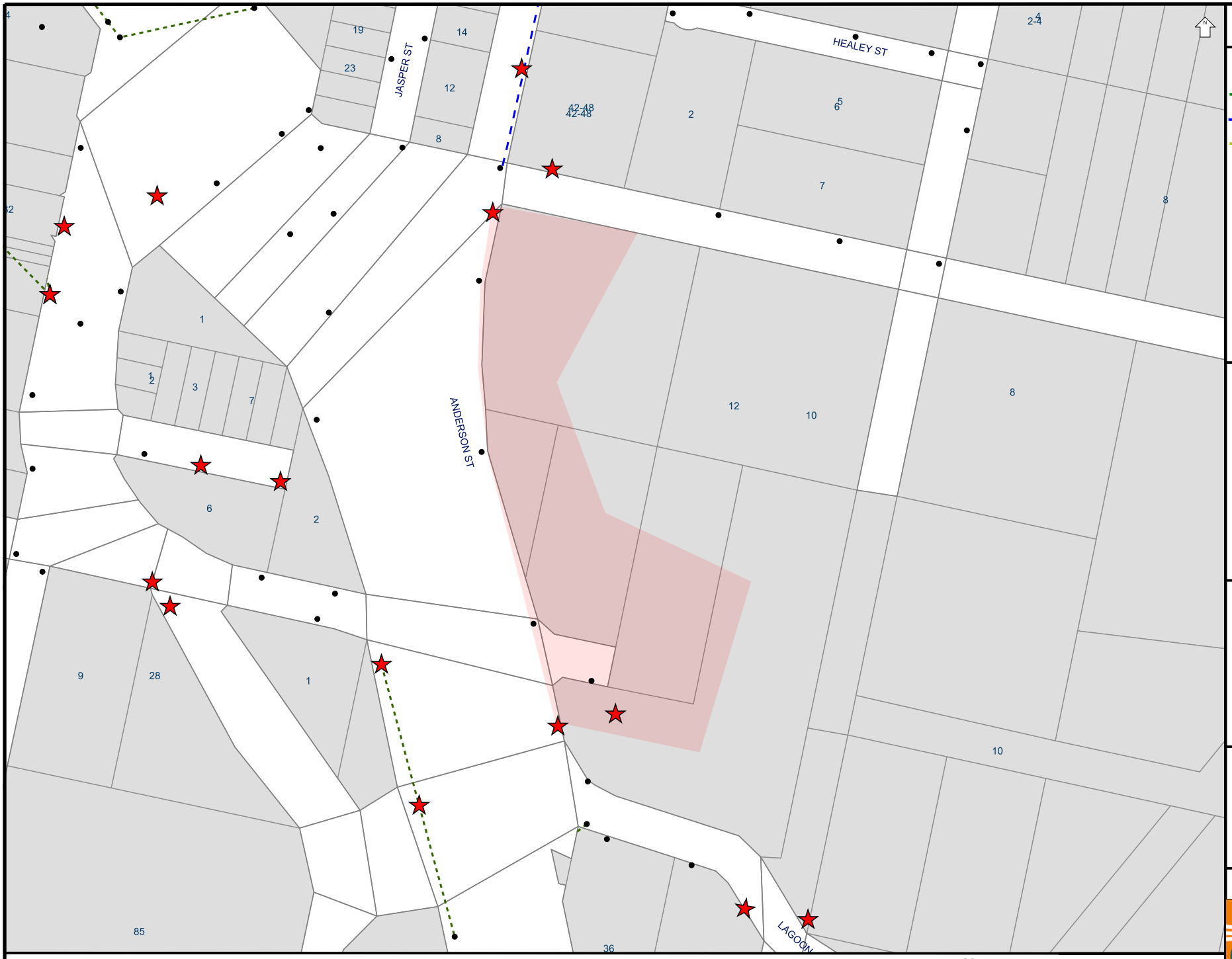
N

Scale 1:1,000

0 10 20 40 m

Plans generated 30/05/23 (valid for 28 days)

Plans generated by SmarterWX™ Automate



Overhead wires not shown
LOOK UP & LIVE!

LEGEND

- LV Underground Cable
- HV Underground Cable
- Underground Pipe
- Underground Earth or Wires
- Ground Substation
- Pole
- Cubicle
- Pit
- Area of Interest

Critical Assets

Contact Essential Energy on 13 23 91

- Zone Substation
- Underground Cable
- Underground Fibre

Proposed Works

- Area of proposed works

Proposed assets are shown as orange symbols

THE INFORMATION ON THIS MAP MAY NOT BE ACCURATE. If details are incorrect, please notify Essential Energy on 13 23 91 (or fax 1800 354 636)

ISSUE DATE: 30/05/2023

You must resubmit your request if you have not started work within 4 weeks of the 'Issue Date' above

A4 | SCALE: 1:2485

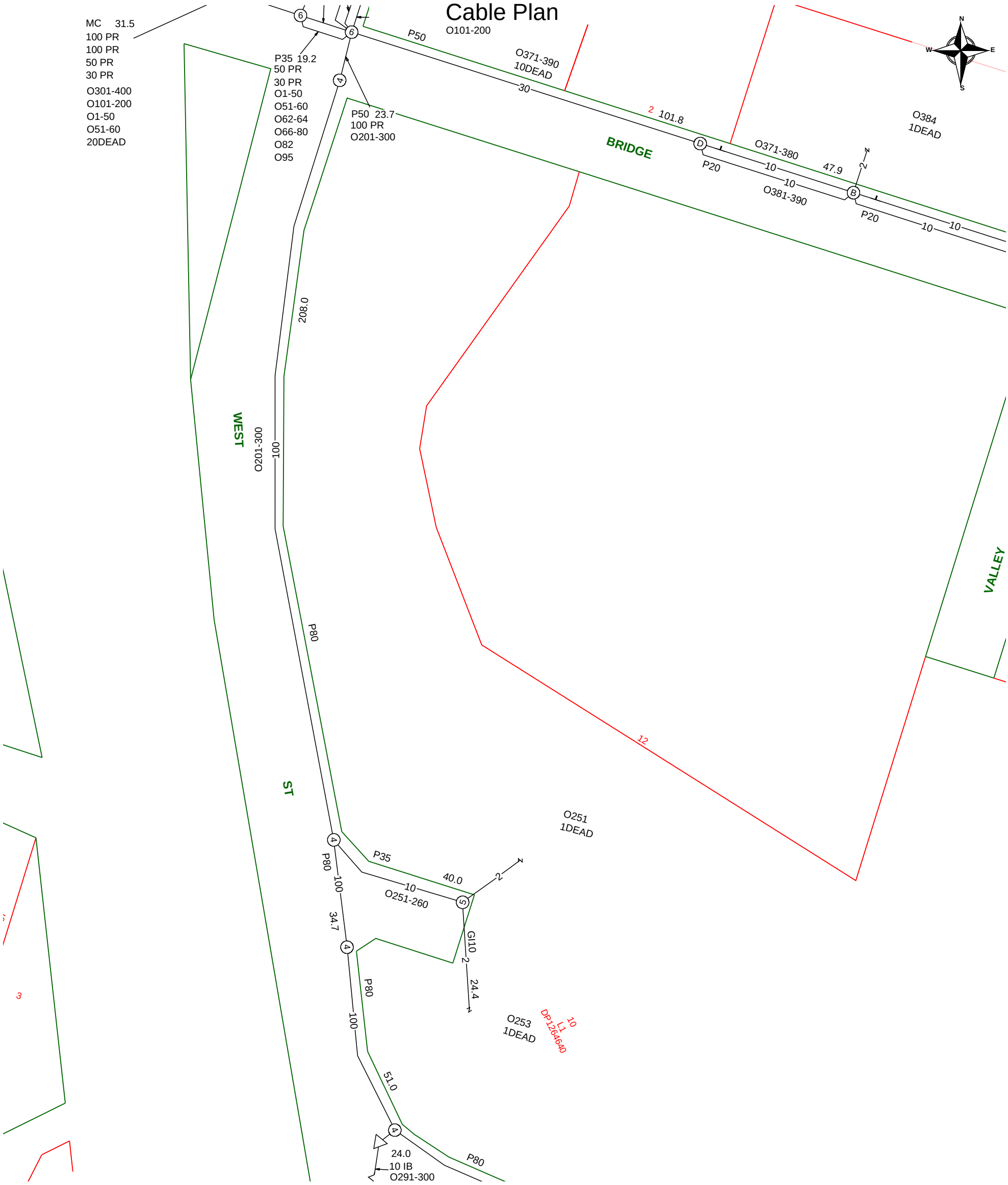
Job Number: 34310336 Sequence number: 225245303 Job location: 12 Bridge Street, Bega

Map Centre: 149° 49' 42.8", -36° 39' 59.1"

essential energy

Cable Plan

O101-200



Report Damage: https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment
Ph - 13 22 03
Email - Telstra.Plans@team.telstra.com
Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries

TELSTRA LIMITED A.C.N. 086 174 781

Generated On 30/05/2023 15:10:37

Sequence Number: 225245302

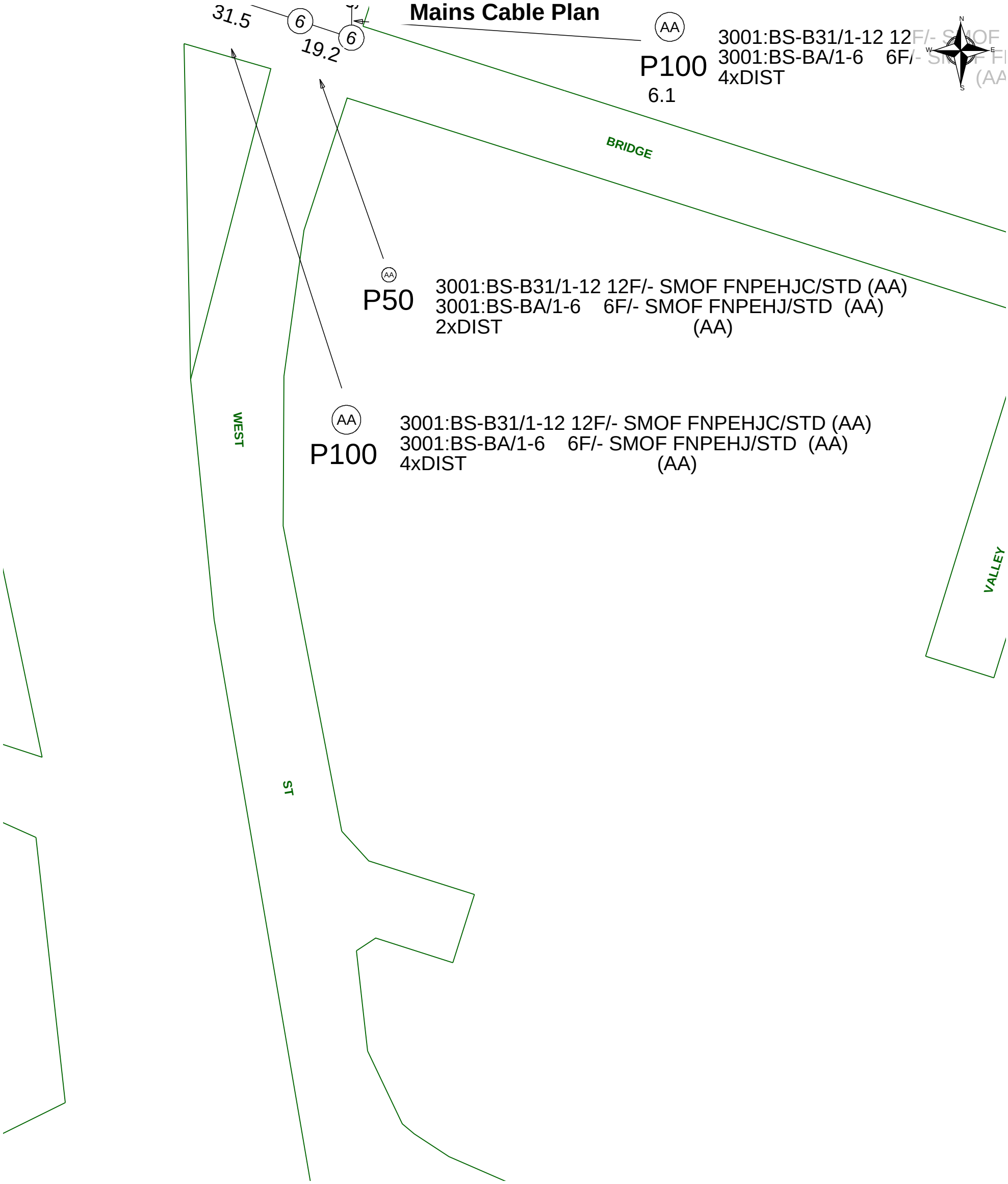
CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING
Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information.
As such,Telstra supplied location information is indicative only.Spatial accuracy is not applicable to Quality Level D.
Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it.
Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy.
Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work.
A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.

Mains Cable Plan



Report Damage: https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment
Ph - 13 22 03
Email - Telstra.Plans@team.telstra.com
Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries

TELSTRA LIMITED A.C.N. 086 174 781

Generated On 30/05/2023 15:10:39

Sequence Number: 225245302

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

WARNING
Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information.
As such,Telstra supplied location information is indicative only.Spatial accuracy is not applicable to Quality Level D.
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Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy.
Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work.
A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.

IT'S HOW WE CONNECT

OPENING ELECTRONIC MAP ATTACHMENTS -

Telstra Cable Plans are generated automatically in either PDF or DWF file types dependant on the site address and the size of area selected. You may need to download and install free viewing software from the internet e.g.

PDF Map Files (max size A3)

Adobe Acrobat Reader (http://get.adobe.com/reader/),

DWF Map Files (all sizes over A3)

Autodesk Viewer (Browser) (https://viewer.autodesk.com/) or

Autodesk Design Review (http://usa.autodesk.com/design-review/) for DWF files. (Windows)

Telstra DBYD map related enquiries

email - Telstra.Plans@team.telstra.com

1800 653 935 (AEST Business Hours only)

REPORT ANY DAMAGE TO THE TELSTRA NETWORK IMMEDIATELY

Report online - https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment

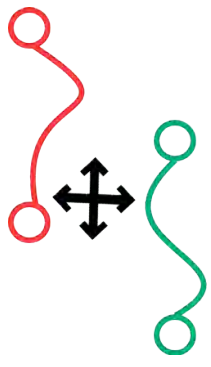
Ph: **13 22 03**

If you receive a message asking for a phone or account number say:

"I don't have one" then say "Report Damage" then press 1 to speak to an operator.

Telstra New Connections / Disconnections

13 22 00



Telstra asset relocation enquiries: 1800 810 443 (AEST business hours only).

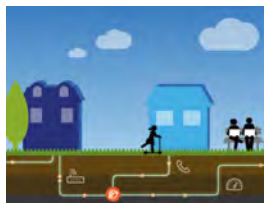
NetworkIntegrity@team.telstra.com

https://www.telstra.com.au/consumer-advice/digging-construction

Certified Locating Organisation (CLO)

https://dbydlocator.com/certified-locating-organisation/

Please refer to attached Accredited Plant Locator.pdf



Telstra Smart Communities
Information for new developments (developers, builders, homeowners)
https://www.telstra.com.au/smart-community

LEGEND

IT'S HOW WE CONNECT

For more info contact a Certified Locating Organisation or Telstra Plan Services 1800 653 935

Exchange
(Major Cable Present)

Footway Access Chamber
(can vary from 1-lid to 12-lid)

or — Pillar / Cabinet
(above ground / free standing)

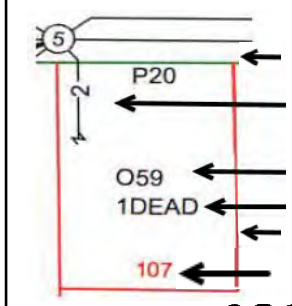
Above ground complex equipment housing (eg RIM)
Please Note: This equipment is powered by 240V Electricity

OC — Other Carrier Telecommunications Cable/Asset

Dist — Distribution cables in Main Cable ducts

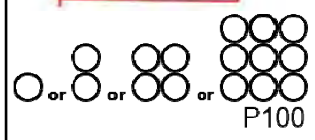
MC — Main Cable ducts on a Distribution plan

▲ — Blocked or damaged duct.

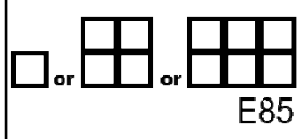


Roadside / Front Boundary
2 pair lead-in to property from pit in street 1

pair working (pair ID 059)
1 pair dead (i.e. spare, not connected)
Side / Rear Property Boundary
Property Number



Single to multiple round conduit
Configurations 1.2.4.9 respectively
(attached text denotes conduit type and size)



Multiple square conduit
Configurations 2, 4, 6 respectively
(attached text denotes conduit type and size)

Cable Jointing Pit
(number / Letter indicating Pit Type)

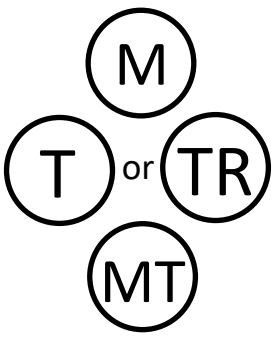
Elevated Joint
(above ground joint on buried cable)

Telstra Plant in shared Utility trench

Aerial Cable

Aerial Cable
(attached to joint Use Pole eg. Power)

Direct Buried Cable



Marker Post Installed

Buried Transponder

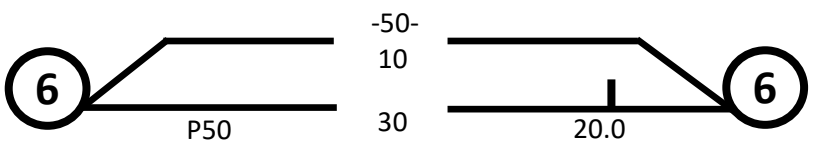
Marker Post, Transponder

Optical Fibre cable direct buried

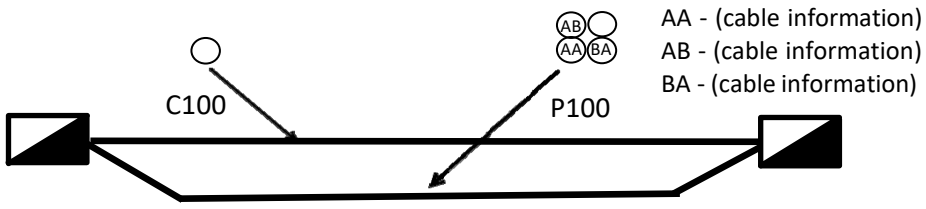
Some examples of conduit type and size:

A - Asbestos cement, P - PVC / Plastic, C - Concrete,
GI - Galanised iron, E - Earthenware
Conduit sizes *nominally* range from 20mm to 100mm
P50 50mm PVC conduit
P100 100mm PVC conduit
A100 100mm asbestos cement conduit

Some Examples of how to read Telstra Plans



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits. approximately 20.0m apart, with a direct buried 30-pair cable along the same route



Two separate conduit runs between two footway access chambers (manholes) approximately 245m apart A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Attachment D

Agency submissions

16 May 2023

TfNSW reference: STH07/01987/02

Bega Valley Shire Council
By Email: ESchindler@begavalley.nsw.gov.au
CC: council@begavalley.nsw.gov.au

Attention: Elizabeth Schindler

Scoping proposal to amend LEP to facilitate National Circulatory Centre – 10 Lagoon Street BEGA

Dear Elizabeth

Transport for NSW (TfNSW) is responding to the scoping proposal to facilitate the Bega National Circularity Centre referred on 18 April 2023.

TfNSW has reviewed the information and has no objection to the proposed changes in the scoping proposal, and provides points of consideration for the project moving forward in Attachment 1.

Discussion with TfNSW is strongly encouraged during the preparation of the Traffic Impact Assessment (TIA) due to the traffic volume generation and potential requirement for upgrades on the state road network.

If you have any questions, please contact Steven Yuan, Development Services Case Officer, on 02 9983 2596 or email development.south@transport.nsw.gov.au.

Yours faithfully

Steven Yuan
Development Services Case Officer, Development Services

Level 4, 90 Crown St (PO Box 477 2520) Wollongong NSW 2500
193-195 Morgan Street (PO Box 484) Wagga Wagga NSW 2650
ABN 18 804 239 602
transport.nsw.gov.au

Attachment 1

Scoping proposal to amend LEP to facilitate National Circulatory Centre – 10 Lagoon Street BEGA

Context

TfNSW notes for this scoping proposal:

- The key state road is Princes Highway;
- Council is seeking advice from TfNSW on a scoping proposal to amend the Bega Valley Local Environmental Plan 2013 (LEP) to add additional permitted uses so that all uses in Schedule 1 of the LEP will be permitted at the site (see Table 1 on Page 5 in **Attachment 2**. This will facilitate the development of the proposed National Circularity Centre on Lot 1 DP1264640);
- The National Circularity Centre will be funded with $14 million from the Regional Tourism Activation Fund Round 2 and a co-contribution of $5million. The development value is expected to be $19 million;
- The subject site has no frontage to Princes Highway. Access will be to and from Lagoon Street, which is a local road and provides the site with its only road frontage;
- The Princes Highway at this location falls under the Princes Highway Upgrade Program (PHUP);
- There are no details on the size of the National Circularity Centre or the expected trip generation or trip distribution at this stage of the development; and
- The Traffic Impact Assessment (TIA) will specify any road upgrades required and car parking requirements (see Page 10 in **Attachment 2**).

Considerations

- TfNSW will be primarily concerned with the effects on the safety and efficiency of the West Street/Princes Highway roundabout intersection, which is a high speed roundabout with a posted speed limit of 80km/h. TfNSW will require SIDRA modelling of this intersection to ascertain the pre-development and post-development performance, and to identify what measures, if required, will need to be implemented to ensure satisfactory performance post-development.

Our ref: DOC23/325536-2

Ms Elizabeth Schindler
Strategic Planner
Bega Valley Shire Council

By email: eschindler@begavalley.nsw.gov.au

Scoping Proposal – Amendment to *Bega Valley Local Environmental Plan 2013* - National Circularity Centre

Dear Ms Schindler

Thank you for the opportunity to comment on the scoping proposal for amendment to the *Bega Valley Local Environmental Plan* 2013 in relation to the proposed development of the National Circularity Centre.

The following has been reviewed in the preparation of this response:

- *National Circularity Centre, Proposed Amendment to Bega Valley Local Environmental Plan 2013, Scoping Report*, prepared by Zenith Town Planning, dated 14 April 2023.

We have reviewed the scoping proposal and prepared the following comments for Council to consider in relation to Aboriginal cultural heritage and environmental heritage matters.

Before finalising any draft Planning Proposal, the Council should be satisfied that all necessary heritage assessments have been undertaken and that any impacts have been sufficiently addressed. Council's assessment should include, but not be limited to a search of:

- the State Heritage Inventory, and
- the Aboriginal Heritage Information Management System.

These databases are available on Heritage NSW's website at:
environment.nsw.gov.au/topics/heritage/search-heritage-databases.

Aboriginal cultural heritage considerations under the *National Parks and Wildlife Act 1974*

The conservation and protection of Aboriginal cultural heritage values is strongly supported. This is consistent with Local Planning Direction 3.2, Heritage Conservation, that requires planning proposals to address the conservation of Aboriginal objects.

It is noted that the scoping proposal report proposes a Due Diligence assessment be undertaken. We advise Council that an assessment under the *2010 Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* is not considered an archaeological assessment or substitute for a comprehensive Aboriginal cultural heritage assessment report. The due diligence process does not adequately assess the impacts of a planning proposal on Aboriginal cultural heritage as required by Local Planning Direction 3.2. This is because without Aboriginal community

consultation, the extent of the impacts on Aboriginal objects and heritage values through the planning proposal and future development is not known.

An Aboriginal cultural heritage assessment and consultation with the Aboriginal community, needs to occur early in the planning process to identify Aboriginal cultural heritage values that may occur within the proposal area and establish how this may constrain future development.

It is recommended that a comprehensive Aboriginal cultural heritage assessment is needed and should inform this planning proposal. Early assessment provides the best opportunity to identify and protect Aboriginal cultural heritage values. It also provides certainty to all parties about any future Aboriginal cultural heritage management requirements. It is important that any management, mitigation and conservation mechanisms are developed at the planning proposal stage to help mitigate the cumulative impact of development in this region on Aboriginal cultural heritage.

Further information about preparing an Aboriginal cultural heritage assessment is available on our website: https://www.environment.nsw.gov.au/topics/heritage/apply-for-heritage-approvals-and-permits/aboriginal-objects-and-places.

State heritage and historic archaeological considerations under the *Heritage Act 1977*

Based on the information provided, we have reviewed the planning proposal against our records and do not believe that there are any identified impacts on items listed on the State Heritage Register. In relation to historic archaeology, if the proponent has not already undertaken their own investigation to assess the likelihood of 'relics' and any subsequent management required under the *Heritage Act 1977*, they should do so.

Local heritage considerations under the *Environmental Planning and Assessment Act 1979*

As Local heritage is protected under the *Environmental Planning and Assessment Act 1979* and under *Bega Valley LEP*, Bega Valley Shire Council is the consent authority, and the assessment and consideration of impacts on Local heritage items rests with Council.

If you have any questions about the advice above, please contact Ruth Berendt, Senior Assessments Officer at Heritage NSW by email at ruth.berendt@environment.nsw.gov.au or by phone on 02 4927 3118.

Yours sincerely

Rochelle Johnston

Rochelle Johnston
Senior Manager, Major Projects
Heritage NSW
Department of Planning & Environment
As Delegate of the Heritage Council of NSW

17 May 2023

NSW RURAL FIRE SERVICE

Bega Valley Shire Council
PO Box 492
BEGA NSW 2550

Your reference: Project 0123
Our reference: SPI20230419000052

ATTENTION: Elizabeth Schindler

Date: Tuesday 23 May 2023

Dear Sir/Madam,

Strategic Planning Instrument
Draft LEP – Draft Proposal
The scoping document seeks to amend the Bega Valley Local Environmental Plan 2013 to add additional permitted uses to facilitate development of a National Circularity Centre

I refer to your correspondence dated 18/04/2023 inviting the NSW Rural Fire Service (NSW RFS) to comment on the above Strategic Planning document.

The NSW RFS has considered the information submitted and provides the following comments.

- The Planning Proposal report shall included an assessment in regard to Section 4.3 of the Ministerial Directions issued in accordance with 9.1 of the *Environmental Planning & Assessment Act 1979* and the relevant sections of Chapter 4 - Strategic Planning of *Planning for Bush Fire Protection 2019*. This shall include (but is not limited to) an assessment of the proposed future land uses and their compliance with *Planning for Bush Fire Protection 2019*.

For any queries regarding this correspondence, please contact Anna Jones on 1300 NSW RFS.

Yours sincerely,

Martha Dotter
Manager Planning & Environment Services
Built & Natural Environment

Postal address

NSW Rural Fire Service
Locked Bag 17
GRANVILLE NSW 2142

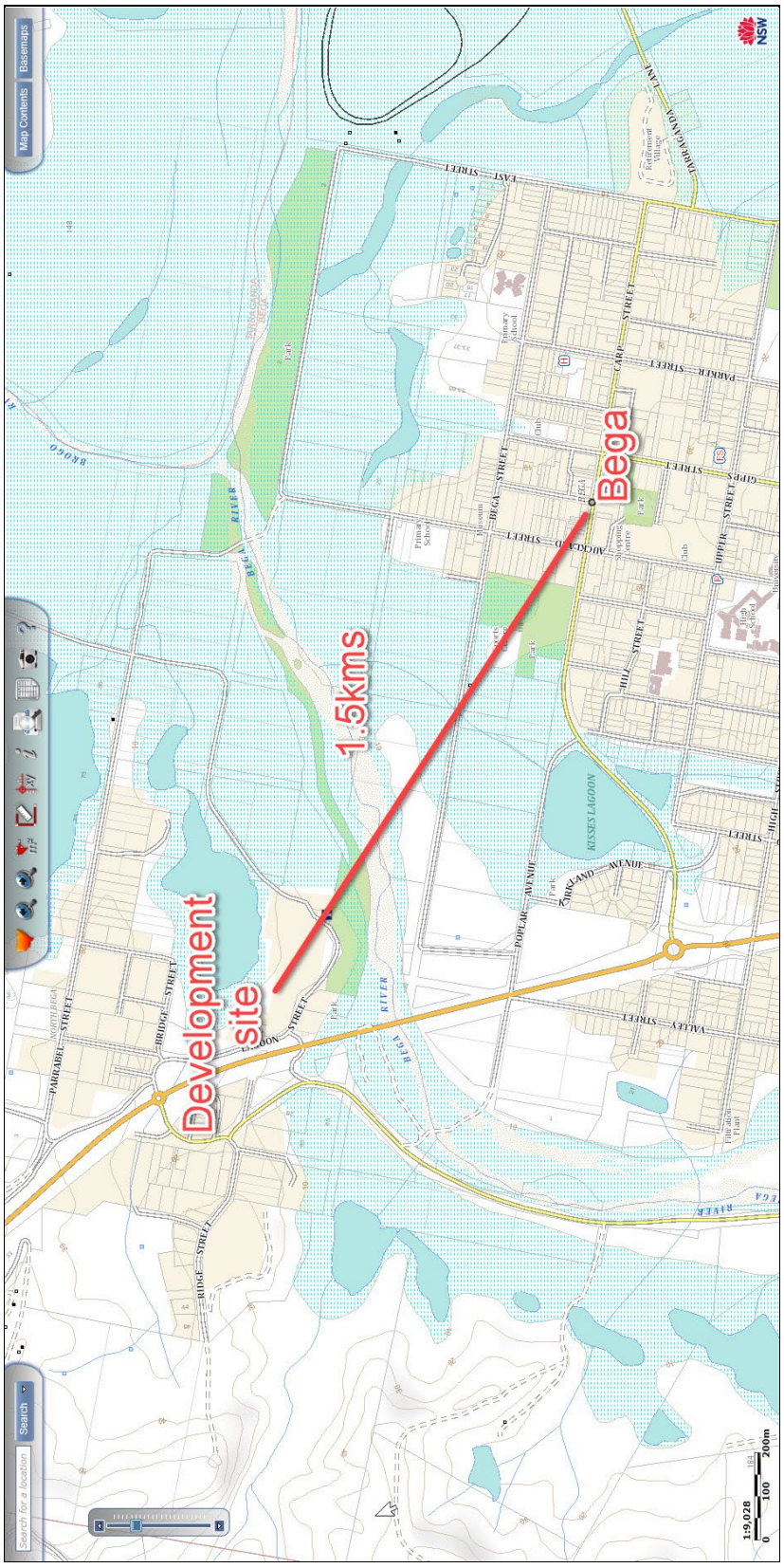
Street address

NSW Rural Fire Service
4 Murray Rose Ave
SYDNEY OLYMPIC PARK NSW 2127

T (02) 8741 5555
F (02) 8741 5550
www.rfs.nsw.gov.au

Attachment E

Locality map


Bega
1.5kms
Development site
Map Contents
Basemaps
Search
Search for a location
1:9,028
0
100
200m

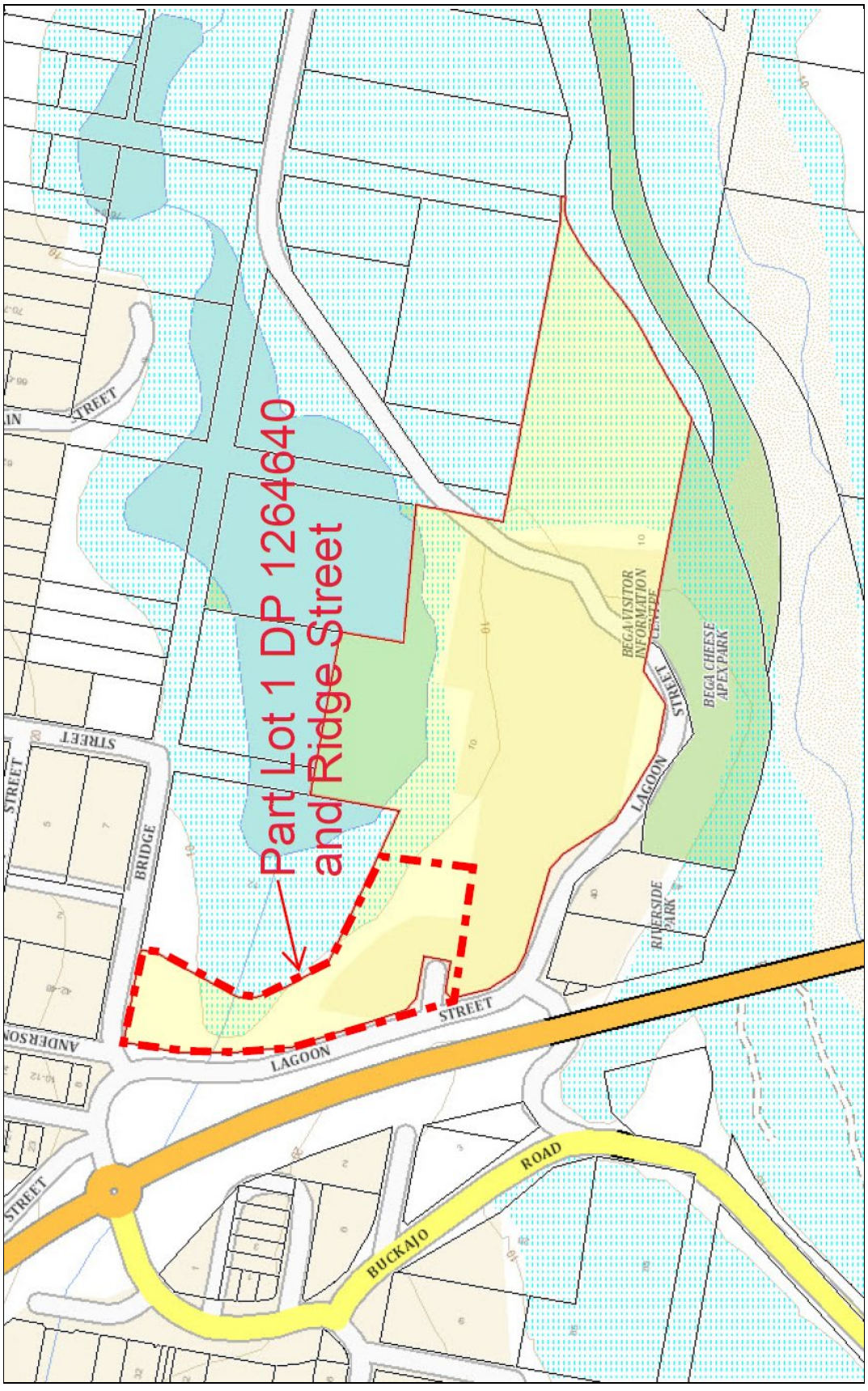
Attachment F

Aerial photograph


DP 150225
DP 1125232
DP 758076
DP 750190
DP 1264640
DP 1073332
DP 746307
DP 244697
DP 398797
DP 586139
DP 1039757
DP 137240
DP 854998
DP 445927
DP 743531
DP 1273619
Map Contents
Basemaps
Search
Advanced Search
1:2,257

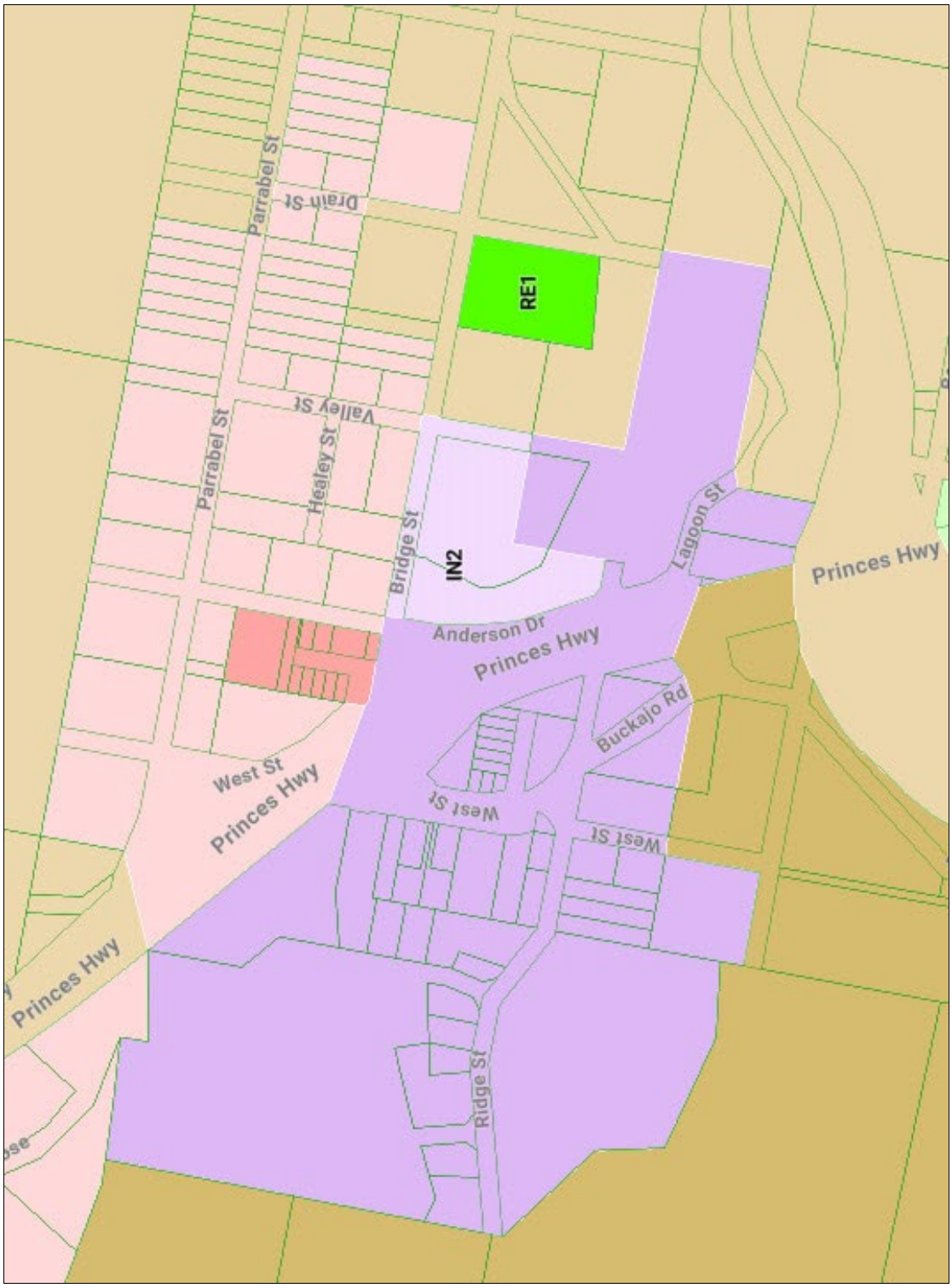
Attachment G

Map of the proposed development area


Part Lot 1 DP 1264640
and Ridge Street
BRIDGE STREET
LAGOON STREET
BUCKAJO ROAD
BEGA VISITOR INFORMATION CENTRE
BEGA CHEESE APEX PARK
RIVERSIDE PARK

Attachment H

Map of land zoning



NB: Land zoned IN1 General Industrial and IN2 Light Industrial in Bega Valley LEP 2013 was rezoned to C4 General Industrial on 26 April 2023

Attachment I

Flood Impact and Risk Assessment

Bega Circularity Centre

Flood Impact and Risk Assessment

Contact Information

Rhelm Pty Ltd
ABN : 55 616 964 517
50 Yeo Street
Neutral Bay NSW 2089
Australia

Lead Author:
Luke Evans
contact@rhelm.com.au

Document Control

Ver	Effective Date	Description of Revision	Prepared by:	Reviewed by:
00	November 2023	Draft for client comment	LRE	ERM
01	November 2023	Updated Draft for client review	ERM	
02	November 2023	Updated Draft	LRE	ERM
03	December 2023	Final	LRE	ERM

Prepared For: Regional Circularity Cooperative Limited

Project Name: Bega Circularity Centre FIRA

Rhelm Reference: J1937

Document Location: RR-01-1937-03- Bega Centre FIRA

Executive Summary

This National Circularity Centre Flood Impact and Risk Assessment (FIRA) has been prepared for the Regional Circularity Cooperative Limited to define the existing flood behaviour in the catchment and to assess, and address, if necessary, the potential impacts arising from the future development of the site.

Development Proposal

Bega Group, with funding support from the NSW Government, is proposing to develop a portion of their North Bega site with a new community information and function centre. The site is currently vacant. It has previously been filled to a level comparable to the adjacent Lagoon Street levels.

The proposed development is comprised of:

- Heritage, history, and education exhibits;
- Restaurant;
- Tourist Information;
- Gift Shop;
- Museum;
- Function space; and,
- Associated storage, facilities, and parking.

Flood Risk

The study area is affected by both riverine and local catchment flooding. Existing flood behaviour from both mechanisms has been assessed in this FIRA.

The site is affected by backwater flooding from the Bega River. In riverine flood events, flood water fills the local depression to the east of the site. As flood levels rise, flood water spills west from this depression across the site. Further increases in flood levels result in the overtopping of first Lagoon Street, and then the Princes Highway. The site is first inundated in the 1% AEP by riverine flooding. Depths over the site remain modest in the 0.2% AEP (generally 0.3 – 0.4m). However, the PMF levels are significantly higher, with depths over the site increasing to 6.5m.

Flooding driven by rainfall on the local catchment in North Bega results in a single primary flowpath that runs from the pasture and open space regions in the west, through the timber yard in the industrial area, to the culverts under the Princes Highway. The highway effectively creates a detention basin. Between the highway and Lagoon Street is another storage area formed by Lagoon Street. There is overtopping on Lagoon Street at the low point when the storage capacity is exceeded, as well as at a second low point at the southern end of the site. In the 1% AEP, this overtopping is limited to the low point in the road. In the PMF, the overtopping is more extensive, with flow occurring across the full length of Lagoon Street adjacent to the site. In the 1% AEP, all flow across the site is classed as H1 hazard. In the PMF event, hazard increases H2 across the site, with some minor areas of H3 at the centre of the flow path across the site.

Response to Flood Risk

A raised building pad was determined to be the primary means by which flood risk could be managed on site as this design approach seeks to provide a level of flood protection for the proposed development for both local catchment and riverine flood events.

The raised pad is proposed to be set at the FPL of 16.4mAHD, which was determined to be the riverine 1% AEP flood level plus 0.5m. The riverine 1% AEP had a higher level across the site than the local catchment 1% AEP and was therefore adopted as the basis for the FPL.

For local flood events, the raised building pad was sufficient to prevent local catchment flooding across the site for all events, up to and including the PMF event.

The landform incorporated an overland flowpath to allow the conveyance of local catchment flows through the site. The flowpath was located within a proposed vegetated area of the site design and incorporated the adjacent car park.

Overland flow that overtops Lagoon Street is diverted to an overland flowpath provided through a vegetated region of the site. In the 1% AEP event, flow through this overland flow path is minor with depths of up to 0.03m and a hazard classification of H1. All flows are fully contained within the vegetated corridor of the proposed design. In the PMF event, depths through the overland flowpath increase to 0.7m, and the hazard increases to H4.

In achieving flood mitigation through site raising, no significant flood impacts result on adjacent properties.

Emergency Response

The subject site is affected by both riverine flooding and local catchment flooding. These two flooding mechanisms present different risk profiles, and consequently require different emergency responses.

The emergency response strategy for the site is based on:

- Evacuation for riverine flood events, due both to the available warning time, and the significant flood depths and flood hazard present across the site in the PMF event; and,
- Shelter in place for local catchment floods, due to the flood immunity provided by the raised pad, and the short duration of this flood mechanism.

Residual Risk

It is important to note that, despite the proposed site design to reduce flood risk, the site has a residual risk in events greater than the 1% AEP event. Significant residual risk in present in the Bega River PMF event with flood depths over the site of 5.8m. These depths cannot be dealt with through site design and will remain present for the life of the development. This residual risk applies to both risk to life and risk to property.

The emergency response arrangement proposed in this FIRA have been developed to address the residual risk to life.

Flood risk to the property and its content will always remain. Whilst these risks can be mitigated to some extent by the incorporation of flood resilient building techniques, the fact remains that events larger than a 1% AEP event may cause some degree of damage to the property and contents, and a PMF event is expected to result in significant damage to the structure and loss of contents. This risk needs to be considered when making decisions on the suitability of building materials and the storage / display of irreplaceable art or cultural objects within the proposed development.

Policy and Planning Review

Within the study area, development is largely controlled through the Bega Valley Local Environmental Plan 2013 (SLEP 2013) and Bega Valley Development Control Plan (DCP) 2013.

In addition to Council Plans, the Minister for Planning can issue Ministerial Directions to issues directions to planning authorities about the preparation of planning schemes and amendments to planning schemes.

A review of the proposed development has been undertaken to determine if the proposed development is in accordance with these flood-related development controls. The review found that the proposed development was aligned with all flood related development controls and the requirements of the Local Planning Direction 4.1.

Table of Contents

Figures

Tables

1 Introduction

The National Circularity Centre Flood Impact and Risk Assessment (FIRA) has been prepared for the Regional Circularity Cooperative Limited to define the existing flood behaviour in the catchment and to assess, and address, if necessary, the potential impacts arising from the future development of the site.

This report has been prepared to provide the flood assessment associated with a Planning Proposal for the site, and in doing so considers Local Planning Direction 4.1 Flooding (March 2022).

1.1 Study Area

The study area, comprising the site and its catchment and adjoining areas, is in North Bega, immediately north of the Princes Highway crossing of the Bega River. The site lies on Lagoon Street, bounded by Bridge Street to the north and Ridge Street to the south.

The site is currently vacant. It has previously been filled to a level comparable to the adjacent Lagoon Street levels.

South-east of the site is an industrial zone managed by Bega Cheese. West of the site, on the opposite side of the Princes Highway is a larger industrial precinct comprised of several businesses, including a timber yard, car repairs, steel supplies, plumbing supplies, and a motorcycle dealership.

The site is adjacent to the Bega River and is subject to flooding from both local catchment flows and riverine flooding.

The study area is shown in **Figure 1-1**.

Figure 1-1 Study Area

1.2 Study Background and Context

Bega Group, with funding support from the NSW Government, is proposing to develop a portion of their North Bega site with a new community information and function centre. The development is comprised of:

- Heritage, history, and education exhibits;
- Restaurant;
- Tourist Information;
- Gift Shop;
- Museum;
- Function space; and,
- Associated storage, facilities, and parking.

A preliminary rendering of the proposed development is shown in **Figure 1-2**.

A Planning Proposal was submitted for the development, at which stage comments were raised by Department of Planning and Environment (DPE) as to potential flood risks to occupants and infrastructure. The Planning Proposal was subsequently rejected due to uncertainties about the level of flood risk and its management.

To investigate these concerns, this Flood Impact and Risk Assessment (FIRA) was prepared.

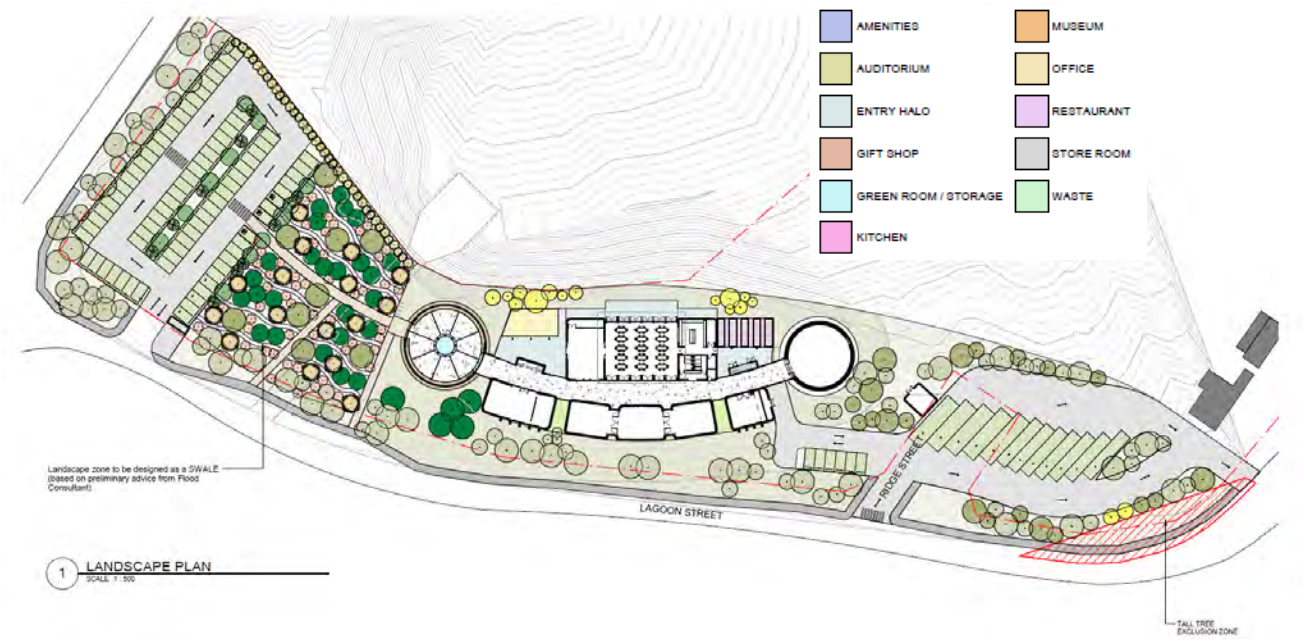


Figure 1-2 Proposed Development (Cox Architecture, 10/07/2023, drawing DA-2001)

1.3 Study Objectives

This FIRA has been prepared in line with the requirements set out in *Flood Impact and Risk Assessment: Flood Risk Management Guide LU01*, prepared by DPE as an accompanying guide to the recently

released Flood Risk Management Manual (State of NSW and Department of Planning and Environment, 2023).

The guideline states that the aim of a FIRA is to:

…support a development proposal to identify and analyse:

- *The impacts of the proposed development on the flood risk to the existing community*
- *The impacts and risks of flooding on the development and its users*
- *How these impacts can be managed to minimise the growth in risk to the community due to the development.*

To demonstrate that the design appropriately addresses and manages flood risk across the site for the purpose of a Planning Proposal, the outcomes and recommendations from this FIRA have been assessed against the requirements of Ministerial Direction 4.1, as well as relevant Council planning controls.

2 Review of Available Data

2.1 Previous Studies and Reports

The Bega and Brogo Rivers Floodplain Risk Management Study and Plan (Cardno, 2018) covers the study area. Modelling was undertaken using RAFTS for the hydrological model and TUFLOW for the hydraulic model.

The study defined flood behaviour for the 10%, 5%, 2%, 1% and 0.2% AEP events and the PMF event.

The study has been used to define the existing riverine flood behaviour, and the TUFLOW model used to assess the flood performance of the proposed development scenario. The only change made to the prior model was the incorporation of revised site survey, to incorporate filling that had been undertaken since the Bega and Brogo River FRMSP had been undertaken. All other aspects of the model remained as per the FRMSP.

No prior studies have been undertaken for local catchment flooding and overland flow.

2.2 Survey Information

2.2.1 LiDAR Data

A 1m DEM and point cloud data was available for the study area via the Foundation Spatial Data Framework's online portal, ELVIS (Elevation and Depth Foundation Spatial Data), available from http://elevation.fsdf.org.au/.

While the 1m DEM is of sufficient resolution for most modelling requirements, the point cloud data can be useful to ensure that terrain features such as retaining walls, or items with sub-metre sizes are appropriately included in the terrain model.

2.2.2 Ground Survey

Ground survey was collected across the site on 17 June 2021, and supplied to Rhelm on 25 August 2023 (73265CD.dwg).

The survey included ground level contours across the site, lot boundaries, drainage easements, and existing building footprints adjacent to the site.

2.3 Drainage Information

Drainage data for the major culverts was supplied on 31 August 2023, with data being provided for:

- Culvert locations and levels, as provided on the Construction Certificate plans (dated 11 August 2010); and,
- Photographs of culvert inlets and outlets, collected on 31 August 2023. Photographs of the inlets of the highway culvert and site culverts banks are shown in **Figure 2-1**.

2.4 GIS Data

Digitally available information such as cadastral boundaries, watercourses, land zoning, vegetation communities and drainage easements were sourced from NSW SIX Maps (https://maps.six.nsw.gov.au/clipnship.html).

2.5 Design Information

A preliminary landscape plan was provided by COX Architecture on 7 September 2023.

The plan is shown below in **Figure 2-2**.

Figure 2-1 Culvert Photographs (Highway inlet left; site inlet, right)

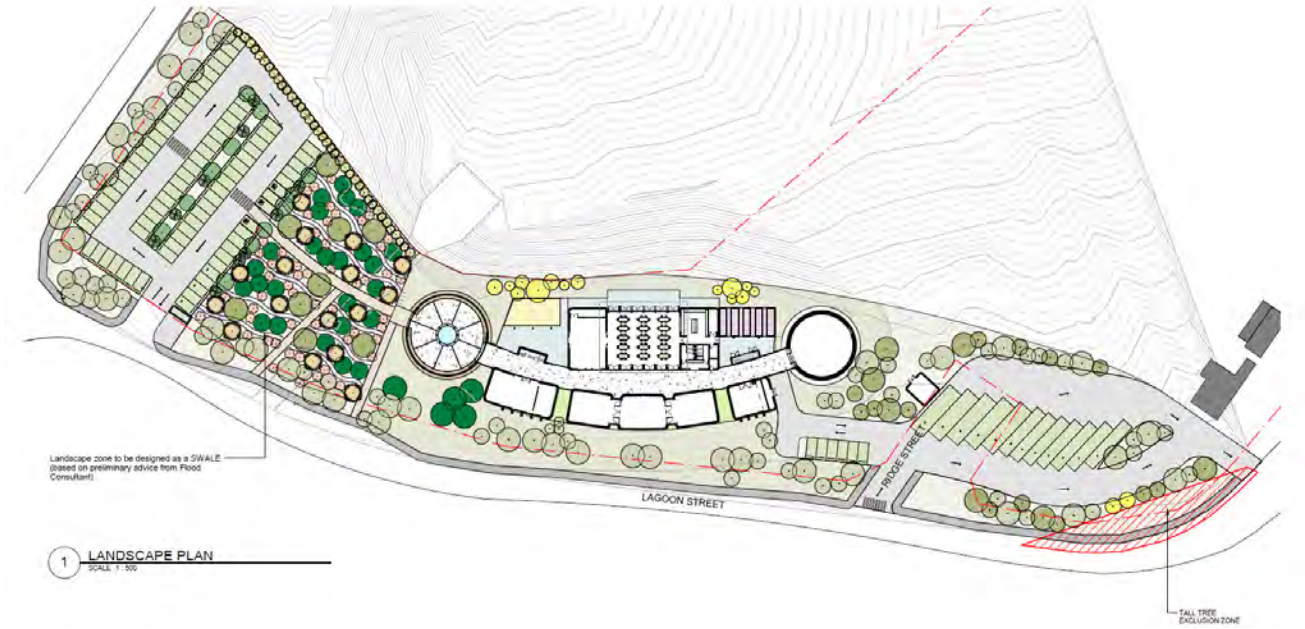


Figure 2-2 Proposed Development (Cox Architecture, 10/07/2023, drawing DA-2001)

3 Local Flood Model Development

3.1 Modelling Approach

The site is affected by flooding from both the Bega River and the local catchment.

The flood behaviour of the Bega River is defined by the *Bega River Floodplain Risk Management Study* (Cardno, 2018). Data and models from the Floodplain Risk Management Study has been used to define the flood behaviour arising from riverine flooding.

To assess the local catchment flood behaviour, a local hydrological and hydraulic model has been developed. The development of these models is described in the following sections.

3.2 DEM Development

A Digital Elevation Model (DEM) has been developed for input into the local catchment hydraulic model. This DEM is based on the survey data collected, including the LiDAR and ground survey.

One of the important components in the development of hydraulic models is to ensure that key hydraulic controls and features are defined appropriately within the DEM. This includes features such as embankment crest details, road levels where roads overtop etc. These have been incorporated where appropriate with breaklines and other features in TUFLOW.

The DEM developed for the local catchment model is shown in **Figure 3-1**. The DEM indicated that the upstream catchment of the site is relatively modest, with a total upstream catchment area of 47ha.

There is a ridge line immediately north of the site, the diverts northern runoff around the site. South of the site, there is a tributary of the Bega River, which collects the majority of runoff from the western catchment. There is a small ridge immediately west of the catchment. The only runoff that reaches the site is from rainfall that falls between this small ridge, and the larger ridge to the north.

3.3 Hydrological Model Development

Hydrological modelling for the local catchment area has been completed using the hydrological model WBNM. The upstream subcatchment delineation is shown in **Figure 3-2**.

The hydrology has been based on Australian Rainfall and Runoff 1987 (ARR2087), as this was the rainfall methodology adopted in the Bega and Brogo Rivers Floodplain Risk Management Study and allows for consistency between the two.

Inputs to the model and the data sources for those inputs are summarised in **Table 3-1**.

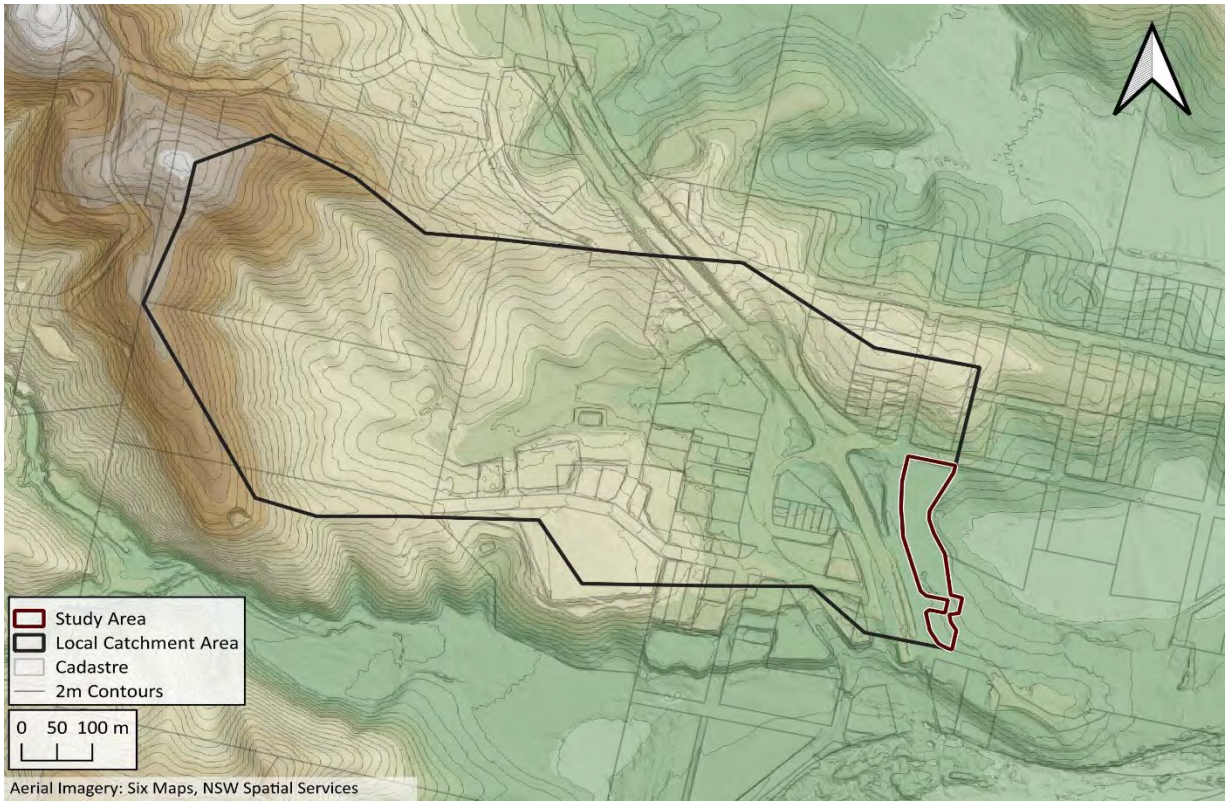


Figure 3-1 Study DEM

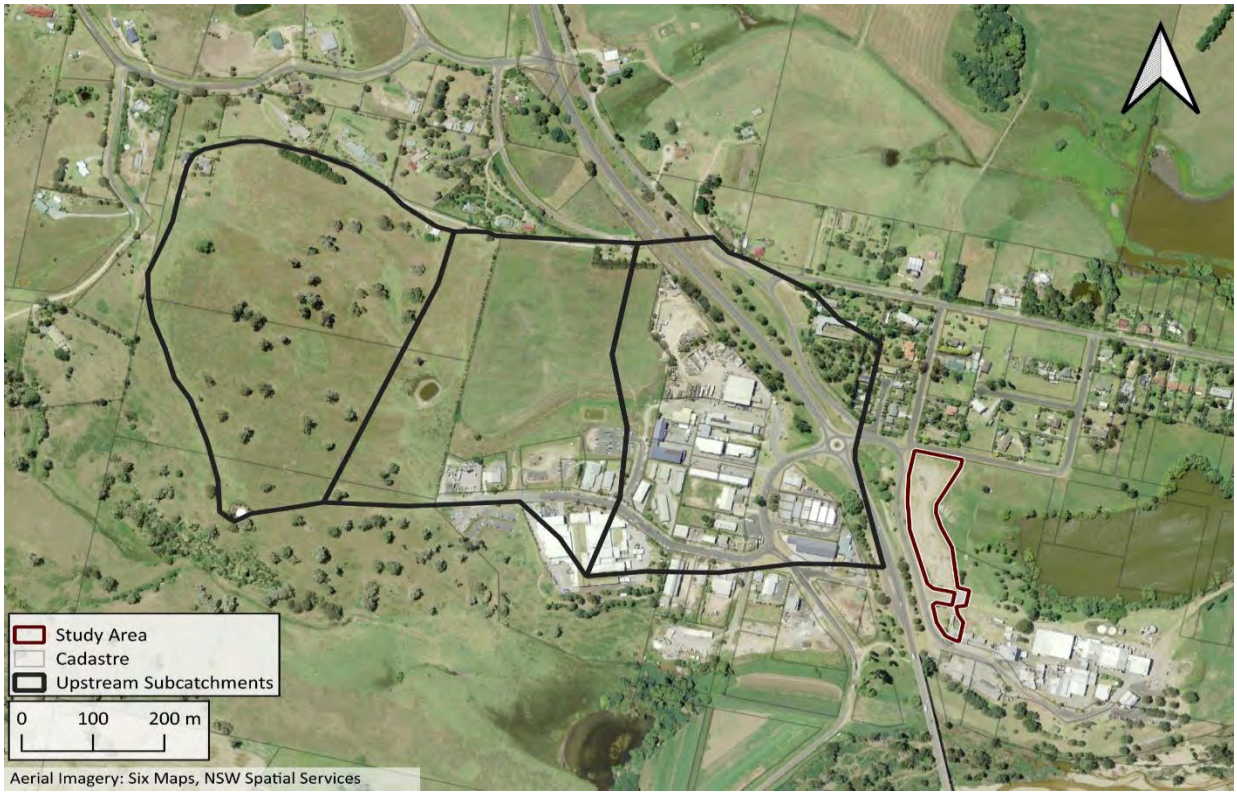


Figure 3-2 WBNM Upstream Subcatchments

Table 3-1 Hydrological Model Input Data

Parameter	Data Source
Sub-catchment extent and area	LiDAR data is available for full catchment and was used for this mapping for the base case local catchment modelling.
Percentage impervious	Percentage impervious areas are largely a factor of development intensity and were determined from aerial imagery. High resolution aerial imagery has been sourced from NearMap (September, 2023). Percentage impervious rates were assumed to be: • 95% for industrial land uses; • 90% for road reserves; • 60% for residential lots; and, • 1% for open space land uses.
Roughness and Runoff Routing	Roughness parameters influence how quickly runoff occurs in a sub-catchment. Routing refers to the transfer of flows from one sub-catchment to another. WBNM manages both these factors through a single model parameter, 'C'. WBNM guidance is that unless site specific calibration data is available, then the 'C' parameter should be set at 1.6. We have adopted this value for the local catchment modelling, as site specific calibration data is no available.
Rainfall losses	Rainfall losses have been adopted as per the wider Bega and Brogo River Floodplain Risk Management Study and Plan to ensure consistency between the studies. These values are: • Initial Loss = 20mm / 2mm (pervious / impervious) • Continuing Loss = 2.5mm / 0mm (pervious / impervious)

3.4 Hydraulic Model Development

Hydraulic modelling was undertaken in TUFLOW. Model features are illustrated in **Figure 3-3**, and discussed in detail below.

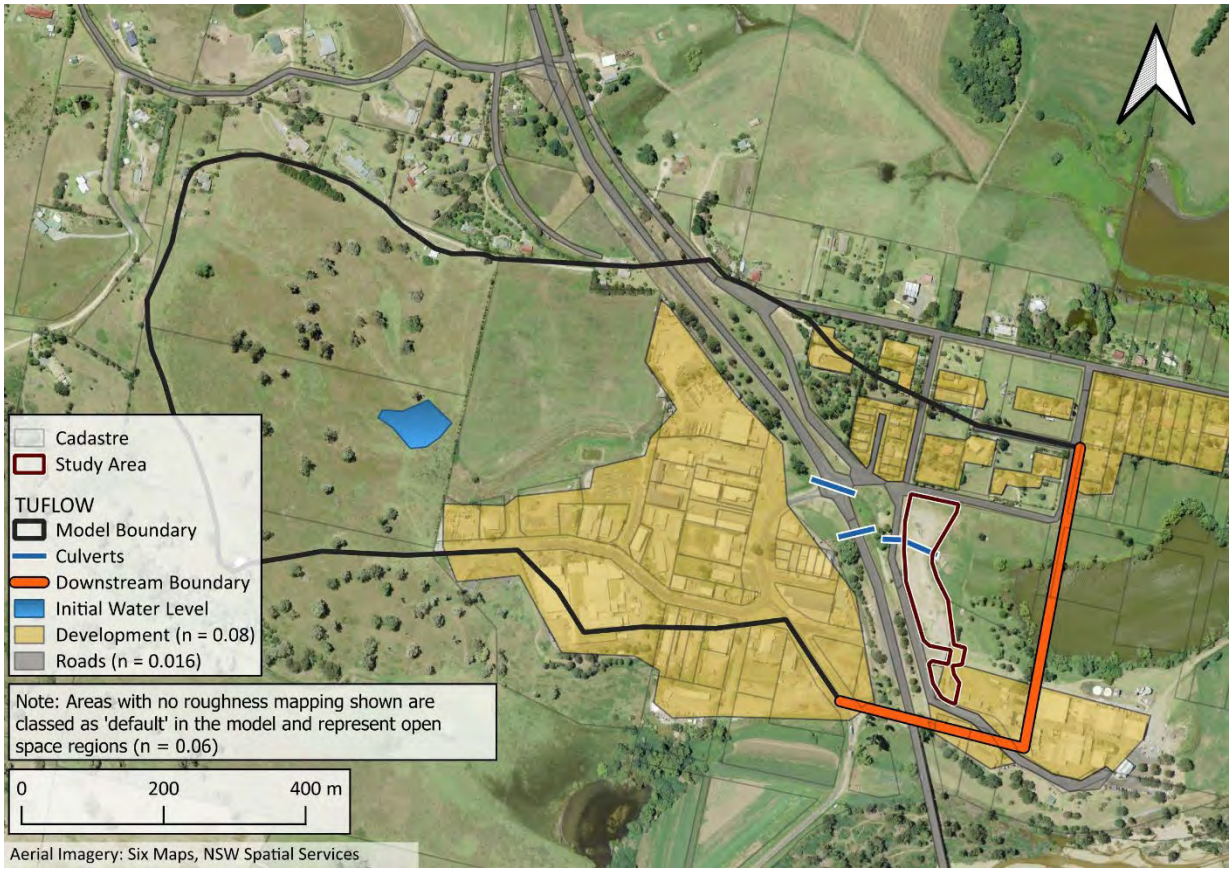


Figure 3-3 TUFLOW Model Layout

3.4.1 Model Area

The full upstream catchment area has been included in the hydraulic model. This was feasible due to the relatively small size of the catchment.

3.4.2 Grid Cell Resolution

The study area required a grid cell resolution fine enough to appropriately define flood risk. A grid cell of 2 metres was adopted which provided a reasonable balance between run times and representation of flood behaviour.

3.4.3 Buildings

Buildings have been incorporated into the model by lot-averaged roughness for developed areas. This approach was adopted to remain consistent with the Bega and Brogo Rivers Floodplain Risk Management Study which utilised the same methodology.

3.4.4 1D Components

Major culverts have been included in the model, specifically:

- 3 x 1m diameter pipes under the roundabout on the Princes Highway;
- A smaller single 0.15m diameter pipe under the highway south of the roundabout;
- 3 x 1m diameter pipes, transitioning to 2 x 1.2m pipes under the study site.

Stormwater drainage has not been incorporated into the model. This approach provides a conservative estimate of overland flooding, as it assumes that the stormwater network is fully blocked.

3.4.5 Blockage

Blockage rates for the culverts was determined based on the guidelines in ARR2019.

A summary of the blockage rates assumed for each culvert are provided in **Table 3-2**.

It is noted that blockage assumptions have the potential to significantly alter the flood behaviour of the site.

Blockage sensitivity testing was undertaken (refer **Section 5.6**) examining:

- A fully blocked scenario;
- A fully unblocked scenario; and,
- A critical blockage scenario, with blockage applied to the downstream culverts only.

Table 3-2 Adopted Blockage Rates

Culvert	Blockage Risk from ARR2019	1% AEP Blockage Rate	PMF Blockage Rate
Princes Highway Culverts (3 x 1m)	High	100%	100%
Princes Highway Relief Culvert (0.15m)	High	100%	100%
Upstream site culvers (3 x 1m)	Medium (1% AEP) High (PMF)	50%	100%

3.4.6 Roughness

Roughness values and extents were taken from the Bega and Brogo Rivers Floodplain Risk Management Study. The values adopted are summarised in **Table 3-3**.

Table 3-3 Adopted Roughness Values

Land Use	Manning's 'n'
Open space	0.06
Medium Vegetation	0.06
Dense vegetation	0.18
Roads / Carparks	0.016
Development	0.08

3.4.7 Inflows

Inflows were applied to the model via SA polygons which apply flows to the lowest cell within the polygon. The polygons used were as per the subcatchment breakdown shown in **Figure 3-2**.

Inflow hydrographs were taken from the WBNM model.

Hydrographs for the critical durations for the 10% AEP, 1% AEP and PMF immediately upstream of the site are shown in **Figure 3-4**.

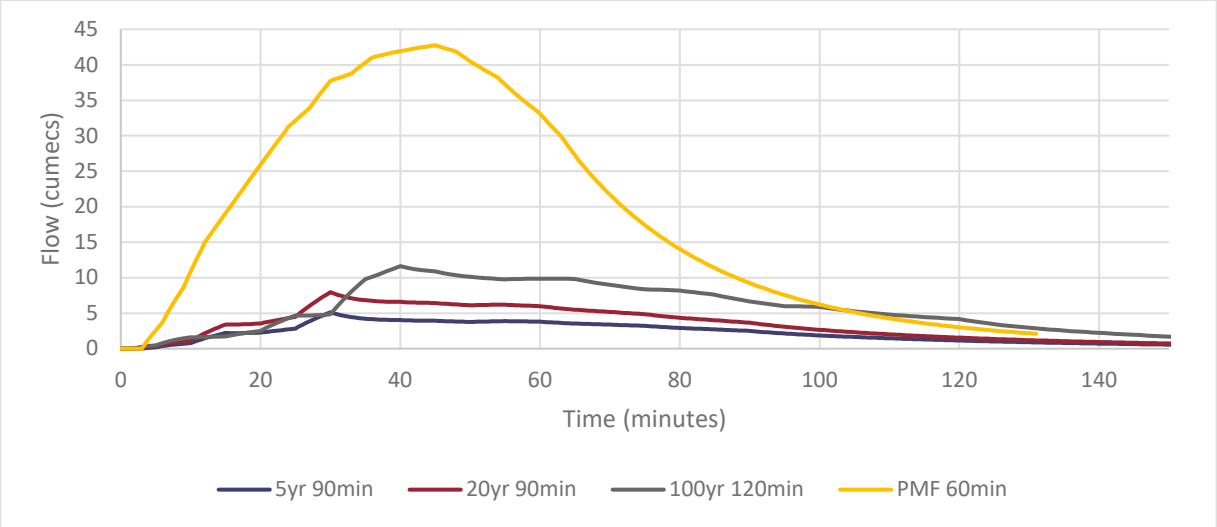


Figure 3-4 Plot of total hydrographs immediately upstream of the site

3.4.8 Downstream Boundary Conditions

The downstream boundary of the model runs along the eastern and southern boundaries of the TUFLOW model. The eastern boundary is the major outlet. The smaller boundary on the southern edge of the model is to allow flows running along the edge of the Princes Highway to discharge from the model.

3.4.9 Initial Water Levels

A single farm dam was identified in the upper reaches of the local catchment. An initial water level of 29.2mAHD was adopted for this dam, which was the level of the dam embankment, and ensures that the dam is at full capacity at the start of the flood events.

3.5 Climate Change

Climate change has not been explicitly included in the models. However, modelling has been undertaken using the ARR87 rainfall methodology, in line with the adopted Bega and Brogo Rivers FRMSP (Cardno, 2018). Council's draft Flood Risk Policy (2023) considers the use of ARR87 a suitable proxy for 2100 rainfall increases.

Furthermore, the adopted FMRSP demonstrated that a sea level rise of 0.9m only resulted in a 0.01m change in peak levels at Bega in the 1% AEP event.

As such, the models used in the study may be considered to appropriately allow for 2100 climate conditions.

4 Existing Flood Behaviour

The study area is affected by both riverine and local catchment flooding. Existing flood behaviour from both mechanisms are discussed below.

4.1 Existing Flood Behaviour – Riverine

The site is affected by backwater flooding from the Bega River. In riverine flood events, flood water fills the local depression to the east of the site. As flood levels rise, flood water spills west from this depression across the site. Further increases in flood levels result in the overtopping of first Lagoon Street, and then the Princes Highway.

A long section through the site, incorporating the existing site filling, is shown in **Figure 4-1** along with peak design event water levels from the Bega and Brogo Rivers FRMSP.

A flood extent map showing the 2%, 1% and 0.2% AEP and PMF riverine flood extents for the existing scenario is shown in **Figure 4-2**.

The results show that the site is first inundated in the 1% AEP by riverine flooding. Depths over the site remain modest in the 0.2% AEP (generally 0.3 – 0.4m). However, in the PMF, there is a significant increase in flood levels, with depths over the site increasing to 6.5m.

The hazard across the site is driven by these flood depths, as velocities are less than 0.5m/s for all events including the PMF, due to the backwater nature of the flood behaviour.

For the 1% AEP and 0.2% AEP, flood hazard is typically low (H1 and H2). The hazard increases to H6 in the PMF due to the significant depth.

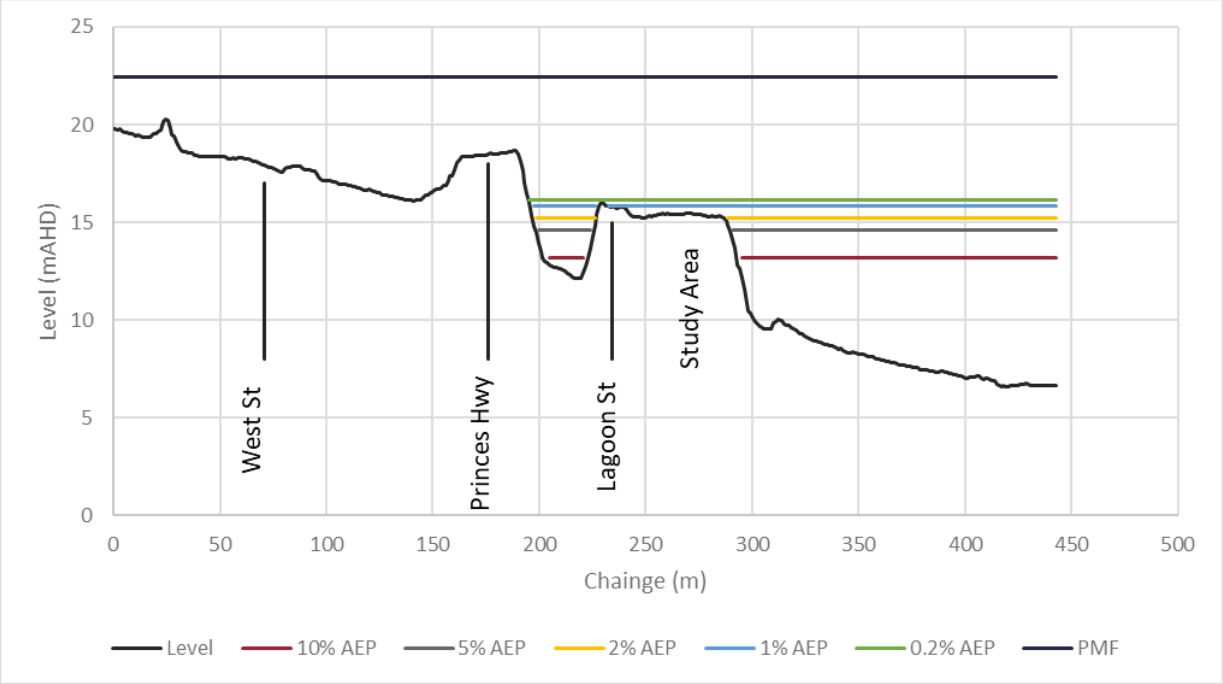


Figure 4-1 **Site Long Section with Riverine Flooding**

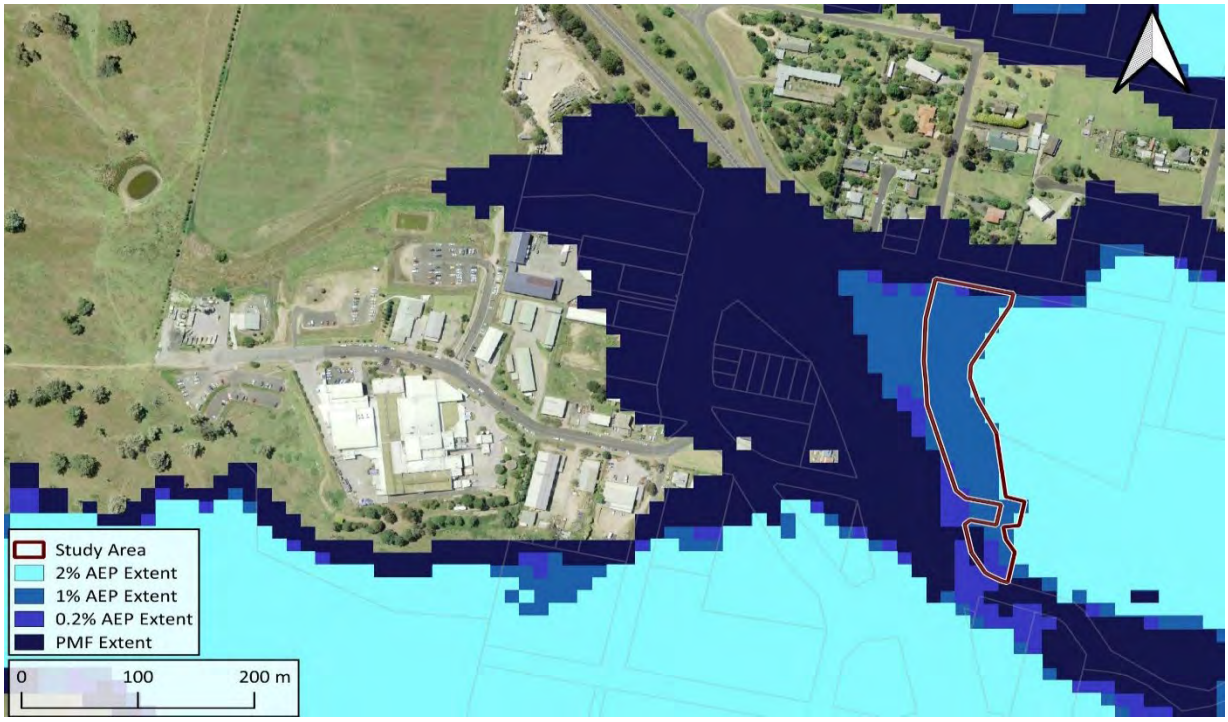


Figure 4-2 Existing Scenario Riverine Flood Extents

4.2 Existing Flood Behaviour – Local Catchment

The local catchment model was run for the 1% AEP and PMF events. Peak depths and flood hazard categories for the 1% AEP and PMF events in the exiting scenario are shown below in **Figure 4-3** to **Figure 4-6**.

The overall behaviour of the two events was similar. There was a single primary flowpath that runs from the pasture and open space regions in the west, through the timber yard in the industrial area, to the culverts under the Princes Highway.

The highway effectively creates a detention basin, with both events showing a large storage area upstream of the highway. The ponding in this storage region results in overtopping of West Street, the access route to the industrial precinct. This behaviour is compounded by the blockage assumptions, though storage in these regions still occurs if the culverts are assumed to be fully unblocked (refer **Sections 3.4.5** and **5.6**).

Between the highway and Lagoon Street is another storage area formed by Lagoon Street. There is overtopping on Lagoon Street at the low point when the storage capacity is exceeded, as well as at a second low point at the southern end of the site. In the 1% AEP, this overtopping is limited to the low point in the road. In the PMF, the overtopping is more extensive, with flow occurring across the full length of Lagoon Street adjacent to the site.

In the 1% AEP, all flow across the site is classed as H1 hazard. H2 hazard flow occurs on the highway, whilst H5 hazard occurs in the basins, driven by the flood depth.

In the PMF event, hazard increases H2 across the site, with some minor areas of H3 at the centre of the flow path across the site. Hazard on the highway increases to H4, and regions of the upstream basins experience H6 flooding, again driven by flood depth.

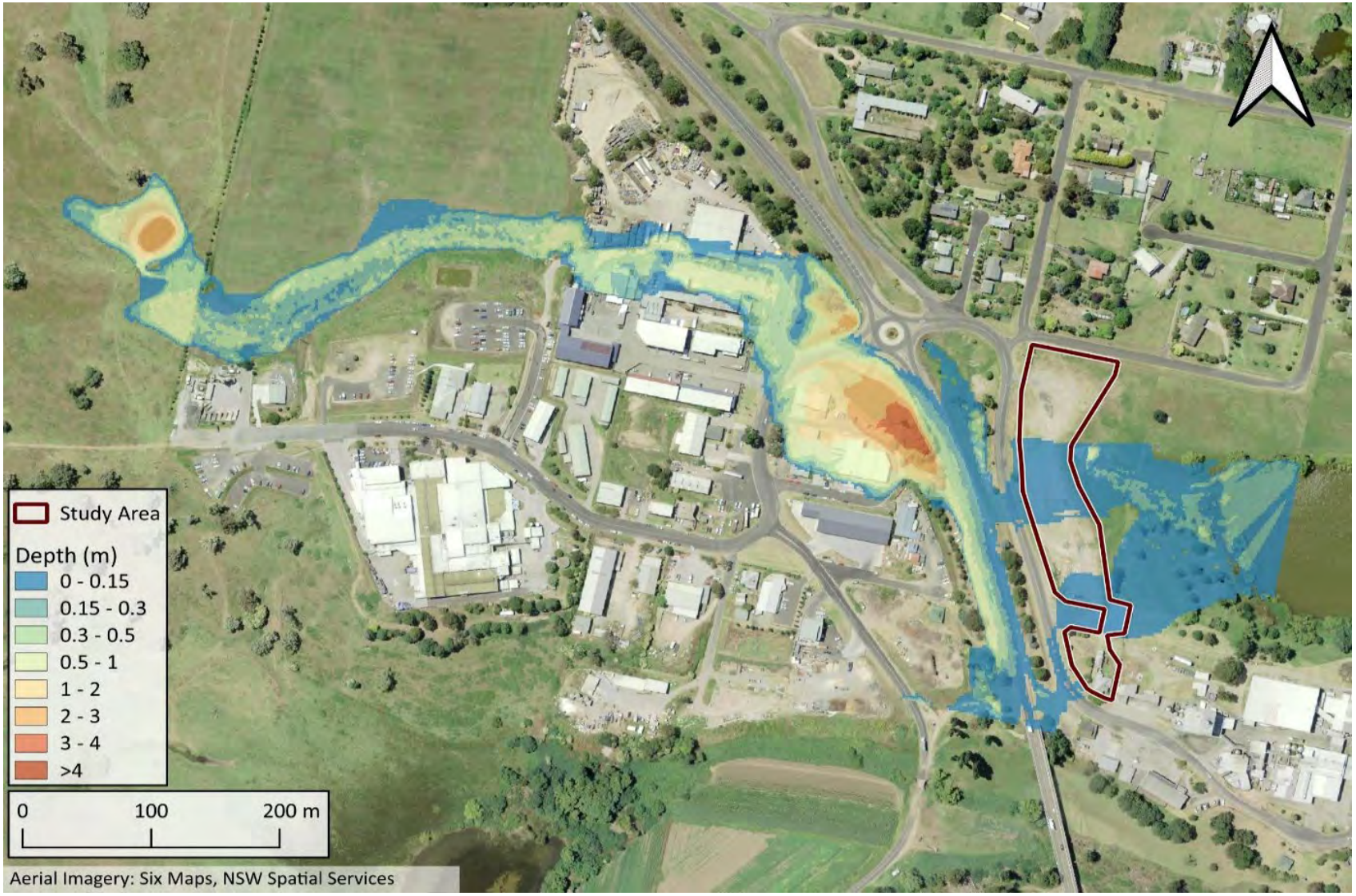


Figure 4-3 Local Catchment Existing 1% AEP Flood Depth

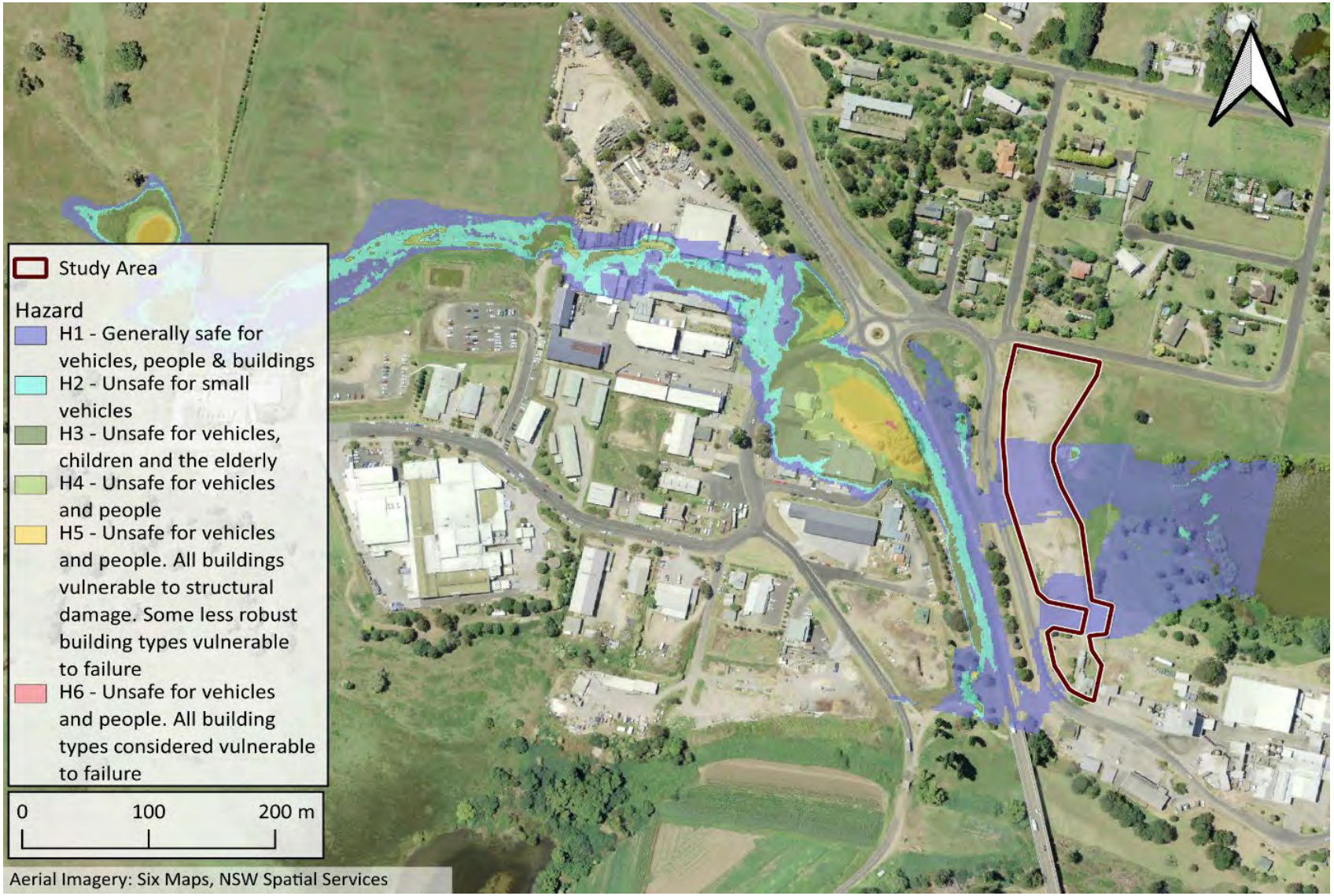


Figure 4-4 Local Catchment Existing 1% AEP Flood Hazard

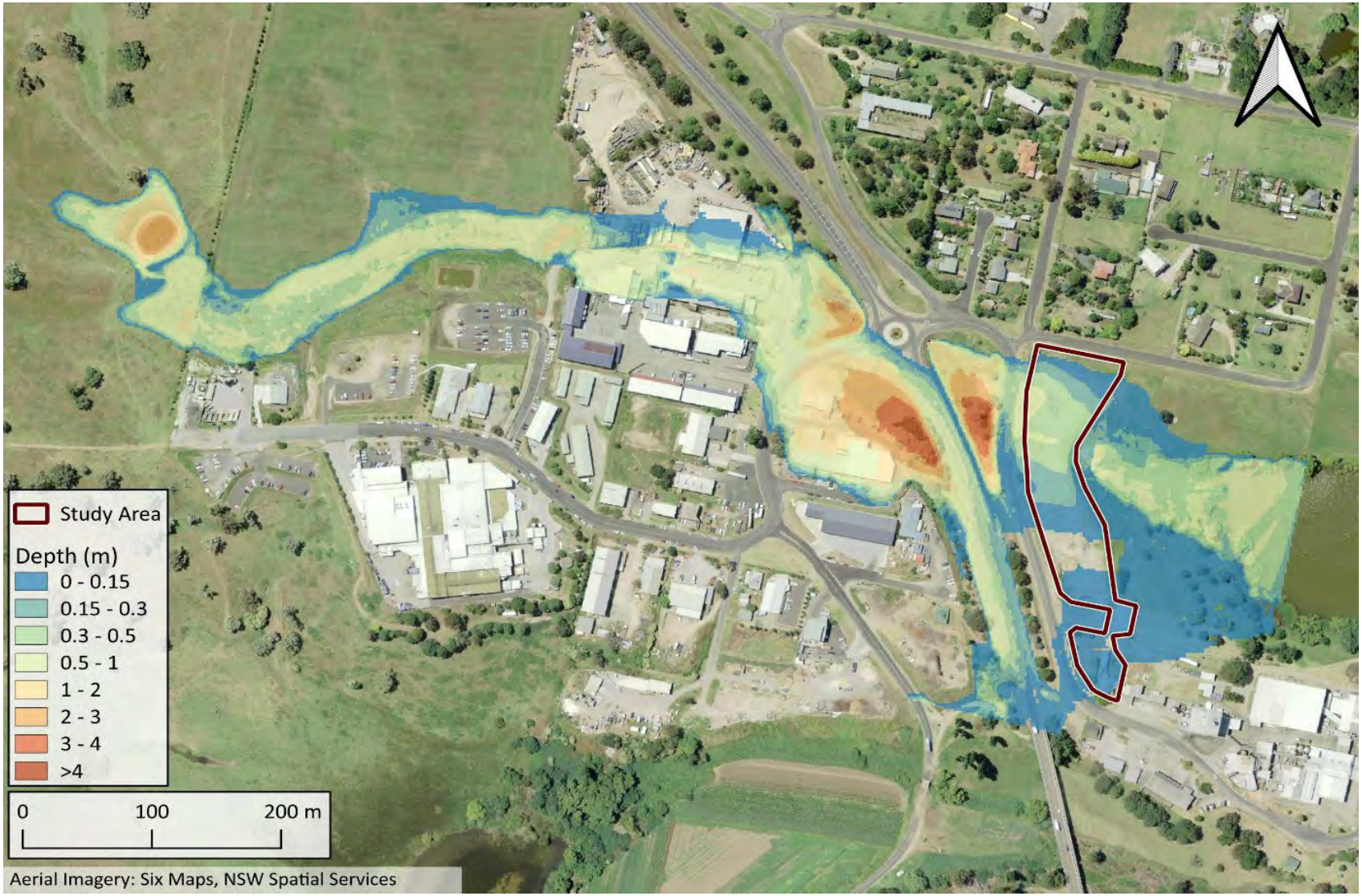


Figure 4-5 Local Catchment Existing PMF Flood Depth

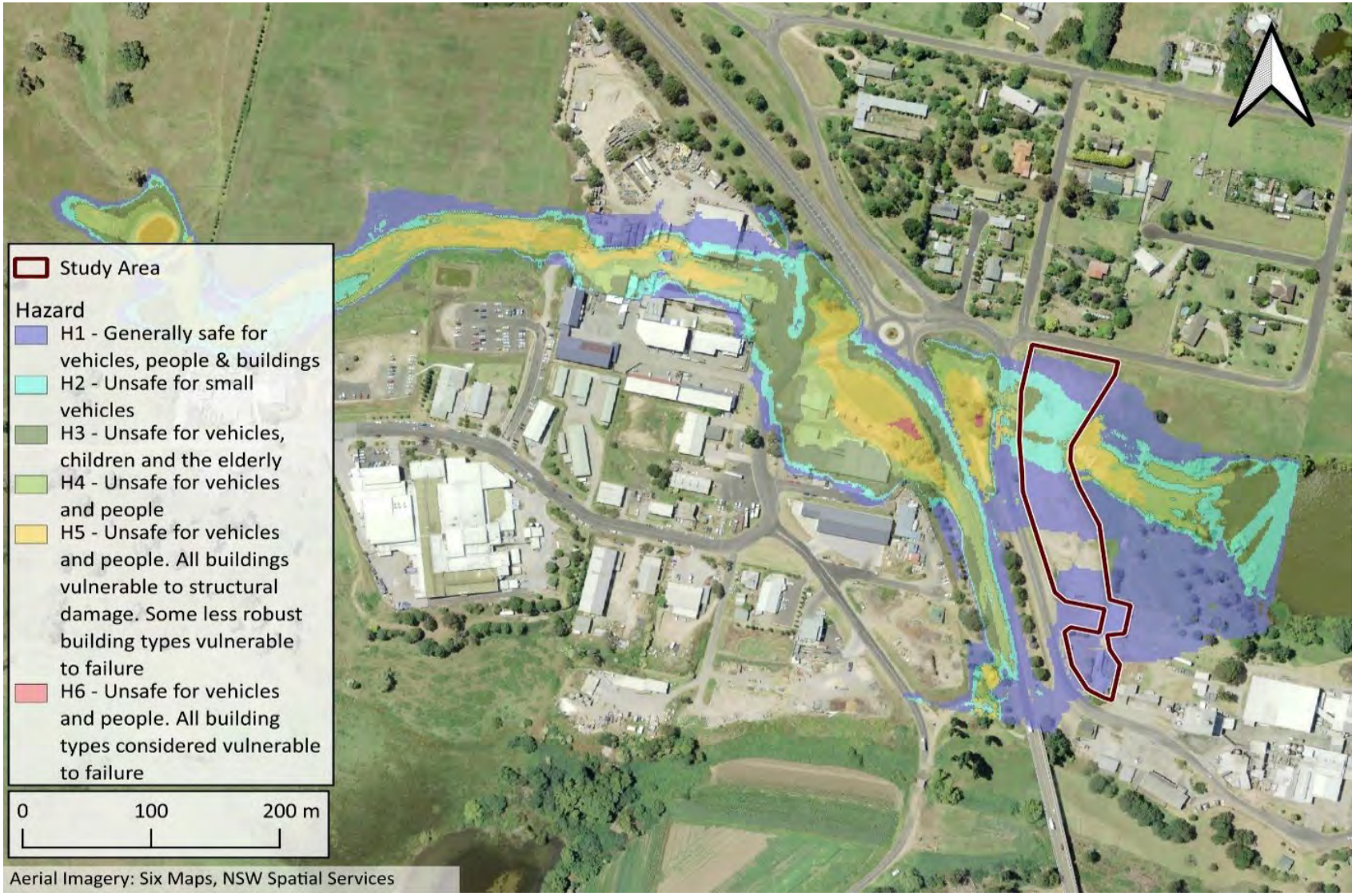


Figure 4-6 Local Catchment Existing PMF Hazard

5 Developed Flood Behaviour

5.1 Proposed Developed Landform

A raised building pad was determined to be the primary means by which flood risk could be managed on site as this design approach seeks to provide a level of flood protection for the proposed development for both local catchment and riverine flood events.

The raised pad was set at the FPL of 16.4mAHD, which was determined to be the riverine 1% AEP flood level plus 0.5m. The riverine 1% AEP had a higher level across the site than the local catchment 1% AEP and was therefore adopted as the basis for the FPL.

The landform incorporated an overland flowpath to allow the conveyance of local catchment flows through the site. The flowpath was located within a proposed vegetated area of the site design and incorporated the adjacent car park.

The proposed building pad is illustrated in **Figure 5-1** and **Figure 5-2**.

The proposed building pad was modelled in both the riverine and local catchment model. The behaviour and flood impacts are discussed below

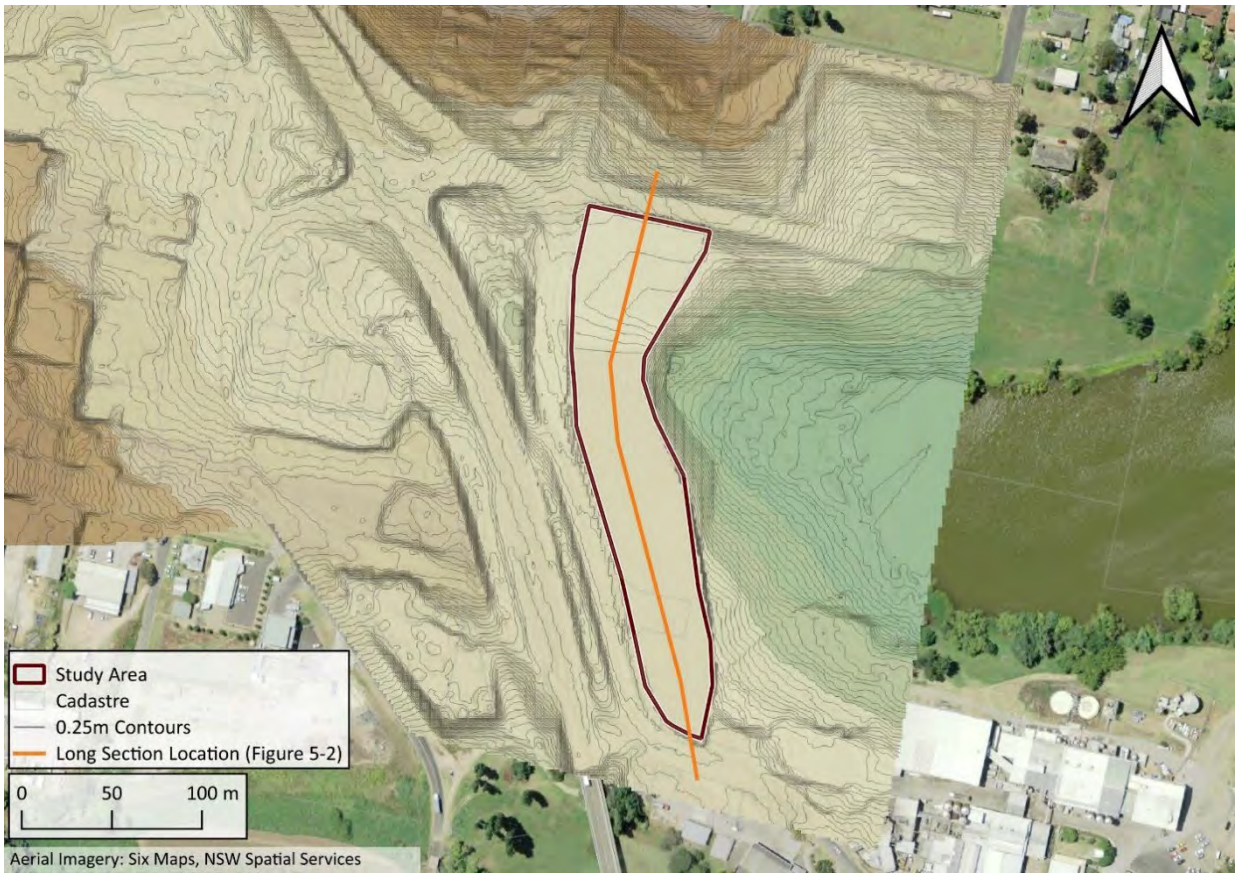


Figure 5-1 Proposed Building Pad – Plan

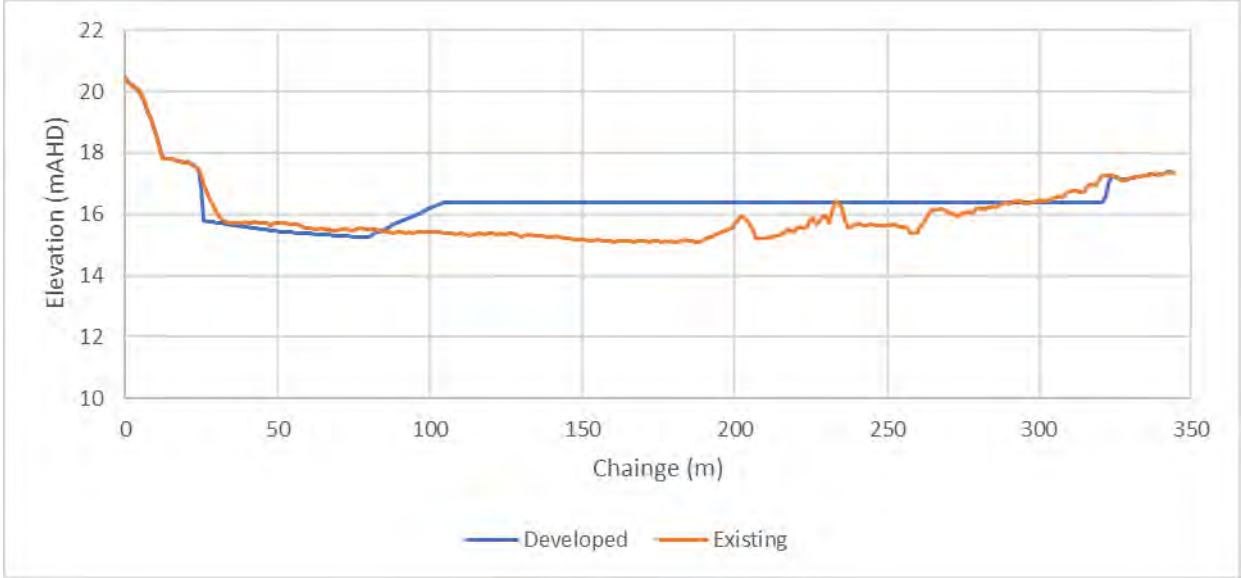


Figure 5-2 Proposed Building Pad – Long Section

5.2 Developed Flood Behaviour – Riverine

The developed riverine flood extents are shown below in **Figure 5-3**.

The proposed development does not affect riverine flood behaviour for any events up to and including the PMF.

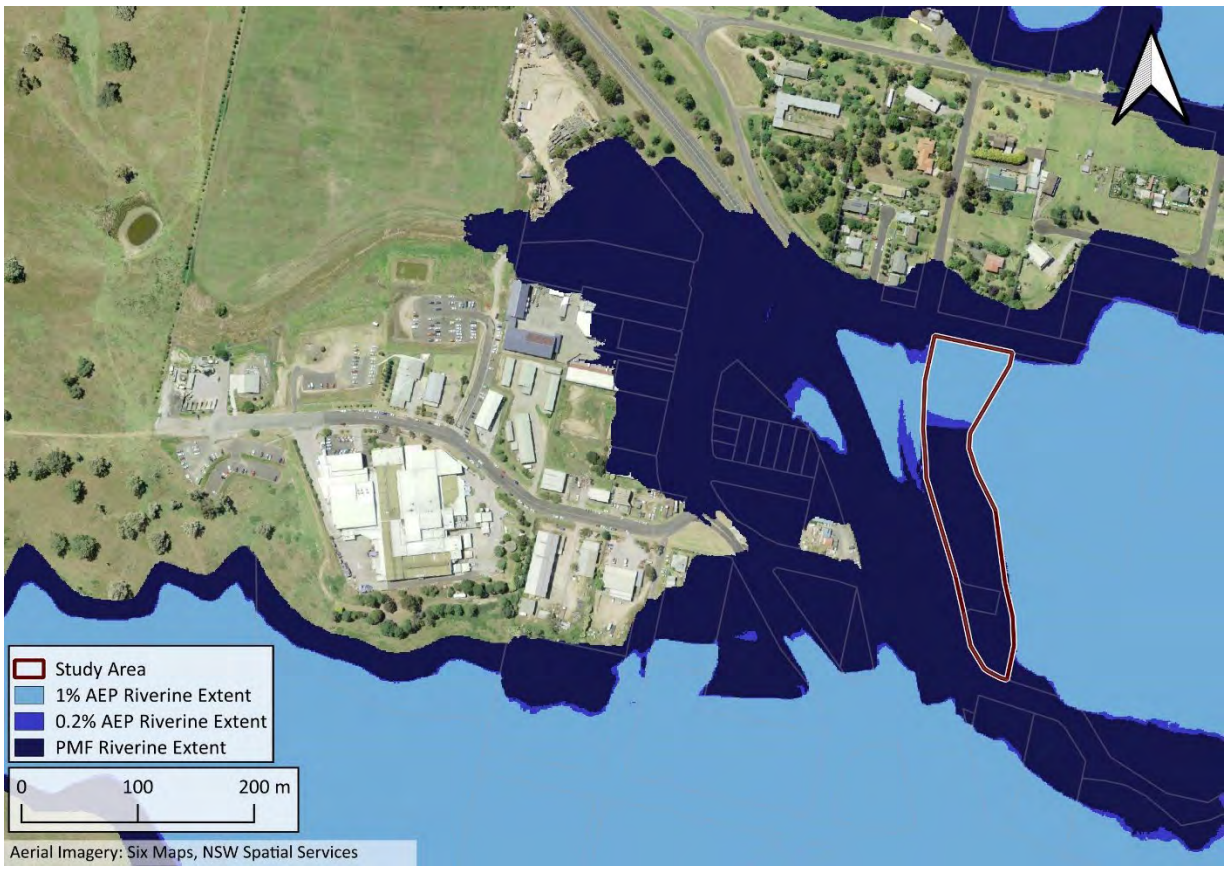


Figure 5-3 Developed Riverine Flood Extents

This is due to:

- the site being located outside of active flow areas, and so does not impact riverine conveyance; and,
- the loss of storage due to the raised building pad is negligible compared to the storage available in the wider Bega River floodplain.

The provision of the central flowpath for managing local catchment flows, which ties into the existing low point of Lagoon Avenue, also means that road inundation remains as per the existing scenario for riverine flood events, as flood waters are permitted to backup through this central flowpath.

The only change in flood behaviour is that the raised pad is lifted out of the 1% AEP flood extent, though the central overland flow area remains inundated. There is also a reduction in flood depths on the site in the PMF due to the raising, but flood depths remain significant (5.8m) and flood hazard remains classed as H6 in the PMF.

5.3 Developed Flood Behaviour – Local Catchment

Peak flood depths and hazard for the 1% AEP and PMF events are shown in **Figure 5-4** to **Figure 5-7** for the developed scenario. The results incorporate the adopted ARR2019 blockage rates (as discussed in **Section 3.4.5**). Sensitivity tests of these blockage assumptions have been undertaken (refer **Section 5.6**).

The results demonstrate that the raised building pad is sufficient to prevent local catchment flooding across the site for all events, up to and including the PMF event.

Overland flow that overtops Lagoon Street is diverted to an overland flowpath provided through a vegetated region of the site. This diversion is largely accomplished via the raised pad. However, as Lagoon Street rises to the south, a small bund or wall is required to prevent water spilling from Lagoon Street onto the building pad. This structure has been modelled as 0.15m high and is only required where levels of Lagoon Street adjacent to the site exceed the pad level of 16.4mAHD.

In the 1% AEP event, flow through this overland flow path is minor with depths of up to 0.03m and a hazard classification of H1. All flows are fully contained within the vegetated corridor of the proposed design. In the 1% AEP event, occupants would be able to safely cross this region and reach the car park. The entrance to the car park from Lagoon Street remains flood free in the 1% AEP event.

In the PMF event, depths through the overland flowpath increase to 0.7m, and the hazard increases to H4. Whilst much of the conveyance is contained within the vegetated region, regions of H3 hazard extend into the car park. The car park entrance is flooded by H2 to H3 hazard flow. These conditions would prevent occupants from reaching the car park from the centre, as well as leaving the car park to reach Lagoon Street. In the local catchment PMF event, occupants would need to remain withing the centre for the duration of flooding, which is in the order of 1 to 2 hours for the PMF.

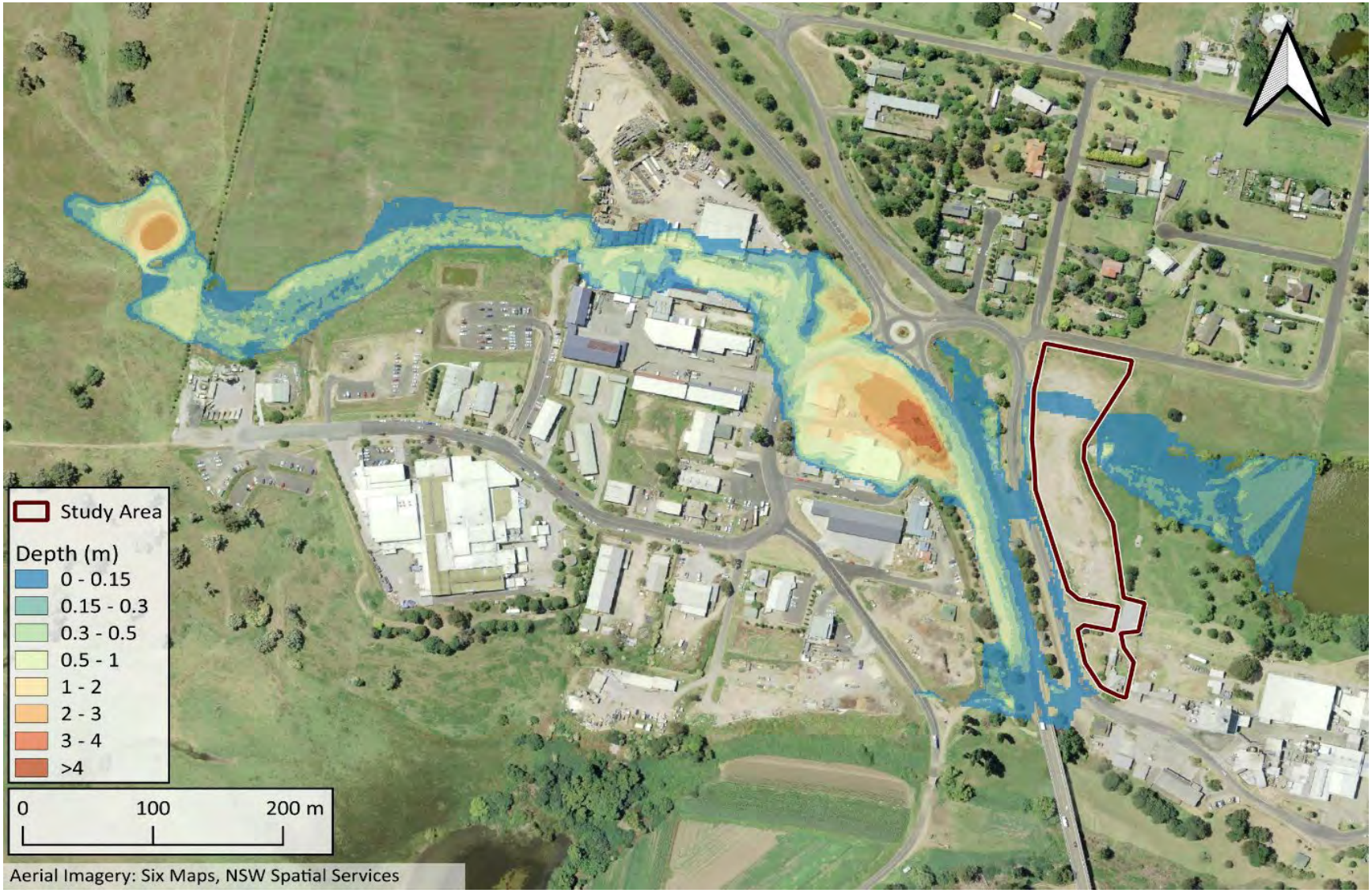


Figure 5-4 Local Catchment Developed 1% AEP Flood Depth

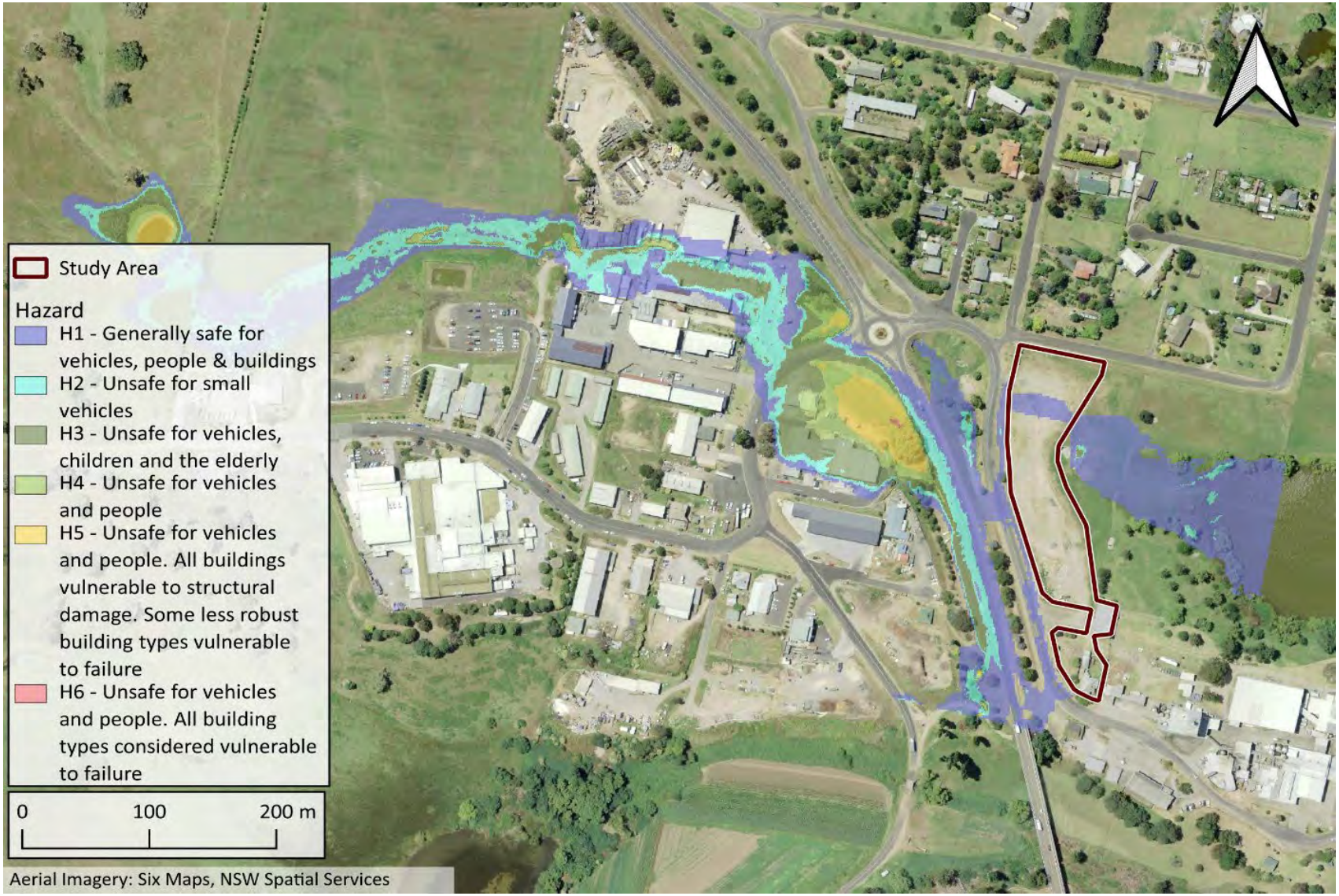


Figure 5-5 Local Catchment Developed 1% AEP Flood Hazard

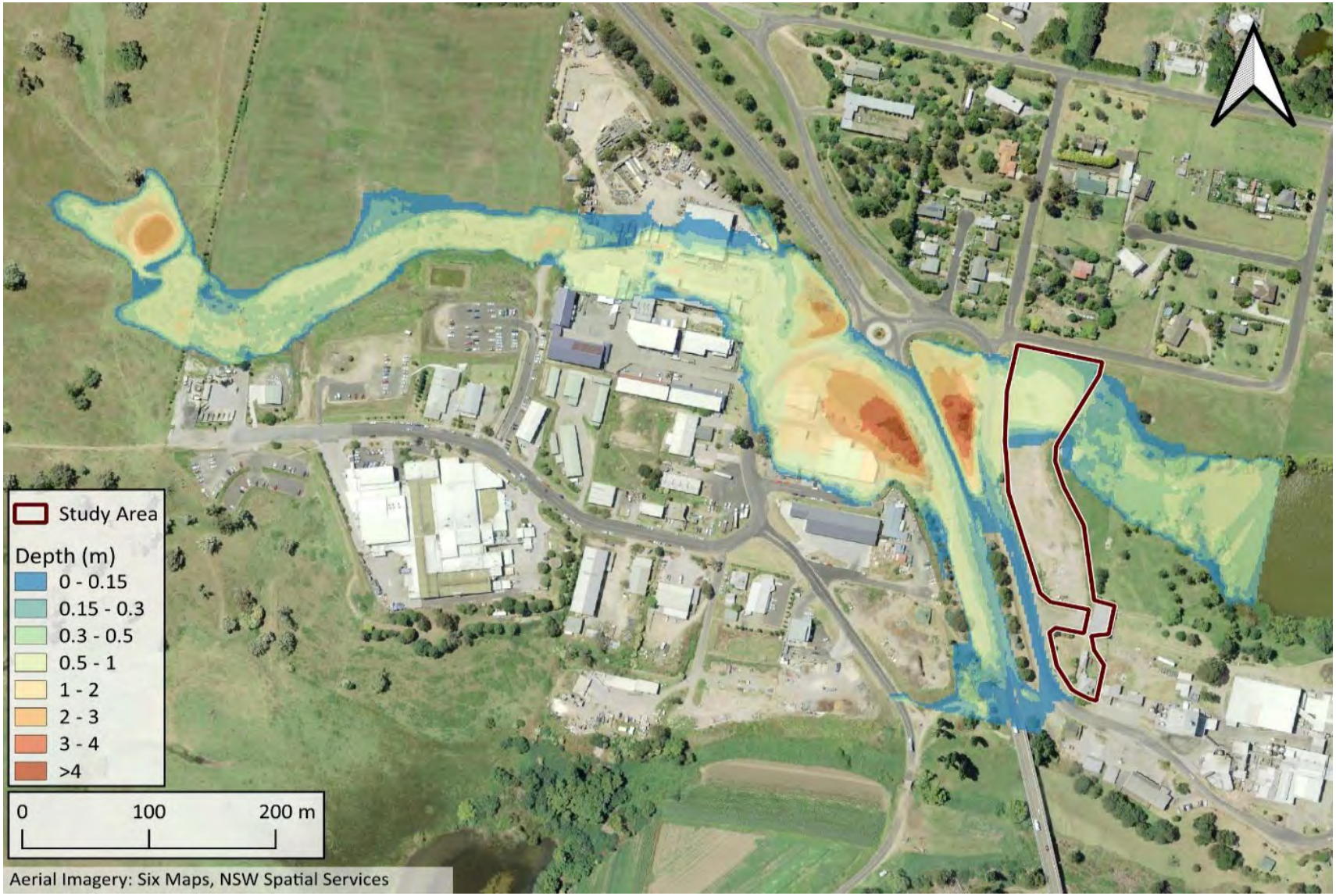


Figure 5-6 Local Catchment Developed PMF Flood Depth

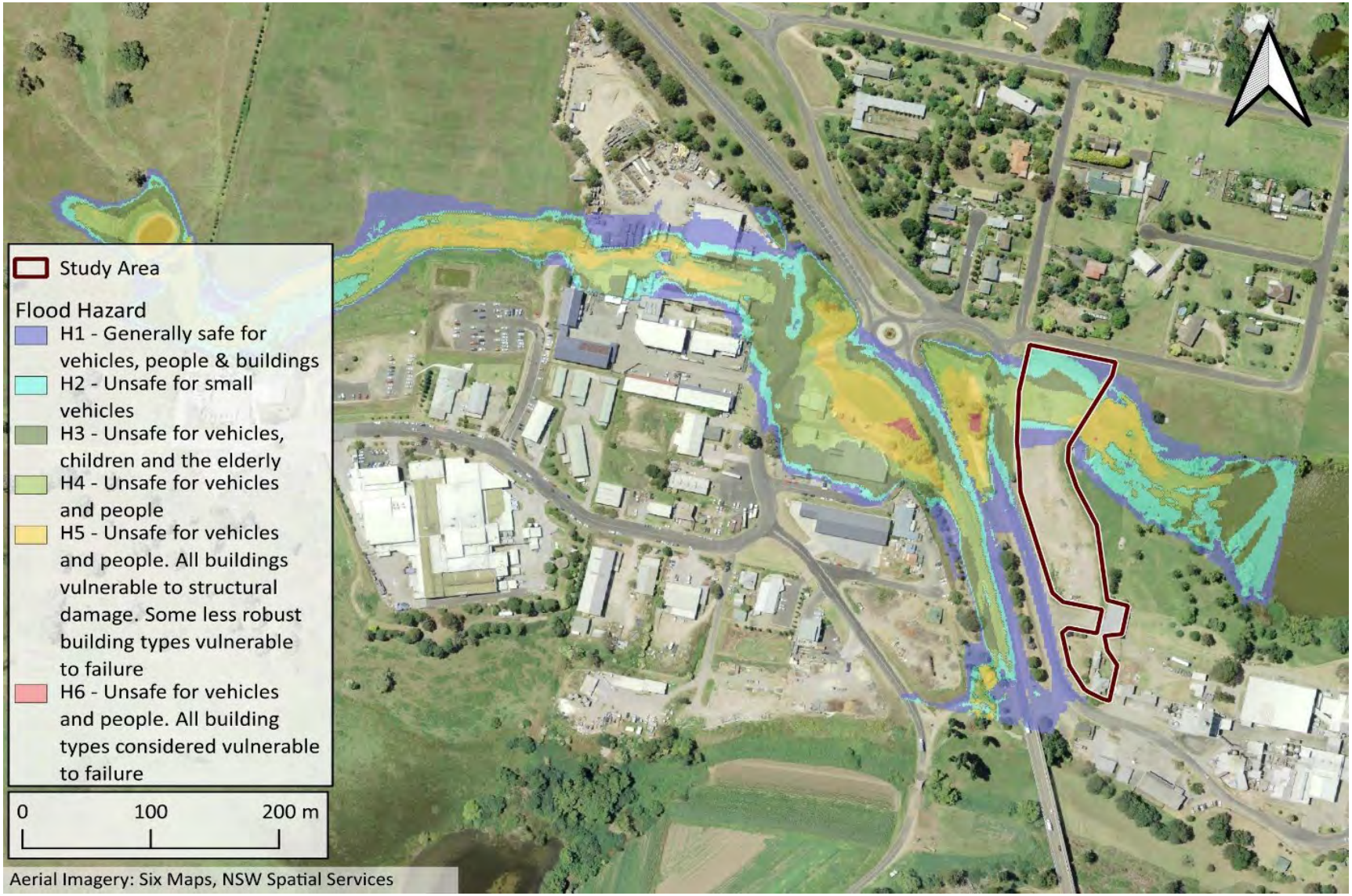


Figure 5-7 Local Catchment Developed PMF Flood Hazard

5.4 Developed Flood Impacts

Flood level impacts are shown for the 1% AEP and PMF events in **Figure 5-8** and **Figure 5-9**.

In the 1% AEP event, water level impacts were minor. There were increases of up to 0.2m adjacent to the raised pads for a length of 30m along Lagoon Stret. These impacts were fully contained withing the open space beside the road and did not affect Lagoon Street. The lack of impacts is because overtopping in the 1% AEP is minor under existing conditions, and the provided overland flow path has sufficient capacity to convey this flow without impacting upstream levels.

In the PMF event, peak levels on Lagoon Street, immediately upstream of the site increase by 0.45m. Increases of 0.1m were also observed in the basin between Lagoon Street and the Princes Highway.

Existing depths over the road were 0.6m in the PMF, making the road unsafe for vehicles under existing conditions. Whilst the developed scenario made these depths greater, it did not result in any change to the duration of flooding, so that while peak levels increased, the period for which access is lost along Lagoon Street remains as per the existing scenario.

Flood impacts did not extend beyond the Princes Highway, with flooding across the highway and the industrial precinct remaining as per the existing scenario.

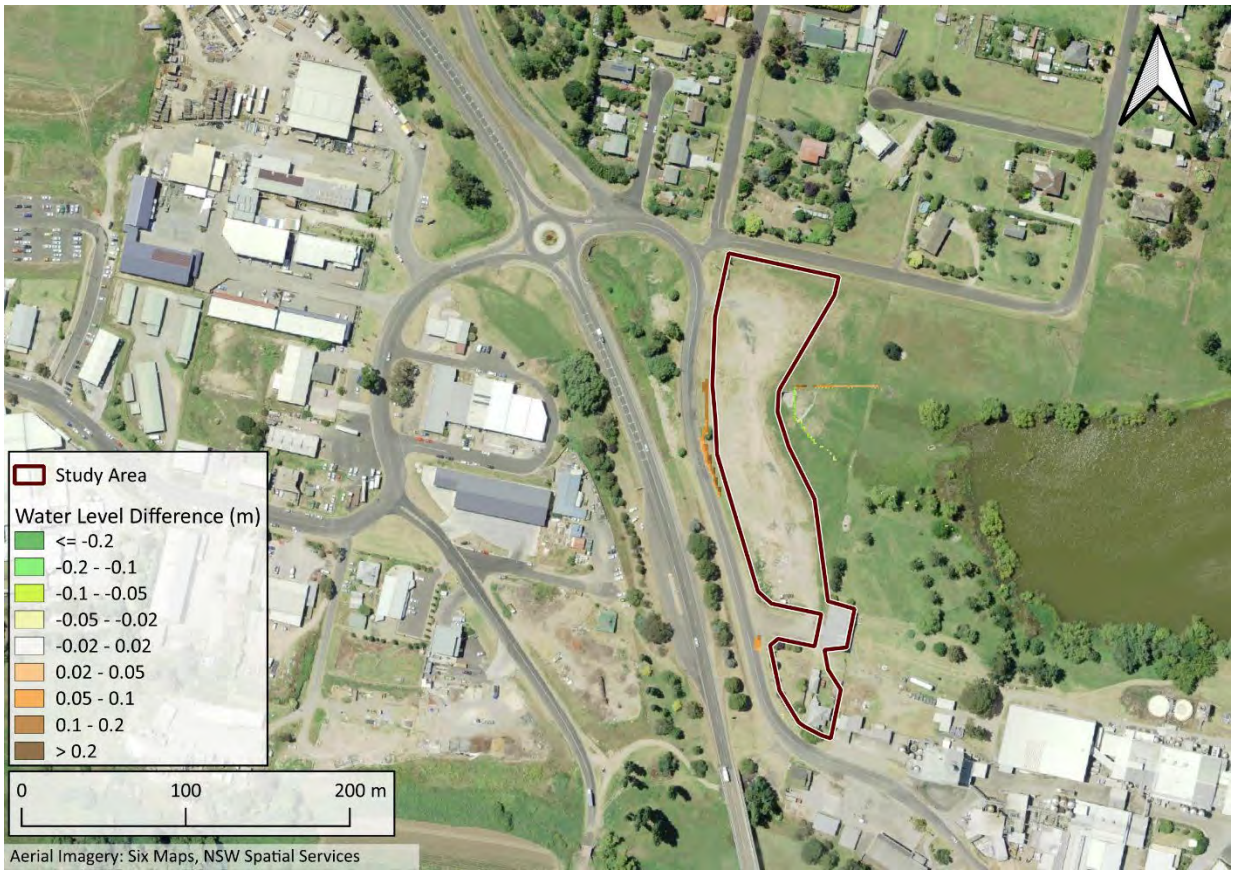


Figure 5-8 **Local Catchment Developed 1% AEP Flood Impacts**

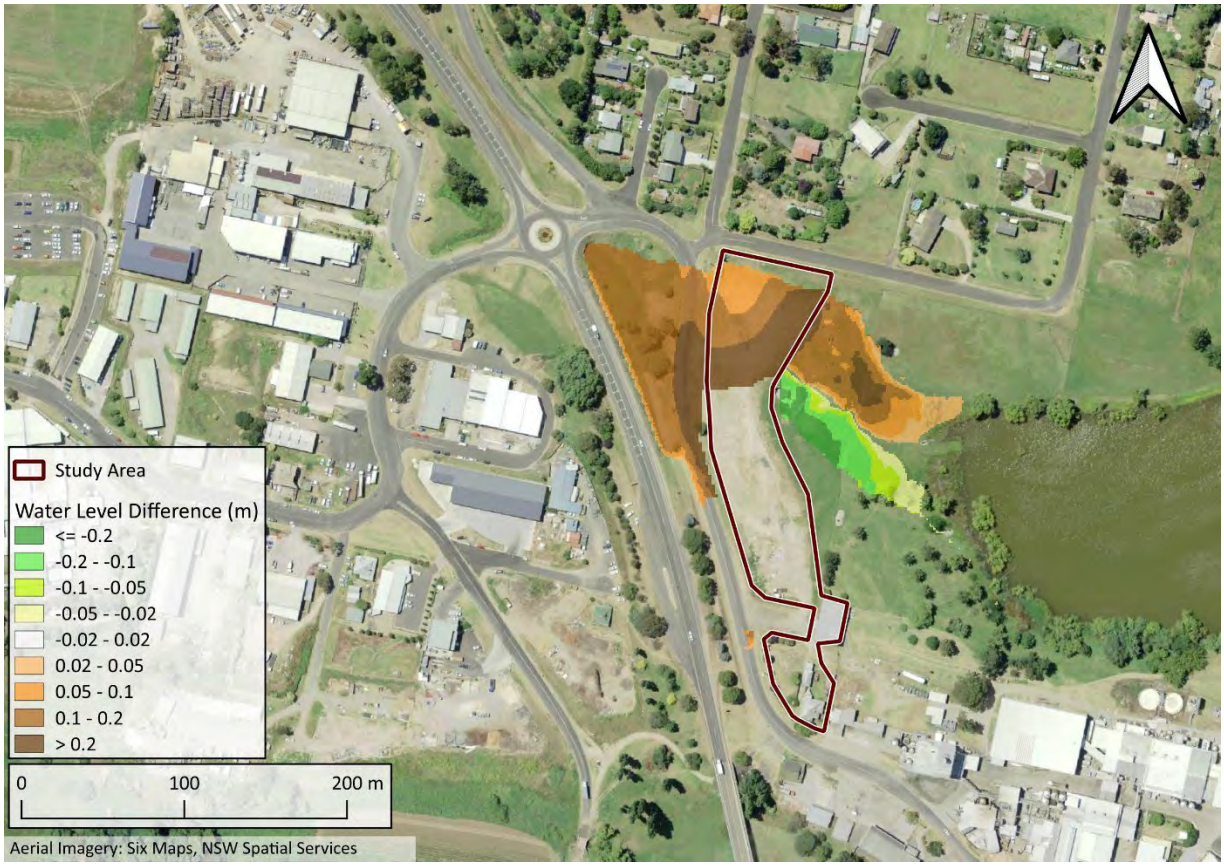


Figure 5-9 Local Catchment Developed PMF Flood Impacts

5.5 Residual Risk

It is important to note that the site has a significant residual risk, driven by the fact that the Bega River PMF event results in flood depths over the site of 5.8m. These depths cannot be dealt with through site design and will remain present for the life of the development. This residual risk applies to both risk to life and risk to property.

Mitigation of risk to life is to be undertaken through appropriate emergency response and evacuation strategies. These are discussed further in **Section 6**.

Flood risk to the property will always remain. Whilst these risks can be mitigated to some extent by the incorporation of flood resilient building techniques, the fact remains that events larger than a 1% AEP event may cause some degree of damage to the property and contents, and a PMF event is likely to result in significant damage to the structure and loss of contents.

It is appreciated that the likelihood of the PMF event is small, and that the proposal provides flood immunity for the site up to the 1% AEP event, and that from a commercial perspective this risk may be acceptable if alternative flood free sites are not available, or do not offer a comparable level of service.

5.6 Sensitivity

Sensitivity testing has been undertaken on the culvert blockage rates, to determine the influence they have on overall flood behaviour.

The design blockage rates were determined in accordance with ARR2019. Sensitivity testing has been undertaken for the 1% AEP on:

- A fully unblocked scenario;
- A fully blocked scenario;
- A critical blockage scenario with the upstream culverts at the highway fully unblocked, and the site culverts fully blocked;
- A high site roughness scenario; and,
- A 5% AEP tailwater scenario.

These results are shown in **Figure 5-10** to **Figure 5-14**.

The unblocked results (**Figure 5-10**) indicated that the unblocked culverts had sufficient capacity to prevent overtopping of the Princes Highway, Lagoon Street, and the study area. All flow was conveyed in the pipes, though ponding still occurred upstream of both the Princes Highway and Lagoon Street. Increases were observed downstream of the culvert because of the increased culvert capacity.

The fully blocked scenario (**Figure 5-11**) showed relatively little change compared to the existing scenario, since the upstream culverts are fully blocked, and the site culverts are 50% blocked in the design scenario. Fully blocking the site culverts resulted in additional ponding upstream of Lagoon Street, and a reduction in outlet flows. There was no significant change in flood levels across roadways or the study area.

The critical blockage scenario examined the flood behaviour changes if the upstream Highway culvert was fully open, but the site culvert became fully blocked. These impacts are shown in **Figure 5-12**. The critical scenario resulted in reduced levels upstream of the highway, but an increase in levels upstream of the Lagoon Street. The fully blocked site culvert resulted in all flows being forced overland, increasing both the extent of overtopping of Lagoon Street and the extend of flow through the site. Despite this increase in flow, the period of overtopping of Lagoon Street remained as per the design scenario (loss of access was driven by the southern overtopping location) and the overland flow through the site was fully contained within the vegetated and carpark areas and did not impact the building pad.

The results indicate that the building pad provides a suitable level of flood protection in the 1% AEP event regardless of the blockage condition.

Blockage sensitivity runs were not undertaken for the PMF, as in this event the culverts are fully blocked in the design scenario.

A sensitivity test was also conducted on the roughness of the vegetated corridor through the site. The design roughness was 0.06, representing light to medium vegetation. A sensitivity test was run for the PMF with a roughness of 0.18 representing very dense vegetation. The results, shown in **Figure 5-13**, indicate that with this higher roughness the building pad is inundated in the PMF by depths of 0.05m.

The results indicate that as the design progresses, consideration will need to be given to the vegetation and planting density through this region to ensure that appropriate conveyance is maintained for the PMF event.

The final sensitivity test examined the impact of a coincident riverine event on local flood behaviour. For the sensitivity test, a constant downstream level set at the peak 5% AEP was adopted along with a 1% AEP local rainfall event. The results are shown in **Figure 5-14.**

Downstream of the site, there is a significant increase in flood extent due to the adopted boundary condition. There was also an increase in the basin formed between the highway and Lagoon Street, to the west of the site. These increases were fully contained within the open space region and did not affect access roads or properties. These increases were driven by the higher tailwater condition reducing the capacity of the culverts draining under the site.

The results indicate that the overall hydraulic performance of the proposed development remains similar for independent and coincident flooding with the Bega River.

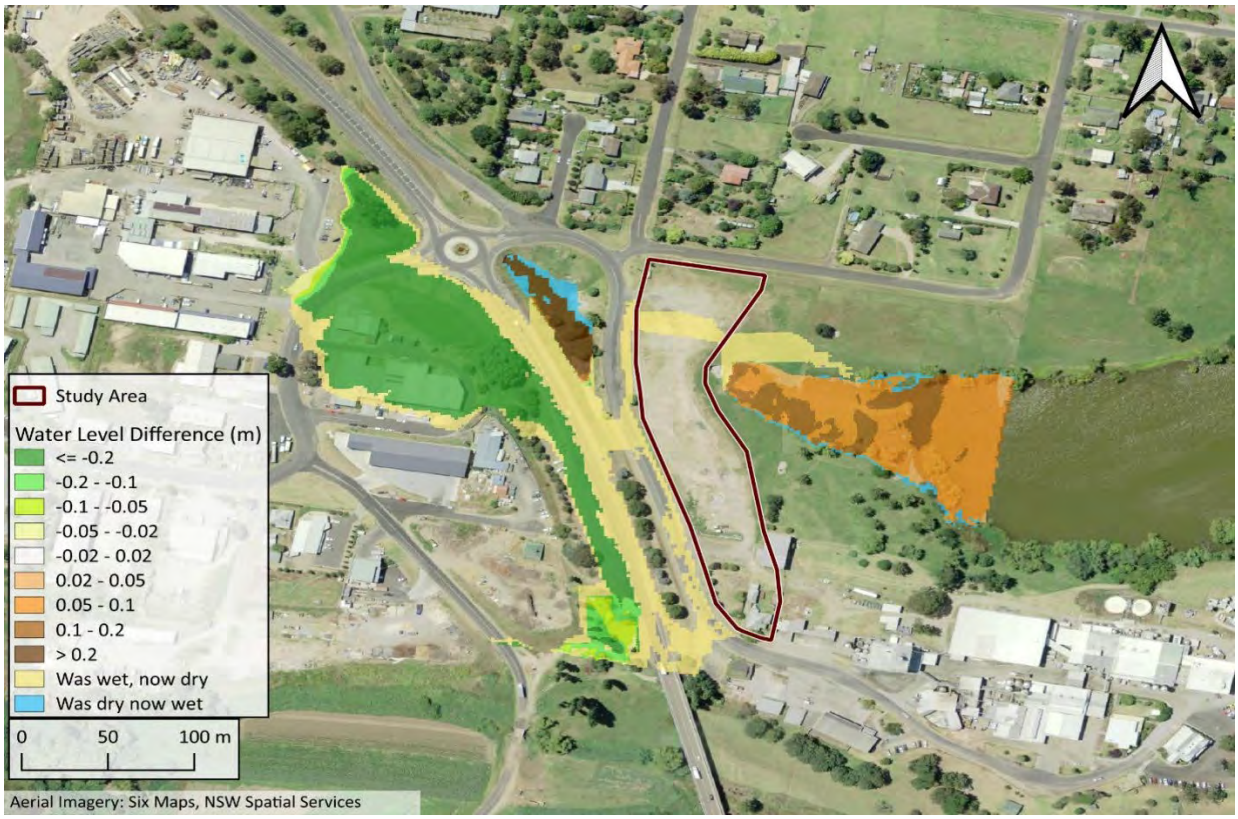


Figure 5-10 Blockage Sensitivity - Unblocked

Figure 5-11 Blockage Sensitivity – Fully Blocked

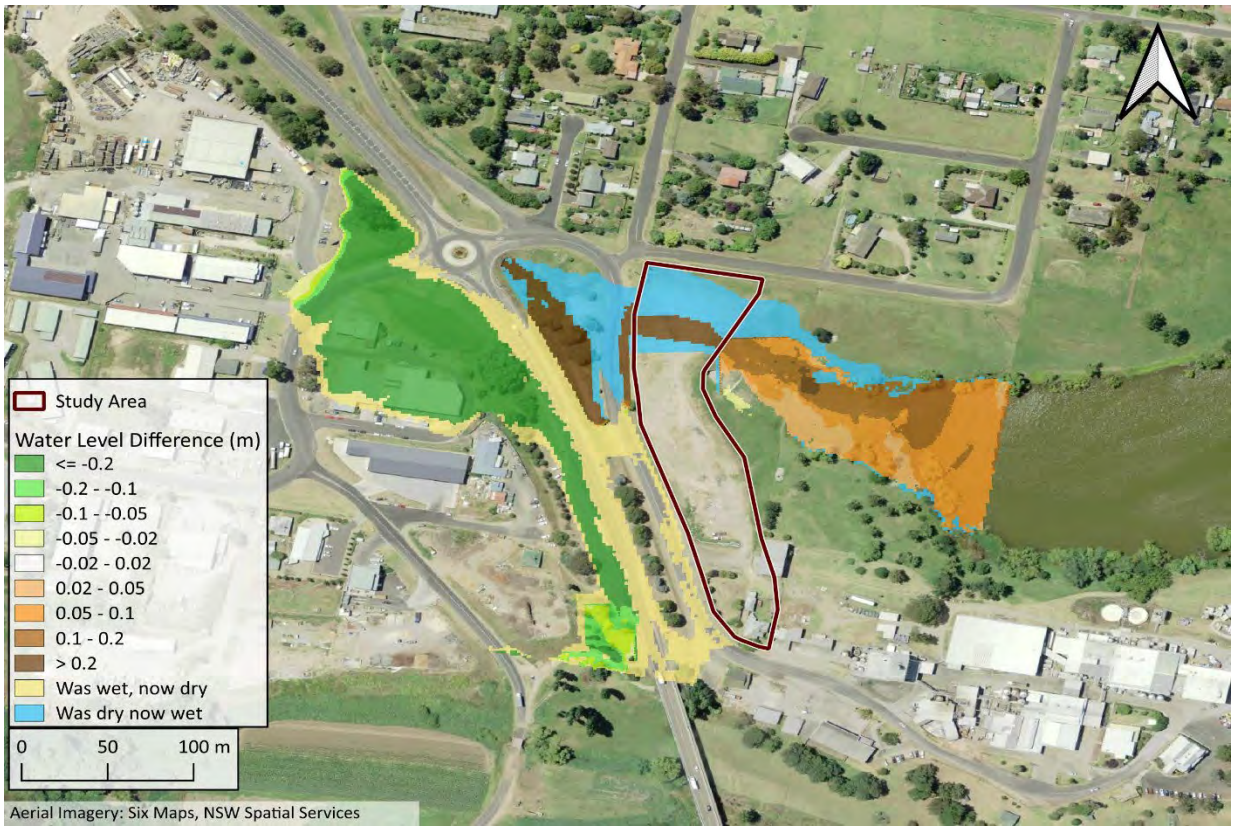


Figure 5-12 Blockage Sensitivity – Critical Blockage

Figure 5-13 Roughness Sensitivity

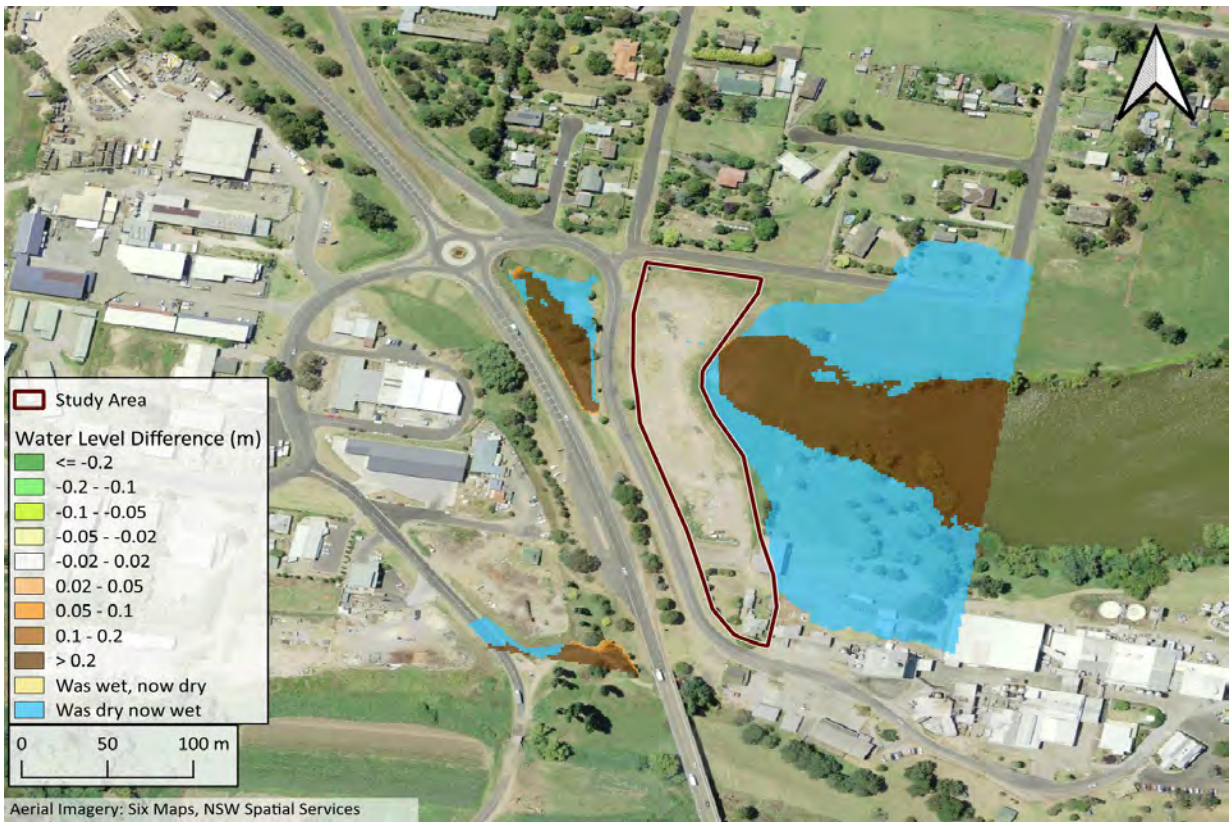


Figure 5-14 Tailwater Sensitivity

6 Emergency Response

As discussed in the previous sections of this report, the subject site is affected by both riverine flooding and local catchment flooding. These two flooding mechanisms present different risk profiles, and consequently require different emergency responses.

The emergency response strategy for the site is based on:

- Evacuation for riverine flood events, due both to the available warning time, and the significant flood depths and flood hazard present across the site in the PMF event; and,
- Shelter in place for local catchment floods, due to the flood immunity provided by the raised pad, and the short duration of this flood mechanism.

Further details on these approaches are provided below.

6.1 Site Use and Exposure

In defining the emergency response requirements, it is important to define the site use and risk exposure. The premises are proposed to be commercial in nature, which results in a different use and risk exposure compared to residential properties.

Whilst the full details of the site usage are still being determined, it is likely that the usage will broadly be:

- Typical opening hours of 7am to 5pm;
- Occasional evening functions, most likely on weekends, with the premises vacated by 10pm;
- A permanent staff of 10 – 12 during daily operations;
- Approximately 10 – 12 staff to manage evening events;
- Expected visitation by the community of approximately 1,000 people per day during typical opening hours (noting not all these visitors will be present at once), and up to 120 during evening functions; and,
- Whenever the site is operating, a site manager will be present on site.

This site usage means that the site will only be occupied during operational hours, and not for the full 24-hours of the day. Furthermore, all occupants will be awake whilst at the site (no overnight accommodation).

In addition, the management of the site by a single entity, with a building manager on site at all times, would assist in making sure any evacuation or emergency response activities are carried out promptly and appropriately.

6.2 Flood Warning

The Bega River catchment upstream of Bega has several river gauges that can be used to inform flood warning for the Bega River floodplain. Those nearest to Bega are shown in **Figure 6-1**.

The travel time of the flood peak between these locations is summarised in **Table 6-1**.

The travel times have been determined based on riverine velocity of 2.5m/s, a typical riverine velocity as reported in the hydraulic model developed as part of the *Bega and Brogo Rivers Floodplain Risk Management Study* (Cardno, 2018).

All these gauges provide a reasonable representation of flow timing, as the Lower Bega River does not have any major incoming tributaries between these gauges and the study area. The confluence with the Brogo River is downstream of the study area.

While these travel times represent the time between the peak at each location, the warning time will likely be longer, as the BoM will provide flood warnings based on forecast rainfall. The estimated warning times should be determined in conjunction with the BoM and SES as part of the preparation of a detailed site flood emergency response plan.

With respect to the Bega River at Kanoona gauge, which is immediately upstream of the site, a summary is provided in **Table 6-2** of warning times to loss of access to the site and the building pad becoming isolated in the PMF is provided for a variety of trigger levels.

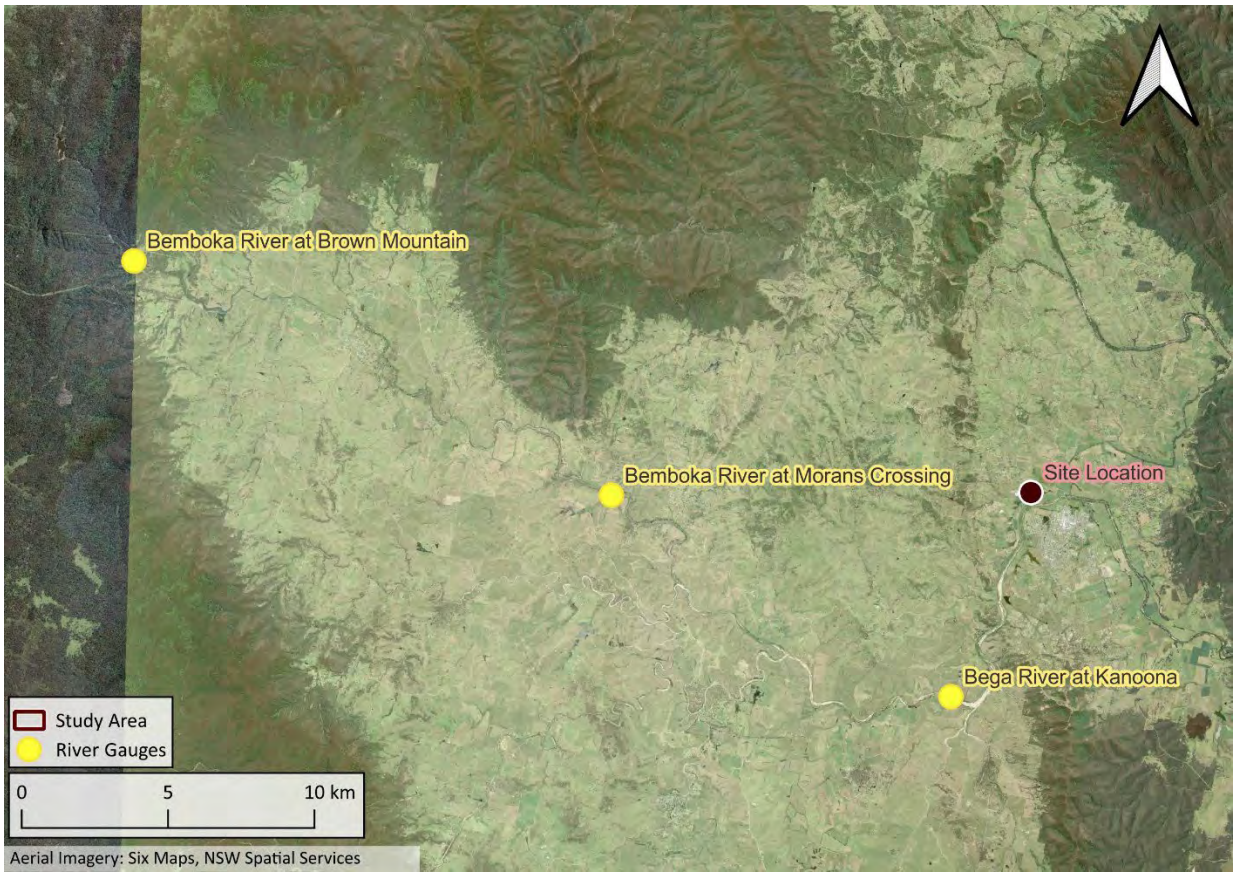


Figure 6-1 **Bega River Gauge Locations**

Table 6-1 Travel Time Between Bega River Gauges

Gauge	Distance Upstream of Bega Bridge (km)	Flood Travel Time to Bega Bridge (hrs)
Bemboka River at Brown Mountain	50	20
Bemboka River at Moran's Crossing	25	10
Bega River at Kanoona	8	3

Table 6-2 Warning time for isolation from variety of trigger levels at Bega River Kanoona Gauge

Depth at Gauge	Time to Loss of Access at Site (hours)
4m (approximately a 10% AEP)	7
5m	6
6m (approximately a 5% AEP)	5.5
7m (approximately a 2% AEP)	4

6.3 Evacuation

6.3.1 Flood Impacts on Access

Evacuation from the site is via Lagoon Street. Lagoon Street joins Bridge Street immediately north of the site which then meets the Princes Highway at the roundabout. The Princes Highway runs south to Bega passing over the Bega River. Heading north, the Princes Highway passes through several smaller townships with the next major centre being Narooma, approximately 80km north.

Flooding affects both local and regional roads, in both local catchment and riverine floods.

Within the study area, for local catchment flood events:

- Lagoon Street is flooded by depths of 0.03m (H1 hazard) in the 1% AEP and 0.6m (H4 hazard) in the PMF;
- Princes Highway is flooded by depths of 0.3m (H2 hazard) in the 1% AEP and 0.4m (H4 hazard) in the PMF; and,
- Bridge Street and the highway roundabout remain flood free up to and including the PMF.

Within the study area, for riverine flood events:

- Roads surrounding the site remain open, up to and including the 2% AEP event;
- Lagoon Street is flooded by depths of 0.2m (H1 hazard) in the 1% AEP, 0.5m (H3 hazard) in the 0.2% AEP and 6.6m (H6 hazard) in the PMF event.
- Princes Highway remains flood free in the 1% AEP and 0.2% AEP events and is flooded by 4m (H6 hazard) in the PMF event.

Access routes and evacuation locations (see below) are illustrated in **Figure 6-2**.

6.3.2 Flood Evacuation Locations

In extreme riverine flood events, it is desirable that evacuation is commenced with sufficient time to allow occupants to evacuate to Bega CBD. Given the location of the site, it is expected that all occupants

would have their own transport (either private vehicles, or a tour bus or similar). Evacuation to Bega CBD would ensure that people have access to services for the duration of the flood event.

As a fall-back option (due to vehicle breakdown, the Bega Bridge being non-trafficable due to an accident, etc.), there is high ground located 100m west and north of the site which is above the PMF. The Bega Group also operates a site 400m west that is above the PMF and could serve as an emergency evacuation location.

A long section along the access roads to this location is shown in **Figure 6-3**. The plot shows that there is rising road access from the site to Lagoon Street. From Lagoon Street, the road continues to rise to the roundabout on the Highway, before dropping to the timberyard driveway, after which is rises consistently to the Bega facility on the ridge. Whilst the road does dip, the low point of this dip is at 17.8mAHD, which is above the carpark entry level of 15.7mAHD. As such, when flood water first enters the site, there is flood free access available to flood free land above the PMF.

It is noted that the Bega Group has additional assets on lower ground to the east of the proposed development, and that the potential emergency options could also serve to reduce the existing risk for occupants of these facilities.

It is noted that these local evacuation locations within the industrial area lack the services that would be available in Bega.

It is recommended that the flood emergency response plan for the site adopt appropriate warnings and triggers to allow evacuation to Bega CBD as a priority and only using the refuge area in the Industrial Area as a backup.

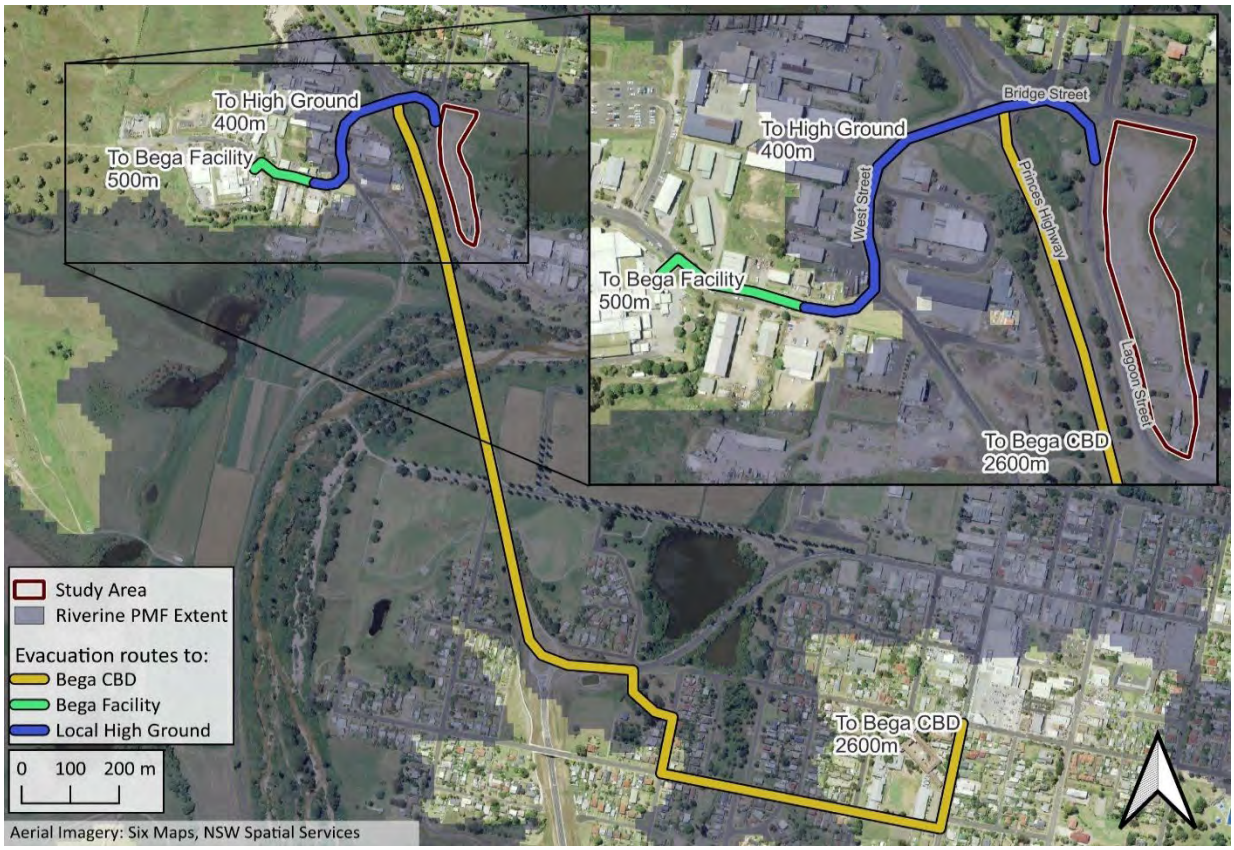


Figure 6-2 Evacuation Routes

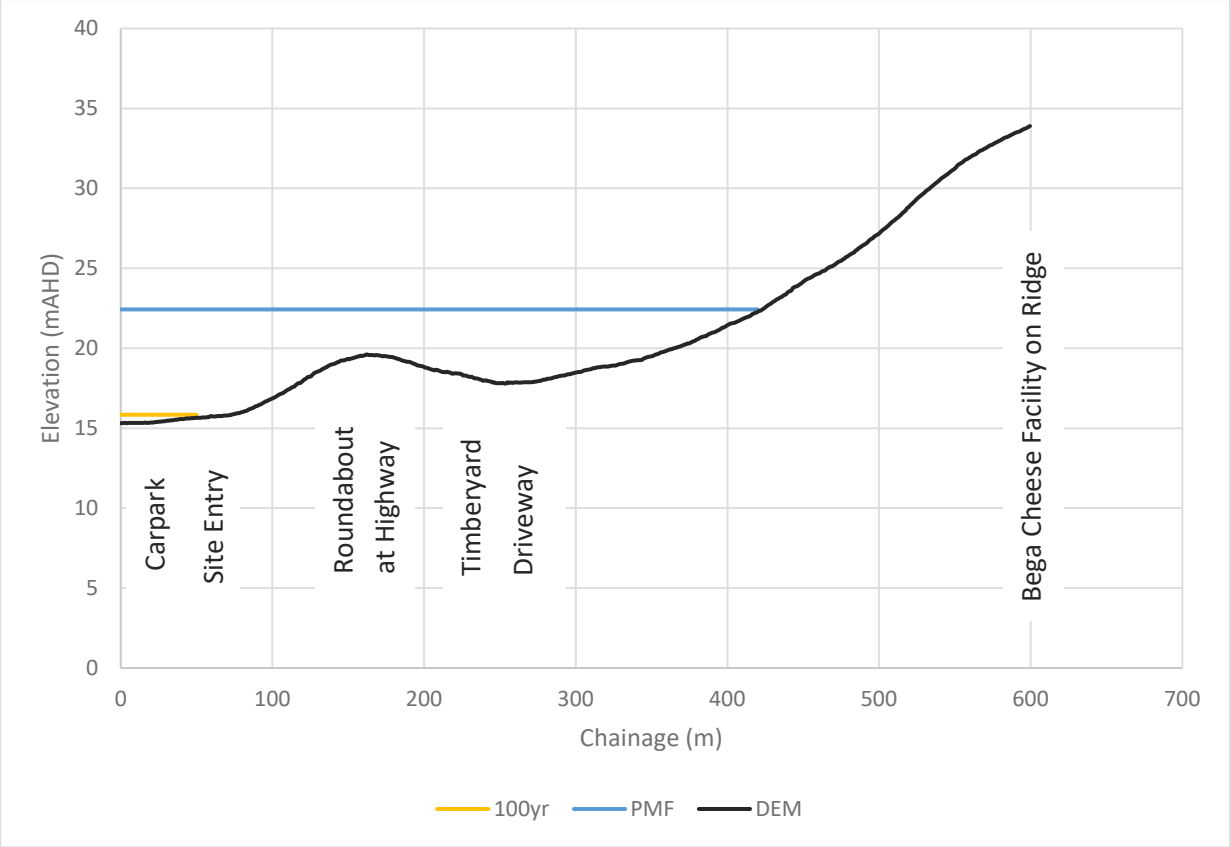


Figure 6-3 Evacuation Long Section

6.3.3 Evacuation Potential

With the raised building pad, the level of the site and associated buildings is lifted above the low point of the adjacent access road, Lagoon Street. As such, the site becomes a high flood island in local catchment PMF events, and a low flood island in riverine PMF events, as access is lost prior to inundation of the building site.

For a local flood event, evacuation is not recommended, due to unsafe conditions on the roads (namely heavy rainfall and lack of visibility). Whilst access is lost in the local catchment PMF event, the period of isolation (where road flooding is H3 or greater) is less than 1 hour. As the building remains above the local catchment PMF, shelter in place is considered a reasonable option for local catchment events. This is further discussion in **Section 6.3.4** below. It is noted that closing the site and cancelling bookings when extreme weather conditions are predicted would be possible and would further reduce the likelihood of occupants becoming isolated in a PMF event local catchment event.

For Bega River flooding, evacuation is required in events greater than the 1% AEP event as the site can become flooded, with significant flood depths experienced in the PMF event, making it unsafe for occupants. When the building pad is first inundated, flood depths at the low point of Lagoon Street are 0.7m, making the road inaccessible. As such, it is critical that any evacuation is undertaken in advance of flood waters reaching the top of the building pad; by this time, safe evacuation may not be possible.

As discussed above in **Section 6.2**, there is sufficient flood warning available to permit an orderly evacuation in advance of the loss of access. As per the local catchment discussion above, closing the centre in response to extreme weather forecasts or flood alerts would reduce the likelihood of people being on site during an event that would require their evacuation.

6.3.4 Shelter in Place

For riverine flooding, shelter in place is not a suitable option for responding to flood events greater than the 1% AEP event from Bega River flooding (riverine) due to the potential for over floor flooding in events great than this, and significant flood depths experienced in the PMF event. Evacuation is the only suitable response to extreme riverine flood events.

However, the flood behaviour and risk profile for local catchment events is substantially different. The proposed development would see the site raised above the local catchment PMF level (excluding carparks).

The draft Shelter in Place Guideline (DPE, 2023) states that while evacuation is preferred method of emergency response, shelter in place may be appropriate it:

- The flood duration is less than six hours;
- The development is not located in an area of high risk (floodway, H5 or H6 hazard);
- Access to on-site systems are above peak flood levels;
- Food, water, and medical equipment is located above the PMF;
- The location used for shelter is:
    - Above the PMF;
    - Provides a suitable floor space per person; and,
    - Is structurally safe and accessible in the PMF.

For local catchment events, the site and the flood behaviour meet the requirements in the draft guideline for shelter in place.

7 Policy and Planning Review

7.1 Overview

Within the study area, development is largely controlled through the Bega Valley Local Environmental Plan 2013 (SLEP 2013) and Bega Valley Development Control Plan (DCP) 2013. The LEP is an environmental planning instrument (EPI) which designates land uses and development in the study area, while the DCP regulates development in the relevant zones with specific guidelines and parameters.

In addition to Council Plans, the Minister for Planning can issue Ministerial Directions to issues directions to planning authorities about the preparation of planning schemes and amendments to planning schemes.

Planning authorities must comply with the Ministerial Direction on the Form and Content of Planning Schemes, issued under Section 9.1(2) of the *Environmental Planning and Assessment Act 1979*. The direction applies to planning scheme layout and required information – including amendments to those planning schemes – and should be read together with the Planning Provisions.

A review of the proposed development has been undertaken to determine if the proposed development is in accordance with these flood-related development controls and Local Planning Direction 4.1, and if not, whether these departures are justified.

This review does not specifically deal with matters related to building construction (such as the National Construction Code, which includes the Building Code of Australia, both of which are updated every three years by the Australian Building Codes Board). However, it is important to note that these types of controls are sometimes called or referenced in planning controls and therefore their content and direction are of relevance. In this regard, how they are applied is directed under the NSW Planning System via numerous mechanisms but primarily via Building System Circulars issued by the Department of Planning and Environment. The most relevant circular is BS 13-004, dated 16 July 2013 entitled *The NSW Planning System and the Building Code of Australia 2013: Construction of Buildings in Flood Hazard Areas*. Importantly the BCA deals with the concept of the 'defined flood event' (DFE) and imposes minimum a construction standard across Australia for specified building classifications 'flood hazard areas' (FHA) up to the DFE. However, the 2023 version of the BCA contains flood-related guidance largely for Class 1 buildings only and does not directly apply to the types of buildings anticipated in the Precinct.

Note that there are several State Environmental Planning Policies (SEPPs) that apply to the Precinct. A review of these EPIs has not been completed as part of this assessment.

7.2 Policies and Plans

7.2.1 Bega Valley LEP 2013

The Bega Valley Local Environmental Plan 2013 (BVLEP 2013) sets the direction for land use and development in the study area by providing controls and guidelines for development. It determines what can be built, where it can be built and what activities can occur on land.

The BVLEP 2013 is based on a standard format used by all Councils in NSW and can be viewed on the NSW legislation website (www.legislation.nsw.gov.au).

7.2.2 Land Use Zones

The full site is zoned E4 *General Industrial*. The land use zones across and surrounding the site are shown in **Figure 7-1**. It is noted that the IN1 and IN2 land uses shown on the LEP mapping have both been converted into the E4 land use as part of the NSW State Government's *Employment Zones Reform* (April 2023).

The proposed land use zones for the site are summarised in **Table 7-1**. The development is largely permissible under the current zoning, though zoning amendment would be required to allow the retail, function centre, entertainment centre and community facility aspects of the development.

It is understood that the Planning Proposal would be seeking to (Zenith Town Planning, 2023):

> *Insert an entry into Schedule 1 Additional permitted uses of* Bega Valley LEP 2023 *to list Part Lot 1 DP 1264640, No. 10 Lagoon Street, Bega in Schedule 1 Additional permitted uses with development for the purposes of retail remises, a function centre, an entertainment facility and a community facility as permitted with consent.*

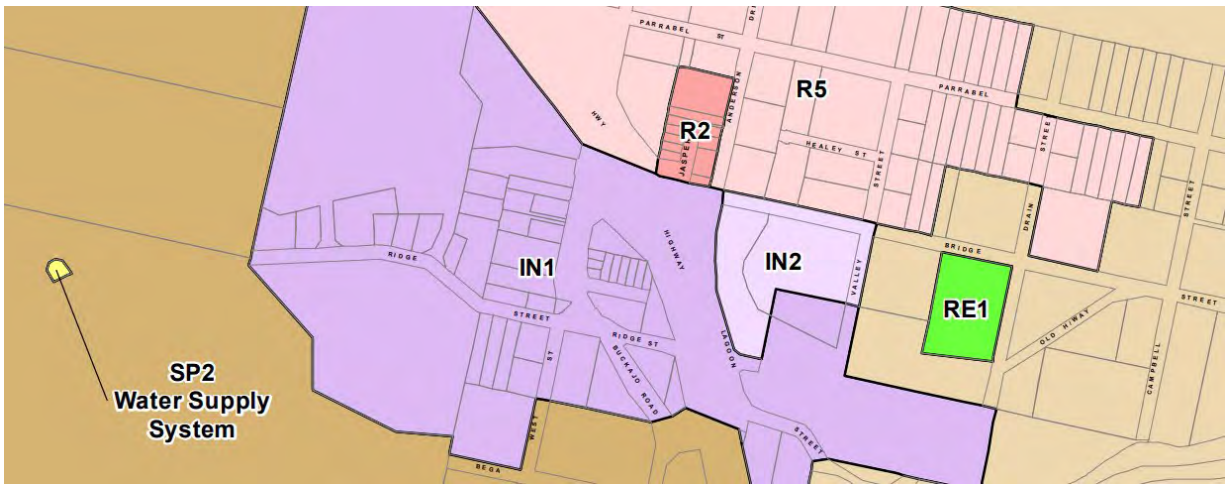


Figure 7-1 Land Zoning (BVLEP, 2013)

Table 7-1 Proposed Land Uses (Zenith Town Planning, 2023)

Proposed Land Use	LEP Definition	Permissible / Prohibited
Gift Shop / Tourism	Information and education	Permissible
	Retail premises	**Prohibited**
Offices / meeting rooms	Office premises	Permissible
	Ancillary use	Permissible
Exhibition rooms	Information and education	Permissible
café	Food and drink premises	Permissible
	Take away food and drink premises	Permissible
Amenities	Ancillary use	Permissible
Hall	**Function centre**	**Prohibited**
	Entertainment centre	**Prohibited**

Proposed Land Use	LEP Definition	Permissible / Prohibited
	Community facility	**Prohibited**
Kitchen	Ancillary use	Permissible
Storage / workshop	Ancillary use	Permissible
Auditorium	**Function centre**	**Prohibited**
	Entertainment centre	**Prohibited**
	Community facility	**Prohibited**

7.2.3 Flood Planning

The site is located within the Bega River Flood Planning Area (FPA).

The objectives for development within the FPA (which is defined in Council's DCP) are outlined in Clause 5.21 of the BVLEP. The objectives of this clause are:

- to minimise the flood risk to life and property associated with the use of land;
- to allow development on land that is compatible with the flood function and behaviour on the land, considering projected changes because of climate change;
- to avoid adverse or cumulative impacts on flood behaviour and the environment; and,
- to enable the safe occupation and efficient evacuation of people in the event of a flood.

It is stated that development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:

- is compatible with the flood function and behaviour on the land;
- will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties;
- will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood;
- incorporates appropriate measures to manage risk to life in the event of a flood; and,
- will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses.

The 2021 Flood Prone Land Package provided advice to Council regarding the consideration of flooding in land-use planning. Part of the package was a revision to the standard LEP instrument.

It is noted that Section 5.21 was inserted in the LEP (in July 2021) in accordance with the 2021 Flood Prone Land Package.

It is also noted that Council has opted into the optional Section 5.22 (Special Flood Considerations), which applies controls and restrictions to land beyond the FPA. The Special Considerations Clause allows for Council to implement and enforce planning controls between the FPL and the PMF.

7.2.4 Compliance with the BVLEP

A summary of relevant BVLEP requirements, and if and how the proposed development complies these requirements is provided in **Table 7-2**.

Table 7-2 Compliance with SLEP 5.21 Requirements

Consistency with the LEP Clause 5.21 Flood Planning	
Requirements	Compliance and Justification
(1) The objectives of this clause are as follows— *(a) to minimise the flood risk to life and property associated with the use of land,* *(b) to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,* *(c) to avoid adverse or cumulative impacts on flood behaviour and the environment,* *(d) to enable the safe occupation and efficient evacuation of people in the event of a flood.*	**Compliant**. The proposed development meets these objectives. The specific actions to achieve these objectives are documented against the proscriptive development controls below.
(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development— *(a) is compatible with the flood function and behaviour on the land, and* *(b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and* *(c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and* *(d) incorporates appropriate measures to manage risk to life in the event of a flood, and* *(e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses.*	**Compliant**. The proposal provides a site that remains flood free for events up to the FPL for both riverine and local catchment flooding. .
(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters— *(a) the impact of the development on projected changes to flood behaviour as a result of climate change,* *(b) the intended design and scale of buildings resulting from the development,* *(c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,* *(d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.*	**Compliant**. As discussed **in Section 3.5**, Council's draft Flood Risk Policy (2023) considers the use of ARR87 a suitable proxy for 2100 rainfall increases. Furthermore, the proposal includes: • Appropriate development (commercial) given the flood risk profile; and, • Measures to reduce risk to life and property.

Table 7-3 Compliance with SLEP 5.22 Requirements

Consistency with the LEP Clause 5.22 Flood Planning	
Requirements	Alignment
(1) The objectives of this clause are as follows— ***(a) to enable the safe occupation and evacuation of people subject to flooding,*** *(b) to ensure development on land is compatible with the land's flood behaviour in the event of a flood,* *(c) to avoid adverse or cumulative impacts on flood behaviour,* *(d) to protect the operational capacity of emergency response facilities and critical infrastructure during flood events,* *(e) to avoid adverse effects of hazardous development on the environment during flood events.*	**Aligns**. The proposed development meets these objectives. The specific actions to achieve these objectives are documented against the proscriptive development controls below.
(2) This clause applies to— ***(a) for sensitive and hazardous development—land between the flood planning area and the probable maximum flood, and*** *(b) for development that is not sensitive and hazardous development—land the consent authority considers to be land that, in the event of a flood, may—* *(i) cause a particular risk to life, and* *(ii) require the evacuation of people or other safety considerations.*	It is noted that this clause is triggered by the need for evacuation of people in events larger than the FPL. The site is not classed as sensitive or hazardous development.
(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority has considered whether the development— ***(a) will affect the safe occupation and efficient evacuation of people in the event of a flood, and*** *(b) incorporates appropriate measures to manage risk to life in the event of a flood, and* *(c) will adversely affect the environment in the event of a flood.*	**Compliant**. The proposed emergency response arrangements discussed in **Section 6.3** allow for the safe occupation and efficient evacuation of people in the event of a flood, and appropriately manages risk to life during these extreme events. Flood modelling of the proposed development undertaken in **Section 5.4** demonstrated that the development would not adversely affect local flood behaviour, nor affect evacuation potential.

7.3 Bega Valley Development Control Plan 2013

A Development Control Plan (DCP) gives effect to the requirements of the LEP by specifying detailed development guidelines and controls.

The primary chapter for the provision of flood controls is *Chapter 5.8 – Planning for Hazards*.

The Chapter has three objectives:

- Minimise the impacts of flooding on development within flood prone land or potentially flood prone land;
- Ensure that development on flood prone land is consistent with the objectives of the NSW Flood Prone Land Policy 1984 and the NSW Floodplain Development Manual 2005; and
- Ensure the impact of climate change is considered when assessing development on flood prone land.

A summary of relevant DCP controls, and if and how the proposed development complies these controls is provided in **Table 7-3**.

Table 7-4 Compliance with DCP Controls

Consistency with the DCP Chapter 5.8	
Requirements	Compliance and Justification
5.8.1.1 General Requirements *All new subdivision or major development applications must include the impact of 0.9m sea level rise.*	**Compliant**. As discussed in **Section 3.5**, the Bega and Brogo Rivers FRMSP (Cardno, 2018) demonstrated that 0.9m of sea level rise only resulted in a peak flood level increase of 0.01m at Bega. Sea level rise does not impact local catchment flooding.
5.8.1.2 Requirements for development at or below Flood Planning Level • *Buildings and structures will be designed and constructed with appropriate water-resistant materials.* • *Building foundations will be designed by a suitably qualified geotechnical engineer to be suitable for grounds with potentially reduced bearing capacity under flood conditions.* • *Development must comply with the principles of ecologically sustainable development taking into account floodplain ecology and integrity.* • *Any fill or excavation must be minimised and must not adversely affect neighbouring properties or the overall flood behaviour and flood storage volume.* • *Development in areas designated as flood storage is not permitted unless it can be demonstrated that there will be no decrease in net flood storage available on the site.* • *All development applications must demonstrate that the proposed structure can withstand the force of floodwater, debris and buoyancy through a report prepared by a suitably qualified and experienced engineer.* • *All habitable rooms within residential development must be at or above the flood planning level.* • *Flood free access is required for all dwellings, caravan parks, schools, hospitals, and other public building.* • *No excavated underground car parking in commercial and industrial development is permitted on land at or below the flood planning level. Ground floor parking is however appropriate.* • *All development applications for industrial and commercial development must be supported by a flood emergency plan. Appropriate warning and advisory signage must be prominently visible at entry/exit points.*	**Compliant / To be confirmed in detailed design**. Some aspects of this provision (i.e. structural design) are related to detailed design and comment on their compliance cannot be made at this time. With respect to aspects of this provision that are applicable at the planning stage, the proposal: • Minimises fill and has ensured no adverse impacts to adjacent properties; • No development in flood storage areas at or below the FPL; and, • Proposed development is supported by a Flood Emergency Plan.

7.4 Ministerial Local Planning Directions

The Minister for Planning can issue Ministerial Directions to issues directions to planning authorities about the preparation of planning schemes and amendments to planning schemes.

Planning authorities must comply with the Ministerial Direction on the Form and Content of Planning Schemes, issued under Section 9.1(2) of the *Environmental Planning and Assessment Act 1979*. The direction applies to planning scheme layout and required information – including amendments to those planning schemes – and should be read together with the Planning Provisions.

On 1 March 2022, revised Local Planning Directions were issued relating to, in part, flood resilience and hazard. The Directions (Direction 4.1 Flooding) were issued to commence 1 March 2022 (replacing previous Direction 4.3).

The objectives of this direction are to:

(a) Ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005, and

(b) Ensure that the provisions of an LEP that apply to flood prone land are commensurate with flood behaviour and includes consideration of the potential flood impacts both on and off the subject land.

A summary of if and how the proposed development complies these directions is provided in **Table 7-4**.

Table 7-5 Compliance with Ministerial Direction 4.1

Consistency with Ministerial Direction 4.1	
Requirements	Compliance and Justification
(1) A planning proposal must include provisions that give effect to and are consistent with: *(a) the NSW Flood Prone Land Policy,* *(b) the principles of the Floodplain Development Manual 2005,* *(c) the Considering flooding in land use planning guideline 2021, and* *(d) any adopted flood study and/or floodplain risk management plan prepared in accordance with the principles of the Floodplain Development Manual 2005 and adopted by the relevant council.*	**Compliant**. The FIRA has been prepared with reference to relevant plans and policies, and to adopted floodplain risk management studies. The 2023 Floodplain Risk Management Manual has been referenced in place of the 2005 Manual.
(2) A planning proposal must not rezone land within the flood planning area from Recreation, Rural, Special Purpose or Conservation Zones to a Residential, Business, Industrial or Special Purpose Zones.	**Compliant**. The proposal does not seek to rezone these land uses.
(3) A planning proposal must not contain provisions that apply to the flood planning area which: *(a) permit development in floodway areas,* *(b) permit development that will result in significant flood impacts to other properties,* *(c) permit development for the purposes of residential accommodation in high hazard areas,* *(d) permit a significant increase in the development and/or dwelling density of that land,* *(e) permit development for the purpose of centre-based childcare facilities, hostels, boarding houses, group homes,*	**Compliant**. Within the flood planning area, the development does not: • Permit development in 1% AEP floodway areas; • Result in significant impacts to other properties; • Include residential development; • Include any flood sensitive land uses;

Consistency with Ministerial Direction 4.1	
Requirements	Compliance and Justification
hospitals, residential care facilities, respite day care centres and seniors housing in areas where the occupants of the development cannot effectively evacuate, *(f) permit development to be carried out without development consent except for the purposes of exempt development or agriculture. Dams, drainage canals, levees, still require development consent,* *(g) are likely to result in a significantly increased requirement for government spending on emergency management services, flood mitigation and emergency response measures, which can include but are not limited to the provision of road infrastructure, flood mitigation infrastructure and utilities, or* *(h) permit hazardous industries or hazardous storage establishments where hazardous materials cannot be effectively contained during the occurrence of a flood event.*	• Permit development to be carried out without development consent; • Increase emergency management requirements for events up to the FPL.
(4) A planning proposal must not contain provisions that apply to areas between the flood planning area and probable maximum flood to which Special Flood Considerations apply which: *(a) permit development in floodway areas,* *(b) permit development that will result in significant flood impacts to other properties,* *(c) permit a significant increase in the dwelling density of that land,* *(d) permit the development of centre-based childcare facilities, hostels, boarding houses, group homes, hospitals, residential care facilities, respite day care centres and seniors housing in areas where the occupants of the development cannot effectively evacuate,* *(e) are likely to affect the safe occupation of and efficient evacuation of the lot, or* *(f) are likely to result in a significantly increased requirement for government spending on emergency management services, and flood mitigation and emergency response measures, which can include but not limited to road infrastructure, flood mitigation infrastructure and utilities.*	**Compliant** The proposed land use does not fall within the list to which Special Flood Considerations apply.
(5) For the purposes of preparing a planning proposal, the flood planning area must be consistent with the principles of the Floodplain Development Manual 2005 or as otherwise determined by a Floodplain Risk Management Study or Plan adopted by the relevant council.	**Compliant**. The Bega Centre FIRA has been prepared in accordance with the *Flood Impact and Risk Assessment Flood Risk Management Guideline LU01* issued as part of the *Flood Risk Management Manual* (State of NSW and Department of Planning and Environment, 2023)
A planning proposal may be inconsistent with this direction only if the planning proposal authority can satisfy the Planning Secretary (or their nominee) that: *(a) the planning proposal is in accordance with a floodplain risk management study or plan adopted by the relevant council in accordance with the principles and guidelines of the Floodplain Development Manual 2005, or* *(b) where there is no council adopted floodplain risk management study or plan, the planning proposal is consistent with the flood study adopted by the council*	**Compliant**. A Floodplain Risk Management Study and Plan have been prepared for riverine flooding. This preceding study has been utilised as appropriate in this FIRA. An additional flood model has been developed for the local catchment in accordance with the *Flood Risk Management Manual* (State of NSW and Department of Planning and Environment, 2023), as no prior study was available to define this flood

Consistency with Ministerial Direction 4.1	
Requirements	Compliance and Justification
prepared in accordance with the principles of the Floodplain Development Manual 2005 or *(c) the planning proposal is supported by a flood and risk impact assessment accepted by the relevant planning authority and is prepared in accordance with the principles of the Floodplain Development Manual 2005 and consistent with the relevant planning authorities' requirements, or* *(d) the provisions of the planning proposal that are inconsistent are of minor significance as determined by the relevant planning authority.*	behaviour. The local catchment model has been prepared using the same methodology and model parameters as the riverine risk management study.

8 Conclusion and Findings

8.1 Study Process and Deliverables

The National Circularity Centre Flood Impact and Risk Assessment (FIRA) has been prepared for the Regional Circularity Cooperative Limited to define the existing flood behaviour in the catchment and to assess, and address, if necessary, the potential impacts arising from the future development of the site.

This report has been prepared to provide the flood assessment associated with a Planning Proposal for the site and, in doing so, considers Local Planning Direction 4.1 Flooding (March 2022).

Bega Group, with funding support from the NSW Government, is proposing to develop a portion of their North Bega site with a new information and education centre. The development is comprised of:

- Heritage, history, and education exhibits;
- Restaurant;
- Tourist Information;
- Gift Shop;
- Museum;
- Function space; and,
- Associated storage, facilities, and parking.

A preliminary rendering of the proposed development is shown in **Figure 1-2**.

A Planning Proposal was submitted for the development, at which stage comments were raised by Department of Planning and Environment (DPE) as to potential flood risks to occupants and infrastructure. The Planning Proposal was subsequently rejected due to uncertainties about the level of flood risk and its management.

The FIRA was required to establish:

- If the developed resulted in adverse impacts to existing infrastructure or development;
- The impacts of the proposed development on the flood risk to the existing community
- The impacts and risks of flooding on the development and its users
- How these impacts can be managed to minimise the growth in risk to the community due to the development.

To undertake this assessment:

- A review was undertaken of available data and studies. Of particular relevance was the *Bega and Brogo Rivers Floodplain Risk Management Study and Plan* (Cardno, 2018) which was used to define the riverine flood behaviour.
- A local catchment flood model was constructed to define the flood behaviour arising from local catchment events.
- The existing flood behaviour (depth, levels, velocity, and hazard) were defined for both the local catchment and riverine flood events.
- An iterative assessment of potential landforms was undertaken to determine a landform that was feasible and did not result in adverse flood impacts.
- A review of flood risk across the Precinct was undertaken.

- An assessment was undertaken to examine flood warning time and potential emergency response and evacuation for the Precinct.
- A review was undertaken of Council's existing plans and policies and Local Planning Direction 4.1 (March 2022) to ensure that the proposed Precinct development is compatible with these controls.

8.2 Findings

As a result of the assessments undertaken as part of this study it was found that:

Flood risk is primarily mitigated through:

- Raising the building pad to the FPL was sufficient to prevent flooding of the site for all local catchment flood events, up to and including the PMF.
- Overland flow through the site was managed by a depressed vegetated corridor, with additional capacity provided for the PMF by allowing flow through the adjacent carpark.

In achieving flood mitigation through site raising, no significant flood impacts result on adjacent properties.

The confidence in the flood modelling was confirmed through sensitivity testing:

- Sensitivity testing demonstrated that the flood behaviour and risk through and surrounding the site was not significantly affected by culvert blockage assumptions;
- Local catchment PMF flooding was found to be somewhat sensitive to the roughness of the proposed overland flow path. It is recommended that the proposed vegetation types and densities in this region keep this in mind to ensure sufficient conveyance is provided for the PMF to prevent overtopping of the building pad.

The recommended emergency response for the site was:

- Evacuation for riverine flood events; and,
- Shelter in place for local catchment flood events.

Sufficient warning time was found to be available from existing riverine gauges to enable evacuation of the site in advance of a riverine flood. Further warning time would be available if rainfall forecasts were used to inform site closure and evacuation.

It is acknowledged that despite the mitigation measures above there is a significant residual flood risk from rare and extreme riverine flood events that cannot be mitigated. PMF flood depths of approximately 6m occur across the site.

Overall, the development was found to be compliant with all planning and development controls and the requirements of the Local Planning Direction 4.1.

9 References

Cardno. (2018). *Bega River Floodplain Risk Management Study and Plan.*

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State of NSW and Department of Planning and Environment. (2023). *Flood Risk Management Manual: The policy and manual for the management of flood liable land.* Parramatta NSW: Environment and Heritage Group, Department of Planning and Environment.

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