SNOWY MONARO
REGIONAL COUNCIL

BUSINESS PAPER

PUBLIC EXHIBITION COPY

Ordinary Council Meeting
16 July 2020

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A conflict of interest arises when the Mayor or Council staff are influenced, or are seen to be influenced, in carrying out their duties by personal interests. Conflicts of interest can be pecuniary or non-pecuniary in nature.

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Acknowledgement of Country

Council wishes to show our respect to the First Custodians of this land the Ngarigo, Walgalu, Ngunnawal and Bidhawal people and their Ancestors past and present.

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ORDINARY COUNCIL MEETING
TO BE HELD IN COOMA COUNCIL CHAMBERS, 81 COMMISSIONER STREET, COOMA NSW 2630

ON THURSDAY 16 JULY 2020
COMMENCING AT 5:00PM

BUSINESS PAPER

1. OPENING MEETING

2. ACKNOWLEDGEMENT OF COUNTRY

3. APOLOGIES AND APPLICATIONS FOR LEAVE OF ABSENCE BY COUNCILLORS

4. CITIZENSHIP CEREMONIES

5. DISCLOSURE OF INTEREST
(Declarations also to be made prior to discussions on each item)

6. MATTERS DEALT WITH BY EXCEPTION

7. CONFIRMATION OF MINUTES
7.1 Ordinary Council Meeting held on 18 June 2020
7.2 Closed Session of the Ordinary Council Meeting held on 18 June 2020

8. PLANNING AND DEVELOPMENT APPLICATION MATTERS
Nil

9. OTHER REPORTS TO COUNCIL

9.1 KEY THEME 1. COMMUNITY

9.2 KEY THEME 2. ECONOMY
Nil

9.1.1 BOMBALA WATER SUPPLY OPTIONS REPORT

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Water Consultant
Key Theme:	1. Community Outcomes
CSP Community Strategy:	1.1 Quality health and well-being services that support the changing needs of the community through all stages of the lifecycle are provided through government and non-government organisations
Delivery Program Objectives:	1.1.2 Water and Sewer Services meet legislative and quality requirements
Attachments:	1. T\3137056-REP-Rev0_Options_Assessment_Bombala_Water_Supply - final
Cost Centre	
Project	Further Operational Plan Actions:

EXECUTIVE SUMMARY

The scope of this report and attachment is to inform Council on the condition and performance of the existing Bombala drinking water supply covering the raw water pump station and Bombala water treatment plant (BWTP) and options for an upgrade to achieve reliable and sustainable treatment and supply for the next 25 years compliant with the Australian Drinking Water Guidelines (ADWG) plus "water industry best practice in operation" and meeting community expectation.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council
A. Receive and note the Options Assessment Report – Bombala Water Supply;
B. Endorse the Options Assessment Report – Bombala Water Supply for public exhibition.

BACKGROUND

Snowy Monaro Regional Council (SMRC) engaged GHD to carry out an Options Assessment and Concept Design for upgrades to the water supply systems for the towns of Bombala and Delegate in southeast New South Wales. This report covers the town of Bombala.

Bombala is supplied with treated water from a conventional water treatment plant. The plant is located on Cathcart Road to the north east of the Bombala Township. The raw water is sourced from Coolumbooka Dam on the Coolumbooka River, upstream of the confluence with Bombala

River.

The existing Bombala and Delegate water supply systems face a number of challenges related to the reliable provision of safe, high quality drinking water to their communities. Residents of Bombala and Delegate have expressed severe dissatisfaction about water quality and in response, the NSW Government has allocated substantial funding for upgrades to the water systems servicing these towns.

To date only minor changes have occurred (e.g. new actuated valves at filters and electrical control upgrade including PLC project delivered in 2017). The plant remains a challenge to operate due to ageing assets, failed equipment and treatment processes that do not handle high raw water iron and manganese colour events or taste and odour issues adequately. Improvements are needed to achieve performance, operability and health and safety requirements.

The new water treatment plant design and land is constrained by land designated to “Men’s Shed and S.E.S. building” that are adjacent to the BWTP and this is evident in the attachment where designers are trying to fit all the required process units on Council land only.

The report covers alternate water supplies in section 4 which clearly states that the bores drilled and assessed by hydrologists engaged by Council were not a viable alternate or even a supplement to Coolumbooka River water supply.

Also covered in section 4 is the proposal of a “Bombala weir” for water security. This was previously rejected by DPIE water, DPI Fisheries and Roads and Maritime services by letters to Council (see appendix N -Weir proposal correspondence) stating that the only way this would be considered is if covered in the new integrated water cycle strategy. This integrated water cycle management strategy is currently under development and the matter of the Bombala weir has been referred to the consultants preparing this strategy for consideration.

GHD presented the draft report to the briefing of Council held on 2 July 2020.

Report Conclusions

Conclusions on existing assets at the BWTP are:

- The existing raw water pump station requires a new building and E, I and C works due to very old assets in poor condition and not fit for purpose.
- The existing BWTP is now 39 years old and the process (especially alkali, polymer and chlorine) and most electrical systems are older than normal asset life.
- Existing sludge ponds are too small to achieve the requirements of (1) containment of filter wash water and clarifier sludge plus (2) sludge drying.

The main conclusions from the assessment of demand, groundwater alternative, existing surface water quality and treatment were:

- The required future (in 25 years) peak day demand for the new WTP is 1.5 ML/d
- The alternative of a future water supply from groundwater was found to be not viable
- The existing raw water pump station structures are well beyond asset life and the pumps have no variable flow control and minimal telemetry back to the WTP. A reliable pump station with ability to modulate flowrate and monitor performance is essential, particularly given the relatively old AC water main connecting it to the WTP.

- The raw water catchment for this system is unprotected with substantial areas of grazing land for cattle/sheep/deer and septic tanks at rural properties. Based on the Health based Targets (HBT) concept, understood to be soon added to the ADWG, the Source Water Category Classification would be 4. This requires multiple treatment barriers to achieve the required high level of removal of bacteria/virus /protozoan (e.g. Cryptosporidium).
- Raw water quality conditions are challenging for treatment. This is mainly because this water supply from Coolumbooka Dam is from an unprotected catchment with high microbiological risk plus after chlorine is added, it produces levels of disinfection by products (eg THMs) that may exceed ADWG health limit in the treated water. Also, raw water is soft with ongoing odour due to MIB/Geosmin and has very low water temperatures in winter.
- These characteristics require special features to be added for effective treatment. Events of very high manganese and iron occur. The existing treatment processes are not suitable or sufficient for treatment of this combination of risk and raw water quality conditions.
- The existing WTP is now 39 years old and the process (especially alkali, polymer and chlorine) and most electrical systems are older than normal asset life. Some minor improvements have recently occurred (e.g. motorised filter valves, new coagulant dosing system and limited SCADA upgrade) but performance of this plant is generally below standard (e.g. THMs are too high). Treatment essentially failed for several days soon after the recent wet weather event in February 2020. The existing process is not suitable for these rapidly deteriorating conditions.

Report Recommendation – on this assessment of requirements to achieve them

Based on projected demand in 25 years' time, the required new WTP capacity is 1.5ML/d with a peak instantaneous flowrate of 25 L/s. The key features of the preferred **Option 3** to go to the next stage of this project are:

- Treatment process; Pre-oxidation + Dissolved Air Floatation (DAF) + Membrane filtration + GAC + UV+ chlorination then chloramination + THM stripping.
- Buildings: designed to suit bushfire rating of the area Location; at existing old house site and decommission existing WTP but possibly reuse existing building for some of the chemical systems and for administration/spares storage .
- New wash water/sludge system; wash water/sludge holding tank and pumps to thickened and then concentrated sludge to existing sludge ponds and supernatant tank and supernatant return pumps to WTP inlet.
- Construct a separate purpose built new chlorination building to house a duty + standby 920kg drums of chlorine plus duty/standby gas chlorinators and separate service water system .
- Because Fluoridation is best located in a separate purpose built building as it requires specialist contractor and often is completed under a separate funding process.
- Continue, at lower frequency of sampling, the special water sampling program over autumn /winter focusing on the main issues of raw water at dam; E.coli, pH, alkalinity, colour, turbidity, MIB/Geosmin and DOC.

Please note that "Recommendations/conclusions" referred to above are in section 7.1 of the attachment.

The Options Assessment Report – Bombala Water Supply has been sent to DPIE Water for their comments and endorsement, which is a requirement to move forward with any proposed upgrade to a water treatment plant in NSW. Once comments and endorsement are received from DPIE Water, Council can proceed with public exhibition of the report.

Note - $200,000 has already been spent by Council on the Bombala and Delegate Water Supply Option study as required by the funding arrangement for this project.

QUADRUPLE BOTTOM LINE REPORTING

- **Social**

This information report and attached options report is to update the Council and community on raw water quality and water treatment plant options.

- **Environmental**

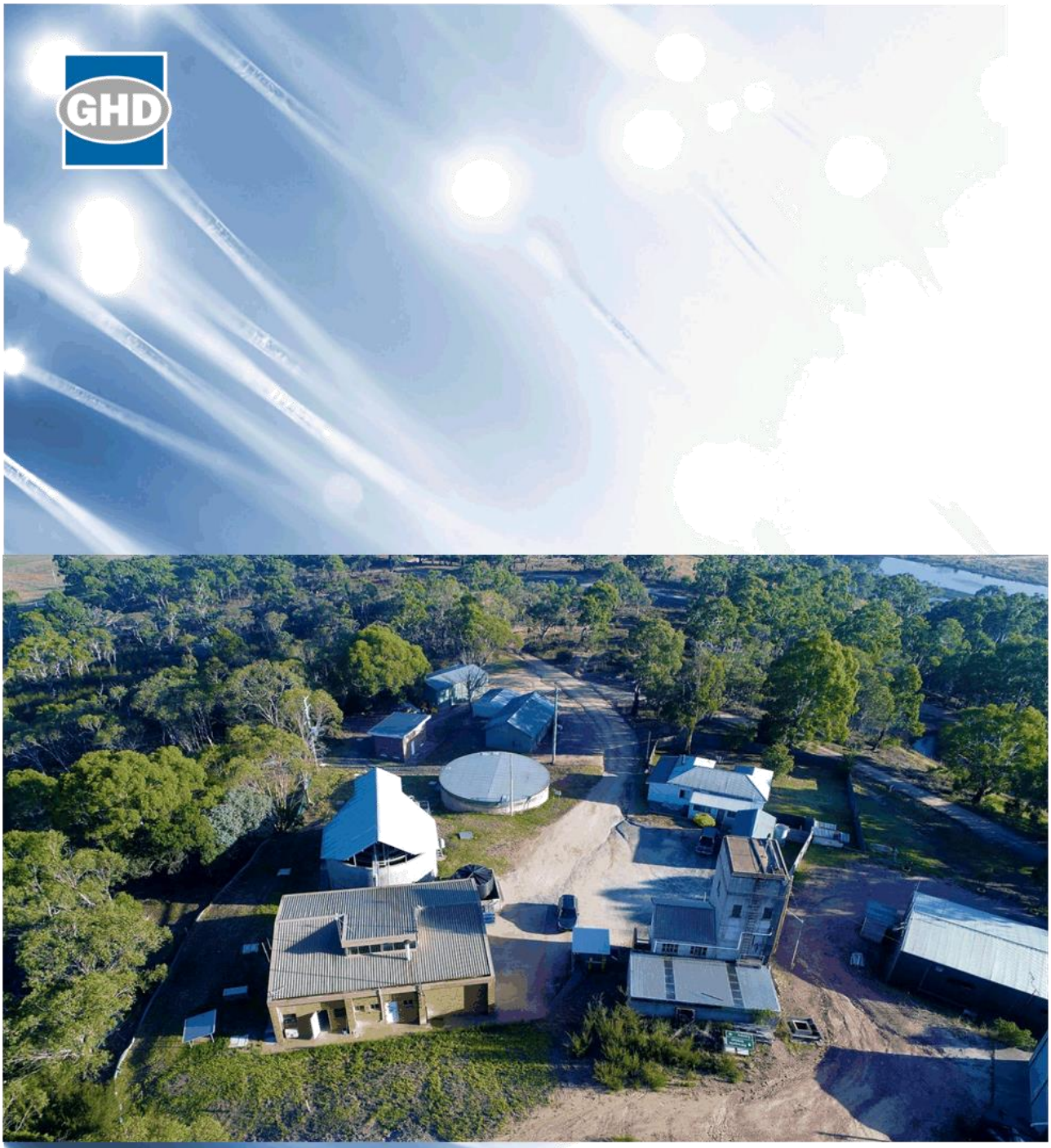
Prior to construction on any approved plant upgrade option, a full review of environmental factors (REF) will be undertaken as a critical part of the upgrade.

Economic

Funding is available for the new WTP through state funding with a commitment by the Minister for Regional NSW. Mr. John Barilaro in the amount of up to $15M for Bombala and Delegate water supply systems. ($10M Bombala, $5M Delegate)

- **Civic Leadership**

Council is driving this initiative to deliver an efficient, reliable and high quality water supply for the community of Bombala and Delegate.



Snowy Monaro Regional Council

Options Assessment Report - Bombala Water Supply

May 2020

WATER | ENERGY & RESOURCES | ENVIRONMENT | PROPERTY & BUILDINGS | TRANSPORTATION

Executive summary

The scope of this report was to assess the condition and performance of the existing Bombala Drinking water supply covering the Raw water Pump station and Bombala Water Treatment Plant (WTP) and

Develop options for upgrade to achieve reliable treatment for the next 25 years compliant with current and likely future Australian Drinking Water Guidelines (ADWG) plus "good water industry practice" for the raw water quality conditions.

Conclusions

The main conclusions from condition assessment of the existing Water Treatment facilities were;

- The existing raw water pump station requires a new building and E, I and C works due to very old asset in poor condition and not fit for purpose.
- The existing WTP is now 39 years old and the process (especially alkali, polymer and chlorine) and most electrical systems are older than normal asset life.
- Existing sludge ponds are too small to achieve the requirements of (1) containment of filter wash water and clarifier sludge plus (2) sludge drying

The main conclusions from the assessment of demand, groundwater alternative, existing surface water quality and treatment were;

- The alternative of a future water supply from groundwater was found to be not viable
- The required future (in 25 years) peak day demand for the new WTP is 1.5 ML/d
- The raw water catchment for this system is unprotected with substantial areas of grazing land for cattle/sheep/deer and septic tanks at rural properties. Based on the Health based Targets (HBT) concept, understood to be soon added to (ADWG), the Source Water Category Classification would be 4. Also, raw water quality conditions are challenging. This is mainly because this water supply from Coolumbooka Dam is from an unprotected catchment with high microbiological risk plus after chlorine is added, it produces levels of disinfection byproducts (eg THMs) that exceed ADWG health limit in the treated water. Also, the water has a continuous level of poor odour, events of very high manganese and iron and is relatively soft with very low water temperatures in winter which requires special features to be added for effective treatment.
- The existing treatment processes at the WTP are not suitable or sufficient for treatment of this combination of raw water risk and water quality conditions. Treatment essentially failed for several days soon after the recent wet weather event in February 2020. The existing process is not suitable for these rapidly deteriorating conditions.
- The existing raw water pump station structures are well beyond asset life and the pumps have no variable flow control and minimal telemetry back to the Water Treatment Plant (WTP). A reliable pump station with ability to modulate flowrate and monitor performance is essential, particularly given the relatively old AC water main connecting it to the WTP.
- The recent special water quality sampling program has highlighted the water quality challenges and inadequate existing WTP performance.

A summary of the options and comparison of options is set out below. All the Options 2 to 5 would be located at the site of the old house on the existing WTP site.

Option 3 is preferred overall on cost and non-cost advantages basis.

Item	OPTION 1 upgrade existing WTP clarifier/filters GAC Disinfection/UV THM stripping	OPTION 2 New site Clarifier/MF GAC Disinfection/UV THM stripping	OPTION 3 New site DAF/MF GAC Disinfection/UV THM stripping	OPTION 4 New site DAF/MF Ozone/GAC Disinfection/UV THM stripping	OPTION 5 New site DAF/MF NF Disinfection
CAPEX	$8.6m	$9.3m	$9.1m	$9.8m	$9.6m
NPC	$12m	$13.5m	$13.3m	$14.2m	$17m
Performance	✓✓ (clarifier uncertain)	✓✓✓ (small nitrification risk)	✓✓✓ (small nitrification risk)	✓✓✓✓	✓✓✓✓✓
Operability	✓✓ (too compact)	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓ (
Env&WHS	✓✓ (ongoing poor access to filter valves)	✓✓✓	✓✓✓	✓✓✓	✓(high volume of salty NF waste)
Construction complexity	✓ (existing structure and uncertain time offline needing carting in water risks)	✓✓✓✓ (small building easily fits)	✓✓✓✓ (small building easily fits)	✓✓✓ (bigger building)	✓✓✓ (bigger building)
Easy procurement	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓ (NF equipment)

The above costs do not include Fluoridation. Based on a separate contract for a new building and sodium fluoride dosing system compliant with the NSW code the extra cost is estimated at $0.65m. This cost is based on recent tenders and independent cost estimates.

Recommendations

The following is recommended based on this assessment of requirements and the options to achieve them;

- Based on projected demand in 25 years' time, the required new treated water output capacity is 1.5ML/d
- The features of the preferred WTP Option 3 to go to concept design are;
  - Process: Pre-oxidation + Dissolved Air Floatation (DAF) + Membrane filtration + GAC + UV + chlorination then chloramination. + THM stripping
  - Location; at existing old house site suited to bushfire rating with construction occurring while keeping the existing plant operating to avoid need to cart in water

  - Impact on existing WTP : during concept design stage investigate reuse opportunities (eg existing coagulant bulk storage) to reduce total cost
  - New wash water/sludge system; wash water +sludge holding tank and pumping to thickener and then concentrated sludge to existing sludge ponds and supernatant return to WTP inlet

- Construct a separate purpose built new chlorination building to house a duty + standby 920kg drums of chlorine plus duty/standby gas chlorinators and separate service water system
- Because Fluoridation is best located in a separate purpose built building , requires specialist contractors and often completed under a separate funding process it is recommended it be a separate contract
- Continue, at say every 2 weeks frequency, the special water sampling program over autumn /winter focusing on the main issues relevant to optimising the new treatment process design;
  - Raw water at dam; E,coli, pH, alkalinity, colour, turbidity, MIB/Geosmin and DOC
  - Filtered water; turbidity prior to addition of soda ash and chlorine
  - Treated water; DOC, pH, alkalinity and THMs (CWS, Res1 and retic sites)

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1. Introduction

1.1 Project need

GHD has been engaged by Snowy Monaro Regional Council (SMRC) to carry out an Options Assessment and Concept Design for upgrades to the water supply systems for the towns of Bombala and Delegate in southeast New South Wales. This report covers the town of Bombala.

Bombala is supplied with treated water from a conventional water treatment plant. The plant is located on Cathcart Road to the north east of the Bombala Township. The raw water is sourced from Coolumbooka Dam along Coolumbooka River, upstream of the confluence with Bombala River.

The existing Bombala and Delegate water supply systems face a number of challenges related to the reliable provision of safe, high quality drinking water to their communities. Residents of Bombala and Delegate have expressed severe dissatisfaction about water quality and in response, the NSW Government has allocated substantial funding for upgrades to the water systems servicing these towns.

To date only minor changes have occurred (e.g. new actuated valves at filters and new PLC). The plant remains a challenge to operate due to ageing assets, failed equipment and treatment processes that do not handle high raw water iron & manganese colour events or taste & dour issues adequately. Improvements are needed to achieve performance, operability and health and safety requirements.

1.2 Project scope

This report outlines the results of audit of existing assets and an Options Assessment for the future Bombala Water Treatment Plant (WTP). Specifically, the aims of this report were to:

- Review information supplied by Council, including the analysis of raw water quality data
- Assess the existing WTP, including assessment of its process performance, OH&S compliance and asset condition
- Develop upgrade options, including advantages, disadvantages and cost estimates
- Recommend a preferred upgrade option.

1.3 Purpose of report

The purpose of this report is to develop upgrade options for Bombala WTP and recommend a preferred upgrade option to SMRC.

1.4 Scope and limitations

As part of this Options Assessment, GHD advised Council to undertake a water quality sampling and analysis program. Results from this testing program have been used in this report in order to assess the raw water quality and treatment capability of the existing water treatment plant process train.

The sampling program was of limited duration and did not cover the recent large storm event for several water quality characteristics (results are summarised in Appendix C). In order to determine an accurate raw water quality envelope to inform upgrade options for Bombala WTP, it is recommended that the water sampling program continue to better inform future design stages of this project.

Report based on sampling program and other intermittent results since 2014. Concern was raised that the recent program showed that in some respects the daily operational water quality data is of limited value as the results do not appear to match results done by ALS (NATA credited lab). Refer to Appendix C.

This report: has been prepared by GHD for Snowy Monaro Regional Council and *may only be used and relied on by Snowy Monaro Regional Council for the purpose agreed between GHD and the Snowy Monaro Regional Council as set out in section 1.3 of this report.*

GHD otherwise disclaims responsibility to any person other than Snowy Monaro Regional Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared...

GHD has prepared this report on the basis of information provided by Snowy Monaro Regional Council and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

GHD has prepared the preliminary cost estimate set out in section 6 of this report using information reasonably available to the GHD employee(s) who prepared this report; and based on assumptions and judgments made by GHD.

The Cost Estimate has been prepared for the purpose of comparison of options and must not be used for any other purpose.

The Cost Estimate is a preliminary estimate only. Actual prices, costs and other variables may be different to those used to prepare the Cost Estimate and may change. Unless as otherwise specified in this report, no detailed quotation has been obtained for actions identified in this report. GHD does not represent, warrant or guarantee that the works can or will be undertaken at a cost which is the same or less than the Cost Estimate.

Where estimates of potential costs are provided with an indicated level of confidence, notwithstanding the conservatism of the level of confidence selected as the planning level, there remains a chance that the cost will be greater than the planning estimate, and any funding would not be adequate. The confidence level considered to be most appropriate for planning purposes will vary depending on the conservatism of the user and the nature of the project. The user should therefore select appropriate confidence levels to suit their particular risk profile.

1.5 Assumptions

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this section of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

The assumptions for this report are

- Plant drawings, provided by Council represent as constructed details
- Demand data and future growth rate projections and water quality data provided by Council are reasonable representation of history and the future for this site

- Observed movement of the filter block (i.e. widening crack in brickwork between clarifier and filter) is not to the extent that the existing plant is unsafe and cannot be fixed. No detailed structural analysis to confirm the extent of damage and required repairs and cost has been provided by Council. GHD has assumed a cost up to $100,000 in comparison of options
- The option of upgrade of the existing WTP (Option 1) is assumed to require this WTP to be offline for extended periods. Extended shutdown is needed for works including at the existing clarifier (eg cleaning, repairs/recoating/modification for sludge blanket/tube-settler), new filter inlet works and control building (eg electrics and new chemical dosing system). That is, the combination of unprotected catchment Cat 4 rating for microbiological health risk combined with evidence of periods of difficult to coagulate source water especially during wet weather events means bypassing the clarifier for direct flow of coagulated water to the filters is considered too high a risk. Allowance has been made for trucking in drinking water at 0.5 ML/day to the Clear Water Storage for a total of at least 30 days (note that it could easily be longer), spread through a low demand months. This trucking in of drinking water requirement is not required for the new WTP options 2, 3 or 4. They can be constructed while the existing plant continues to operate and then cut-over into operation within a day or so.

  Cost of water cartage for the Brogo WTP upgrade amounted to $33,000/ML. Similar pricing was advised by a supplier in Cooma for water cartage between Cooma to Bombala (approx. 90km). This translates to about $0.5 million for 30 days of cartage of water to Bombala WTP for this Option 1.

2. Performance Objectives

2.1 Introduction

This section outlines water supply performance objectives, used to assess the existing Bombala WTP and develop upgrade options.

The overall water supply performance objectives for the Bombala WTP are (in general terms):

- Meet current and future water demand
- Meet treated water quality requirements
- Achieve asset life, environmental and OH&S requirements and reliable operation targets
- Minimise whole-of-life cost

These are further developed below.

2.2 Water Demand and WTP design capacity

The water quantity performance objective is to provide adequate WTP capacity to meet current and future peak day demands for all raw water quality scenarios. The water demand projection needs to cover both Peak Day and Annual Demand for the planning horizon of 25 years.

2.3 Treated Water Quality Requirements

The key guidance documents for drinking water quality are:

- Australian Drinking Water Quality Guidelines (ADWG)
- Health Based Targets (HBT) framework for Raw Water Quality conditions

The ADWG provides water quality limits measured at customer taps.

Table 1 sets out the normal treated water quality requirements that the upstream Water Treatment Plant (WTP) needs to be designed for to achieve the requirements of ADWG and HBT.

Table 1 Treated water quality targets

Parameter	Units	ADWG or "Good Practise" Target	Monitoring Location
E. Coli	org / 100 mL	Not detected	Clear Water Storage (CWS)
pH		Set point* ± 0.2	CWS
Filtered turbidity	NTU	<0.2 @95%, max ≤0.5	Combined Filter outlet
True Colour	Hazen	<5 @95%, max ≤10	CWS
Dissolved Organic Carbon	mg/L	<6 mg/L	CWT to achieve THM requirement
Aluminium	mg/L	<0.1 @ 95%, max ≤0.2	CWS
Iron, total	mg/L	<0.1 @ 95%. max ≤0.3	CWS
Manganese, total	mg/L	<0.02 @ 95%. max ≤0.05	CWS
THMs	mg/L	Max <0.25	Reticulation Network
Taste & Odour - Geosmin - MIB	 ng/ L ng/L	 <5 <5	For good T&O at customer taps
Chlorine Residual (FCR)	mg/L	Set point* ± 0.2	CT>15mg/L-min for free chlorine leaving Res1
Fluoride	mg/L	Set point ± 0.1	At CWS
Treated Water Stabilisation CCPP LSI	mg/L	 -4 to 0 -1 to 0	At CWS
Health Based Targets (HBT)		LRVs for category 4 unprotected catchment	

* Set point for pH normally =7.5 to 7.8. Set point for FCR = 1 to 2 mg/L.

2.3.1 Health Based Targets (HBTs)

The National Health and Medical Research Council (NHMRC) current draft of the Health Based Targets (HBT) document (2018), sets out required Log Reduction Value (LRV) for pathogens based on various Source Water Categories. The HBT document defines what LRVs can be achieved by various treatment processes. Refer *Manual for Application of Health-Based Treated Targets, WSAA (2005)*.

2.4 Asset condition, environmental/OH&S requirements and reliable operation

2.4.1 Asset Life

Asset life decisions need to include consideration of:

- Future development; for example impact of increased peak day and annual demand
- Innovation; for example SCADA hardware and control software continue to reduce in cost; increase in capacity/capability and to have limited support life.
- Design and maintenance/planned replacement; for example correct materials of construction, catholic protection systems, timely replacement of old assets and allowance/prevention of settlement of structures are essential for achieving design asset life.

2.4.2 Reliable Operation

It is required that each treatment system is "fit for purpose" in terms of minimum dependence on proprietary equipment, easy to operate and perform well under design raw water conditions and have adequate asset life.

Reliability in operation needs to be in accordance with good industry practice, for example:

- Automation: Adequate online monitoring equipment, alarms and telemetry to allow automatic response to process or equipment failure and efficient operation.
- Reliability: Duty/standby with automatic standby unit start-up upon fault of the duty unit, for process critical equipment.
- OH&S: Minimisation of manual handling, automation of processes.
- Storage: Sufficient balancing storages to minimise start/stop operation and pressure surge risks, and sufficient bulk storage of treatment chemicals.

2.4.3 Contingency Management

Contingency management is required to ensure continuous treated water supply to customers by considering risks and actions to minimise to "acceptable" including:

- Unexpected equipment failure and associated redundancy
- Local or regional power failure
- Poor raw water quality events

2.4.4 Legislative compliance

Regulations

The WTP must comply with statutory requirements including:

- Chemical storage and handling – Dangerous Goods regulations including the Dangerous Goods Act (DGA)
- Occupational health and safety (OH&S) requirements

Environmental management

Environmental considerations for operation of the WTP include:

- Compliance with waste disposal and noise requirements (EPA)

- Minimisation of energy consumption
- Sludge disposal including backwash supernatant recovery – EPA requirements

2.4.5 Whole of Life Cost

The capital cost together with operating and maintenance costs, needs to be minimised over the adopted planning horizon.

3. Review of Existing Bombala System

3.1 Overview of Existing System

3.1.1 General System Description

Bombala's water is supplied from a dam on the Coolumbooka River. The resulting reservoir has a capacity of 300 ML, which is estimated to be reduced to approximately 250 ML due to siltation (Bombala Urban Water Plan, 2000). After the dam, Coolumbooka River merges with Bombala River just upstream of where it flows through Bombala Township.

The treatment process currently uses a conventional reactivator type clarifier then gravity filtration process to treat raw water, with soda ash, ACH, polymer and chlorine dosing.

The majority of Bombala township is either gravity-fed from Reservoir 1 (450 kL), located at a high point on site at the WTP, or Reservoir 2 (1,900 kL), located on the other side of the valley within which Bombala township is located.

A schematic of the existing treatment process at Bombala WTP is shown in Figure 1.

3.1.2 Raw Water System

Raw water is sourced from the Coolumbooka Dam and it is pumped to the WTP via a DN200 AC pipeline. If the parallel DN150 AC pipe is also in use the inflow rate to the WTP can be increased to about 40 to 45 L/s. A separate emergency pump and pipeline can also be used to deliver raw water to the WTP from Bombala River approximately 5 km downstream of the dam. This source has a licence limit of 20 ML/yr (TBC) and is typically only used in periods of very low levels in the Coolumbooka Dam.

3.1.3 Treatment Process

The raw water is pumped from the raw water pump station and dosed with chlorine (for manganese/iron oxidation) and pre-soda ash (only if ACH dose is very high) before entering a 'flash mixer' tank. In this flash mix tank ACH and LT20 polymer are added. The flash mixing occurs only due to the higher velocities in this small tank. The flocculated water then flows into a reactivator clarifier.

The draft tube mixer in the reactivator clarifier is currently turned off. Settled sludge is periodically discharged to 2 No sludge lagoons through a motorised valve, which is automatically opened for 1 minute every hour. A manual valve is also opened by operators to remove excess sludge on a daily basis.

The settled water from the clarifiers is split between 2 no. rising level multi-media gravity filters. Filter media consists of gravel overlayed by sand and then anthracite filter media. The filters currently require manual backwashing however electric actuated valves have recently been installed to permit automatic backwash in the future.

The filtered water is dosed with chlorine and post-soda ash prior to gravity flow to the Clear Water Storage tank. Treated water is pumped to Reservoir 1 at the top of the hill at the WTP site, where it is gravity fed to the town's reticulation system including the main storage, Reservoir 2.

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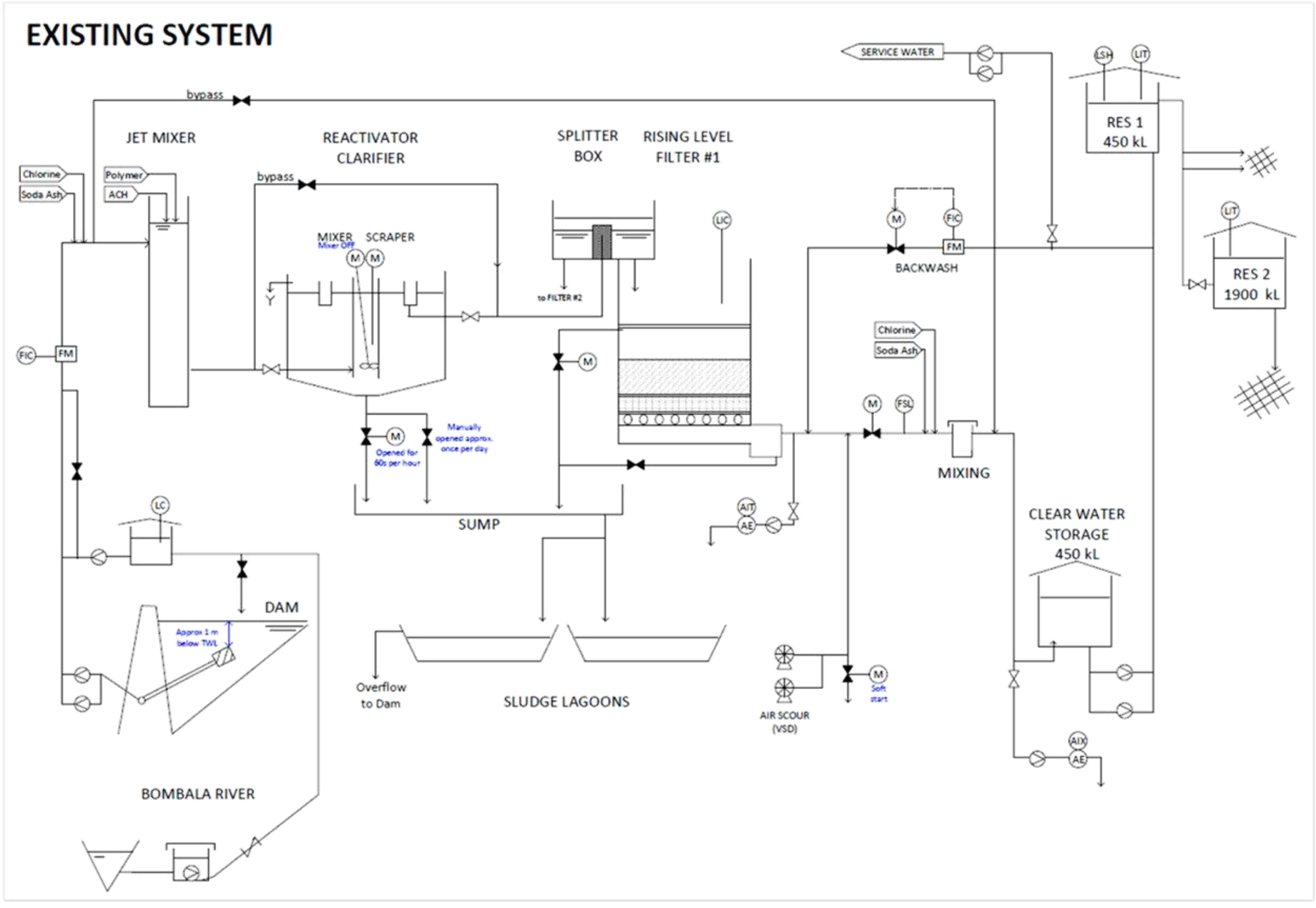

Figure 1 Process flow diagram showing existing process at Bombala WTP

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3.2 Water Demand and WTP design capacity

The existing Bombala WTP currently supplies treated water at approximately 180 ML/year. The plant typically operates between 4 to 11 hours per day (at an instantaneous rate of 25 to 30L/s), depending on demand and raw water quality conditions. Figure 2 shows a time series for daily raw water inflow to the WTP for November 2017 to March 2019. This record is considered the more reliable period of measurement compared to earlier data.

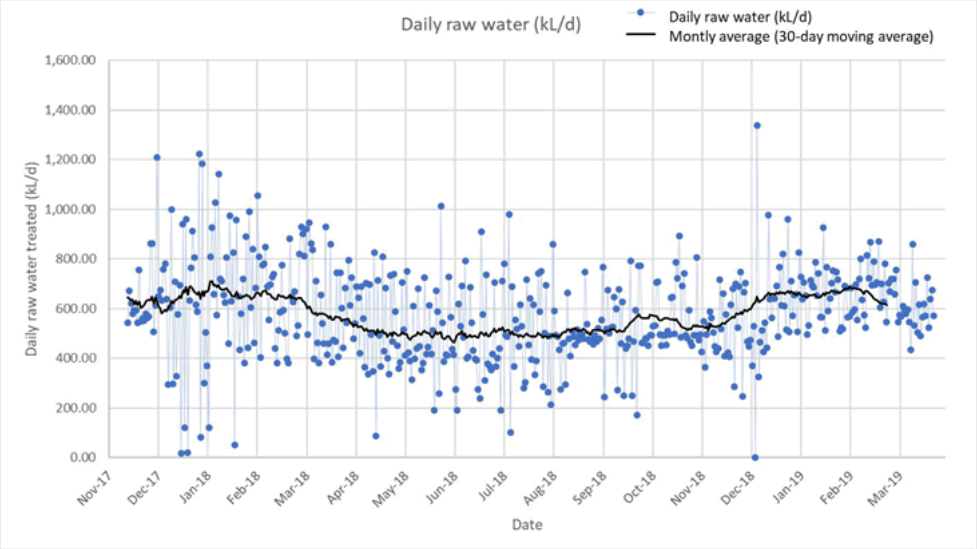

Figure 2 Daily raw water flow to Bombala WTP, Nov-2017 to April-2019

Figure 3 highlights outliers in the daily raw water flow to Bombala WTP from January 2013 to April 2019. All days where 2ML to 2.5ML of raw water was used could be explained by either:

- Lack of raw water demand data immediately before/after "peak" day (suggesting that flow was actually split between the days, but was not captured as data. The comment from Council is that readings are not taken consistently, and hence delays in readings explain these 'peak' days). These points are highlighted by red circles in Figure 3.
- WTP operating at well below capacity on previous days (suggesting that WTP operated for a significant number of hours on "peak" day to fill demand from previous days). These points are highlighted by green circles in Figure 3.

However, there were a number of other days when demand was up around 1.5 ML/d, which may be relatively reliable values.

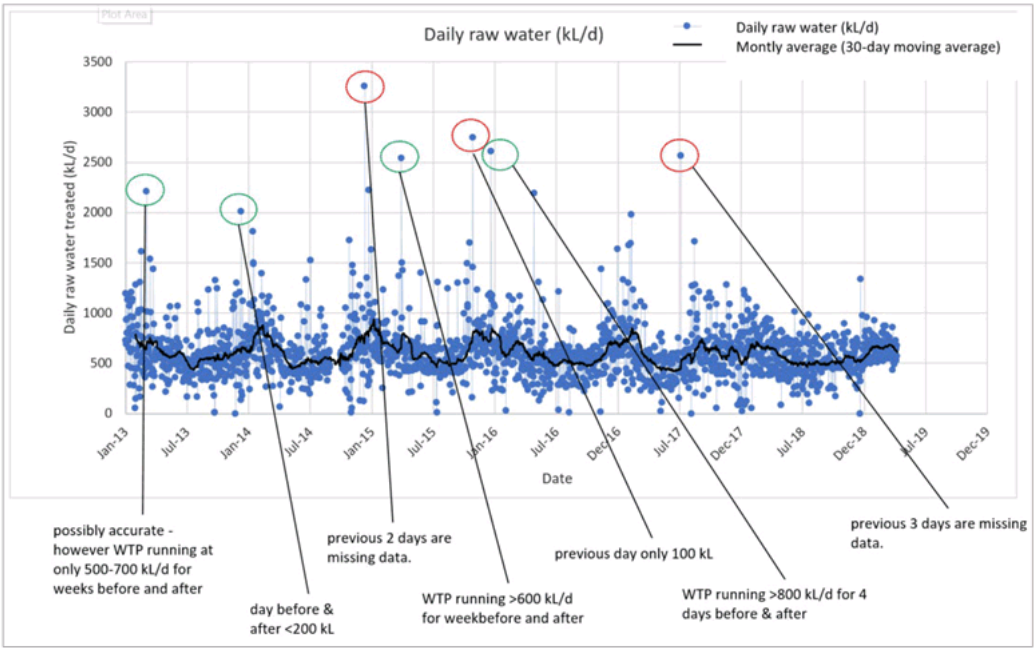

Figure 3 Explanation in daily raw water demand outliers, January 2013 to April 2019

The population of Bombala township is approximately 1,400 (Australian Bureau of Statistics, 2016 Census). Population growth is minimal, and for the purposes of this option assessment a growth rate of 0.1%[1] is assumed to apply to the next 25 years. Table 2 summarises the current raw and treated water flows (based on 2017/19 data) and the projected design annual and peak day flows for this plant in 2045. These WTP design values are based on expected growth over the next 25 years of a total of 2.5% plus an uncertainty allowance (10%) to allow for dry year unrestricted demand plus some uncertainty (given that earlier less reliable data shows higher demands and that demand record available was relatively short).

Based on this design demand the upgraded or new WTP needs to have a peak day output capacity of 1.5ML/d. To allow for the fact that this is the only supply to town, power and equipment failure risk and that there is limited treated water storage design also assumes this 1.5ML output is delivered over a 22 hour period. Assuming the new plant options all have supernatant return then the only loss is only sludge at up to 0.06ML/d. Consequently , the raw water pumps need to be able to deliver up to 1.56ML/d. Adding allowance for supernatant return for daily filter backwashes plus filter to waste and reduced plant production rate during filter backwashing, means an instantaneous flow rate through the plant of 25 L/s is required. This rate has been adopted as the basis for options assessment. Options with additional treatment processes (eg more than a clarification then filtration process step) may require a higher instantaneous rate.

Own in the brief water quality testing program [1] As per SMRC estimates.

Table 2 Current and projected demand and WTP flows

	2017/19 Raw water	2017/19 Treated Water	WTP Design treated water - 2045
Population	1400		1435
Annual Demand	212 ML/yr (1)	180 ML/yr (2)	240 ML/yr
Peak Day Demand	1350 kL/d (1)	1100 kL/d (2)	1500 kL/d

(1) Data for Raw Water daily flow, Nov-2017 – April 2019.

(2) Data for Clear Water daily flow, Nov-2017 – April 2019.

3.3 Water Quality Requirements

3.3.1 Health Based Targets & Log Removal Values (LRVs)

The HBTs set out required Log Reduction Value (LRV) for pathogens based on various Source Water Categories. As per the HBT guidelines (2018), "*the source water category should be determined by combining the vulnerability assessment with the E. coli band allocated according to results of the microbial indicator assessment*".

The matrix in Figure 4 below defines how this works.

Table 5.4. Confirmed source water category based on comparison of *E. coli* concentration with vulnerability assessment

Preliminary source water category based on vulnerability assessment	Microbial indicator concentration category Maximum *E. coli* result per 100 mL		
	<20 (*E. coli* band 1)	20 to 2000 (*E. coli* band 2)	2001 to 20,000 (*E. coli* band 3)
Vulnerability category 1	Category 1 (/)	Category 2 (*)	Anomalous (x)
Vulnerability category 2	Category 2 (*)	Category 2 (/)	Anomalous (x)
Vulnerability category 3	Anomalous (x)	Category 3 (/)	Category 4 (*)
Vulnerability category 4	Anomalous (x)	Category 4 (*)	Category 4 (/)

Combining the results of the *E. coli* data and vulnerability assessment will result in one of the following outcomes:

/ The two assessments are consistent and support each other

* The result is feasible, but has a lower degree of confidence. Both the *E. coli* data and vulnerability assessment should be re-examined to better understand the reasons for the misalignment. For example, if the *E. coli* results indicates a higher level of microbial risk than inferred by the vulnerability assessment, then the vulnerability assessment of the catchment should be repeate to determine if there are sources of microbial risk that were not previously identified.

X- This result should not be accepted. The results should be critically reviewed to understand the discrepancy. In the interim, the most conservative source water category option under consideration should be adopted. These results should be discussed with the relevant party (e.g. a health authority or other regulator).

Figure 4 Vulnerability versus Microbial indicator concentration category in HBT document (2018)

Vulnerability assessment

A vulnerability assessment consists of identifying sources of, and barriers to, pathogen contamination within the water supply catchment. The results from the vulnerability assessment

are used to allocate the source water into one of four preliminary source water vulnerability categories. The vulnerability assessment category is a judgement made on the basis of the outcomes of a risk assessment on the catchment part of the water supply system.

Figure 5 shows a photo of storage behind Coolumbooka Dam, which is the supply source to Bombala WTP. It has an unprotected catchment.

At the time of GHD visit to site, sheep were seen grazing near the dam (yellow circle in figure 5). This is consistent with observations of operators from Bombala WTP indicated that there are often cattle and sheep grazing along the banks of the storage.

It is noted that there is over 26 km of raw water reservoir/river frontage accessible by sheep and cattle within this catchment.

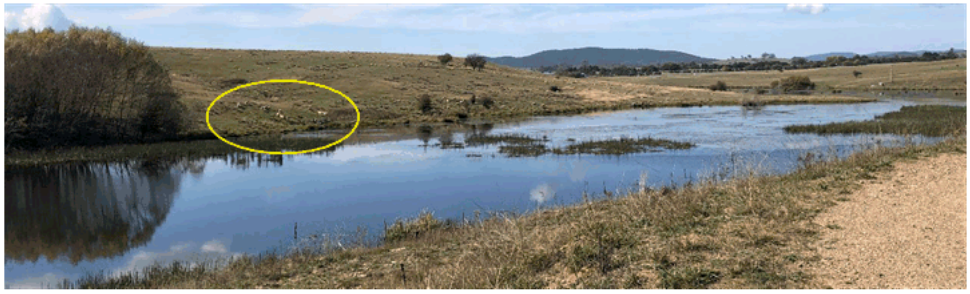

Figure 5 Photo of Coolumbooka Dam from GHD site visit (16 April 2019) showing sheep grazing at edge of dam (circled)

The approximate catchment boundary for Coolumbooka Dam is shown in Figure 6. The figure shows that the catchment area is mainly farmland, with some state or national park and small groups of residential properties.

On this basis the source water is defined as Vulnerability Category 4.

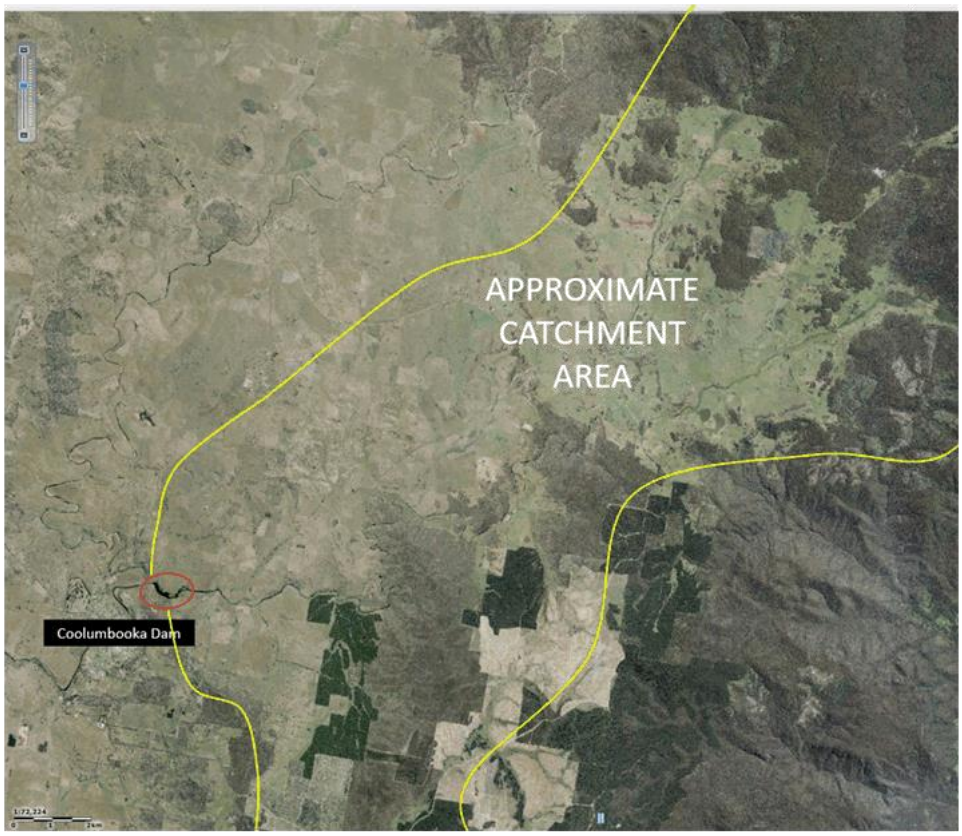

Figure 6 Approximate catchment area of Coolumbooka Dam (estimated from contour lines and location of other rivers in the region)

E.coli testing

The Health Based Targets (HBTs) concept also require that measurements to be made of E.coli concentration in the untreated water going to the WTP. E.coli results for collected data over 2019/20 are shown in:

- Table 3 results as measured each month by NSW Health in 2019.
- Table 4 results as measured by ALS laboratories during the 2019/20 water quality sampling program.

E. Coli results >20 cfu/100mL means the source water to the WTP falls into E.coli band 2 to band 3 under the HBT (refer Figure 4).

Table 3 Results for coliforms in raw water (MPN/100mL, as assessed by NSW Health)

Date	E.coli (MPN/100mL)
30/01/2019	36
19/02/2019	50
18/03/2019	66
15/04/2019	18
21/05/2019	3

Table 4 Results for E. Coli in raw water (MPN/100mL, as assessed by ALS)

Date	Raw Water	Date	Raw Water
28/05/2019	19	11/11/2019	10
27/06/2019	1	25/11/2019	12
24/07/2019	8	5/12/2019	12
30/09/2019	4	16/12/2019	24
8/10/2019	2	23/12/2019	41
14/10/2019	4	30/12/2019	55
21/10/2019	1	9/01/2020	24
31/10/2019	0.5	16/01/2020	13
4/11/2019	1	23/01/2020	36

In the early weeks of the ALS sampling program, the majority of E.Coli results in the raw water inlet pipe to the WTP were lower than the limit of detection in the ALS sampling program. These results suggested that there was residual chlorine in the water and therefore these were not a representative sample of the raw water. GHD notified Council of the issues with sampling from the raw water inlet pipe at the WTP, and hence results shown in the table above are E.Coli results from Coolumbooka Dam, which would not be affected by residual chlorine in this raw water pipeline.

Source Water category

The source water category is therefore determined using the table provided in Figure 4 as follows:

- Vulnerability category 4 + E.Coli band 2 to 3 = **Source water category 4.**

Bombala WTP LRVs

Table 5 shows the required Log Removal Values (LRVs) that need to be achieved to comply with the Source Category 4 under HBT. Also shown is what the existing Bombala WTP is estimated to currently achieve, when operating correctly. That is, to achieve the LRV for coagulation/clarification/filtration requires the filtered water from each filter to be <0.3NTU for 95% of the time and always <0.5NTU. However, operational testing where a sample is taken every day of the combined filtered water shows that this performance is not achieved, especially when raw water quality is poor after stormwater inflow events. This is important as it is during such stormwater events when the protozoan and other microbiological hazards will tend to be highest in the raw water. It is noted that the recent water quality testing program comparing operational data for filtered water turbidity with results from ALS (a NATA registered lab) were about the same (refer Appendix C) , which validates the accuracy of the long-term operational data set for filtered water turbidity. Based on Table 5, the existing treatment process does not achieve the required Log Removal Value (LRV) for protozoa (e.g. Cryptosporidium) and is unlikely to achieve it for virus and bacteria.

Table 5 Bombala WTP Log Removal Values (LRVs) under HBT guidelines

Process	Bacteria	Virus	Protozoa	Comment
LRV Required	**6**	**6**	**5 to 5.5**	based on unprotected surface water source water at **Category=4**
EXISTING PROCESS				
Coagulation/flocculation in clarifier, followed by media filtration	<2.5	< 1	<2.5	Water quality data from the WTP (refer Appendix C) shows that combined turbidity out of the filters is still high, with average 0.6 NTU so low LRV credits possible at present
Chlorination	4	4	0	Assumes CT>15mg/l-min
Total LRV (Existing process)	>4	>4	< 2.5	Given filter performance to date it is likely the LRV = 0.5 (P) to 1(B&V) or less for existing clarifier/filters
Additional LRVs required to meet HBT for Category=4 catchment	***0 to 2***	***0 to 2***	***4.5 to 5.5***	

Table 6 below summarises the performance that is achieved for each of the future treatment options discussed in section 5. For each treatment option, Protozoa controls the number of treatment barriers required.

Table 6 Log Removal Values (LRVs) for future treatment options

Future Treatment Option	Description	Bacteria	Virus	Protozoa
1	Clarifier + Filters + UV + Chlorination **Total**	1 1 2 4 **8**	1 1 0 4 **6**	0.5 3 2 0 **5.5**
2	Clarifier + MF/UF + UV+ chlorination **Total**	1 3 2 4 **10**	1 1-2.5 0 4 **6 - 7.5**	0.5 3 2 0 **5.5**
3	DAF + MF/UF + UV + chlorination **Total**	1 3 2 4 **10**	1 1-2.5 0 4 **6 - 7.5**	1 3 2 0 **6**
4	DAF + MF/UF + Ozone + UV+ Chlorination **Total**	1 3 2 2 4 **12**	1 1-2.5 2 0 4 **8 - 9.5**	1 3 0 2 0 **6**
5	DAF + MF/UF + NF + Chlorination **Total**	1 3 1.5 4 **9.5**	1 1-2.5 1.5 4 **7.5 - 9**	1 3 1.5 0 **5.5**

Notes:

1. LRV for filters assumes turbidity at 95% <0.3NTU
2. LRV=4 @UV dose=22 mJ/cm^2. LRV=2 @ UV dose=5.8 mJ/cm^2

3.3.2 Design raw water quality envelope

GHD advised Council to undertake a detailed sampling and analysis program over a number of months to determine the raw water quality envelope. A summary of all results from both the ALS laboratory data including a comparison with operational on-site water quality testing is included as Appendix C (Water Quality memo).

In addition there have been measurements taken by NSW Health. In addition the report "Bombala WTP site audit and Optimisation Report (City Water 2015)" included some very high raw water colour results for its successful jar coagulation tests with alum.

Based on this data the following design raw water quality envelop has been developed (Table 1). The main contaminants that have a bearing on "fit for purpose" treatment process selection are highlighted.

Table 7 Design raw water quality envelope

WQ Characteristic	Estimated range	Estimated Lower(LL) and upper (UL) limits	Comment
Turbidity (NTU)	1 to 10	33	UL in City Water report
True Colour (Hu)	30 to 80	120	UL in City Water report
Dissolved Organic Carbon (mg/L)	5 to 25	35	UL in 2019/20 data, at DOC>6 mg/L can generate THMs>0.25 mg/L.
pH	7.4 to 8.1	6.6 and 8.9	
Alkalinity (mg CaCO3)/L)	90 to 110	35 and 150	LL from ops 2/20
Total Manganese (mg/L)	< 0.02 to 1	1.9	UL in 22/1/14
Total Iron (mg/L)	0.15 to 1.2	1.5	Highest 26/6/14
Calcium (mgCa/L)	12 to 15	10 and 20	
Total Algae (cells/ml)	300 to 3000	5,000	3220 in 25/3/14
Blue Green Algae (cells/ml)	<10 to 1500	2000	1260 in 22/1/14
MIB (ng/L)	2 to 10	<2 and 25	UL in 2019/20 data
Geosmin (ng/L)	10 to 35	<2 and 65	UL in 2019/20 data
E.Coli (CFU/100mL)	<1 to 110	?	highest 26/6/14
Water Temp (°C)	6 to 23	4 and 25	Operations data and can vary 2°C in a day
TDS (mg/l)	90 to 130	50 to 200	

3.1 Asset condition, environmental/OH&S requirements and reliable operation

3.1.1 Asset condition

Since engaging GHD, it is understood Council has arranged for a structural engineer to undertake a condition assessment on some of the ageing building infrastructure. Results are yet to be sent to GHD.

The condition of the assets was assessed at a site visit attended by GHD staff on 16/4/19. It included a brief structural assessment (visual only). Details of findings of this assessment of structures and equipment is included in the asset register, including asset age, in Appendix A. Generally this plant, constructed in 1981, has mechanical, instrumentation and control systems that are at end of life or in need of upgrade to a modern "good water Industry" standard.

Table 8 summarises key findings of the audit.

Table 8 Asset condition/capacity summary for existing WTP

WTP area	Comment
Raw Water Pump Station	Pumps need replacements and VSD control. Minimal telemetry back to WTP. Most electrical cabling requires replacement.
Inlet Works	Jet mixer does not function as intended as ACH and polymer are added at the same location rather than separated by at least 20 to 30 second
Coagulation	Dosing system recently replaced and auto duty/standby
Clarifier	Clarifier roof low, not sufficient headroom. Clarifier internals require replacement and repainting.
Filters	Brick wall connecting filter block to clarifier has large vertical cracks indicating the filters may be moving down the hillside.
Media valves and pipework	Recent replacement of filter media and valves with motorised valves but very confined space for O&M.
Chemical storage, dosing systems and dosing lines	Dosing lines in trays not accessible, Soda and polymer systems very old and manual and poor OHS setup. No duty/standby automatic operation. Old poor WH&S fluoridation system that does not operate
OHS and Environmental	Not enough and poor arrangement for safety showers, access to valves and chemical system, leaking Coag bund, no chem delivery bund
Air scour and water backwash systems	Old air scour, only 1 or 2 units available. Backwash water system needs new controls for more reliable gravity backwash
SCADA, PLC, Telemetry & Controls	Operator Interface Screens are basic and have minimal remote operation or data collection from existing online analysers. Plant has no: - duty/standby with auto changeover and flow pace plus trim for coagulation pH and chlorination, - automation of filter backwash - constant level filtration, ability to run 1 filter when other is backwashing and filter to waste - auto batching and duty/standby dosing with auto changeover for soda ash and poly
Instrumentation	No online settled water turbidity, individual filter turbidity, coagulation pH analysers
Sludge	May need sludge pond re-lining and works to prevent wash water overflow to environment
Other	Roof over clarifier/filter area too low for good OHS

3.1.1 Treatment process capability, performance & reliability

Flow performance and capacity

The operating rate of the WTP is currently set at 25 to 30 L/s. The plant therefore operates for approximately 6 to 12 hours per day during large periods of the year.

However, there is no ability to automatically adjust flow rate of the raw water pumps. Also the plant has to stop for filter backwash as there is no valving to allow one filter at a time to be backwashed.

There is no online monitoring of the following flows; service water, filtered water flow to the CWS, sludge output or treated water flow to Res 1.

Treatment performance

To better understand treatment performance and to assess the accuracy of operational data collected daily at the WTP, a detailed sampling program measuring raw, settled, filtered water and treated water was implemented over late 2019/early 2020. Data analysis and comparison with Plant Operational data is set out in Appendix C.

In addition a review was completed of

- 2014/19 water quality data collected by Council,
- DPI-Water and NSW Health
- Jar test work by City Water
- Plant Operational records 2018/20 for water quality and chemical dosing
- Observations at GHD site visit.

The main findings from this assessment are;

Table 9 Treated water quality performance

Parameter	Benchmark for assessment: ADWG and "Good Practise" Targets	Existing plant historical performance
E. Coli	Not detected	Council documents indicate some E.coli detections in treated water
Treated water pH	Set point* ± 0.2	No history of online monitoring at SCADA available. Only post pH correction occurred and observed a wide range in final pH =7.4 to 8.2
Combined Filtered turbidity	<0.2NTU @95%, max ≤0.5 NTU	No history of online monitoring at SCADA available. Not achieved in most results, mainly due to poor performance of both coagulation using ACH after storm events with high colour/variable alkalinity and clarifier
True Colour and Dissolved Organic Carbon(DOC)	Colour <5 @95%, max ≤10 DOC <6 mg/L	Targets not achieved especially during high raw water colour /DOC storm related period, probably mainly due to use of Alchor (ie. ACH) instead of alum coagulant as ACH not great for high colour conditions as very

Parameter	Benchmark for assessment: ADWG and "Good Practise" Targets	Existing plant historical performance
		high doses needed to get to optimum coagulation pH of <6.5
Aluminium	< 0.1mg/L @ 95%, max ≤0.2mg/L	Levels up to 1.9mg/L have been measured by ALS in treated water , consistent with poor coagulation performance
Iron, total	<0.1mg/L @ 95%. max ≤0.15mg/L	Generally achieves targets
Manganese, total	<0.02 @ 95%. max ≤0.05	Levels in raw water up to 1.9mg/L and treated water levels up to
THMs (ADWG Health limit)	Max <0.25mg/L	Very high prechlorine (5 to 6mg/l) and post chlorine (4 to 5 mg/L) doses plus high DOC result in several exceedances of ADWG health limit at Res 1& 2 and in retic, especially over summer
Taste & Odour - Geosmin - MIB	 <5ng/L <5ng/L	Exceeded in most samples. Noted that MIB/Geosmin often increased through the plant
Chlorine Residual (FCR)	Set point* ± 0.2mg/L CT>15mg/L-min	Chlorine has poor control and residual at CWS outlet varies 0.1 to 2 mg/L
Fluoride (F)	Set point ± 0.1 mg/L	Existing fluoride system is not operational, well beyond asset life and a significant WH&S risk if restarted in current arrangement
Treated Water Stabilisation CCPP LSI	 -4 to 0 -1 to 0	Data shows generally achieved provided treated water pH >7.5
Health Based Targets (HBT)	LRVs for category 4 unprotected catchment	Does not always achieve nominal targets - settled water turbidity < 2NTU and/or - filtered water turbidity <0.2NTU Needed to achieve LRV credit for clarification/filtration process

* Set point for pH normally =7.5 to 7.8. Set point for FCR = 1 to 2 mg/L.

It is noted that it is unlikely the operation of the existing clarifier/gravity filter process is adequate to achieve the LRV credit value assigned to this process. That is, the existing process;

- Operates a reactivator clarifier (at rise rate of 1.6m/hr) and if the mixer is running it can break up fragile colour based flocc. It is not a normal treatment technology for high colour and DOC water with low alkalinity (reference: Water Quality and Treatment AWWA 5th Ed,

page 7.41). If a clarification process is used under these conditions AWWA recommends flocc –blanket clarification operating at as low as 1 m/hr rise rate

- lacks normal on-line turbidity analyser for each filter,
- has no differential pressure sensor at each filter or automated filter to waste system,
- Has minimal automatic control/SCADA to respond to failure/poor performance.

Performance during the recent storm event over February 2020 highlights the relatively poor performance (refer Appendix D).During this "storm event" period the following occurred;

Raw water

- Apparent colour increased from around 1-2 Hu to 120-140 Hu
- Turbidity rose from a range 2-3 NTU to a range 3.5- 7 NTU with short peak to 19 NTU
- Alkalinity dropped from 130-150 mg/L down to 42 to 80 mg/L

Treated Water in the Clear Water Res 1

- Apparent colour increased from around <1 Hu to as high as 43 Hu
- Turbidity rose from a range <0.1-0.99 NTU to a range 0.4-2.2 NTU
- Chlorine residual drop from range 1 to 2 mg/l down to range 0.1 to 1.5 mg/L

High aluminium level in the treated water also indicates failure of either the filters or the coagulation/sedimentation process to achieve LRV.

Data analysis by ALS has been infrequent but was as follows;

- 1.74mg/L (6 June 2016) and 0.9mg/L (2 Nov 2016).
- DPI-Water noted in correspondence (18 Nov 2016) that "aluminium residuals were again above ADWG".

3.1.2 Legislative compliance

Compliance with EPA, OHS and WHS regulations

Current chemicals and fluoridation area would not comply with modern OHS requirements due mainly to inadequate space and manual handling (soda ash) and poor location of safety equipment.

Chemical storage and handling

The main issue is:

- Chlorguard systems are not installed in the chlorination room; risk of Chlorine gas leak
- Coagulant Bund is understood to leak
- It is considered good practice to have a chemical delivery bund for liquid chemicals such as Alum and Alchlor
- Potential for overflow and leakage to groundwater from the old sludge ponds

Occupational health and safety (OH&S) requirements

The Condition assessment sets out details, and the main issues include:

- Manual handling of chemical deliveries and dosing is no longer standard practise;

- Trip hazards and constrained spaces throughout plant, particularly under the clarifier/filter block, do not comply with OHS regulations
- Safety shower not standard design (only bathroom-style showerhead) and not enough of them, e.g. should have one at the chlorine room

4. Groundwater Investigation

GHD advised Council to undertake a field drilling investigation program to investigate the quality and bore yield potential of the groundwater resources in the vicinity of the townships of Delegate and Bombala.

A groundwater investigation drilling program was therefore undertaken at the townships of Bombala and Delegate. The objective of this drilling program was to investigate potential groundwater resources in close proximity to the current water reticulation infrastructure at both townships.

Two pilot investigation bores were drilled in each town. At Bombala, drilling initially focussed on the shallow alluvial aquifer, followed by the deeper fractured basement rock aquifer. At Delegate, the drilling focussed on the fractured basement rock aquifer.

Based on the work completed the alluvial sediments adjacent to the Bombala River were found to be thin (i.e. <7 m) and clay rich, with no significant inflows recorded. Subsequently, bore BBH2 was continued into the basement rock aquifer system to a depth of 109 m. Although salinity was suitable for potable use, at around 150 mg/L TDS, the pilot bore yield was only in the order of 0.7 L/sec.

Based on these results, there was insufficient yield for ground water to be a reliable future source of supply or to warrant the construction of any test bores or any further groundwater investigations.

The Groundwater Investigation Report has been issued to SMRC separately to this report.

5. Options for future Water Treatment

5.1 Development of suitable Water treatment process trains

5.1.1 Treatment challenges

The key treatment challenges associated with the raw water source for Bombala WTP are;

- Achieve Log Removal Values (LRVs) for bacteria, virus and protozoans based on Source Water Category=4 under Health Based Targets
- High levels of soluble iron, manganese and DOC
- Continuous medium level of Geosmin and occasional events of MIB related taste and odour
- Relatively soft and variable pH/alkalinity water during higher microorganism risk periods of storm events
- Single WTP for Bombala township which has a limited usable treated water storage capacity (ie. one peak day demand)
- Cold (down to 4°C) and variable water temperature conditions
- High levels of THM forming organics

The WTP also needs to achieve the following design requirements;

- "Fit for Purpose" treatment barriers to achieve treated water targets based on the raw water quality envelope and HBT for the unprotected catchment conditions
- Sized for net treated water production of 1.5 ML/d
- Achieve asset life, environmental and OH&S requirements and reliable operation objectives (e.g. adequate automatic, duty/standby for critical equipment

5.1.2 Treatment process options

A brief survey of available treatment technologies was completed and is summarised in Appendix H.

The preferred processes, based on the design raw water quality envelope and the treated water targets are highlighted in Appendix H. The discussion regarding the alternatives of a Dissolved Air Floatation (DAF) or suitable settling process are outlined in Appendix J.

Due to site constraints, and the need to remove mainly colour/organics in low turbidity and variable pH/alkalinity/water temperature conditions, the preferred settling process is lamella plate clarifier as an option to DAF. The CAPEX for these processes is much the same for small plants such as Bombala WTP.

Other important decisions on process are discussed below for MIB/Geosmin removal and for organics removal to keep THM levels acceptable.

5.1.3 MIB and Geosmin removal

The main processes for removal of odour from MIB and Geosmin are;

- Powdered Activated carbon (PAC); for this site the expected dose would average about 15mg/l and at time get to 30mg/L
- Granulated Activated Carbon (GAC) ; for this site the detention time in the GAC filter , or the Empty Bed Contact Time (EBCT) should be 15 minutes

A comparison of costs for the above design basis (refer Appendix I) indicates the GAC approach is preferred as the estimated NPCs, within the accuracy of the estimates, are about the same. However, the PAC has the significant disadvantage of being a difficult material to handle and batch up for dosing and equipment has a relatively high maintenance cost.

Consequently GAC is recommended for this site.

5.1.4 Organics and THM removal

A key challenge for this surface water supply for Bombala is the relatively high level of Dissolved Organic Carbon (DOC) that can arise in the raw water. The 2019/20 water quality testing program (Appendix C) shows the DOC can be up to 24 to 34mg/L and most of the time is around 6 to 15 mg/L. The 2018/20 operating history of relatively high chlorine dose at this plant, up around 8 to 10 mg/L, needed to achieve a treated water chlorine level of 1 to 2mg/L confirms that this high DOC level is present most of the time.

When the plant is operating well the existing coagulation/clarification/filtration process achieves about 45 to 50% removal of the DOC, which is in line with what is expected based on GHD experience elsewhere.

Results from Bombala WTP and experience at other plants with high DOC and THM levels, e.g. Rosslynne WTP and Aires Inlet WTP in Victoria and Morgan WTP in SA, indicate that if DOC is <5 to 6mg/L prior to chlorination then THM levels in the downstream treated water network do not exceed the ADWG health limit of 0.25mg/L. A correlation between THMs and DOC is included in Appendix L.

It is also well known that dosing of ammonia and chlorine to create mono-chloramine for chloramination based disinfection will stop the THM formation reaction. However, chloramine is a weak disinfectant, especially for virus. Consequently, for this unprotected source waters with a HBT category 4 classification, it is recommended that if chloramination is adopted, then chlorine should be added first prior to the existing CWS and then after the CWS add ammonia to create the chloramine residual in the water going to the customers in Bombala.

Finally, THMs can be stripped out of water using surface mounted aeration systems, such as the PAX system (refer Appendix K). GHD have recently commissioned this type of system at Rosslynne WTP in its 10ML treated water tank. The technology has been rigorously tested to confirm that the >30 to 35% THM removal found in jar test work at this site, occurred in the full scale system.

Based on the above a number of process design options for DOC removal and THM control were developed and are summarised below (Figure 7) in terms of concept and expected performance.

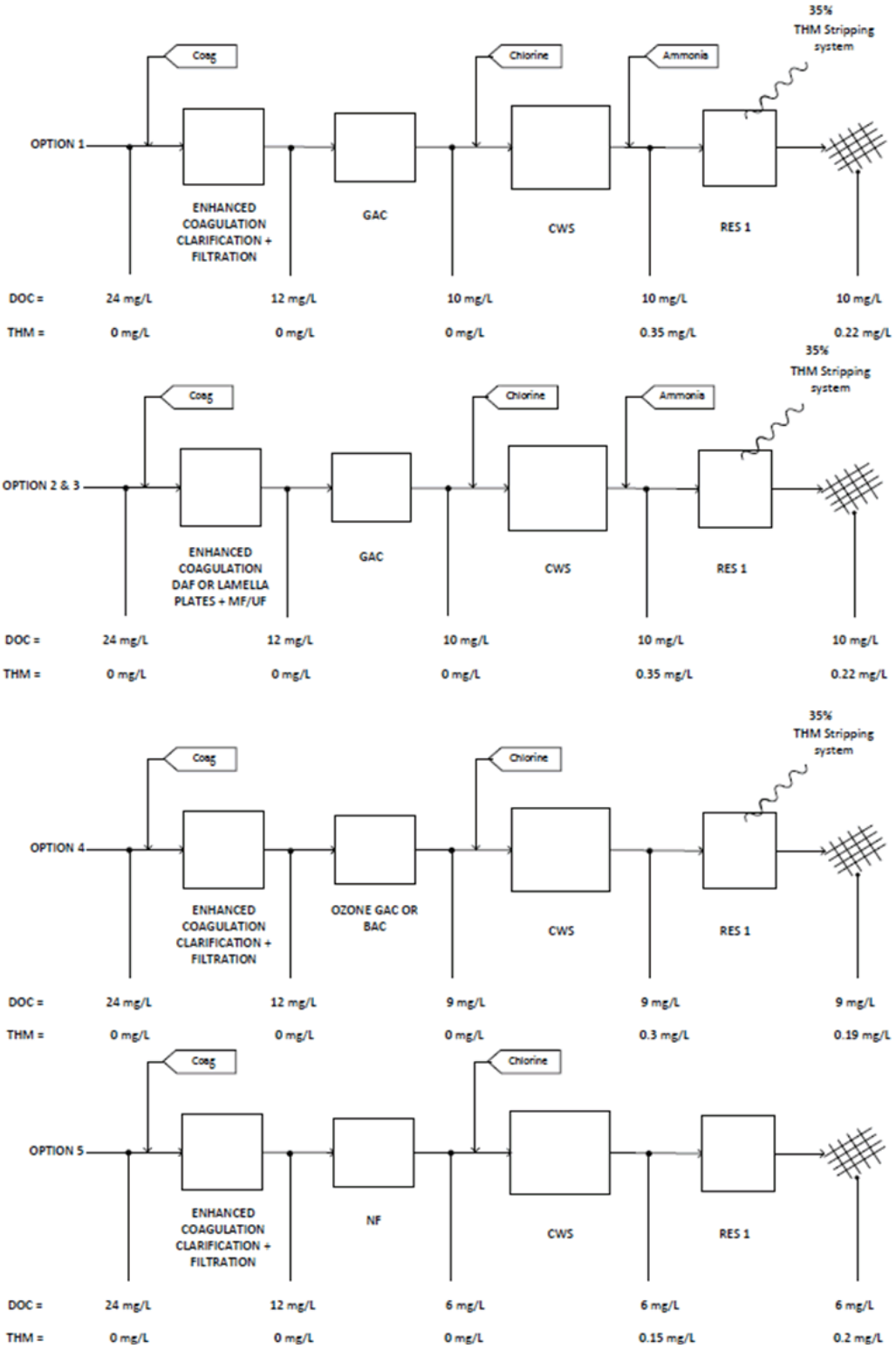

Figure 7 DOC removal and THM control future WTP options

5.1.5 Chlorination and chloramination

Primary disinfection for bacteria and virus would be by chlorination with the required detention time to achieve CT >15mg/l-min occurring in the existing Clear water Storage (CWS). In addition for Options 1 to 3, where organics removal is limited it is proposed to also then add ammonia to create a mon-chloramine residual for achieving long-term disinfection residual in the reticulation system and also to quench additional THM formation in the treated water. For options 4 and 5 there will be extra organics removal and it is considered that the chloramination step is not needed.

Council have requested chlorine dosing be from duty/standby 920kg drums and this would be accommodated in a separate purpose built building.

Aqueous ammonia would be used for dosing of ammonia.

5.1.6 Summary of Future Treatment Process Options

Based on the above assessments it was determined that suitable alternative treatment process trains for treatment of this raw water are;

- **Option 1**: Raw water aeration/mixing/oxidation + modify clarifier + retain and upgrade existing filters + GAC + UV +Chlorination then chloramination
- **Option 2:** Raw water aeration/mixing/oxidation + Lamella Plate Clarifier + MF +GAC + UV+ chlorination then Chloramination + THM stripping
- **Option 3**: Raw water aeration/mixing/oxidation + DAF + MF + GAC + UV+ chlorination then Chloramination + THM stripping
- **Option 4**: Raw water aeration/mixing/oxidation + DAF + MF + Ozone/GAC + UV+ Chlorination + THM stripping
- **Option 5**: Raw water aeration/mixing/oxidation + DAF + MF + NF + Chlorination

5.1.7 Fluoridation

Fluoridation is not a raw water treatment issue. It is recommended for this small size plant, that a sodium fluoride system be adopted using 2.5kg jar feed arrangement to a saturator in a suitable package system. The service water for this system would have to be softened. The fluoridation system would be located in a separate purpose built building in all options.

5.2 Option 1: Upgrade and Retain exiting treatment plant buildings/structures

As noted previously the existing Reactivator clarifier is not considered the best option for this high colour/DOC and relatively soft water supply, especially during wet weather events. However, conversion to a floc-blanket type process and addition of tube settler pack should provide adequate performance.

The dual media filters are a reasonable process as they are dual media but it is not certain whether they have sufficient dual filter media to achieve an L/d ratio >1000. However, the filtration rate is good at <10m/hr at the design flow set at 25 L/s.

As noted in the condition assessment there also needs to be considerable work on improving automation, replacing some chemical systems and electrical systems and generally improving operability and OHS features.

There is also a need to improve the raw water quality by minimising manganese and iron leaching from the bottom of the stratified Coolumbooka Dam (refer to water quality memo in Appendix C).

The other main issue is to achieve good chlorine based disinfection without creating treated water that exceeds ADWG health based limit for THMs.

With these observations in mind the following new works are proposed for this option;

Coolumbooka Dam

- Install bottom mounted mixing/aeration system in Coolumbooka Dam next to the dam wall. A 15 kW air compressor would be installed in the existing emergency Bombala river relift pump station at the site (refer Appendix E for details of this concept). This system would operate on a 24hr/7day time clock to keep the dam destratified in terms of water temperature and Dissolved Oxygen (DO). The reference paper in Appendix E shows this treatment process is quite effective in minimising level of soluble iron and manganese in the raw water. Also, this process should reduce observed MIB/Geosmin as the water quality measurements over 2019/2020 show it is present in stagnant bottom water (refer Water Quality memo in Appendix C).

Raw Water Pump Station

This pump station is well past its asset life and does not have ability to automatically vary flowrate. The following works are proposed;

- new raw water pumps and VSD
- Telemetry from RW pumps back to WTP
- New Raw Water pump station building, including removable roof and/or monorail beam and hoist.
- New switchboard and electrical cabling
- New sump pump to achieve duty/standby for this dry well

Oxidation of manganese and iron

It is expected there will still be a need to oxidise residual soluble manganese (PP) at the plant and it is proposed to dose potassium permanganate to achieve this objective. It may require at times a low dose of prechlorine as well, but high dose rate of prechlorine would be avoided to maintain low THM production. A new mixed 5 minute detention time oxidation tank is required with pre soda ash dosing (when needed) to achieve pH >7.5 in this tank. New pH and ORP analysers would monitor and trim doses of pre-soda ash and PP/prechlorine when required.

Clarifier/filter area:

- new roof at clarifier to provide OHS standard headroom
- new clarifier internals and scraper to achieve floc-blanket arrangement and repainting plus install tube settler pack at top of clarifier

Filters:

- Complete structural assessment and stabilisation of filter block concrete structure
- controls to allow each filter to be automatically sequenced through drain down/air scour/water backwash/refilling/filter to waste at correct rates
- New filter backwash flow meter and better flow control valve (Duty +standby)

- New filter to waste pipework, actuated valve and turbidimeter.
- Constant level control to replace existing rising head operation

Disinfection:

- Install UV to achieve 4 log removal for protozoans
- Separate building for new duty/standby automatic chlorinators, eductors, service water pumps and gas cylinders on load cells and with chlorguard units and compliant mechanical/natural ventilation system booster pumps

GAC

- Install GAC filters supplied with filtered water from the existing filters prior to entry to the existing Clear Water Storage (CWS). Design would be for EBCT=15 minutes and filtration rate <15m/hr plus downstream filtered water tank and duty/standby relift pumps and pipework back into the existing CWS. The relift pumps would also enable backwashing of the GAC filters.

THMs Stripping

- Install PAX type THMs stripping in Res 1 (Appendix K). GHD has recently completed commissioning of this type of system in a 10ML tank and the PAX system achieved 35% THM removal. It is a relatively low cost and low power consumption approach to remove THMs. It involves installing a surface aeration and bottom mixer system within the tank and a blower on the top of the tank to force ventilate the tank to blow away stripped THM compounds.

Chemical systems:

- new automated soda ash and polymer batching and dosing systems and reorganisation of the existing chemical /control building (refer Appendix G)
- conversion to alum coagulant dosing as it is more effective for DOC removal and produces a better settling flocc and also construction of a delivery bund and road upgrade for coagulant deliveries
- new pre-soda ash dosing with controls to achieve flow pace plus trim to coagulant pH set point
- add ammonia dosing and controls and a total chlorine residual analyse for control of chloramination type secondary disinfection after primary chlorination to CT>15mg/L-min target
- chlorine dosing from a new separate fit for purpose building
- sodium fluoride dosing from a new separate fit for purpose building
- new more accessible dosing lines in trays at plant

Washwater and sludge

The existing sludge pond needs to have reduced flows of dilute wash water to them to enable sludge to be dried out for disposal to landfill. Also at present about 15% of inflow to the plant is lost in backwash/sludge water requiring excessive raw water pumping from a yield constrained source. In response the following is proposed;

- wash water tank with mixer and pumps on VSD and pipe with mag-flow meter to transfer filter wash water and clarifier sludge to a thickener

- Coagulant and/or Polymer dosing system and thickener and pipework to a supernatant tank and sludge pipe to existing sludge ponds
- supernatant tank and pumps on VSD and pipeline to return supernatant at controlled rate, nominally 5% of plant inflow rate back into the raw water main feeding the plant prior to where coagulant is added

Other works

- removal of old house at site to allow construction of GAC filters and balance tank and relift pumps
- repairs to concrete work in existing chemical areas and bunds
- Removal of old soda ash and polymer batching and dosing systems from chemical dosing / Office building
- New lined separate buildings for Chlorine and Fluoride and sequential reorganisation of existing Chemical dosing / Office building (refer Appendix G) to achieve construction of new chemical systems, analyser racks and electrical and control equipment (in old fluoride room) while existing plant operates. The objective is to minimise expensive plant shutdown for construction and commissioning new works.
- new Air scour blowers on VSD in enlarged blower room
- upgrade SCADA to achieve full automatic control, collection and use of historical performance data from online analysers and provide suitable Operator interface screens for remote monitoring and operation
- additional online analysers for raw water turbidity and pH , settled water turbidity, filter to waste turbidity, coagulation pH, treated water pH, final water total chlorine and pH
- Additional safety showers at chemical areas.

Temporary water supply during upgrade

In order to complete these upgrades, tankering water is assumed to be required to allow for the time that the existing plant is offline (e.g. to complete the upgrade work at the existing.

Cost of water cartage for the Brogo WTP upgrade amounted to $33,000/ML and similar pricing was advised by a supplier in Cooma for water cartage between Cooma to Bombala (approx. 90km). A 10% margin for uncertainty was also applied.

The total cost for trucking of water (based on 30 days) was estimated at about $15,600/day, for a total of just under $0.5 million (based on the need to provide 0.5 ML/day in 39 no. tanker trips @ 13 kL/ tanker).

It is noted that the time offline may be longer as it is uncertain as to the time taken to complete the work in the clarifier, at the filter inlets/filter to waste and to replace old electrics and commission a final PLC control system

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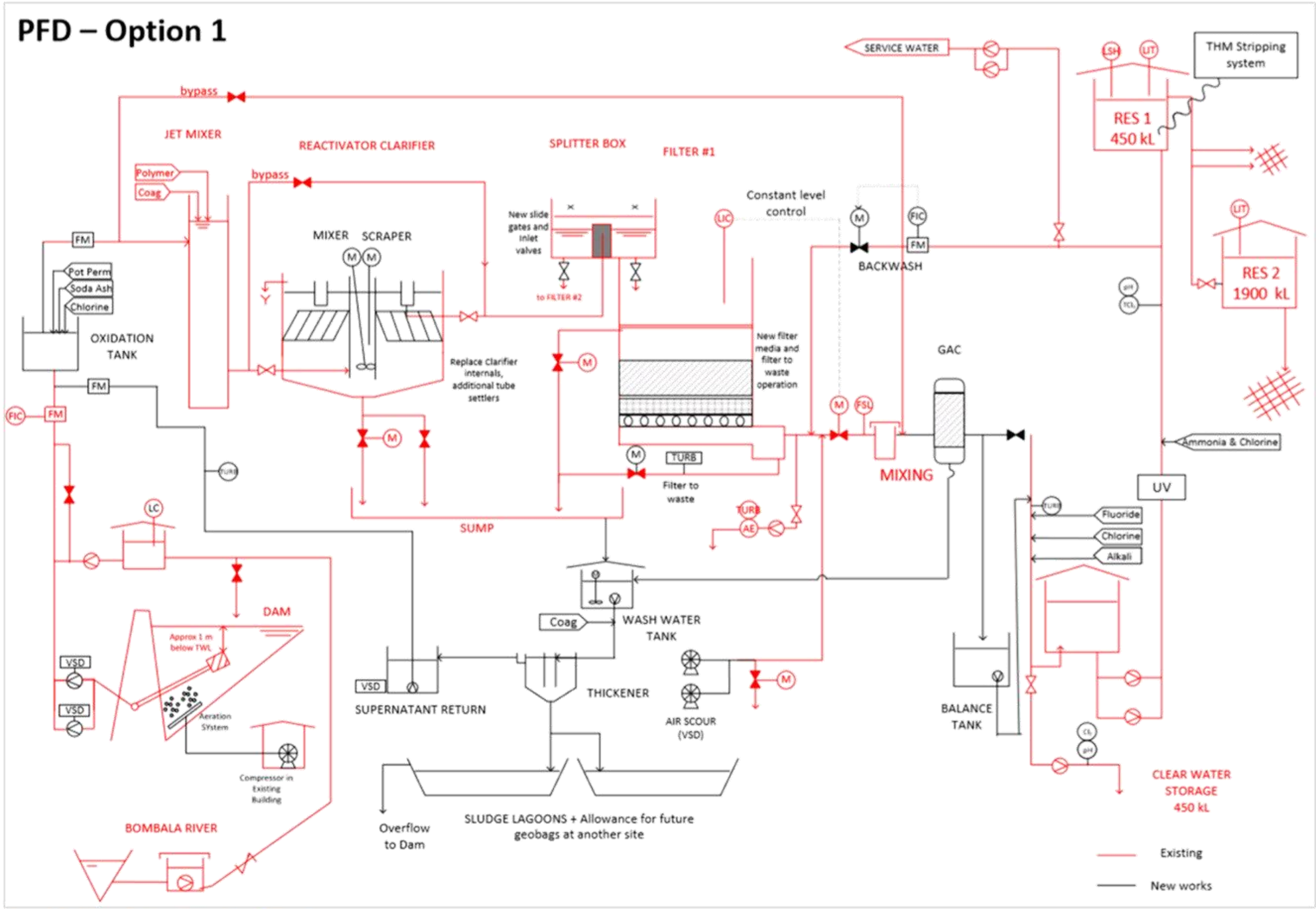

Figure 8 Process flow diagram for Option 1

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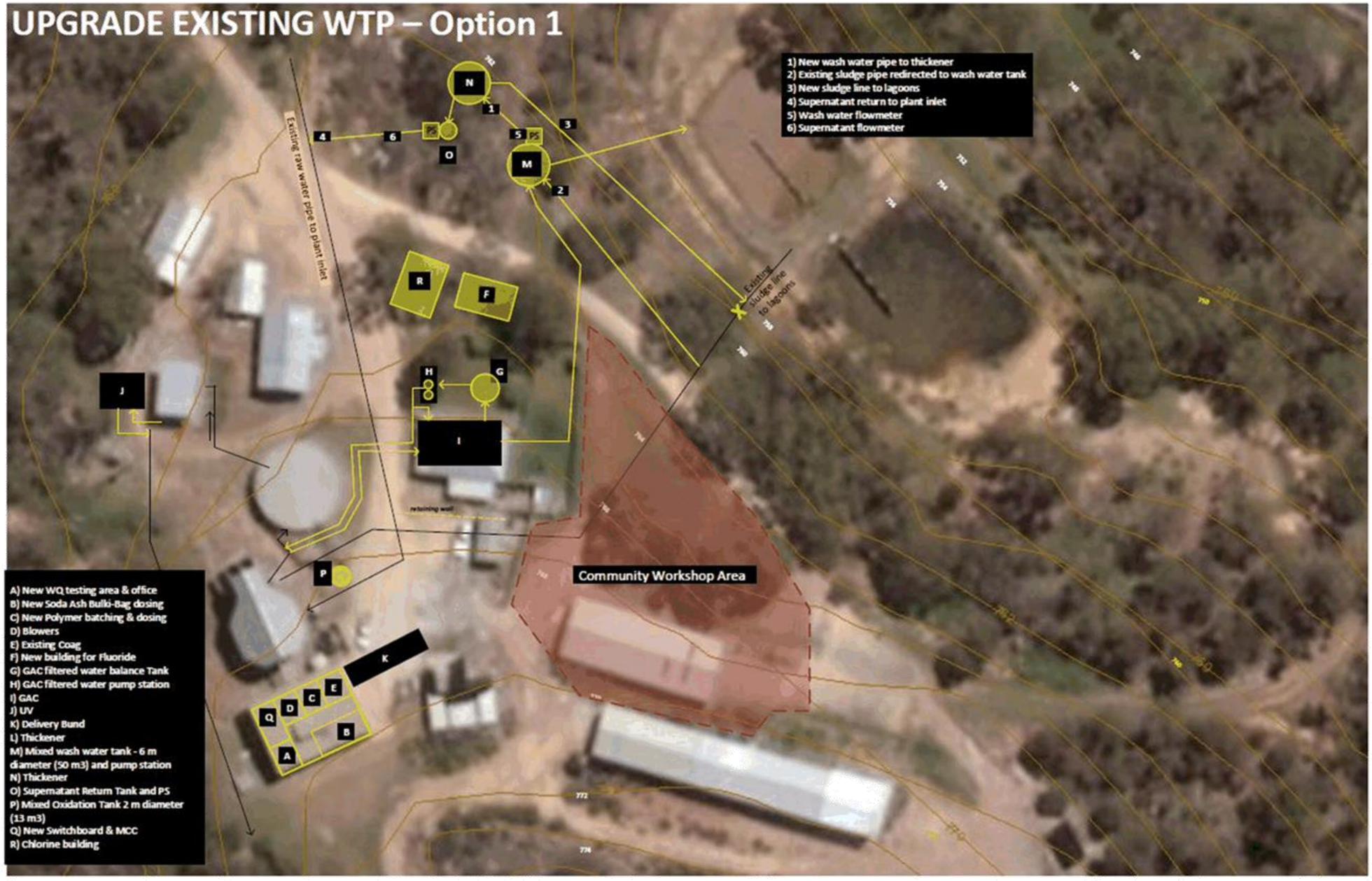

Figure 9 Concept design layout for Option 1

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5.3 New WTP Options

5.3.1 New WTP Building

The new WTP options all would have a large lined ColourBond building, containing main WTP process units, chemical storage, control room and electrics. The figure below shows the concept. Design would need to consider requirements to overcome the specific site bushfire risk.

Figure 10 2.5 ML/d Lancefield DAFF water treatment plant main building

5.3.2 New WTP location

In options 2, 3, 4 and 5 it is proposed that the new WTP be constructed on the site of the existing used house. (Refer Figure 11).

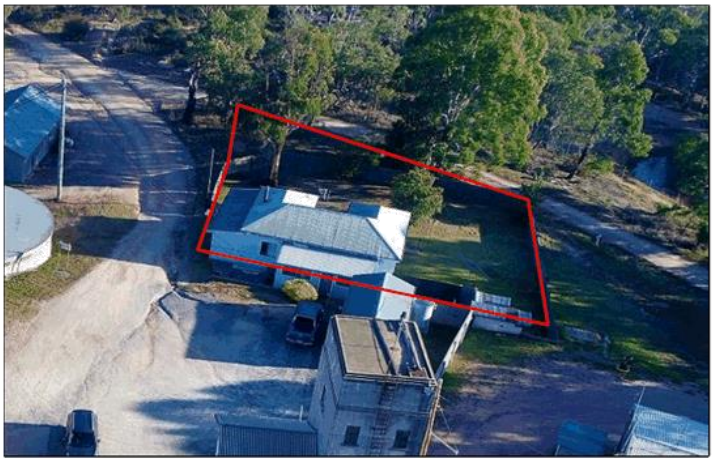

Figure 11 Preferred location of new WTP for Options 2 and 3

For comparison of options it is assumed the existing plant building for chemicals, electrics or controls will not be re-used.

The existing old house offers the following advantages:

- The relatively flat area with sufficient space for any of the plant layouts of options
- Construction without interruption to the current process.

- The existing raw water pipeline, treated water pipeline and pipeline to the sludge lagoons run near the block and hence connecting would require only short pipe lengths.
- Located next to the existing 'ring road'.
- Relatively low bushfire risk

An alternative siting locations was considered, where the new WTP would be located to the east at end of the 'ring' road, behind existing buildings. This option was rejected as it has steep slope, requiring significant earthworks to level the ground and extend a 2:1 batter around edge of building and higher bushfire risk. Also, trucks would have to back into a delivery bund before continuing around the ring road. Raw water and treated water pipelines into and out of the new WTP, and pipeline to the sludge lagoon would be longer. For these reasons this alternative site location was not preferred.

A schematic showing the alternative site location is contained in Appendix F.

5.3.3 Common works for all options

The following works outlined for option 1 in the previous section (refer section 5.2) are also required for the new WTP options 2 to 5. All options require:

- Mixing/aeration of the dam
- All works at the existing raw water pump station
- Oxidation tank and potassium permanganate and pre-chlorine (if required at very low dose) dosing for manganese oxidation
- New soda ash and polymer batching and dosing systems
- New ammonia dosing (options 1,2 and 3 only)
- Mixed Washwater/sludge holding tank and pumps and pipeline to thickener
- Thickener
- Supernatant return pump station and pipeline
- Coagulant and/or Polymer dosing to the thickener feed
- Connection to the existing Clear water Storage
- Reuse of the sludge ponds
- Purpose built new fluoridation and chlorination buildings and dosing systems

The extra works that are common between options 1, 2, 3 and 4 only;

- GAC filters and UV disinfection
- THM Stripping system located in 0.45 ML Res1 tank

Also in Option 4 and 5 do not require mono-chloramine based final disinfection as they have greater organics removal. Finally Option 5 does not require the THM stripping system due to greater DOC removal or UV due to multiple membrane barriers.

5.3.4 Option 2: New WTP (Lamella Plate Clarifier + MF + GAC+ Chloramination)

In Option 2, a new WTP would be constructed where the existing abandoned house is located (as shown in Figure 11). The proposed process train is characterised by the following main steps:

- Lamella Plate Clarifier

- Microfiltration (MF) or Ultrafiltration (UF)
- Granulated Activated Carbon Filter (GAC Filter)
- UV
- Chlorination then mono-chloramine based Chloramination + THM stripping

The Process Flow Diagram for Option 2 is shown in Figure 12 and the proposed site layout is shown in Figure 13.

5.3.5 Option 3: New WTP (DAF + MF +GAC+ Chloramination)

In Option 3, a new WTP would be constructed where the existing abandoned house is located (as shown in Figure 11). The proposed process train is characterised by the following main steps

- Dissolved Air Filtration (DAF)
- Microfiltration (MF) or Ultrafiltration (UF)
- Granulated Activated Carbon Filter (GAC Filter)
- UV
- Chlorination then mono-chloramine based Chloramination + THM stripping

The Process Flow Diagram for Option 3 is shown in Figure 14 and the proposed site layout is shown in Figure 13.

5.3.6 Option 4: New WTP: (DAF + MF + Ozone/GAC + Chlorination)

In Option 4, a new WTP would be constructed where the existing abandoned house is located (as shown in Figure 11). The proposed process train is characterised by the following main steps:

- Dissolved Air Filtration (DAF)
- Microfiltration (MF) or Ultrafiltration (UF)
- Ozone
- Granulated Activated Carbon Filter (GAC Filter)
- UV
- Chlorination + THM stripping

The Process Flow Diagram for Option 4 is shown in Figure 15 and the proposed site layout is shown in Figure 16.

5.3.7 Option 5: New WTP: (DAF + MF + NF + Chlorination)

In Option 5, a new WTP would be constructed where the existing abandoned house is located (as shown in Figure 11). The proposed process train would be:

- Dissolved Air Filtration (DAF)
- Microfiltration (MF) or Ultrafiltration (UF)
- Nano Filtration (NF)
- Chlorination

The Process Flow Diagram for Option 5 is shown in Figure 17 and the proposed site layout is shown in Figure 16.

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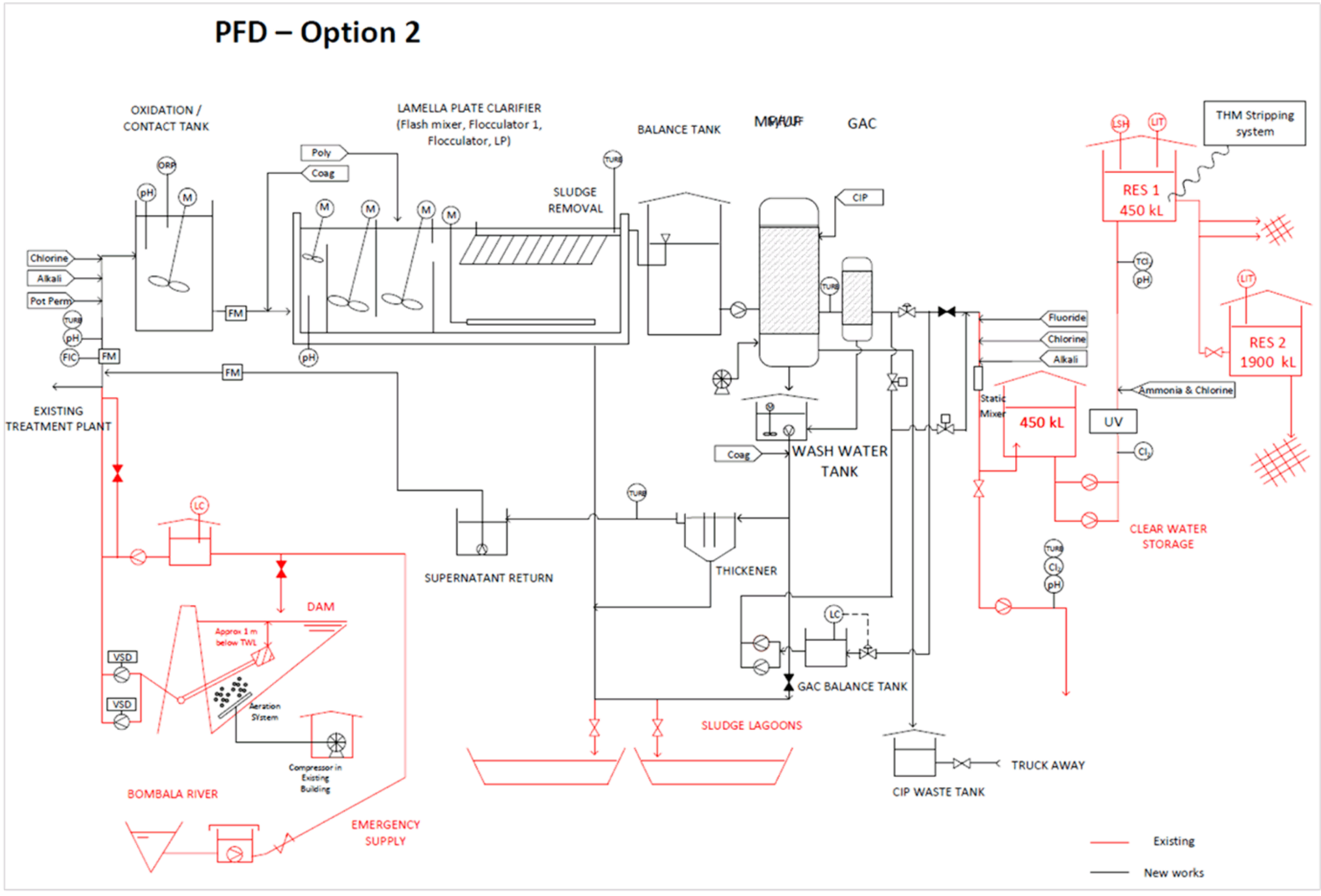

Figure 12 Process flow diagram for Option 2: New WTP

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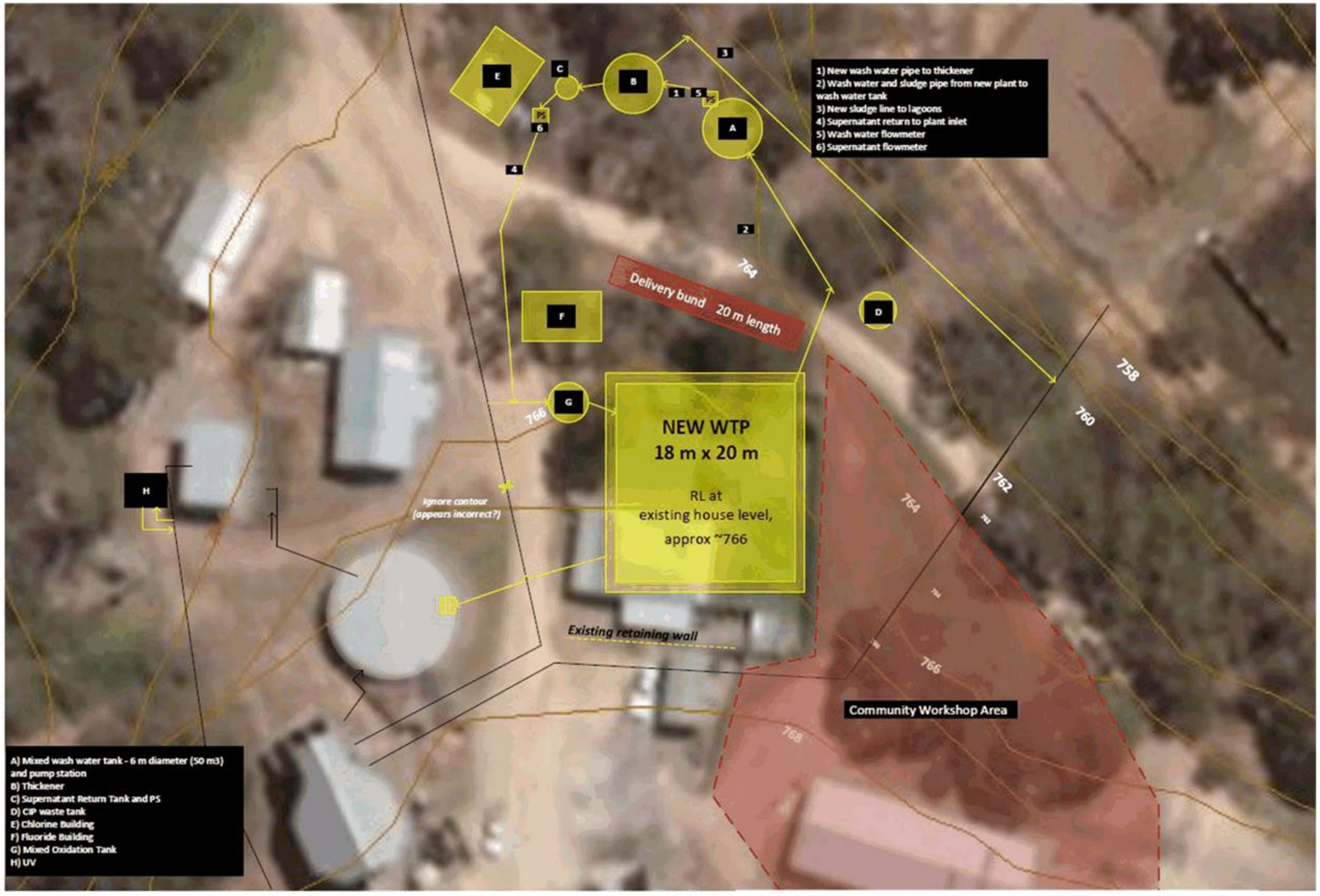

Figure 13 Concept design layout for Option 2 & 3: New WTP

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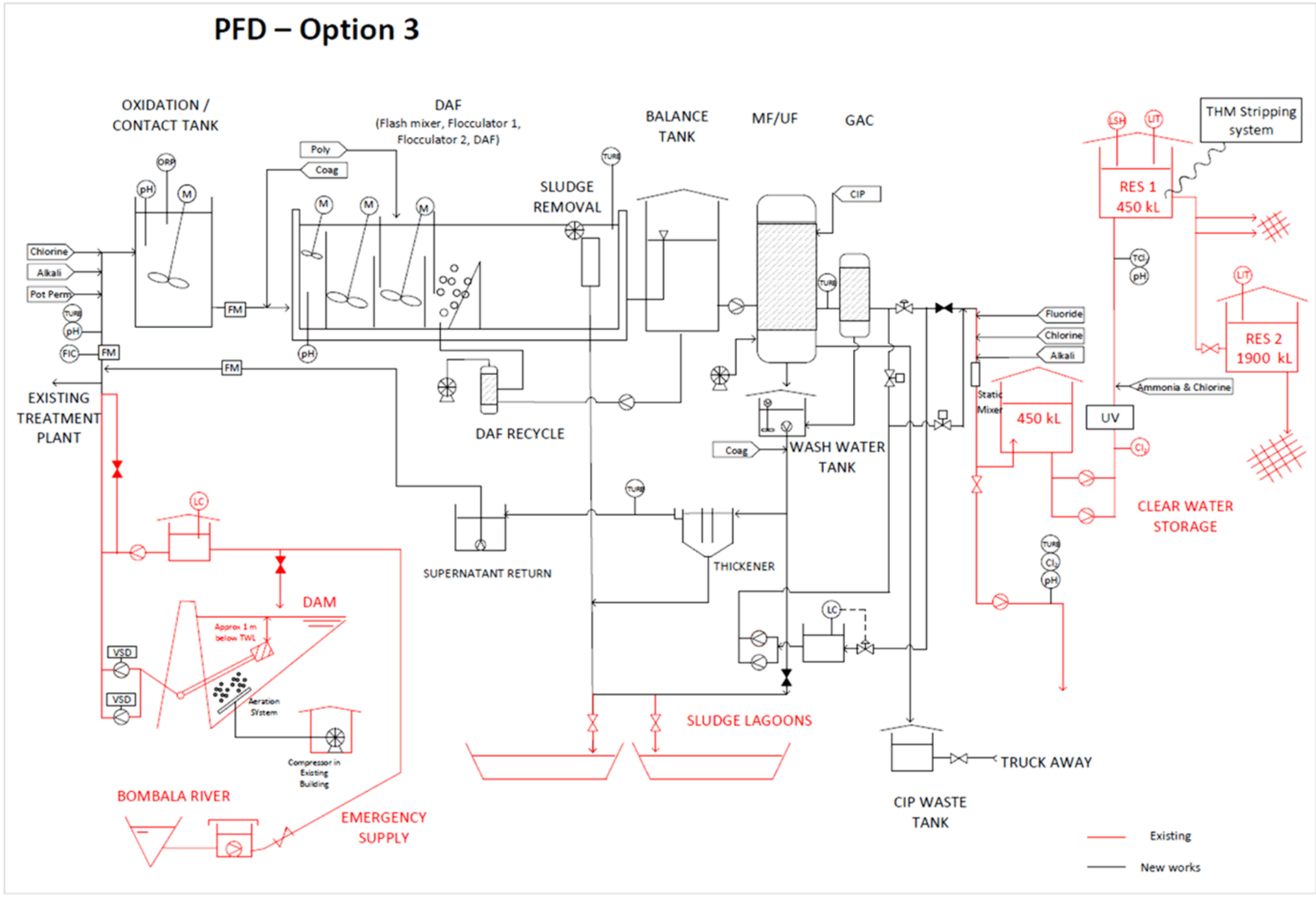

Figure 14 Process flow diagram for Option 3: New WTP

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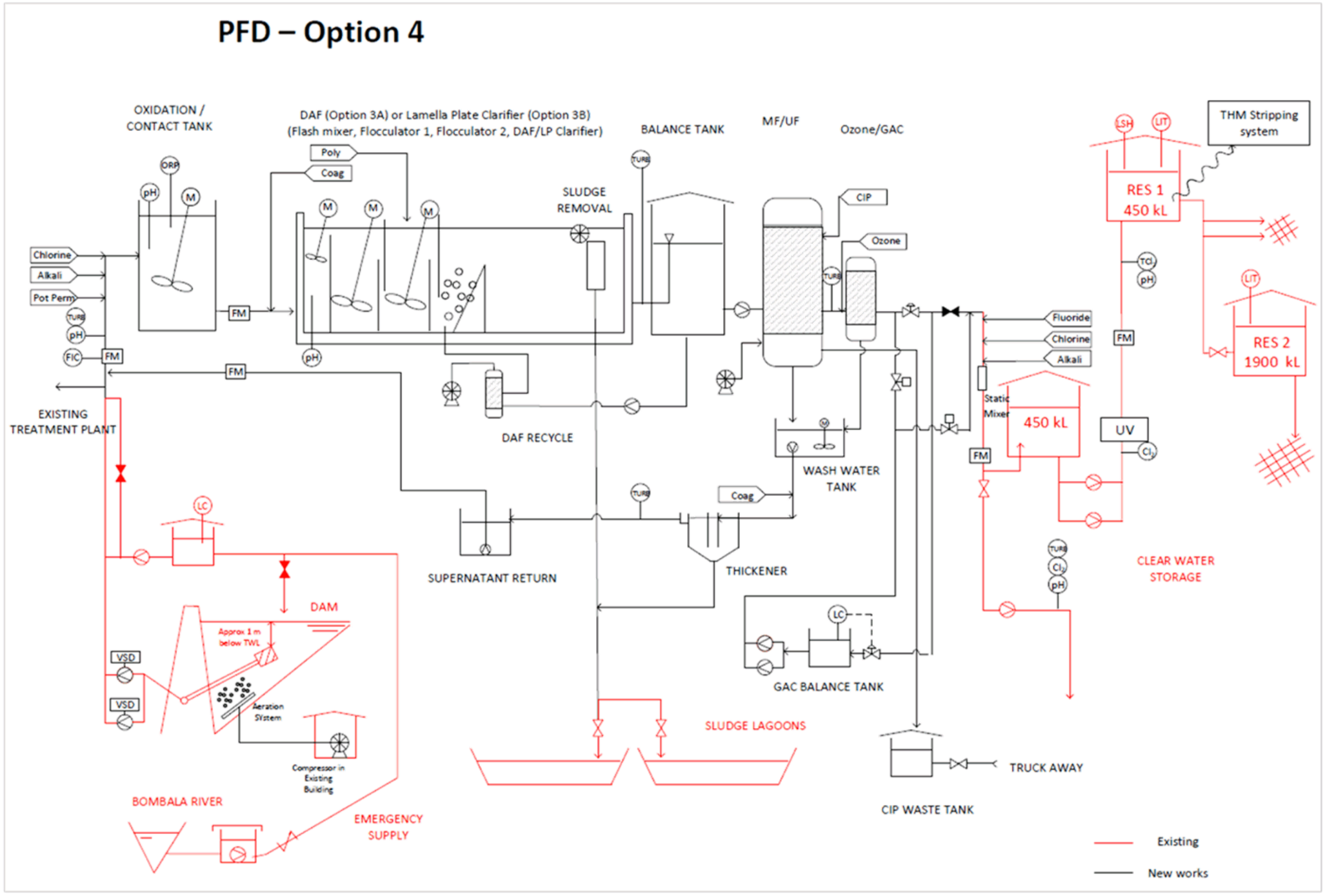

Figure 15 Process flow diagram for Option 4: New WTP

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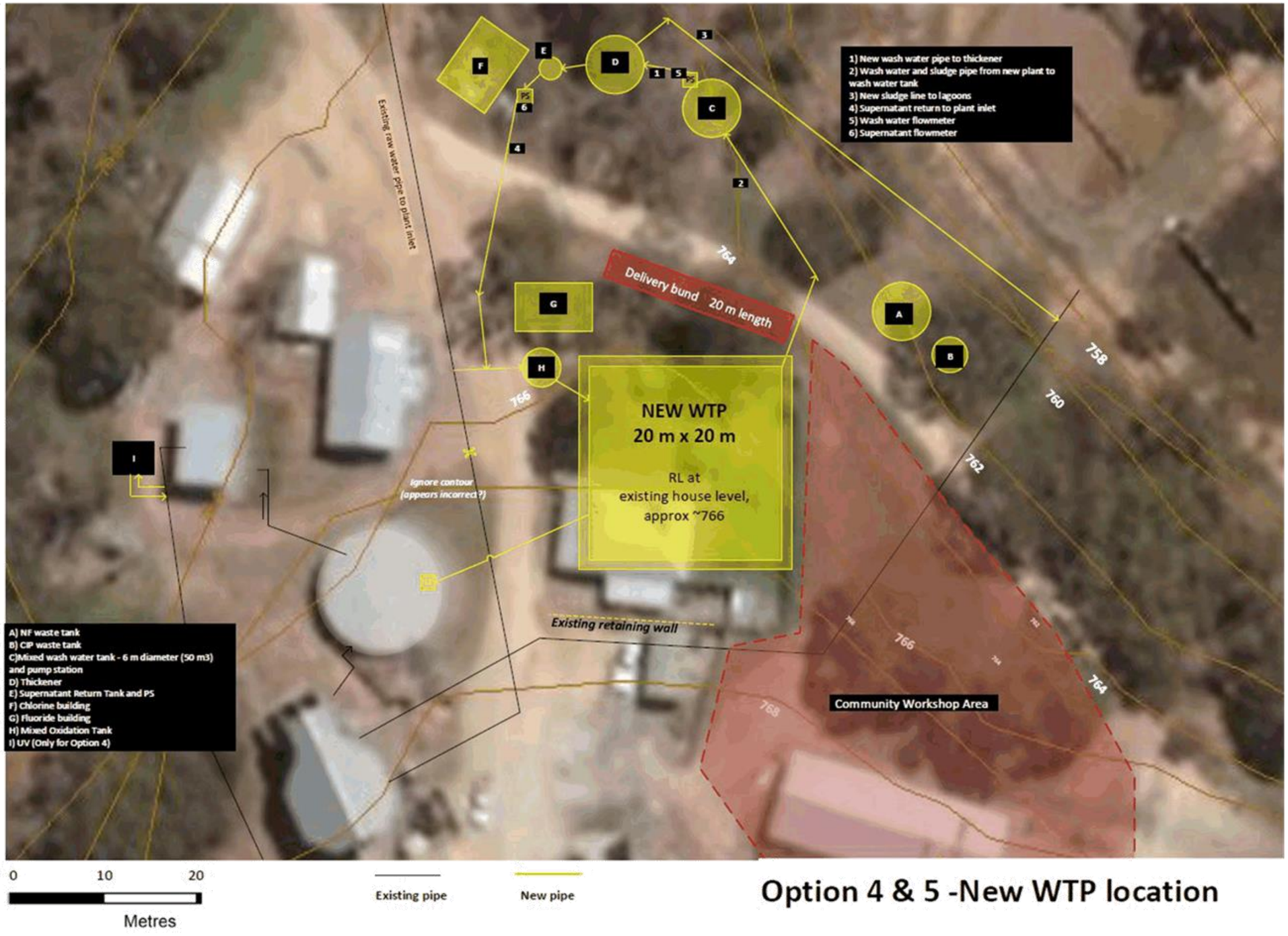

Figure 16 Concept design layout for Option 4 & 5: New WTP

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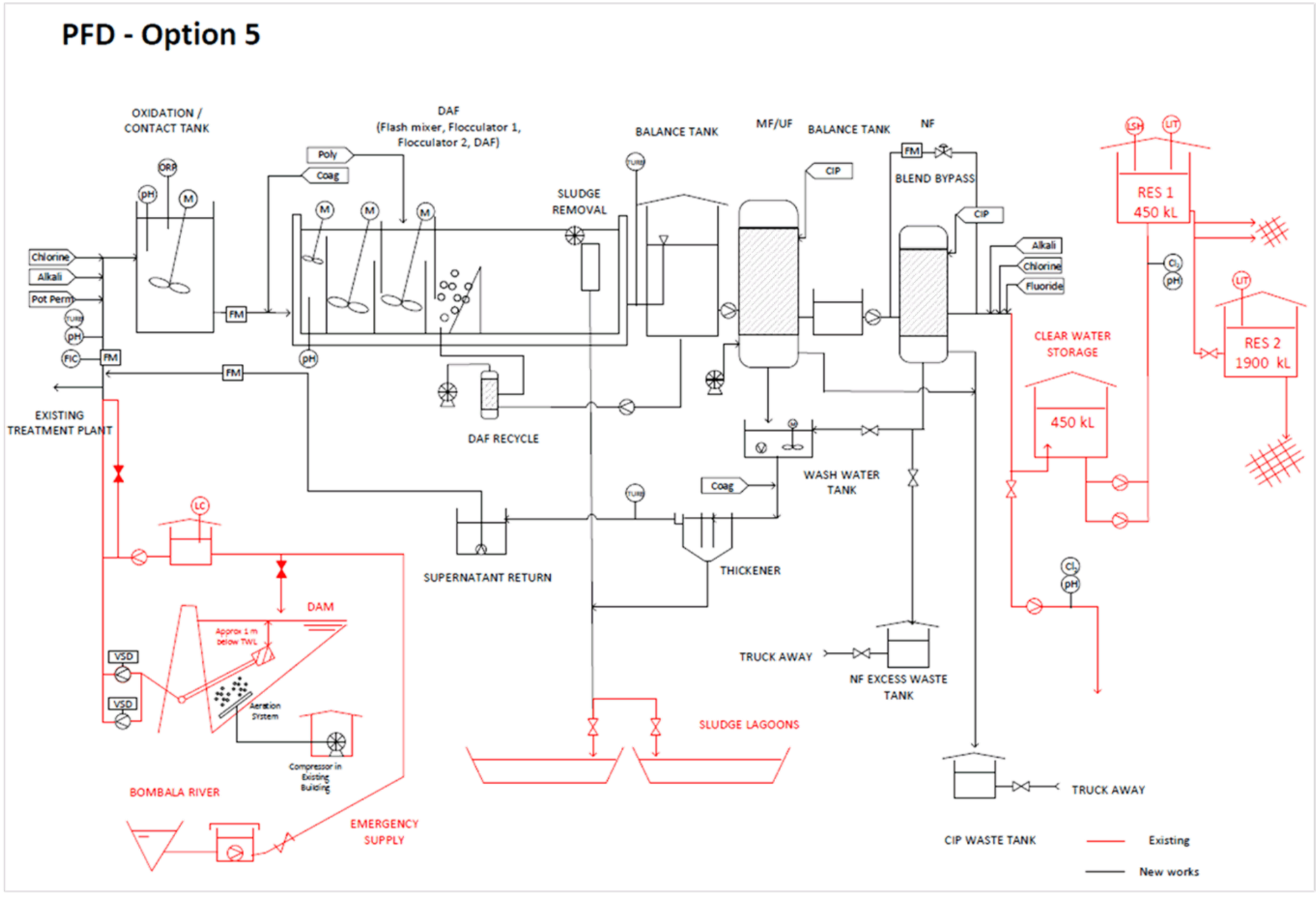

Figure 17 Process flow diagram for Option 5: New WTP

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6. Comparison of Options

6.1 Introduction

The relative CAPEX, OPEX, Net Present Cost (NPC) and non-cost related advantages and disadvantages, for each option are discussed in this section of the report.

Refer to Figure 9 (Option 1 site layout) and Figure 13 &16 (WTP site layout for Options 2 & 3 and 4 & 5 respectively) for site layouts for each option.

Refer to Appendix 0 for the breakdown of costing of CAPEX, OPEX and NPC.

This comparison of options does not include the "Do Nothing" Option as the existing WTP is considered not an acceptable option for the future primarily based on;

- Documented extended failures of the existing treatment process, particularly during higher risk poor raw water quality events associated with wet weather inflows to the dam
- The existing reactivator type clarifier is not a suitable process for a raw water that is variable water temperature/softness, low water temp in winter and generally has high organic/colour and low turbidity
- Measurements that show it is unable to achieve ADWG health limit for THMs in the treated water sent to the town
- insufficient treatment barriers to achieve Health Based Target
- insufficient treatment barriers to achieve normal drinking water limits for odour producing chemicals (eg MIB and geosmin) and stain/taste producing manganese
- Bombala resident complaints of poor odour./taste water (refer previous Business case appendices) , most likely due to MIB/Geosmin and manganese
- Bombala resident complaints and media reports of dirty some water (refer previous Business case appendices) plus treated water quality data (showing aluminium levels >1mg/l) plus detection of substantial sludge build-up in the CWS which indicates significant volumes of dirty water (probably mainly due to non-optimal coagulation process) are getting through the WTP process to CWS and to customer taps
- Significant OHS and lack of duty/standby risks associated with existing chlorine, soda ash , fluoride and polymer systems plus these systems are well beyond normal 25 yr asset life
- Significant other mechanical/electrical systems that are not operable (eg clarifier internals, spare filter air blower and fluoride) and/or are in beyond normal asset life (eg duty air scour blower)

6.2 Comparison of New WTP site layout to upgrade of Existing

6.2.1 Cost comparison

The comparison of options is summarized in Table 10 below. It is noted that the accuracy of relative cost estimates for this options comparison stage is about 30%.

Based on this accuracy assumption options 1, 2, 3 and 4 are of comparable CAPEX and NPC.

The important outcomes from the comparison of non-cost advantages and disadvantages/risks are;

- Option 1 CAPEX could be higher if there was longer offline period for construction requiring drinking water to be carted in.
- Option 1 has a risk of not achieving adequate performance as the existing Reactivator type clarifier, even when modified to a sludge blanket + tube-settlers has performance risk for treating soft high DOC content water.
- Option 5 has the least risk of not achieving the THM target but a high waste production
- Options 2 has a lamella plate clarifier which may not be as efficient in treatment as Dissolved Air Floatation in Option 3 or 4
- Option 4 has expensive and high power ozone and requires a bigger building than options 2 or 3
- Chloramination (in options 1, 2 and 3), as the final disinfection process, has a small risk of nitrification in the extreme parts of the downstream reticulation system. Nitrification is a process whereby residual ammonia becomes a food source for non-health related biofilm in the pipe network. When it gets going, usually after the mono-chloramine residual decays away to <0.5 to 1mg/L, the residual disinfectant residual then disappears in these areas of the network and water becomes stagnant and a mild poor taste/odour arises. To avoid it a booster chlorine and ammonia dose at a tank in the retic is sometimes needed or a routine water flushing program is implemented to reduce long detention times

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Table 10 Comparative costs, advantages, disadvantages and MCA Scoring for each option

		Option 1. Retain & upgrade existing treatment process (add Oxn+ UV +GAC + chloramination)	Option 2: NEW Lamella Plate Clarifier + MF + GAC + Chloramination	Option 3: NEW DAF + MF/UF + GAC + Chloramination	Option 4: NEW DAF + MF/UF + Ozone/GAC + Chlorination	Option 5: NEW DAF + MF/UF+ NF + Chlorination
CAPEX*		$8.6m	$9.3m	$9.1m	$9.8m	$9.6m
OPEX		$265k /year	$329k /year	$331k /year	$340k /year	$576k /year
NPC	6%pa for 25yrs	$12.0m	$13.5m	$13.3m	$14.2m	$17.0m
Relative Advantages		• Max reuse of existing assets • Retains process well known to WTP operators	• Good for high colour/ v good for high turbidity events • Allows option of PAC instead of GAC • MF/UF very robust in operation and easy to run	• Best for high algae and high colour and low/moderate turbidity • MF/UF very robust in operation and easy to run • GAC is best option for long-term MIB/Geosmin removal	• Best for MIB/Geosmin removal • MF/UF very robust in operation and easy to run • Disinfection by chlorination only and hence no complexity of ammonia dosing and nitrification risk of chloramination	• Best treatment for DOC and THMs • Can bypass NF when DOC is low concentration • Disinfection by chlorination only and hence no complexity of ammonia dosing and nitrification risk of chloramination
Relative Disadvantages		• Many existing WTP assets are 39 yrs old, which is excessive for Mech/Elect systems • Clarifier may not be reliable treatment process for the high colour/low turbidity/variable alkalinity & water temp conditions • Risk of plant offline for longer than expected in construction/commissioning requiring more carting in of water supply to the CWS at estimated $14,000/d • Nitrification T&O risk and process complexity of chlorination then chloramination • Uncertain asset condition/residual life of filters and clarifier as only visual inspections and there are signs of movement of the filters • Continued confined space at filter valves (OHS)	• MF/UF is new technology for Council • CIP cleaning waste for MF/UF for offsite disposal • Nitrification T&O risk and process complexity of chlorination then chloramination	• MF/UF is new technology for Council • CIP cleaning waste for MF/UF for offsite disposal • Nitrification T&O risk and process complexity of chlorination then chloramination	• High Power for Ozone/GAC and MF/UF • MF/UF is new technology for Council • CIP cleaning waste for MF/UF for offsite disposal • Nitrification T&O risk and process complexity of chlorination then chloramination	• Uncertain on % MIB/Geosmin removal in NF • NF has 20% of inflow going to waste as high DOC water and it is uncertain as to treatment allowing some to return as supernatant, Consequently, need to design for overall losses from plant at about 20 %, so plant is bigger than all other options • CIP cleaning waste for MF/UF and NF offsite disposal • Highest process complexity
Relative score against MCA (Best=5, Worst=1)	Performance	✓✓ (performance of modified clarifier uncertain)	✓✓✓ (nitrification risk)	✓✓✓ (nitrification risk)	✓✓✓✓	✓✓✓✓✓
	Operability	✓✓ (too compact at clarifier/filters)	✓✓✓	✓✓✓	✓✓✓	✓✓✓
	Enviro&WHS	✓✓ (ongoing poor access to filter valves)	✓✓✓	✓✓✓	✓✓✓	✓(high volume of salty NF waste)
	Construction complexity	✓ (existing structure and uncertain time offline risks)	✓✓✓✓ (small building easily fits)	✓✓✓✓ (small building easily fits)	✓✓✓ (bigger building)	✓✓✓ (bigger building)
	Easy procurement	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓ (NF equipment)
Order of preferred option	(best=1)	**4**	**2/3**	**1**	**2/3**	**5**

* The above costs do not include Fluoridation. Based on a separate contract for a new building and sodium fluoride dosing system compliant with the NSW code the extra cost is up to $0.65m. This cost is based on recent tenders and independent cost estimates.

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7. Conclusions & Recommendations

7.1 Conclusions

The main conclusions from condition assessment of the existing plant were;

- The existing raw water pump station requires a new building and E, I and C works due to very old asset in poor condition and not fit for purpose.
- The existing WTP is now 39 years old and the process (especially alkali, polymer and chlorine) and most electrical systems are older than normal asset life.
- Existing sludge ponds are too small to achieve the requirements of (1) containment of filter wash water and clarifier sludge plus (2) sludge drying

The main conclusions from the assessment of demand, groundwater alternative, existing surface water quality and treatment were;

- The required future (in 25 years) peak day demand for the new WTP is 1.5 ML/d
- The alternative of a future water supply from groundwater was found to be not viable
- The existing raw water pump station structures are well beyond asset life and the pumps have no variable flow control and minimal telemetry back to the Water Treatment Plant (WTP). A reliable pump station with ability to modulate flowrate and monitor performance is essential, particularly given the relatively old AC water main connecting it to the WTP
- The raw water catchment for this system is unprotected with substantial areas of grazing land for cattle/sheep/deer and septic tanks at rural properties. Based on the Health based Targets (HBT) concept, understood to be soon added to (ADWG), the Source Water Category Classification would be 4. This requires multiple treatment barriers to achieve the required high level of removal of bacteria/virus /protozoan (e.g. Cryptosporidium)
- Raw water quality conditions are challenging for treatment. This is mainly because this water supply from Coolumbooka Dam is from an unprotected catchment with high microbiological risk plus after chlorine is added, it produces levels of disinfection byproducts (eg THMs) that exceed ADWG health limit in the treated water. Also, raw water is soft with ongoing odour due to MIB/Geosmin and has very low water temperatures in winter. These characteristics require special features to be added for effective treatment. Events of very high manganese and iron occur. The existing treatment processes are not suitable or sufficient for treatment of this combination of risk and raw water quality conditions.
- The existing WTP is now 39 years old and the process (especially alkali, polymer and chlorine) and most electrical systems are older than normal asset life. Some minor improvements have recently occurred (e.g. motorised filter valves, new coagulant dosing system and limited SCADA upgrade) but performance of this plant is generally below standard (e.g. THMs are too high). Treatment essentially failed for several days soon after the recent wet weather event in February 2020. The existing process is not suitable for these rapidly deteriorating conditions.
- The recent special water quality sampling program was very useful in providing better understanding of the water quality challenges for this surface water supply from Coolumbooka Dam. However, it was of limited duration and did not cover the recent

large storm event for several water quality characteristics (results are summarised in Appendix C).

New WTP options that are considered suitable for the raw water quality conditions are:

- OPTION 1: Modify/add to existing plant; Pre-oxidation + tube settlers into modified clarifier + upgraded gravity filtration+ GAC + UV + chloramination. Work would include a new 920kg drum based chlorination system in a separate building plus a separate building for a new future sodium fluoride dosing system plus reorganise the existing main WTP chemicals/office/building
- OPTION 2: Pre-oxidation + Lamella Plate clarifier + Membrane filtration+ GAC + UV + chloramination then chloramination + THM stripping
- OPTION 3: Pre-oxidation + Dissolved Air Floatation (DAF) + Membrane filtration + GAC + UV + chloramination then chlorination+ THM stripping
- OPTION 4: Pre-oxidation + Dissolved Air Floatation (DAF) + Membrane filtration + Ozone/GAC + UV + chlorination+ THM stripping
- OPTION 5: Pre-oxidation + Dissolved Air Floatation (DAF) + Membrane filtration + nano filtration + chlorination

A summary of the options and comparison of options is set out below. All the Options 2 to 5 would be located at the site of the old house on the existing WTP site.

Option 3 is preferred overall on cost and non-cost advantages basis.

Item	OPTION1	OPTION 2	OPTION 3	OPTION 4	OPTION 5
CAPEX	$8.6m	$9.3m	$9.1m	$9.8m	$9.6m
NPC	$12m	$13.5m	$13.3m	$14.2m	$17m
Performance	✓✓ (clarifier uncertain)	✓✓✓ (small nitrification risk)	✓✓✓ (small nitrification risk)	✓✓✓✓	✓✓✓✓✓
Operability	✓✓ (too compact)	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓ (
Env&WHS	✓✓ (ongoing poor access to filter valves)	✓✓✓	✓✓✓	✓✓✓	✓(high volume of salty NF waste)
Construction complexity	✓ (existing structure and uncertain time offline needing carting in water risks)	✓✓✓✓ (small building easily fits)	✓✓✓✓ (small building easily fits)	✓✓✓ (bigger building)	✓✓✓ (bigger building)
Easy procurement	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓ (NF equipment)

Note that the above costs do not include Fluoridation. Based on a separate contract for a new building and sodium fluoride dosing system compliant with the NSW code the extra cost is up to $0.65m. This cost is based on recent tenders and independent cost estimate for a similar size plant in NSW.

7.2 Recommendations

The following is recommended based on this assessment of requirements and the options to achieve them;

- Based on projected demand in 25 years' time, the required new WTP capacity is 1.5ML/d with a peak instantaneous flowrate of 25 L/s
- The key features of the preferred Option 3 to go to the next stage of this project are;
    - treatment process; Pre-oxidation + Dissolved Air Floatation (DAF) + Membrane filtration + GAC + UV+ chlorination then chloramination + THM stripping
    - buildings: designed to suit bushfire rating of the area
    - Location; at existing old house site and decommission existing WTP but possibly reuse existing building for some of the chemical systems and for administration/spares storage
    - New wash water/sludge system; wash water/sludge holding tank and pumps to thickened and then concentrated sludge to existing sludge ponds and supernatant tank and supernatant return pumps to WTP inlet
- Construct a separate purpose built new chlorination building to house a duty + standby 920kg drums of chlorine plus duty/standby gas chlorinators and separate service water system
- Because Fluoridation is best located in a separate purpose built building as it requires specialist contractor and often is completed under a separate funding process.
- Continue, at lower frequency of sampling, the special water sampling program over autumn /winter focusing on the main issues of
    - Raw water at dam; E,coli, pH, alkalinity, colour, turbidity, MIB/Geosmin and DOC
    - Filtered water; turbidity prior to addition of soda ash and chlorine
    - Treated water; DOC, pH, alkalinity and THMs (CWS, Res1 and retic sites)

)

Appendices

Appendix A – Existing plant asset register

Refer to following page

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Table 11: Asset register (visual assessment as per site visit 16/4/19)

Asset	Category	Sub-Asset	Size	Details	Year constructed	Effective Life	Residual Life	Comment / Strategy
Raw Water Source	Civil	Coolumbooka Dam	250 - 300 ML		~1939	100	19	In use
		Coolumbooka Weir		Handrails replaced ~1980	~1980	50	20	In use
Raw Water pumps and Main	Pipework	Pipeline from Dam to RW Pumps	DN 200 CICL		~1939	100	19	In use
		Pipeline from Bombala river, downstream of dam	? AC		Pre 1980	50	< 11	Only used then water level in dam is low.
		Secondary pipeline from dam...	DN 150 AC		Pre 1980	50	< 11	Only used when extra flow is obtained from Bombala River, downstream of dam.
	Mechanical	Raw Water pump station	2 x 50 kW	D/S pumps, observed 67 amp @240V/phase	~1981?	40	1?	In use. Age and kW uncertain
		RW Pump stn monorail and hoist		manual	1981	30	-9	Hoist old manual chain type and monorail too low
	Electrical	Raw Water pump station	steel	D/S pumps	1981?	35	-4?	In use. Age uncertain
WTP	Civil	Main plant and TW pump Building	Main 15.5m x 11.6 m pumps 7 x 4.5m	Brick structure	1981	50	11	In use.
		Walkways above clarifier and filters		Galv steel	1981	35	-4	in use
		Roof over clarifier and filter area		Galv steel	1981	35	-4	In use
		Jet Mixing tank	6 m height	Concrete	1981	80	41	In use.
		Reactor Clarifier	10.25 m diameter with inner shroud at 4.88m diam	Concrete	1981	80	41	Upflow rate = 1.92m/hr @30L/s, is too high for high organics/colour/low turbidity water. Need 1 to 1.2m/hr in floc-blanket type clarifier, reactivator type more suited to high turbidity or softening Significant vertical cracks in brick wall connecting the filter block to the clarifier. Filtration rate =9.8m/hr at plant flow=30L/s
		Filters	2.3 m by 3.4 m for each filter	2 no. concrete filter block. Boby Rapid Gravity type filters	1981	< 80? Cracks/moving	< 41?	
		Mixing Tanks – Soda Ash	1.37 m diameter at 1.5 m deep = 2.2 m^3	2 no. tanks –FRP, 20kg bags batch to 5%w/v	1981	25	-14	Manual batching to 5%w/v
		Storage – Polymer	0.76 m diameter	FRP	1981	25	-14	Manual batching to 0.2%w/v
		Storage bund– ACH or alum		Concrete	1981	50?	11?	Concrete has leak according to ops
		Storage Tank ACH or Alum	10kL (approx.)	PE	2018?	25	-14	Tanks shown in original drawings no longer used
		Fluoride batching system		GRP	1981?	25	-14	Basic manual system
		Sludge Lagoons	560 m^3 each 24 m x 18 m (surface) 1:2 slope wall	2 no. sludge lagoons with baffles	1981	40	1	Lagoons need clay lining
	Mechanical	Backwash flowmeter and control valve			1981	25 flow meter 40 valve	-14 1	
		Treated water pumps and motors	22kw @38L/s	2No	1981 and 2007?	40	1 22	1 pump motor label 2007 other one looks older
		Dosing Fluoride	Sodium Fluoride	1No and float activated service water	1981	25	-14	Old and poor condition, no softener for service water

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Asset	Category	Sub-Asset	Size	Details	Year constructed	Effective Life	Residual Life	Comment / Strategy
		Blowers – Air scour	VSD controls	2 no.	1981 blowers 2017 VSDs?	30 15	-9	One blower taken offline for repair at time of visit
		Dosing – Polymer	12l/hr?	LT20	1981	25	-14	
		Dosing – ACH/alum	12 to 14.4L/hr carrier water 300L/hr	digital	2018	25	23	
		Dosing soda ash	400L/hr	Metering,	1981	25	-14	
		Chlorinators	1 pre +1 post Chlorinator/ ejector sets 1kg/hr each	Manual adjustment of rotameter valves	1981 Chlorinators	25	-14	Very basic control OHS risk (ie no chlorguards) Gas leak detectors unknown age
		Chlorine cylinders	2no x 70kg bottles with vac regulators		Vac regs 2018?	15	13?	No standby and no weight sensor under cylinders
		motorised filter inlet, outlet and wash water valves			2017 actuators 1981 valves?	25 40	22 1?	When were valves installed?
		Motorised Sludge Valve (clarifier outlet)			2017 actuators 1981 valve?	25 40	22 1?	When were valves installed?
		Chemical Mixers	Soda ash, polymer		1981	25	-14	In use
		Reactivator clarifier draught tube mixer and sludge scrapper			1981	25	-14	Not in use
		Service Water System		Pumps look recent	1981?	25?	-14?	Undersized for systems and no flow meter or VSD control for pressure
	Pipework	From filter sump to sludge lagoons	DN250 or 300?	AC	1981	50	11	
		Backwash from Res 1 to filters	DN250	DICL?	1981	80	41?	
		Rising main to Res 1	DN250	DICL?	Pre 1980	80	<41?	
		Gravity Main from Res 1	DN250	DICL?	Pre 1980	80	<41?	
	Other	Filter Media	Filter floor has laterals	Sand/coal media, PVC laterals with PVC nozzles	2018	20	18	Replaced the sand in July 2018. Prior to replacement, there was only 400 mm of sand and no anthracite found.
	Electrical	TW pumps and main WTP Switchboards		1981	35			Comment from Elec engineer?
		SCADA			15			
Distribution	Civil	Clear Water Storage *(originally named Res 1, pre 1980)*	455 kL 12.8 m diameter 3.58 m high	RC Tank with galv steel roof	Tank - 1938 Roof installed in 2000* (anecdotal, from site visit)	80 40	-2 20	Tank last cleaned 2018. Visual inspection of inside tank during site visit did not show corrosion on galv steel beams access ladder or roof
		Reservoir 1 *(originally named Res 2, pre 1980)*	455 kL 8.5m diameter 8.35 m high		1981?	80	41?	Beyond scope but looks < 30yr old
		Reservoir 2 (*originally named Res 3, pre 1980)*	1,917 kL			80		Beyond scope

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Appendix B – OHS issues as noted during site visit 16/04/19

Table 12 OHS issues, as noted during site visit 16/4/19

Area	Comment	Photo
Safety Shower	Safety Shower are not standard supplied showers	
	Service water flow – it is not clear whether this is sufficient to supply both the Safety Showers and the chlorinators at the same time	N/A
Trip hazard	Trip hazards under Chlorinator/Filter Block	
Chemical Handling	Soda Ash dosing is manual. 25kg bags are unloaded into mixing tank.	
Chemical Handling	No delivery bund to contain spilled chemicals from delivery tanker	
Chlorinator	Exhaust fan in chlorinator room did not turn on when tested at site visit	
	ChlorGuards not installed	
WTP boundary	Asbestos at house adjoined to WTP boundary.	

Appendix C – Water Quality Testing: Memorandum

Refer to the following page for the Water Quality Memo & location of sampling points

Appendix D – Bombala Operational Monitoring Data for recent 2020 wet weather event

Refer following page

Appendix E - Reservoir Aeration/Mixing Systems

Refer to following page.

Appendix F – Alternative siting location considered for new WTP

Refer to following page

Appendix G – Proposed WTP building layouts

Refer following page

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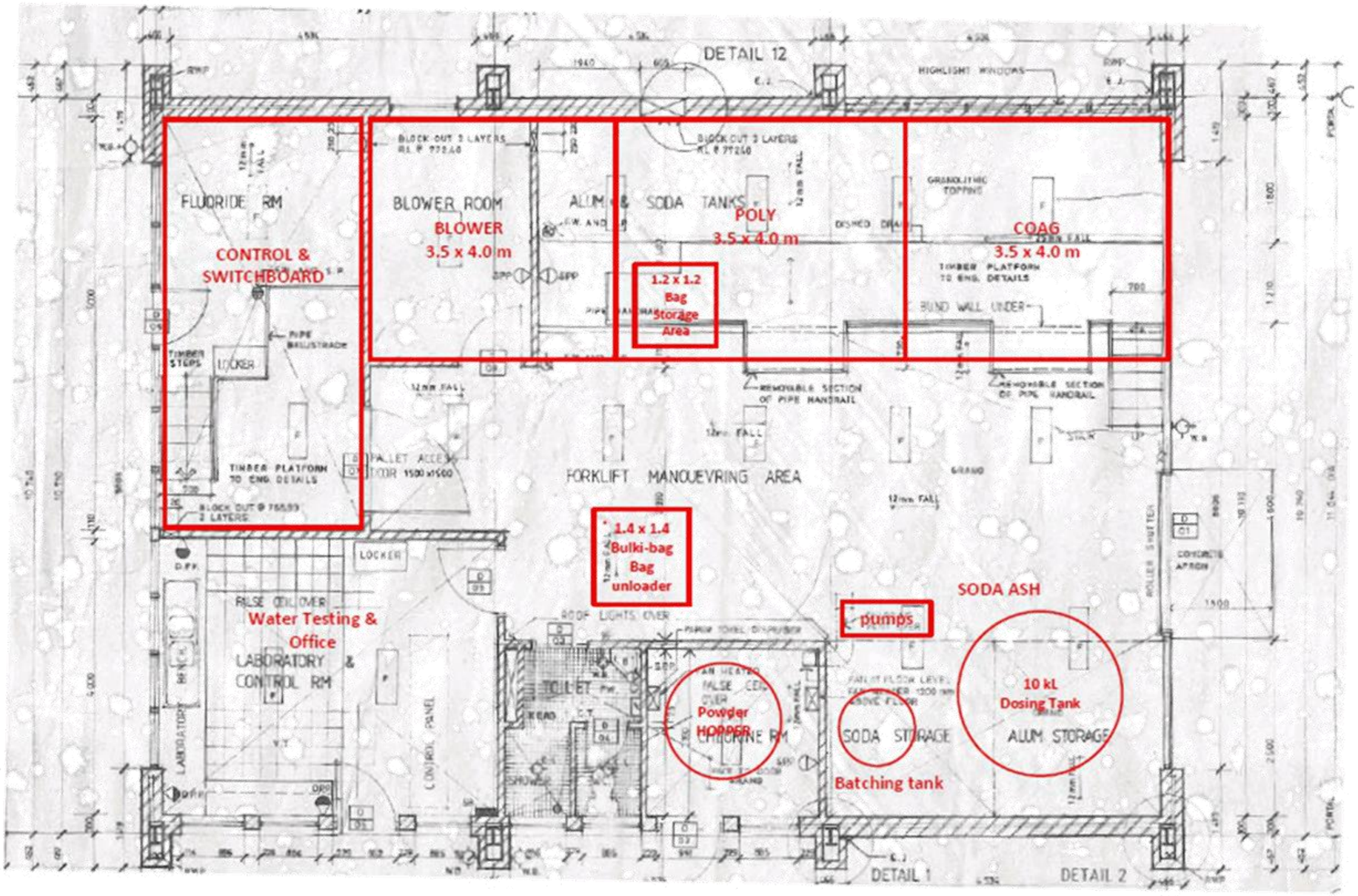

Figure 18 Bombala Control Building Layout for Option 1 (Upgrade existing plant)

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Appendix H – Comparison of treatment processes

Refer to following page

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Table 13: Comparison of treatment processes based on treatment of contaminants

LEGEND

- preferred process
- optional process

Contaminant Removed	Iron & Manganese	Turbidity and flocc particles	Colour	pH control	Dissolved Organic Carbon	Pesticide chemicals	MIB& Geosmin	Virus	Bacteria	Protozoans	THMs	Algae	Comment
Treatment Process													
Potassium Permanganate	✓✓✓✓												Best at pH >7.5 – 8.5 in high DOC water as if prevents overdose risk
Powder activate carbon					✓		✓✓✓						Best if MIB/Geosmin is intermittent
Alchlor (ACH)		✓✓✓✓	✓✓	✓	✓✓						✓		Not Preferred for high DOC water as does not lower pH and produces poor settling flocc
Alum		✓✓✓✓	✓✓✓✓		✓✓✓						✓✓		Preferred for high DOC water as lowers pH and produces good settling floc
Dissolved Air Floatation (DAF)		✓✓	✓✓✓✓									✓✓✓✓	Best for high colour/low turbidity water and good for confined site
Sedimentation Lamella Plate		✓✓✓✓	✓✓✓										Good for confined site
Sedimentation Reactivator		✓✓✓✓	✓✓										Best for high turbidity water and unconfined site
Gravity Dual Media Filtration	✓✓ (greensand)	✓✓✓								✓			Requires polymer dosing & air scour + water backwash & filter to waste
Microfiltration (MF)		✓✓✓✓	✓							✓✓			Pore size 0.3 – 0.5 µm, lower power
Ultrafiltration (UF)		✓✓✓✓	✓✓							✓✓✓			Pore size 0.1 – 0.2 µm, higher power
Nano Filtration (NF)					✓✓✓✓		✓?			✓✓ ✓(if no bypass)			Get about 50% DOC removal and recovery 85-90%
Nanofiltration (SW)					✓✓✓✓✓		✓?			✓✓ ✓(if no bypass)			Get about 90% DOC removal and recovery 80%
MIEX					✓✓✓✓								Proprietary design & high OPEX risk
Ozone/GAC					✓✓	✓✓✓	✓✓✓✓			✓✓ (if CT correct)	✓✓		ozone mainly for MIB/geosmin & when its present most of the time
GAC/BAC					✓✓	✓✓	✓✓				✓✓		DOC removal drops from 50% to 20-30% over 1 year then drops to 15-25% over 10 year
Chlorine	✓✓							✓✓✓✓	✓✓✓✓		✕✕		Need to have DOC < 4 to 6 mg/L to avoid THMs >250 µg/L
Chloramine								✓	✓✓				Good for avoiding THMs
Caustic Soda				✓✓✓✓									Lower dose required compared to soda ash
Soda Ash				✓✓✓✓									Not a dangerous good
UV Disinfection										✓✓✓✓			Installed power increases a lot as UVT moves from >90% to < 80%
PAX type aeration in Treated water tank											✓✓		Removes about 35% of THM's when water temp <15 deg c

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Appendix I – Cost comparison of PAC vs GAC

	PAC	GAC/BAC
CAPEX		
CAPEX	$430,000	$540,000
Site distance	$43,000	$54,000
Subtotal	**$473,000**	**$594**,000
+30%	$142,000	$176,000
CAPEX total	**$635,000**	**$770**,000
O&M		
Power	$700/yr	$1600/yr
PAC Dosing	$7500/yr	-
GAC replacement (every 10 years)	-	$6600/yr
Maintenance (2% MEI&C)	$4000/yr	$3200/yr
Operations	$10,400/yr	$2600/yr
Subtotal	**$26,600/yr**	**$17,200/yr**
+10%	$2660/yr	$1720/yr
O&M Total	**$29,260**	**$18,920**
NPC		
25 years @ 6%	$374,000 $635,000	$242,000 $770,000
NPC	**$1,009,000**	**$1,012,000**

Appendix J – Comparison of DAF and Settling

The following Figure 10.1, based on International Water Treatment experience, shows the normal operating range for a Dissolved Air Floatation (DAF) process. The TOC is related to colour and in turn alum dosage, which adds to the solids load. This figures show that, for water that has a high TOC (or DOC or true colour) and a low turbidity, the preferred treatment process is DAF then filtration. At Bombala the DOC can be up to about 24mg/L and the turbidity is almost all the time <10NTU in all raw water data.

Settling processes, such as the existing reactivator clarifier or lamella Plate clarifier, are not preferred until the raw water turbidity exceeds about 40 NTU (Degremont-Suez). This is consistent with experience by GHD at several plants such as Hamilton in Victoria, where only the combination of high turbidity with high colour caused de-rating of the DAFF process.

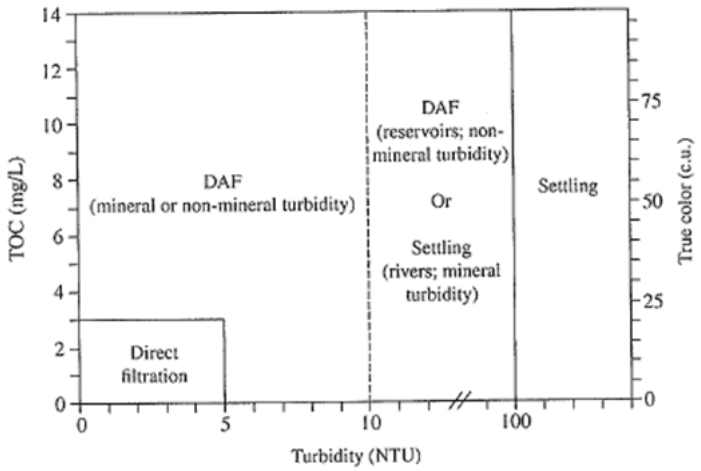

FIGURE 10-1 Process selection diagram based on average raw water quality conditions (*Source: reprinted from Valade et al. (2009), Journal of Water Supply: Research and Technology AQUA, 58 (6), 424–432, with permission from the copyright holder, IWA Publishing).*

Appendix K – THM Stripping System

Refer to following page

Appendix L – THM vs DOC relationship

Refer to following page

Appendix M – CAPEX and OPEX Estimates

Refer to following page.

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GHD

Level 18 180 Lonsdale Street
Melbourne VIC 3000
T: 61 3 8687 8000 F: 61 3 8687 8111 E: melmail@ghd.com

3137056-33237-61/https://projects.ghd.com/oc/Victoria2/snowymonarobombalade/Delivery/Documents/3137056-REP-Options_Assessment_Bombala_Water_Supply_20.05.2020.docx

Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	L. De Rango M. Chapman B.Jackson	M. Chapman	*M.Chapman*			7/5/2020
0	L. De Rango M. Chapman B.Jackson	M. Chapman	*M.Chapman*	John Wearne	*John Wearne*	21/5/2020

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9.1.2 HEALTH ONE FACILITY, JINDABYNE

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Facilities Officer
Key Theme:	1. Community Outcomes
CSP Community Strategy:	1.1 Quality health and well-being services that support the changing needs of the community through all stages of the lifecycle are provided through government and non-government organisations
Delivery Program Objectives:	1.1.1 Regional health and wellbeing services have been planned through community consultation and partnerships with other levels of government
Attachments:	1. Memorandum of Understanding - July 2016 2. Building Management Statement (Execution Copy)
Cost Centre	150277
Project	Jindabyne HealthOne Facility
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

In 2014 Council approved a Development Application for the construction of the Health One Facility in Jindabyne which is attached to the Snowy River Health Centre (SRHC) via a walkway bridge. Council provided the land to the Local Health District (LHD) for the building which is attached to SRHC via a walkway bridge.

A Memorandum of Understanding was signed by the former General Manager outlining the responsibilities/arrangements between the parties. This included the eventual subdivision of land into a stratum lot requiring a Contract for Sale, together with a Building Management Statement (BMS) to be registered with the subdivision. Dabyne Planning was engaged to prepare and lodge the subdivision certificate.

A Property and Project Agreement setting out the arrangements before, during and after construction was drafted by lawyers and sent to LHD but never signed.

Council is now in possession of final survey plans and a draft BMS and seeks Council resolution to move forward.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council

A. Authorise the Chief Executive Officer to execute the Building Management Statement and take steps to finalise and sign the land sale agreement.
B. Approve the establishment of a Building Management Committee to oversee obligations of the Building Management Statement.

BACKGROUND

Nil.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

The project addresses access and equity issues by providing opportunities for community funded health facilities and services.

2. Environmental

The necessary environmental assessments were undertaken at the time of building and progressively during each phase of the development of the HealthOne Facility. No further environmental impacts are expected.

3. Economic

At this point, the economic impact is not known. Some costs have been incurred by Council in seeking legal advice. The signed MOU between Council and LHD provides $10,000 reimbursement in legal fees upon presentation of tax invoices.

4. Civic Leadership

The development of the facility was an important step in achieving improved health services within the Shire. The recognition of necessity for increased health services in the Shire had been identified in the previous Community Strategic Plan and associated documents. Council had successfully advocated and realised funding for the GP Super Clinic. This proposal was the logical extension into Stage 2.

TRIM: SLHD 16/4124

NON BINDING MEMORANDUM OF UNDERSTANDING

Snowy Monaro Regional Council (SMRC)

Southern NSW Local Health District (LHD)

Dated: 29th July 2016

TC: 3456482
sout-lhd_160713_015.doc

Details

Interpretation – definitions are at the end of the General Terms

Parties		
	Name	Snowy Monaro Regional Council
	ABN/ACN/ARBN	72 906 802 034
	Address	81 Commissioner Street, Cooma, NSW 2630
	Telephone	02 6451 1195
	Contact Person	Dennis Trezise
	Email Address	records@snowyriver.nsw.gov.au
	Name	Southern NSW Local Health District
	ABN/ACN/ARBN	94 495 894 851
	Address	PO Box 1845, Queanbeyan, NSW 2620
	Telephone	02 6124 9938
	Contact Person	Ken Russell, Capital Works Manager
	Email Address	ken.russell@gsahs.health.nsw.gov.au

1 Parties

This memorandum of understanding (**MOU**) is made between Snowy Monaro Regional Council (**SMRC**) and Southern NSW Local Health District (**LHD**).

2 Purpose

The parties agree to work together for the design and construction of a HealthOne facility (**Facility**) on land owned by SMRC at 5 Thredbo Terrace, Jindabyne NSW being lot 22 DP227005 (**Land**). On completion of the Facility the Land will be subdivided with a stratum lot created for the Facility building and this stratum lot transferred to LHD for $1.00 consideration.

The parties agree to work together to further the purpose and negotiate an agreement for the development of the Facility on the Land (**Property and Project Agreement**).

3 Commencement and Operation

3.1 Commencement

This MOU commences when it is executed by both SMRC and LHD.

3.2 Period

The MOU will continue until such time as the Property and Project Agreement is entered into or notice is given in accordance with clause 9 *Termination*.

4 Roles and Responsibilities

4.1 Role of SMRC

- SMRC is the owner of the Land on which is currently situated the Snowy River Health Centre a facility constructed jointly from Council funds and those obtained from the Federal Government under the former Super Clinics program;
- SMRC provides "in-principle" support for the proposal to construct the Facility on the Land for the purpose of creating a stratum subdivision referred in clause 4.3.

4.2 Role of LHD

- LHD wishes to construct the Facility adjacent to and connecting to the existing Snowy River Health Centre on land currently occupied as a car park and forming part of the Land;
- LHD will liaise with Essential Energy regarding existing or future requirements for electricity supply including the pad-mounted sub-station and obtain necessary approvals;
- LHD to be responsible for the cost of establishing any electricity easements arising out of the development;
- To provide SMRC with evidence of any agreement with Jindabyne Medical Practice co-location and shared use of the reception noting that discussions between LHD and the tenant are ongoing;

- Confirmation of architectural and engineering arrangements and connection works associated with the buildings;
- Complete design and construction of the bridge link for the Facility to the existing Snowy River Health Centre to the satisfaction of SMRC including but not limited to structure, services, fire separation, fire detection, heating, cooling, lighting, power, finishes etc. Ownership of the bridge link will be transferred to SMRC on completion of the construction of the Facility;
- All installations to be in accordance with all Australian Standards, regulatory authority requirements and manufacturers specifications;
- Any brandings, signs to be at the cost of LHD and be installed in a way that does not void any current SMRC warranties;
- The parties acknowledge that there will be some disturbance during the construction phase of the Facility. The parties will use best endeavours to minimise disturbance to existing tenants and will work closely together and with all tenants to resolve any disturbance issues impacting on these tenants;
- The LHD to protect SMRC for any claims against SMRC arising from the construction of the Facility including the failure of LHD to properly undertake the construction of the Facility, a breach of any law or the Construction Licence or any damage to the Land including contamination (but only to the extent that such claims, damage or contamination are caused by the LHD);
- Prior to construction commencing prepare and agree with SMRC a construction management plan (**CMP**), which must include but is not limited to issues of the connection works, work methodologies, services upgrades, construction progress, hours of work, access and egress from the Land, car parking and location of site facilities;
- Contribution by LHD to car parking to be on the basis of that required for the development in accordance with the development consent for the Facility;
- Contribution by LHD to Water and Sewer will apply in accordance with the development consent;
- Use best endeavours to ensure arrangements in short term for impact on quiet enjoyment and business of the tenants; and
- To conduct and agree with SMRC a dilapidation survey and report – carpark, land, building, landscaping.

4.3 Joint Responsibilities

The parties agree:

- To liaise with the Federal Department of Health to obtain in principle support for the development of the Facility and transfer of the stratum lot;
- The proposed facility will have the same primary entrance from Thredbo Terrace as the current medical practice;
- To agree location of easements that will both burden and benefit the Land and the subdivided land for the benefit of both parties for such things as access, egress, car parks, underground power, drainage, personal access, fire safety, easements for repair etc.
- Construction may commence once all necessary approvals have been obtained including the CMP whether title has been finalised or in progress.
- Establish a regime for regular meetings with SMRC (PCG style) to review plans, discuss progress and co-ordination issues and take feedback.
- Preparation of Contract for sale of the Land in relation to the Stratum Lot;

4.4 Property and Project Agreement

- The Property and Project Agreement will be a binding contract for the construction of the Facility, stratum subdivision of the Land and transfer of the stratum lot to LHD. It will provide for the following:
  - licence for construction on the Land;
  - obligations to properly construct;
  - construction timetable and sunset date;
  - stratum subdivision of the Land and preparation of a Building Management Statement; and
  - transfer of the stratum lot.
- SMRC will arrange for preparation of the initial draft of the Property and Project Agreement, Contract for Sale of Land and Building Management Statement and submission to LHD.
- The bridge link for the Facility to the existing Snowy River Health Centre will be part of the SMRC stratum lot and the cost of ongoing maintenance will be paid by LHD.
- SMRC and LHD will use their best endeavours to resolve all outstanding issues, finalise and execute the Property and Project Agreement and Contract for Sale of Land.
- LHD will reimburse SMRC for its legal fees and expenses (in relation to the preparation, negotiation and finalisation of the Property and Project Agreement and Contract for Sale of Land and the subsequent work involved in the stratum subdivision and Building Management Statement), engineering fees and the reasonable fees or charges of any other consultant properly engaged in relation to the matter capped at $10,000 (plus GST) upon presentation of a tax invoice and a detailed break down of these costs.
- LHD will reimburse SMRC for its surveyor's fees and charges and registration fees of the subdivision.
- LHD will reimburse SMRC for its legal fees and expenses relating to enforcing the lease provisions including legal notices required to be served on tenant's of the Snowy River Health Centre in respect to current leases within the centre capped at $2,500.00 (plus GST) upon presentation of a tax invoice and a detailed break down of such costs.

5 Financial Arrangements

5.1 Expenses

A party may not commit the other to any cost, expense or obligation without the written consent of that Party.

6 Membership

6.1 Contact Person

The LHD must nominate one person as SMRC's point of contact for the purposes of executing this MOU and will advise SMRC of any change to the person nominated as soon as practicable.

6.2 Relationship between Parties of this Agreement

This MOU does not create a relationship of employment, trust, agency or partnership between the Parties. Each Party is responsible for its own obligations arising under this MOU and is not liable for any other Party's obligations.

7 Confidentiality

7.1 Disclosure of Confidential Information

No Confidential Information may be disclosed by either Party to any person except:

(a) Representatives of the recipient of the Confidential Information or its Related Entities requiring the information for the purposes of this agreement; or
(b) with the consent of the Party who supplied the information which consent may be given or withheld in its absolute discretion; or
(c) if either Party is required to do so by law or by a stock exchange; or
(d) if either Party is required to do so in connection with legal proceedings relating to this agreement.

7.2 Use of Confidential Information

A Party who has received Confidential Information from another under this MOU must not use it except for the purpose of exercising its rights or performing its obligations under this MOU.

7.3 Return of Confidential Information

A Party who has received Confidential Information from another under this MOU must, on the request of the other Party, immediately deliver to that Party all documents or other materials containing or referring to that information which are in its possession, power or control or in the possession, power or control of persons who have received Confidential Information from it under clause 7.1(a) or (b) ("Disclosure of Confidential Information").

7.4 Termination

This clause ("Confidentiality") will survive termination (for whatever reason) of this agreement.

8 Privacy

The parties agree, in respect of any personal information held or collected in connection with this MOU:

(a) To comply with the 12 Information Protection Principles (IPPs) in the *Privacy and Personal Information Act 1998* (PPIP Act).
(b) To comply with the 15 Health Privacy Principles (HPPs) in the *Health Records and Information Privacy Act 2002* (HRIP Act).
(c) to comply with the National Privacy Principles in the Privacy Act 1988 (Cth) and any other applicable law regarding privacy
(d) to use that information only for the purposes of this MOU.

9 Termination

9.1 Right to terminate

Any party has the right to terminate this MOU by notice in writing to the other party if:

(a) the party decides it no longer wishes to proceed with the Facility for any reason including lack of funding or change of policy;
(b) the other party commits a breach of this MOU; and
    (i) the breach is material and not capable of being cured; or
    (ii) the breach is capable of being cured and the defaulting party fails to cure the breach within 20 Business Days of being notified in writing of the breach by the party giving the notice.

9.2 Termination by Consent
This MOU can also be terminated at any time if mutually agreed in writing by the parties.

9.3 Survival of Obligations
The termination of this MOU does not affect:
(a) any obligation which accrued prior to that termination and which remains unsatisfied; and
(b) clauses 7 and 8.

10 General

10.1 Notices
A notice, approval, consent or other communication in connection with this agreement must be:
(a) in writing, signed by the sender (if an individual) or an Authorised Officer of the sender; and marked for the attention of the person identified in the Details or, if the recipient has notified otherwise, then marked for attention in the way last notified; and
(b) left at the address set out or referred to in the Details, sent by prepaid ordinary post (airmail if appropriate) to the address referred to in the Details; or
(c) sent by email to the email address referred to in the Details.

A notice, approval, consent or other communication takes effect from the time it is received unless a later time is specified in it.

10.2 Costs
Each Party is responsible for its own costs in connection with the negotiation and preparation of this MOU.

10.3 Negotiations
All correspondence and meetings between the parties are for discussion purposes only and nothing said at any meeting or in any correspondence is binding upon the parties.

10.4 Public Authority
This MOU or anything done or to be done under this MOU:
(a) is not to be taken as approval or consent by the SMRC as a regulatory authority; and
(b) does not in any way fetter, inhibit, deter or prejudice the SMRC in the proper exercise of its functions, duties or powers,
pursuant to or under any legislation including the *Environmental Planning and Assessment Act* 1979 or the *Local Government Act* 1993.

10.5 Reviews and Inspections
LHD acknowledges that a review, inspection or approval of any plans or works by SMRC under this MOU is not a review or approval for any other purpose and is not a warranty that the plans or works, comply with any legislation, are fit for their purpose, are current, accurate or otherwise in order.

11 Definitions
These meanings apply unless the contrary intention appears:

Authorised Officer	means a person appointed by a Party to act as an Authorised Officer for the purposes of this agreement
Business Day	means a day other than a Saturday, Sunday or public holiday in the place or places set out in the Details under "Business Day place(s)
Confidential Information	means all confidential, non-public or proprietary information regardless of how the information is stored or delivered, exchanged between the parties before, on or after the date of this agreement relating to the business, technology or other affairs of the any Party.
Details	means the section of this MOU headed "Details"
Representative	Of a party includes an employee, agent, officer, director, auditor, advisor, partner, consultant, joint venturer, contractor or sub-contractor of that party.

11.1 References to certain general terms

Unless the contrary intention appears, a reference in this MOU to:

law	law means common law, principles of equity, and laws made by parliament (and laws made by parliament include State, Territory and Commonwealth laws and regulations and other instruments under them, and consolidations, amendments, re-enactments or replacements of any of them).
person	the word "person" includes an individual, a firm, a body corporate, a partnership, a joint venture, an unincorporated body or association, or any Government Agency.

11.2 Headings

Headings (including those in brackets at the beginning of paragraphs) are for convenience only and do not affect the interpretation of this MOU.

EXECUTED as an agreement

SIGNED on behalf of

Snowy Monaro Regional Council

[redacted]

Joseph GEORGE VESCIO
Print Name

GENERAL MANAGER.
Position

SIGNED for and on behalf of)
Southern NSW Local Health District)
ABN 94 495 894 851)
in accordance with s 135 Health Services)
Act 1997 (NSW)

[redacted]
Signature

[redacted]
Signature of witness

Janet Compton
Full name of Authorised Person

Jake Mooney, A/Director Clinical Operations
Full name (BLOCK LETTERS)

Chief Executive
Position 8.8.16.

PO Box 1845
Address Queanbeyan NSW
2620
8.8.16.

Draft Version	Prepared By	Date	Council Reference
10	Kell Moore Lawyers	27 July 2016	ED/15/33748

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Approved Form 12

BUILDING

MANAGEMENT

STATEMENT

Jindabyne HealthOne

Date:

Conveyancing Act 1919

S 196E; Schedule 8A

Note: This building management statement has effect as an agreement under seal binding:

- each owner for the time being of any part of the Building or its site affected by the statement; and
- any mortgagee in possession or lessee or sublessee of any such part of the Building or its site affected by the statement.

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Part 1 - General

1 Functions of building management statement?

1.1 Function

This building management statement will:

(a) provide a set of rules that regulate the management and operation of a building where part or whole of the building is subdivided by a plan of subdivision that contains a stratum lot.

(b) confer rights and imposes obligations on the owners and occupiers of lots in a site to which this management statement applies regarding provisions about a wide range of issues including meetings, financial management and the maintenance of shared facilities.

1.2 Components of the building management statement

The Development has two components:

1.3 How to amend this management statement

The Committee may amend, modify, add to or repeal all or parts of this management statement only by Unanimous Resolution.

1.4 Effect of the management statement

This management statement has effect as an agreement under seal.

1.5 Compliance

Members, Owners and Occupiers must comply with this management statement.

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Part 2 - Rights and obligations of the Committee

2 The Committee

2.1 Establishing the Committee

The Members must establish the Committee within one month after this management statement is registered and must always have a Committee.

3 Functions and powers of the Committee

3.1 What are the functions?

In addition to its functions and powers elsewhere in this management statement, the functions and powers of the Committee are to:

(a) comply with its obligations and perform its functions according to the Subdivision Legislation, this management statement and the Easements; and

(b) make decisions about the matters in this management statement; and

(c) convene and hold Meetings; and

(d) determine Administrative Fund contributions and the Sinking Fund contributions to meet the costs for performing the functions and complying with the obligations of the Committee; and

(e) operate, maintain , renew and replace Shared Facilities; and

(f) appoint and contract with Service Contractors to provide operational, maintenance , renewal and replacement services for Shared Facilities; and

(g) change or add to Shared Facilities; and

(h) fairly control use of Shared Facilities; and

(i) effect insurances according to the Subdivision Legislation and this management statement; and

(j) monitor the performance by Members, Owners and Occupiers of their obligations under the Subdivision Legislation, and this management statement; and

(k) monitor the performance of Service Contractors; and

(l) perform ancillary functions necessary to carry out the functions and perform the obligations of the Committee.

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3.2 How to make decisions

The Committee may only:

(a) make decisions according to this management statement; and

(b) at a properly convened Meeting; and

(c) by Resolution or Unanimous Resolution.

3.3 Power to contract and make appointments

Subject to this clause 3, the Committee has the power to:

(a) enter into contracts or other arrangements with Service Contractors and other persons to assist the Committee perform its functions and comply with its obligations; and

(b) appoint consultants and experts to advise and assist the Committee in the administration and performance of its functions and the compliance with its obligations.

3.4 Agents

The Committee has the power to appoint persons (eg a Member) to act as its agent to enter into contracts or other arrangements on its behalf.

3.5 Making Rules

The Committee may make Rules to assist in the proper management, operation, maintenance and control of the Development. When the Committee makes Rules, it must take into account the mixed use nature and components of the Development.

3.6 Consistency of Rules

Rules must be consistent with this management statement. If a Rule is inconsistent with this management statement, the management statement prevails to the extent of the inconsistency.

3.7 Effect of Rules

A Rule made by the Committee applies as though it is set out in full in this management statement.

4 Officers of the Committee

4.1 What Officers must the Committee appoint?

The Committee must appoint as Officers a Secretary, a Treasurer and a Chairperson.

4.2 Eligibility for election

An Officer must be a Representative.

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4.3 Appointment to more than one position

The Committee may appoint a Representative to one or more of the offices of Secretary, Treasurer or Chairperson.

4.4 Procedure for appointing Officers

The Committee must appoint its Officers within one month after this management statement is registered.

4.5 Replacement Officers

The Committee:

(a) may appoint replacement Officers at any time; and

(b) must immediately appoint a replacement Officer if an existing Officer vacates their position as an Officer.

4.6 Vacating the position of an Officer

An Officer vacates their position as an Officer if:

(a) they cease to be a Representative; or

(b) the Committee dismisses them from their position; or

(c) the Committee appoints a replacement Officer to fill their position; or

(d) the Officer resigns in writing from their position. They must serve notice on the Committee of their resignation and the date from which their resignation will become effective.

5 Functions of Officers

5.1 Exercising functions

An Officer must perform their functions according to this management statement, the Subdivision Legislation and the directions of the Committee.

5.2 The Secretary

In addition to the functions elsewhere in this management statement, the functions of the Secretary are to:

(a) convene Meetings; and

(b) prepare and distribute notices, agendas and minutes for Meetings; and

(c) serve notices for the Committee; and

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(d) answer communications sent to the Committee; and

(e) perform administrative and secretarial functions for the Committee; and

(f) keep records (other than records which the Treasurer must keep) for the Committee according to this management statement and the Subdivision Legislation; and

(g) make the books and records of the Committee available for inspection according to clause 7.4 .

5.3 The Treasurer

In addition to the functions elsewhere in this management statement, the functions of the Treasurer are to:

(a) prepare Budgets for the Administrative Fund and Sinking Fund; and

(b) prepare (or arrange for the preparation of) financial statements; and

(c) prepare (or arrange for the preparation of) audit reports; and

(d) send notices of Administrative Fund and Sinking Fund contributions to Members; and

(e) collect contributions from Members; and

(f) receive, acknowledge, bank and account for contributions and other money paid to the Committee; and

(g) pay accounts; and

(h) keep accounting records for the Committee.

5.4 The Chairperson

The function of the Chairperson is to preside at each Meeting at which the Chairperson is present. If the Chairperson does not attend a Meeting, the persons present at the Meeting may appoint another Representative to preside at that meeting only.

6 Insurance requirements

6.1 Statutory insurance

The Committee must effect and maintain a building damage insurance policy for the Development which complies with the requirements of the Subdivision Legislation and this clause 6.

6.2 Required insurances

In addition to its obligation to effect building damage insurance, the Committee must take out insurance:

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(a) in respect of any occurrence against which the building management committee is required by law to insure, including insurance required by the *Workers Compensation Act 1987* and the *Workplace Injury Management and Workers Compensation Act 1998*;

(b) in respect of damage to property, death or bodily injury for which the building management committee could become liable in damages;

(c) against the possibility of the owners becoming jointly liable by reason of a claim arising in respect of any other occurrence against which the building management committee decides to insure;

(d) against any damages for which the building management committee could become liable by reason that, without fee or reward or any expectation of fee or reward, a person acting on behalf of the committee does work in the building or on its site.

6.3 Valuations

The Committee must have the Development valued for insurance purposes at least every two years. The valuation must be done by a qualified valuer or quantity surveyor who has a minimum of five years experience and experience in valuing for insurance purposes buildings like the Development.

6.4 When to carry out the first valuation

The Committee must have the first valuation carried out within six months after this management statement is registered.

6.5 Amount of building insurance

The Committee must insure the Development for the sum determined by the valuer or quantity surveyor (or a higher sum if reasonably determined by the Committee).

6.6 Proceeds of building insurance claims

The Committee must:

(a) apply any payments it receives under the building policy for the Development to rebuild or reinstate the damaged parts of the Development; and

(b) rebuild or reinstate the damaged parts of the Development within a reasonable time.

6.7 Regular review of insurances

Each year the Committee must:

(a) review its current insurance policies; and

(b) decide whether it needs new policies and, if so, effect those policies; and

(c) decide whether it needs to adjust current policies and, if so, adjust those policies.

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The Secretary of the Committee must include a motion on the agenda for a Meeting to determine the matters in this clause 6.7 ("Regular review of insurances").

6.8 Insuring for new risks

The Committee must immediately effect new insurance or adjust existing insurances if there is an increase in risk or a new risk to the Committee or the Development.

6.9 Insurance records

The Committee must:

(a) keep with its books and records all duplicate or certified copies of insurance policies, renewal certificates and endorsement slips for insurances it effects under this clause 6; and

(b) provide a certificate of currency to each Member after it renews an existing policy, alters an existing policy or effects a new policy.

7 Keeping books and records

7.1 Obligations of the Committee

The Committee must keep books and records relating to the exercise of its functions and the operation, management and administration of the Development and Shared Facilities.

7.2 Which books and records must the Committee keep?

Books and records which the Committee must keep include:

(a) an up-to-date copy of this management statement; and

(b) its agreements with Service Contractors; and

(c) an up-to-date roll containing names, addresses and other contact details for each Member and their Representatives; and

(d) notices and minutes of Meetings; and

(e) financial statements; and

(f) audit reports; and

(g) Budgets; and

(h) notices served on the Committee; and

(i) correspondence sent to and by the Committee; and

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(j) insurance records including duplicate or certified copies of insurance policies, renewal certificates and endorsement slips for insurances; and

(k) all other records relating to the administration and operation of the Development by the Committee.

7.3 How long are records kept?

The Committee must keep copies of its records for a least seven years from the date of the record.

7.4 Who is entitled to inspect the books and records?

You may inspect the books and records of the Committee if you are a Member or an Owner (or a person authorised in writing by them). The Committee must make the books and records available at the request of a Member or Owner.

8 Power of the Committee to gain access to Shared Facilities

8.1 General requirement

When the Committee exercises its rights to access parts of the Development, it must not interfere unreasonably with your lawful use of that area.

8.2 What are the powers of the Committee?

Subject to this clause 8, the Committee has the power to gain access to a Stratum Lot in order to:

(a) operate, inspect, test, treat, use, maintain, repair or replace Shared Facilities (eg the integrated fire system for the Development or Fire Safety Devices); and

(b) exercise its rights and comply with its obligations under this management statement.

8.3 Access requirements

To enable the Committee to exercise its powers under this clause 8 and subject to clause 8.4 ("Notice requirements"), you must give the Committee access to your Stratum Lot by the most direct route or by the route nominated by the Committee (acting reasonably).

8.4 Notice requirements

The Committee must give you reasonable notice before it requires access to your part of the Development. However, in an emergency the Committee is not required to give you notice if it is not practicable to do so.

8.5 Paying costs

Subject to this management statement, the Committee must pay the costs it incurs when it gains access to parts of the Development under this clause 8.

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8.6 Rectifying damage

When it exercises it rights or complies with its obligations under this clause 8, the Committee must promptly rectify any damage it causes and leave the affected areas of the Development clean and tidy.

8.7 Interpreting this clause

In this clause 8, references to the Committee include persons authorised by the Committee and Service Contractors appointed by the Committee.

9 Rights of the Committee to do work in an emergency

9.1 What power does the Committee have?

In an emergency, the Committee may do anything in the Development which you should have done under this management statement but which, in the reasonable opinion of the Committee, you have not done or have not done properly. If practicable, the Committee must give you notice before it exercises its rights under this clause 9.

9.2 Entering parts of the Development

To exercise its rights under this clause 9, the Committee may enter the affected part of the Development and stay there for a long as necessary and do what is required to remedy the emergency.

9.3 Costs

If the Committee carries out work under this clause 9, you must pay it its reasonable costs for carrying out the work you should have carried out under this management statement. The Committee must give you the information you reasonably require about the costs it has incurred.

9.4 No interference

When the Committee exercises its rights under this clause 9, it must not interfere unreasonably with your lawful use of the Development.

9.5 Liability for damage

The Committee is not liable for damage arising out of exercising rights under this clause 9 (except for damage it causes maliciously or negligently).

9.6 Interpreting this clause

In this clause 9, references to the Committee include persons authorised by the Committee and Service Contractors appointed by the Committee.

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10 Power of the Committee to act on behalf of the Members

10.1 Acting as agent

Each Member agrees that the Committee (or a person appointed by the Committee) may act as agent for all the Members and take legal proceedings about:

(a) the failure of a Member to pay Administrative Fund or Sinking Fund contributions; and

(b) the failure of a Member, an Owner or Occupier to comply with its obligations under this management statement.

10.2 Appointment as agent and attorney

Each Member appoints the Committee as its agent and attorney to enable the Committee or a person appointed by the Committee to take any action authorised by a Resolution or Unanimous Resolution made by the Committee according to this management statement.

10.3 Legal proceedings by a Member

This clause 10 does not prevent a Member from taking legal proceedings in its own name.

11 Consents by the Committee

11.1 How may consent be given?

The Committee may give consents under this management statement only at a Meeting.

11.2 Conditional consent

The Committee may make conditions if it grants consent under this management statement.

11.3 Revoking consent

The Committee may revoke its consent if the Member, Owner or Occupier to whom the consent was given does not comply with any conditions made by the Committee when it granted the consent.

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Part 3
Rights and obligations of Members, Owners and Occupiers

12 What are the rights and obligations of Members, Owners and Occupiers?

12.1 General obligations

In addition to your obligations under the Subdivision Legislation or elsewhere in this management statement, if you are a Member, Owner or Occupier you must:

(a) promptly comply with your obligations under this management statement and the Subdivision Legislation; and

(b) ensure, as far as is reasonable, that the Development is efficiently managed to a standard appropriate to its permitted uses; and

(c) promptly pay your Administrative Fund contributions and Sinking Fund contributions and other amounts you owe the Committee under this management statement; and

(d) effect and maintain the insurances required by the Subdivision Legislation and this management statement; and

(e) make sure the Committee is properly constituted; and

(f) comply with decisions of the Committee; and

(g) comply with Easements; and

(h) comply with Rules.

12.2 Voting rights

If you are a Member, you have the right to vote at Meetings according to part 4 ("Meeting procedures and resolutions").

12.3 Shared Facilities

If you are a Member you must not interfere with Shared Facilities other than according to this management statement.

12.4 Maintenance requirements

Except for Shared Facilities and subject to this management statement, if you are a Member you must, at your cost:

(a) maintain and keep in good repair the part of the Development that you own; and

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(b) maintain and keep in good repair the facade and other external finishes, fixtures or fittings in the part of the Development that you own; and

(c) maintain, inspect and operate plant and equipment owned or used exclusively by you to a standard recommended by the applicable Australian standard, or if there is no applicable Australian standard, to a reasonable standard.

12.5 Nature of obligations

You must act in good faith in your dealings with Members, Owners and Occupiers under this management statement and the Easements.

12.6 Access

You must:

(a) give other Members, Owners and Occupiers access to fire stairs, passages and all other egress routes in your part of the Development necessary to exit the Development; and

(b) Subject to the Easements and part 6 ("Shared Facilities"), give the Committee and other Members, Owners and Occupiers access to operate, test, use, maintain, repair and replace Shared Facilities located in your part of the Development by the most direct route or by the route nominated by the Committee (acting reasonably).

12.7 Notice requirements

Except in an emergency and subject to this management statement, the Committee, Members, Owners and Occupiers must give you reasonable notice before they require access to your part of the Development to maintain, repair or replace Shared Facilities.

12.8 When is access available?

Except in an emergency and subject to this management statement, the Committee, Members, Owners and Occupiers may gain access under this clause 15 to your part of the Development:

(a) during the hours determined by this management statement or reasonably agreed to by you; and

(b) subject to this management statement, according to your reasonable requirements.

12.9 Paying costs

Unless this management statement states otherwise, you must pay all of your costs associated with you gaining access under this clause 14 to parts of the Development.

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13 Procedures when you become a Member or change your contact details

13.1 Purchasing a Stratum Lot

If you purchase a Stratum Lot, you must notify the Committee of your contact details and the details of your Representative and any change of details.

13.2 Leasing a Stratum Lot

If you lease or licence your Stratum Lot (or part of it), you must notify the Committee of the contact details of your tenant.

14 Appointing a Representative

14.1 Appointment of Representatives

If you are a Member you must appoint a Representative to represent and vote for you at Meetings.

14.2 Eligibility for appointment

Representatives must be natural persons.

14.3 Appointing a new Representative

If you are a Member, you may appoint a new Representative at any time.

14.4 Acts by Representatives

Anything done for you by your Representative has the same effect as if you did it.

14.5 Substitute Representatives

If a Representative is unable to attend a Meeting the Representative may appoint another person to attend the meeting in his place by written notice to the Committee.

15 Fire safety and protection

15.1 What are your obligations?

You must:

(a) immediately notify the Committee of any defect in or damage to a Fire Safety Device which comes to your attention; and

(b) comply with laws about fire control; and

(c) notify the Committee if you change the lock on the entry door to your Stratum Lot.

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15.2 Keeping flammable materials

You may keep flammable materials in your Stratum Lot provided that you:

(a) use them in connection with the lawful use of your Stratum Lot; and

(b) keep them in reasonable quantities according to the guidelines of Government Agencies.

15.3 Restrictions about fire safety

You must not:

(a) interfere with, obstruct or damage Fire Safety Devices; or

(b) do anything that will activate a Fire Safety Device unless there is a fire or other emergency in the Development; or

(c) keep flammable materials on a Shared Facility.

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Part 4
Meeting procedures and resolutions

16 Meetings of the Committee

16.1 Meetings

The Committee may deal with matters which require a Resolution or a Unanimous Resolution at a Meeting. The Committee must convene a Meeting at least every six months (starting from the date which is six months after the first meeting of the Committee) or earlier if:

(a) the Committee resolves to hold the Meeting; or

(b) at least one Member makes a written request to the Committee to convene a Meeting; or

(c) it is necessary to appoint a replacement Officer.

16.2 Who convenes Meetings?

A Meeting may be convened by:

(a) the Secretary; or

(b) another Officer if the Secretary is absent or unable to convene the Meeting; or

(c) a Member.

17 Notices and agendas for meetings

17.1 Information to be included in the notice

Subject to this clause 17, if you convene a Meeting you must give each Member a notice of the Meeting which includes:

(a) the time, date and venue of the Meeting; and

(b) an agenda for the Meeting.

17.2 Agenda for a Meeting

The agenda for a Meeting must:

(a) include the terms of motions for Resolutions and Unanimous Resolutions which the Committee will deal with at the Meeting. The Committee cannot vote on matters that are not on the agenda for a Meeting; and

(b) clearly identify which motions require Resolutions or Unanimous Resolution; and

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(c) include motions which Members or Owners have requested the Committee in writing to include on the agenda for the Meeting; and

(d) be accompanied by a copy of the minutes of the last Meeting; and

(e) include a motion to adopt the minutes of the last Meeting.

17.3 Information to be included in the notice of a Meeting to consider levy contributions

If you convene a Meeting to determine Administrative Fund contributions or Sinking Fund contributions, you must include with the notice of the Meeting:

(a) the Budget prepared by the Committee according to clause 24 ("Preparing Budgets"); and

(b) the current audit report prepared by the Committee according to clause 26 ("Preparing financial statements"); and

(c) the current audited financial statement prepared by the Committee according to clause 26 ("Preparing financial statements").

18 How to give notice of a meeting

18.1 How much notice is required for a Meeting?

If you convene a Meeting, you must give each Member at least ten Business Days' notice of a Meeting written notice to the Current Address of the Member or by email to the Member.

19 Procedures for holding meetings

19.1 Conducting a Meeting

Subject to this management statement, the Committee may meet to conduct its business, adjourn and otherwise regulate Meetings as it thinks fit.

19.2 Quorum for a Meeting

A quorum must be present at a Meeting before the Committee may vote on any motions. A quorum for a Meeting occurs when there is a Representative of both Members present.

19.3 Failure to obtain a quorum

If a quorum is not present within 30 minutes after a Meeting is due to commence, the Committee must adjourn the Meeting to a time and place determined by the Chairperson at the Meeting.

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19.4 Notice of adjourned Meetings

If a Meeting is adjourned, the person who convened the Meeting must give notice of the adjournment to each Member at least two Business Days before the adjourned Meeting is due to be held.

19.5 Quorums at adjourned Meetings

A quorum at an adjourned Meeting is the Representatives of those Members present who are Members Entitled to Vote.

19.6 Minutes of Meetings

A person who convenes a Meeting must distribute minutes of the Meeting to each Member within ten Business Days after the Meeting.

20 Voting rights of Members

20.1 Voting rights of Members

Subject to this clause 20, you are entitled to vote at Meetings only if you are a Member Entitled to Vote.

20.2 How many votes does each Member have?

Each Member has the following number of votes:

(a) Lot 2 Owner - 1 vote; and

(b) Lot 3 Owner - 1 vote.

21 Resolutions at Meetings

21.1 Who may vote on a matter requiring a Resolution?

You are entitled to vote on a Resolution if you are a Member Entitled to Vote.

21.2 When is a Resolution passed?

A Resolution is decided according to the majority of votes for or against the motion.

21.3 Matters decided by Resolution

The matters which the Committee must determine by Resolution are:

(a) appointing or terminating the appointment of a Service Contractor (or the agent of the Committee); and

(b) effecting insurances; and

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(c) establishing the Administrative Fund and determining contributions for that fund; and

(d) establishing the Sinking Fund and determining contributions for that fund; and

(e) resolving any other matters which do not require a Unanimous Resolution.

21.4 Unanimous Resolutions

Subject to this clause 21.4, Unanimous Resolutions generally relate to dealings with Shared Facilities. You are entitled to vote on a Unanimous Resolution if you are a Member Entitled to Vote.

21.5 When is a Unanimous Resolution passed?

A motion which requires a Unanimous Resolution is passed if no Member Entitled to Vote on the motion votes against the motion.

21.6 Matters decided by Unanimous Resolution

The matters which the Committee must determine only by Unanimous Resolution are:

(a) amending, adding to or repealing all or part of this management statement; and

(b) repaying all or a part of the surplus Administrative Fund or Sinking Fund contributions to Members; and

(c) making Rules or adopting an architectural amenity code referred to in clauses 3.5 ("Making Rules"); and

(d) changing, adding to, extending or removing a Shared Facility according to clause 30.10 ("Changing and adding to Shared Facilities"); and

(e) amending the division of costs for Shared Facilities according to clause 30.6 ("Changing the costs of Shared Facilities").

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Part 5
Financial management

22 What funds and accounts must the Committee establish?

22.1 Types of funds

Within one month after this management statement is registered, the Committee must establish an Administrative Fund and a Sinking Fund.

22.2 What money is paid into the Administrative Fund?

The Committee must pay into the Administrative Fund:

(a) Administrative Fund contributions; and

(b) payments the Committee receives for inspections of its records; and

(c) amounts paid to the Committee by way of discharge of claims for insurances affected by the Committee; and

(d) payments the Committee receives under the Easements.

22.3 What money is paid into the Sinking Fund?

The Committee must pay into the Sinking Fund:

(a) Sinking Fund contributions; and

(b) other money received by the Committee which it does not have to pay into its Administrative Fund according to clause 22.2 ("What money is paid into the Administrative Fund?").

22.4 Bank Account

The Committee must:

(a) establish and maintain a bank or building society account or accounts in the names of the Members;

(b) deposit all contributions and other money paid to the Committee into its bank or building society accounts;

(c) hold its funds in a trust account established under the *Property Stock and Business Agents Act 1941* (NSW); and

(d) only exercise its functions and comply with its obligations under or arising from this management statement or the Subdivision Legislation.

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22.5 Interest bearing accounts

The Committee may place money in an interest bearing deposit account at a bank or building society. If the account earns interest, the Committee may:

(a) credit it to one of the accounts of the Committee; or

(b) pay it to the Members according to clause **Error! Reference source not found.** ("Dealing with surplus funds").

23 Financial years

23.1 First Financial Year

The first Financial Year of the Committee commences on the date of registration of this management statement and ends on the date resolved by the Committee (which must not be more than 18 months after the date of registration of this management statement).

23.2 Subsequent Financial Years

Subsequent Financial Years commence at the expiration of the previous Financial Year and end on the date resolved by the Committee (which must not be more than 18 months after the expiration of the last Financial Year).

24 Preparing Budgets

24.1 When to Prepare Budgets

The Committee must prepare a budget for each Financial Year in respect of the Administrative Fund and the Sinking Fund.

24.2 What information must be included in a Budget?

A Budget must contain itemised details of:

(a) how much money the Committee will need during the Financial Year for the Administrative Fund and the Sinking Fund; and

(b) income the Committee estimates it will receive in the Financial Year for the Administrative Fund and Sinking Fund (including any costs paid to the Committee under Easements); and

(c) each item for which a Member is responsible to contribute; and

(d) the proportion which each Member must contribute to each item for the Financial Year; and

(e) the amount of the proportion which each Member must contribute to each item for the Financial Year.

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24.3 How much to budget?

The Committee must budget sufficient funds to comply with its obligations under this management statement, the Subdivision Legislation and the Easements.

25 Determining contributions

25.1 Levying Members

The Committee must levy Members the contributions it will require for its Administrative Fund and Sinking Fund for each Financial Year. The Committee may decide to levy contributions for a shorter or longer period provided that it prepares a Budget for that period according to clauses 24.2 ("What information must be included in a Budget") and 24.3 ("How much to budget").

25.2 What proportion of costs must you pay?

If you are a Member, the proportion of Administrative Fund and Sinking Fund contributions you must pay is in schedule 1 ("List of Shared Facilities and Cost Apportionment").

25.3 Procedures for determining contributions

When the Committee determines Administrative Fund and Sinking Fund contributions, it must determine:

(a) whether you must pay the contributions in a lump sum or by instalments; and

(b) the dates on which you must pay your contributions (eg monthly or quarterly).

25.4 Review

The Committee must ensure that there is a review of the contributions and apportionment of contributions at Schedule 1:

(a) as soon as reasonably practicable after any change in the Shared Facilities (including any change in the use of the Shared Facilities);

(b) as soon as reasonably practicable after any change in the shared services (including any change in the use of the shared services); and

(c) at least once every 5 years even if no changes set out in 25.4(a) and 25.4(b) have occurred.

26 Preparing financial statements

26.1 Obligations of the Committee

At the end of each Financial Year, the Committee must:

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(a) have its accounts audited by a qualified auditor; and

(b) prepare a financial statement for each of its accounts for that Financial Year.

26.2 When to prepare financial statements

The Committee must have audited financial statements for its accounts prepared for the period from the date of the last financial statements to within two months before the next contribution period starts.

26.3 Information to be included in a financial statement

A financial statement must show for each of the Administrative Fund and the Sinking Fund:

(a) a statement of income and expenditure during the Financial Year; and

(b) the balance carried forward from the Financial Year; and

(c) particulars and amounts of each item of income during the Financial Year; and

(d) particulars and amounts of each item of expenditure during the Financial Year; and

(e) the cash in the fund (including deposits and investments) at the end of the Financial Year; and

(f) the balance of the fund at the end of the Financial Year; and

(g) contribution arrears for each Member at the end of the Financial Year; and

(h) the amount of credit or debit in the fund at the end of the Financial Year; and

(i) other relevant information.

27 Paying contributions

27.1 Notices of contributions

Subject to this clause 27, the Committee must give you at least 20 Business Days' notice before your Administrative Fund or Sinking Fund contribution are due. The notice must be in writing and must show for each of the Administrative Fund and Sinking Fund:

(a) the total contribution to be raised; and

(b) the portion of the contribution which you must pay; and

(c) the date the payment is due.

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27.2 Raising funds in an emergency

If the Committee has to raise funds in an emergency, it may give you less than 20 Business Days' notice of the contribution.

27.3 Serving notices

The Committee must serve notices of contributions to each Member according to clause 31 ("How to serve notices").

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Part 6
Shared Facilities

28 What are Shared Facilities?

28.1 Rights and obligations of the Committee

Subject to this management statement, the Committee must operate, manage, control, maintain, repair and replace Shared Facilities.

28.2 Service Contractors

The Committee may appoint and contract with parties to perform its functions in relation to Shared Facilities.

28.3 How to apportion costs for Shared Facilities

The Committee must levy Members for contributions towards the costs of Shared Facilities according to schedule 1 ("List of Shared Facilities and Cost Apportionment ").

28.4 Obligations of Members to pay for Shared Facilities

Members must pay their proportion of the costs for Shared Facilities according to schedule 1 ("List of Shared Facilities and Cost Apportionment").

28.5 What do Shared Facilities include?

Subject to schedule 1 ("List of Shared Facilities and Cost Apportionment"), Shared Facilities and costs for Shared Facilities include:

(a) access to the Shared Facility by the most direct route available; and

(b) plant and equipment which constitute a Shared Facility; and

(c) pipes, wires, cables and ducts which are connected to or form part of a Shared Facility, but excluding any of those things which exclusively service a Member's part of the Development; and

(d) any rooms or areas in which Shared Facilities are located; and

(e) the maintenance, repair, operation, cleaning and replacement of Shared Facilities; and

(f) parts or consumables used in the maintenance, repair, operation, cleaning and replacement of Shared Facilities; and

(g) labour used in the maintenance, repair, operation, cleaning and replacement of Shared Facilities; and

(h) the inspection of Shared Facilities (if applicable) by a Government Agency; and

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(i) the certification of Shared Facilities for the purposes of the law.

28.6 Costs for Shared Facilities

Subject to the description of Shared Facilities in schedule 1 ("List of Shared Facilities and Cost Apportionment"), costs relating to Shared Facilities include costs for:

(a) the maintenance, repair, operation, cleaning and replacement of Shared Facilities; and

(b) parts or consumables used in the maintenance, repair, operation, cleaning and replacement of Shared Facilities; and

(c) labour used in the maintenance, repair, operation, cleaning and replacement of Shared Facilities; and

(d) the inspection of Shared Facilities (if applicable) by Government Agencies; and

(e) the certification of Shared Facilities for the purposes of the law.

28.7 Who may use Shared Facilities?

The column titled "Used by" in schedule 1 ("List of Shared Facilities and Cost Apportionment") specifies which Members are entitled to use each Shared Facility. If a Member entitled to use a Shared Facility is the Owner of a Stratum Lot, the Occupiers of the Stratum Lot are entitled to use the Shared Facility.

28.8 When can you use Shared Facilities?

If you are entitled to use a Shared Facility, you must do so at all times unless this management statement specifies otherwise.

28.9 Easements

Several Shared Facilities are the subject of Easements. The Committee (and each Member) agrees in favour of the grantor under those Easements to perform the functions and obligations of the grantee according to the Easement. The grantor agrees that the Committee may exercise the rights of the grantor under the Easement.

28.10 Changing the Shared Facilities

The Committee may, by Unanimous Resolution:

(a) add Shared Facilities if it identifies new Shared Facilities; and

(b) create new Shared Facilities; and

(c) change existing Shared Facilities; and

(d) change the use of existing Shared Facilities; and

(e) modify or replace existing Shared Facilities; and

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(f) extend Shared Facilities; and

(g) remove redundant Shared Facilities.

If you are a Member, you must agree to amend schedules 1 ("List of Shared Facilities") and 2 ("Division of costs for Shared Facilities") to reflect anything the Committee resolves to do under this clause 35.10.

28.11 Powers of the Committee

The Committee may, by Unanimous Resolution, change costs, add new costs or adjust the division of costs for Shared Facilities in schedule 1 ("List of Shared Facilities and Cost Apportionment") if:

(a) the Committee resolves to deal with Shared Facilities under clause 30.10 ("Changing and adding to Shared Facilities"); or

(b) it more fairly divides costs for Shared Facilities; or

(c) the Development changes; or

(d) the Committee identifies new Shared Facilities; or

(e) the use of Shared Facilities changes; or

(f) Shared Facilities are repaired, modified or replaced; or

(g) a Shared Facility is removed; or

(h) anything else happens which affects the costs or apportionment of costs for Shared Facilities.

28.12 Reason for exercising powers

The Committee may change the costs, add new costs or adjust the division of costs for Shared Facilities only if:

(a) the costs for Shared Facilities will be more fairly divided; and

(b) the fairness of the division of costs is supported by at least one expert consultant report (unless all Members agree to waive this requirement).

If you are a Member, you must agree to amend schedules 1 ("List of Shared Facilities") and 2 ("Division of costs of Shared Facilities") to reflect anything the Committee resolves to do under this clause 30.12.

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29 Damage to Shared Facilities

29.1 What are your obligations?

Subject to this clause 29, you must:

(a) obtain consent from the Committee to make alterations to Shared Facilities; and

(b) use Shared Facilities only for their intended purposes; and

(c) immediately notify the Committee if you know about damage to or a defect in a Shared Facility; and

(d) compensate the Committee for any damage to Shared Facilities caused by you, your visitors or persons doing work in the Development on your behalf.

29.2 Some prohibitions

You must not interfere with Shared Facilities other than according to this management statement.

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Part 7
Miscellaneous

30 How to resolve Disputes

30.1 Interpretation

For the purpose of this clause 39, "party" or "parties" means the party or parties to a Dispute which may be the Committee, a Member, an Owner or an Occupier.

30.2 Resolution of Disputes

The parties to a Dispute must:

(a) endeavour in good faith to resolve their Dispute before taking action under this clause 39; and

(b) deal with disputes about this management statement according to this clause 39.

This includes disputes about the Committee or an Officer failing to comply with the provisions about Meetings and resolutions of the Committee.

30.3 Dispute Notice

A party may give another party a Dispute Notice if they are unable to resolve their Dispute under clause 39.4 ("Resolution of Disputes"). In the notice the party must:

(a) describe what the Dispute is about; and

(b) identify the provisions of this management statement or the law that apply to the Dispute; and

(c) state the position of the party; and

(d) set out the facts and other circumstances on which the party relies; and

(e) attach copies of correspondence and other documents mentioned in the Dispute Notice.

30.4 Negotiation

Within 10 Business Days after a party gives a Dispute Notice, the parties to the Dispute must meet in person (or conduct a telephone conference) at an agreed time and place. If they cannot agree on the time and place, they must meet to try to resolve the Dispute by negotiation:

(a) at 2.00 pm on the date which is 10 Business Days after the Dispute notice was given; and

(b) at the Development or by telephone conference.

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30.5 Referring a Dispute to expert determination

If the parties cannot resolve their Dispute by negotiation, a party may give a Determination Notice requiring the parties to refer the Dispute to an independent expert for determination and appoint an expert to determine the Dispute.

30.6 Appointing an expert

If the parties cannot agree on an expert within five Business Days after a party gives a Determination Notice, a party may ask the chairperson of the Institute of Strata Title Management Limited to appoint an appropriate expert having regard to the nature of the Dispute and determine the remuneration of the expert.

30.7 Instructions to the expert

The parties must instruct the expert to:

(a) act as an expert and not as an arbitrator; and

(b) determine the rules for the conduct of the expert determination; and

(c) consider the documents and other information the parties give the expert and which, in the opinion of the expert, are relevant.

30.8 Conducting expert determination

If the parties cannot agree on the rules for the conduct of the expert determination, then the expert is to determine the rules and notify the parties accordingly.

30.9 Expert determination

The expert:

(a) is not bound to observe the rules of natural justice or the rules of evidence; and

(b) may obtain and refer to documents and information not provided by the parties; and

(c) must determine the Dispute and give written reasons for the determination within one month of being appointed.

30.10 Binding effect

The determination by the expert is final and binding on the parties to the Dispute without appeal so far as the law allows.

30.11 Mediation or expert determination about Shared Facility costs

If a Dispute about the proportion of a Member's cost for a Shared Facility is determined under this clause 39, the expert who determines the Dispute must determine any adjustments the Member or the Committee must pay.

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30.12 Costs

The parties to the Dispute must pay their own costs in connection with the Dispute (unless the expert determines otherwise).

31 How to serve notices

31.1 Methods of serving notices

Subject to the provisions in this management statement about serving notices and other documents on Committee Members, notices and other documents must be:

(a) delivered personally to the addressee; or

(b) left at the Current Address of the addressee; or

(c) sent by pre-paid ordinary post to the Current Address of the addressee; or

(d) sent to the email address of the Member.

31.2 When does a notice take effect?

A notice takes effect from the time it is received unless a later time is specified.

31.3 Receipt - post

If sent by post a notice is taken to be received three days after posting (or seven day after posting if sent to or from a place outside Australia).

31.4 Receipt - email

If sent by email, a notice is taken to be received at the time shown in the email as the time that the whole email was sent.

31.5 Form of notices

Unless stated otherwise in this management statement, all notices, certificates, consents and other communications in connection with this management statement must be in writing, signed by the vendor (if an individual) or an authorised officer of the sender.

31.6 Receipt - general

Clause 40.3 (“Receipt - post”) and 31.4 (“Receipt - fax”), if a notice is received after 5.00pm in the place of receipt or on a non-business day, it is taken to be received at 9.00am on the next business day.

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32 GST

32.1 Amounts are exclusive of GST

Unless otherwise expressly stated, all amounts payable under or in connection with this management statement are expressed to be exclusive of any amount of GST.

32.2 Obligation to pay GST

Where GST is imposed on any supply made under or in connection with this management statement by one party ("the supplying party") to another party ("the receiving party"), the receiving party must pay or provide the GST exclusive consideration for the supply and, in addition to and at the same time as the GST exclusive consideration is payable or to be provided, an additional amount equal to the amount of GST liability of the supplying party. The supplying party must issue a Tax Invoice to the receiving party.

32.3 Differences in amounts

If the amount of GST recovered by the supplying party from the receiving party differs from the amount of GST payable at law by the supplying party (or an entity grouped with the supplying party for GST purposes) in respect of the supply, the amount payable by the receiving party to the supplying party will be adjusted accordingly.

32.4 Reimbursement

Where one party ("payer") is liable to reimburse another party ("payee") for any expenditure incurred by the payee ("Expenditure"), the amount reimbursed by the payer will be the GST exclusive Expenditure plus any GST payable to the payee by the payer under this clause 54.

33 General

33.1 Discretion in exercising rights

The Committee, a Member or an Owner may exercise a right or remedy or give or refuse its consent in any way it considers appropriate (unless this management statement expressly states otherwise).

33.2 Partial exercise of rights

If the Committee, a Member, an Owner or an Occupier do not fully exercise a right or remedy fully or at a given time, they may still exercise it later.

33.3 Approvals and consents

By giving its approval or consent, the Committee, a Member or an Owner does not make or give any warranty or representation as to any circumstance relating to the subject matter of the consent or approval.

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33.4 Conflict of interest

The Committee, Members, Owners and Occupiers may exercise their rights and remedies under this management statement even if this involves a conflict of duty or a party has a personal interest in their exercise.

33.5 Remedies cumulative

The rights and remedies provided in this management statement are in addition to other rights and remedies given by law independently of this management statement.

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Part 8
Dictionary

34 Definitions

These meanings, in any form, apply unless the contrary intention appears:

Administrative Fund means the fund established by the Committee according to clause 22 ("What funds must the Committee establish?") to pay for the day to day expenses of operating and maintaining Shared Facilities and the Development.

Building means the new building on Lot 2.

Business Day means a day on which banks in New South Wales are open for business (other than a Saturday, Sunday or public holiday in New South Wales).

Car park means the car park that forms part of Lot B.

Chairperson means the chairperson of the Committee.

Committee means the building management committee established and maintained by the Members under clause 2 ("The Committee") and required by the Subdivision Legislation.

Council means the Snowy Monaro Regional Council ABN 72 906 802 034 and its successors.

Current Address for a Member, Owner or an Occupier means the current address at which a person may be served a notice or communication under this management statement.

Determination Notice means a written notice given by a party to a Dispute according to clause 30.9 ("Expert determination").

Development means the land and improvements in Lot 2 and Lot 3.

Dispute means any dispute, controversy or difference between the Committee, Members, Owners or Occupiers about:

(a) the construction of this management statement; or

(b) the rights or obligations of the Committee, a Member, an Owner or an Occupier under this management statement; or

(c) amounts which the Committee determines for Administrative Fund or Sinking Fund contributions; or

(d) the Committee passing or failing to pass a Resolution; or

(e) the operation, maintenance, repair or replacement of a Shared Facility.

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Dispute Notice means a written notice of a Dispute given by a party to a Dispute according to clause 30.3 ("Dispute Notice").

Easements means the easements, restrictions on use and positive covenants under section 88B of the *Conveyancing Act 1919* (NSW) benefiting or burdening parts of the Development.

Financial Year means the Financial Year of the Committee determined according to clause 23 ("Financial Years").

Fire Safety Device means any item in the Development (eg part of the integrated fire system for the Development) which:

(a) monitors the incidence of smoke, heat or fire; or

(b) signals warnings smoke, heat or fire; or

(c) provides lighting or directional signals in the case of smoke, heat or fire; or

(d) controls access in to and out of the Development in an emergency (eg fire stairs); or

(e) notifies the Fire Brigade (and any other emergency agency) of smoke, heat or fire or an emergency in the Development; or

(f) retards the spread of smoke, heat or fire through the Development; or

(g) extinguishes fires in the Development (eg hose reels and fire extinguishes); or

(h) complies with statutory controls for fire safety.

Government Agency means a governmental or semi-governmental administrative, fiscal or judicial department or entity.

GST means any form of goods and services or similar value added tax.

GST Law means the *A New Tax System (Goods and Services Tax) Act 1999* (Cwlth) and any other legislation or regulation which imposes, levies, implements or varies GST and any applicable ruling issued by the Commissioner of Taxation.

Insurance means the insurances effected by the Committee (or the Members) for the Development according to the Subdivision Legislation and this management statement. It includes building insurance and public liability insurance for Shared Facilities.

Lot means a Stratum Lot.

Lot 2 means lot in Lot 22 in DP227005.

Lot 3 means lot in Lot 22 in DP227005

Lot 2 Owner means the Southern NSW Local Health District.

Lot 3 Owner means the Council.

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Meeting means a meeting of the Committee held according to part 4 ("Meeting procedures and resolutions"). **Member Entitled to Vote** means for the purposes of exercising their right to vote at a Meeting, a Member who has paid the Committee:

(a) all of their Administrative Fund and Sinking Fund contributions up to date; and

(b) all other money they owe the Committee under this management statement

which are due and payable before the Meeting commences.

Members means each Owner of a Stratum Lot.

Occupier means the occupier, lessee, licensee or person in lawful possession of a Lot.

Officer means the Secretary, Treasurer or Chairperson of the Committee.

Owner means the owner or mortgagee in possession of a Lot.

Representative means a natural person appointed by a Member to represent the Member at Meetings.

Resolution means a motion passed at a Meeting according to clause 33.2 ("When is a Resolution passed?") by Members Entitled to Vote.

Rules means Rules made by the Committee according to clause 3.5 ("Making Rules") about the management, operation, maintenance and control of the Development and Shared Facilities.

Secretary means the secretary of the Committee.

Service Contractor means a person who provides services to the Committee including operational, maintenance, repair and replacement services for Shared Facilities.

Shared Facilities means:

(a) the items in clause 28.5 ("What do Shared Facilities include?") and schedule 1 ("List of Shared Facilities and Cost Apportionment"); and

(b) costs for items like premiums for insurances effected by the Committee; and

(c) other facilities and services nominated by or according to this management statement as Shared Facilities.

Shared Facilities Plan means the plan in schedule 2 ("Shared Facilities Plan").

Sinking Fund means the fund established by the Committee according to clause 22 ("What funds must the Committee establish") to pay for the renewal and replacement of Shared Facilities.

Stratum Lot means each of Lot 2 and Lot 3.

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Subdivision Legislation means Part 23 Division 3B and schedule 8A of the Conveyancing Act.

Tax Invoice has the same meaning as in the GST Law.

Treasurer means the treasurer of the Committee.

Unanimous Resolution means a motion passed at a Meeting against which no Member Entitled to Vote casts a vote.

35 Rules of interpretation

35.1 Interpreting this management statement

Unless the contrary intention appears, a reference in this management statement:

(a) **(you)** to the word "you" means a Member, Owner or Occupier; and

(b) **(variations or replacement)** to a document (including this management statement) includes any variation or replacement of it; and

(c) **(clauses, annexures and schedules)** to a clause, annexure or schedule is a reference to a clause in or annexure or schedule to this management statement; and

(d) **(reference to statutes)** to a statute, ordinance, code or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them; and

(e) **(law)** to law means common law and principles of equity and laws made by parliament (and laws made by parliament include State, Territory and Commonwealth laws and regulations and other instruments under them, and consolidations, amendments, re-enactments or replacements of any of them); and

(f) **(singular includes plural)** to the singular includes the plural and vice versa; and

(g) **(person)** to the word "person" includes an individual, a firm, a body corporate, a partnership, joint venture, an unincorporated body or association, or any Government Agency; and

(h) **(executors, administrators, successors)** to a particular person includes a reference to the person's executors, administrators, successors, substitutes (including persons taking by novation) and assigns; and

(i) **(calculation of time)** if a period of time dates from a given day or the day of an act or event, it is to be calculated exclusive of that day; and

(j) **(reference to a day)** to a day is to be interpreted as the period of time commencing at midnight and ending 24 hours later; and

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(k) **(meaning not limited)** to the words "include", "including", "for example" or "such as" are not used as, nor are they to be interpreted as, words of limitation, and, when introducing an example, do not limit the meaning of the words to which the example relates to that example or examples of a similar kind; and

(l) **(next day)** if an act under this management statement to be done by a party on or by a given day is done after 5.30pm on that day, it is taken to be done on the next day; and

(m) **(next Business Day)** if an event under this management statement must occur on a stipulated day which is not a Business Day then the stipulated day will be taken to be the next Business Day.

35.2 Headings

Headings are for convenience and do not affect the interpretation of this management statement.

35.3 Severance

If the whole or any part of a provision of this management statement is void, unenforceable or illegal, then that provision or part provision is severed from this management statement and the remainder of this management statement has full force and effect unless the severance alters the basic nature of this management statement or is contrary to public policy.

35.4 Role as a Government Agency

Nothing in this management statement in any way restricts or otherwise affects the unfettered discretion of a Member as to the exercise of its statutory powers as a Government Agency and, in the event of any conflict between the unfettered discretion of a Member in the excise of such powers and the performance of obligations under this management statement, the former prevails.

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Schedule 1 - List of Shared Facilities and Cost Apportionment

SF	Shared Facility	Description	Members Benefited	Method to apportion	Cost Apportionment	
					Lot 2	Lot 3
SF1	Waste Disposal Shared Garbage Area	The Waste Disposal and Shared Garbage area is located on the lower ground floor of the Building.	Lot 2 Owner.	Expected Usage	100%	Nil
SF2	Garden Area Maintenance	The Garden Area comprises the landscaped area behind the Building. The cost for this shared facility includes the costs of maintaining lawns and plants, the cost of all water consumed in the upkeep of the plants and lawns, the costs of operating, maintaining and replacing the irrigation system.	Lot 2 Owner.	Expected Usage	100%	Nil
SF3	Building Maintenance	The Building structure that contains the Lots. The cost for this shared facility includes the cost for the maintenance, upkeep and repair of	Lot 2 Owner.	Expected Usage	100%	Nil

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		the Building.				
F4	Building Support Columns and Foundations	The Support Columns and Foundations of the Building structure that contains the Lots. The cost for this shared facility includes the cost for the maintenance, upkeep and repair of the Building Support Columns and Foundations.	Lot 2 Owner.	Expected Usage	100%	Nil
SF5	Walkway Bridge to Neighbouring Building.	The Walkway Bridge that connects the Building to the road that borders the Lot. The cost for this shared facility includes the cost for the maintenance, upkeep and repair of the Walkway Bridge.	Lot 2 Owner.	Expected Usage	100%	Nil
SF6	Ground level and Building surrounds	Costs for this shared facility include cleaning, maintenance, pedestrian and vehicle access, and parking all costs incurred by the Committee.	All Members.	Benefit for each owner	50%	50%
SF7	Insurance	Insurance for the Development. Costs for this shared facility include:	All Members.	Benefit for each owner	80%	20%

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		(i) Insurance premiums for insurance effected by the Committee; and (ii) Excess on insurance premiums effected by the Committee; and (iii) Valuations of the Development for insurance purposes; and (iv) Insurance broker fees; and (v) Other costs for insurances.				
SF8	Fire Services	Costs for this share facility includes the costs to maintain, repair and replace the fire services equipment.	Lot 2 Owner.	Expected Usage	100%	Nil

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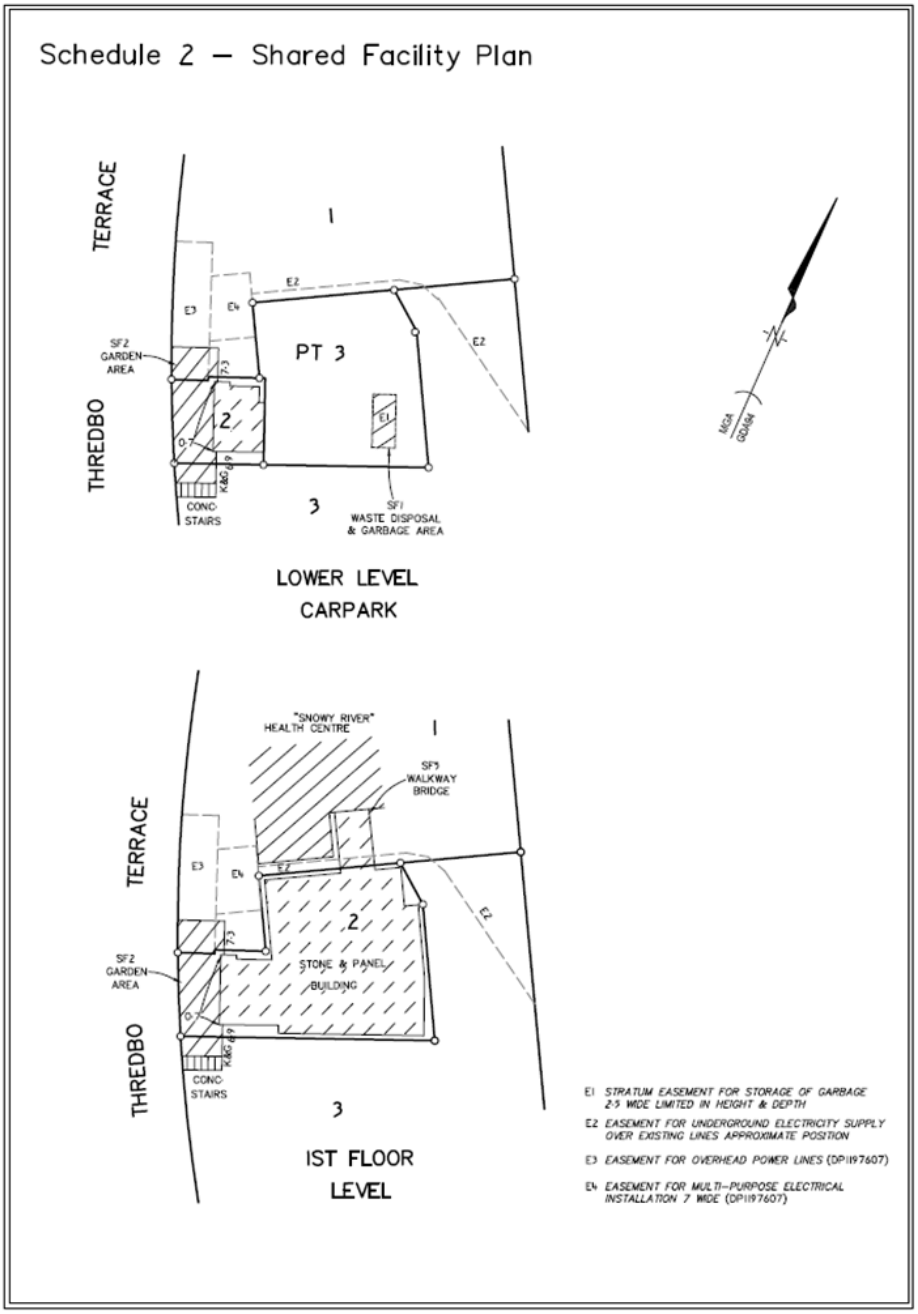
Schedule 2 – Shared Facilities Plan



Approved Form 12	**Building Management Statement**	(Sheet **49** of **49** sheets)
Registered: Office Use Only		Office Use Only

Signing page

Snowy Monaro Regional Council by its authorised delegate pursuant to s. 377 Local Government Act 1993 Peter John Bascomb

.....
Peter John Bascomb
Chief Executive Officer

I certify that I am as eligible witness and the delegate signed in my presence

.....
Signature of witness

.....
Name of witness

.....
Address of witness

9.1.3 MONTHLY FUNDS MANAGEMENT REPORT - JUNE 2020

Record No:

Responsible Officer:	Director Corporate and Community Services
Key Direction:	7. Providing Effective Civic Leadership and Citizen Participation
Delivery Plan Strategy:	DP7.6 Increase and improve Council's financial sustainability.
Operational Plan Action:	OP7.18 Effective management of Council funds to ensure financial sustainability.
Attachments:	
Cost Centre	4010 Financial Services
Project	Funds Management
Further Operational Plan Actions:	OP7.2 Completion of reporting requirements in accordance with legislation.

EXECUTIVE SUMMARY

The following report details the funds management position for the reporting period ending

30 June 2020.

Cash and Investments are $80,586,584.

Certification

I, Matt Payne, Responsible Accounting Officer of Snowy Monaro Regional Council hereby certify, as required by Clause 212 of the Local Government (General) Regulation 2005, that investments as detailed in this report have been invested in accordance with Section 625 of the *Local Government Act 1993*, the Regulations and Council's Investment Policy.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council:

A. Receive and note the report indicating Council's cash and investments position as at 30 June 2020; and

B. Receive and note the Certificate of the Responsible Accounting Officer.

BACKGROUND

Council's Cash and Investments 30 June 2020:

Cash at Bank	**3,078,951**
Investments	**77,507,633**
Total	**80,586,584**

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Total Cash and Investments are available to provide services and infrastructure to the community in accordance with the 2020 budget, Council resolutions and other external restrictions.

2. Environmental

It is considered the recommendations contained herein will not have any environmental impacts.

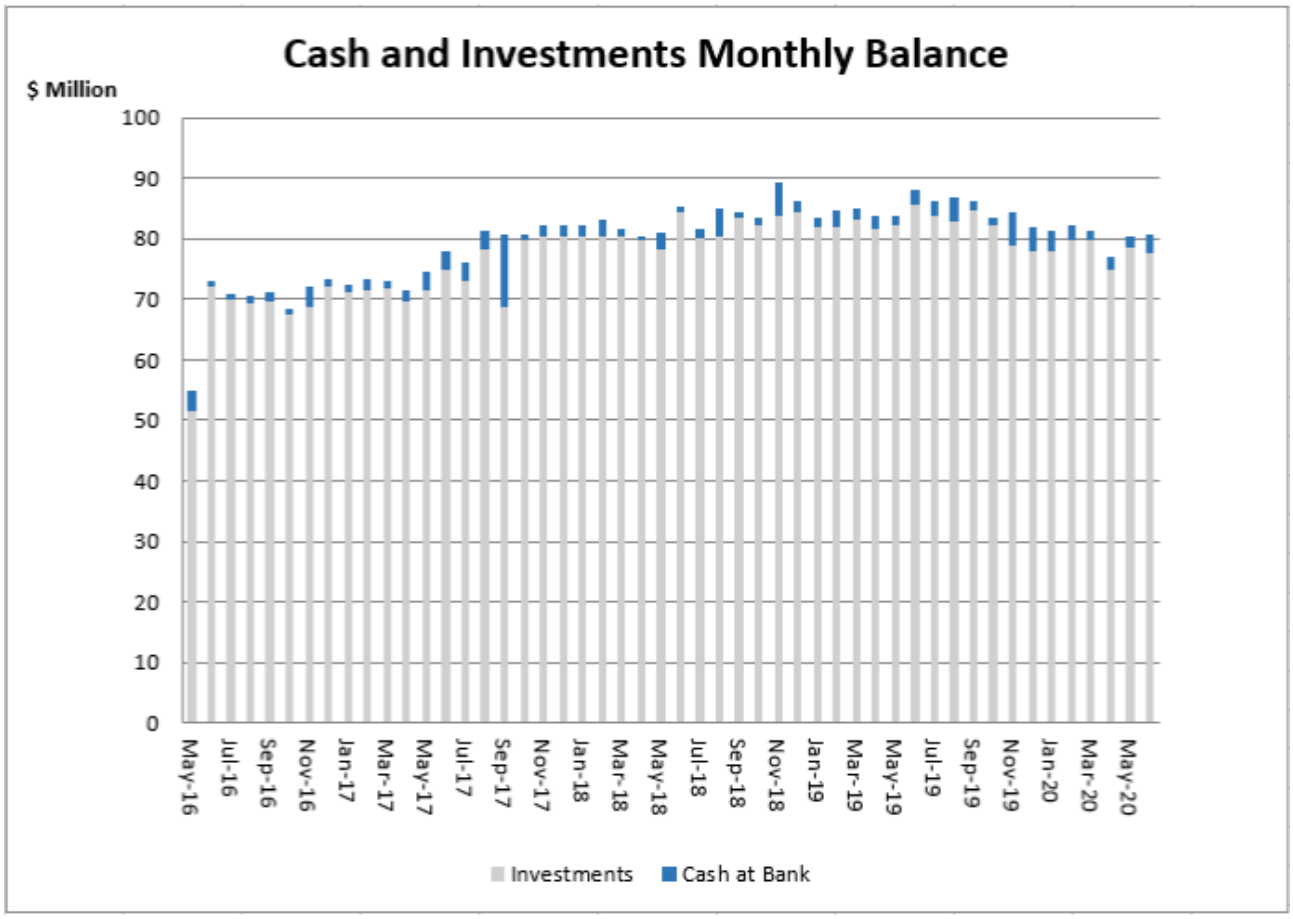
3. Economic

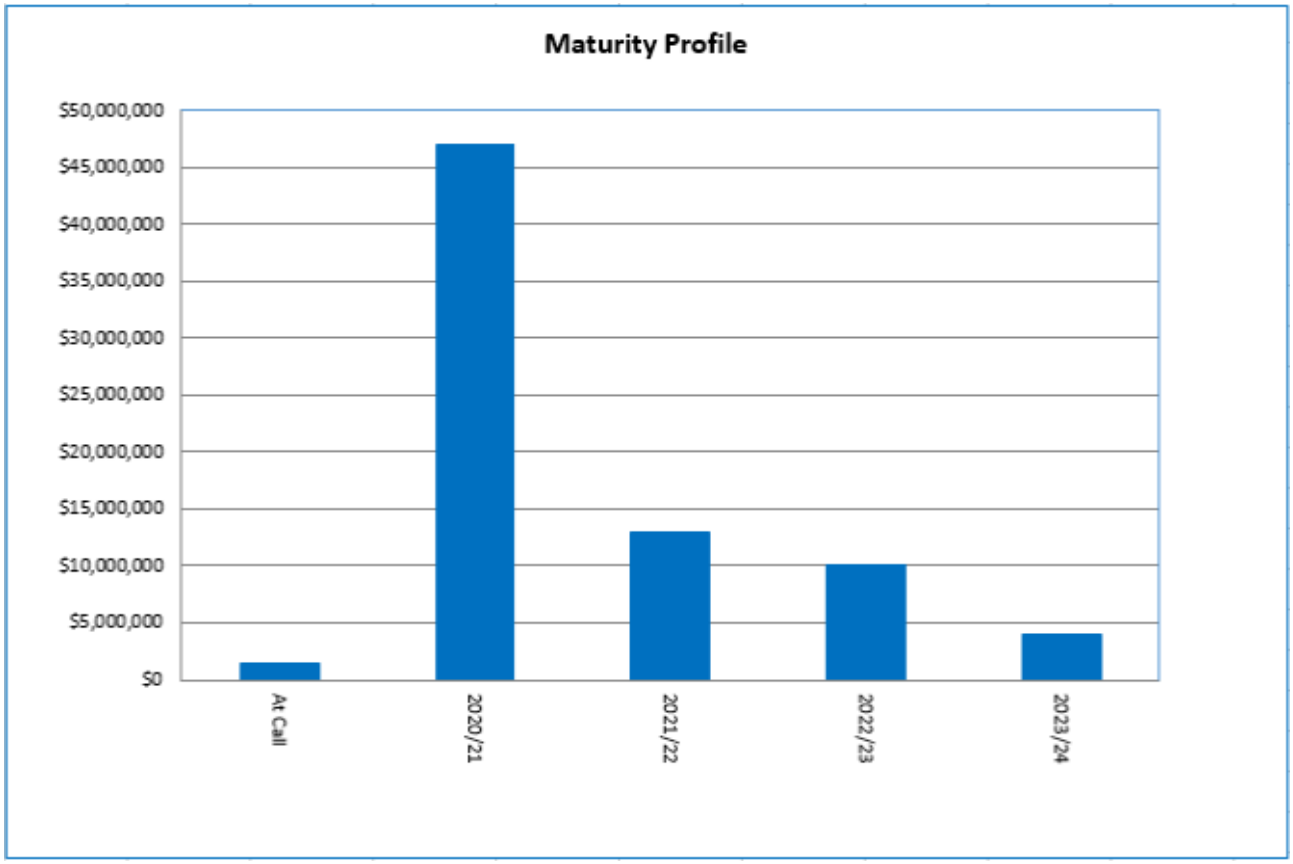
Total investments for Snowy Monaro Regional Council were $77,507,633 on 30 June 2020.

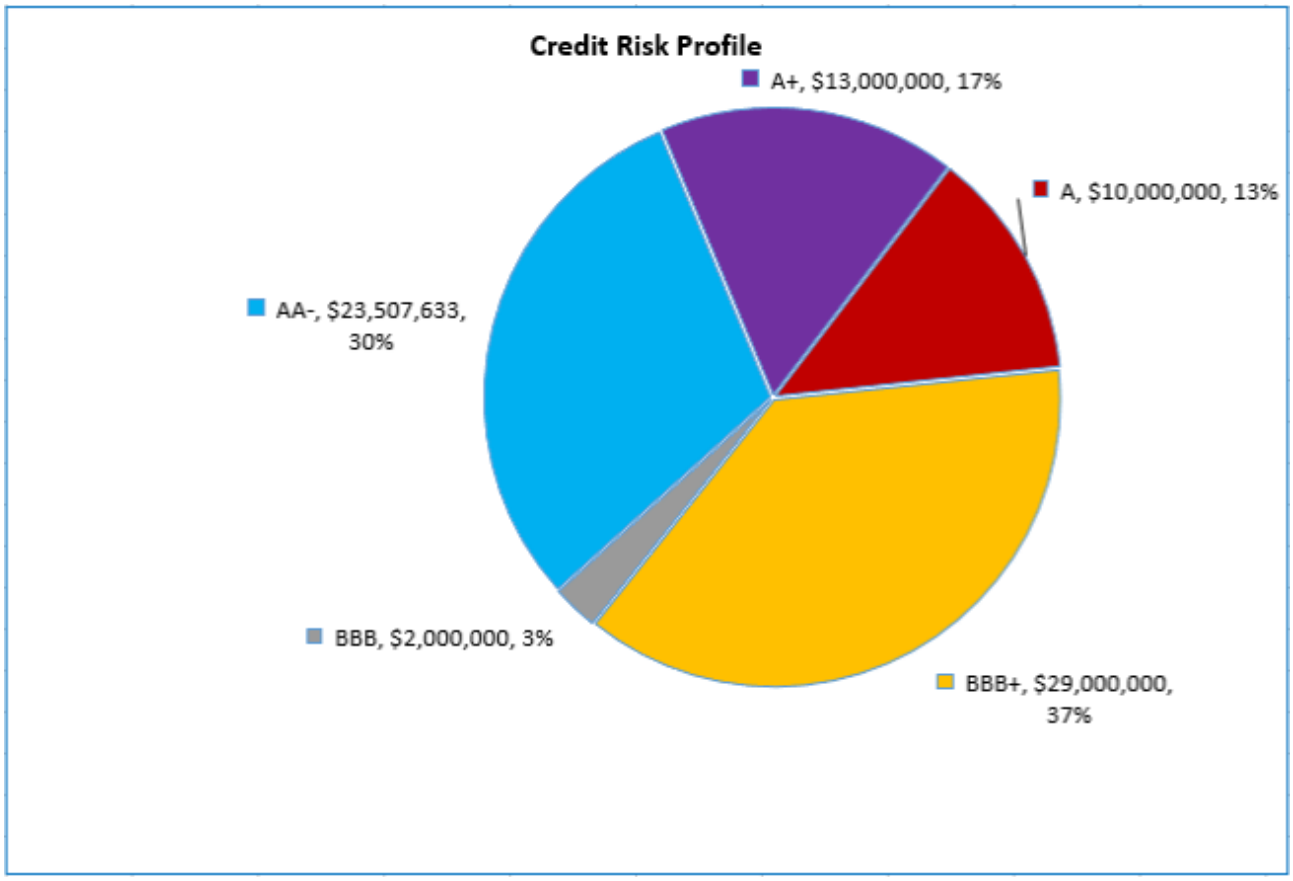
Investment Register – 30 June 2020:

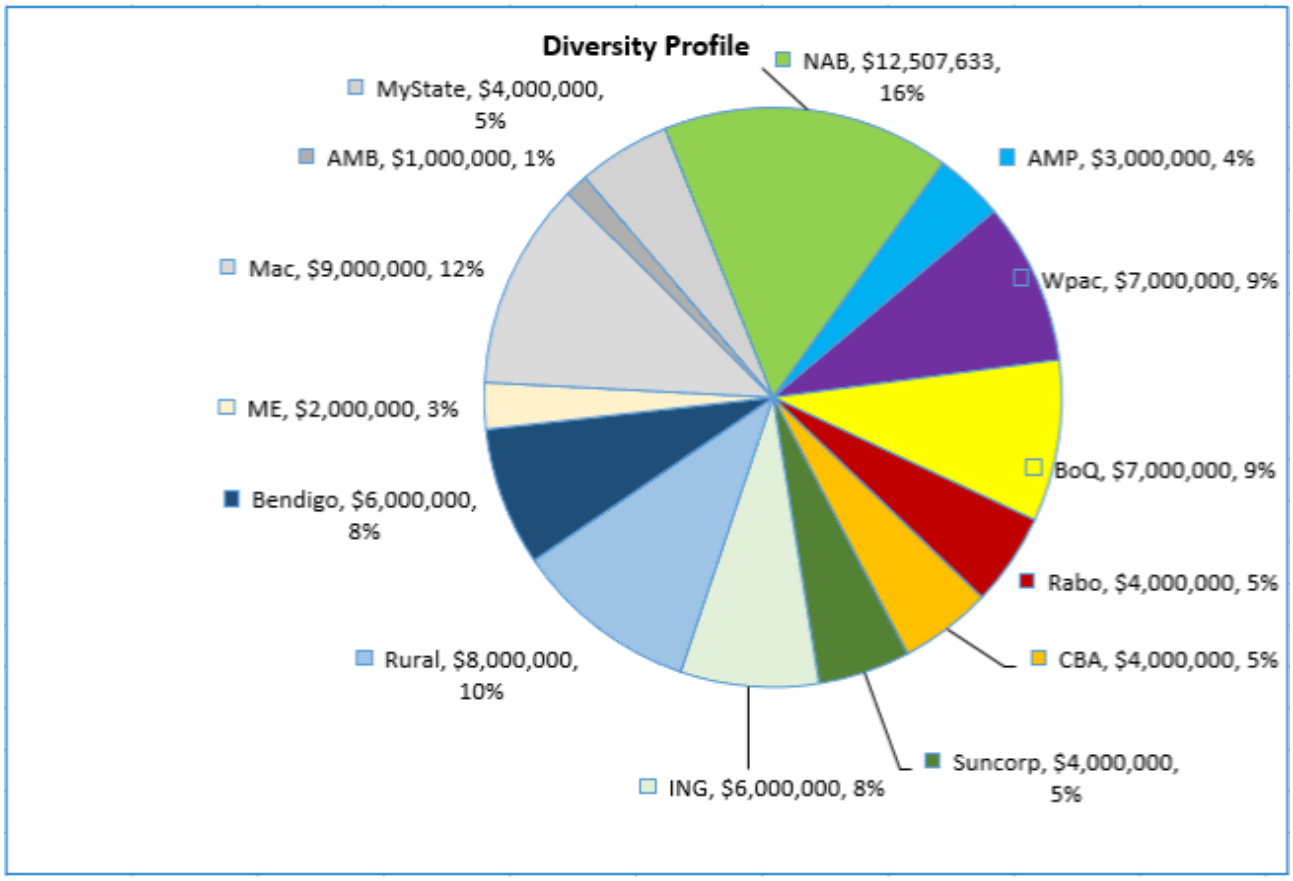
DATE INVESTED	FINANCIAL INSTITUTION	Short-Term Rating	Long-Term Rating	TYPE	CURRENT INVESTMENT	INTEREST RATE	MATURITY
n/a	National Australia Bank - At Call*	A1+	AA-	At Call	1,507,633	0.65%	At Call
23-Mar-16	ING Bank	A1	A	TD	1,000,000	3.66%	22-Mar-21
23-Jun-16	Commonwealth Bank	A1+	AA-	TD	4,000,000	1.21%	23-Jun-21
26-Jun-17	Bank of Queensland	A2	BBB+	TD	4,000,000	3.30%	25-Jun-21
29-Aug-17	Westpac Bank	A1+	AA-	TD	4,000,000	1.05%	29-Aug-22
15-Sep-17	Westpac Bank	A1+	AA-	TD	1,000,000	1.00%	15-Sep-21
29-Jun-18	National Australia Bank	A1+	AA-	TD	4,000,000	1.00%	29-Jun-23
11-Sep-18	RaboDirect	A1	A	TD	2,000,000	3.33%	08-Sep-23
13-Sep-18	AMP Bank	A2	BBB+	TD	2,000,000	2.85%	14-Sep-20
17-Dec-18	Rabobank Australia	A1	A	TD	2,000,000	3.15%	16-Dec-22
19-Dec-18	Bendigo and Adelaide Bank	A2	BBB+	TD	2,000,000	2.80%	17-Dec-20
08-Aug-19	AMP Bank	A2	BBB+	TD	1,000,000	2.00%	07-Aug-20
27-Aug-19	ING Bank	A1	A	TD	3,000,000	1.44%	31-Aug-21
09-Sep-19	Macquarie Bank Limited	A1	A+	TD	3,000,000	1.55%	03-Sep-20
10-Sep-19	National Australia Bank	A1+	AA-	TD	3,000,000	1.65%	09-Sep-20
17-Sep-19	Bank of Queensland	A2	BBB+	TD	1,000,000	1.85%	19-Sep-23
23-Oct-19	Bank of Queensland	A2	BBB+	TD	1,000,000	1.80%	23-Oct-23
26-Nov-19	Suncorp Bank	A1	A+	TD	1,000,000	1.50%	21-Aug-20
03-Dec-19	Australian Military Bank	A2	BBB+	TD	1,000,000	1.72%	02-Dec-21
05-Dec-19	Suncorp Bank	A1	A+	TD	2,000,000	1.50%	31-Aug-20
26-Feb-20	Westpac Bank	A1+	AA-	TD	2,000,000	1.48%	24-Feb-21
27-Feb-20	MyState Bank Limited	A2	BBB+	TD	4,000,000	1.65%	23-Nov-20
05-Mar-20	Macquarie Bank Limited	A1	A+	TD	1,000,000	1.60%	30-Nov-20
06-Mar-20	ING Bank	A1	A	TD	1,000,000	1.45%	05-Mar-21
12-Mar-20	Rural Bank Limited	A2	BBB+	TD	4,000,000	1.20%	17-Mar-22
17-Mar-20	ING Bank	A1	A	TD	1,000,000	1.63%	17-Mar-25
19-Mar-20	ME Bank	A2	BBB	TD	2,000,000	1.25%	19-Mar-21
20-Mar-20	Bank of Queensland	A2	BBB+	TD	1,000,000	1.85%	19-Mar-25
14-Apr-20	Macquarie Bank Limited	A1	A+	TD	5,000,000	1.60%	31-Jul-20
28-Apr-20	Suncorp Bank	A1	A+	TD	1,000,000	1.20%	24-Nov-20
09-Jun-20	Rural Bank Limited	A2	BBB+	TD	4,000,000	0.90%	07-Sep-20
22-Jun-20	National Australia Bank	A1+	AA-	TD	4,000,000	0.95%	22-Jun-22
25-Jun-20	Bendigo and Adelaide Bank	A2	BBB+	TD	4,000,000	0.75%	29-Jun-21
					77,507,633		

Cash and Investments Charts:






Credit Risk Profile
A+, $13,000,000, 17%
A, $10,000,000, 13%
AA-, $23,507,633, 30%
BBB, $2,000,000, 3%
BBB+, $29,000,000, 37%


Diversity Profile
NAB, $12,507,633, 16%
MyState, $4,000,000, 5%
AMB, $1,000,000, 1%
AMP, $3,000,000, 4%
Mac, $9,000,000, 12%
Wpac, $7,000,000, 9%
ME, $2,000,000, 3%
BoQ, $7,000,000, 9%
Bendigo, $6,000,000, 8%
Rabo, $4,000,000, 5%
Rural, $8,000,000, 10%
CBA, $4,000,000, 5%
ING, $6,000,000, 8%
Suncorp, $4,000,000, 5%

Investment Portfolio Return:

Benchmarking is used by Council as a gauge for the performance of its portfolio against its investing universe (*universe:* securities sharing a common feature – liquidity, return patterns, risks and ways to invest). A suitable benchmark to review the return on Council's portfolio is the Bank Bill Swap Rate (BBSW), or Bank Bill Swap Reference Rate – a short-term interest rate used as a benchmark for the pricing of Australian dollar derivatives and securities – most notably floating rate bonds.

Month	YTD Annualised Return	Monthly Average Interest Return	90 Day Bank Bill*	Margin
June	2.16%	1.76%	0.10%	1.66%
May	2.19%	1.86%	0.10%	1.76%
April	2.23%	1.94%	0.10%	1.84%
March	2.25%	2.00%	0.37%	1.63%
February	2.28%	2.11%	0.85%	1.26%
January	2.30%	2.15%	0.89%	1.26%
December	2.33%	2.17%	0.92%	1.25%
November	2.36%	2.26%	0.89%	1.37%
October	2.37%	2.25%	0.93%	1.32%
September	2.41%	2.31%	0.95%	1.36%
August	2.46%	2.48%	0.97%	1.51%
July (2019)	2.45%	2.45%	1.01%	1.44%

The Australian Financial Market Association (AFMA)

Understanding Ratings:

Credit ratings are one tool used by Council when making decisions about purchasing fixed income investments. Credit ratings are opinions about credit risk.

Standard & Poor's ('S&P') is considered one of the Big Three credit-rating agencies, which also include Moody's Investors Service and Fitch Ratings. S&P publishes financial research and analysis on stocks, bonds and commodities. S&P is known for its stock market indices such as the U.S. based S&P 500, the Canadian S&P/TSX, and the Australian S&P/ASX 200. S&P ratings express their opinion about the ability and willingness of an issuer, such as a corporation, to meet its financial obligations in full and on time. Credit ratings are not absolute measure of default probability. Since there are future events and developments that cannot be foreseen, the assignment of credit ratings is not an exact science.

Credit ratings are not intended as guarantees of credit quality or as exact measures of the probability that a particular issuer will default. S&P issues both short-term and long-term credit ratings. Below is a partial list based, on Council's Investment Register.

Short-term credit ratings (term less than 1 year)

S&P rates the issuer on a scale from A1 to D. Within the A1 category it can be designated with a plus sign (+). This indicates that the issuer's commitment to meet its obligation is very strong.

A1: obligor's (*a person or corporation who owes or undertakes an obligation to another by contract or other legal procedure*) capacity to meet its financial commitment on the obligation is strong.

A2: is susceptible to adverse economic conditions however the obligor's capacity to meet its financial commitment on the obligation is satisfactory.

Long-term credit ratings (term greater than 1 year)

S&P rates the issuer on a scale from AAA to D. Intermediate ratings are offered at each level between AA and CCC (for example; BBB+, BBB).

AA: has very strong capacity to meet its financial commitments. It differs from the highest-rated obligors (rated AAA) only to small degree. Includes AA-.

A: has strong capacity to meet its financial commitments but is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligors in higher-rated categories.

BBB: has adequate capacity to meet its financial commitments. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitments.

Ratings from 'AA' to 'CCC' may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the major rating categories.

Source: S&P Global Ratings

4. Civic Leadership

In accordance with Regulation 212 of the Local Government (General) Regulation 2005, a report setting out details of money invested must be presented to Council in the following month.

Council's Fund Management Reporting exceeds minimum regulatory requirements and demonstrates a commitment to accountability and transparent leadership. It provides the Council, Executive and Community with timely, accurate and relevant reports on which to base decisions.

9.1.4 LAKE JINDABYNE SHARED TRAIL PROJECT FUNDING

Record No:

Responsible Officer:	Chief Communications Officer
Author:	Recreation Planner
Key Theme:	1. Community Outcomes
CSP Community Strategy:	1.3 Recreation, sporting and leisure facilities encourage all ages to live in an active and healthy lifestyle
Delivery Program Objectives:	1.3.1 Regional level recreation facilities that encourage an active lifestyle are planned for and provided in partnership with other government agencies
Attachments:	1. Attachment A- Lake Jindabyne Shared Trail Scope
Cost Centre	2620
Project	Lake Jindabyne Shared Trail project
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

At the Council meeting held on 20 February 2020, Council was notified that grant funding for the Lake Jindabyne shared trail project was under the final stages of assessment by the Department of Premier and Cabinet (DPC). The grant funding assessment followed the election promise of $11.8M by Deputy Premier and Local MP John Barilaro. Council resolved to cover the ongoing maintenance costs of the trail network if the NSW funding commitment was approved. DPC required this commitment from Council for the purpose of meeting their grant funding guidelines.

Council was recently notified by NSW Infrastructure that the $11.8M grant funding for the Lake Jindabyne Shared Trail project had been approved. Council has been given a 60 day period to complete the draft funding deed. The funding agreement will outline the project milestones and associated project scope and costs. The due date of the draft funding deed is 13 August 2020.

The purpose of this report is to seek Council's endorsement to proceed with the project and to authorise the CEO to sign the funding agreement following approval by NSW Treasury.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council agree to proceed with the Lake Jindabyne Shared Trail project

BACKGROUND

Council has been notified that the $11.8M grant funding for the Lake Jindabyne shared trail project has been approved. Council was updated on the project at the Council meeting held on 20 February 2020. Council's Strategic Planning and Economic Development teams have been working

on the planning and granting phases over the past three years. Attachment A displays the project scope.

The project will involve the construction of approximately 60km of trail. This combines 30km of new trail and reconstruction of the existing trail network. The project scope will also include planning and construction of supporting infrastructure such as trail heads, car parking and signage. Council will not be pressured to have the project complete within this term of government. The project milestones will therefore reflect the realistic timeframes involved in completing the various planning, and construction timeframes. These are required to be in the project deed and this is still being reviewed within Council.

Council has been given a 60 day period to complete the draft funding deed. The due date of the draft funding Agreement is 13 August 2020, which is prior to the August Council meeting. In order to meet this deadline it is therefore requested that Council agree to proceed with the project.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

The social impact of shared trails will be positive as it encourages a healthy and active lifestyle in the community. The development of shared trails and events will provide the opportunity for SMRC to connect with the community and form partnerships with key interest groups and stakeholders.

2. Environmental

An environmental assessment has been undertaken for the proposed trail corridor. Trail construction will incorporate design standards that will ensure minimal impact and reduced maintenance costs.

3. Economic

The proposed plans for further development of shared trails will help increase tourism during the summer months and create sustainable cycling businesses in the region. This would also increase demand for accommodation, retail and other recreational business in the Region.

$150,000 was committed to trail design and planning under the SMRC Major Projects Program.

Council made a commitment of $100,000 per year to ongoing maintenance costs following completion of the project. This funding would only be required in the event that other sources of maintenance funding/arrangements cannot cover some or all of the ongoing costs.

The total grant funding allocated to the project is $11.8M.

Estimated Expenditure	**Amount**	**Financial year**	**Ledger**		**Account string**													
Trail Planning and Construction	$11.8M	20-24																

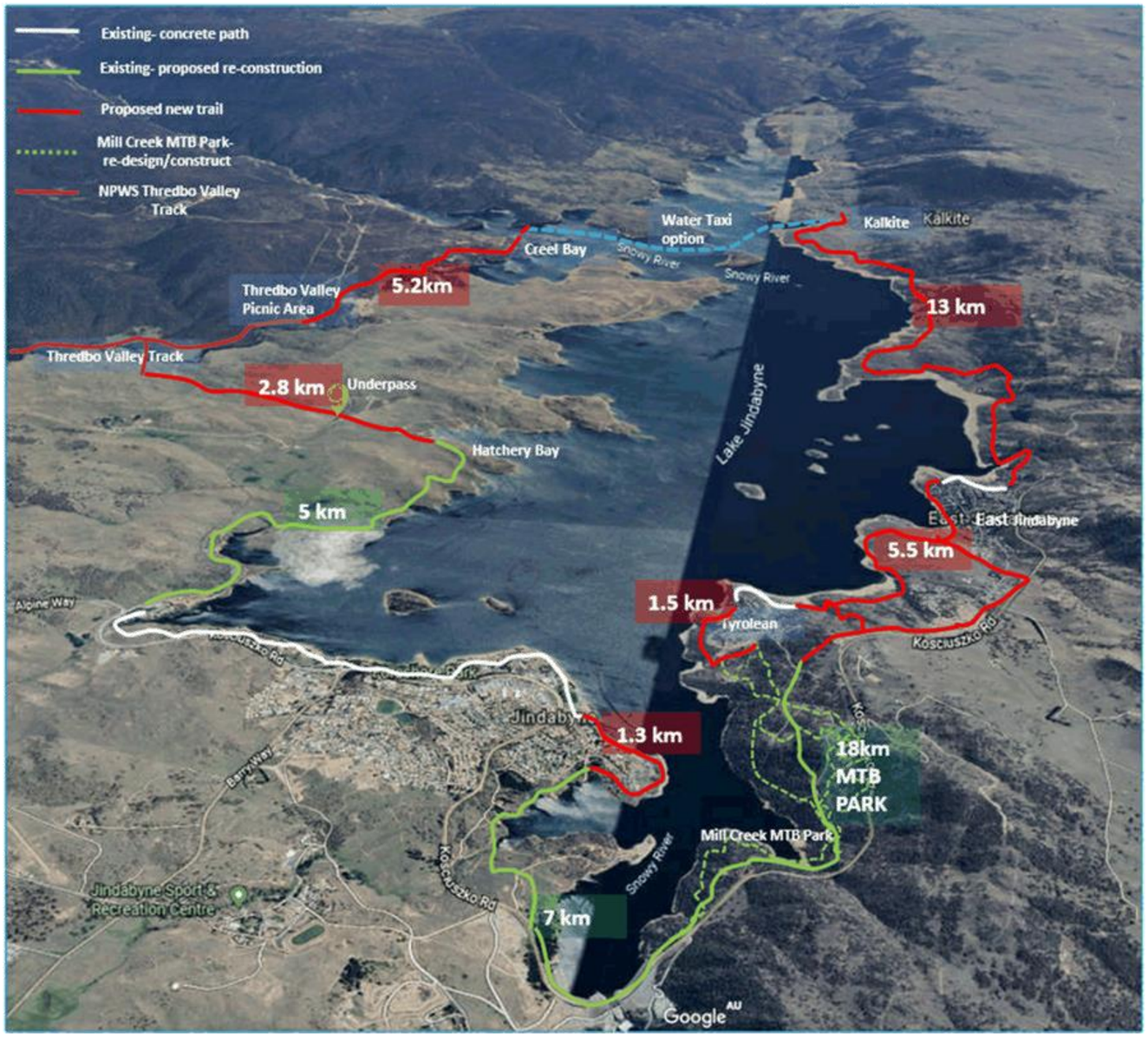
4. Civic Leadership

Council, by leading and participating in the development and maintenance of shared trails, is pursuing key priorities identified by the community in the former Council's Community Strategic Plan.

Council has been updated on issues and progress related to shared trail development. Project updates have been discussed at Council workshops held in November 2018 and June 2019. Council was again updated on the grant funding approval process at the Council meeting held 20 on February 2020.

Council is also showing leadership through a partnership approach with other key stakeholders including NPWS, NSW Fisheries, Jindabyne Cycling Club and Jindabyne Trail Stewardship.

Lake Jindabyne Shared Trail project



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9.1.5 MINUTES OF YOUTH COUNCIL MEETING HELD ON 22 JUNE 2020

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Youth Officer
Key Theme:	1. Community Outcomes
CSP Community Strategy:	1.4 Youth in the region are supported to reach their maximum potential
Delivery Program Objectives:	1.4.1 Youth of the region are engaged, supported, mentored and trained to be the leaders of tomorrow
Attachments:	1. June Youth Council Minutes
Cost Centre	
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

The Youth Council meet once per month and held their last meeting on 22 June 2020. The minutes from the meeting are attached for Council's consideration. At this meeting the physical state of the Skate Parks were discussed and the need for upgrades. A motion was passed to develop a shovel ready project plan for minor upgrades of all four Skate Parks in the region to support grant applications into the future.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council

A. Receive and note the minutes from the Youth Council meeting held 22 June 2020; and
B. Endorse the motion as listed in the Youth Council Minutes under 9.2 to 'develop a shovel ready project plan for minor upgrades at the Bombala, Cooma, Jindabyne and Berridale Skate Parks'.

BACKGROUND

The 2019 – 2022 Snowy Monaro Youth Strategy item 4.1 'Make upgrades to existing Skate Park facilities across the Region' underpins this motion to develop a shovel ready project plan related to upgrades required across four of Council's Skate Parks in the Region. There has been consideration given to the planned major upgrades at the Jindabyne Skate Park as well as the SAP to confirm that there is no duplication. Instead, the intended upgrades will see practical improvements that will increase safety, aesthetics and usability. Specifically, the plan will include provisions for shade, lighting, water bubblers, additional rubbish bins, seating and grind rails. Should Council choose to endorse the motion as detailed in point 9.2 of the Youth Council Minutes, it would give weight to future funding applications made by Council staff.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Consultation for the Youth Strategy indicated that the Skate Parks were one of the most important recreational assets for young people in the Snowy Monaro. Undertaking minor upgrades at each of the parks will increase participation rates, foster a more family and child friendly environment and decrease anti-social behaviour such as vandalism and littering.

Developing a shovel ready project plan is the first step towards delivering on commitment 4.1 of the Youth Strategy that states 'Make upgrades to existing Skate Park facilities in the Region'.

2. Environmental

No environmental impacts are associated with this report. These considerations will be made as part of developing a project plan.

3. Economic

Detailed costing will form part of the project plan. Council staff will seek grant funding to deliver on the project objectives.

4. Civic Leadership

Council demonstrates Civic Leadership through endorsing the motion detailed in point 9.2 of the Youth Council Minutes. Council also demonstrate their support for the Youth Council and the determination that exists to drive innovation, change and improvement to benefit generations to come.

SNOWY MONARO YOUTH COUNCIL

SNOWY MONARO REGIONAL COUNCIL

Youth Council Committee Minutes

Address: Cooma Council Chambers, 81 Commissioner St, Cooma, NSW 2630

Date: 22 June 2020 **Time: 10:00am**

Present:

Position	Member (Name)	Present/Apology
Chair	Councillor James Ewart	Present
Youth Council Mayor	Will Wright	Apology
Youth Council Deputy Mayor	Josh McMahon	Present
Youth Council Secretary	Olivia Weston	Apology
Public Relations Officer	Molly Brabham	Present
Youth Councillors	Joshua Abrokwah Georgia Pond Harry Knowles Lani Holfter Leanne Adams Molly Brabham Samuel Pevere Alex Elgey Georgia Pond Charlie Paul Andrea Bosco	Present
	Aaron Penny Alexi Cross Lucy Cross Alex Elgey Elsie Kember Cheyenne Nelson Neeve Creely Jake Barnes	Apology
Council Staff (non-voting members)	Mel Sass, John Graham	Present

1. Opening of the Meeting

Councillor James Ewart opened the meeting in at 10:06

2. Acknowledgement of Country

3. Apologies

An apology for the meeting was received from Youth Councillors Aaron Penny, Alexi Cross, Lucy Cross , Alex Elgey, Elsie Kember, Cheyenne Nelson, Neeve Creely and Jake Barnes

4. Adoption of Previous Minutes

Minutes of the previous meeting were noted as a true and correct record of the proceedings.

5. Business Arising from Previous Minutes

5.1. Young Writers Workshop series confirmed. YDO Mel Sass thanked the Youth Council for their feedback and input into the idea.

6. Correspondence

In:

- Ethan Butler: EOI to deliver the "What they don't teach you at school" presentation in the Snowy Monaro Region.

Motion: Defer discussion to General Business. **Carried. All in Favour.**

- ABC South East: Request to Interview Youth Mayor, Will Wright.

Out:

- Meeting Minutes and Agenda

7. Reports

7.1. **Deputy Youth Mayor –** Tabled

7.2. **Publicity Relations Officer -** Tabled

6.3 **Secretary –** Tabled

6.4 **Youth Development Officer -** Tabled

6.5 **Chair -** Tabled

Motion : That the Youth Council accept the reports as tabled. Carried. **All in favour**

8. Presentations

No presentations scheduled for the June Meeting.

9. General Business

9.1. Ethan Butler – "What they don't teach you at school"

- Ethan is a published young author of the book titled "What they don't teach you at school". The book is being promoted through a series of online presentations across Australia.
- The Workshop fosters entrepreneurial skills and aims to inspire young people to make bold business and life choices after school
- The presentation cost is $250 and is delivered via Zoom. This includes a copy of Ethan's book and all materials for up to 30 people.

Motion: That the Youth Council endorse the delivery of the Ethan Butler Workshop. **Carried. All in favour.**

Action: Mel Sass to liaise with Ethan to book the workshop and promote across the region.

9.2. Minor skate park upgrades

- YDO John Graham outlined that he had been approached by community members in Jindabyne about making minor upgrades and improvements to the Jindabyne Skate Park. Ideas included lighting, rubbish bins, water bubblers and rails. John estimates that the upgrades will cost approximately $10,000.
- The Youth Councillors discussed the skate parks located in Cooma, Berridale and Bombala and noted that upgrades should be rolled out at every skate park in the region. Noted that this would increase the estimated costs to approx. $40,000
- Noted that the Jindabyne Skate Park is set to be upgraded once grant funding is secured.
- Noted that lighting would improve safety and deter antisocial behaviour, like graffiti.
- Youth Council agreed that local business and residents would not be impacted by lights due to location of all the skate parks.
- Determined that minor upgrades, including shade, rubbish bins, lighting and seating would contribute to a more family and child friendly space.

Motion: That the Youth Council supports the development of a shovel ready project plan for light installation and minor upgrades at all 4 skate parks in the Snowy Monaro Region.

Action: YDO John Graham to develop shovel ready project plan, including costings and present to Youth Council for feedback and consideration.

9.3.Youth Awards

- The annual Snowy Monaro Youth Awards were postponed due to circumstances and restrictions surrounding COVID-19.
- YDO Mel Sass outlined that the event has 150 RSVPs and that Government imposed restrictions make holding the event in 2020 unlikely.
- Mel asked the Youth Council for innovative ideas that would allow the awards ceremony to be held safely. Noting that Council need to demonstrate strong leadership on COVID safe events and activities.
- The Youth Councillors discussed options and agreed that a Sub-Committee should be formed to plan an alternative event.

Motion: That a sub-committee is formed to coordinate an alternate 2020 Youth Awards event.

Action: Mel to email interested Youth Councillors and schedule meeting.

10. General Business not on notice

10.1. Public Relations Officer - Molly Braham

- Molly pitched an idea to continue the mosaic "time walk" in Centennial Park. She noted the beauty of the original piece and outlined that the project could be continued around the back of the existing benches – facing inwards towards the park.
- Molly suggested engaging local community groups and school groups, such as the Multicultural Centre for example to each create a new mosaic with the guidance of a local artist.

Action: YDO Mel Sass to connect Molly with Council's Arts and Cultural Committee to discuss her idea and seek support.

11. Project Updates

11.1. Youth Exchange Project – Youth Councillor, Lani Holfter

- Lani provided an overview of the last planning sub-committee meeting. Noted that the itinerary and key details had been determined, however that confirmation from City Of Ryde Council was needed before the project could progress any further.
- Noted that the estimated budget would be $7000.
- Mel Sass noted that the Youth Councils application for a Club Grant was unsuccessful.

Action: Mel Sass to reach out to City of Ryde Youth Development Officer to confirm they are still interested and have capacity to support the project.

12. Date of next Meeting

The next meeting will be held on 27 July 2020

13. Close of Meeting

There being no further business the meeting concluded at 11:47am

_____ _____

CHAIRPERSON **DATE**

9.1.6 ARTS AND CULTURE DISCUSSION PAPER

Record No:

Responsible Officer:	Chief Strategy Officer
Author:	Community Development Planner and Projects Officer
Key Theme:	1. Community Outcomes
CSP Community Strategy:	2.2 Support and promote the arts recognising the broad and diverse contribution it makes to community identity and wellbeing
Delivery Program Objectives:	2.2.1 A range of regional level arts and cultural activities are delivered and promoted in partnership with the community
Attachments:	1. Arts and Culture Discussion Paper June 2020
Cost Centre	
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

The SMRC Arts and Culture Advisory Committee has authored a Discussion Paper to generate conversations and lay the foundations for a regional Arts, Culture and Creativity Strategic Plan.

The Discussion Paper is a snapshot of the current arts and culture sector and provides a position from which to address gaps and move forward on the implementation of new arts and culture initiatives.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council approve the Arts and Culture Discussion Paper being put out for consultation.

BACKGROUND

The SMRC Arts and Culture Committee was formed to provide Council with advice on issues relating to the arts and culture sectors. A key role of the Committee is to identify and support the implementation of a region wide strategy for the sector including harmonisation of existing strategies, policies and initiatives.

The Discussion Paper has been created to provide analysis of the region's arts and culture sector and is intended to inform and stimulate discussion.

Elements of the Discussion Paper, along with feedback received from key stakeholders, will inform the development of an SMRC Arts, Culture and Creativity Strategic Plan.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Arts and culture have a central role in the vibrancy and liveability of a community. From community based craft groups, to galleries and museums, to festivals and events, participation in arts and cultural activities are a foundational social platform. The Discussion Paper recognises the arts and culture sector as being a key asset for local vibrancy and community engagement and explores how this could be expanded upon.

2. Environmental

There are no expected environmental impacts as a result of this report.

3. Economic

Arts and culture as an economic driver is explored throughout the Discussion Paper. The Paper recognises employment and income generation by artists and performers in creative industries, as well as the connection between arts and tourism. The Discussion Paper provides an opportunity to consider how these relationships can be strategically developed to provide maximum benefit for both our resident population and visitors.

The Discussion Paper does not directly recommend any expenditure or immediate financial investment.

4. Civic Leadership

The Discussion Paper has been developed by the Arts and Culture Committee as a starting point for a further Strategic Plan. It draws upon the strengths and knowledge of this diverse group of community experts and looks to engage further community input.

SNOWY MONARO
REGIONAL COUNCIL
Stronger together Better together

Snowy Monaro Regional Council
Arts and Culture Discussion Paper

SMRC Arts and Culture Advisory Committee
June 2020

Record of Versions

Date Published	Reason for Amendments	Resolution	Author/Document Owner

Uncontrolled document when printed. Please refer to intranet for controlled document

1 Acknowledgement of Country

Snowy Monaro Regional Council acknowledges the traditional custodians of the region, the Ngarigo, Walgalu, Ngunnawal, and Bidhawal peoples.

We acknowledge the important role Aboriginal and Torres Strait Islander people continue to play within the Snowy Monaro community.

We pay our respects to Elders past, present, and future, and value their ongoing connections to the land and community.

Image 1: Djaadjawan Dancers. Bundian Gallery, Delegate. Photo image Megan Luhrs

2 Message from SMRC Arts and Culture Advisory Committee

The formation of the SMRC Arts and Culture Advisory Committee, and its carriage of this Discussion Paper and an ensuing Arts, Creativity and Cultural Strategic Plan, has created an opportunity to work with the community with the goal of bringing together previous approaches and defining a new set of creative industry priorities for the region.

Before we commence this though, we want to have a discussion with you and listen to your thoughts and suggestions on how you think this Plan could progress and what it could potentially look like.

The key focuses of the proposed Plan will be to align community goals alongside of what arts and creativity can offer at our Local Government level.

Community representatives on the
SMRC Arts and Culture Advisory Committee

Andrew Gray, Ben Eyles, Sue Haslingden, Caroline Fox, Anthony Sillavan, Lisa Matthes, Merilyn Minell, Pip Ryan

3 Introduction

It is well recognised that a key ingredient to a vibrant, inclusive, and connected community is a thriving creative sector. The significance of arts and culture within the Snowy Monaro region is not only the economic benefit of the creative industries, but also the social and personal benefits that participation and engagement in the arts provides.

We know Snowy Monaro has a thriving cultural sector. What we need now is to develop a strong and cohesive framework to give further momentum to bring arts, culture and creativity into the everyday for everyone and further develop the economic benefit.

As a Council, Snowy Monaro has a responsibility to preserve and propagate the cultural memories of its communities, to develop a quality community life and grow a vital sense of place. This history and associated story telling frames who we are as a society.

Arts education and training, financial stimulus, professional management, and cultural facilities will encourage creative relationships at the local, state, national and international levels.

4 About this Paper

This paper has been developed to create discussion amongst decision makers, thinkers, those who actively participate and engage in the arts, as well as encourage the broader community to better understand and appreciate the contribution arts makes to our society and its' role in developing a sense of 'who we are'.

4.1 How do we define 'the arts'?

Arts in this context encompasses what is often regarded as the traditional arts:

- music and performing arts (e.g. dance, theatre)
- literature (books and other written works)
- visual arts (e.g. painting, sculpture, photography)
- craft and design
- heritage including museums

Taking into account a contemporary context, arts also encompasses the Creative Industries, which in addition to the above art practices include:

- film, television and radio
- digital media
- fashion
- software development and interactive digital content
- architecture

From within these creative fields, artists expand social and cultural values applying meaning, purpose and aesthetics to their work.

4.2 What is culture to us?

Culture can be defined as the characteristic features of everyday life shared by people in a particular place or time:

- initiatives which contribute to quality of life
- a sense of place, feeling of community or local identity
- Heritage, arts, and stories of Aboriginal and Torres Strait Islander people, and the multicultural community
- the things which make our region unique and contribute to the social and economic vibrancy of our communities

"Culture in its widest sense is about what matters to people and communities. It is about relationships, shared memories and experiences. It is about identity, history and a sense of place. It is about the different cultural and religious backgrounds found in most communities. It is about the things we consider valuable for passing on to future generations. It is our way of connecting the present with the past and the future."[1]

Image 2: Whitby – Quiet Afternoon in Autumn, Egan Street. Courtesy of Raglan Gallery.

Do you think this definition clarifies arts and culture, or do you have other thoughts?

5 Local, Regional, State and National Context

Within the Council area there are a myriad of arts groups, students, exhibitors, performing artists and crafters.

Looking past the local area, Snowy Monaro Regional Council has key strategic relationships within the arts and culture sector. These relationships are pivotal in accessing arts and cultural funding at the State and Federal level.

[1] Gladstone Regional Council Arts and Cultural Development Policy adopted 18 June 2019

South East Arts (SEArts) are a regional development organisation for arts and culture in the Bega Valley, Eurobodalla and Snowy Monaro.

The organisation actively assists the ongoing development of, and participation in, arts and culture throughout the South East region of New South Wales and is funded by Regional Arts NSW.

SEArts are part of a State-wide network of 14 Regional Arts Development Organisations (RADO) and is supported by their peak body, Regional Arts NSW.

SEArts personnel are not local art workers, but function at a regional level – facilitating communication, programming and planning, SEArts works with local artists and cultural groups, local government and cultural workers engaged by other agencies , such as regional library officers, regional gallery personnel and regional tourism officers.

Council is a financial member of SEArts. Annual membership is calculated based on LGA population and CPI indexing. A councillor is nominated to represent the region on the SEArts Board each year. This collaboration is a valuable regional partnership.

Canberra Region Joint Organisation (CRJO) is an organisation which connects and collaborates with ten regional councils in the south east of NSW, including Snowy Monaro.

A clear vision of the organisation's South East and Tablelands Regional Plan 2036 states: "In 2036, more than 320,000 people live in the South East and Tablelands, enjoying varied and distinct scenic landscapes from the highlands to the coast. Visitors seek out vibrant arts and cultural experiences, as well as year-round recreation and adventure activities."

The South East and Tablelands are a part of a 'borderless region' with Canberra as the central City.

https://www.planning.nsw.gov.au/~/media/Files/DPE/Plans-and-policies/south-east-and-tableland-regional-plan-2017-07.ashx

Image 3: Public Art in Bombala's main street

Other key collaborations to be formed include conversations with:

Arts and Health is an initiative, primarily led by NSW Health, which refers broadly to the practice of applying creative, participatory or receptive arts interventions to health issues and health promotion settings to create outcomes across the spectrum of health practice from primary prevention through to tertiary treatment.

Arts and Health: https://www.health.nsw.gov.au/arts/Documents/nsw-health-and-the-arts-framework-report.pdf

Australia Council of the Arts is the Australian Government's arts funding and advisory body.

"Our focus is on increasing the visibility of Australia's vibrant arts and culture, and recognising the evolving way that Australians make and experience art. Our role is to support the unimagined along with the reimagined, the unknown and experimental along with the keenly anticipated. We are a champion for Australian arts both here and overseas. We invest in artistic excellence through support for all facets of the creative process and are committed to the arts being accessible to all Australians."

Create NSW is the NSW Government's platform for our arts and cultural sector, our communities and our business and government partners to collaboratively shape our cultural future. It supports vibrant arts and cultural activity across our State. Built on three mutually reinforcing ambitions – excellence, access and strength – Create NSW will guide future strategy, investment and partnerships to grow a thriving, globally connected arts and cultural sector with and for the people of NSW.

Create NSW has a strategic leadership role in implementing the policy framework and ongoing engagement with the sector.

Are these collaborations of benefit? How could the creative sector within the Snowy Monaro fit in at a local, state, national and international level?

Image 4: Soul Tie by Ian Webster & Nattarika Meinghoman. Courtesy of Lake Light Sculpture.

6 A Committee SWOT of the Snowy Monaro Arts and Culture position

6.1 Strengths

We recognise that the region has always been, and continues to be, a place of cultural, spiritual, social, and economic significance. The region's arts and culture sector is driven and supported by a wide range of entities and activities.

6.1.1. Key Festivals & Events such as:

- Lake Light Sculpture event
- Jindabyne Lions Easter Art Exhibition
- Raglan Gallery Exhibitions
- Local markets and "street fairs"
- Cooma Multicultural Festival
- Bundian Gallery Exhibitions
- National Busking Championships
- SnowTunes Music Festival

6.1.2. Cultural Assets such as:

- Corrective Services NSW Museum Cooma
- Cooma Little Theatre
- Proposed Heritage & Cultural Centre Jindabyne (progressed to feasibility study)
- Cooma Multicultural Centre
- Snowy Hydro Visitors Centre Cooma and associated sites
- National Parks and Wildlife Service Visitor Centre Jindabyne
- Community radio stations such as 2MNO

Note: this is not an exhaustive list. Further information will be collected as part of the discussion process.

6.1.3. Existing Assets & Infrastructure

Existing venues, infrastructure and community assets which support the delivery of arts and culture projects e.g. halls, galleries, theatres, music venues, and public art pieces.

Combination of existing Council venues (with mixed Council / community management), and privately held / managed venues (commercial and community based / not for profit).

6.1.4. Landscape, Cultural & Heritage Assets

Natural environment: state and national parks, local landmarks, iconic "Monaro" landscape

Twentieth century infrastructure and architecture; impacts of Snowy Scheme on physical and social landscape e.g. 1950s architecture especially in Cooma and Adaminaby, multiculturalism, SMEC Fluid Lab.

6.1.5. Intangible Assets

Natural integration between community led events/initiatives and those which support and enhance economic activity and tourism promotion

Numerous community based arts and crafts organisations, associations and informal groups dispersed across a complex social and geographic landscape

Passionate community members who are committed to seeing the advancement of arts and cultural activities and projects in the region.

6.2 Weaknesses

Significant barriers present in the form of inadequate cultural facilities, a lack of political will and co-ordination in the past, and secure financial funding.

The SMRC area can be legitimately described, in cultural terms, by what it does not have;

- The area has local level galleries however does not have a Regional Gallery; consequently, it cannot host exhibitions which would usually be hosted at a Regional level gallery. Local artists face challenges in exhibiting their art locally as well as outside the area. There are limited opportunities for artists to exhibit at the professional level, leading to difficulties in attracting attention and generating reputation.
- The region lacks fit for purpose creative making spaces and workshops which allow community members of all ages and abilities, access to creative, cultural meeting spaces and teaching. Such venues would allow creatives to expand their practice through interaction with each other and with external influences and teachers.
- Limited capacity for external influences creates the risk of a singular regional cultural identity. Investment in spaces and initiatives which foster an enhanced knowledge base and extended creative horizons would encourage the attraction and retention of creative people.
- There is limited capacity for significant work of art to be seen in the Council area, due to a lack of exhibition and collection hosting facilities.
- Similarly, the ability to attract professional concerts and theatrical productions is hampered by lack of suitable venues. A proposed new facility at Monaro High School will increase the seating capacity of local venues to 350. The gap remains for a professionally managed venue which includes professional stage/sound/ticketing services.

A lack of suitable storage capacity means an inability to collect works, especially from recognised artists, writers and musicians who have been influenced by the region.

The sector is constrained by voluntary capacity when preferred model would be the creation of a professional arts and events organisation to increase the offering, frequency and professionalism in delivery.

6.3 Opportunities

Create the infrastructure, both real and conceptual, in which a creative cultural life may grow. For example:

1. Build on the reputational value of indigenous, post-settlement and contemporary artists, writers and musicians who have been influenced by the region.
    - Highlight the regional strengths
    - Highlight and market historical and cultural connections

2. Build on the legacy of the cultural history of the region's first peoples.
    - Strengthen relationships with Aboriginal and Torres Strait Islander artists and arts organisations
    - Continue to host and participate in NAIDOC events
    - Create and display appropriate signage acknowledging First Nations
    - Promote and where appropriate expand on Office of Environment and Heritage Aboriginal Declared Places (currently Coolamatong in Cooma, Curiosity Rocks in Jindabyne and Delegate Aboriginal Reserve in Delegate)

3. Create and enhance physical spaces:
   - Complete an audit of creative and cultural facilities in the region, and analysis of current and future needs
   - Convert a section of a facility and apply for Regional Gallery status as soon as possible.
   - Engage the community to design a purpose-built facility which includes exhibition and theatre space, multi-media facilities, a community/Council Archive collection, workshops and making spaces, and Library services
   - Offer online programs, activities and resources to complement and expand activities available in physical spaces
   - Create and formalise relationships with regional / state based institutions to encourage and enhance the identification and promotion of local initiatives and infrastructure

4. Create a position of arts and culture being recognised as an economic asset
   - Develop an understanding of the economic impact of arts and culture, through employment / income data, infrastructure value, and tourism measures
   - Implement a strategy to enhance the asset base of SMRC through the acquisition of artwork and material of local and national significance
   - Initiate a high value art prize. Create competition in the architectural sphere on how to adapt and integrate existing building assets for the stated purposes (vision), perhaps through a tender process
   - Acknowledge the private collections that are held in the region, address the management of them and future acquisitions

Image 5: Blue Wren – Pattinson. Courtesy of Raglan Gallery.

   - Integrate the Commonwealth Government's Cultural Gifts Program. The rationale for this is that the region will be home to a quantity of cultural items that are of significance. There is no institution to accept items in the region once people die, nor accept philanthropic donations
   - Develop Collection based resources such as an art collection and a local council archive. Both have potential as significant assets in financial term
   - Evidence supports arts and cultural tourists as highest yield tourists. In contrast to active/adventure tourism offerings, such as sports based pursuits, arts and cultural tourism can cater to a broader demographic thereby increasing economic activity

5. Create a position of arts and culture being recognised as a community asset
   - Decide on artistic and cultural strengths (e.g. sculpture, youth theatre etc.) for the region and develop policies and contexts for each sphere of activity
   - Support and invest in arts and culture initiatives which support community vibrancy, lifelong education, social engagement and legacy projects
   - Increase engagement with the NSW Health, to enhance the relationship between creative industries and improved mental health and wellbeing outcomes

Image 6: Dancers at Cooma Multicultural Festival

6.4 Threats

- Misunderstandings around the significance of the contribution gained for a region from its Creative Industries
- There are few if any resources for retaining creative youth in the area
- There is a limited known audience
- The development of other regions as cultural tourism destinations could detract from the region's capacity to become a leader in this space
- Inadequate representation on Special Activation Precinct advisory committee
- Perceived conflicting priorities when there should be a recognition that many objectives can be concurrently achieved

The Arts and Culture Advisory Committee has put together this quick SWOT. Is there anything you would add or suggest?

7 Relevant key themes from the Community Strategic Plan

The Snowy Monaro 2040 Community Strategic Plan is a high level strategic document used to inform the delivery of Council's services through the Delivery and Operational Plans. The following key themes and outcomes are particularly relevant to the development of a Snowy Monaro Arts, Creativity and Cultural Strategic Plan.

7.1 Community

Our region's diverse cultural identity is preserved, and we foster creative expression and spaces

- Our culturally diverse heritage is preserved and celebrated for the richness it brings to our regional identity
- Support and promote the arts, recognising the broad and diverse contributions they make to community identity, economy and wellbeing

7.2 Economy

Our region is prosperous, with diverse industries and opportunities

- Attract diverse businesses and industries to the region, supporting their establishment and retention
- Foster and support adaptive, sustainable industries
- Capitalise on the region's proximity to Canberra, Victoria and neighbouring NSW regions to attract industry and investment

Our community has access to a range of lifelong learning opportunities

- Advocate for and promote education and lifelong learning opportunities
- Promote and provide access and spaces where people can learn and connect

Our residents and visitors connect with our region's welcoming and iconic attractions

- The Snowy Monaro Region is a destination that offers a variety of experiences, attractions and events year-round
- Encourage and promote vibrant towns and villages, acknowledging and celebrating the unique heritage and character of each town
- Further promote and develop the region's visitor accommodation, products, and recreational infrastructure

Image 7: Tobias Bennett - On The Edge.

7.3 Environment

Our built infrastructure is attractive and fit for purpose

- Planning for rural, urban and industrial development is sensitive to the region's natural environment and heritage
- Improve and maintain our publicly owned infrastructure, assets, and facilities to a high standard
- Development of a Cultural Heritage Plan currently underway

7.4 Leadership

Our council is strategic in its planning, decision making and, resource allocation

- Planning and decision making are holistic, integrated, and have due regard for the long term and cumulative impacts
- Sound governance practices direct Council business and decision-making
- We advocate to, and work with other levels of government, community and industry

Our community is informed and engaged in decision making

- Our community has multiple opportunities to be consulted and engaged in the development of plans, services, and policies
- Residents have access to timely, relevant, and accurate information on issues that affect them
- Our community is empowered to fully participate in shaping the future of our region

What do you think the Arts and Culture Advisory Committee needs to do in order to align its priorities with the Community Strategic Plan?

How should the Committee report its activities in line with the Community Strategic Plan?

Image 8: Australian National Busking Championships in Cooma

8 Questions for our community

The aim of this discussion paper is to create 'conversations', in particular between Council and the community. Goals and outcomes will be collated and discussed, contributing to the development of a Snowy Monaro Arts, Creativity and Cultural Strategic Plan that will aim to stimulate the Snowy Monaro's arts and creative industries.

We will actively explore partnerships and collaborations that provide education, learning and development opportunities, grow participation in the arts, investment in the arts particularly including the places where arts are made and showcased.

With that in mind, the following 4 key question areas need to be considered and discussed:

8.1 Key Challenges and Opportunities:

What do you think are the key challenges and opportunities created by developing an Arts, Creativity and Cultural Strategic Plan?

8.2 Gaps in Knowledge

Have you experienced, or are you experiencing, gaps in knowledge of the arts and culture environment in our region?

What suggestions can you make to fill these gaps?

Who should be responsible for filling these gaps?

8.3 Future Aspirations of the Arts Sector

What would a thriving arts, creativity and cultural sector in the Snowy Monaro region look like to you?

What suggestions could you make on how this would be achieved?

8.4 Priorities

Should the Snowy Monaro region begin planning for a Regional Art Gallery?

Should the Snowy Monaro region begin planning for arts workspaces and community meeting places?

If yes – why?

If no – why not?

To make space for arts and culture, what do you think should happen? What are your top five priorities for arts and culture in the region?

How do we get the discussion started?

- Presentation to Councillors and Youth Council outlining discussion paper and the potential significance and benefits of a Snowy Monaro Arts, Creativity and Cultural Strategic Plan for the region.
- Presentation to Councillors and Youth Council by South East Arts.
- Creative Industry collaboration at a Local, State and National level.
- Collate responses
- Development of Strategy and Resourcing
- Implementation of Strategy

How you can get involved

Respond to this discussion paper by Having Your Say found on Council's website under Arts and Culture

Thank you for your contribution.

Image 9: Snowy Short Scenes short film festival in Cooma

9 Further reading:

9.1 SMRC documents

- SMRC 2040 Community Strategic Plan
- Snowy Monaro Regional Council Arts and Culture Committee Charter

9.2 Example Council Arts and Culture / Creativity Strategies

- Kingborough Tasmania
- Cairns, Queensland
- Eurobodalla NSW

Image 10: Faces mural in Jindabyne

9.3 External studies

The following studies have canvassed the financial value of the arts. These studies are probably well-known to Council and SEAA. Briefly, the report(s) suggest a 69% return on any investment in the arts. The information suggests potential as an opportunity to publicise the potential of cultural resources.

- Adding Value: A report on the economic impact of the cultural infrastructure of the Evocities of NSW (Museums and Galleries NSW): https://mgnsw.org.au/wp-content/uploads/2019/01/Adding_Value_-_for_publication_1.pdf

- The Economic Value of Arts, Screen and Culture to NSW (Create NSW): https://www.create.nsw.gov.au/wp-content/uploads/2018/12/Economic-Value-of-Arts-Screen-and-Culture-2018-Report.pdf

- Domestic Arts Tourism: Connecting the Country (Australian Council for the Arts): https://www.australiacouncil.gov.au/research/domestic-arts-tourism-connecting-the-country/

- Regional Arts Australia Stats and Stories: The Impact of the Arts in Regional Australia (CACWA): https://www.cacwa.org.au/documents/item/477

9.1.7 SWIMMING POOL PROPOSED FEE REDUCTIONS 2020-2021

Record No:

Responsible Officer:	Chief Strategy Officer
Author:	Manager Finance
Key Direction:	1. Community Outcomes
Delivery Plan Strategy:	1.3 Recreation, sporting and leisure facilities encourage all ages to live in an active and healthy lifestyle
Operational Plan Action:	1.3.3 Council's recreational facilities, parks and public open spaces are safe, well managed and accessible

Attachments:

EXECUTIVE SUMMARY

Current data does not show that the season with free access led to an increase in patronage, as the variance in that year is within the variances seen in other seasons. There was an increase in that particular year (of 13%) that is unaccounted for by temperature changes. If it is assumed that all of this variation was accounted for by the effect of lower entry fees increasing usage, the proposed fees would lead to 700 additional uses across the four pools run by the Council. This would come at a cost of $30,000, or $43 for each use.

In the short term the Council would need to reduce funding to this or another service to fund this shortfall or reduce the length of the swimming season and then put in place an above rate cap increase of 0.19% to fund the reduction in the user contributions to this service.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council retain the swimming pool fees for the 2020-2021 financial year swim season as adopted by Council on 18 June 2020.

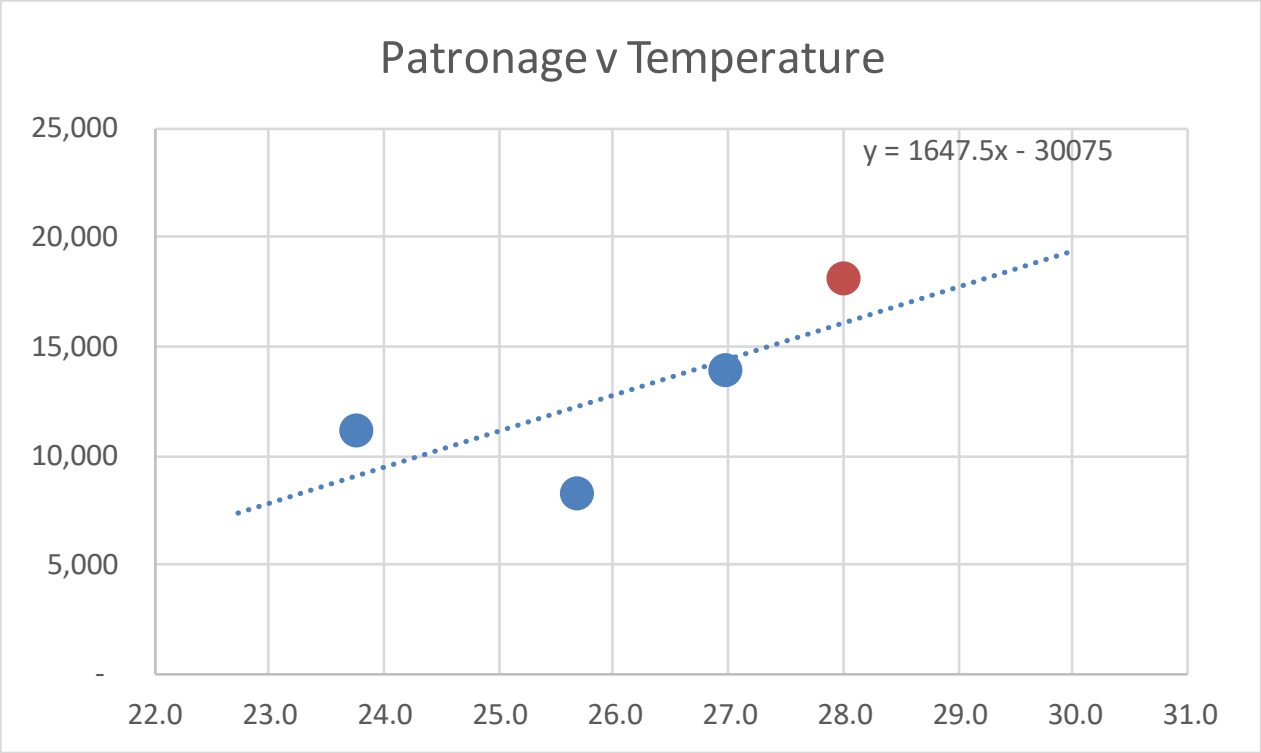
BACKGROUND

Councillor Haslingden lodged a submission suggesting that the fees charged for entry to the Council pools be varied to encourage increased usage and provide more facilities to be used by the community. The issue was discussed at the last Council meeting, with consideration being deferred to allow for the collation of information on the likely impacts of the proposal.

To gain an indication of the revenue that would be foregone and the impacts on Council's financial position the split up of fees from the Bombala pool was used. This spilt was used for the three outdoor Council run pools. The Jindabyne pool income types have been estimated by the operators of the pool. Based on the changes included in the submission it is estimated that the impact of the changes would be a reduction of $32,000 in revenue.

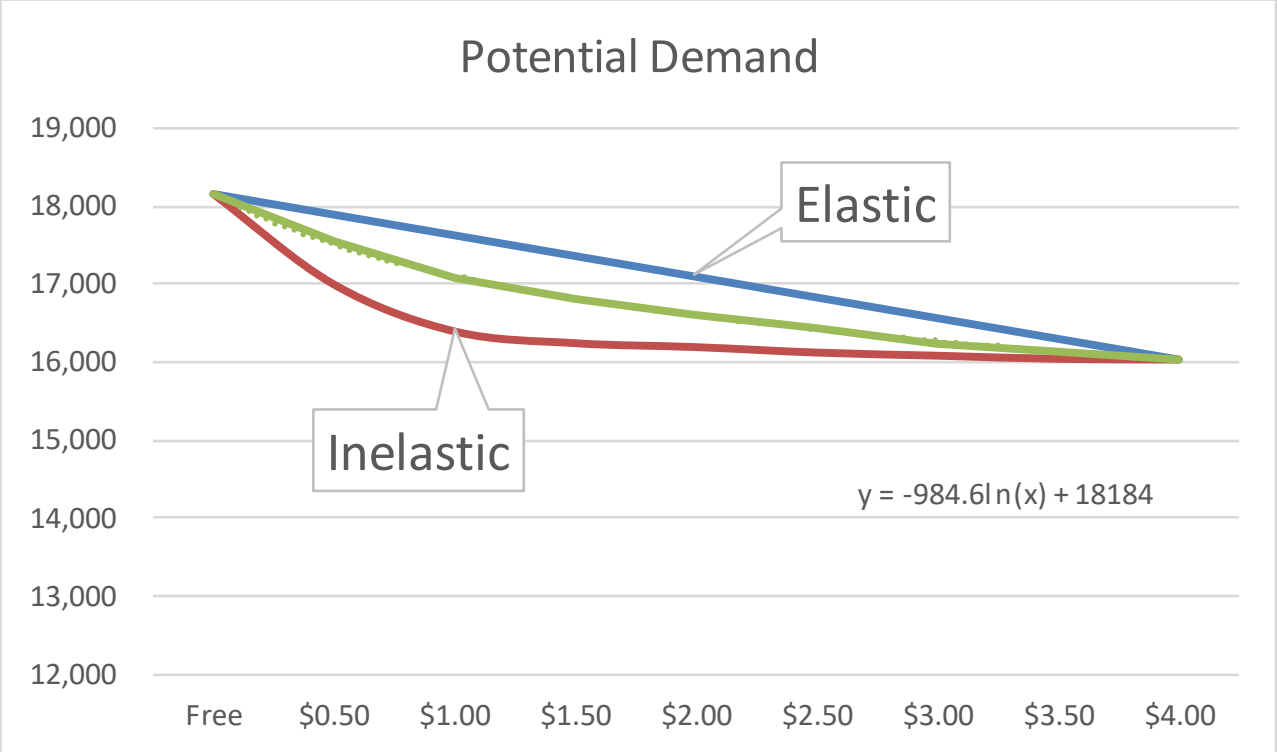
The next aspect is to identify if the change in fees is likely to result in increased attendance. To assist in this the level of attendance was assessed against the average temperature of the swimming season over recent years. The 2016 to 2020 season figures were used, which includes the figures for the year where no entry fees were charged.

Regression analysis indicates that over 70% of the variation in patronage is attributable to temperature change. The attendance has been mapped against the temperature in the following graph. The year in which free entry was provided is shown as the red dot. It can be seen that this year did have higher attendance than estimated. As can be seen from the other records, the variation from the average is not sufficient to indicate that there was a significant increase in patronage in the year of free entry.



While the available evidence does not provide evidence that the free entry did result in increased patronage, it is possible that this occurred. If there was increased usage it can be determined that it was likely no more than 2,000 attendances. This is still a 13% increase over the calculated level of attendance. A reduction in the fees (as opposed to abolishing the fees) would be likely to have a smaller impact than free entry.

There is little information on the elasticity of demand for public swimming pools. This makes it difficult to determine the impact of the changed fee structure. The following graph shows the two extremes, the blue line shows the outcomes if demand is elastic, that is demand changes fluidly with pricing. The red line shows a fairly inelastic supply, e.g. it is only as the price approached zero that demand begins the increase. The business case developed for Parramatta for the consideration of a new pool complex indicates demand among regular users is likely to be inelastic, while infrequent users will have elastic demand. Using the entry revenue as a proxy, the changes in demand would reflect the green line.



This mechanism can be used to indicate that, across the four Council run pools, the increase in usage would be in the order of 700 additional attendances. This would return additional revenue of $2,100. The net impact of the change is then $30,000, with each additional use costing $43.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

A reduction in fees encourages the use of facilities and an active lifestyle for the community. Equity needs to be considered given the decision excludes the Cooma Swimming pool.

It is difficult to determine what portion of the potential additional use would be extra activity and which would be changing from an alternative exercise. In addition, as the bulk of increased users would be casual swimmers, the level of exercise would be low. This would give some, but low health benefits.

2. Environmental

Nil.

3. Economic

The net cost to council and our ratepayers for operating its 5 swimming pools is approximately $1.2 million which is 7.1% of our general rating revenue. It is estimated the suggested fee reductions would increase this cost by $32,160 due to lost revenue. Lost revenue would potentially be partially offset by increased usage, adding back $2,000 in revenue.

Estimated lost revenue for the **Adaminaby, Berridale and Bombala Pools** based on below is $12,960.

Fee	Adopted Fee 2020-2021	Suggested	Reduction $	Reduction %	Fee Category Yield % Estimate*	Estimated Reduced Revenue**
Single Entry Adult/Child	$4.00	$4.00	$0.00		25%	
Single Entry Child/Pensioner		$2.00	Proposed new	Proposed new	18%	-$3,600
Family Season Pass	$168.50	$100.00	-$68.50	-40.7%	50%	-$8,100
Adult Season Pass	$95.00	$70.00	-$25.00	-26.3%	3%	-$200
Child Season Pass	$70.50	$40.00	-$30.50	-43.3%	2%	-$300
Facility Hire – Per Day	$64.50	$36.00	-$28.50	-44.2%	2%	-$400
Visit non swim season pass		$10.00	Proposed new	Proposed new		-$360
					100%	-$12,960

*Fee Category Yield % Estimate based on analysis of receipting data at Bombala pool for 2015-2017
**Based on annual revenue estimate of $40k

Estimated lost revenue for the **Jindabyne pool** based on below is $19,200.

Fee	Adopted Fee 2020-2021	Suggested	Reduction $	Reduction %	Fee Category Yield % Estimate*	Estimated Reduced Revenue**
School/Swim Club Events	$3.00	$2.00	-$1.00	-33.3%	8%	-$2,100.00
Single Entry Adult	$7.00	$4.00	-$3.00	-42.9%	10%	-$3,400.00
Single Entry Child/Pensioner	$5.00	$2.00	-$3.00	-60.0%	10%	-$4,800.00
Family Annual Pass	$674.00	$500.00	-$174.00	-25.8%	10%	-$2,100.00
Adult Annual Pass	$323.00	$300.00	-$23.00	-7.1%	5%	-$300.00
Child Annual Pass	$167.00	$150.00	-$17.00	-10.2%	5%	-$400.00
Six Month Family Pass	$382.50	N/A			10%	$0.00
Six Month Adult Pass	$178.50	$160.00	-$18.50	-10.4%	3%	-$200.00
Six Month Child Pass	$93.50	$90.00	-$3.50	-3.7%	2%	-$100.00
Adult – 10 Entries	$61.50	$35.00	-$26.50	-43.1%	5%	-$1,700.00
Child/Pensioner – 10 Entries	$41.00	$18.00	-$23.00	-56.1%	5%	-$2,200.00
Private Hire of Pool	$107.50	$100.00	-$7.50	-7.0%	1%	-$100.00
Lane Hire – During Normal Operating Hours	$32.00	$30.00	-$2.00	-6.3%	1%	-$100.00
Hire by Schools, Swim Club During Normal Hrs	$75.00	$70.00	-$5.00	-6.7%	3%	-$200.00
Non Swimming Adult	$2.00	$2.00	$0.00	0.0%	2%	$0.00
Winter Adult Pass	$107.50	$90.00	-$17.50	-16.3%	15%	-$2,000.00
Winter Child Pass	$53.50	$60.00	$6.50	12.1%	5%	$500.00
					100%	-$19,200.00

*Fee Category Yield % Estimate based on estimate by council staff
**Based on annual revenue estimate of $80k

These funds would need to come from either a reduction in expenditure in this service or a similar reduction from another service. Council is in a poor financial situation and is currently operating a significant and unsustainable deficit. Increasing the deficit is not a financially sound decision.

In future years the impact of the increased subsidy to pool users would be require a 0.19% increase in rates above the rate cap if it was intended to revert other services back to the current level.

4. Civic Leadership

Nil.

9.1.8 WATER USAGE CREDITS - JANUARY 2020 BUSHFIRES

Record No:

Responsible Officer:	Chief Strategy Officer
Author:	Manager Finance
Key Theme:	1. Community Outcomes
CSP Community Strategy:	1.3 Recreation, sporting and leisure facilities encourage all ages to live in an active and healthy lifestyle
Delivery Program Objectives:	1.3.3 Council's recreational facilities, parks and public open spaces are safe, well managed and accessible
Attachments:	1. Survey Responses 28 April - 27 May 2020 - Partial waiver of charges for Cooma Swimming Pool 2. Email Responses 28 April - 27 May 2020 - Partial waiver of charges for Cooma Swimming Pool 3. Survey Responses 28 April - 27 May 2020 - Water Usage Concession 4. Email Responses 28 April - 27 May 2020 - Water Usage Concession
Further Operational Plan Actions:	12.2.2 Council provides convenient ways for customers to engage with us and we respond appropriately

EXECUTIVE SUMMARY

A limited number of response were received, focused on supporting the rebate, requesting a higher amount and that no criteria apply. The issue was also discussed on social media.

$20 of water equates to 6,000l, which should have been sufficient to undertake the cleaning and is comparable to the 4,000l provide to rural residents for the same task.

As it is not possible to determine whether users did use the water for cleaning the criteria may lead to people who have been conserving water not being eligible for the rebate.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council

A. Receive and note the submissions and waiver of the additional water usage at the Cooma Swimming Pool of $7,645.90; and
B. Authorise a $20 water usage credit to all users with a council water meter connection.

BACKGROUND

Council placed the proposal to provide a rebate for water used in cleaning down houses, yards and cars as a result of the January 2020 bushfire event.

- 8 submissions were received (6 through the online survey and 1 via email)
- The issue received community comment on social media platforms.

The issues expressed were as follows:

- All submissions supported a credit with many commenting that $20 was an insufficient value
- There was concern expressed for applicants who don't have 3 years worth of consumption history to support a 10% increase in consumption

1 submission requested that all customers receive the credit given the 10% increase was not valid for customers doing the right thing and using less water during periods of higher water restrictionThe $20 amount was determined by reviewing the level of water expected to be required to undertake the cleaning task. This was based on 6,000l of water being used. This amount is a reasonable equivalent to the level of water provided to rural landowners, who were provided with 4,000L of water (Delivered by ADF) to allow for flushing of their tanks and cleaning of the roof. As such, this amount of subsidy, while appearing a small amount of money does reflect reasonable equity between the support provided to those residents on the potable water supply and those that are not.

The $20 reasonably reflects the cost that would likely have been incurred, with a higher amount effectively simply being a form of 'cash back' payment.

The concerns about having a history of consumption to rely on and the fact that some users may be penalised more because they have been conscious of water use in the drought are valid points. It would not be possible to distinguish users who were wasteful of water from those who have restricted use to improve conservation of water.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Nil.

2. Environmental

Council needs to ensure that it does not inadvertently give the message that water conservation is not supported.

3. Economic

The estimated lost revenue under different scenarios are;

Option	$20 Credit	$50 Credit
Users over 10% increase	$57,000	$139,000
All water users	$134,000	$335,000

There is sufficient funds in reserve to cover the adjustment.

4. Civic Leadership

There is no discretionary provision for waiving fees due to natural events, therefore a Council resolution is required. The provisions of the Local Government Act must be applied (Sections 610E and 610F).

Previously the Council resolved as follows.

COMMITTEE RECOMMENDATION **COV4/20**

That Council

A. Advertise the proposal to waive $7,645.90 for additional water usage at the Cooma Swimming Pool due to clean-up activities resulting from the bushfires, for 28 days;
B. In the event that no negative submissions are received, authorise the Chief Executive Officer to waive the fees without the need for a further Council Resolution; and
C. In accordance with the provisions of the Local Government Act, SMRC advertises for comments regarding the proposal to provide a credit of $20 where water consumption for the period encompassing the January 2020 period exceeds the 3 year averaged consumption for the same period in excess of 10%.

Moved Councillor Ewart **Seconded Councillor Stewart** **CARRIED**

No negative submissions were received about the partial waiver of charges for Cooma Swimming Pool. 6 submissions were received in favour of the waiver (5 through the online survey tool and 1 via email) and 1 submission requested more information including insurance coverage details with no impact on the outcome.

SurveyTool: **Feedback on the partial waiver of charges for Cooma Swimming Pool**

Visitors	9
Contributors	6
Registered	1
Unverified	0
Anonymous	5
Admin	0
SUBMISSIONS	6

Date of contribution	Submission Number	Feedback	Response ID
May 13 20 11:57:19 am	Submission 1	I think similar criteria should be applied as that for concession to property owners for water usage. Evaluate if water usage of the pool as been greater than 10% of the average usage over last three years during the same period. If yes, then only the amount over the 10% of usage could be waived.	2510101
Apr 24 20 07:47:35 pm	Submission 2	I think charges should be waived	2475151
Apr 24 20 10:06:48 am	Submission 3	Before Council shells out funds to reimburse the leasees, I feel there a number of considerations and investigations that should be made:- The leasees insurance documents should be examined to see if there is a clause within their contract to cover such losses. What funds are available from Bushfire Recovery funds for such purposes? Is there a precedent being set for other businesses/individuals to request recompense for ash damage to their properties/businesses?	2472809
Apr 24 20 10:43:03 pm	Submission 4	Give them a break and waive the fee. They haven't been able to operate for the majority if the peak summer period and have only been given more costs There are going to be many businesses who are going to be unable to cover their character being affected by bushfires and covid19 and this is going to have to be reviewed on a bigger scale.	2475770
Apr 25 20 08:14:04 am	Submission 5	Yes, I support waiving water charges.	2476384
May 09 20 03:17:04 pm	Submission 6	I believe Council should most definitely issue the proposed credit to the lessees of the swimming pool. The current lessees manage the pool very well indeed, much better than some similar pools in Sydney; this was so appreciated after the ash inundation. As daily users, my partner and I feel that the pool is one of Cooma's most important - but undervalued and overlooked - assets. Not everyone likes or plays football, and yet Cooma has several sports grounds. Many of us really enjoy swimming; it is an exceptional option for everyone, children, the elderly or disabled, for both recreation and exercise. Until the pool is fully upgraded and enclosed, its use is severely restricted. I would like to know when the upgrade will begin - I believe the funds are available now. The pool could be such a wonderful part of living in Cooma; those of us who use it regularly feel quite disconsolate when it is closed.	2505744

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Matt Payne

From: [redacted]
Sent: Monday, 11 May 2020 1:47 PM
To: Records Snowy Monaro Regional Council
Subject: Partial waiver of charges for Cooma Swimming Pool

To Snowy Monaro Council:

As one who used the Cooma swimming pool almost every day from January to March this year, I support the partial waver of charges for the lessees, specifically, waiving 2435 kilolitres from the current water account and issuing the lessees a $7645.90 credit.

The Cooma swimming pool is an excellent facility and the lessees manage it in a very professional and friendly way. I look forward to the pool reopening in the summer, assuming the current health crisis has passed.

Sincerely

[redacted]

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VISITORS					
8					
CONTRIBUTORS			RESPONSES		
7			7		
1 Registered	0 Unverified	6 Anonymous	1 Registered	0 Unverified	6 Anonymous

Respondent No: 1
Login: Anonymous
Email: n/a

Responded At: Apr 28, 2020 14:38:41 pm
Last Seen: Apr 28, 2020 14:38:41 pm
IP Address: n/a

Q1. **Name:** [redacted]

Q2. **Email:**

Q3. **Please provide your feedback on the proposed water usage concession**

I do agree in a payment however I think you've missed the mark offering $20 is not going to help anyone in our community, companies are offering $200 to assist families, I think you can do a lot better for everyone.

Respondent No: 2
Login: Anonymous
Email: n/a

Responded At: Apr 28, 2020 15:53:57 pm
Last Seen: Apr 28, 2020 15:53:57 pm
IP Address: n/a

Q1. **Name:** [redacted]

Q2. **Email:**

Q3. **Please provide your feedback on the proposed water usage concession**

I believe a $20 concession would be very welcome on water accounts for the January period to offset the potential over usual usage that may have ocurred due to the bushfires

Respondent No: 3
Login: Anonymous
Email: n/a

Responded At: Apr 29, 2020 20:53:05 pm
Last Seen: Apr 29, 2020 20:53:05 pm
IP Address: n/a

Q1. **Name:** [redacted]

Q2. **Email:**

Q3. **Please provide your feedback on the proposed water usage concession**

All water consumption accounts should just be given the $20 credit in recognition of the increased household water usage during this disastrous period. We should not have to meet the suggested criteria to be eligible for the credit. The communities were on varying extremes of water restrictions during this water billing period and the conservation of water before and after the bushfires may not amount to 10% above average consumption. The community members who were trying to do the right thing with our water should not miss out.

Respondent No: 4
Login: Anonymous
Email: n/a

Responded At: Apr 29, 2020 23:25:20 pm
Last Seen: Apr 29, 2020 23:25:20 pm
IP Address: n/a

Q1. **Name:** [redacted]

Q2. **Email:**

Q3. **Please provide your feedback on the proposed water usage concession**

Yes great idea but only $20.00 but I suppose better than nothing. My water consumption was up approximately 35%.

Respondent No: 5
Login: Anonymous
Email: n/a

Responded At: Apr 30, 2020 12:01:48 pm
Last Seen: Apr 30, 2020 12:01:48 pm
IP Address: n/a

Q1. **Name:** [redacted]

Q2. **Email:**

Q3. **Please provide your feedback on the proposed water usage concession**

As a school in Cooma, there was a lot of clean up required and so any help would be much appreciated.

Respondent No: 6
Login: Anonymous
Email: n/a

Responded At: May 02, 2020 08:34:51 am
Last Seen: May 02, 2020 08:34:51 am
IP Address: n/a

Q1. **Name:** [redacted]

Q2. **Email:**

Q3. **Please provide your feedback on the proposed water usage concession**

I appreciate that I haven't been here for 3 years to prove that my water consumption has gone up over that time, however, in the 12 months I have been here and owning a property, the dramatic increase in January's ready and subsequent bill can be noted. My assessment no is 10022986, which I am sure you can review within your own systems, however, please find below the summary of readings and cost 1) 24/01/2019 - 28/05/2019 - usage = 5 - charges = $15.30 2) 28/05/2019 - 24/09/2019 - usage = 52 - charges = $163.28 3) 24/09/2019 - 31/01/2020 - usage = 122 - charges $383.08 The January bill is more than double the previous bill, with no changes to our household numbers, or "day to day" processes. Post the fires we did undertake a large scale clean of our property that was covered in the ash, which included high pressure hosing all external walls of the house, cleaning gutters, hosing and washing fences, washing cars, washing all external fixtures - lights, swings, trampoline, clothes line, washing down plants. Therefore, I think this rebate is a wonderful gesture by the council for all residents of the region, and would appreciate consideration in the rebate scheme for the resulting clean up from the environmental factors that were out of our control. Please don't hesitate to contact me directly on [redacted] should you have any further queries or require clarification, [redacted]

Respondent No: 7
Login:
Email: [redacted]

Responded At: May 13, 2020 11:51:44 am
Last Seen: May 13, 2020 01:45:23 am
IP Address: 27.124.99.254

Q1. **Name:** [redacted]

Q2. **Email:**

Q3. **Please provide your feedback on the proposed water usage concession**

Seems like reasonable criteria to provide credit. However will considerations be given to properties that have been purchased in the last 3 years as water consumption of previous owners may differ from current owners.

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[redacted]

From: [redacted]
Sent: Monday, 27 April 2020 7:59 PM
To: Records Snowy Monaro Regional Council
Subject: re-water rate credit

To The Chief Executive Officer

Our feedback on whether Snowy Mountains Regional Council should issue a $20.00 credit to those who meet the criteria is that the $20.00 is insufficient. We feel it should be considerably more. We appreciate this is an honourable gesture on your part but $20.00 would not cover the amount of excess water used before, during and after the fire months.
I guess we will be grateful for whatever we receive but ask if you could reconsider the amount please.

Thank you

[redacted]

9.3.1 UPGRADE WORK TO MYACK STREET & MEMORIAL PARK, BERRIDALE

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Manager Infrastructure
Key Theme:	3. Environment Outcomes
CSP Community Strategy:	9.1 Transportation corridors throughout the region are improved and maintained
Delivery Program Objectives:	9.1.2 Our local road network is planned, built and repaired to improve movement across the region
Attachments:	Nil
Cost Centre	
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

At the meeting of Council held on 19 March 2020, a report on Planned Works – Myack Street – Berridale was considered by Councillors and approved as a Receive and Note report. Prior to consideration of the report a number of Berridale residents spoke during the public forum expressing significant concerns with a proposal to remove trees in Memorial Park as part of drainage improvement works on Myack Street near the intersection with Jindabyne Road.

One of the key requirements with upgrade works on Myack Street was to improve the flow of stormwater through Coolamatong Creek thereby reducing the likelihood of the road (a Regional Road) becoming inundated with water and creating a traffic hazard. This was identified in the Berridale Landscape Masterplan, which was subject to a full community consultation process. However, it was not clear within the Masterplan that in order to improve the drainage channel through Memorial Park, a number of trees would require removal.

Public meetings with the Berridale community and community presentations to Council have made it clear that any proposal to remove trees in Memorial Park will not be supported. As such, planned works to improve drainage through Myack Street cannot proceed.

The alternate plan proposed in this report is to shift focus (and funding) from Berridale's Myack Street to Highdale Car Park in order to establish a formal car park, bus zone and town entry sign. The concept designs for this area were captured in the Berridale Landscape Masterplan and fit within existing funding agreements.

Funding remains from the PP155 Stronger Communities Fund (allocated to Myack Street Improvement) along with a $558,525 grant from John Barilaro MP announced in 2019. The scope of works from each grant allows work to be undertaken in-line with the Berridale Landscape Masterplan and, in late 2018, concept designs were discussed with local business owners in relation to proposals for improvements to Highdale Car Park and the construction of the Berridale Town Entry Sign.

Concept designs are now being developed to the Preliminary Design stage and, once complete, the designs will be subjected to a full community consultation process.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council support a proposal to refocus funding from the Stronger Communities Fund and from the Berridale Beautification grant from drainage improvement work on Myack Street, to the development of Highdale Car Park and Town Entry sign in accordance with the Berridale Landscape Masterplan.

BACKGROUND

Berridale Landscape Masterplan. The aim of the Berridale Landscape Master Plan was to help create a thriving commercial hub which is embellished by the avenue of Lombardy Poplars and the generous open space to the east of Jindabyne Road. With a focus on best-practice approach to streetscape design, the plan takes a visionary approach to create a unified, accessible and coherent Village Centre, which is to be achieved over the next 10-20 years. The Berridale Landscape Master Plan is intended to outline, in strategic terms, how the landscape upgrade can be staged and coincide with the block removal and replacement of the Lombardy Poplar Avenue.

Section 3.5 of the Berridale Landscape masterplan addressed the following.

Commercial Centre & Parking. The current commercial centre has evolved over a long period of time and is characterised by a number of different building styles, setbacks and orientations. The commercial activities are also dissected by the existing Service Station which largely divides the commercial core into two precincts; one to the north of the service station and one to the south. The southern commercial area is also set back a long way from Jindabyne Road.

Currently, the commercial centre offers a large volume of vehicle parking, however, the lack of formalised movement lanes, lack of marked parking spaces, and the expanse of asphalt detracts from the commercial activities and aesthetic appeal. The lack of structure also hinders the potential use and number of parking spaces available.

In summary, the main issues surrounding the existing commercial centre include:

- Multiple driveways and somewhat chaotic vehicle movements which impact on pedestrian access, safety and visibility issues.
- Large expanses of asphalt which are unpleasant and uncomfortable and not aesthetically pleasing.
- Commercial signage is set a long way from the road and passing traffic and obscured by trees and other built elements.
- No pedestrian walkways or clear connections to allow for pedestrians to move safely throughout the commercial precinct and minimal definition of links to important or residential areas.
- Views to the open space opposite are pleasant but lack any clear focus or gathering points apart from the public toilets.

Figure 51. The existing, largely unstructured car park serving the Village Centre (Photo: Arterra)

Section 6.2 of the Berridale Landscape Masterplan looked at the Car Park and Traffic Circulation noting the following.

The improvement and defined separation and hierarchy of vehicular movement around the Village Centre will help to create a more structured traffic flow within the Village and improve overall amenity. The proposed car park reconfiguration has been designed to rectify some otherwise chaotic traffic flows by establishing more defined parking spaces and providing clear direction to users. The central portion of the car park will act as a loop, allowing cars, as well as larger vehicles, to comfortably enter and exit the service station and its facilities. Changes in pavement colour or type will help define the various uses.

The southern portion of the car park, with proposed new angled parking, will maximise the parking capacity whilst also defining the inclusion of an extensive bus and coach parking bay fronting the shops. The proposed rationalisation of traffic flow within the Village Centre will also provide for better pedestrian circulation and a safer and more user-friendly environment

Section 6.10 of the Berridale Landscape Masterplan outlined the following.

Signage Treatments. The installation of gateway signage and the accompanying tree planting at all four entry routes into the Village is proposed to clearly identify the Village and highlight the transition into the Village Centre from the rural roads. This will inform people of the approaching facilities and provide a positive and welcoming message to visitors. Custom designed shopping area signage boards are proposed at the prominent intersections along Jindabyne Road, and aim to project out to the street and promote the shops as a destination within Berridale. They allow signage that is not obscured by trees and landscaping and will assist visitors in identifying and negotiating the different vehicle entry points.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

The Council Meeting of 19 March 2020 provided an opportunity for Berridale residents to inform Councillors off significant community concerns in relation to proposed works on Myack Street and especially the announcement to remove trees from Memorial Park as part of drainage improvement works.

It is understood that Councillors were very receptive to the concerns expressed by those attending and the overwhelming voice that the public would not support any attempt to remove or harm trees in Memorial Park.

In the public's view, it is clear that:

- insufficient evidence is available to justify any proposal to removal trees in Memorial Park;
- that alternate measures could be considered to minimise any disruption to the drainage channel through Memorial Park; and
- that studies via the Floodplain Risk Management Group are not sufficiently mature enough to influence the designs for Myack Street and therefore through Memorial Park.

Work to review designs and seek additional flood data remains ongoing and it is hoped that, at some time in the future, a redesign can be presented to the community for discussion with all community concerns addressed.

2. Environmental

While any proposed work to improve Highdale Car Park are perceived to have minimal environmental risk, consideration will be given through a landscaping design to ensure environmental issues are highlighted and discussed with the community

3. Economic

Grant Funding Opportunities.

The Stronger Communities Fund was established by the NSW Government to provide merged councils with funding to kick start the delivery of projects that improve community infrastructure and services.

PP155 was to complete stage 3 of the Berridale Streetscape Project and $500,000 was allocated to this project.

Project Number	Project Description and Scope	
PP-155	**Complete stage 3 of the Berridale Streetscape Project** • Construction of path and drainage on North side of Berridale to town centre. • Upgrade of Myack St and Jindabyne Road intersection. • Sealing of edges on Myack St to town limits. • Additional signage for toilet block	

Examples of the criteria projects approved by Council under the Stronger Communities Fund are:

- Have been through a community consultation process;
- Demonstrate social and/or economic benefits to the community;
- Consider issues of sustainability and equity across the broader community;
- Did not have funds allocated by the former councils

Additional funding became available when John Barilaro MP, in 2019, announced $558,525 for Berridale Beautification with the project description being:

- Improvements to the parking area surface and pedestrian pavement areas;
- installation of village signage & artwork;
- upgrade of Myack Street and Park Street with the installation of culverts;
- landscaping works to improve the visual amenity and functionality of the Berridale CBD.

Estimated Expenditure	**Amount**	**Financial year**	**Ledger**	**Account string**
Design	$110,000	2019		
Materials	$100,000			
Funding (Income/reserves)	**Amount**		**Ledger**	**Account string**
Stronger Communities	$500,000	2020		
RCDF Round 2	$558,525	2020-2021		

4. Civic Leadership

Reports to Council & Community Consultation. This is now the fourth report to Council in relation to Berridale Trees and the Berridale Landscape Masterplan. Key dates for consideration of reports, inclusive of a workshop with Councillors, public exhibition and Community Consultation events by Council staff are as follows:

- March 2014. Report to Council (ED/14/5396) – Berridale Poplars Project Phase 1.
- December 2014. Report to Council (ED/14/49173) – The Berridale Landscape Masterplan.

- 22 December 2014 – 30 January 2015. Berridale Landscape Masterplan – Public Exhibition.
- February 2015. Workshop with Councillors.
- March – May 2015. Series of Community Consultation events with residents, local businesses and community organisations.
- June – July 2015. Further Report to Council on the outcomes of the community consultation process.
- 30 October 2019. Public Meeting, Country Club, Berridale.
- 16 December 2019. Public Meeting, Community Hall, Berridale.
- 19 March 2020. Report to Council.

9.3.2 DA BEST PRACTICE GUIDE AND PROCESSING TIMES

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Manager Built & Natural Environment
Key Theme:	3. Environment Outcomes
CSP Community Strategy:	8.1 Plan for rural, urban and industrial development that is sensitive to the region's natural environment and heritage
Delivery Program Objectives:	8.1.3 Development assessment processes are streamlined to support regional development and growth
Attachments:	1. Guide to the Development Assessment Process *(Under Separate Cover)*
Cost Centre	1210 Development Assessment
Project	DA Best Practice Guideline and Processing Times

EXECUTIVE SUMMARY

A report was tabled at the Council meeting of 15 March 2018 following a request from the Mayor in relation to the NSW Department of Planning and Environment's "Development Application Best Practice Guide". Council resolved to "*defer the report DA Best Practice Guideline and Processing Times pending a workshop to discuss the Development Assessment Best Practice Guide*". (Resolution 68/18).

A workshop was undertaken with Councillors on 23 May 2018. The workshop outlined the current functions of the Development and Building Certification Group, current development application processes of Council and measures that could be utilised to align with the relevant NSW Department of Planning and Environment "Development Assessment Best Practice Guide".

A subsequent report was considered at 1 November 2018 Council meeting with recommendations adopted (Resolution No 395/18) for action from the workshop. The last remaining recommendation being the development of "Snowy Monaro Regional Council Guide to the Development Process" is now presented to Council for endorsement.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council endorse the Snowy Monaro Regional Council Guide to the Development Assessment Process for public use.

BACKGROUND

On 18 December 2017 the Mayor requested (in relation to assessment and determination of Development Applications) "*a report to Council in February or March regarding what Council*

needs to put in place or resources it will require to ensure we can meet the best practice guideline and can improve our response times."

A report was prepared in response to this request and tabled at the Council meeting of 15 March 2018. Council at this meeting resolved the following (Resolution 68/18):

That Council defer the report DA Best Practice Guideline and Processing Times pending a workshop to discuss the Development Assessment Best Practice Guide. (Clr Beer/Clr Castellari – Carried).

The recommendations of the report presented to Council meeting of 15 March 2018 were;

That Council

A. *Not accept DA's that are incomplete or unclear*
B. *Reject DA's that do not contain the information required by Part 1 of Schedule 1 of the EP&A Regulation (in accordance with Clause 51 of the EP&A Regulation).*
C. *Limit notification commensurate with impacts.*
D. *Amend notification requirements in Council Development Control Plans to reduce the number of DA's being notified*
E. *Determine DA's based on the information held at the time where an applicant has been requested to provide additional information (under Clause 54 of the EP&A Regulation) but has failed to respond within 14 days.*
F. *Not provide applicants with more than one opportunity for provision of additional information.*
G. *Reassess resourcing in areas of Building Surveying, and Engineering referrals for DA's*
H. *Determine whether to apply items E and F to developments other than 'housing' (or development ancillary to 'housing').*

The report highlighted the NSW Department of Planning and Environment "Development Assessment Best Practice Guide" (the Guide) was very urban-centric and did not reflect issues and common practises that Councils in Rural or Regional areas were accustomed to, particularly in relation to the level of assistance provided to 'mum and dad' developers. The report acknowledged that some parts of the Guide could be adopted which would assist in improving DA processing times, such as limiting the time for provision of additional requested information, however this could potentially be at the risk of negative reactions from applicants.

It was clear from discussions at 15 March 2018 meeting that Councillors were generally not in favour of adopting an approach to DA processing merely to achieve improved statistical results, and that a helpful approach to assist applicants through what has become a quite complex process even for relatively straightforward applications was more acceptable.

In line with Council's Resolution 68/18 a workshop was undertaken with Councillors on 23 May 2018. The workshop outlined the current functions of the Development Assessment and Building Certification group, current development application processes and measures that could be utilised to align with the Guide.

A subsequent report presented to the Council meeting held on 1 November 2018 outlined discussions from the workshop and a proposed pathway forward identified at the workshop. In this regard the following resolution was issued;

COUNCIL RESOLUTION 395/18

That Council endorse the following recommendations;

1. *Council staff develop a Snowy Monaro Region Development Guide.*

2. *Increased promotion of pre-lodgement meetings with applicants and a media campaign be undertaken.*
3. *Creation of a user friendly information portal on Council's website.*
4. *Development assessment staff actively participate in the review of the consolidated LEP and DCP with the Strategic Planning Group to achieve practical workable provisions.*
5. *A review and report be presented to the General Manager on resourcing requirements for Building Surveying and Development Engineering staff in order to reduce development application referral times, assist with approvals relating to the issuance with Complying Development Certificates and provide efficient and timely advice to applicants.*
6. *Councillors continue to be provided with a list of applications lodged with Council on a monthly basis and a list of determined development applications on a monthly basis.*
7. *Ensure that when the corporate IT platform is implemented it includes online tracking of applications and use of mobile IT platforms, to improve efficiencies in administration of development assessment and building certification processes.*
8. *That checklists and guidelines are updated and expanded to ensure applicants have detailed information to ensure applications are submitted with all relevant information as required by Part 1 of Schedule 1 of the EP&A Regulation (in accordance with Clause 51 of the EP&A Regulation).*
9. *A review be undertaken and report be put forward to Council proposing amendments to the Bombala, Snowy and Cooma DCP's to align notification requirements as being commensurate with impacts and to reduce the number of development applications being notified.*
10. *That development applications be determined based on the information held at the time where an applicant has been requested to provide additional information (under Clause 54 of the EP&A Regulation) but has failed to respond within 21 days.*
11. *Additional information requests be provided to applicants in a timely manner and applicants be provided with only one opportunity for provision of additional information before determination of application. The response time on these requests be increased from 14 days to 21 days.*

Council staff have been working through these recommendations and have reported to Council on their progress through the Questions and Answers section of Council Meeting agendas. With the completion of recommendation 1 for the development of a Snowy Monaro Region Development Guide (as attached to this report) all recommendations listed above have now been completed/and or will continue to be implemented through the roll out of the new CIS project and interaction with the Department of Planning, Environment and Industry on a new online application portal.

Development Assessment Internal Audit

Councils' internal auditor has also undertaken an audit of Councils' development assessment processes based on the following objectives.

Audit Objectives

1. Review achievement of organisation objectives.

2. Assess if decisions are properly authorised.
3. Assess reliability and integrity of information.
4. Review that assets are safeguarded.
5. Assess compliance with laws, regulations, policies and contracts.
6. Assess efficiency, effectiveness, economy and ethical conduct of business activities.
7. Consider fraud and corruption risk scenarios.

The audit forms part of the Annual Plan for Financial Year 2019/20 contained within the Internal Audit Strategic Plan 2019-2022 approved by the Audit, Risk and improvement Committee at its meeting on 14 June 2019 (Resolution No ARIC32/19).

One of the findings of the audit required that the Council guide be developed to include the following items;

A. Details on pre-lodgement discussions;
B. Types of requests for and limitations on pre-lodgement advice; and
C. Statutory requirement in relation to submitting amended development applications prior to determination.

The Council guide has incorporating these requirements within the terms of advice provided and additional statutory requirements required for lodging of development applications.

With these items in place the Council guide is presented for consideration by Council.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Improved customer communication and engagement of the community in the development assessment process can provide positive social impacts.

2. Environmental

Ensuring adequate processes are in place to properly assess Development Applications is a fundamental function of Council and must meet legislative requirements. Poor development decisions can have long-term adverse environmental impacts and unintended consequences. While a lot of focus is placed on the time taken to produce a determination, the quality of the decision being made is also a vital factor.

3. Economic

Staffing levels are contained within the existing Council structure, however individual work areas are consistently under review to ensure workload and accreditation requirements are achieved. There are indirect economic benefits of providing an improved and streamlined assessment and approval process.

Estimated Expenditure	**Amount**	**Financial year**	**Ledger**		**Account string**														
Expenditure Development Assessment	$409,700	2019-2020	G	L	1	2	1	0											
Funding (Income/reserves)	**Amount**		**Ledger**		**Account string**														

Revenue Development Assessment	$1,401,133	2019-2020	G	L	1	2	1	0										

4. Civic Leadership

On 18 December 2017 the Mayor requested (in relation to assessment and determination of Development Applications) “a report to Council in February or March regarding what Council needs to put in place or resources it will require to ensure we can meet the best practice guideline and can improve our response times”.

A report was presented to the Council meeting on 15 March 2018 with recommended changes to processes to align with the NSW Government Development Assessment Best Practice Guideline. Councillors resolved not to accept the suggested changes to align with the recommendations of the Guide and resolved to hold a workshop with staff to consider other options to achieve reportable processing times.

The workshop was held on 23 May 2018 with several Councillors in attendance. In response to findings from the workshop a subsequent report was presented to Council on 1 November 2018 resolved (Resolution No 395/18) to adopt 11 recommendations. The items under consideration as part of this report is the last outstanding item that was required to be presented to Council to finalise this resolution. Throughout this process Council has demonstrated a commitment to improve Development Application processes and to provide education resources to our community to assist them through the process.

9.3.3 PROPOSED MEMORANDUM OF UNDERSTANDING TO MAINTAIN CROWN ROADS

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Land & Property Officer
Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	10.3 Advocate and work with other levels of government, community and industry to improve outcomes
Delivery Program Objectives:	10.3.1 Council connects, recognises, advocates and works in collaboration with all leaders across the community and beyond our boundaries
Attachments:	1. Crown Lands Minor Road Maintenance Policy IND-0-250
Cost Centre	N/A

EXECUTIVE SUMMARY

For some time Council staff have been liaising with Crown Lands to enter into a Memorandum of Understanding that would enable Council to maintain a predetermined number of Crown roads in the Local Government Area without those roads being transferred to Council once maintenance was completed. The Memorandum of Understanding was proposed to nominate which Crown roads could be maintained without first approaching the Crown for consent.

Recently, Crown Lands has notified Council that owing to amendments to the Department's Policy and Guidelines on minor road works (IND-0-250) Council will not be able to maintain Crown Roads except as private works at the landowners' expense.

The amendments to the policy refer to Crown road access to new subdivisions and to the maintenance of Crown roads within the LGA. This policy has the potential to impose a significant previously maintainable impost on Council.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council

A. Receive and note this report; and
B. Write to the Minister for Primary Industries expressing Council's concern that amendments to the Policy for Minor Maintenance of Crown Roads were adopted without providing this Council an opportunity to comment.

BACKGROUND

For some time Council staff have been liaising with Crown Lands to enter into a Memorandum of Understanding that would enable Council to maintain a predetermined number of Crown roads in the Local Government Area. The Memorandum of Understanding was proposed to nominate which Crown roads could be maintained without first approaching the Crown for consent.

Recently, Crown Lands has notified Council that owing to amendments to the Department's Policy and Guidelines on minor road works (IND-0-250) Council will not be able to maintain Crown Roads except as private works jobs at the landowners' expense.

If Council proceeds to carry out maintenance on Crown roads other than as private works; this action will trigger an automatic transfer of the Crown road to Council.

An excerpt of Crown Lands Policy IND-0-250 as follows:

> Unless exceptional circumstances apply, the department will consider a Crown road to be suitable for transfer to another roads authority if it meets one or more of the following criteria:
>
> a. Council or RMS requests transfer of the Crown road, including for the purpose of s.44 of the *Roads Act*.
> b. The formed Crown road provides road access to urban or rural areas or provides access within country towns, villages, local communities and public areas.
> c. Road works on the Crown road are proposed by someone other than the department, and those works require development consent under the *Environmental Planning & Assessment Act 1979*.
> d. Development consent has been granted by a council that requires use of the Crown road to service a traffic generating development.
> e. The Crown road is required to be maintained to a standard specified as a condition of development consent. *(Notably, if standards were not specified, transfer may still be relevant on the basis that road works were not required as the Crown road already conformed to council's access standards to service the development.)*
> f. The Crown road was constructed, has or is being maintained by a council to facilitate access, as part of its local road network, which may include drainage structures such as a bridge or culverts.
> g. Construction or upgrade of the Crown road is required to meet standards required by a council.
> h. A council objects to the closure of the Crown road on the grounds the road is required for public access.
>
> The department does not consider the following claims to be valid reasons for a council to decline a department initiated road transfer:
>
> a. Road condition – where council objects to the transfer on the basis that the road is in a state of disrepair or does not conform to council minimum standards.
> b. Financial implications – where council objects to transfer based on (potential) costs incurred. Local councils have the ability to levy funds through development contributions, rates and grants for road repair and maintenance.

This policy will impact on Council in that it will trigger transfer of Crown road assets to Council under any of the following circumstaces.

- If Council maintains a Crown reserve road (whether Council is aware that it is a Crown Reserve road or not) then the Crown may transfer the road to Council.
- Road works on Crown roads which are a condition of development consent.
- Development consent (including residences, buildings, subdivisions) which will be accessed from a Crown Road.
- Construction of bridges or culverts on Crown reserve roads.
- If Council objects to a crown road closure on the grounds that the road is required for public access.

The Department will not take into consideration the condition of the road at the time of transfer or financial implications as a reason to avoid transfer of the road to Council.

This policy was the result of a review of the Department's Minor Road Maintenance Policy IND-0-250 which was endorsed on 22/2/2020. Council only received notification of the policy amendments in June 2020 when Crown Lands was asked for an update with respect to the proposed MOU.

In view of the outcome of this review, it will be critical for Council's Infrastructure Department to ensure that only Council public roads are maintained by Council in accordance with the Council Road Maintenance Program.

Crown Lands also advised that if Council approves subdivisions which are proposed to be accessed from Crown Reserve Roads then Crown Lands will transfer the Crown road to Council and therefore it will also be essential that Council's Planners are informed.

Likewise, it will be critical that Council's Planners advise applicants of the requirement for them to resolve access to their proposed subdivision/development by an alternative method other than over the Crown reserve road prior to lodging their application. This could be done by approaching the Crown to discuss options.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

The amended Guidelines on Minor Road Works (IND-0-250) has the capacity to disadvantage developers and restrict development in the LGA. However, developers may wish to follow the option of applying to Crown Lands to close and purchase the Crown reserve road and create a private access road to access their subdivisions.

Council is unable to commit the Crown to closing and selling Crown reserve roads and therefore is unable to include this requirement in the development consent. Applicants could, however, be directed to make enquiries through Crown Lands about their options.

2. Environmental

There is no environmental impact.

3. Economic

There will be no direct economic impact to Council providing Council avoids any trigger that results in the Crown transferring roads to Council . However, if property development declines in the LGA due to Crown Lands Policy, Council may suffer an economic impact through a reduced number of applications which will result in reduced growth in the region.

Considering the current climate with COVID-19 and its effect on economic growth, particularly in regional areas, and the dramatic effect of the 2019/20 bushfires on the economy, this policy presents yet another blow to regional NSW.

4. Civic Leadership

In view of the anticipated impact on Council caused by the amended policy IND-0-250, and the impact on the growth of the area, it is suggested that Council should write a strongly worded letter to the Minister Planning Industry & Environment objecting to the adoption of the amended policy IND-0-250 without consultation with Councils.

This policy has the potential to significantly reduce economic growth in regional NSW.

NSW GOVERNMENT | Planning, Industry & Environment

Policy

Administration of Crown roads

POLICY NUMBER:	IND-O-250	VERSION:	2.0
AUTHORISED BY:	Executive Director Crown Lands	AUTHORISED DATE:	28/06/2018
ISSUED BY:	Department of Planning, Industry and Environment – Crown Lands	EFFECTIVE DATE:	01/07/2018
CATEGORY:	Operations & Industry	REVIEW DATE:	01/07/2021

Policy statement

This policy provides for how the NSW Department of Planning, Industry and Environment–Crown Lands (the department) will administer Crown roads in accordance with the *Roads Act 1993* (*Roads Act*).

Our approach to the administration of Crown roads provides clarity and confidence to stakeholders that they will receive consistent and transparent treatment. Crown road applications will be assessed to determine and administer the most suitable option for the future management of a Crown road, in accordance with the provisions of the *Roads Act 1993*.

Scope

The following functions under the *Roads Act* are within the scope of this policy:

1. Transfer of a Crown road to other roads authority (s.152I) – enables transfers to an appropriate roads authority to manage the public road network in the interest of landowners/occupiers, local communities and the public.
2. Crown road closures (s.37(1)) and Crown road sales and disposals (s.42 (1) and 152B) – specifies the circumstances where either closure and/or purchase of a Crown road may be appropriate.
3. Crown road works:
    - The Minister has powers as a roads authority to carry out road works (s. 71) – establishes the basis by which the department may authorise user/s to undertake road works on behalf of the Minister (s.253) to address their access needs.
    - Crown road repairs and maintenance (s.108 to 110) – specifies in what circumstances the department may give directions for repair and maintenance.
4. Regulating works and structures other than road works within the road corridor (s.138).
5. Authorising occupation of roads (s.152A).

Disaster repairs to Crown roads administered by the Roads and Maritime Services (RMS) under Natural Disaster Relief Scheme are outside the scope of this policy.

Requirements

1. Transfer of Crown roads

The Minister is authorised to transfer Crown roads to another roads authority. A Crown road cannot be transferred to RMS without its consent. Local councils can request the department's consideration to transfer a Crown road to council. The department may also give consideration to initiating the transfer of a Crown road to council.

Although a Crown road transfer to council does not require consent, the department will consult with the affected council before processing a Crown road transfer. Each proposed road transfer will be considered on a case by case basis.

Unless exceptional circumstances apply, the department will consider a Crown road to be suitable for transfer to another roads authority if it meets one or more of the following criteria:

a. Council or RMS requests transfer of the Crown road, including for the purpose of s.44 of the *Roads Act*.

b. The formed Crown road provides road access to urban or rural areas or provides access within country towns, villages, local communities and public areas.

c. Road works on the Crown road are proposed by someone other than the department, and those works require development consent under the *Environmental Planning & Assessment Act 1979*.

d. Development consent has been granted by a council that requires use of the Crown road to service a traffic generating development.

e. The Crown road is required to be maintained to a standard specified as a condition of development consent. *(Notably, if standards were not specified, transfer may still be relevant on the basis that road works were not required as the Crown road already conformed to council's access standards to service the development.)*

f. The Crown road was constructed, has or is being maintained by a council to facilitate access, as part of its local road network, which may include drainage structures such as a bridge or culverts.

g. Construction or upgrade of the Crown road is required to meet standards required by a council.

h. A council objects to the closure of the Crown road on the grounds the road is required for public access.

The department does not consider the following claims to be valid reasons for a council to decline a department initiated road transfer:

a. Road condition – where council objects to the transfer on the basis that the road is in a state of disrepair or does not conform to council minimum standards.

b. Financial implications – where council objects to transfer based on (potential) costs incurred. Local councils have the ability to levy funds through development contributions, rates and grants for road repair and maintenance.

2. Crown road sales and closures

The department may close a Crown road by publishing a notice in the NSW Government Gazette. When a Crown road closure is gazetted, the land remains vested in the Crown as Crown land. Any subsequent sale of the former road is processed under the *Crown Land Management Act 2016*.

Alternatively, the department may sell a Crown road without first closing it; generally this will be suitable for land holders with an interest in purchasing Crown roads which adjoin their property. If the department determines a Crown road is suitable for sale under this method, the road ceases to be a public road upon transfer to the purchaser. This policy provides guidance to determine whether a Crown road can be sold by transferring directly to the purchaser in accordance with the *Roads Act*, or if a road will need to be simply closed under that Act instead—so it can be sold in accordance to the *Crown Land Management Act 2016*.

Crown roads are not exclusively closed for the purpose of sale. Roads may be closed to vest in the Crown for the purpose of adding it to a Crown reserve, license or lease so that it can be used for other purposes. If a Crown road is identified as a hazard by the department, the department may decide closure of the road is required to remove the risk it poses to the public or the surrounding environment and remediate the issue.

2.1 Crown road closures (s.37(1))

It may be appropriate to close a Crown road if the road is not required for public access and one or more of the following circumstances apply:

a. The road is to be added to a crown reserve or tenure to be used for other purposes

b. Land within the road corridor is identified as suitable for sale under the *Crown Land Management Act 2016*

c. Closure of the road is required to address a hazard identified by the department

d. Closure of the road is required to address environmental or land management concerns identified by the department.

The department will consider a range of factors when determining a proposed road closure. Each of the following criteria must be fulfilled:

a. The road is not required to be retained within the public road network

b. Any landholders and government authorities reasonably known to have potential interests or access requirements have been consulted and their requirements addressed to the department's satisfaction within the time frame set by the department.

2.2 Crown road sale (s.152B)

The department will consider a range of factors when determining a proposed road sale. At a minimum, each of the following criteria must be fulfilled:

a. The road is assessed as not required to be retained within the public road network

b. Landholders and government authorities reasonably known to have potential interests or access requirements have been consulted and their requirements addressed to the department's satisfaction within the time frame set by the department.

2.3 Sale of land arising from the closure of a public road (s.42(1))

The Roads Act maintains that when a Crown road and an unconstructed council road are closed, the land ceases to be a road and becomes (or if it was a Crown road, remains) Crown land when it is closed. Once a road is closed, the department has to manage the land in accordance with the *Crown Land Management Act 2016.* This includes in relation to the sale of an unconstructed council road.

The proceeds from the sale of Crown land that was previously an unconstructed council road will go to the department. Councils should consult the department before proposing the closure of an unconstructed council road as the department's agreement is required for the road to be added to the Crown estate upon closure. This includes when the purpose of the road closure is to sell the closed road.

3. Works on Crown Roads

The department does not provide public road services such as road construction, maintenance or traffic management. This policy establishes the basis by which the road user/s may seek an approval from the department to undertake road works to address their access needs.

3.1 Authorised Crown road works (S. 71)

Applications to undertake authorised road works on a Crown road will be considered where the Crown road does not satisfy the criteria for road transfer. Road work proposals considered by the department generally relate to routine maintenance to conserve pre-existing access conditions, or to determine road works to establish access along a Crown road over the natural terrain.

Works on Crown roads are evaluated on the basis of whether it is feasible to undertake works in consideration of the potential impacts on the road reserve, adjoining lands and local environment.

The department cannot endorse the following:

a. Road works outside Crown road corridors

b. Works on Crown roads located on steep or highly erodible land, within protected riparian areas and susceptible to erosion, or land that is otherwise environmentally sensitive

c. Construction of new structures such as pipe culverts, concrete causeways or bridges

d. Construction, upgrade or maintenance of a Crown road to satisfy the gravel road or sealed standards of another roads authority.

3.2 Works directed by the department - repairs and maintenance

The department may direct a person to conduct repairs or maintenance on a Crown road that is not generally used for access by the public, if a hazard is identified by the department that to present an unacceptable and immediate risk to the road users and/or the environment.

- *s.108 – Direction to undertake works*

When the department considers the condition of a road presents a hazard, it may direct relevant landholder/s who benefit from use of the road, to repair or maintain the road – specifying the type of works and the time for completion. The costs for undertaking the works are to be paid by the person/s or party that the direction was issued to.

- *s.109 – Action to address noncompliance with s.108*

If a person does not comply with a direction to undertake works, the department may have the works completed and recover the costs from that person.

- *s.110 – Direction to contribute*

Where a Crown road provides access for a small number of landholders, and primarily only benefits those landholders, the department may direct those landholders to pay some or all of the costs of repair or maintenance works.

3.3 Works on Crown roads other than road works (S. 138)

Section 138 enables the department to issue permits to regulate various activities on Crown roads that are not directly related to the use of a Crown road for access. The department's consent is required for anyone to erect a structure or carry out a work on or over a Crown road. Sections 139 (conditions), 140 (revocation of consent) and 142 (maintenance of the structure) are also relevant to the department's consideration of an application under s.138 of the Act. There is an expectation that public authorities will consult the department prior to undertaking any works under s.138.

3.4 Authorised occupation of roads (S.152A)

The Minister may authorise certain activities or occupation on a Crown road such as grazing—where issue of an enclosure permit is not applicable), encroachments and other temporary uses of a Crown road by way of a licence granted under the *Crown Land Management Act 2016*, in accordance with section 152A of the *Roads Act*.

Guidelines

Administration of Crown Roads Guidelines is available to support this policy and other Crown roads administration matters.

Roles and responsibilities

- DPIE Crown Lands: Administration of Crown public roads including closure, sale, transfer and approving select road works applications – authorising activities and occupations.
- Local councils: Closure of council public roads.

Safety considerations

There are various Crown roads in NSW that have been established by use rather than construction—this means that they have not been formed to a specific road construction standard and are used as trails for access purposes. Users of Crown roads are encouraged to drive to conditions. Over time the intended use of a Crown road or land surrounding the road may change and the future management of the road may also need to change. This policy provides framework for the department to consider the most suitable option for the future management of Crown roads.

Delegations

Crown Lands Other (Minister) Instrument of Delegation 2018.

Definitions

- Carry out road work – includes carry out any activity in connection with the construction, erection, installation, maintenance, repair, removal or replacement of a road work
- Council – has the same meaning as defined in the *Local Government Act 1993*
- Formed Crown road – a Crown road that has been constructed in some way to be used as a road. Formed Crown roads form part of the constructed road networks that services urban or rural areas
- Person – for the purposes of this Policy is a landholder or road user
- Road corridor – the legally defined road corridor whether formed or not formed

- Road works – as defined in the *Roads Act* and includes any kind of work, building or structure such as a roadway, footway, bridge, tunnel, road-ferry, rest area, transit way station or service centre or rail infrastructure that is constructed, installed or relocated on or in the vicinity of a road for the purpose of facilitating the use of the road as a road, the regulation of traffic on the road or the carriage of utility services across the road – but does not include a traffic control facility
- Suitable for transfer – a Crown road which has been identified and assessed under the policy's key transfer principles as appropriate to transfer to local government
- Traffic generating development – any development that results in an increase in vehicular traffic on a Crown road

Legislation

- *Crown Land Management Act 2016*
- *Environmental Planning and Assessment Act 1979*
- *Roads Act 1993*
- *Roads Regulation 2008*
- *State Environmental Planning Policy (Infrastructure) 2007*

Related policies

- Sale of Crown Land Policy IND-O-251
- Sale or Lease of Crown land by Direct Negotiation Policy IND-O-182

Other related documents

- Crown Lands Circular 2011/51 Procedural Fairness.

Superseded documents

This policy replaces:

- Crown Lands Circular 2009/19 Dealing with Applications to Construct Crown roads.
- Office Practice Guidelines – Chapter 31 – Roads.
- Policy (POL005) Transfer of formed Crown roads to Local Government.

Revision history

Version	Date issued	Notes	By
1.0	01/07/2018	Developed to support the *Crown Land Management Act 2016.*	Alison Pepper, Director Tenure & Business Programs
2.0	22/02/2020	Policy updated to reflect machinery of government changes	Policy Team

Contact

DPIE – Crown Lands, 1300 886 235

9.3.4 FLOODPLAIN RISK MANAGEMENT STUDY AND PLAN

Record No:

Responsible Officer:	Chief Strategy Officer
Author:	Environmental Project Officer
Key Theme:	3. Environment Outcomes
CSP Community Strategy:	8.2 Improve and maintain our public owned infrastructure and assets and facilities to a high standard
Delivery Program Objectives:	8.2.6 Council's infrastructure is maintained to meet compliance standards and to deliver high level services
Attachments:	1. SMRC Flood and Floodplain Risk Management Studies 2. Summary of Public Submissions Received Flood Study April 2019 3. Detailed Report of Public Submission for Flood Study April 2019
Cost Centre	180340
Project	Cooma, Bredbo, Michelago and Berridale Flood Study, Floodplain Risk Management Plan and Study.

Further Operational Plan Actions:

EXECUTIVE SUMMARY

Council has received funding from the NSW Government Floodplain Management Program to undertake floodplain risk management studies and prepare plans for Michelago, Bredbo, Cooma and Berridale. The NSW Government's Floodplain Development Manual outlines the five-stage process of this program.

The *SMRC Flood and Floodplain Risk Management Studies – Flood Studies* was prepared in April 2019. Following on from the Flood Studies, the *SMRC Flood and Floodplain Risk Management Studies and Plans (DRAFT) report* was prepared in March 2020.)

The March 2020 report has identified a significant flood risk to some properties within Cooma with a recommendation of Voluntary Purchase.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council

A. Adopt the SMRC Flood and Floodplain Risk Management Studies – Flood Studies (April 2019);
B. Notify the property owners identified at significant flood risk, prior to the March 2020 Floodplain Risk Management Studies and Plans being placed on Public Exhibition;
C. Agrees to the public exhibition of SMRC Flood and Floodplain Risk Management Studies – Floodplain Risk Management Studies and Plans (DRAFT) report (March 2020);

D. Liaise with the NSW SES and landowners at risk to develop an Evacuation Plan for a significant rain event;
E. Submit a Variation Request to the Department of Planning, Industry and Environment (DPIE) Floodplain grant program seeking funding and an amended scope of works to investigate mitigation options for Cooma Back Creek.

BACKGROUND

Council has been funded (6:1) by the NSW Government Floodplain Management Program run by the Department of Planning, Industry and Environment (formally Office of Environment and Heritage). The funding was awarded in the 2016-17 financial year. The objective of the study is to firstly develop a greater understanding of flood behaviour and flood risk in the towns of Michelago, Bredbo, Cooma and Berridale, then develop floodplain risk management plans for those localities. The Program helps Councils implement the NSW Government's Flood Prone Land Policy which "aims to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods".

The process is broken down into five stages resulting in the preparation and implementation of floodplain risk management plans which assist Council to meet their obligations under the NSW Government's Flood Prone Land Policy as set out in the Manual.

The Flood Study is based on comprehensive technical investigation of flood behaviour that provides the main technical foundation for the development of the floodplain risk management plan. The study provides an understanding of flood behaviour within each of the 4 villages and is based on local flood history and flood data which is used to assist in the development of hydrologic and hydraulic models which are calibrated and verified to improve confidence in the model results for each town.

The Flood Study was prepared in April 2019 and was put on public display for 28 days. A total of 23 submissions were received, Michelago (20), Cooma (1), Bredbo (1) and non-specified area (1). The Survey Report is attached to this report.

The Flood Study as previously stated, is the technical foundation to develop the floodplain risk management studies and plans for each of the nominated towns. The Floodplain Risk Management Study provides understanding of the impacts of floods on the existing and future communities. The Floodplain Risk Management Plan documents decisions on the management of flood risk into the future. This Plan will outline measures to manage existing, future and residual flood risk based on sound technical data and modelling from the Flood Study.

The SMRC Flood and Floodplain Risk Management Studies – Floodplain Risk Management Studies and Plans (DRAFT) were submitted to Council in March 2020.

The DRAFT Report Floodplain Risk Management Studies and Plans (March 2020) has identified some properties within Cooma that are at significant risk. The consultant's preliminary recommendation was Voluntary Purchase of these properties.

Discussions between DPIE staff, Council staff and the consultants, identified that additional detailed analyses are required to identify whether there are any feasible flood mitigation options to reduce the risk at these properties to acceptable levels. Senior staff met on 7 April 2020 and agreed that Council seek a Variation Request against the existing grant. The variation will request extra funding to undertake a detailed analysis of potential flood modification options for the before-mentioned study area.

Council is now aware of the risk to these properties and there is currently no effective warning system to evacuate these properties in a significant rain event.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

The identified property owners are at serious risk in a high flood event. If their risk to life cannot be adequately mitigated, then a Voluntary Purchase Scheme is a mechanism for these property owners to have the ability to purchase a comparable home within Cooma thus maintaining social cohesion while eliminating the risk to life at their existing property.

2. Environmental

Further analyses of the Cooma Back Creek reach may incorporate riparian rehabilitation as a one of the collective mitigation options. If this work was undertaken it would improve water quality by a reduction of erosion and sedimentation.

3. Economic

If Council were to proceed with the Voluntary Purchase (VP) recommendation it would come at a considerable cost. The median house price in Cooma as of June 2020 is $342 000.00. Property owners would have to be offered this amount of money under the Voluntary Purchase Scheme as the impacts of being in a flood zone do not apply under this scheme.

The cost to Council to pursue further funding to investigate mitigation options at Cooma Back Creek would be approximately $5 278 (funding ratio of 6:1) with DPIE contributing approximately $31 672. Note these are based on estimates of additional works.

4. Civic Leadership

Council will incorporate results of the Floodplain studies and plans into their statutory responsibilities under the Environmental Planning and Assessment Act 1979. Development proposed within identified flood prone land will be incorporated into Council LEP (currently being updated) and the associated DCP to mediate risk to property and infrastructure.

The information provided by the Floodplain studies will provide Council and Emergency Services with the tools for robust future long term strategic and emergency planning.

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Snowy Monaro Regional Council
Flood and Floodplain Risk Management Studies

Floodplain Risk Management Studies and Plans

Draft Report

March 2020

www.smec.com

EXECUTIVE SUMMARY

Snowy Monaro Regional Council (the Council) has received financial support from the State Floodplain Management program managed by the Office of Environment and Heritage (OEH) to undertake flood studies and floodplain risk management studies for the towns of Cooma, Bredbo, Berridale and Michelago towns situated in south-east NSW.

This project composes stages 1 to 4 in the five-stage process outlined in the NSW Government's Floodplain Development Manual (FDM, 2005), as follows:

1. Data Collection
2. **Flood Study** – A comprehensive technical investigation of flood behaviour that provides the main technical foundation for the development of a robust floodplain risk management study and plan
3. **Floodplain Risk Management Study (FRMS)** - assess the impacts of floods on the existing and future community and allows the identification of management measures to treat flood risk
4. **Floodplain Risk Management Plan (FRMP)** - outlines a range of measures, for future implementation, to manage existing, future and residual flood risk effectively and efficiently
5. **Plan Implementation** - once the management plan is adopted, an implementation strategy (devised in Stage 4) is followed to stage components dependent on funding availability.

The flood studies for each town were finalised in mid-2019 and this report represents stages 3 and 4.

Report Overview

This report describes the flood risk assessment and evaluation of flood risk management measures. The flood risk assessment uses model outputs and other data developed as part of the flood study to quantify where flood risk exists in each town, across the range of possible floods. This assessment is then used to inform the identification and evaluation of a range of measures to manage flooding in each town. Measures that are recommended for implementation are then summarised in the Floodplain Risk Management Plan, which is presented as a table in this executive summary. The report contains the following sections:

- **Introduction** – objectives, end users and contacts
- **Background** – description of the four towns, overview of relevant policies and legislation, summary of previous studies and community consultation
- **Overview of Flood Behaviour** – summary of each town's flood mechanisms, historical floods, and design flood behaviour. This information is a summary of information presented in the flood study
- **Flood Risk Assessment** – Separate section for each town including flood hazard, hydraulic categories, levee function (where applicable), flooding hotspots, flood warning and emergency response
- **Flood Planning Area** – Description and presentation of the Flood Planning Area determined for each town
- **Flood Risk Management Measures** – description of the approach to flood risk management and then assessment and evaluation of property, response and flood modification measures for each town

Flood Risk Assessment

An assessment of each town's flood behaviour has been carried out to determine specific areas of flood risk across a range of metrics, including flood hazard, hydraulic categories, the existing levees, the economic impact of flooding and the flood warning systems. The risk assessment for each town is presented in Section 3 (Cooma), Section 4 (Bredbo), Section 5 (Berridale) and Section 6 (Michelago), with sub-sections on each of the metrics. The risk assessment found that:

- **Cooma** has significant flood affectation along sections of Cooma Creek and Cooma Back Creek, particularly in flood events of 10% AEP and larger. On Cooma Creek, property and road flooding occur when parts of the levee are overtopped, with potential for severe flooding particularly

around Sharp Street and Commissioner Street. Cooma Back Creek also has the potential to flood roads and properties, with a flooding hotspot in the section of creek of north of Sharp Street which is subject to high risk flooding. There is a third creek flooding hotspot near the confluence of the two creeks, near Mulach Street. In addition to creek flooding, flooding occurs in the Polo Flat industrial area, and in some residential areas due to overland flow. There is an existing flood warning system in Cooma that has a target lead time of 1 hour, managed by the Bureau of Meteorology and the SES. The Average Annual Damage of flooding in Cooma is estimated to be $4.7 million.

- **Bredbo** has relatively little flood affection in smaller flood events, but in the 5% AEP and larger, Bredbo River can cause widespread inundation of roads and properties in the southern portion of the town. There is a second, smaller watercourse that passes through the town that causes hazardous road flooding at several locations, and can isolate a section of the town. In very rare to extreme flood events, a high water level on the Murrumbidgee River can exacerbate flooding of the Bredbo River or even cause flooding of the township of Bredbo. As with other towns, there are also localised instances of overland flooding. The Average Annual Damage for Bredbo is estimated to be $162,000.
- **Berridale** has areas of flood affectation along Myack Creek and Coolamatong Creek, where high creek flows overtops the channel banks and spreads over roads and property. Coolamatong Creek, which runs through the town, has minimal channel capacity and spreads onto main roads including Jindabyne Road and Myack Street, as well as low-lying properties. Coolamatong Creek tends to cause less property flooding but can cause hazardous road flooding at several road crossings. Kosciuszko Road which is a main arterial road providing access to Berridale and NSW Ski Fields, can also be flooded by Wullwye Creek/Myack Creek around 2 km north-east of town. As with other towns, there are various instances of overland flooding. The Average Annual Damage for Berridale is estimated to be $243,000.
- **Michelago** has relatively little flood affectation compared to other towns, with most areas of Michelago Creek's floodplain away from dwellings and roads. While in very rare events (e.g. 0.2% AEP) very few dwellings are directly affected by creek flooding, there is potential for severe inundation across the town in the Probable Maximum Flood (PMF). Flooding issues are limited to areas of overland flow adjacent to Ryrie Street, and isolation of properties outside of Michelago due to roads cut due to flooding. The Average Annual Damage for Michelago is estimated to be $137,000.

Flood Risk Management Measures

A range of flood risk management measures have been assessed for each town based on assessment of the flood risk, and consultation with Council and the community. The types of measures have been categorised as flood modification, property modification or response modification, in accordance with the NSW Floodplain Development Manual. Flood modification measures have focussed on upgrading the existing levee systems and several road culverts, and other civil works. Where appropriate measures have been modelled using multiple design flood events. Property modification options include a Flood Planning Area for each town, and recommendations for existing local planning policies. Response modification measures include recommendations for updates to the Local Flood Plan, an improved warning for Cooma and Bredbo and community flood education. A full list of assessed measures is set out in Section 8 and the recommended measures are summarised in Table 1.

Priority for each measure has been categorised as High, Medium or Low. High and Medium priority measures are recommended to be implemented in the short-to-medium term while Low priority measures are part of a long-term strategy for an area's development.

Table 1: Draft Floodplain Risk Management Plan

Option and Report Reference	Description	Responsibility	Priority
PM01 - Adopt updated Flood Planning Area for each town	A designated area in each town where Council planning controls, including minimum floor levels, apply to development.	Council	High
PM02 - Local Environment Plan Amendments	Revision of the LEP text to improve functionality.	Council	High
PM03 - Advice on Land-use Zoning Considering Flooding	Incorporation of flood risk into future zoning applications, and re-zoning of flood-prone areas	Council	Medium
PM04 - Updated Flood Planning Controls in the DCP(s)	Improvements to flood planning controls via the DCP, using the NSW standardised DCP and the Cooma Monaro DCP in the interim	Council	High
PM05 - Voluntary Purchase in Cooma	Voluntary purchase of residential lots with high hazard flooding in Cooma	Council	For discussion
RM01 - Warning Signage at Hazardous Road Crossings	Dynamic warning signage on certain roads to discourage vehicles entering floodwaters	Council with SES input	High
RM02 - Install automatic boom gates at high hazard/high traffic crossings	Automatic boom gates that prevent vehicles entering flooded roads	Council	Medium
RM03 - Community Flood Education	A program of awareness and education activities design to improve the community's response to a flood	Council and SES	High
RM04 - Updated Local Flood Plan and Intelligence Cards	Incorporate the findings of the current study into the area's Local Flood Plan	SES	High
RM05 - Investigation of Cooma Flood Warning System	In-depth analysis of the effectiveness of the Cooma flood warning system including areas of improvement	Council	Medium
RM06 - Cooma Flood Warning System Improvements	Installation of a new depth marker near Sharp Street bridge and other improvements	Council with BOM and SES input	High
RM07 - Bredbo Flood Warning System	Installation of new stream gauges and a warning network for Bredbo	Council with BOM and SES input	Medium
RM08 - Develop communications channels for road closures	Ensure information on road closures is disseminated across emergency response entities	Council, NSW Ambulance and SES	High
L01B - Increase Main Cooma Levee to 2% AEP Level of Protection	Increase the height of the Cooma Creek levee to the 2% AEP level of protection	Council	Medium
L01C - Increase Main Cooma Levee to 5% AEP Level of Protection	Increase the height of the Cooma Creek levee to the 5% AEP level of protection, slightly higher than what currently exists.	Council	High

Option and Report Reference	Description	Responsibility	Priority
C03 - Upgrade Culvert under Vulcan Street, Cooma	Raise a section of Vulcan Street and upgrade the Sandy Creek culverts	Council	Medium
Z02 - Enlarge Drainage Channel at Polo Flat	Increase the Polo Flat watercourse's capacity including culvert upgrades at road crossings	Council	Medium
Z04 - Re-grade and enlarge Cooma Back Creek downstream of Sharp Street	Increase Cooma Back Creek's capacity downstream of Sharp Street including steeper sides and removed vegetation	Council	For discussion
V01 - Vegetation management plan for all towns	A program for removal of non-native vegetation from the riparian zone of each watercourse	Council	Medium
M01 - Massie Street Bridge	Construction of a new bridge over Cooma Creek at Massie Street	Council	Low
C01B - Raise Road and Install Culvert at Short Street, Berridale	Raise Short Street over Myack Creek and upgrade the creek culverts	Council	Low
C02 - Upgrade Culverts at William Street, Myack Creek	Raise William Street over Myack Creek and upgrade the creek culverts	Council	Low

Next Steps

The draft FRMS&P will be reviewed by Council and public feedback invited via a public exhibition period. The finalised study including the recommended measures will then be put to Council for adoption.

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Figures

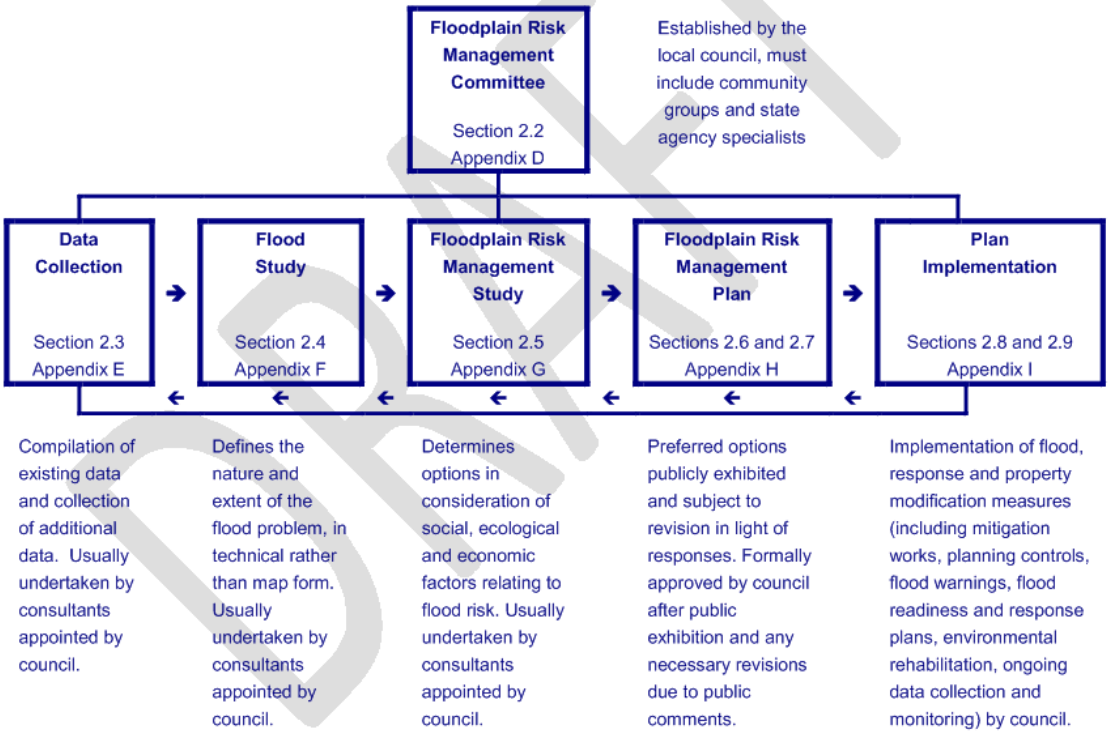
FOREWORD

The New South Wales (NSW) Government's Flood Prone Land Policy aims to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods.

Through the NSW Office of Environment and Heritage (OEH), NSW Department of Planning and Environment (DPE) and the NSW State Emergency Service (SES), the NSW Government provides specialist technical assistance to local government on all flooding, flood risk management, flood emergency management and land-use planning matters.

The Floodplain Development Manual (NSW Government 2005) assists councils to meet their obligations through a five-stage process resulting in the preparation and implementation of floodplain risk management plans. Figure 1 presents the process for plan preparation and implementation.

Image 1: The floodplain risk management process in New South Wales (FDM, 2005)



Source: NSW Government (2005)

1. INTRODUCTION

Snowy Monaro Regional Council (the Council) has received financial support from the State Floodplain Management program managed by the Department of Planning, Industry and Environment (DPIE) to undertake a flood investigation of the Cooma, Bredbo, Berridale and Michelago towns situated in south-east NSW.

SMEC Australia Pty Ltd (SMEC) with assistance from GRC Hydro Pty Ltd (GRC Hydro) have been engaged by Council to undertake flood and floodplain risk management studies for these towns.

This study composes stages 1 to 4 in the five-stage process outlined in the NSW Government's Floodplain Development Manual (FDM, 2005). These works include:

- **Data collection** – collection of all applicable data to be used for the ensuing stages of the studies;
- **Flood Study** – a comprehensive technical investigation of flood behaviour that provides the main technical foundation for the development of a robust floodplain risk management plan;
- **Floodplain Risk Management Study (FRMS) –** assess the impacts of floods on the existing and future community and allows the identification of management measures to treat flood risk; and
- **Floodplain Risk Management Plan (FRMP) –** outlines a range of measures, for future implementation, to manage existing, future and residual flood risk effectively and efficiently.

Following the completion of the FRMP, the final stage of the FDM (2005) floodplain management process will involve implementing the findings of the FRMP. Further details of each of these FDM (2005) stages are outlined below.

1.1. Data Collection

The collection and collation of data necessary for the completion of the flood and floodplain risk management studies is a fundamental part of the floodplain management process. It is typically begun at the outset of the study, but generally continues throughout the period of the project as data becomes available. The quality and quantity of available data is key to the success of a flood study and FRMS.

1.2. Flood Study

A flood study is a comprehensive technical investigation of flood behaviour that provides the main technical foundation for the development of a robust floodplain risk management plan. It aims to provide an understanding of flood behaviour and consequences for a range for flood events. Consideration of the local flood history, flood data is used to assist in the development of hydrologic and hydraulic models which are calibrated and verified to improve confidence in model results. **The flood study covering each of the four towns was finalised in mid-2019.**

1.3. Floodplain Risk Management Study

A floodplain risk management study increases understanding of the impacts of floods on the existing and future community. It also allows testing and investigating practical, feasible and economic management measures to treat existing, future and residual risk. The floodplain risk management study will provide a basis for informing the development of a floodplain risk management plan. **This report constitutes the Floodplain Risk Management Study.**

1.4. Floodplain Risk Management Plan

The floodplain risk management plan documents decisions on the management of flood risk into the future. The FRMP uses the findings of a floodplain risk management study, to outline a range of measures to manage existing, future and residual flood risk effectively and efficiently. This includes an itemised list of measures and prioritised implementation strategy. **An overview of the draft Floodplain Risk Management Plan has been included in the executive summary of this report.**

1.5. Objectives

The objective of this study is to improve understanding of flood behaviour and flood risk, and better inform the management of flood risk for Cooma, Bredbo, Berridale and Michelago. The study will also provide a sound technical basis for any further flood risk management investigation for each of these towns. Meeting the requirements of the identified end user groups (see Section 1.6), which have been tailored to the context of the flood situation, is a key objective of this study.

The Data Collection and Flood Study stages objectives include:

- Review all available flood related information for each of the four towns and their respective catchments;
- Develop and calibrate hydrologic and hydraulic computer models to simulate the rainfall/runoff process for the various rivers, creeks, streams and overland flow paths that affects each of the towns;
- Define design flood behaviour for each of the creeks, rivers and overland flowpaths for the 20%, 10%, 5%, 2%, 1%, 0.5%, 0.2% AEP (Annual Exceedance Probability) events and the PMF (Probable Maximum Flood);
- Undertake sensitivity analysis to investigate potential changes associated with Climate Change and selected model parameters.

Using the findings of the Flood Study, the FRMS and FRMP objectives include:

- Definition of a Flood Planning Area for each town;
- Assess flood hazard, flood function and emergency response classifications;
- Providing information to support emergency management activities;
- Providing advice on land-use planning considering flooding and overland flow;
- An assessment of cumulative impact of development;
- The identification and preliminary assessment of management options;
- Detailed assessment of preferred options; and
- The development of a FRMP which list the recommended measures aimed at managing flood risk for Cooma, Bredbo, Berridale and Michelago.

1.6. Project End Users

The study outputs are suitable to inform decision making for investing in the floodplain; managing flood risk through prevention, preparedness, response and recovery activities; pricing insurance, and informing and educating the community on flood risk and response to floods. Each of these areas has different user groups, whose needs vary. The key end-user groups that this study aims to support are identified in Table 1.

Table 2:Project End Users

Potential end user group
High-level strategic decision makers
Community
Flood risk management professionals
Engineers involved in designing, constructing and maintaining mitigation works
Emergency management planners
Land-use planners (strategic planning and planning controls)
Hydrologists and meteorologists involved in flood prediction and forecasting
Insurers

1.7. Company Contact

Please refer any comments or queries in relation to this report to the contact persons below.

Company	SMEC	GRC Hydro
Name:	Fran Liao	Zac Richards
Position:	Associate Engineer - Water Resources, SMEC	Director
Telephone:	(02) 6234 1936	0432 477 036
Email:	fran.liao@smec.com	richards@grchydro.com.au

2. BACKGROUND

2.1. STUDY AREAS

Cooma, Bredbo, Berridale and Michelago are situated in the Snowy Monaro Regional Council Local Government Area (LGA). The towns are located in the Snowy Mountains and Monaro regions of NSW in the elevated regions of the Great Dividing Range. The towns are situated to the south of the Australian Capital Territory (ACT) and north of the Victorian border. Cooma, Bredbo and Michelago are within the Upper Murrumbidgee River catchment and Berridale is situated in the Snowy River catchment.

Study areas for each of the towns are based on the project brief provided by Council and have been further refined considering existing and future development areas, flood liability of both mainstream and overland flow flooding, potential impacts from downstream/neighbouring catchments and consideration of the upcoming management studies.

Description of each of the towns is presented in the following sections.

2.1.1. Cooma

Cooma is situated approximately 100 km south of Canberra and is the largest town within the LGA with a population of 6,742 (2016 census). The town was established in 1832 and later grew rapidly in the mid-20th century during construction of the Snowy Mountains Scheme. According to the 2016 census, there is an average of 2.1 people per household and each dwelling has an average of 1.6 motor vehicles. 23% of the population is aged 65 and over and 82% of households speak only English at home. The second-most common languages spoken are German and Italian (both 1% of the population). There are several primary schools and high schools in the town, and a TAFE technical college.

Various creeks, stream and flow paths flow through the township with the most significant being Cooma Creek and Cooma Back Creek. Cooma Creek originates south of Cooma in the foothills of the Monaro Range. It flows through Cooma in a northerly direction before joining Cooma Back Creek in the north-west of town. Cooma Back Creek also originates south of Cooma and is located west of Cooma Creek. Both catchments are steep and relatively free of vegetation with catchment areas of 104 km² at their confluence (combined catchment area of 208 km²). Cooma is also subject to flooding from various minor streams and overland flow paths which flow to Cooma and Cooma Back Creeks. The study area and its features are shown in Figure 2-1.

2.1.2. Bredbo

Bredbo is situated at approximately the halfway point between Cooma (30 km south) and Michelago (30 km north). According to the 2016 census the population of Bredbo is 352, which is up from 169 in 2011 indicating a rapidly growing township, most likely due to its close proximity to Canberra. The town was proclaimed a village in 1888 and functioned as a stop for those crossing the Bredbo River. There is an average of 2.7 people per household and each dwelling has an average of 1.9 motor vehicles. 12% of the population is aged 65 and over and 89% of households speak only English at home. The second-most common language spoken is Greek (1% of the population). There is a single school (primary) in the town.

The Bredbo River originates in the Badja State Forest, and flows predominantly west being joined by seven tributaries, before meeting the Murrumbidgee River approximately 1 km south-east of Bredbo. The catchment of the Bredbo River at Bredbo is approximately 736 km². Bredbo is also subject to flooding from overland flows which drain through the township in southerly and westerly directions towards the Bredbo River. The study area and its features are shown in Figure 2-2.

2.1.3. Michelago

Michelago is situated approximately 50 km south of Canberra on the Monaro Highway. Established with a shop and inn for travellers by 1838, in recent years Michelago has been subject to significant developmental pressures due to its proximity to Canberra. According to the 2016 census the population of Michelago is 562. There is an average of 2.9 people per household and each dwelling has an average of 2.3 motor vehicles. 11% of the population is aged 65 and over and 89% of households speak only English at home. The second-most common language spoken is German (1% of the population). There is a single school (primary) in the town.

Michelago Creek flows through Michelago in a north-westerly direction and has a catchment area of approximately 200 km² at its confluence with the Murrumbidgee River. The Creek is a combination of several creeks including Ryries, Booroomba, Margarets and Teatree Creeks which originate in steep mountainous terrain to the east of town. Michelago is also subject to flooding from overland flows which drain through the town towards these creeks. The study area and its features are shown in Figure 2-3.

2.1.4. Berridale

The township of Berridale sits between Cooma and Jindabyne in south east NSW and has a population 1197 according to the 2016 census. Established with a single store in the 1860s, like other towns its early function was as a stop for travellers. There is an average of 2.3 people per household and each dwelling has an average of 1.8 motor vehicles. 18% of the population is aged 65 and over and 92% of households speak only English at home. The second-most common language spoken is German (1% of the population). There is a single school (primary) in the town.

The town is part of the Snowy River Catchment at the regional scale with two smaller catchments in the immediate surrounds. The local Coolamatong (area of 15 km²) and Myack (area of 19 km²) creek catchments are known to have historically caused flooding at Berridale. Coolamatong Creek approaches town from the south-west and flows through town in the northerly direction before meeting Myack Creek downstream of the town. Myack Creek skirts the north-east edge of town. The study area and its features are shown in Figure 2-4.

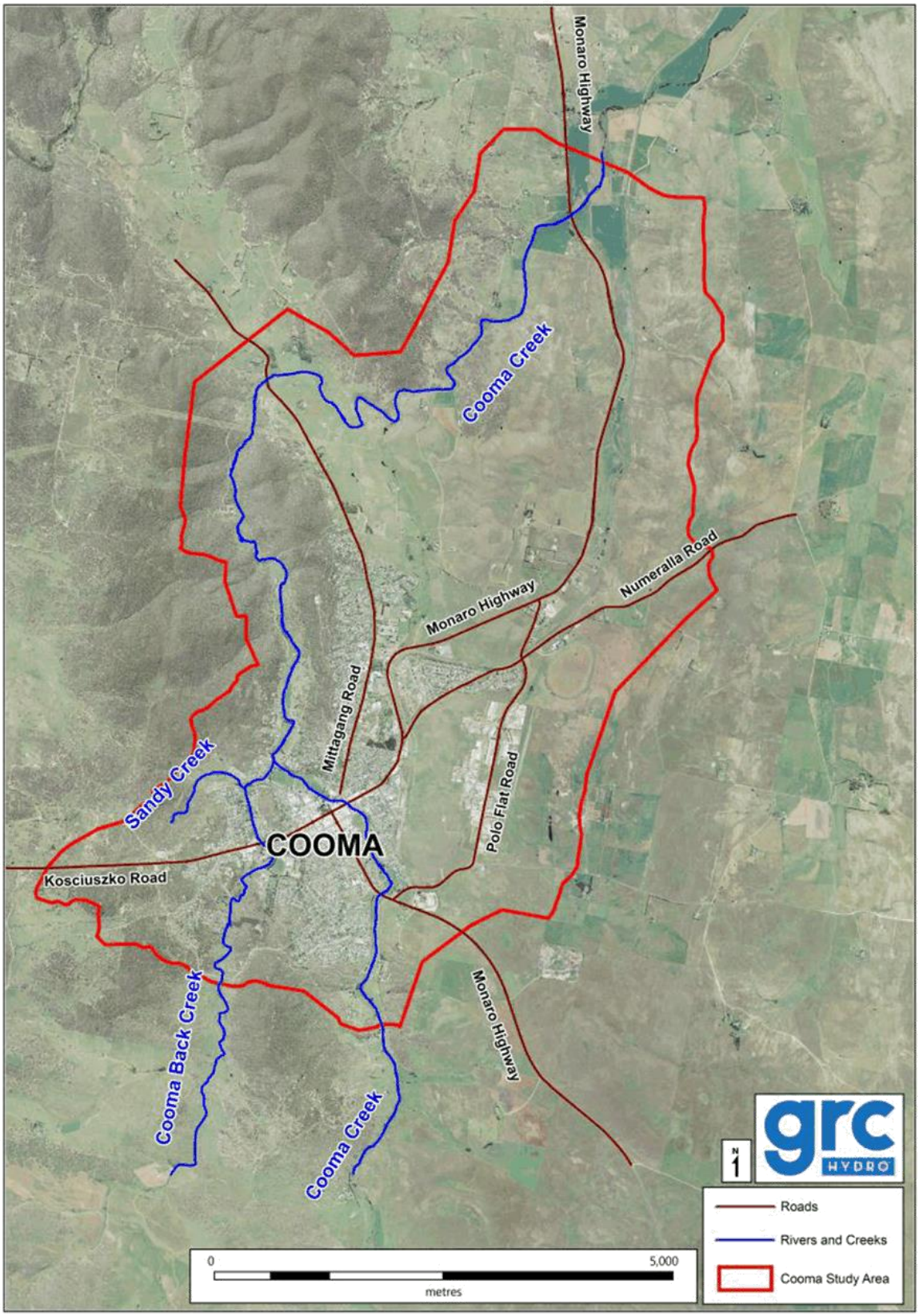


Figure 2-1: Cooma Study Area

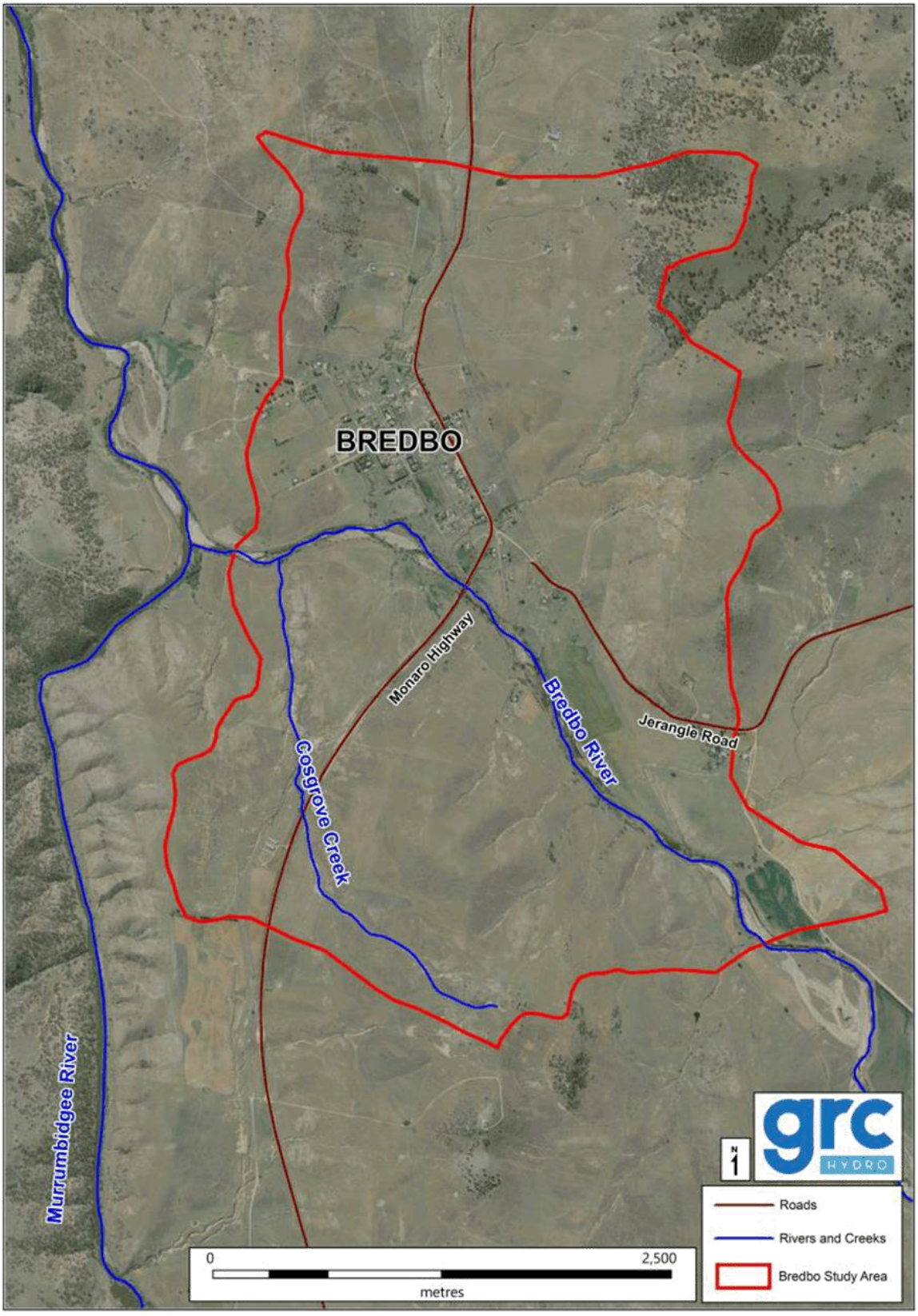


Figure 2-2: Bredbo Study Area

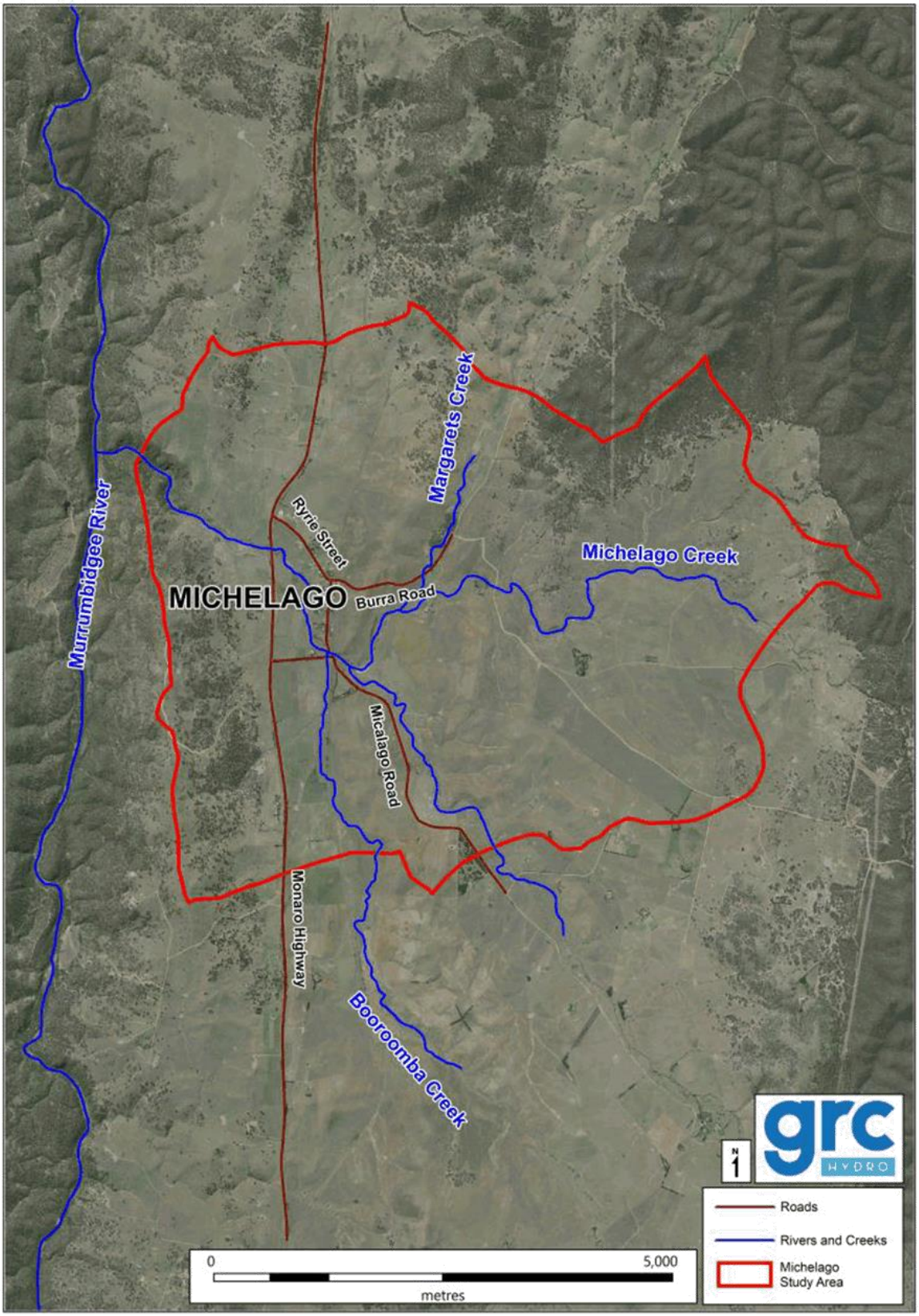


Figure 2-3: Michelago Study Area

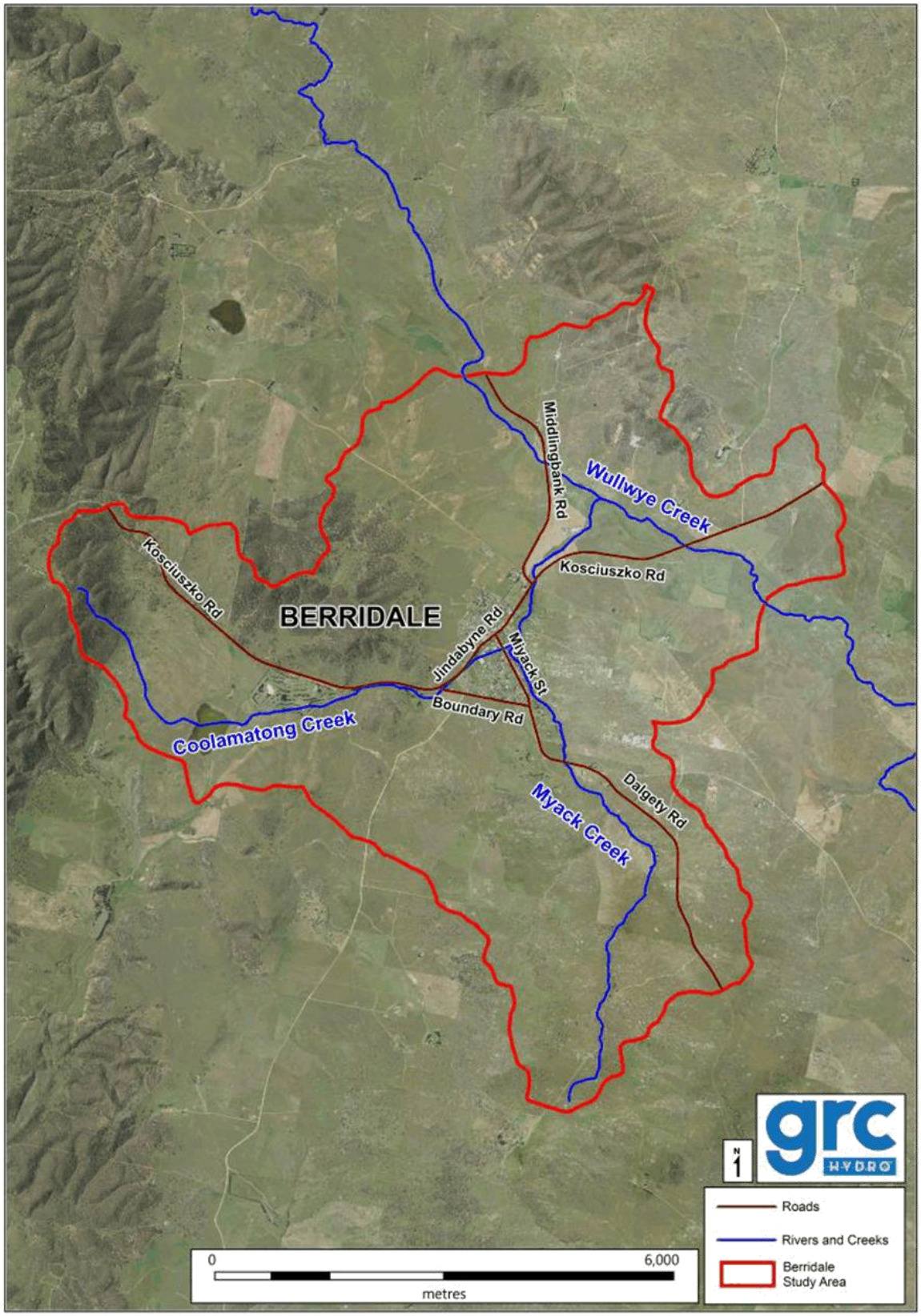


Figure 2-4: Berridale Study Area

2.2. DISCUSSION OF RELEVANT POLICIES, LEGISLATION AND GUIDANCE

2.2.1. Implemented Guidelines and References

Table 3 presents the guidelines, manuals and technical reference documents used for this study. These documents detail best practice in regard to management of flood risk. They cover both best practice about the technical assessment of flood behaviour and flood risk, and, more generally, who has responsibility for managing flood risk and how this management is best achieved in the area.

Table 3: Guidelines and reference documents

Reference	Topic
Australian Emergency Management (AEM) Handbook Series, Managing the floodplain: A guide to best practice in flood risk management in Australia – AEM Handbook 7	Best practice
AEM Handbook 7, Technical flood risk management guideline – Flood Hazard	Flood hazard
AEM Handbook 7, Technical flood risk management guideline – Flood Emergency Response Classification	Emergency response
AEM Handbook 7, Technical flood risk management guideline – Flood risk information to support land-use planning	Land use
AEM Handbook 7, Technical flood risk management guideline – Assessing options and service levels for treating existing risk	Mitigation options and service levels
AEM Handbook 6, National Strategy for Disaster Resilience – community engagement framework	Community engagement
Australian National Committee on Large Dams (ANCOLD) Guidelines	Dam safety
Australian Rainfall & Runoff 2019	Best practice
Section 733 of the Local Government Act, 1993	Liability & indemnity for compliance with the principles in the manual
NSW Government's Floodplain Development Manual (2005)	Flood prone land policy and industry practice
SES requirements from floodplain risk management process	SES requirements
Practical consideration of climate change	Climate change

2.2.2. Relevant Legislation

Council legislation pertaining to flooding in the study areas are the two Local Environment Plans and the two Development Control Plans. There are also a series of state and national plans and policies relevant to flooding. Information on each is presented in the following section.

2.2.2.1. *Local Environmental Plans*

Snowy Monaro Regional Council was formed in May 2016 through a merger of the Bombala, Cooma-Monaro and Snowy River shires. Accordingly, Council's planning policies are still based on the previous shires policies. The policy corresponding to each of the study areas is as follows:

- Cooma, Bredbo and Michelago: Cooma-Monaro Local Environmental Plan (LEP) 2013
- Berridale: Snowy River Local Environmental Plan (LEP) 2013

All three shires have local provisions that control flooding within their LEPs. The Bombala LEP (2012) and Cooma-Monaro LEP (2013) both have clause 6.2 dedicated to 'Flood planning', whilst the Snowy River LEP (2013) has its 'Flood planning' controls defined in clause 7.1. Each of the clauses are similar with the

Snowy River and Cooma-Monaro clauses applying controls 'to land at or below the flood planning level', whilst the Bombala clause applies controls to land at or below the FPL as well as to 'land identified as "Flood planning area" on the Flood Planning Map'. Incorporation of flood planning area maps within an LEP is typically not recommended due to difficulties associated with updating an LEP if a map requires revision. Typically, flood maps presented within a DCP is preferred.

The Cooma-Monaro 'Flood planning' clause has been reproduced below.
Cooma-Monaro Local Environmental Plan 2013

6.2 Flood planning

(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 land's flood hazard, taking into account projected changes as a result of climate change,
(c) to avoid significant adverse impacts on flood behaviour and the environment.

(2) This clause applies to land at or below the flood planning level.

(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:
(a) is compatible with the flood hazard of the land, and
(b) will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and
(c) incorporates appropriate measures to manage risk to life from flood, and
(d) will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses, and
(e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding.

(4) A word or expression used in this clause has the same meaning as it has in the Floodplain Development Manual(ISBN 0 7347 5476 0) published by the NSW Government in April 2005, unless it is otherwise defined in this clause.

(5) In this clause:
flood planning level means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metre freeboard.

Recommendations for Council's flood planning policies are assessed in Section 8.2 of this report.

2.2.2.2. ***Development Control Plans***

Similar to Council's LEPs, the Development Control Plans (DCPs) are still based on the previous shires' policies. All three historic shires have flood policies within their DCPs, the pertinent details of which are presented below. Although the study areas are not covered by Bombala DCP, it has been included as it may be relevant in any potential amalgamation of the policies.

- Bombala DCP (2012), Clause 2.5.2;
  The Bombala DCP (2012) provides minimal guidance on controls for flood affected developments. Controls are based on four 'performance criteria' that reiterate the Bombala LEP (2012) objectives,

however limited information is provided around how these controls should be implemented in the context of development.

- Cooma-Monaro DCP (2014), Clause 6.4;
  The Cooma-Monaro DCP (2014) flood policy provides a range of controls via a Flood Risk Precinct Matrix which has been used by numerous Councils throughout NSW. The Flood Matrix approach works by assigning planning controls based upon required proposed development aspects (i.e. floor levels, structure soundness, evacuation/access etc.) and the flood liability of the land on which development is proposed (affected by ≤ 5% AEP, 5%AEP - 1% AEP, 1% AEP - PMF). Generally, the Cooma-Monaro DCP (2014) follows a standard Flood Matrix format which is largely suitable for applying flood related development controls.

Potential issues could arise when trying to enforce planning controls for areas above the 'flood planning level' defined in the Cooma-Monaro LEP (2013). To achieve this, a Floodplain Risk Management Clause contained within Council's LEP is required so that flood controls can be applied up to the level of the PMF. An application to the NSW Department of Planning for inclusion of a Floodplain Risk Management Clause is considered as part of property modification management measures (Section 8.2).

- Snowy River DCP (2013), Section C7, Clause 2;
  The Snowy River DCP (2013) flood policy provides limited controls via a pseudo Matrix approach which considers flood hazard and flood function. The policy does not provide rigorous controls in regards to many types of development with various controls noted to be 'considered on merit'. A merit-based approach is appropriate in some instances, particularly if Council has the resources in place to provide guidance, however it also places decision making responsibilities on Council staff. Other aspects of the DCP discourage the development of land below the flood planning level which is contrary to the FDM (2005) which aims to facilitate the safe development of flood prone land.

Recommendations for Council's flood planning policies are assessed in Section 8.2 of this report.

2.2.2.3. *State and National Plans and Policies*

Management of flood risk in the four towns is also guided by various state-wide and national policies related to floodplain management in Australia. These have been listed below, including their relevance to the current study:

- Australian Rainfall and Runoff 2019 – sets out hydrological data and procedures to be used for hydrological and hydraulic modelling of flooding in Australia.
- Building Code of Australia - provides a standard for the design and construction of new buildings in Flood Hazard Areas (FHA) with the aim of reducing risk to building occupants.
- NSW Environmental Planning and Assessment Act 1979 – Is the overarching state legislation for local legislation. The Act provides the framework for regulating and protecting the environment and controlling development. Pursuant to Section 9.1 of the EP&A Act, councils have the responsibility to facilitate the implementation of the NSW Government's Flood Prone Land Policy. It specifies how councils' LEPs manage flooding.
- NSW Flood Prone Land Policy - aims to reduce the impact of flooding and flood liability on individual landowners and occupiers of flood prone property and to reduce private and public losses resulting from floods via economically positive methods where possible. The NSW Floodplain Development Manual supports the policy.
- NSW Government's Floodplain Development Manual (2005) – Defines the assessment of flood risk in NSW, including flood hazard, hydraulic categories and other variables. More broadly it sets out

the objectives for floodplain development in the state, including description of types of mitigation measure.

- State Environmental Planning Policy (Exempt and Complying Development Codes) (2008) - are environmental planning tools used to address planning issues within NSW. In a flooding context, the SEPP for Exempt and Complying Development Codes 2008 is key for defining:
    - Exempt developments, where development can occur without the need for development consent; and
    - Complying development, where development must be carried out in accordance with a complying development certificate.

  The policy provides further information on where and development of flood-prone land should occur.
- NSW DPIE guidelines relating to flooding. Various guidelines have been published by DPIE for specific aspects of flood risk assessment in NSW. Some specifically related to the study are:
    - Floodway Definition (2007)
    - Practical Consideration of Climate Change (2007)
    - Incorporating 2016 Australian Rainfall and Runoff in studies (2019)
    - Residential Flood Damages (2007)
    - Drainage Behind and Through Levees (2007)
    - SES Requirements from the FRM Process (2007)

2.3. AVAILABLE DATA

All data collected and used by the current study was collected during the 2019 flood study. The majority of data was used for establishment of the hydrologic and hydraulic models for each town, including hydrologic data, LiDAR and other topographic survey, site visit findings and observations of historical floods. The 2019 flood study describes the data collection process in detail. The following section summarises the previous studies, including the recent flood study and the previous flooding assessment, which provide useful context to the remainder of this report.

2.3.1. Cooma, Michelago, Bredbo and Berridale Flood Studies (GRC Hydro and SMEC, 2019)

The flood study was completed in 2019 and provides a comprehensive description of the range of design flood behaviour in each town. The flood study is summarised in Table 4.

Table 4: 2019 Flood Study Overview

Feature	Description	Relevance to FRMS (current study)
Data collection	The following data was collected for the study: • LiDAR data surveyed in 2018 by surveying firm MNG, and in 2011, provided by Council. • Ground survey to validate LiDAR dataset. • Council GIS data including aerial photos, LEP layers, cadastral and road data. • Pit and pipe, culvert and bridge crossing data provided by Council. • Bureau of Meteorology design rainfall data including ARR2019 IFD data. • Rainfall data from 28 pluviometers and 50 daily read stations from BOM/Snowy Hydro, and stream gauge data from 7 stations from WaterNSW. • Previous studies (3 in Cooma, 4 in Berridale)	Data collected by the flood study was used to establish the hydrologic and hydraulic models, used by the current study.

	• Questionnaire responses and newspaper description of historical floods.	
Hydrologic Model	A large-scale WBNM model was established for the upper Murrumbidgee River Catchment and Wullwye Creek Catchment, which was used to define flow hydrographs for the creeks and rivers within each study area and are applied to the upstream boundary of each hydraulic model. The model was calibrated to five historic events and validated via comparison of design flow estimates to flood frequency analysis at five gauges. Additionally, a local WBNM model was established for each of the towns which derives local flows for the hydraulic model within the study areas (i.e. overland flow).	Hydrologic models have been adopted for use in the current study.
Hydraulic Model	A 1D-2D TUFLOW model was established for each town. The sub-surface stormwater network and cross-drainage culverts were included as a 1D model embedded in the model grid. Creeks, rivers and other watercourses were modelled in 2D. Buildings were schematised as impermeable flow obstructions, and breaklines were incorporated to define road crest levels, levee crest levels, road kerbs and creek thalwegs. The downstream boundary was set using a level-time configuration. Each model was calibrated to the March 2012 event and validated to previous studies.	Hydraulic models have been adopted for use in the current study, including in assessment of flood risk in each town and evaluation of management measures.
Design Flood Information	The following results were produced by the study: • Peak flood level, depth, flow and velocity for 20% AEP, 10% AEP, 5% AEP, 2% AEP, 1% AEP, 0.5% AEP, 0.2% AEP and PMF • Provisional hydraulic hazard for the 5% AEP, 1% AEP, 0.2% AEP and PMF • Sensitivity to climate change, blockages, hydraulic roughness, rainfall losses and model grid size for the 5% AEP, 1% AEP and 0.2% AEP.	The current study uses design flood information in the assessment of flood risk for each town.
Community Consultation	The study involved distribution of a newsletter and questionnaire to residents and business owners in each of the towns. A total of 76 responses were received which provided general information on awareness of flooding and recollection of particular previous floods. A community workshop and one-on-one meetings were held subsequently to gather more specific information regarding flooding in each study area.	Consultation will continue during the current study – see Section 2.4.

Prior to the flood study, investigation of flood and stormwater risk had been undertaken for two of the four study areas (Berridale and Cooma). These studies are summarised in the following sections.

2.3.2. Cooma Floodplain Management Study (SMEC, 1994)

The study carried out an assessment of flood risk in Cooma and was undertaken using ARR87 methods as was considered best practise at this time. Key outputs of the study were the establishment of hydrologic (Regional Storm Water Model, RSWM) and hydraulic (MIKE-11) models. RSWM was calibrated to stream gauge data from the Cooma Creek at Cooma No.2 (410081) station for the January 1992 and July 1991 events, and validated using the June 1991 flood. Flood frequency analysis was undertaken at this gauge and was used to verify design flow estimates. The MIKE-11 was developed using a series of creek and bridge cross-sections and was calibrated using to the 1991 and 1956 flood events.

The study also included a review of emergency response procedures, existing flood mitigation measures and local planning controls. Mitigation measures were assessed, including upgrading and extension of the existing levee, channel modifications along the creeks, vegetation clearing, sediment traps and catchment-wide measures.

The following measures were discussed (the relevance to the current study is included after each):

- A levee upstream of Egan Street – this levee was subsequently constructed. A review of the current levee system is described in Section 3.3.1 and potential upgrades to the levee system are described in Section 8.4.1.
- Visibility improvements for approaches to Commissioner Street causeway – these were subsequent constructed and the issue resolved.
- A new bridge at either Massie Street or Commissioner Street – this has not been built. A bridge at Massie Street is currently being considered by Council, separate to this study.
- Pedestrian access and recreational improvements along Cooma Creek – this has been built and the issue resolved.
- Augmented stormwater drainage around Sharp Street to reduce localised overland flooding (separate to creek flooding).
- Extension of Mulach Street levee beyond confluence of the two creeks – this has been built and flood risk is now limited to overtopping of the levee. Discussion of flood modification measures for Cooma is in Section 8.4.1.
- Raise Vulcan Street at Sandy Creek by at least 1.5 m over 100 m section and increase culvert to have 3 m^2 cross-section area – this was not built. Discussion of road and culvert upgrade is given in Section 8.4.1.2.
- Channelisation works of Cooma Creek and Cooma Back Creek immediately upstream of their confluence – this appears to have been carried out and the issue resolved.
- Vegetation clearing in Cooma Back Creek with focus on willow trees – this has now been implemented. Vegetation management is discussed in Section 8.4.1.
- Sediment traps consisting of 1 m rockfill weirs on Cooma Creek and Cooma Back Creek – these appear to not have been built.

2.3.3. Review of Environmental Factors for the Cooma Flood Mitigation Works (SMEC, 1998)

The study presented the proposed levee upgrade in detail and assessed the potential environmental and social impacts of the works. The upgrade, which was recommended by the 1994 study, was designed to provide protection up to the 1 in 20 year ARI flood, and included channel excavation, construction and raising of earth levees, masonry levee walls, sediment traps and reconstruction of the low-flow channels. Assessment of environmental impacts included those related to general environment, hydrology, water quality, soils, flora and fauna. The following environmental impacts were emphasised as being significant:

- Water quality impacts, and erosion and sedimentation issues during the construction phase, which can be minimised via identified mitigation measures.
- No impact on threatened flora or fauna but removal of five native pine trees to be offset with planting of new trees. Increased sediment at the billabong downstream of the confluence can impact the platypus population.

Social impacts included land use planning, visual amenity, heritage, noise, air quality, traffic and safety. The following social impacts (excluding positive impacts) were emphasised as being significant: visual impact of the works, closure of local roads, land acquisition for affected property owners and residential amenity during construction.

2.3.4. Cooma Flood Mitigation Works, Final Report on Phase 1 and 2 Investigations (SMEC, 2000)

The study was undertaken to assess and evaluate specific aspects of the levee design, including the condition of riffle zones, erosion protection at stormwater outlets, effect on water levels for design alternatives, and sediment trap layout. The study concerns detailed design features of the levee design and is generally not relevant to the current study, which does not relate to detailed design of mitigation works.

2.3.5. Stormwater Management Plan for Jindabyne, East Jindabyne, Tyrolean Village and Berridale (Storm Consulting, 2001)

The report consists of a stormwater management plan carried out for Snowy River Shire Council's urban areas. The study includes a description of the LGA's catchments, land use, and future urban development. The study makes assessment of the area's geology, hydrology, water quality, flora and fauna, and existing stormwater infrastructure. It then sets out objectives for new development, across the planning, construction and post-construction phases. The study identifies several stormwater-related issues in Berridale and lists potential mitigation options for each. The majority of the options relate to stormwater and will have minimal or negligible effect on flooding. The Plan considered a willow tree replacement program on Myack Creek (this has not been implemented, a vegetation management plan is discussed in Section 8.4.1.5). The Plan was reviewed and revised as part of the 2013 Stormwater Management Plan (see below).

2.3.6. Stormwater Management Plan Review 2013 for Snowy River Shire Council (Footprint Sustainable Engineering, 2013)

This report is a list of locations where stormwater issues exist in Berridale, Jindabyne and East Jindabyne, and options for their management. Locations in Berridale include poor drainage between Jindabyne Road and Middlingbank Road, frequent creek flooding between Robert and Park Streets, lack of kerb and gutter on the eastern side of Berridale, and erosion at the outlet apron of the Edward Street crossing of Myack Creek. It recommends a strategic approach to stormwater management is required for future development. As with the previous Plan, most options will have minimal effect on flooding. The relevant recommended options are:

- undertaking a flood study for Berridale – completed in 2015 (see Section 2.3.7 and revised in 2019 by SMEC/GRC Hydro)
- culvert upgrade for Jindabyne Road at Myack Creek
- repair the outlet apron of the Myack Creek culverts at Edwards Street (appears to be William Street, however these were subsequent constructed and the issue resolved)
- prepare a Development Servicing Plan to ensure development in Berridale does not worsen flooding. 2020 status.

2.3.7. Flood Study – Berridale Township (Myack St – Kosciuszko Rd Intersection) (Kleven Spain Survey Consultants, 2015)

The study consisted of a hydrologic and hydraulic assessment of the 100 year ARI flood event in Berridale. The hydrologic model used is not stated, while HEC-RAS appears to be used to determine flood levels and extents. The study recommended the following measures:

- Myack Street walkway bridge be removed.
- Jindabyne Road be lifted and box culverts constructed, to improve access.
- Land between Park Street and Jindabyne Road should be designed as a floodway, including clearing obstructions, reshaping land, and construction of a causeway at the end of Park Street where it turns back to Jindabyne Road.
- Similarly land between James and Myack Streets be reshaped and obstructions removed.

- Kerbs and gutters, sealed pavements and drainage pipes be built in Williams Street to mitigate flooding at a local commercial enterprise. Works also include earthen levees along property boundaries.

The study also recommended two works for Council's consideration:

- Remove all excessive vegetation and obstructions along Coolamatong Creek, reshape the creek bed and replace existing channel with grass or concrete lining, with constant gradient from James Street to Park Street.
- Construct a detention storage upstream of Berridale on Coolamatong Creek, either as part of Coolamatong Lake or as a separate basin downstream of the lake.

These measures were reviewed in preparing measures as part of the current study (see Section 8.4.2.1).

2.3.8. Snowy Monaro Regional Local Flood Plan (NSW SES, 2017)

The Plan sets out all responsibilities, processes and other LGA-wide information before containing town-specific information in its volume 2 and annexes. Information on each of the towns is as follows.

2.3.8.1. *Cooma*

The plan contains information on consequences of flooding, including areas where roads and properties are flooded, based on previous events and previous studies. It also includes description of the Cooma levee system, including its level of protection.

There are two telemetered stream gauges used for flood warning – 'SMEC (Sharp Street)' on Cooma Back Creek near Sharp Street, and 'Koolaroo' on Cooma Creek, also referred to as 'Cooma Creek at Cooma No. 2' in previous studies. The latter is approximately 2.5 km upstream of the Cooma Creek levee system, outside of the town. The Plan states that the BOM provides flood warnings for the two gauges. The minor, moderate and major flood levels, and their consequences have been collated in Table 5. Note this data is from the Local Flood Plan and not the current study. Review and update of the Local Flood Plan is suggested in Section 8.3.4.

Table 5: Summary of Cooma Gauge Information from Local Flood Plan

"SMEC (Sharp Street)" on Cooma Back Creek Gauge Depth	"Koolaroo" on Cooma Creek Gauge Depth	Consequence
	0.5 m	Minor flooding classification
1.8 m	3.8 m	Major flooding classification
1.84 m	3.8 m	10% AEP event, 25 properties flooded above floor
2.38 m	4.4 m	5% AEP event, design height of levee system (note in Plan that levee height requires confirmation)
4.06 m	5.7 m	1% AEP event, 60 properties flooded above ground, TAFE and Council basements flooded

The Plan states that evacuations are likely to be required from low-lying properties near Cooma Creek and Cooma Back Creek when the levee is at risk of overtopping. It also states that the major flood level should be used as a trigger to guide evacuations. It states that warning times are short and there may only be 1-2 hours notice of impending evacuations. It then sets out information for organising the evacuation.

The Plan states that the following locations are suitable for use as evacuation centres:

- Monaro High School, Mittagong Road, Cooma

- St Patrick's Parish School, Murray Street, Cooma
- Cooma Multifunction Centre, Cromwell Street, Cooma
- Cooma Ex-Serviceman's Club, Vale Street, Cooma

St Patrick's Parish School is not flood affected, while Monaro High School has minor overland flow depths of less than 300 mm in the 0.2% AEP event and larger. Cooma Multifunction Centre is located next to Cooma Showground, around 170 m from Cooma Back Creek and is severely flood affected in the PMF. For this reason it should not be used as an evacuation centre during a flood. The Cooma Ex-Serviceman's Club has some minor overland flow depths around it, in the PMF.

In a PMF event, additional centres will be needed for areas that are cut-off from one of the evacuation centres.

2.3.8.1. *Bredbo*

For Bredbo, there is no existing flood warning system or flood intelligence specific to the town. The Plan sets out responsibilities and processes for the emergency response during a flood, which is primarily carried out by the SES. The closest SES Regional Operations Centre are located at Geebung Street, Polo Flat. The Plan includes a map of Bredbo and states there may be road closures during a flood, but does not otherwise describe the consequences of flooding at the town (i.e. historical events or river levels at which road or property flooding occurs).

Whilst there is no flood warning system, the BOM does issue a range of warnings related to flooding that may be useful for response preparedness. These include Severe Thunderstorm Warning, Severe Weather Warning for Flash Flooding, and Flood Warning. Flooding of the Murrumbidgee River, which can exacerbate flooding at Bredbo, is included in the warning system but is not described in the Plan in relation to flooding at Bredbo.

2.3.8.1. *Berridale*

Similarly to Bredbo, at Berridale there is not an existing warning system or flood intelligence specific to the town. The Plan sets out responsibilities and processes for the emergency response during a flood, which is primarily carried out by the SES. The closest SES Regional Operations Centres in the LGA are located at Geebung Street, Polo Flat and on Lee Avenue in South Jindabyne. The Plan does not describe the consequences of flooding at the town (i.e. historical events or river levels at which road or property flooding occurs).

As for other towns in the LGA, the BOM use a network of rainfall gauges and other data to issue a range of warnings related to flooding. These include Severe Thunderstorm Warning, Severe Weather Warning for Flash Flooding, and Flood Warning.

2.3.8.1. *Michelago*

Similarly to Bredbo and Berridale, there is not an existing warning system or flood intelligence specific to the town. The Plan sets out responsibilities and processes for the emergency response during a flood, which is primarily carried out by the SES. The closest SES Regional Operations Centre in the LGA are located at Geebung Street, Polo Flat. There is another SES unit in Queanbeyan (closer to Michelago) which the Plan states will respond for operations along and north of Michelago Creek. The Plan includes a map of Michelago and states there may be road closures during a flood, but does not otherwise describe the consequences of flooding at the town (i.e. historical events or river levels at which road or property flooding occurs).

Further information on flood warning in each town is given in Sections 3.4 (Cooma), 4.4 (Bredbo), 5.4 (Berridale) and 6.4 (Michelago), emergency response management measures are set out in Section 8.3.

2.4. COMMUNITY CONSULTATION

Community consultation was undertaken as part of the 2019 flood study to inform the community of the study and to collect information relating to previous floods. In addition to these objectives, the consultation was aimed at identifying community concerns and developing the community's confidence in the study through close collaboration. The consultation follows the Community Consultation Plan drafted in December 2017, which included multiple activities, including media release, newsletter/questionnaire, a website and community workshops. Details of the newsletter and questionnaire sent out, as well as the community workshops, one-on-one meetings and meetings with other stakeholders are described in the flood study report.

Further consultation will be undertaken during public exhibition of the draft Floodplain Risk Management Study and Plan (this report). Residents will be contacted to inform them of the flood risk analysis and the recommended management measures. This report will then be updated based on the results of the consultation.

3. COOMA FLOOD RISK

3.1. OVERVIEW

Cooma experiences flooding due to Cooma Creek and Cooma Back Creek once flows exceed channel capacity, as well as overland flow from localised rainfall over the town. The two creeks pass through the centre of Cooma and can cause high hazard flooding of both roads and property. Depths of flooding tend to be greater for creek flooding, also referred to as mainstream flooding, than overland flooding, for which depths are typically less than 0.3 m. The two flooding mechanisms can occur simultaneously or separately. Description of the area's flood risk has been divided into the following sub-sections:

- **Flood Behaviour** (Section 3.2) describes the depth and velocity of floodwaters across the range of design flood events. This section includes flood hazard (Section 3.2.3), which relates depth and velocity to risk posed to pedestrians, vehicles and buildings, and also flood function (Section 3.2.4), which divides the floodplain into the categories of flow conveyance, flood storage and flood fringe.
- **Impact of Flooding** (Section 3.3) describes the consequences of flooding in urban areas. This section includes a review of the function of levee system in Cooma (Section 3.3.1), breakdown of flooding hotspots where flood risk is concentrated (Section 3.3.2), mapping of property flooding across the town (Section 3.3.3), flood liability of critical infrastructure and sensitive land uses (3.3.4) and the economic impact of flooding (Section 3.3.5).
- **Emergency Response** (Section 3.4) describes the flood warning system and operation of emergency services (Section 3.4.1) and the 'flood emergency response classification of communities (Section 3.4.2).

Assessment of land use planning as it relates to flooding, including the cumulative impact of future development on flooding, is described for the four towns in Section 7.

3.2. FLOOD BEHAVIOUR

3.2.1. Background

Cooma has a history of flooding in both Cooma and Cooma Back Creeks, with notable flood events occurring in March 1956, July 1991, January 2007 and February 2012 events. Areas at risk of flooding around the Cooma township include the central business district and low-lying areas adjacent to the creeks. Flooding on both creeks is generally considered to be flash flooding with little warning time and can be deep and fast flowing, posing significant hazard to life (SES, 2017). Nevertheless, creek improvement works, and the construction of the Cooma Creek levee and subsequent upgrades help alleviate some of the flood risks.

Cooma is also subject to flooding from various minor streams and overland flow paths which flow to Cooma Creek and Cooma Back Creek. Further east of the Cooma township there is a separate tributary/swale system adjacent to the Cooma/Polo Flat Airport which also flows in the northerly direction and eventually discharges into Cooma Creek several kilometres downstream. Inundation of some of the adjacent floodplain areas occurs along this tributary.

3.2.2. Design Events Levels and Depths

Table 6 summarises design flood levels for a number of locations in the town while Figure A 1 shows the 1% AEP peak flood depths. Figure A 2 shows the flood profiles for each design event for Cooma Creek and Cooma Back Creek. A full set of design flood mapping is included in the flood study.

Table 6: Cooma Design Flood Levels at Reporting Locations

ID	Location (see Figure A 1)	Ground Level (mAHD)	Peak Flood Level (mAHD) per design event							
			20% AEP	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
1	Cooma Creek at Bombala Bridge	792.3	794.6	794.8	795.1	795.4	795.7	796.0	796.3	800.7
2	Cooma Creek at Massie Street	786.1	788.3	788.5	788.7	789.0	789.2	789.4	789.7	796.1
3	Confluence of Cooma Back Creek and Sandy Creek	784.5	787.5	787.7	788.0	788.3	788.5	788.7	788.9	796.1
4	Confluence of Cooma/Cooma Back Creek	781.7	785.1	785.3	785.7	786.1	786.4	786.7	787.1	794.5
5	Behind levee at confluence of Cooma Creek at Cooma Back Creek	785.3	785.5	785.5	785.8	786.1	786.3	786.8	787.2	794.8
6	Campbell Street - Behind Levee	792.6	792.9	793.0	793.2	793.4	793.6	793.8	794.0	799.3
7	Polo Flat channel - U/S of Airstrip Road	815.0	817.0	817.1	817.1	817.2	817.3	817.3	817.4	818.1
8	Holland Road	818.1	818.3	818.4	818.4	818.4	818.4	818.4	818.4	818.7
9	South of railway, near Yareen Road and Woolalla Street	813.1	813.5	813.6	813.7	813.8	813.8	813.9	814.0	814.9
10	Yallakool Road	790.4	791.1	791.2	791.2	791.3	791.3	791.3	791.4	792.0
11	Sharp Street low point (1)	789.3	789.6	789.7	790.1	790.4	790.6	791.0	791.3	798.0
12	Sharp Street low point (2)	789.0	789.2	789.3	789.4	789.9	790.2	790.5	790.7	797.0

Cooma experiences significant flood affectation in events greater than the 10% AEP, with areas of significant inundation in the vicinity of the levee on Cooma Creek. The peak flood depths figures show the following areas of affectation:

- In the 5% AEP, approximately 10 properties between Campbell and Denison Streets are flooded (although not all have dwellings), with another cluster around Sharp Street adjacent to the levee also affected in that event.
- In the 1% AEP event, the area around the Cooma Creek levee and immediately upstream has some properties with depths of 1-2 m, with severe property flooding also occurring near Sharp and Commissioner Streets in the vicinity of the levee.
- In the 5% AEP, Cooma Back Creek is largely confined to the channel, except for breakout upstream of Kerwan Street (which results in the significant flooding of a number of properties) and to the west of the Cooma Bowling Club. In the 1% AEP event, there is severe flooding of properties upstream and downstream of Kerwan Street, as well as around Tumut Street, and immediately upstream of Sharp Street.
- Downstream of the two creeks' confluence, creek flow is contained in the 20% AEP, while the 5% AEP extent expands into the adjacent park area. In the 1% AEP, there is significant flooding of a handful of properties immediately west of the confluence at Mulach Street. While the flow width expands to greater than 100 m downstream of the confluence, the majority is confined to channel and the cleared paddocks on either side.
- On both sides of Mittagong Road, between Boona Street and Baroona Avenue, properties are affected by overland flood in the 5% AEP event with depths of up to 0.3 m.

- In Polo Flat, there is minor flooding in the vicinity of the area's drainage channel in the 20% AEP and flooding of Geebung Street which restricts access to the Cooma SES Unit. In the 5% AEP, there are large areas of flooding on some properties in the vicinity of the channel, with around 0.4 m depth of flooding. In the 1% AEP there is significant flooding of numerous properties, particularly in the north of the suburb, with depths of between 0.5 and 1 m.

3.2.3. Flood Hazard

Flood hazard is defined as the threat that the hydraulic characteristics of flooding will pose to human activity. It is initially calculated based on the flood's depth and velocity in each model grid cell, as part of the flood study stage. It is finalised during the floodplain risk management stage by considering other factors not covered by the depth-velocity calculation. The calculation is based on the Australian Emergency Management Handbook 7 guideline (reference in Table 3), which considers the threat to types of people (children, adult) and activity (pedestrian, vehicle and within a building). More information on its derivation is given in Section E.1.

There are six categories of flood hazard, specifically:

- H1 – Generally safe for people, vehicles and buildings
- H2 – Unsafe for small vehicles
- H3 – Unsafe for vehicles, children and the elderly
- H4 – Unsafe for people and vehicles
- H5 – Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 – Unsafe for vehicles and people. All building types considered vulnerable to failure.

Hazard categories for Cooma are presented on Figure A 3 to Figure A 6, for the 5%, 1% and 0.2% AEP, and the PMF. The figures show the following areas of hazard:

- In the 5% AEP, nearly all areas of H2 – H6 are located in and adjacent to Cooma Creek and Cooma Back Creek. Other areas of overland flow are predominantly categorized as H1. Along the creeks, there are areas of H2-H5 outside the channel itself, for example upstream of the Cooma Creek levee. This hazard does not directly affect dwellings, save for one location on Albert St. There are areas of H2 hazard in Polo Flat, with Geebung Street affected by H4 hazard.
- In the 1% AEP, there are large sections of H5 hazard adjacent to the Cooma Creek channel. The flooded areas between Murray and Sharp Streets is mostly H2-H4. Residential areas on Cooma Back Creek downstream of Sharp Street are affected by flood up to H5 hazard. Polo Flat has large areas of H2 and H3 outside of the drainage channel.
- In the 0.2% AEP, large sections of the floodplains of the two creeks are H3-H5, including parts of the commercial area in the town centre. In the PMF, a large proportion of the town is H6, fringed by H1-H5.

Areas noted to experience a significant degree of flood hazard, including flooded roads, are discussed in detail in Section 3.3.2, Flood Hotspots.

3.2.4. Flood Function

Flood function is a processed model output that classify floodwaters into flow conveyance (previously call floodway), flood storage or flood fringe. These categories describe the function of flow in a particular area of the floodplain and are commonly used by town planners to understand flood behaviour in an area of potential development. Areas of flow conveyance are generally incompatible with development aside from parks or recreational facilities, while areas of flood storage can generally be developed, if the loss of

storage or other impacts are managed. Flood fringe is areas of shallow flooding that, if developed, have minimal effect on the overall function of the floodplain.

Further information on flood function including its derivation for the study area is given Section E.2.

The flood function categories of flow conveyance, flood storage and flood fringe have been derived for the 5% AEP, 1% AEP, 0.2% AEP and PMF events and are shown in Figure A 7 to Figure A 10.

The figures show that in the 1% AEP, the majority of the mainstream flood extent is flow conveyance, as would be expected based on the well-defined channels and limited overbank. Small areas of flood storage and fringe on the periphery. There are some smaller flow conveyance areas caused by overland flooding. The rest of the town is mostly flood fringe. Areas outside the town, are typically affected by overland flooding with a flood fringe classification.

In the 5% AEP, the flow conveyance is typically confined to the mainstream channels while there is a much larger flow conveyance area, beyond the main channel, in the 0.2% AEP. As with the 1% AEP, overland flooding is mostly classified as flood fringe. In the PMF, the majority of all flooded areas are classified as flow conveyance, with flood storage and fringe on the periphery.

3.3. IMPACT OF FLOODING

3.3.1. Review of Cooma Flood Mitigation Scheme Levee

The Cooma Flood Mitigation Scheme protect parts of the town from small Cooma Creek flood events, while being overtopped or circumvented by floodwaters in larger events. There are three earth embankment levees (see Figure A 1), one on both the east/west banks of Cooma Creek, and another at the Cooma Creek / Cooma Back Creek confluence.

The analysis undertaken herein considers both the crest level and estimated design height of the levee. It should be noted that in most instances, the design height of the levee is below the levee's crest level. This is because a crest height of the levee typically incorporates a freeboard which is used as a factor of safety to ensure that the selected level of protection for the levee is reasonably achieved and uncertainties in the design are accounted for. In a flooding context, a freeboard is used to account for design variables such as uncertainties in design flood level estimates, wind and wave action, localised hydraulic effects, climate change and post construction settlement and levee defects. It is important to note that during an actual flood event, if the design height of the levee is exceeded, it may not be the case that the levee is overtopped. The design freeboard of the Cooma levee system was 0.5 m.

The levee on the east side of Cooma Creek is approximately 750 m long with a crest level varying between 789.8 and 793.2 mAHD, and design level between 789.3 and 792.7 mAHD (based on the SMEC, 2000 study discussed in Section 2.3.4). It starts north from Sharp Street and goes around the corner between Denison Street and Victoria Street, where it ends. The first area of overtopping is likely to be at a low point halfway between Sharp Street and Commissioner Street. At this location, the 10% AEP flood level is slightly higher than the design level (i.e. crest level minus 0.5 m freeboard). Figure 3-1 shows the levee crest level and design compared to the range of design flood events.

The levee on the west side has a length of approximately 1030 m with a crest level varying between 789.2 and 793.7 mAHD. It starts north from Sharp Street and ends south from Victoria Street. The levee to the west is likely to first be overtopped around Sharp Street in a 5% AEP event. Figure 3-2 shows the levee crest level compared to the range of design flood events.

At Mulach Street, the levee is approximately 330 m long with a crest level varying between 787.8 and 786.3 mAHD. Assuming a freeboard of 0.5 m, it is first overtopped near the confluence of Cooma Creek and Cooma Back Creek in the 2% AEP event.

The levee system was also analysed for its overall effect on flooding. The function and limitations of a levee are sometimes not well-understood, including the concept of freeboard, the potential for flood events that overtop the levee, and the area that the levee protects. The area protected by the Cooma levee system can be understood by mapping the increase in flooding were the levee to be completely removed, as shown on Figure 3-3. The figure shows that in a 5% AEP flood, the main levee system protects an area on either side of the creek, extending around 50-60 m away from the creek. Without the levee, the largest area of different would be deeper flooding of Rotary Oval, which continues as a flowpath through Commissioner Street and Sharp Street. The figure also shows the Mulach Street levee does not significantly affect flooding in the 5% AEP event. This is because the residential lots are on naturally higher ground and it's only in the larger flood events (e.g. 2% AEP) that the levee prevents creek flooding at that location.

More information on the flood behaviour, hazard and property flooding is given in the flooding hotspots section (Section 3.3.2).

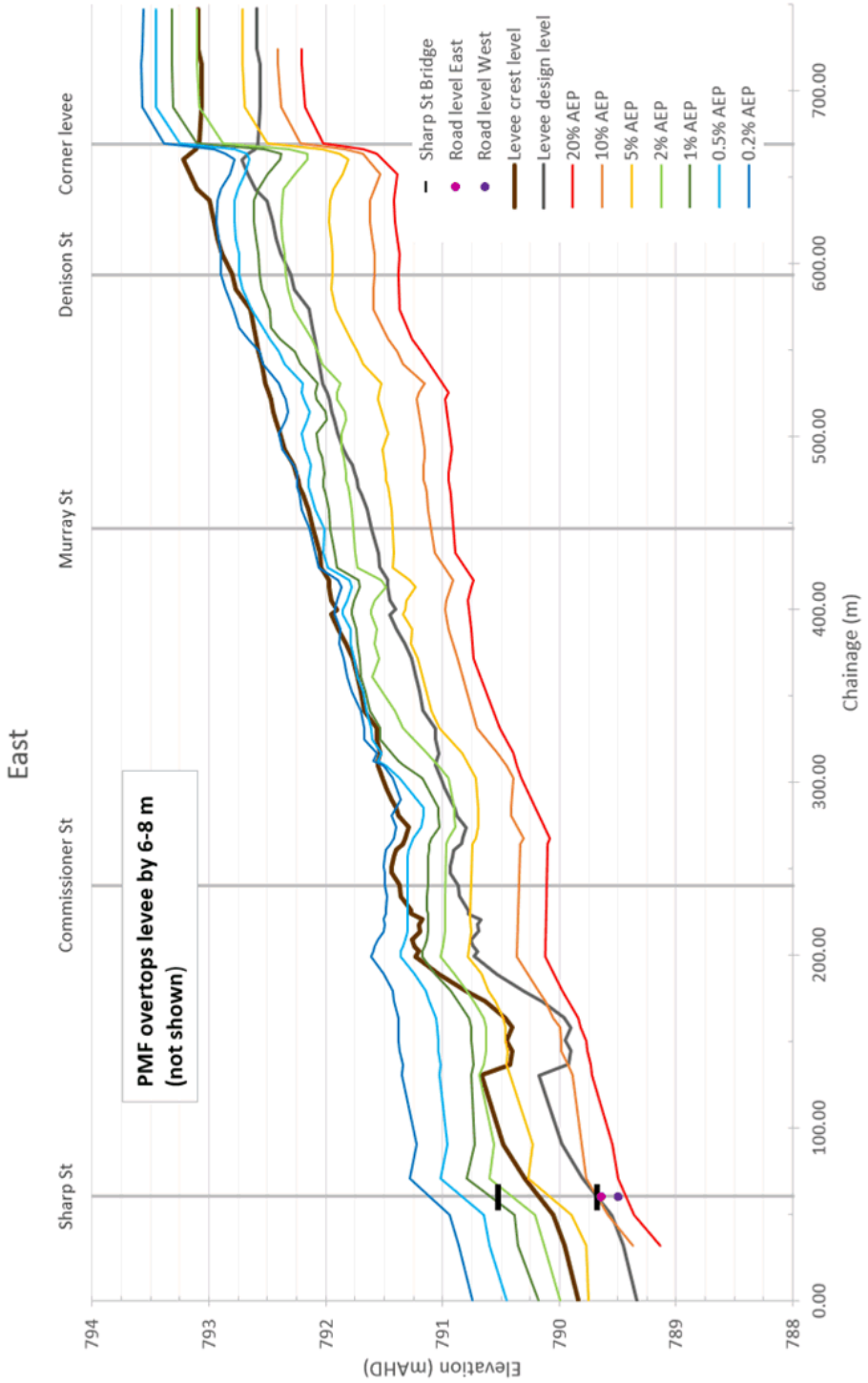


Figure 3-1: Design flood levels compared to levee crest level – Cooma Creek east side

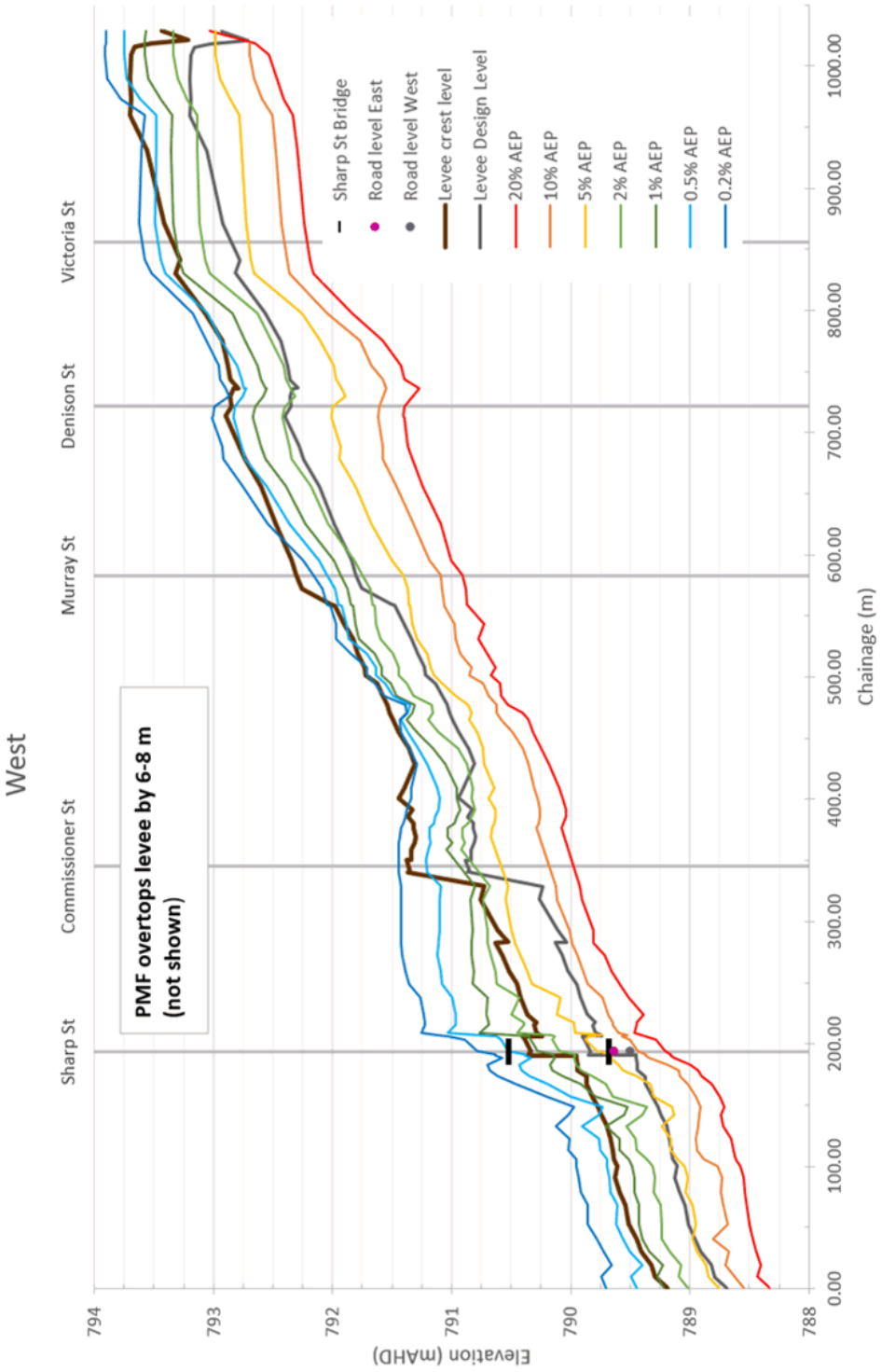


Figure 3-2: Design flood levels compared to levee crest level - Cooma Creek west Side

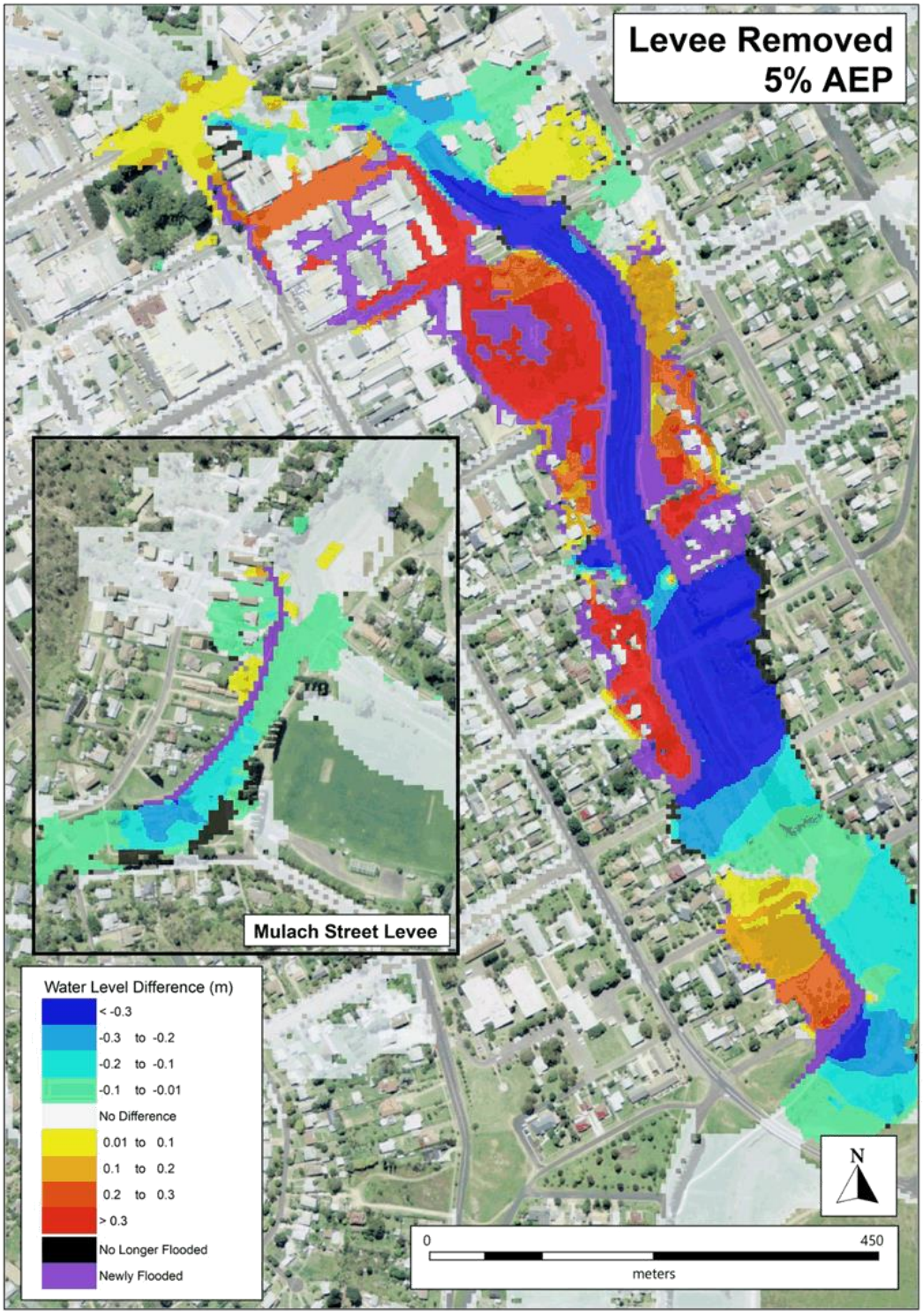


Figure 3-3: Area of increased flooding if the levee system is removed, in the 5% AEP flood event

3.3.2. Flooding Hotspots

Cooma contains several areas of concentrated flood risk, due to a combination of road and property flooding. These include the section of Cooma Creek from Church Road to Amos Street, the section of Cooma Back Creek from Sharp Street to the confluence with Cooma Creek, Sandy Creek near Vulcan Street, and in part of Polo Flat near the drainage channel through that area. The majority of the town's flood risk relates to mainstream flooding of these various watercourses. Areas of significant overland flooding are present but tend to have lower risk. In the following section, each hotspot has been described with regards to properties and roads inundated, and the depth and hazard of floodwaters for a range of events. Some areas have been separated into multiple hotspots for ease of presentation.

Summary of Cooma's Hotspots is presented in Table 7, with further details presented in Sections 3.3.2.1 to 3.3.2.8. The location of the various hotspots are presented in Figure A 1.

Table 7: Cooma Hotspots

Hotspot #	Location	Risk Factors
1	Cooma Creek at Church Road	Road flooding and evacuation/isolation issues
2	Cooma Creek Levee	Road and property flooding, overland flow trapped behind levee and hazardous flow overtopping levee.
3	Tumut Street	Road flooding and property flooding
4	Cooma Back Creek around Kerwan Street	Property flooding
5	Sandy Creek at Vulcan Street	Road flooding and evacuation/isolation issues
6	Cooma Back Creek levee at Mulach Street	Road and property flooding, overland flow trapped behind levee and hazardous flow overtopping levee.
7	Overland flow in Polo Flat	Road flooding and property flooding
8	Geebung Street	Road and property flooding, impeded access to SES unit

3.3.2.1. ***Hotspot 1 - Cooma Creek at Church Road***

The northern end of Church Road, upstream of Snowy Mountains Highway, may become flooded when Cooma Creek exceeds its channel capacity. The road, which is on the west side of the creek, is around 2.5-3 m higher than the channel, while the residential lots are on sloped ground, around 1-1.5 m higher than the road. This means that above-floor flooding only occurs in rare events and that hazardous flow on the road is the primary flood risk in the hotspot. In addition, a number of properties on Church Road to the north of Culey Avenue can become isolated as well as rural areas to the south of town, however alternative access routes are available for the surrounding urban areas.

Table 8 describes the area's flood behaviour and flood risk.

Table 8: Cooma Creek at Church Road Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, up to 0.6m at Church Road in the sag between Sellar Street and Culey Avenue. Around 0.2 m in other parts of the road. • In 1% AEP, 1.0m at Church Road in the sag between Sellar Street and Culey Avenue. Around 0.7 m in other parts of the road.

Flood Hazard	• In 5% AEP, majority of road is of H1, however road sags are H2-H3 • In 1% AEP, majority of road is of H3-H4, some properties are H2
Properties flooded	• 0 in 5% AEP • 5 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 0 in 1% AEP
Evacuation	Properties adjacent to flooded areas of Church Road will have rising road access to evacuate before the road is flooded, and overland escape routes once the road is cut off.
Duration	Depending on the length of the storm event, flooding likely to last one or several hours.
Additional Risk Factors	The road is both an important access route for properties to the south, and adjacent to highly hazardous flow in Cooma Creek. Flooding of the road can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event. There is risk of a vehicle being swept into the creek in 5% AEP and rarer events.
Gauge levels	The road has H2 hazard when Cooma Creek gauge reaches 804.4mAHD (3.8m level at gauge) and 790.3mAHD at hypothetical gauge (see Section 8.3.5), equivalent to a 5% AEP event.

3.3.2.2. ***Hotspot 2 - Cooma Creek Levee***

The Cooma Creek levee system is first overtopped in the 10% AEP event at localised low spots, and then over wide sections in the 5% AEP and greater. A description of the levee's overtopping and level of protection is given in Section 3.3.1. The levee protects the residential area south-east of the town centre from flooding, as well as the town centre itself on Sharp Street. The levee both confines the creek flow in a flood event and blocks the overland flow from the adjacent urban areas that naturally drains to the creek. This overland flow discharges through stormwater drainage that passes through or underneath the levee, but this will be impeded once the creek water level is high, which can cause ponding and flooding from overland flow on the 'dry' side of the levee.

Table 9 describes the area's flood behaviour and flood risk.

Table 9: Cooma Creek Levee Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of exceeding 0.5 m are common behind the levee, with depths of up to 1.0 m at some locations (e.g. eastern bank levee at Sharp Street). • In 1% AEP, water depths of exceeding 1.0 m are common behind the levee, with depths of up to 1.5 m at some locations (e.g. western bank between Sharp Street and Commissioner Street)
Flood Hazard	• In 5% AEP, areas of overtopping are mostly H2-H3, as well as overland flow trapped behind the levee. H5 is limited to the Bombala/Massie St intersection. There is H2-H3 flow on Sharp St caused by levee overtopping. • In 1% AEP, areas of overtopping have sections of H4-H5, but most flow is H2-H3. Flow breakouts at Sharp Street results in H5 flooding to the west of the bridge, posing a significant risk to vehicles and pedestrians. The flow breakout then turns north and becomes H4 on Bombala Street, meaning that there is a risk that vehicles and pedestrians could be swept into Cooma Creek at Massie Street The flooding in this area is associated with significant risk to life during rare to extreme flood events.
Properties flooded	• 92 in 5% AEP • 150 in 1% AEP

Properties flooded above floor (approx.)	• 18 in 5% AEP • 42 in 1% AEP
Evacuation	Most properties around the Cooma Creek levee can evacuate through rising road escape routes, if required. The exception are the properties located at Sharp Street which may become isolated due to flows along this road and through Bombala Street may isolate properties before they are able to evacuate. Due to the fast rate of rise associated with levee overtopping/failure, even properties with rising road access may become isolated due to high hazard flooding surrounding individual buildings.
Duration	Depending on the length of the storm event, flooding is likely to last several hours. Inundation due to overland flow trapped behind the levee may be present for several days if Cooma Creek levels remain elevated.
Additional Risk Factors	• The majority of the levee is an earth embankment, so there is some risk of levee failure due to the crest rapidly eroding. • Overtopping of the levee can occur at multiple points simultaneously and unpredictably, as there is not a well-defined spillway section. • Overland flow may be trapped behind the levee when the creek is high, potentially leading to properties affectation
Gauge levels	First overtopping of levee when existing gauge at Cooma Creek reaches 803.9mAHD (3.3m gauge depth) and 789.7mAHD at the hypothetical gauge (see Section 8.3.5), equivalent to a 10% AEP event. Generalised overtopping of levee when existing gauge at Cooma Creek reaches 804.4mAHD (3.8m deep at gauge) and 790.3mAHD at proposed gauge, equivalent to a 5% AEP event.

3.3.2.3. ***Hotspot 3 - Tumut Street***

The watercourse that goes underneath of West Street, Hill Street, and Lambie Street, partly through a series of culverts, has its capacity exceeded at Lambie Street in relatively common flood events, with flow overtopping the road and continuing through Tumut Street. Flood risk exists in the form of hazardous flooding on the roads, and risk to dwellings in the affected area.

Table 10 describes the area's flood behaviour and flood risk.

Table 10: Tumut Street Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.2m are present at the front of properties, 0.6-2.1 m at the rear. • In 1% AEP, water depths of up to 0.3m are present at the front of properties, 1.2-2.8 m at the rear.
Flood Hazard	• In 5% AEP, H1 is prevalent across the area, and some small portions of H2, the watercourse to the rear of the properties has H2-H5. • In 1% AEP, H2 is prevalent across the area. The watercourse has H2-H5.
Properties flooded	• 11 in 5% AEP • 16 in 1% AEP
Properties flooded above floor (approx.)	• 1 in 5% AEP • 2 in 1% AEP
Evacuation	Residents are able to evacuate through the road for events of up to 5% AEP, in larger events the road may become hazardous for smaller vehicles. To the south of Tumut Street residents may still be able to evacuate through the footpath for events up to 1% AEP, but residents on the northern side may become isolated within their homes due to high hazard flooding surrounding the properties.

Duration	Flooding is likely to last one hour or less, but could potentially be longer in some flood events.
Additional Risk Factors	-
Gauge levels	Overland flow catchments are too small to use flow or level gauges.

3.3.2.4. *Hotspot 4 - Cooma Back Creek around Kerwan Street*

From Sharp Street to near Kerwan Street, Cooma Back Creek overtops its banks and floods the surrounding properties for events as small as the 10% AEP event. The creek in this area is heavily vegetated and consists of a well-define channel, several metres deep, with residential dwellings immediately adjacent on the out-of-bank area. Flood risk relates to high hazard flow, in close vicinity to the main channel, directly affecting dwellings and their occupants.

Table 11 describes the area's flood behaviour and flood risk.

Table 11: Cooma Back Creek around Kerwan Street Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, 0.1-0.2 m in most areas outside the channel, up to 0.4 m at low points • In 1% AEP, 0.7-0.9 m in most areas outside the channel, up to 1.2 m at low points
Flood Hazard	• In 5% AEP, outside of the creek channel, H1-H2 on most affected properties and up to H4 at some low points. • In 1% AEP, H4 and H5 flow across several lots, including against buildings, and H2-H3 in other areas.
Properties flooded	• 12 in 5% AEP • 24 in 1% AEP
Properties flooded above floor (approx.)	• 2 in 5% AEP • 12 in 1% AEP
Evacuation	While there is rising road access to flood free land to the east and west of the creek, however, in large floods some lots are surrounded by breakout flowpaths and will not be able to safely evacuate due to high hazard flows surrounding dwellings.
Duration	Flooding is likely to last one hour or less, but could potentially be longer in some flood events.
Additional Risk Factors	As there have not been any major flood events in recent times, there is likely to be low awareness of flooding in the area, especially the severity of large flood events. There is potential for vehicles or pedestrians to be swept into Cooma Back Creek.
Gauge levels	Information on the Cooma Back Creek gauge was not available at the time of writing.

3.3.2.5. *Hotspot 5 - Sandy Creek at Vulcan Street*

In the 5% AEP and larger flood events, Sandy Creek overtops Vulcan Street when the capacity of the 0.75 m diameter culvert under the road is exceeded. It is unlikely to cause significant property damage, but it does isolate the residents at Mulach Street hindering access and egress. Alternate access to the area is via the causeway at Creek Street, but this access is likely to also be cut due to flooding on Cooma Back Creek. Flood risk relates to residents who try to cross the flooded road (Vulcan Street) and isolation of Mulach Street, although it is not likely to last more than several hours.

Table 12 describes the area's flood behaviour and flood risk.

Table 12: Sandy Creek at Vulcan Street Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, shallow high hazard flow with water depths of up to 0.1m over centreline of Vulcan Street, higher depths on the side of the road. • In 1% AEP, water depths of up to 0.4m over centreline of Vulcan Street, higher depths on the side of the road.
Flood Hazard	• Up to H4 on the road in the 5% AEP • Up to H5 on the road in the 1% AEP
Properties flooded	• 2 in 5% AEP • 2 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 0 in 1% AEP
Evacuation	Residents at Mulach Street are unable to evacuate as both of the area's access routes (Vulcan Street and the Creek Street causeway) becomes too hazardous for vehicles and people to cross during a flood event. Isolation can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event.
Duration	Flooding is likely to last one hour or less, but could potentially be longer in some flood events.
Additional Risk Factors	There is risk of people and vehicles being swept into Cooma Back Creek if either road crossing is attempted during hazardous flow. Vehicles entering floodwaters can pose a significant risk to life.
Gauge levels	The Sandy Creek catchment does not contain any stream or level gauges.

3.3.2.6. ***Hotspot 6 - Cooma Back Creek Levee at Mulach Street***

The levee located between Cooma Back Creek and Mulach Street may be overtopped during events as small as the 2% AEP event. Further, overland flows within the levee may cause property flooding during frequent events if the region cannot drain due to elevated Cooma Creek levels.

Table 13 describes the area's flood behaviour and flood risk.

Table 13: Cooma Back Creek Levee at Mulach Street Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.6m behind the levee due to ponding overland flow • In 1% AEP, water depths of up to 1.0m behind the levee due to levee overtopping and inundation from Cooma Creek
Flood Hazard	• Localised H2-H3 behind the levee in the 5% AEP event • Widespread H2-H3 behind the levee in the 1% AEP event
Properties flooded	• 21 in 5% AEP • 24 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 2 in 1% AEP
Evacuation	Residents affected by trapped overland flow are able to evacuate to higher grounds away from the creek, but may be isolated due to flooding of Vulcan Street at Sandy Creek and Barrack Street at Cooma Back Creek.

Duration	Depending on the length of the storm event, flooding likely to last several hours. Shallow inundation may be trapped for several days if Cooma Creek levels remain elevated, or drains are blocked.
Additional Risk Factors	A levee failure scenario could lead to a hazardous surge of water affecting properties in this area.
Gauge levels	Overland flow catchments are too small to use flow or level gauges.

3.3.2.7. *Hotspot 7 - Overland flow in Polo Flat*

Numerous properties in the industrial area of Polo Flat are affected by overland flows as they have floor levels at or just above surrounding ground levels. Minor drains and swales exist in the area, however the capacity of these systems are quickly exceeded during major rain events. Above floor property affectation is noted to start in events as frequent as the 20% AEP. Flooding can occur due to areas west of Polo Flat Road being slightly slower than the road, which causes shallow flow to be trapped by the road, and stormwater pits to surcharge when the Polo Flat watercourse is high. Flood risk relates to low hazard but widespread flooding causing damage to buildings in the area.

Table 14 describes the area's flood behaviour and flood risk.

Table 14: Overland Flow in Polo Flat Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of typically < 0.2m at most affected properties • In 1% AEP, water depths of typically < 0.3m at most affected properties
Flood Hazard	• The area has a hazard level of H1 in the 5% AEP event • The area has a hazard level of H1 in the 1% AEP event
Properties flooded above ground	• 13 in 5% AEP • 14 in 1% AEP
Properties flooded above floor (approx.)	• 7 in 5% AEP • 9 in 1% AEP
Evacuation	Flood hazard in the area is low and evacuation may not be necessary, but if required, people are able to evacuate the area through the roads
Duration	Depending on the length of the storm event, flooding may last several hours.
Additional Risk Factors	Flooding of industrial areas may result in the inundation and distribution of hazardous materials.
Gauge levels	No applicable stream gauge.

3.3.2.8. *Hotspot 8 - Geebung Street*

Flooding can occur at Geebung Street when the capacity of the 1.8m diameter pipe which passes through the area is exceeded. Flood risk in the area relates to above-floor flooding of properties, and high hazard flows at the location of the Geebung Street crossing of the swale that runs parallel to Polo Flat Road. The swale poses a risk to vehicles and pedestrians.

Table 15 describes the area's flood behaviour and flood risk.

Table 15: Geebung Street Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• Up to 0.5m on Geebung Street in the 5% AEP • Up to 0.8m on Geebung Street in the 1% AEP
Flood Hazard	• Hazard level H1-H2 at properties, and H3 at Geebung Street crossing the swale • Hazard level H1-H3 at properties, and H3-H5 at Geebung Street crossing the swale
Properties flooded above ground	• 9 in 5% AEP • 15 in 1% AEP
Properties flooded above floor (approx.)	• 7 in 5% AEP • 10 in 1% AEP
Evacuation	Properties at Geebung Street becomes isolated as the swale crossing the streets makes it too hazardous for vehicles to cross
Duration	Depending on the length of the storm event, flooding may last several hours.
Additional Risk Factors	The SES and RFS are located at Geebung Street and may become isolated, lose power and become ineffective during a flood event
Gauge levels	The Polo Flat catchment does not contain any stream or level gauges.

3.3.2.9. ***Flooded Roads – Cooma***

Hazardous flooding of roads occurs when there is sufficient flow to knock over pedestrians or transport cars off the road due to buoyancy effects. In Australia, vehicles attempting to cross flooded roads is one of the largest causes of injury and fatality during a flood. The ability of flow to move or completely float a car is often underestimated, with as little as 0.3 m (30 cm) depth enough to move a small car, even at small flow speeds (this corresponds to H2 hazard). The following roads have been identified as experiencing hazardous flow (H2 or above) in a 5% AEP event. Many of these crossing experience hazardous flows in even more frequent events.

- Geebung Street (most of the street has some flooding, higher flow is near the road culverts around 60 m east of Polo Flat Road)
- Carlaminda Road at watercourse that traverses Polo Flat, around 720 m west of Polo Flat Road
- Church Road at three locations (30 m south of Sellar Street, 100 m north of Sellar Street, and around 400 m south of Culey Avenue).
- Vulcan Street where it crosses Sandy Creek
- Numeralla Road where it crosses Polo Flat watercourse (around 240 m north-east of Cooma Monaro Race Club)
- Yallakool Road at crossing with watercourse west of intersection with Tillabudgerry Road
- Massey Street and Commissioner Street (these crossings have manually closed gates)
- West Street, Lambie Street and Hill Street where they cross the Cooma Back Creek tributary

These locations have also been listed in Section 8.3.1, which recommends warning signage. Note that other road locations may also be flooded in a 1% AEP event and larger events (see hazard maps).

3.3.2.10. ***Other Areas for Consideration - Cooma***

Aside from the hotspots described, there are various scattered instances of over floor flooding in the town (based on the analysis presented in Section 3.3.3). The following section describes property flood liability. Areas of flooding include:

- Wangie Street and Walla Street
- Area near Boundary Road and Mary Street
- Area between Boundary Road and Florence Street
- Gungarlin Street near Poplar Street

These properties may be affected by shallow flows associated with minor drainage.

3.3.3. Property Flood Liability

Properties across the study area may experience inundation during a flood event, with affectation focussed along the watercourses and overland flowpaths. As part of the economic damages assessment, the flood affectation on a per property level was assessed by comparison of each lot's ground level and habitable floor level to the design flood levels at the property. The comparison is made at a point location on each lot, usually at the visible entry (i.e. front door). The floor level at each lot is an estimate based on visual inspection and not a surveyed level. This assessment allows an overall estimate of where properties are flooded above floor level, as shown on Figure A 15, which colour codes each property for the flood event it is first flooded above floor level. The map also shows the 1% AEP hazard.

The map should be interpreted as an overall representation of above-floor flood liability, and as an estimate only for determination for any particular property. This is because the floor level was estimated from visual inspection, which is less accurate than survey, and secondly because minor landscaping drainage features within a lot are sometimes not accurately captured in the model which is assessing an area of 44 km^2. The latter tends to exaggerate above-floor flooding in areas of shallow overland flow. Where properties in H1 hazard are shown as flooded above floor in relatively frequent floods, this indicates that the property simply has a low floor level and that shallow flow depths could potentially cause above-floor flooding. However, in practise, often local landscaping/drainage may ameliorate the risk of above floor flooding.

3.3.4. Critical Infrastructure and Sensitive Land-Uses

Critical infrastructure is located throughout the area and if inundated during a flood, can significantly impact the functioning of the town. The following section describes the flood liability of various critical infrastructure. The section also describes the exposure of facilities particularly sensitive to inundation, including childcare, schools and aged care.

3.3.4.1. *Electricity*

The Cooma substation is situated on the northern side of the Monaro Highway between Polo Flat Road and Thurrung Street. The substation is supplied via two 132 kV transmission lines from the Canberra/Williamsdale area, providing electricity to the town of Cooma and its surroundings (inclusive of Bredbo, Berridale and Michelago), the NSW alpine region and the NSW far south coast.

The substation is noted to be above the level of the PMF and thus not subject to inundation.

Essential Energy have been contacted for comment however have not responded at the time of writing.

3.3.4.2. *Wastewater Treatment*

Cooma's wastewater treatment plant is located on Glen Road, approximately 3.5 km downstream of the Cooma/Cooma Back Creek confluence.

The plant, including its sewage treatment ponds, are not expected to be flooded until events larger than the 0.2% AEP event, indicating limited risk of spillage and downstream contamination.

3.3.4.3. *Hospital and Ambulance*

Cooma Hospital is situated on the corner of Victoria and Bend Streets. The hospital services Cooma and the surrounding areas (inclusive of Bredbo and Michelago) and provides 24 hour Accident and Emergency.

The hospital is noted to be above the level of the PMF and thus not subject to inundation. However, flooding of roads surrounding the Hospital may lead to reduced access during times of flood. This is discussed further in Section 3.2.3.

Cooma Ambulance Station (located in the Southern Sector of the NSW Ambulance Goulburn Area) is located on the same block as Cooma Hospital with access from Bombala Street. The ambulance station services Cooma and surrounding areas including Bredbo, Berridale and Michelago. Due to their proximity, Berridale may also be serviced by the Jindabyne Ambulance Station, and Michelago by the Queanbeyan Ambulance Station (as per liaison with NSW Ambulance).

The station is noted to be above the level of the PMF and thus not subject to inundation, however flooding of Bombala Streets during extreme events (approaching the PMF) may impact ambulance access. Further, flooding of roads in the region may lead to difficulties reaching the Ambulance Station due to roads being cut. Road closures around each of the towns is discussed further in their flood hotspots sections, however flooding of major arterial roads including, Snowy Mountains Highway, Kosciusko Road and Jindabyne Road are also likely during major storm events and would restrict regional ambulance access during major flood events. Details around flooding of these major arterial roads are limited as large stretches of these roads are situated outside of the current study, study areas.

3.3.4.4. *State Emergency Service (SES)*

The Cooma SES Unit is located at 11 Geebung St, Polo Flat. The Unit services Cooma and the surrounding areas (including Michelago and Bredbo). The site is flood affected in events as small as the 5% AEP event, with flooding of Geebung Road reducing access to the site for events as small as the 20% AEP event.

3.3.4.5. *Schools and Childcare Centres*

A review of schools and childcare centres at Cooma is presented in Table 16. The analysis found very little flood liability of the schools, with only minor flood affection (< 300 mm depth, H1 hazard) during extreme events approaching the magnitude of the PMF.

Table 16: Cooma Schools and Childcare Centres

Name	Location	First Flooded	Comments
Cooma Public School	Corner of Commissioner and Vale Street	Not flood affected	-
Saint Patrick's Parish School Secondary Campus	Cnr Vale St &, Murray St,	Not flood affected	-
The Alpine School	12 Mittagang Rd	> 0.2% AEP	Minor overland flow depths of less than 150mm
Snowy Mountains Christian School	Baroona Ave near Binalong Street	> 0.2% AEP	Minor overland flow depths of less than 150mm
Cooma North Public School	35 Baroona Ave near Mittagang Rd	Not flood affected	-

Monaro High School	Mittagang Rd near Baroona Ave	> 0.2% AEP	Minor overland flow depths of less than 300mm
St Patrick' Parish School - Primary	Cnr Vale St &, Murray St, Cooma NSW 2630	Not flood affected	-
Milestones Early Learning Cooma	43 Campbell St	Not flood affected	-
Cooma Lambie Street Preschool Inc	Lambie Street near its intersection with Vulcan Street	> 0.2% AEP	-

3.3.4.6. *Aged and Vulnerable Care*

A review of aged/vulnerable persons care centres at Cooma is presented in Table 17. The analysis found very little flood liability of the care centres, with only minor flood affection (< 300 mm depth, H1 hazard) during extreme events approaching the magnitude of the PMF.

Table 17: Cooma Aged and Vulnerable Care

Name	Location	First Flooded	Comments
Sir William Hudson Memorial Centre Nursing Home	19 Buchan Parade	Not flood affected	-
Monaro Retirement Villas	7 Fachin Ave	Not flood affected	Access to the site may be impacted in events > 0.2% AEP
Sir William Hudson Memorial Centre	8 Fachin Ave	> 0.2% AEP (overland flow)	Access to the site may be impacted in events > 0.2% AEP
Monaro Early Intervention Service	6 Hill St	Not flood affected	-
Yallambee Lodge	1 Binalong St	> 0.2% AEP (overland flow)	Minor overland flow depths of less than 300mm
Monaro Retirement Villas	1 Brown Cl	> 0.2% AEP (overland flow)	Minor overland flow depths of less than 150mm

3.3.5. Economic Impact of Flooding

A flood damages assessment is used to quantify the economic impact of flooding on the community. The assessment equates the depth experienced at each property to an economic cost. The absolute flood damages flood value are used solely for the purpose of calculating benefit-cost ratios for proposed management measures and by the state government in prioritising resources. More information on flood damages, including how they are derived, is provided in Section E.3. For Cooma, both residential and non-residential (commercial, industrial, public properties) damages were estimated.

Table 18 describes the residential flood damages estimate for Cooma, Table 19 shows non-residential flood damages, and Table 20 has the combined damages estimate. The combined Average Annual Damage is estimated as $4.68 million.

Table 18: Cooma Flood Damages - Residential

Event	No. Properties Affected	No. Flooded Above Floor	Total Damages for Event	% Contribution to AAD	Avg. Damage per Flood Affected Property ($)
20% AEP	23	10	$3,141,400	34%	$28,600
10% AEP	31	18	$3,637,100	24%	$28,900
5% AEP	45	34	$4,376,900	14%	$29,600
2% AEP	75	58	$6,524,900	12%	$31,100
1% AEP	90	80	$9,012,400	6%	$36,200
0.5% AEP	109	96	$12,777,100	4%	$43,900
0.2% AEP	122	116	$15,946,100	3%	$50,100
PMF	437	310	$40,121,400	4%	$91,000
Average Annual Damages (AAD)			$ 1,405,000		$3,200

Table 19: Cooma Flood Damages – Non-residential

Event	No. Properties Affected	No. Flooded Above Floor	Total Damages for Event	% Contribution to AAD	Avg. Damage per Flood Affected Property ($)
20% AEP	110	29	$6,511,800	30%	$88,000
10% AEP	125	37	$6,902,800	20%	$90,800
5% AEP	147	44	$10,665,800	13%	$107,700
2% AEP	203	68	$20,164,000	14%	$146,100
1% AEP	243	97	$27,719,000	7%	$182,400
0.5% AEP	286	138	$36,469,600	5%	$226,500
0.2% AEP	312	174	$46,332,400	4%	$280,800
PMF	167	166	$156,110,900	6%	$897,200
Average Annual Damages (AAD)			$3,274,700		$18,800

Table 20: Cooma Flood Damages - Combined

Event	No. Properties Affected	No. Flooded Above Floor	Total Damages for Event	% Contribution to AAD	Avg. Damage per Flood Affected Property ($)
20% AEP	133	39	$9,653,200	31%	$52,500
10% AEP	156	55	$10,539,900	22%	$52,200
5% AEP	192	78	$15,042,700	14%	$60,900
2% AEP	278	126	$26,689,000	13%	$76,700
1% AEP	333	177	$36,731,500	7%	$91,600
0.5% AEP	395	234	$49,246,600	5%	$109,000
0.2% AEP	434	290	$62,278,500	4%	$128,900
PMF	604	476	$196,232,300	5%	$319,100
Average Annual Damages (AAD)			$4,679,700		$7,600

The tables show that there is significant flood affectation in Cooma in the full range of flood events, with increasing exposure in the 2% AEP and larger. In the 20% and 10% AEP events, around 40-50 properties are estimated to be flooded above floor, of around 150 flooded above ground. These are largely the result of overland flow, which causes widespread but shallow flooding in locations across Cooma. In the 5% AEP and larger there is greater property affectation along Cooma Creek and Cooma Back Creek, especially once the main levee is significantly overtopped around the 5%-2% AEP floods.

The results show that frequent events are responsible for over half the AAD figure. The standard residential flood damages estimation includes a cost of around $10,000 for below-floor flooding, which

results in large damages for frequent events (e.g. $9.6m in 20% AEP). This is likely an over-estimate of the actual damage cost for the reasons described in Section 3.3.3. In rarer events, the number flooded above floor level increases significantly, and there is a corresponding increase in the event damages, with $36.7 million in the 1% AEP.

The separation of residential and non-residential damages shows that non-residential properties, which includes factories, warehouses, shops and schools, have significantly higher damage estimates on a per property basis. This is due to the higher damage curve values for non-residential properties, and its incorporation of costs per m^2. There are also a greater number of non-residential properties flooded in most events, for example 37 flooded above floor in a 10% AEP event, versus 18 residential.

3.4. EMERGENCY RESPONSE

3.4.1. Flood Warning and Emergency Response

Understanding of the available flood warning and emergency response in Cooma are largely understood from information provided in the Local Flood Plan, which is summarised in Section 2.3.8. Cooma has an existing flood warning system based on a series of rainfall and stream gauges in the Cooma Creek and Cooma Back Creek catchments, with the Local Flood Plan summarising the flood levels at the gauges and the consequences regarding road and property flooding. It states that warning times are short and there may only be 1-2 hours notice of impending evacuations.

Analysis of four historical flood events indicates Cooma has a warning time of 0-1 hours. Comparison of the end of the peak rainfall burst with the peak flood level showed a difference of 1 hour or less for most events. There is minimal travel time between the Cooma Creek gauge and the town centre near Sharp Street.

The BOM use a network of rainfall gauges and other data to issue a range of warnings related to flooding. These include Severe Thunderstorm Warning, Severe Weather Warning for Flash Flooding, and Flood Warning. These warnings are typically issued for a large area containing multiple towns.

For the warnings issued for the two gauges, liaison with the BOM indicates that their warning system uses three data inputs – forecast rainfall, observed rainfall and observed water level – to automatically and continuously monitor the likelihood of a flood occurring. When certain triggers are met, a flood warning is issued, with a target lead time of 1 hour. This would very likely be preceded by previous more general warnings and alerts for flooding in the area, to assist emergency services.

Overall, Cooma experiences flash flooding and the small available warning time leads to a high flood risk in the town. Flash floods are difficult to forecast as the rainfall is very localised, which forecast models can less accurately predict than wider rainfall events. The short warning time means that in a large flood, emergency services must evacuate several separate areas and manage potentially reluctant or slow residents. Emergency services are also likely to experience access issues due to flooded roads. The BOM warning system that incorporates various data input reduces the risk by increasing the warning time, but will ultimately only issue the warning, with no guarantee of successful evacuation.

Discussion of improvements to the flood warning system is given in the flood risk management measures section (Section 8.3).

3.4.2. Flood Emergency Response Classification of Communities

Flood Emergency Response Classification refers to categorising parts of the floodplain based on their evacuation constraints. Mapping of evacuation constraints across the study area assist the SES and other emergency responders in planning where assistance, evacuation or rescue is needed for individual properties. The categories have been mapped for three design events (5% AEP, 1% AEP and PMF) to understand how evacuation constraints vary between different-sized floods. The categories have been determined in accordance with DPIE's 'Flood Emergency Response Planning Classification of

Communities' guideline. The categories are shown on Figure Figure A 11 (5% AEP), Figure A 12 (1% AEP) and Figure A 13 (PMF).

The figures show that:

- In the 5% AEP, most flood-prone urban areas are classified as Rising Road Access. Some areas, for example Sharp Street immediately west of Cooma Creek, are a mixture of Low Flood Island and High Trapped Perimeter. There is a Low Flood Island along Cooma Back Creek downstream of Sharp Street.
- In the 1% AEP, most categories are unchanged from the 5% AEP. Areas of difference include a Low Flood Island at the south end of the west bank of the levee system, a larger Low Flood Island along Cooma Back Creek including the Tumut Street flowpath, and a large area centred on Mulach Street classified as a High Trapped Perimeter area.
- In the PMF there is H6 hazard along both creeks, extending around 100 to 150 m either side of the channel. This forms a very deep and fast moving flow path that is extremely hazardous to vehicles, pedestrians and buildings. While all major roads will be completely blocked by flooding, there is still high ground available for short-term evacuation (see PMF hazard map).

4. BREDBO FLOOD RISK

4.1. OVERVIEW

Bredbo experiences flooding due to the Bredbo River, overland flow and the Murrumbidgee River during extreme flood events. Bredbo River joins the Murrumbidgee River downstream of the town, and the Murrumbidgee River can exacerbate flooding at Bredbo if both rivers are high. Bredbo River does not flood most of the town in most flood events, but in rare and extreme events it will cover large parts of the town with significant flooding. A small watercourse passes through part of the town, and some other locations also experience overland flow flooding. Description of the area's flood risk has been divided into the following sub-sections:

- **Flood Behaviour** (Section 4.2) describes the depth and velocity of floodwaters across the range of design flood events. This section includes flood hazard (Section 4.2.3), which relates depth and velocity to risk posed to pedestrians, vehicles and buildings, and also flood function (Section 4.2.4), which divides the floodplain into the categories of flow conveyance, flood storage and flood fringe.
- **Impact of Flooding** (Section 4.3) describes the consequences of flooding in urban areas. This section includes a breakdown of flooding hotspots where flood risk is concentrated (Section 4.3.1), mapping of property flooding across the town (Section 4.3.2), flood liability of critical infrastructure and sensitive land uses (0) and the economic impact of flooding (Section 4.3.4).
- **Emergency Response** (Section 4.4) describes the flood warning system and operation of emergency services (Section 4.4.1) and the 'flood emergency response classification of communities (Section 4.4.2).

Assessment of land use planning as it relates to flooding, including the cumulative impact of future development on flooding, is described for the four towns in Section 7.

4.2. FLOOD BEHAVIOUR

4.2.1. Background

Bredbo River is the main watercourse flowing through the Bredbo township though the main mechanism of flooding was found to originate from the minor tributaries entering the river from the north. Some sections of the town are affected by overland flow flooding which drains through the township in southerly or westerly directions towards the Bredbo River. Local flooding in Bredbo town can be exacerbated when there is coincidental mainstream flooding on the Murrumbidgee River. The Murrumbidgee River can also be responsible for flooding in Bredbo during extreme events.

There is little data available describing previous floods in Bredbo. Residents reported floods of various sizes, including 1991, 2007, 2012, 2014/15 and 2016. These generally aligned with high rainfall events recorded in the region, including February 2012, December 2014 and June 2016.

4.2.2. Design Events

Table 21 summarises design flood levels for a number of locations in the town. Locations are shown on Figure B 1 which also shows the 1% AEP peak flood depth. Figure B 2 shows the flood profiles for each design event for Bredbo River. A full set of design flood mapping is included in the flood study.

Table 21: Bredbo Design Flood Levels at Reporting Locations

ID	Location	Ground Level (mAHD)	Peak Flood Level (mAHD) per design event							
			20% AEP	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
13	Bredbo River northwest of intersection with Monaro Hwy	696.5	699.1	699.7	700.4	701.3	702.2	703.2	704.5	718.6
14	Bransby Street near Clifford Street	699.3	699.7	699.8	700.3	701.2	702.2	703.2	704.4	718.6
15	Monaro Hwy near Clifford Street	702.8	703.5	703.5	703.5	703.5	703.5	703.5	704.4	718.6
16	North Street near Walker Street	706.6	706.8	707.3	707.5	707.6	707.7	707.9	708.1	718.6
17	Walker Street and Bunyan Street	703.8	704.0	704.0	704.0	704.0	704.1	704.1	704.4	718.6

Bredbo experiences significant flood affectation in events greater than the 20% AEP, with significant areas of inundation around Clifford and Bransby Streets. The peak flood depths figures show the following areas of affectation:

- In the 10% AEP, the channel running north to south through the west side of town has a flow width of approximately 30 m, with corresponding inundation on a number of properties and on several streets (Swan Street, Bunyan Street, North Street and the end of Clifford Street). In the 1% AEP, this width increases to around 40 m.
- There is a large area of ponding water in the vicinity of Clifford and Bransby Streets due to both local overland flows and Bredbo River flooding, with up to 1 m depth in the 10% AEP. In the 1% AEP this expands to completely inundate the area to a depth of between 1.5 and 3 m. A number of properties are significantly flood affected during the 1% AEP event by the Bredbo River.
- There is shallow flooding (<0.5 m) around the east end of Clifford Street in the relatively small floods (20% to 5% AEP), which increases to the majority of the street being inundated in the 1% AEP, with large areas of ponding between Clifford and Bunyan Streets.
- Railway Gully, which passes under the highway at the south end of the town, is contained to its channel in all design events up to the 0.2% AEP event.
- In the PMF, the entire town is flooded to depths of 15-20 m. This is due to the very large peak flow occurring on the Murrumbidgee River (approximately 10 times the 1% AEP flow), during which the town becomes part of the Murrumbidgee floodplain.

4.2.3. Flood Hazard

Background on the concept and derivation of flood hazard is given in Section E.1.

Hazard categories for Bredbo are presented on Figure B 3 to Figure B 6, for the 5%, 1% and 0.2% AEP, and the PMF. The figures show the following areas of hazard:

- In the 5% AEP, there is an area of H3 fringed by H1-H2 from Bredbo River up to Clifford Street and Bransby Street that affects around three properties, while in the 1% AEP a similar but larger area is H5 fringed by H1-H4. In the 0.2% AEP event, there is a large H6 area fringed by H1-H5 area that extends past Bunyan Street and the Monaro Highway. Numerous houses are flooded by high hazard flooding during the 1% AEP event and larger.
- Apart from these high hazard areas, flooding of H4-H6 is confined within the Murrumbidgee River, Bredbo River, Railway Gully and the creek that crosses Bredbo in a north-south direction

past Swan Street and Bunyan Street in the 5% AEP. The H4-H6 area further extends into the town at Bredbo River upstream of Monaro Highway in the 1% AEP.

- Patches of H2-H3 areas are scattered through the town, such as the east end of Clifford Street, upstream of culvers under the railway, and sections of Bunyan Street in the 1% AEP.
- The majority of the town is classified as H6 in the PMF.

4.2.4. Flood Function

Background on the concept and derivation of flood hazard is given in Section 3.2.4 and E.2

The hydraulic categories of flow conveyance, flood storage and flood fringe have been derived for the 5% AEP, 1% AEP, 0.2% AEP and PMF events and are shown in Figure B 7 to Figure B 10. The figures show that in the 1% AEP, the majority of the mainstream flood extent is flow conveyance, with large areas of flood storage and small areas of fringe in the town centre and downstream of the confluence of Murrumbidgee River and Bredbo River. Overland flow leads to some smaller flow conveyance areas and larger areas of flood fringe in the town centre.

In the 5% AEP, the flow conveyance again occupies the majority of the floodplain, but the storage areas are smaller in the town centre. In the 0.2% AEP a big part of the town centre is flood storage with some smaller areas of flood fringe. There are only very small areas of flood fringe left in the PMF. The majority of the flood extent is flow conveyance with the majority of the town centre being flood storage.

4.3. IMPACT OF FLOODING

4.3.1. Flooding Hotspots

Bredbo contains areas of concentrated flood risk, however most of the town is not affected by flooding during more frequent flood events. There are areas of localised flooding along small watercourses and overland flow through the town, and these are generally related to stormwater drains being exceeded. In larger events, Bredbo River flooding occurs in some areas, and this can be exacerbated by high Murrumbidgee River flow. In very large events, both rivers flood a large portion of the town with hazardous flow.

Summary of Bredbo Hotspots is presented in Table 22, with further details presented in Sections 4.3.1.1 to 4.3.1.3. The location of the various hotspots are presented in Figure B 1.

Table 22: Bredbo Hotspots

Hotspot #	Location	Risk Factors
9	Bredbo River floodplain	Road flooding and evacuation/isolation issues
10	Monaro Highway	Road flooding and property flooding
11	Watercourse through Bredbo	Road flooding and evacuation/isolation issues

4.3.1.1. ***Hotspot 9 - Bredbo River Floodplain***

Bredbo River floods a large area on the southern edge of the town, centred on the oval on Clifford Street but also affecting properties in the vicinity. This flooding can be exacerbated by Murrumbidgee River flooding. During extreme events, or potentially failure of Tantangara Dam, large areas of Bredbo may be flood affected by high hazard flow. Flood risk relates to property damage and risk to life for persons

occupying their homes during major flood events, particularly near the oval, and on Clifford and Bransby Streets.

Table 23 describes the area's flood behaviour and flood risk.

Table 23: Bredbo River Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.5-0.7 m near intersection of Bransby and Clifford St • In 1% AEP, water depths of up to 2.0 – 2.5 m near intersection of Bransby and Clifford St
Flood Hazard	• In the 5% AEP, H3 in area around Bransby and Clifford Streets • In the 1% AEP, H5 in same area, extending further east and north.
Properties flooded above ground	• 11 in 5% AEP • 32 in 1% AEP
Properties flooded above floor (approx.)	• 1 in 5% AEP • 19 in 1% AEP
Evacuation	Generally, affected residents are able to evacuate through rising road access, but some access routes may be cut off due to overland flow approaching the river (see following hotspots).
Duration	Depending on the length of the storm event, flooding likely to several hours to days.
Additional Risk Factors	Failure of Tantangara Dam could potentially pose a significant risk to Bredbo. Dam breach analysis is recommended to better understand exposure and risk to life.
Gauge levels	A gauge has been proposed for the area (see Section 8.3.7), but the relationship in gauge levels and flooding at the town has not been established.

4.3.1.2. ***Hotspot 10 - Monaro Highway***

There is a localised flooding hotspot at Monaro Highway near the intersection with Clifford Street, where flooding occurs when the 0.525m diameter culvert under the highway is full and flow passes overland. Overtopping at the highway is generally of low hazard, however there is some property affectation in the area.

Table 24 describes the area's flood behaviour and flood risk.

Table 24: Monaro Highway Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.6m at upstream of culvert, up to 0.05m over the road and up to 0.2m in adjacent lots. • In 1% AEP, water depths of up to 0.7m at upstream of culvert, up to 0.1m over the road and up to 0.25m in adjacent lots.
Flood Hazard	• In the 5% AEP, H1 at affected properties and on the highway. • In the 5% AEP, H1 at affected properties and on the highway.
Properties flooded above ground	• 6 in 5% AEP • 6 in 1% AEP
Properties flooded above floor (approx.)	• 3 in 5% AEP • 5 in 1% AEP
Evacuation	The area generally has low hazard flooding and should not present any risks to people or vehicles if evacuation is needed.

Duration	Depending on the length of the storm event, flooding may last several hours.
Additional Risk Factors	-
Gauge levels	Overland flow catchments are too small to use flow or level gauges.

4.3.1.3. *Hotspot 11 - Watercourse through Bredbo*

A watercourse runs from the north of the town towards Bredbo River and passes through various properties and streets. The watercourse itself does not cause any property affectation but it does isolate the western side of the town as it becomes too hazardous to cross by foot or vehicle.

Table 25 describes the area's flood behaviour and flood risk.

Table 25: Watercourse through Bredbo Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 1.2m at North Street crossing • In 1% AEP, water depths of up to 1.5m at North Street crossing
Flood Hazard	• In the 5% AEP, hazard of up to H5 at road crossings • In the 1% AEP, hazard of up to H6 at road crossings
Properties flooded above ground	• 21 in 5% AEP • 21 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 0 in 1% AEP
Evacuation	All road crossing are low level and subject to frequent flooding resulting in isolation of areas to the west of the watercourse Isolation can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event.
Duration	Depending on the length of the storm event, flooding likely to last several hours. Shallow inundation may be trapped for several days after a flood.
Additional Risk Factors	Frequently flooded crossings increase the chance that vehicles will enter flood waters which can pose a significant risk to life.
Gauge levels	The watercourse does not have a flow or level gauge.

4.3.1.4. *Flooded Roads – Bredbo*

Hazardous flooding of roads occurs when there is sufficient flow to knock over pedestrians or transport cars off the road due to buoyancy effects. In Australia, vehicles attempting to cross flooded roads is one of the largest causes of injury and fatality in a flood. The ability of flow to move or completely float a car is often underestimated, with as little as 0.3 m (30 cm) depth enough to move a small car, even at small flow speeds (this corresponds to H2 hazard). The following roads have been identified as experiencing hazardous flow (H2 or above) in a 5% AEP event.

- North Street at causeway to the west of intersection with Walker Street
- Swan Street at causeway
- Bunyan Street at causeway
- Clifford Street at intersection with Bransby Street

These locations have also been listed in Section 8.3.1, which recommends warning signage. Note that other road locations may be flooded in a 1% AEP event and larger events (see hazard maps).

4.3.2. Property Flood Liability

Properties across the study area experience inundation in a flood event, with affectation focussed along the watercourses and overland flowpaths. As part of the economic damages assessment, the flood affectation on a per property level was assessed by comparison of each lot's ground level and habitable floor level to the design flood levels at the property. The comparison is made at a point location on each lot, usually at the visible entry (i.e. front door). The floor level at each lot is an estimate based on visual inspection and not a surveyed level. This assessment allows an overall estimate of where properties are flooded above floor level, as shown on Figure B 15, which colour codes each property for the flood event it is first flooded above floor level. The map also shows the 1% AEP hazard.

The map should be interpreted as an overall representation of above-floor flood liability, and as an estimate only for determination for any particular property. This is because the floor level was estimated from visual inspection, which is less accurate than survey, and secondly because minor landscaping drainage features within a lot are sometimes not accurately captured in the model which is assessing an area of 23 km². The latter tends to exaggerate above-floor flooding in areas of shallow overland flow. Where properties in H1 hazard are shown as flooded above floor in relatively frequent floods, this indicates that the property simply has a low floor level and that shallow flow depths could potentially cause above-floor flooding. However, in practise, often local landscaping/drainage may ameliorate the risk of above floor flooding.

4.3.3. Critical Infrastructure and Sensitive Land-Uses

Critical infrastructure is located throughout the area and if inundated during a flood, can significantly impact the functioning of the town. The following section describes the flood liability of various critical infrastructure. The section also describes the exposure of facilities particularly sensitive to inundation, including childcare, schools and aged care.

4.3.3.1. *Hospital and Ambulance*

Bredbo is serviced by the Southern Sector of the NSW Ambulance Goulburn Area. Ambulance access to Bredbo from Cooma may be impacted due to flooding of various road crossings during frequent flood events. In the event of major flooding in the Cooma region, access from the Queanbeyan Ambulance Station to Bredbo may be preferred due to flooding of key access roads.

Council should notify the Southern Sector of the NSW Ambulance Goulburn Area, any reports of road closures associated with flooding between Cooma and Bredbo. This will allow Ambulances to be directed from Queanbeyan if necessary.

4.3.3.2. *State Emergency Service (SES)*

The Cooma-Monaro SES Unit services Bredbo. Access to Bredbo by emergency services is likely to be impacted due to flooding of various road crossings during frequent flood events. Assistance from the SES is likely to be significantly affected if the township to Bredbo is impacted by flooding.

Access from the NSW SES Queanbeyan Unit may be preferred during major flood events in the Cooma region and/or reports of roads closures. Council should notify the NSW SES South East Zone Headquarters of any reports of road closures associated with flooding between Cooma and Michelago. This will emergency services to be directed from Queanbeyan if necessary.

4.3.3.3. *Schools and Childcare Centres*

Bredbo Public School is located on the northern side of the Monaro Highway near Bunyan Street. The school is affected by shallow overland flow (<300 mm, H1 hazard) flooding for a range of events as small as the 20% AEP. During events larger than the 0.2% AEP, the school may become significantly inundated and subject to H6 hazard. Evacuation of the school is required during extreme Bredbo and Murrumbidgee River flood events.

4.3.4. Economic Impact of Flooding

A flood damages assessment is used to quantify the economic impact of flooding on the community. The assessment equates the depth experienced at each property to an economic cost, based on data from historical floods. The absolute flood damages flood value are used solely for the purpose of calculating benefit-cost ratios for proposed management measures and by the state government in prioritising resources. More information on flood damages, including how they are derived, is provided in Section E.3.

The flood damages assessment for Bredbo estimated an Average Annual Damage of $161,900. The results of the assessment, including properties flooded above floor per design event, and corresponding cost, is presented in Table 26.

Table 26: Bredbo Flood Damages

Event	No. Properties Affected	No. Flooded Above Floor	Total Damages for Event	% Contribution to AAD	Avg. Damage per Flood Affected Property ($)
20% AEP	5	1	$91,100	8%	$18,200
10% AEP	15	4	$405,100	15%	$27,000
5% AEP	18	5	$488,300	14%	$27,100
2% AEP	21	9	$ 823,500	12%	$39,200
1% AEP	37	24	$2,075,000	9%	$56,100
0.5% AEP	58	48	$4,610,400	10%	$78,100
0.2% AEP	96	89	$9,492,800	13%	$98,900
PMF	132	131	$19,699,300	18%	$149,200
Average Annual Damages (AAD)			$161,900		$1,200

The table shows that there is minimal property flooding in Bredbo in frequent events, however in the 1% AEP and larger, there is a significant number flooded, including above floor. In frequent events, flooding tends to occur where overland flowpaths interact with buildings, with around 15-20 properties affected. In the 1% AEP this is nearly double and the event damages is over $2 million. In the PMF, when a large portion of the town experiences very high flood depths, the damages increases to $20 million.

The results show that frequent events are responsible for around a third of the AAD figure. The standard flood damages estimation includes a cost of around $10,000 for below-floor flooding, which results in large damages for frequent events (e.g. $91k in 20% AEP). This is likely an over-estimate of the actual damage cost.

4.4. EMERGENCY RESPONSE

4.4.1. Flood Warning and Emergency Response

Understanding of the available flood warning and emergency response in Bredbo is understood from information provided in the Local Flood Plan, which is summarised in Section 2.3.8 and analysis as part of the current study. The Plan includes a map of Bredbo and states there may be road closures during a flood, but does not otherwise describe the consequences of flooding at the town (i.e. historical events or river levels at which road or property flooding occurs). There is not an existing flood warning system in Bredbo.

Like other towns in the LGA, the BOM use a network of rainfall gauges and other data to issue a range of warnings related to flooding. These include Severe Thunderstorm Warning, Severe Weather Warning for Flash Flooding, and Flood Warning. Flooding of the Murrumbidgee River, which can exacerbate flooding at Bredbo, is included in the warning system but is not described in the Plan in relation to flooding at Bredbo. While warnings may be issued that alert residents to potential flooding, Bredbo does not have a flood warning system relating river levels to road and property flooding.

Analysis of four historical events for the Strike-a-light River stream gauge indicates that there is around 6-7 hours between a flood-producing rainfall burst occurring and the peak flood level at Bredbo. Further analysis of the Strike-a-light gauge found 3-4 hours between burst and peak flow at the gauge, and an estimated travel time from the gauge to Bredbo of 3 hours. This time of concentration indicates that, given the significant flood risk to properties in rare to extreme flood events in Bredbo, a flood warning system for the town is feasible and warranted. Any such system would require additional stream gauges, as the Strike-a-light gauge only captures ~30% of the town's catchment area. Further discussion of a possible system is provided in Section 8.3.7.

4.4.2. Flood Emergency Response Classification of Communities

Flood Emergency Response Classification refers to categorising parts of the floodplain based on their evacuation constraints. Mapping of evacuation constraints across the study area assist the SES and other emergency responders in planning where assistance, evacuation or rescue is needed for individual properties. The categories have been mapped for three design events (5% AEP, 1% AEP and PMF) to understand how evacuation constraints vary between different-sized floods. The categories have been determined in accordance with DPIE's 'Flood Emergency Response Planning Classification of Communities' guideline. The categories are shown on Figure B 11 (5% AEP), Figure B 12 (1% AEP) and Figure B 13 (PMF).

The figures show that:

- The evacuation constraints are effectively the same in the 5% and 1% AEP in Bredbo. In both events, the area to the west of the flowpath through the town is a High Trapped Perimeter area, as the access roads are flooded. Flooded areas in the remainder of the town are Rising Road Access. While there is significantly more hazard in the 1% AEP event, the evacuation constraints for the worst-flooded areas around Clifford and Bransby Streets is the same.
- In the PMF, virtually the entire town is classified as H6 hazard and all roads including the highway will be impassable.

5. BERRIDALE FLOOD RISK

5.1. OVERVIEW

Berridale experiences flooding due to high flow on Myack Creek and Coolamatong Creek that exceeds the channel capacity, as well as overland flow from localised rainfall over the town. Coolamatong Creek passes through the centre of Berridale and Myack Creek is to the east of the town centre. Both can cause high hazard flooding of both roads and property. Depths of flooding tend to be greater for creek flooding, also referred to as mainstream flooding, than overland flooding, for which depths are typically less than 0.3 m. The two flooding mechanisms can occur simultaneously or separately. Description of the area's flood risk has been divided into the following sub-sections:

- **Flood Behaviour** (Section 5.2) describes the depth and velocity of floodwaters across the range of design flood events. This section includes flood hazard (Section 5.2.3), which relates depth and velocity to risk posed to pedestrians, vehicles and buildings, and also flood function (Section 5.2.4), which divides the floodplain into the categories of flow conveyance, flood storage and flood fringe.
- **Impact of Flooding** (Section 5.3) describes the consequences of flooding in urban areas. This section includes a breakdown of flooding hotspots where flood risk is concentrated (Section 5.3.1), mapping of property flooding across the town (Section 5.3.2), flood liability of critical infrastructure and sensitive land uses (5.3.3) and the economic impact of flooding (Section 5.3.4).
- **Emergency Response** (Section 5.4) describes the flood warning system and operation of emergency services (Section 5.4.1) and the 'flood emergency response classification of communities (Section 5.4.2).

Assessment of land use planning as it relates to flooding, including the cumulative impact of future development on flooding, is described for the four towns in Section 7.

5.2. FLOOD BEHAVIOUR

5.2.1. Background

There are two main creek systems which traverse the Berridale town centre, i.e. Coolamatong Creek and Myack Creek. Flood affected areas within the Berridale town are generally found along Coolamatong Creek and the adjacent low-lying floodplain south of Jindabyne Road. Roads crossing Coolamatong Creek are found to be overtopped in floods such as the February 2012 event due to a combination of undersized cross drainage and road crests almost at-grade with the creek.

On the east side of Berridale town, floodwaters are generally confined within Myack Creek with the William Street crossing creating a significant control causing backwater upstream. Some of the properties along the western side of Myack Creek are flood-affected due to their proximity to the creek flood extent.

Various parts of Berridale township are also subject to flooding from overland flow paths which drain to the two main creeks.

There is some data available describing previous floods in Berridale. There was high awareness of flooding amongst those who responded to questionnaire during the flood study, with reports of flooding in 2012, 2014, 2015, and January and October 2017. These generally aligned with high rainfall events recorded in the region, including February 2012, December 2014, April 2015 and October 2017.

5.2.2. Design Events

Table 27 summarises design flood levels for a number of locations in the town. Locations are shown on Figure C 1 which also shows the 1% AEP peak flood depth. Figure C 2 shows the flood profiles for each

design event for Myack Creek and Coolamatong Creek. A full set of design flood mapping is included in the flood study.

Table 27: Berridale Design Flood Levels at Reporting Locations

ID	Location	Ground Level (mAHD)	Peak Flood Level (mAHD) per design event							
			20% AEP	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
18	Myack Creek at William Street	857.6	858.5	859.0	859.5	860.0	860.1	860.1	860.1	861.6
19	Myack Street near Jindabyne Road	858.0	858.5	858.7	858.8	859.0	859.0	859.1	859.2	860.8
20	Mary Street near James Street	866.3	NF*	NF*	NF*	866.5	866.6	866.6	866.6	866.8
21	Confluence of Myack Creek and Coolamatong Creek	852.5	854.0	854.3	854.6	854.7	854.8	855.0	855.0	856.6
22	Near Mackay Street and Cecil Street	879.4	879.9	879.9	879.9	879.9	880.0	880.0	880.0	880.2
23	Woolway Creek at Kosciuszko Road	832.9	835.2	835.3	835.4	835.6	835.7	835.8	835.9	838.2
24	Coolamatong Creek at Boundary Street	869.3	869.7	869.7	869.8	869.9	869.9	870.0	870.0	871.4
25	North end of Morrice Street	862.2	862.3	862.4	862.5	862.6	862.7	862.8	862.9	864.3
26	Southern Cross Drive	850.3	850.7	850.9	851.0	851.2	851.3	851.4	851.4	853.1
27	Gungarlin Street low point, near Highdale Street	864.6	864.7	864.8	864.8	864.9	865.0	865.1	865.2	865.5

* NF = Not Flooded

Berridale experiences significant flood affectation in events greater than the 10% AEP, with areas of significant inundation in the vicinity of Coolamatong Creek and Myack Creek. The peak flood depths figures show the following areas of affectation:

- Coolamatong creek has an ill-defined channel, which leads to wide shallow flood affectation. Residential areas near the creek are inundated in the 20% AEP, expanding to greater areas in the 5% AEP event. Additionally, the creek overtops Jindabyne Road upstream of its confluence with Myack Creek in the 10% AEP and larger.
- Myack Creek overtops Dalgety Road in the 20% AEP and larger; overtops Kosciuszko Road in the 5% AEP and larger; and floods a small number of properties upstream of William Street in the 20% AEP, expanding to larger area in the 2% AEP event.
- Wullwye Creek overtops the northern end of Middlingbank Bridge in the 1% AEP event and larger.
- In the 20% AEP, a flow path is present to the west of the intersection of Boundary Road and Rockwell Road, causing inundation of a small number of properties upstream of its confluence with Coolamatong Creek.

5.2.3. Flood Hazard

Background on the concept and derivation of flood hazard is given in Section E.1.

Hazard categories for Berridale are presented on Figure C 3 to Figure C 6, for the 5%, 1% and 0.2% AEP, and the PMF. Berridale figures show an additional type of hazard as a hatched overlay – 'High' and 'Low' hazard as defined by the NSW Floodplain Development Manual (Reference 1). This type of hazard is

based on a similar depth-velocity calculation and is explicitly referred to in Berridale's DCP, hence the inclusion on the figure. The figures show the following areas of hazard:

- Areas of high hazard and of H3-H6 categories are localised within Coolamatong Creek, Myack Creek, Wullwye Creek and other smaller flow paths outside of town in the 0.2% AEP.
- A number of properties boarding Myack Creek experience H2-H4 hazard yard flooding in the 5% AEP.
- Residential areas around Coolamatong Creek are typically H1 to H2 category in the 5% AEP, increasing in extent as event magnitude increases, with a few areas reaching H3. In the PMF, the H5 to H6 hazard areas affect much of the town.

5.2.4. Flood Function

Background on the concept and derivation of flood hazard is given in Section 3.2.4 and E.2

The hydraulic categories of flow conveyance, flood storage and flood fringe have been derived for the 5% AEP, 1% AEP, 0.2% AEP and PMF events and are shown in Figure C 7 to Figure C 10.

The figures show that in the 1% AEP, the majority of the mainstream flood extent is flow conveyance, with small areas of flood storage and flood fringe on the periphery and some larger flood fringe areas close to the confluence of Myack Creek and Wullwye Creek. Overland flow is mostly classified as flood fringe with some flow conveyance areas along flowpaths.

In the 5% AEP, the flow conveyance again occupies the majority of the floodplain with islands of flood fringe and storage between the flow conveyance areas. The flood categories in the 0.2% AEP are similar to the 1% AEP, though slightly larger. In the PMF the flow conveyance increased significantly with some flood storage and flood fringe areas on the periphery. Overland flow in the PMF leads to several overland flow conveyance areas.

5.3. IMPACT OF FLOODING

5.3.1. Flooding Hotspots

Flood risk in Berridale is primarily related to flooding of road crossing of Coolamatong Creek and Myack Creek. There are also a number of properties that are flood affected by both creeks.

Summary of Berridale Hotspots is presented in Table 28, with further details presented in Sections 5.3.1.1 to 5.3.1.6. The locations of the various hotspots are presented in Figure C 1.

Table 28: Berridale Hotspots

Hotspot #	Location	Risk Factors
12	Dalgety Road at Myack Creek crossing	Road flooding and evacuation/isolation issues
13	Koscuiszko Road, west of Wullwye Creek bridge	Road flooding
14	Short Street causeway at Myack Creek	Road flooding and evacuation/isolation issues
15	William Street crossing over Myack Creek	Road and property flooding and evacuation/isolation issues
16	Coolamatong Creek	Road flooding and property flooding
17	Snowy River Hostel	Property flooding

5.3.1.1. ***Hotspot 12 - Dalgety Road at Myack Creek Crossing***

The Dalgety Road crossing of Myack Creek has a box culvert (2.8 m x 0.6 m) that are noted to have previously been subject to significant blockage during flooding. Flood risk at the location relates to overtopping of Dalgety Road resulting in hazardous flow over the road that can pose a significant risk to pedestrians and vehicles.

Table 29 describes the area's flood behaviour and flood risk.

Table 29: Dalgety Road and Myack Creek Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.3m over the road • In 1% AEP, water depths of up to 0.4m over the road
Flood Hazard	• In the 5% AEP, hazard level is of H2-H5 at road • In the 1% AEP, hazard level is predominantly H5 at road
Properties flooded above ground	• 3 in 5% AEP • 3 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 0 in 1% AEP
Evacuation	Access to the south of Berridale is cut-off when the road is flooded, to roads including Bobundara Road, Hickory Dale Road and towards Dalgety in the south. For Berridale residents, open areas exist for evacuation that are flood-free in the PMF (e.g. Baanya Showground). However, isolation can have implications for emergency

	vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event.
Duration	Depending on the length of the storm event, flooding may last several hours.
Additional Risk Factors	Frequently flooded crossings increase the chance that vehicles will enter flood waters which can pose a significant risk to life.
Gauge levels	There is no gauge on Myack Creek.

5.3.1.2. *Hotspot 13 - Kosciuszko Road, west of Wullwye Creek bridge*

Koszciuszko Road is overtopped to the west of the Wullwye Creek crossing when the capacity of four 4 m x 1 m box culverts are exceeded. Koszciuszko Road is the main arterial road for the region providing access from Cooma to Berridale and NSW Ski Fields. The road is first overtopped in the 10% AEP, although it is not until the 5% AEP event that H2 hazard is present.

Table 30 describes the area's flood behaviour and flood risk.

Table 30: Kosciuszko Road Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depth of up to 0.1m is present at the road • In 1% AEP, water depth of up to 0.3m is present at the road
Flood Hazard	• In the 5% AEP, hazard level of up to H2 is present on the road • In the 1% AEP, hazard level predominantly H4-H5 on the road
Properties flooded above ground	• 0 in 5% AEP • 0 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 0 in 1% AEP
Evacuation	Flooding over the road prevents road access between Berridale and Cooma
Duration	Depending on the length of the storm event, flooding likely to last several hours.
Additional Risk Factors	Kosciuszko Road is the main arterial road for the region and services a significant amount of traffic which increases the chance that vehicles will enter flood waters. Flooding of the road could resulting in isolation which can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event
Gauge levels	There is no gauge upstream of Kosciuszko Road

5.3.1.3. *Hotspot 14 - Short Street Causeway at Myack Creek*

The Short Street causeway over Myack Creek is likely to be frequently flooded and experiences flow that is hazardous to vehicles and pedestrians. Access to a handful of dwellings is cut-off during creek flooding. There is no above floor property affectation associated with the hotspot.

Table 31 describes the area's flood behaviour and flood risk.

Table 31: Short Street Causeway at Myack Creek Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.9 m is present at the causeway • In 1% AEP, water depths of up to 1.2 m is present at the causeway
Flood Hazard	• In the 5% AEP, hazard level of up to H5 is present at the causeway

	• In the 1% AEP, hazard level of up to H5 is present at the causeway
Properties flooded above ground	• 7 in 5% AEP • 7 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 0 in 1% AEP
Evacuation	Residents at Short Street becomes isolated during a flood event and no alternative route exists to evacuate. Isolation can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event
Duration	Depending on the length of the storm event, flooding may last several hours.
Additional Risk Factors	Frequently flooded crossings increase the chance that vehicles will enter flood waters which can pose a significant risk to life.
Gauge levels	There is no gauge on Myack Creek.

5.3.1.4. *Hotspot 15 - William Street Crossing over Myack Creek*

Similar to previous hotspots, William Street's crossing over Myack Creek experiences hazardous flooding and will cut-off access to the O'Brien Avenue to the area to the east. The crossing has three 3.05 m x 1.52 m box culverts, which are noted to have previously been subject to significant blockage during flooding. Property flooding also occurs at the hotspot for lots backing onto Myack Creek.

Table 32 describes the area's flood behaviour and flood risk.

Table 32: William Street at Myack Creek Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 1.9m at upstream of culvert, and no flow over the road • In 1% AEP, water depths of up to 2.5m at upstream of culvert, and 0.3 m over the road
Flood Hazard	• In the 5% AEP, hazard of up to H4-H5 is predominant in the creek, no hazard at road • In the 1% AEP, hazard of up to H5 is predominant in the creek, up to H4 at road crossing
Properties flooded above ground	• 12 in 5% AEP • 13 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 1 in 1% AEP
Evacuation	Residents of O'Brien Avenue are isolated when William Street is overtopped. Isolation can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event
Duration	Depending on the length of the storm event, flooding may last several hours.
Additional Risk Factors	There is risk of vehicles and pedestrians being swept into Myack Creek. Future development in the O'Brien Avenue area may increase the number of people using the William Street crossing of Myack Creek which could increase flood risk.
Gauge levels	There is no gauge on Myack Creek.

5.3.1.5. *Hotspot 16 - Coolamatong Creek*

Coolamatong Creek crosses several roads in Berridale on its way towards Myack Creek, and runs approximately parallel to Jindabyne Road. Flooding of the creek can result in property flooding and reduced access to due to hazardous flow affecting a number of roads.

Table 33 describes the area's flood behaviour and flood risk.

Table 33: Coolamatong Creek Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.3m at Oliver Street, up to 0.5m at Bolton Street, and up to 0.7m at Myack Street. • In 1% AEP, water depths of up to 0.4m at Oliver Street, up to 0.7m at Bolton Street, and up to 0.9m at Myack Street.
Flood Hazard	• In the 5% AEP, hazard level of up to H4-H5 at creek • In the 1% AEP, hazard level of up to H4-H5 at creek
Properties flooded above ground	• 35 in 5% AEP • 52 in 1% AEP
Properties flooded above floor (approx.)	• 9 in 5% AEP • 13 in 1% AEP
Evacuation	Access to Jindabyne Road from the east is reduced by flooding of Coolamatong Creek. One exception is the bridge at Robert Street which is relatively high, although blockage of the bridge structure can lead to overtopping. Areas to the east of Jindabyne Road become isolated during relatively frequent events. Isolation can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event
Duration	Depending on the length of the storm event, flooding may last several hours.
Additional Risk Factors	Frequently flooded crossings increase the chance that vehicles will enter flood waters which can pose a significant risk to life.
Gauge levels	There is no gauge on Coolamatong Creek

5.3.1.6. *Hotspot 17 - Snowy River Hostel*

This hotspot is an aged care facility (Snowy River Hostel) that experiences overland flooding. Flood risk is higher than at similar lots due to the property's use as an aged care facility. Overland flows originate to the north-west as sheet flow on the cleared land, with flow then directly hitting the hostel buildings. There are no stormwater features (e.g. drains) in the area that take the flow. Flow rates are generally small (around 0.5 m^3/s in the 1% AEP).

Table 34 describes the area's flood behaviour and flood risk.

Table 34: Snowy River Hostel Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 0.3m at Snowy River Hostel • In 1% AEP, water depths of up to 0.4m at Snowy River Hostel
Flood Hazard	• In the 5% AEP, hazard of up to H2 at Snowy River Hostel • In the 1% AEP, hazard of up to H3 at Snowy River Hostel
Properties flooded above ground	• 3 in 5% AEP • 3 in 1% AEP
Properties flooded above floor (approx.)	• 1 in 5% AEP • 1 in 1% AEP

Evacuation	Shallow, localised, low hazard flooding in areas surrounding the property may occur, indicating that evacuation is possible if required, however, evacuation may be complicated by residents with limited mobility.
Duration	Flooding is likely to dissipate relatively rapidly (less than 1 hour).
Additional Risk Factors	The property is an aged care facility. Unplanned/abrupt evacuation of aged care facilities is associated with increased mortality rates in vulnerable people. Measures should be implemented to reduce risk to life.
Gauge levels	Overland flow catchments are too small to use flow or level gauges.

5.3.1.7. *Flooded Roads – Berridale*

Hazardous flooding of roads occurs when there is sufficient flow to knock over pedestrians or transport cars off the road due to buoyancy effects. In Australia, vehicles attempting to cross flooded roads is one of the largest causes of injury and fatality in a flood. The ability of flow to move or completely float a car is often underestimated, with as little as 0.3 m (30 cm) depth enough to move a small car, even at small flow speeds (this corresponds to H2 hazard). The following roads have been identified as experiencing hazardous flow (H2 or above) in a 5% AEP event.

- Boundary Street to the east of intersection with Kosciuszko Road
- Oliver Street to the east of intersection with Kosciuszko Road
- Bolton Street to the east of intersection with Kosciuszko Road
- Myack Street to the east of intersection with Kosciuszko Road
- Park Street to the east of intersection with Kosciuszko Road
- Short Street at Myack Creek

These locations have also been listed in Section 8.3.1, which recommends warning signage. Note that other road locations may be flooded in a 1% AEP event and larger events (see hazard maps).

5.3.1.8. *Other Areas for Consideration - Berridale*

Aside from the hotspots described, there are various scattered instances of over floor flooding in the town. The following section describes property flood liability. Areas of flooding include:

- Cecil Street
- Area near Boundary Road and Mary Street
- Area between Boundary Road and Florence Street
- Gungarlin Street near Poplar Street

These properties may be affected by shallow flows associated with minor drainage.

5.3.2. Property Flood Liability

Properties across the study area experience inundation in a flood event, with affectation focussed along the watercourses and overland flowpaths. As part of the economic damages assessment, the flood affectation on a per property level was assessed by comparison of each lot's ground level and habitable floor level to the design flood levels at the property. The comparison is made at a point location on each lot, usually at the visible entry (i.e. front door). The floor level at each lot is an estimate based on visual inspection and not a surveyed level. This assessment allows an overall estimate of where properties are flooded above floor level, as shown on Figure C 15, which colour codes each property for the flood event it is first flooded above floor level. The map also shows the 1% AEP hazard.

The map should be interpreted as an overall representation of above-floor flood liability, and as an estimate only for determination for any particular property. This is because the floor level was estimated from visual inspection, which is less accurate than survey, and secondly because minor landscaping drainage features within a lot are sometimes not accurately captured in the model which is assessing an area of 22 km². The latter tends to exaggerate above-floor flooding in areas of shallow overland flow. Where properties in H1 hazard are shown as flooded above floor in relatively frequent floods, this indicates that the property simply has a low floor level and that shallow flow depths could potentially cause above-floor flooding. However, in practise, often local landscaping/drainage may ameliorate the risk of above floor flooding.

5.3.3. Critical Infrastructure and Sensitive Land-Uses

Critical infrastructure is located throughout the area and if inundated during a flood, can significantly impact the functioning of the town. The following section describes the flood liability of various critical infrastructure. The section also describes the exposure of facilities particularly sensitive to inundation, including childcare, schools and aged care.

5.3.3.1. *State Emergency Service (SES)*

Berridale may be serviced by the NSW SES Snowy River and Cooma-Monaro Units. Access to Berridale by emergency services is potentially impacted due to flooding of various road crossings during moderate to major flood events. Assistance from the SES may be significantly affected if the township to Berridale is impacted by flooding.

Council should notify the NSW SES South East Zone Headquarters of any reports of road closures associated with flooding between Cooma and Jindabyne. This will allow the NSW SES to determine unit to direction emergency services from.

5.3.3.2. *Schools and Childcare Centres*

Berridale Public School is situated on Oliver Street between Florence and Mary Streets. The school is noted to be above the level of the PMF and thus not subject to inundation, however flooding of Jindabyne and Dalgety Roads may lead to reduced access during times of flood.

Berridale Little Stars Preschool & Childcare Centre. Little Stars Preschool is located on Pryce Street. The preschool may experience minor drainage issues during rare flood events, however even during the PMF, flood depths are shallow (< 300mm) and classified as H1 hazard. Access to the preschool is likely to be restricted during times of flood due to flooding of Jindabyne Road.

5.3.3.3. *Aged and Vulnerable Care*

Snowy River Hostel is situated at 7 Jindalee St. The site may become flooded during relatively frequent rainfall events and be flood affected by shallow overland flow (< 300 mm, H1-H2 classification). Due to the Hostels exposure to flooding, frequent evacuation/response activities are likely required. Unplanned/abrupt evacuation of aged care facilities is associated with increased mortality rates in vulnerable people.

5.3.4. Economic Impact of Flooding

A flood damages assessment is used to quantify the economic impact of flooding on the community. The assessment equates the depth experienced at each property to an economic cost, based on data from historical floods. The absolute flood damages flood value are used solely for the purpose of calculating benefit-cost ratios for proposed management measures and by the state government in prioritising resources. More information on flood damages, including how they are derived, is provided in Section E.3.

The flood damages assessment for Berridale estimated an Average Annual Damage of $256,000. The results of the assessment, including properties flooded above floor per design event, and corresponding cost, is presented in Table 35.

Table 35: Berridale Flood Damages

Event	No. Properties Affected	No. Flooded Above Floor	Total Damages for Event	% Contribution to AAD	Avg. Damage per Flood Affected Property ($)
20% AEP	23	0	$279,100	17%	$12,100
10% AEP	34	4	$570,900	17%	$16,800
5% AEP	48	14	$1,149,400	18%	$23,500
2% AEP	71	23	$2,102,700	20%	$28,400
1% AEP	86	32	$ 2,870,600	10%	$33,000
0.5% AEP	97	41	$ 3,535,700	7%	$36,100
0.2% AEP	97	42	$3,672,800	4%	$37,500
PMF	173	130	$11,771,500	6%	$67,300
Average Annual Damages (AAD)			$243,200		$1,400

The table shows that property flooding in Berridale steadily increases with larger flood events, with significant above-floor flooding in rarer flood events. In frequent events, flooding tends to occur where overland flowpaths interact with buildings, with around 20-30 properties affected. In the 1% AEP this is more than doubled and the event damages is close to $3 million.

The results show that frequent events are responsible for around half of the AAD figure. The standard flood damages estimation includes a cost of around $10,000 for below-floor flooding, which results in large damages for frequent events (e.g. $280k in 20% AEP). This is likely an over-estimate of the actual damage cost.

5.4. EMERGENCY RESPONSE

5.4.1. Flood Warning and Emergency Response

Understanding of the available flood warning and emergency response in Berridale is understood from information provided in the Local Flood Plan, which is summarised in Section 2.3.8, and analysis as part of the current study. The Plan sets out responsibilities and processes for the emergency response during a flood, which is primarily carried out by the SES. The closest SES Regional Operations Centre in the LGA are located at Geebung Street, Polo Flat. There is another SES unit on Lee Avenue in South Jindabyne which may assist in Berridale. The Plan does not describe the consequences of flooding at the town (i.e. historical events or river levels at which road or property flooding occurs).

As for other towns in the LGA, the BOM use a network of rainfall gauges and other data to issue a range of warnings related to flooding. These include Severe Thunderstorm Warning, Severe Weather Warning for Flash Flooding, and Flood Warning.

Analysis of the catchment size and characteristics indicates Berridale has minimal warning time. The catchment response time is approximately 0-1 hours for Cooma and the Berridale creek catchments are around six times smaller than the Cooma Creek catchment. Berridale can therefore be characterised as experiencing flash flooding and the small to negligible available warning time leads to a high flood risk in

the town. Flash floods are difficult to forecast as the rainfall is very localised, which forecast models can less accurately predict than wider rainfall events. The short warning time means that in a large flood, emergency services must evacuate several separate areas and manage potentially reluctant or slow residents.

Discussion of response modification measures is given in the flood risk management measures section (Section 8.3).

5.4.2. Flood Emergency Response Classification of Communities

Flood Emergency Response Classification refers to categorising parts of the floodplain based on their evacuation constraints. Mapping of evacuation constraints across the study area assist the SES and other emergency responders in planning where assistance, evacuation or rescue is needed for individual properties. The categories have been mapped for three design events (5% AEP, 1% AEP and PMF) to understand how evacuation constraints vary between different-sized floods. The categories have been determined in accordance with DPIE's 'Flood Emergency Response Planning Classification of Communities' guideline. The categories are shown on Figure C 11 (5% AEP), Figure C 12 (1% AEP) and Figure C 13 (PMF).

The figures show that:

- In the 5% AEP, most flood-prone urban areas are classified as Rising Road Access. Some areas, for example on Coolamatong Creek immediately north of Myack Street, are classified as High Trapped Perimeter area as Park Street is flooded. There is also a Low Flood Island further north between Myack Creek and Jindabyne Road.
- In the 1% AEP, most categories in the Berridale urban area are unchanged from the 5% AEP. Areas of difference include more of the caravan park off Jindabyne Road being High Trapped Perimeter, and the entire area east of Myack Creek being High Trapped Perimeter area, due to the creek flooding the access roads.
- In the PMF there is a wide H5-H6 flowpath along both creeks that directly impacts much of the town and cuts off all major roads. There are areas in the south and west of the town that are relatively safe for short term evacuation (see PMF hazard figure).

6. MICHELAGO FLOOD RISK

6.1. OVERVIEW

Michelago Creek flooding does not affect the majority of the town in most flood events, although very rare and extreme events will flood a number of roads and properties. Flood risk in the town is largely related to several overland flowpaths that impact road and properties in different parts of the town. The two flooding mechanisms can occur simultaneously or separately. Description of the area's flood risk has been divided into the following sub-sections:

- **Flood Behaviour** (Section 6.2) describes the depth and velocity of floodwaters across the range of design flood events. This section includes flood hazard (Section 6.2.3), which relates depth and velocity to risk posed to pedestrians, vehicles and buildings, and also flood function (Section 6.2.4), which divides the floodplain into the categories of flow conveyance, flood storage and flood fringe.
- **Impact of Flooding** (Section 6.3) describes the consequences of flooding in urban areas. This section includes a breakdown of flooding hotspots where flood risk is concentrated (Section 6.3.1), mapping of property flooding across the town (Section 6.3.2), flood liability of critical infrastructure and sensitive land uses (0) and the economic impact of flooding (Section 6.3.4).
- **Emergency Response** (Section 6.4) describes the flood warning system and operation of emergency services (Section 6.4.1) and the 'flood emergency response classification of communities (Section 6.4.2).

Assessment of land use planning as it relates to flooding, including the cumulative impact of future development on flooding, is described for the four towns in Section 7.

6.2. FLOOD BEHAVIOUR

6.2.1. Background

Several creeks and tributaries converge south of the Michelago town centre including Michelago Creek, Margarets Creek, Ryries Creek, Booroomba Creek and Teatree Creek. Some sections of the town and surrounds are affected by overland flow flooding which drains towards these creeks, with minor roads like Tinderry Road reported to experience flooding (SES, 2017).

There is little data available describing previous floods in Michelago. Residents reported floods of various sizes, including 2010, 2012 and 2017. These generally aligned with high rainfall events recorded in the region, including February 2010, February 2012 and October 2017.

6.2.2. Design Events

Table 36 summarises design flood levels for a number of locations in the town. Locations are shown on Figure D 1 which also shows the 1% AEP peak flood depth. Figure D 2 shows the flood profiles for each design event for Michelago Creek.

Table 36: Michelago Design Flood Levels at Reporting Locations

ID	Location	Ground Level (mAHD)	Peak Flood Level (mAHD) per design event							
			20% AEP	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
28	Michelago Creek at Monaro Highway Bridge	685.7	687.7	688.1	688.4	688.8	689.0	689.3	689.6	698.4

ID	Location	Ground Level (mAHD)	Peak Flood Level (mAHD) per design event							
			20% AEP	10% AEP	5% AEP	2% AEP	1% AEP	0.5% AEP	0.2% AEP	PMF
29	Michelago Creek near railway bridge	691.8	693.3	693.6	693.8	694.2	694.4	694.7	695.1	699.9
30	Near Ryrie Street and Burra Road	694.9	695.1	695.1	695.2	695.2	695.2	695.2	695.2	698.5
31	Near Monaro Highway and Ryrie Street	690.6	691.0	691.2	691.3	691.3	691.3	691.3	691.4	698.5
32	Mount View Street	698.4	698.6	698.6	698.6	698.6	698.7	698.7	698.7	699.0
33	Micalago Rd near creeks' confluence	692.9	693.0	693.4	693.4	693.4	693.5	693.5	693.6	698.8
34	Booroomba Creek close to confluence with Michelago Creek	692.1	693.3	693.4	693.6	693.9	694.0	694.2	694.4	698.8
35	Near Monaro Highway and Ryrie Street	700.6	701.7	702.0	702.0	702.1	702.1	702.2	702.2	702.5

Michelago experiences less flood affectation than the other three towns. There is localised flood affectation at the intersection of Ryrie Street and Monaro Highway, and in the vicinity of the intersection Ryrie Street and Burra Road. The peak flood depths figures show the following:

- Michelago Creek remains confined to its channel until the 2% AEP event where it starts to spread out of bank downstream of its confluence with Booroomba Creek.
- There is a section of inundation of Micalago Road approximately 400 m to the east of Monaro Highway. Depths are around 0.7 m in the 10% AEP and increasing to 1.4 m in the 1% AEP.
- A flow path is present in the 20% AEP that joins into Mount View Street, inundation an area of land with depths between 0.2 m and 0.3 m.
- Several other flow paths leading towards Michelago creek are also present. Currently, there is little risk posed by the flow paths where they are away from roads and property.

6.2.3. Flood Hazard

Background on the concept and derivation of flood hazard is given in Section E.1.

Hazard categories for Michelago are presented on Figure D 3 to Figure D 6, for the 5%, 1% and 0.2% AEP, and the PMF. The figures show the following areas of hazard:

- The area to the east of the intersection of Monaro Highway and Ryrie Street, Mount View Street, and the area to the west of the intersection of Ryrie Street and Burra Road are categorised as H2-H4 in the 5% AEP.
- Nearly all the H3-H6 areas are localised within creeks and other minor flow paths in events up to and including 0.2% AEP, indicating the town has relatively low flood risk.
- In the PMF, a large proportion of the town is categorised as H5-H6 fringed by H1-H4, including sections of the Monaro Highway.

6.2.4. Flood Function

Background on the concept and derivation of flood hazard is given in Section 3.2.4 and E.2

The hydraulic categories of flow conveyance, flood storage and flood fringe have been derived for the 5% AEP, 1% AEP, 0.2% AEP and PMF events and are shown in Figure D05 to Figure D08. As described in Section E.2, the categories are used by town planners and other stakeholders to understand flood risk. Areas of flow conveyance are generally incompatible with development aside from parks or recreational facilities, while areas of flood storage can generally be developed, if the loss of storage or other impacts are managed. Flood fringe is areas of shallow flooding that, if developed, have minimal effect on the overall function of the floodplain.

The figures show that in the 1% AEP, the majority of the mainstream flood extent is flow conveyance, with some large areas of flood storage and flood fringe on the periphery. Overland flow leads to some smaller flow conveyances and large areas of flood fringe.

In the 5% AEP, the flow conveyance again occupies the majority of the floodplain, with some areas of flood fringe and small areas of flood storage on the periphery. The 0.2% AEP is similar to the 1% AEP, with slight increases in flow conveyance and flood storage. In the PMF most of the flood extent is flow conveyance with large areas of flood storage, including the town centre. Overland flow leads to some smaller flow conveyance areas and areas of flood fringe.

6.3. IMPACT OF FLOODING

6.3.1. Flooding Hotspots

Michelago does not experience significant flooding from Michelago Creek in most flood events; however, creek flooding can cause access issues for properties south of the town, when Micalago Road is inundated. There are also multiple overland flowpaths that cause localised minor flooding in the town.

Summary of Michelago Hotspots is presented in Table 37, with further details presented in Sections 6.3.1.1 and 6.3.1.2. The location of the various hotspots are presented in Figure D 1: Peak Flood Depth and Level - 1% AEP Michelago.

Table 37: Michelago Hotspots

Hotspot #	Location	Risk Factors
18	Ryrie Street near intersection with Monaro Highway	Road flooding and evacuation/isolation issues
19	Micalago Road at train tracks	Road flooding and evacuation/isolation issues

6.3.1.1. ***Hotspot 18 - Ryrie Street near intersection with Monaro Highway***

This hotspot is the area in the vicinity of the Ryrie Street petrol station near the highway, which becomes flooded when the culverts under Ryrie Street (Two 0.9 m diameter) have their capacity exceeded. Inundation of the petrol station and surrounding area occurs due to backwatering, while Ryrie Street is also overtopped. Road flooding is low hazard (category H1) for events up to the 0.2% AEP event.

Flood risk at the location is generally low but it has been included as a hotspot due to being the only access road to Michelago from the highway.

Table 38 describes the area's flood behaviour and flood risk.

Table 38: Ryrie Street and Monaro Highway Hotspot Description

Flood Risk Characteristic	Description

Depth of flooding	• In 5% AEP, water depths of up to 1.4 m is present just upstream of culvert. Flooding of around 0.5 m around the petrol station. • In 1% AEP, water depths of up to 1.4 m is present just upstream of culvert. Flooding of around 0.6 m around the petrol station.
Flood Hazard	• In 5% AEP, hazard level of H1-H2 on the road, H1-H3 at the area north of the road • In 1% AEP, hazard level of H1-H2 on the road, H1-H3 at the area north of the road
Properties flooded above ground	• 1 in 5% AEP • 1 in 1% AEP
Properties flooded above floor (approx.)	• 1 in 5% AEP • 1 in 1% AEP
Evacuation	Hazard level at Ryrie street is low and affected residents can evacuate if needed.
Duration	Depending on the length of the storm event, flooding may several hours.
Additional Risk Factors	-
Gauge levels	Overland flow catchments are too small to use flow or level gauges.

6.3.1.2. *Hotspot 19 - Micalago Road at train tracks*

The section of Micalago Road near Ryrie Street and the now-defunct train tracks is affected by flooding of Michelago and Booroomba Creeks. Flooding occurs when the Booroomba Creek culverts (two 1.2 m diameter) are overtopped, and when the Michelago Creek inundates the road near the rail bridge. Flood risk is related to vehicles crossing hazardous flow on the road, and isolation of the area Micalago Road services.

Table 39 describes the area's flood behaviour and flood risk.

Table 39: Micalago Road at Train Tracks Hotspot Description

Flood Risk Characteristic	Description
Depth of flooding	• In 5% AEP, water depths of up to 1.2m is present on the road, near the culverts • In 1% AEP, water depths of up to 1.8m is present on the road, near the culverts
Flood Hazard	• Hazard level of around H4-H5 on the road in the 5% AEP • Hazard level of H5 on the road in the 1% AEP
Properties flooded above ground	• 3 in 5% AEP • 3 in 1% AEP
Properties flooded above floor (approx.)	• 0 in 5% AEP • 0 in 1% AEP
Evacuation	Micalago Road is the main access road for a number of properties to the west of the rail line. There is an alternative route (Ryrie Hill Road) but it is also likely to be flooded during major storm events. Flooding of the road will result in isolation which can have implications for emergency vehicle access such as ambulances which increases the risk to life if there is a medical emergency during a flood event
Duration	Depending on the length of the storm event, flooding likely to last several hours to days.
Additional Risk Factors	The crossing is expected to be trafficable during events smaller than the 20% AEP. Frequently flooded crossings increase the chance that vehicles will enter flood waters which can pose a significant risk to life.
Gauge levels	No available gauge

6.3.1.3. *Flooded Roads – Michelago*

Hazardous flooding of roads occurs when there is sufficient flow to knock over pedestrians or transport cars off the road due to buoyancy effects. In Australia, vehicles attempting to cross flooded roads is one of the largest causes of injury and fatality in a flood. The ability of flow to move or completely float a car is often underestimated, with as little as 0.3 m (30 cm) depth enough to move a small car, even at small flow speeds (this corresponds to H2 hazard). The following roads have been identified as experiencing hazardous flow (H2 or above) in a 5% AEP event.

- Ryrie Street near Monaro Highway and petrol station
- Micalago Road at Booroomba Creek
- Micalago Road at Michelago Creek

These locations have also been listed in Section 8.3.1, which recommends warning signage. Note that other road locations may be flooded in a 1% AEP event and larger events (see hazard maps).

6.3.1.4. *Other Areas for Consideration - Michelago*

Aside from the hotspots described, there are various scattered instances of over floor flooding in the town. The following section describes property flood liability. Areas of flooding include:

- Ryrie Street north-west of intersection with Burra Road. There is a 2x0.45m diameter culvert under Ryrie Street but flooding occurs on the northern side of the road as the culvert is not at the low point.
- Ryrie Street between Burra Road and Micalago Road

These properties may be affected by shallow flows associated with minor drainage flows rather than flooding.

6.3.2. Property Flood Liability

Properties across the study area experience inundation in a flood event, with affectation focussed along the watercourses and overland flowpaths. As part of the economic damages assessment, the flood affectation on a per property level was assessed by comparison of each lot's ground level and habitable floor level to the design flood levels at the property. The comparison is made at a point location on each lot, usually at the visible entry (i.e. front door). The floor level at each lot is an estimate based on visual inspection and not a surveyed level. This assessment allows an overall estimate of where properties are flooded above floor level, as shown on Figure D 15, which colour codes each property for the flood event it is first flooded above floor level. The map also shows the 1% AEP hazard.

The map should be interpreted as an overall representation of above-floor flood liability, and as an estimate only for determination for any particular property. This is because the floor level was estimated from visual inspection, which is less accurate than survey, and secondly because minor landscaping drainage features within a lot are sometimes not accurately captured in the model which is assessing an area of 21 km^2. The latter tends to exaggerate above-floor flooding in areas of shallow overland flow. Where properties in H1 hazard are shown as flooded above floor in relatively frequent floods, this indicates that the property simply has a low floor level and that shallow flow depths could potentially cause above-floor flooding. However, in practise, often local landscaping/drainage may ameliorate the risk of above floor flooding.

6.3.3. Critical Infrastructure and Sensitive Land-Uses

Critical infrastructure is located throughout the area and if inundated during a flood, can significantly impact the functioning of the town. The following section describes the flood liability of various critical

infrastructure. The section also describes the exposure of facilities particularly sensitive to inundation, including childcare, schools and aged care.

6.3.3.1. *Hospital and Ambulance*

Michelago is serviced by the Southern Sector of the NSW Ambulance Goulburn Area. Ambulance access to Michelago from Cooma may be impacted due to flooding of various road crossings during frequent flood events. In the event of major flooding in the Cooma region, access from the Queanbeyan Ambulance Station to Michelago may be preferred due to flooding of key access roads.

Council should notify the Southern Sector of the NSW Ambulance Goulburn Area, any reports of road closures associated with flooding between Cooma and Michelago. This will allow Ambulances to be directed from Queanbeyan if necessary.

6.3.3.2. *State Emergency Service (SES)*

According to the Local Flood Plan, the Queanbeyan SES Unit service Michelago. Access to Michelago by emergency services is likely to be impacted due to flooding of various road crossings during frequent flood events. Assistance from the SES is likely to be significantly affected if the township to Michelago is impacted by flooding.

Access from the NSW SES Queanbeyan Unit may be preferred during major flood events in the Cooma region and/or reports of roads closures. Council should notify the NSW SES South East Zone Headquarters of any reports of road closures associated with flooding between Cooma and Michelago. This will emergency services to be directed from Queanbeyan if necessary.

6.3.3.3. *Schools and Childcare Centres*

Michelago Public School is situated at 20 Ryrie St. The school is flood free for events up to and including the 0.2% AEP event, however, is affected by flood depths exceeding 2 m with an associated H5 flood hazard during the PMF event. Evacuation of the school is required during extreme Michelago Creek flood events.

6.3.4. Economic Impact of Flooding

A flood damages assessment is used to quantify the economic impact of flooding on the community. The assessment equates the depth experienced at each property to an economic cost, based on data from historical floods. The absolute flood damages flood value are used solely for the purpose of calculating benefit-cost ratios for proposed management measures and by the state government in prioritising resources. More information on flood damages, including how they are derived, is provided in Section E.3.

The flood damages assessment for Michelago estimated an Average Annual Damage of $137,000. The results of the assessment, including properties flooded above floor per design event, and corresponding cost, is presented in Table 26.

Table 40: Michelago Flood Damages

Event	No. Properties Affected	No. Flooded Above Floor	Total Damages for Event	% Contribution to AAD	Avg. Damage per Flood Affected Property ($)
20% AEP	9	5	$331,700	36%	$36,900
10% AEP	9	5	$401,900	27%	$44,700
5% AEP	10	5	$450,500	16%	$45,000
2% AEP	11	5	$462,600	10%	$42,100

1% AEP	14	6	$529,500	4%	$37,800
0.5% AEP	15	8	$709,200	2%	$47,300
0.2% AEP	18	8	$767,400	2%	$42,600
PMF	34	33	$4,259,500	4%	$125,300
	Average Annual Damages (AAD)		$136,700		$4,000

The table shows that there is minimal property flooding in Michelago in most flood events, with only the PMF causing more than 10 properties to be flooded above floor. In frequent events, flooding tends to occur where overland flowpaths interact with buildings, with around 10 properties affected. In the 1% AEP there is only slightly more than damage than more frequent events. In the PMF, the damages increases to $4.3 million.

The results show that frequent events are responsible for more than half of the AAD figure. The standard flood damages estimation includes a cost of around $10,000 for below-floor flooding, which results in large damages for frequent events (e.g. $332k in 20% AEP). This is likely an over-estimate of the actual damage cost.

6.4. EMERGENCY RESPONSE

6.4.1. Flood Warning and Emergency Response

Understanding of the available flood warning and emergency response in Michelago is understood from information provided in the Local Flood Plan, which is summarised in Section 2.3.8, and analysis as part of the current study. The Plan includes a map of Michelago and states there may be road closures during a flood, but does not otherwise describe the consequences of flooding at the town (i.e. historical events or river levels at which road or property flooding occurs).

As for other towns in the LGA, the BOM use a network of rainfall gauges and other data to issue a range of warnings related to flooding. These include Severe Thunderstorm Warning, Severe Weather Warning for Flash Flooding, and Flood Warning.

Analysis of four historical flood events indicates Michelago has a warning time of 1-2 hours. Michelago can therefore be characterised as experiencing flash flooding and the lack of available warning time can exacerbate risk in the town. Flash floods are difficult to forecast as the rainfall is very localised, which forecast models can less accurately predict than wider rainfall events. The short warning time means that in a large flood, emergency services must evacuate several separate areas and manage potentially reluctant or slow residents. While a replication of the BOM system at Cooma, which uses forecast rainfall and other inputs, may be possible for Michelago, it is not considered warranted given the comparative flood risk.

Discussion of response modification measures is given in the flood risk management measures section (Section 8.3).

6.4.2. Flood Emergency Response Classification of Communities

Flood Emergency Response Classification refers to categorising parts of the floodplain based on their evacuation constraints. Mapping of evacuation constraints across the study area assist the SES and other emergency responders in planning where assistance, evacuation or rescue is needed for individual properties. The categories have been mapped for three design events (5% AEP, 1% AEP and PMF) to understand how evacuation constraints vary between different-sized floods. The categories have been

determined in accordance with DPIE's 'Flood Emergency Response Planning Classification of Communities' guideline. The categories are shown on Figure D 11 (5% AEP), Figure D 12 (1% AEP) and Figure D 13 (PMF).

The figures show that:

- In the 5% AEP and 1% AEP, the town is classified as High Trapped Perimeter area. This is due to the access to Monaro Highway, which is via Ryrie Street, being restricted by a small flowpath over Ryrie Street near the petrol station. The flow over the road is relatively minor but there is some H2 hazard flow which motorists would be advised against crossing.
- In the PMF, nearly all properties on the creek side of Ryrie Street are affected by H5 and H6 flooding, as are several properties on the other side of the road. All major roads are cutoff by hazardous flooding. The northwest corner of the town is relatively safe and can be used for short term evacuation (see PMF hazard map).

7. LAND USE PLANNING AND FLOODING

7.1. CUMULATIVE IMPACT ASSESSMENT

Cumulative impact assessment refers to the impact on flood behaviour by future development. It is a measure of how widespread development across the study area may lead to worse flooding, due to changes in the catchment characteristics. Specifically, urban areas have lower rainfall losses than undeveloped areas, and lower hydraulic roughness than areas of thick vegetation, both due to the increase in impermeable surfaces (i.e. roofs, footpaths, roads). The areas of future development were taken from the current LEP zoning areas based on discussion with Council. It is noted that these do not denote any currently proposed development areas. The impact is then determined by comparing the existing 5%, 1% and 0.2% AEP design flood levels and the 'fully developed' scenario. This scenario has the following modifications from the existing case:

- All fully-developed residential areas are treated as suburban residential lots, with 30% imperviousness in the hydrologic model (as per the existing case). This reduces the rainfall losses, which leads to increased runoff.
- Similarly, industrial/commercial zoned areas are set at 80% imperviousness (only applies to Cooma).
- Currently undeveloped areas have hydraulic roughness parameters set as per the roughness applied for urban areas based on the land zoning.

The 'fully developed' area is shown on Figure 8-24 to Figure 8-27 in Appendix E.

The impact assessment found that the 'fully developed' scenario will have negligible effect on existing flood behaviour, save for some localised areas where there is a minimal increase in flood levels. The results for each of the study areas is as follows:

- **Cooma** showed no increase in peak flood level in Cooma Creek or Cooma Back Creek across the three design events. In the Polo Flat watercourse, around 1.5 km from Numeralla Road, there was an increase of around 0.18 m in the 1% AEP event and 0.12 m in the 5% AEP event. The impact was contained within the main channel of the watercourse. There was no impact in the 0.2% AEP.
- **Bredbo, Berridale and Michelago** showed no increase in peak flood level, across the three design events.

While the reduced rainfall losses did lead to increased runoff in each of the simulations, the increase in flow occurred prior to the larger upstream catchment flood peak, and thus there was a negligible impact on peak flows and flood levels for the design events being examined. In some double burst rainfall events, it could occur that flood flows are increased due to the increase in imperviousness. This situation may occur when a secondary rainfall burst occurs at the time flood flows from a primary bust were passing through a proposed developed area. This situation is likely to be relatively rare and not lead to significant increases in flood levels.

The results indicate that development controls in relation to On-Site Detention (OSD) are not required to manage the cumulative impact on flooding from future development. In fact, in some situations, implementation of OSD may exacerbate flooding by slowing down discharge from developed areas which may then better align with the upstream catchment flood peak (thus increasing flood levels). This should be considered when developing on OSD strategy.

However, OSD controls also provide benefits for reasons other than flooding. They can be used to manage the change in runoff from frequent rainfall events thus reducing the risk of downstream erosion, as well as be implemented in conjunction with water quality strategies. For these reasons, an OSD policy is potentially appropriate for new development areas in each of the towns, however, it would not be categorised as a floodplain risk management measure.

7.2. FLOOD PLANNING AREA

The process of deriving the FPA varies depending on the dominant flood mechanism in a study area, with areas of creek flooding (also referred to as mainstream flooding) using a different approach to areas of overland flow. For some parts of the four study areas, there were also small unnamed creeks and gullies in rural areas with minimal flow (e.g. 5 m^3/s in the 1% AEP) that would likely be considered overland flow were the area to be developed. The range of flood mechanisms meant that the final FPA is a combination of different techniques, as described below. Overall, the FPA incorporates the risk of flood levels increasing in the main creeks and rivers, by including a freeboard of 0.5 m (as per NSW FDM), while also acknowledging that overland flow has less risk of covering a large area and so a 0.5 m freeboard is not suitable.

The methodology used to define the FPA in each town is as follows:

1. For the main creeks and rivers, which are defined here as those with >10 m^3/s peak flow in the 1% AEP, the FPA is defined by raising the 1% AEP level by 0.5 m and increasing the flood extent accordingly[1]. In each town these main creeks and rivers are:
    - **Cooma**: Cooma Creek, Cooma Back Creek, Sandy Creek, the unnamed creek that crosses Yallakool Road near Tillabudgerry Road and joins Cooma Creek 4.5 km north of the town centre, the creek/drainage channel that runs south to north through the Polo Flat area, and the small creek that joins Cooma Back Creek just downstream of Tumut Street
    - **Michelago**: Lenanes Creek, Margarets Creek, Michelago Creek, Booroomba Creek, Ryries Creek
    - **Bredbo**: Murrumbidgee River, Cosgrove Creek, Railway Gully and some smaller creek joining with Railway Gully, Bredbo River, Murrumbucca Creek, small creek that joins Bredbo River after Railway Gully and before Cosgrove Creek
    - **Berridale**: Woolway Creek, Coolamatong Creek, Myack Creek including two tributaries of Myack Creek
2. For lots within the urban areas (i.e. lot size of ~0.25 acres or smaller), but not overlapping with the mainstream FPA defined in step 1, the process is to first select all lots with at least 0.2 m depth in 10% of their lot (based on the 1% AEP event). Then, lots with localised, spurious depths resulting from DEM artefacts (particularly surrounding a building) are excluded, while any additional properties with significant flow are included. 'Significant flow' in this instance is defined as where there is 1% AEP flow conveyance.
3. For all other areas in the study area (i.e. larger rural or rural-residential lots), the FPA defined in Step 1 is extended to include the small creeks that have between 2 and 10 m^3/s peak flow in the 1% AEP. These are small unnamed creeks and gullies that are tributaries of the larger creeks. Their FPA was defined as the flood extent of the 0.2% AEP event, with depths of <0.2 m excluded. The 0.2% AEP was always less than 0.5 m above the 1% AEP event, and therefore did not overestimate the FPA area. For smaller flowpaths (i.e. <2 m^3/s), these were not included in the FPA and it is assumed that any development would manage this runoff via basic stormwater infrastructure.
4. For Cooma, which has an extensive urban area and stormwater system, lots were included in the FPA if they were traversed by stormwater drainage of 600 mm diameter or greater. These drains tend to follow natural flow paths in the urban area.

[1] This is achieved by using the flood level contours of a larger event (either 0.5% AEP or PMF), updating each contour with the 1% AEP level + 0.5 m, and then generating a surface from the contours, with the FPA occurring where the surface is above the ground level.

The Flood Planning Level (FPL) is then the 1% AEP level at the area of interest, plus 0.5 m. For lots affected solely by overland flooding, the FPL may be lower, depending on what is set in Council's LEP and DCP (see Section 8.2.2).

8. FLOOD RISK MANAGEMENT MEASURES

8.1. BACKGROUND

Assessment of flood risk management measures is one of the two key outputs of the current study, along with assessment of the villages' flood risk. Flood risk management measures are broadly defined as interventions that Council or other stakeholders can implement that will reduce, or otherwise manage, the risk of flooding in each town. There is a wide range of measures that can be used to manage flood risk, from large-scale structural works (e.g. a new levee) to non-structural interventions (e.g. planning control for new development). To determine which are best suited to a particular area, the range of measures is considered and evaluated against the nature of the flood risk. The investigation then determines whether a measure is feasible and ranks the feasible measures for implementation priority. The recommended measures are summarised in the Floodplain Risk Management Plan, including timing, responsibility and indicative costing.

Management measures are chosen from three categories set out in the NSW Floodplain Development Manual (2005), as follows:

1. **Property Modification Measures** are those that modify existing properties to manage their flood risk. This includes planning-related measures such as minimum floor levels and zoning based on a locality's flood risk. They also include house raising, and in cases of high flood risk, voluntary purchase schemes.
2. **Response Modification Measures** are those that improve the ability of people to plan for and react to flood events. They often involve emergency services and can be targeted at different phases of a flood, e.g. preparation, warning, response and recovery.
3. **Flood Modification Measures** are those that change the depth, level, flow or velocity of floodwaters, via structural measures. They are often used to exclude flow from an area (e.g. a levee bank) or to reduce the peak flow (e.g. detention basin).

All measures will have different effects for different sizes of flood. For example, measures that give benefit in the 10% AEP flood may have negligible benefit in the 1% AEP event and vice versa.

Table 41 gives an overview of typical measures in each category and their advantages and disadvantages, based on the NSW Floodplain Development Manual.

Table 41: Overview of mitigation measure types

	Measure	Areas of Application	Advantages	Disadvantages
Property Modification	**Land-use Planning**	Can be used in any area of development on flood-prone land but is particularly effective where new areas of development are planned.	In areas of new development, can avoid large-scale flood risk by incorporating flood risk mitigation into the development process.	Limited use when development is not planned as controls or zoning are not enforced. In such cases will only be effective in the long term. Stringent controls on development may not be accepted by community.
	Voluntary Purchase	Where residential properties are exposed to high hazard flow that poses risk to life or high financial cost.	Can significantly reduce flood risk by removing people from high risk flooding.	Often expensive relative to other options and requires consent of each residence.
	Voluntary House Raising	Where residential properties are exposed to low hazard and localised flow that can be avoided with higher floor levels.	Can significantly reduce cost of flooding in an area by reducing above-floor flooding. Avoids relocation of people.	Only suitable for low hazard flow. Not all house types are suitable for raising.

	Flood Access	Where isolation during a flood event is considered hazardous.	Can reduce risk to life by provision of access routes out of a flooded area.	Does not reduce damage to built assets. Limited to areas with isolation and access issues.
Response Modification	**Flood Education, community readiness**	Where a community's knowledge of flooding can be improved in order to reduce their flood risk.	Can equip community with best response/recovery plan for flooding, often cost-effective	Hard to ensure 100% of community is reached, limited benefit in particularly high hazard areas.
	Flood Prediction and Warning	Where rainfall and flooding in a catchment can be forecast or measured and warning sent to downstream areas.	Can be used to initiate complete evacuation or other preparation measures.	Limited use in small catchments, warnings may be misinterpreted, does not reduce risk to fixed assets (e.g. houses).
	Recovery Planning	Where recovery from a flood can be significantly improved	Designate responsibilities between agencies involved including Council, SES, community and insurers.	Focuses on the aftermath of a flood event so generally used in conjunction with other measures.
Flood Modification	**Flood Mitigation Dams**	Where a larger creek or river has available land to detain flood flow.	Can completely remove instance of common floods.	Often severe environmental impacts, requires large areas of land.
	Retarding Basins	Where an overland flowpath or small creek can be detained before it enters an urban area.	Reduces the flood peak and therefore flood levels in urban areas.	Requires large area of land, can be hazardous during a flood if a multi-use space.
	Levees	Where a creek or river can be blocked from a developed area.	Can protect against a range of floods, can be straightforward design and construction	Level of protection often overestimated, can be overtopped and fail. Often impacts properties outside the levee.
	Bypass Floodways	Where there is land available with suitable topography to create a bypass channel for a creek or river	Can reduce flooding in an urban area by diverting flow during a flood.	Requires large area of land and only suited to some floodplain topographies. May impact areas downstream.
	Channel Modifications	Where a creek or river is particularly constricted or otherwise inefficient in conveying floodwaters	Can reduce peak flood level by improving conveyance along a section of channel	Often significant impacts on environment and natural amenity. May impact areas downstream.

As described previously, all measures have a common disadvantage of having limited benefit in extreme floods, or in floods larger than their design event. Similarly, all measures must be maintained, either physically in the case of built measures, or renewed and updated in the case of flood education, planning controls and other interventions.

The structure of the remainder of the section is:

- Property Modification Measures – All Towns
- Response Modification Measures – All Towns
- Flood Modification Measures
    - Cooma Flood Modification Measures
    - Bredbo Flood Modification Measures
    - Berridale Flood Modification Measures
    - Michelago Flood Modification Measures

8.2. PROPERTY MODIFICATION MEASURES – ALL TOWNS

Property modification measures are those that directly deal with existing and future development to manage its flood risk. While such measures do not change the flood behaviour itself, over time they can remove dwellings and other buildings from the most hazardous flooding and ensure the remaining flood-prone areas are well-equipped to deal with flooding. Such measures are particularly suited to areas where flood modification measures are either not available or prohibitively expensive. In most cases property modification measures are implemented via Council policies, which can be used to stipulate where and how development can occur in the floodplain.

8.2.1. Adopt updated Flood Planning Area for each town (PM01)

The Flood Planning Area (FPA) defines properties that are subject to flood related development controls and is a key planning tool for managing and mitigating flood risk in an LGA. The process used to determine the FPA for each town is given in Section 7.2.

The FPA for Cooma is shown in Figure A 14, for Bredbo in Figure B 14, for Berridale in Figure C 14 and for Michelago in Figure D 14.

Adoption of the updated FPAs can be made in the short-term, while changes to the LEPs and DCPs may take slightly longer (see following measures). Adoption of this Floodplain Risk Management Study and Plan by Council can be used to formally adopt the new planning areas and supersede the existing planning areas.

Recommendation: Adopt an updated Flood Planning Area for each town

8.2.2. Local Environment Plan Amendments (PM02)

The Local Environment Plans (3) are the overarching policy document that sets requirements for managing flood risk in the LGA. There are currently three LEPs as the three pre-amalgamation councils each had separate plans. Section 2.2.2.1 describes what each of the LEPs contain in regard to flooding, in their respective flood clauses.

The following amendments to Council's LEP are recommended:

- A single LGA wide LEP be developed based on the Standard Instrument LEP with the following adjustments;
    - The Standard Instrument LEP, Subclause 2a is removed as is any reference to a flood planning area map. Incorporation of flood planning area maps within an LEP is typically not recommended due to difficulties associated with updating an LEP if a map requires revision. By removing the map from the LEP, updating the map (which can be in the DCP or individual FRMS instead) is relatively simple. Having the clause refer to a map in the LEP means that the map cannot be updated (as is required if results change or a levee is upgraded, for example) without a Planning Proposal.
    - The Standard Instrument LEP, Subclauses 4 and 5 need not be considered as they pertain to sea level rise.
- An example draft clause that can be used as a basis for Council's future LEP is presented below.
- A Floodplain Risk Management Clause should be introduced to the LEP so that flood planning controls can be applied between the Flood Planning level and the PMF. A draft Floodplain Risk Management Clause that can be used as a basis for Council's future LEP is presented below.

Whilst Council are developing their revised LEP, Clause 6.2 of the Cooma-Monaro Local Environmental Plan (2013) should be used for all areas of the LGA.

Council should include a revised Flood Planning clause in future Planning Proposals for LEP revision. A Floodplain Risk Management Clause should also be used so that controls can be applied to sensitive land uses above the Flood Planning Level. The draft LEP clauses presented below can be used as the basis of Councils proposal.

Draft LEP clauses

7.1 Flood planning

(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 land's flood hazard, taking into account floodplain risk management studies and plans adopted by the Council and projected changes as a result of climate change,

(c) to avoid significant adverse impacts on flood behaviour and the environment.

(2) This clause applies to land at or below the flood planning level.

(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:

(a) is compatible with the flood hazard of the land, and

(b) will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and

(c) incorporates appropriate measures to manage risk to life from flood, and

(d) will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses, and

(e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding, and

(f) is consistent with any relevant floodplain risk management plan adopted by the Council in accordance with the Floodplain Development Manual.

(4) A word or expression used in this clause has the same meaning as it has in the Floodplain Development Manual (ISBN 0 7347 5476 0) published in 2005, unless it is otherwise defined in this Plan.

(5) In this clause:

flood planning level means the level of a 1% AEP (Annual Exceedance Probability) flood event plus 0.5 metre freeboard, or a freeboard specified in the Snowy Monaro Regional Council Development Control Plan (published in 2020).

7.1A Floodplain risk management

(1) The objectives of this clause are as follows—

(a) in relation to development with particular evacuation or emergency response issues, to enable evacuation of land subject to flooding in events exceeding the flood planning level,

(b) to protect the operational capacity of emergency response facilities and critical infrastructure during extreme flood events.

(2) This clause applies to land between the flood planning level and the level of a probable maximum flood, but does not apply to land at or below the flood planning level.

(3) Development consent must not be granted to development for any of the following purposes on land to which this clause applies unless the consent authority is satisfied that the development is consistent with any relevant floodplain risk management plan adopted by the Council in accordance with the Floodplain Development Manual, and will not, in flood events exceeding the flood planning level, affect the safe occupation of, and evacuation from, the land—

(a) centre-based child care facilities,

(b) correctional centres,

(c) emergency services facilities,

(d) group homes,

(e) hospitals,

(f) residential care facilities,

(g) respite day care centres,

(4) In this clause—

probable maximum flood has the same meaning as it has in the Floodplain Development Manual.
Note. The probable maximum flood is the largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation.

Recommendation: A planning proposal be prepared for development of a new Snowy Monaro Regional Council Local Environmental Plan with inclusion of Flood Planning and Floodplain Risk Management Clauses as discussed above.

The Cooma-Monaro Local Environmental Plan (2013) should be used for all areas of the LGA, as an interim measure while the LEPs are being updated.

8.2.3. Advice on Land-use Zoning Considering Flooding (PM03)

Future Zoning Proposals

The Floodplain Development Manual (2005) states that '*Land use planning limits and controls are an essential element in managing flood risk and the most effective way of ensuring future flood risk is managed appropriately*'. Council should therefore give due consideration to selecting appropriate zones and related provisions when flood prone land is being rezoned as an effective and long term means of limiting danger to personal safety and flood damage to future developments. Zoning of flood prone land should be based on an objective assessment of land suitability and capability, flood risk, environmental and other factors and should not unjustifiably restrict development simply because land is flood prone (FDM, 2005).

Recommendation: Council to ensure that future zoning applications consider the flood risk of the land to reduce risk to life and property due to flooding.

Land Use Zone Types

The Cooma LEP has a range of Land Use types ranging from rural and environmental to residential, business and industrial land uses. A notable exclusion that is commonly implemented by Councils is 'Zone W1 Natural Waterways'. Zone W1 is a suitable zoning for the various creeks and rivers that impact the four towns and provides appropriate limitations on development in these areas.

Recommendation: A planning proposal be prepared for development of a new Snowy Monaro Regional Council Local Environmental Plan with inclusion of 'Zone W1 Natural Waterways' land use zone.

Existing Land Use Zonings

A review of land use zones that considers local flood characteristics has been undertaken for each of the towns.

The Australian Disaster Resilience Handbook Collection (Handbook 7) states that risk management can be achieved by informing land zonings through consideration of flood function, flood hazard, emergency response limitations, and vulnerability of difference development types. Consideration of these characteristics has been undertaken to identify potential appropriate adjustments to land use zonings.

To reduce future flood risk potential due to development pressures, undeveloped lots situated in high hazard (H3 or greater), flow conveyance areas and areas with significant evacuation constraints, are considered hazardous and should be considered for downzoning to a land use type that does not permit residential, business or industrial land uses.

A summary of the review is presented below. The analysis identified lots that met the above criteria and are considered hazardous and suitable for downzoning:

- Cooma - 37 undeveloped lots were considered to pose a significant flood risk if developed due to being located in 1% AEP high hazard/flow conveyance areas with limited evacuation potential due to lack of available warning time. The lots had a range of land zonings (R1, R2, B2, B3 and B4) and were all located on either Cooma Creek or Cooma Back Creek.
- Bredbo - 22 undeveloped lots were considered to pose a significant flood risk if developed due to being located in 1% AEP high hazard areas, with limited evacuation potential during extreme events due to a 'Low Trapped Perimeter Area' evacuation classification. The lots were predominantly zoned as RU1 with two R1 zoned properties. The properties are flooded by the Bredbo River and the creek which flows through Bredbo from the north.
- Berridale - 9 undeveloped lots were considered to pose a significant flood risk if developed due to being located in a 1% AEP high hazard area, with limited evacuation potential due to lack of available warning time. All lots were situated in RU5 zoned land and are affected by either Myack or Coolamatong Creeks.
- Michelago – no properties are suggested for downzoning.

Recommendation: Council consider downzoning undeveloped lots that are subject to hazardous flood conditions, to a land use type that does not permit residential, business or industrial land uses.

8.2.4. Updated Flood Planning Controls in the Development Control Plan(s) (PM04)

The Development Control Plans (3) are the second main policy document that sets requirements for development in flood prone areas of the LGA. While the LEP sets the overarching objectives, the DCP contains controls such as minimum floor levels, flood compatible construction, and which types of development can occur in different degrees of flood risk. Section 2.2.2.2 describes what each of the DCPs contain in regard to flooding.

It is understood that the NSW government will be releasing a standardised DCP for councils to use and that this will include a section on flooding. When this occurs, the new document will be a chance to

combine the towns into one document, and to update the flood planning controls so as to be consistent across the LGA. As an interim measure, the current Cooma Monaro DCP 2014 (specifically Section 6.4 Flood Prone Land) should be used for setting flood controls across the LGA.

In general, the DCP should achieve the following:

- Provide clear and prescriptive controls for development on flood-prone land that are consistent with the LEP flood clause. The controls for a particular development on a particular site should be straightforward to understand by Council staff and the public.
- Incorporate the significant differences in flood risk that exist between mainstream flooding (generally creeks and rivers) and overland flow.
- Allow for a range of land use types in flood prone areas, with greater controls for more sensitive or critical uses.

To this end, the following modifications are recommended for updating the current Cooma Monaro DCP Section 6.4:

- Under 6.4.2.1 Flood Assessment, flood studies are required as part of the DA process for lots in the 1% AEP extent. The current study produces a much larger 1% AEP extent due to its inclusion of overland flooding, much of which is shallow, low risk and would not normally warrant a site-specific flood study. The requirement should be updated to apply to all lots in the Flood Planning Area, which, aside from mainstream flooding areas, only includes lots affected by significant overland flow.
- Similarly, 6.4.2.2 and 6.4.2.3 set minimum floor level requirements for residential and commercial development, using a freeboard above the 1% AEP or 5% AEP flood level. This freeboard is suitable for mainstream flooding and can be decreased to 0.3 m for overland flooding if significant scaling of flood levels is not noted for larger events.
- Sections 6.4.3-6 describe the flood studies and other information available for each town. These should be updated with reference to the current study and 2019 flood study.

Recommendation: Update DCP flooding controls during development of LGA-wide DCP based on the NSW government standardised DCP.

As an interim measure, apply Cooma Monaro DCP 2014 flood controls to the LGA.

8.2.5. Voluntary Purchase and Voluntary House Raising in Cooma (PM05)

Voluntary purchase requires the purchase of properties that experience high hazard flooding that cannot be otherwise mitigated. House raising involves lifting the house above a design flood level, and is generally only possible with non-brick houses (i.e. timber frame or similar) in low hazard areas.

House raising does not remove a house from the hazardous flooding and there is risk of occupants not evacuating which can exacerbate flood risk. In comparison, purchase of the property aims to remove the flood risk altogether by removing all buildings and re-zoning it as a park or environmental land. Both measures have been used across various instances in NSW where there are houses in areas of high hazard flooding. Both are voluntary and so are only pursued following consent of the landowner.

A voluntary purchase option has been discussed with Council for parts of Cooma. Further details are not provided here due to the sensitive nature of the option.

8.3. RESPONSE MODIFICATION MEASURES – ALL TOWNS

Response modification measures are those that improve the ability of people to plan for and react to flood events. Across the four study areas, flooding generally occurs with minimal warning time and is of

short duration. Response modification measures are therefore focussed on improving general awareness of flooding and its consequences, additional warning signage particularly for roads with high hazard flooding, and improvements to the existing flood warning system.

8.3.1. Warning Signage at Hazardous Road Crossings (RM01)

This option consists of installing warning signage at roads in each town to reduce the incidence of motorists attempting to cross hazardous flood flow. Across Australia, the most common cause of fatality during a flood is drowning from attempting to cross a flooded bridge or road. As described in each town's hotspots section, there are roads in each town that have hazardous flooding in relatively frequent floods (H2 and above is hazardous for vehicles). Signage at flood-prone roads typically includes a warning sign (e.g. 'Road Subject to Flooding, Indicators Show Depth') and depth markers on both approaches. These can be cost-effective in managing flood risk, especially for areas where a bridge/culvert upgrade is not feasible. Recent research has found that static signage tends be ignored by drivers and that dynamic signage is more effective at warning against crossing hazardous flooding. Dynamic signage adds an electronic sign above the standard warning sign, that lights up to indicate when the road is flooded. A recent project using flashing signs that are automatically triggered has had early success in Queensland[2], and cost $500,000 for 21 signs.

Depth markers are already present at some roads in the four towns, and some road crossings in Cooma have manually operated gates that prevent road crossing during times of significant creek flow.

The following locations experience hazardous flow in a 5% AEP flood event and would benefit from depth markers and warning signage (* indicates they already have some signage but have been included for completeness):

- Cooma
    - Geebung Street (most of the street has some flooding, higher flow is near the road culverts around 60 m east of Polo Flat Road)
    - Carlaminda Road at watercourse that traverses Polo Flat, around 720 m west of Polo Flat Road
    - Church Road at three locations (30 m south of Sellar Street, 100 m north of Sellar Street, and around 400 m south of Culey Avenue).
    - Vulcan Street where it crosses Sandy Creek
    - Numeralla Road where it crosses Polo Flat watercourse (around 240 m north-east of Cooma Monaro Race Club)
    - Yallakool Road at crossing with watercourse west of intersection with Tillabudgerry Road
    - Massey Street and Commissioner Street (these crossings have manually closed gates)
    - West Street, Lambie Street and Hill Street where they cross the Cooma Back Creek tributary
- Bredbo
    - North Street at causeway to the west of intersection with Walker Street
    - Swan Street at causeway*
    - Bunyan Street at causeway*
    - Clifford Street at intersection with Bransby Street

[2] https://www.governmentnews.com.au/qld-council-expands-smart-flood-warning-system/

- Berridale
    - Boundary Street to the east of intersection with Kosciuszko Road
    - Oliver Street to the east of intersection with Kosciuszko Road
    - Bolton Street to the east of intersection with Kosciuszko Road
    - Myack Street to the east of intersection with Kosciuszko Road
    - Park Street to the east of intersection with Kosciuszko Road
    - Short Street at Myack Creek
- Michelago
    - Micalago Road at Booroomba Creek
    - Micalago Road at Michelago Creek

Recommendation: Install flood warning signage and depth markers for identified road flooding locations in each town

8.3.2. Automatic Boom Gates for Key Flooded Roads (RM02)

Automatic boom gates should be considered for frequently used low level crossing. Road such as Massie Street in Cooma, currently rely on Council staff to manually close the road once the crossing becomes inundated. This can result in a period when the road crossing is hazardous for vehicles, but not yet closed by Council. This situation occurred during a storm event in late 2019 where heavy localised rainfall over Cooma lead to flooding of Massie Street with delayed notification to Council.

There are various types of automatic boom gates, for example some may close due to a trigger level being reached at an upstream gauge (pre-existing gauges could be used), whilst others trigger due to the water level at the location of the road crossing. However, the objective remains the same, with the pressure and responsibility of rapid road closures reduced for Council staff.

It is worth noting that frequently flooded low level crossings that experience high traffic volumes are typically also suitable for road raising works to reduce flood liability. Road raising is the preferred method of mitigating risk to high hazard low level crossing, however, may not be financially feasible. In circumstances where road raising is not feasible, or unlikely to occur for many years, automatic booms gates should be considered.

Recommendation: Install automatic boom gates for frequently flooded low level crossings that experience high traffic volumes.

8.3.3. Community Flood Education (RM03)

The level of awareness of flooding in a community is an important indicator of how well the community can prepare for, respond to and then recover from a flood event. Beyond general awareness that flood risk exists in a particular town, flood education is most effective when it facilitates resilience to flooding in a community. This encompasses understanding of the types of flood risk, the available warning systems, measures that can be taken in preparation for a flood event, personal safety and protection of assets during a flood, and recovery from a severe flood event. In each of the four towns, the level of

engagement and awareness will vary significantly between those with high flood risk and those who are only indirectly affected by flooding.

Flood education should be tailored to each area and carried out across a range of methods. Materials used in education should consist of:

- information on previous floods including photos
- design flood information as described in the flood risk sections of this report
- SES information on preparing for a flood, common hazards during a flood, and the recovery phase (see Figure 8-1 below as an example)

The range of communication methods adopted should cover different demographics and groups within the community. Available methods include:

- SES and Council stall at local events, with fact sheets, maps and SES staff available to talk to interested residents.
- Flood depth markers showing the height reached by historical floods. These can be attached to telegraph poles or other infrastructure.
- Periodic articles in press and social media, which describe the history of flooding and useful information on the current flood risk, and available resources.
- Council website with various information on flooding available in one location
- Education packages for primary schools and secondary schools. See https://www.ses.nsw.gov.au/for-schools/ for examples.

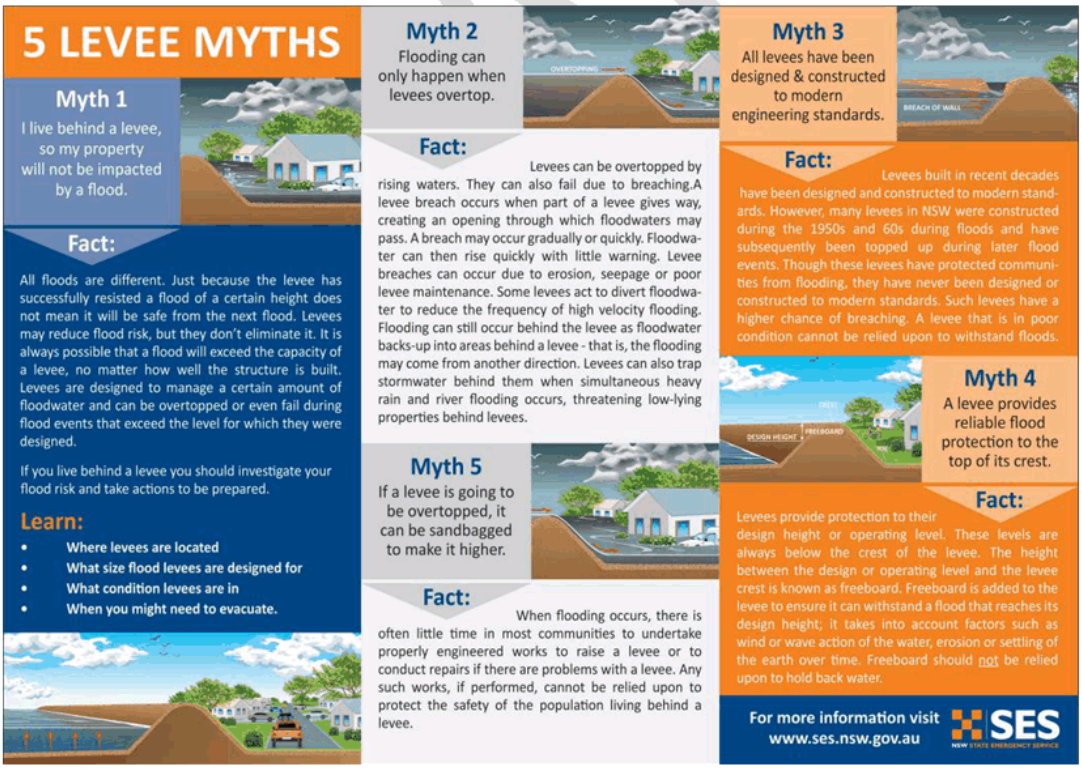


Figure 8-1: Example of a flood education fact sheet (source: NSW SES)

Recommendation: Implement a community flood education program for each town

8.3.4. Update Local Flood Plan and Flood Intelligence Cards (RM04)

The measure consists of updating information on flooding in the Snowy Monaro Regional Local Flood Plan and Flood Intelligence Cards for the two Cooma warning gauges. The Plan, which is summarised in Section 3.4.1 for Cooma, currently provides quite detailed information on flooding in Cooma based on the previous flooding assessments in 1994 and 1998 (see Section 2.3.1). There is minimal information on flooding in the other three towns. The plan can therefore be updated to provide information on flooding in each town, including the most recent flood risk assessment for Cooma. Pertinent information from this report and the Flood Study (2019) should be gleaned and incorporated into the Plan. A number of recommendations for amendments to the Plan are made below:

1. Expand the 'Landforms and River Systems' section to include description of Michelago Creek, Myack Creek, Coolamatong Creek and Wullwye Creek. Description of each is included in the 2019 flood study.
2. Update the 'Characteristics of Flooding' section with:
    a. The design flood estimates in paragraph 1.5.5 (the paragraph states 2.38 m at SMEC gauge estimated at 5% AEP, which is still accurate, while 4.4 m at Koolaroo is estimated as 5% AEP. 4.4 m is now closer to 2% AEP (4.55 m at the gauge))
    b. Add sections for Michelago Creek, Bredbo River, and the three creeks in Berridale. General description of each can be taken from the Flood Risk Assessment section for each town in this report.
    c. Confirm the Flash Flood Alerts section is up to date with the Bureau of Meteorology.
3. Expand the 'Flood History' section to include historical events in Michelago, Bredbo and Berridale, as described in the 2019 flood study.
4. Update the 'Flood Mitigation Systems' section for Cooma to be consistent with the information presented in Sections 3.3.1 and 3.3.2.2 of this report, including gauge height information.
5. Update the 'Extreme Flooding' to include the latest 1% AEP flood level at the gauge and the latest 1% design flood maps (depth and hazard may both be useful). Also include description of large and extreme floods in the other three towns using the Flood Risk Assessments or Overview of Flood Behaviour sections of this report, including the relevant maps.
6. Update the Specific Risk Areas – Flood section to be consistent with information presented in the Flood Risk Assessments section of this report, including adding information on the three other towns.
    a. Consider developing site-specific Flood Emergency Response Plans for three properties in Berridale that experience H5 hazard flooding from Coolamatong Creek.
7. Update Annex 1: Facilities at Risk of Flooding and/or Isolation with updated design flood extents and affected facilities in each of the four towns.
8. Describe flooded roads that lie outside the study areas which may block emergency services from accessing a particular community. This will primarily describe low-points on the highway that may be flooded, but will also include any particular access roads that service a collection of houses.
9. Develop Flood Intelligence Cards for Cooma and Bredbo to provide an understanding of flood consequence for flood events of varying magnitudes and the rapid dissemination of flood information by the SES during an event.

10. Nominate evacuation centres to be used during flooding in Bredbo, Michelago and Berridale. These should be located above the PMF, or if within the PMF, then ensure hazard is not higher than H1.
11. Include a section describing the new warning system at Bredbo, if measure RM07 is implemented.

Recommendation:

- Update the Local Flood Plan; and
- Develop Flood Intelligence Cards for Cooma and Bredbo

8.3.5. Investigation of Cooma Flood Warning System (RM05)

Review and assessment of the flood warning system has indicated several aspects of the current system would benefit from in-depth analysis. This analysis will consider the overall effectiveness of the current system as well as investigation into areas of improvement. Some improvements can be made in the short-term and these are listed in the following section (Option RM06). The flood warning components to be investigated in further detail include:

- Investigate the feasibility of a warning system based on depth and duration of observed rainfall, incorporating variable temporal patterns and losses, to complement BoM's existing warning system.
- Use historical and design flood modelling, and observed gauge data, to establish a relationship between the Cooma Creek gauge and a proposed new gauge at Sharp Street.
- Assess whether the gauge network successfully recorded historical rainfall events.
- Assess existing rating tables at the two gauges, using the TUFLOW hydraulic model validated to available gaugings.
- Recalibrate the Cooma Creek hydrologic model utilising the BoM Flood Warning rainfall gauge network.
- Update the Local Flood Plan description of flooding for each town based on the flood study and FRMS&P, included updated design flood levels. This has been described under the previous measure (RM04). The further work would draft each section in the Plan for update.
- Scoping study for automated road closures for road crossings that currently have gates manually operated by Council. This would be an expansion of the RM02 option, described previously.

If recommended as part of the draft Floodplain Risk Management Plan, this investigation and development of other measures can be undertaken in the short term (estimated 3 month timeframe).

Recommendation: Various components of Cooma's Flood Warning system are investigated in further detail

8.3.6. Cooma Flood Warning System Improvements (RM06)

The measure involves various changes to flood warning system for Cooma, further to updating information on flooding in the Local Flood Plan. The measure aims to improve the reliability and accuracy of the warnings issued by the Bureau of Meteorology, and to provide updated information to the SES, Council and the general public on the consequences of flooding. There is overlap with the RM05 measure, described previously, but in general, this option (RM06) pertains to improvements that can be made in

the short-term, and are not dependent on further analysis. Areas that depend on option RM05 have been identified in the below list.

Recommended improvements include:

- Improve maintenance arrangements for the Cooma Back Creek gauge. Vegetation around the gauge is currently overgrown, its data collection system is not confirmed and its functionality during a flood event is not confirmed. Installation of a manual gauge at the gauge location would also be beneficial for residents' understanding of the size of different floods.
- Additional pluviograph coverage in the catchment area. **Dependant on results of the RM05 analysis.**
- Installation of a depth-marker on Cooma Creek, upstream of Sharp Street bridge. Currently the 'Koolaroo' Cooma Creek warning gauge is used to relate actual or predicted flood levels to consequences in the town, including levee overtopping. Having a depth marker in the town, in addition to the gauge, would allow residents, Council and other stakeholders to visually confirm the flood level as it occurs, and can then relate the depth to the same consequences. Beyond improving the community response during a flood event, a depth marker will also raise general awareness of flooding between flood events. Historic and design event levels could be indicated on the gauge to further raise community awareness.

  It is recommended the depth marker be installed on the west side of the creek, approximately 20 m upstream of the bridge. This location is visible from the bridge but is not as affected by afflux at the bridge itself, which can vary the flood level significantly, depending on the degree of blockage in a particular flood. The gauge would then be assigned a zero datum and a relationship to the Koolaroo gauge would be established.

Recommendation: Make improvements to the Cooma Flood Warning System including:

- maintenance of Cooma Back Creek gauge;
- Installation of a manual gauge on Cooma Back Creek near Sharp Street and
- Installation of a manual gauge on Cooma Creek near Sharp Street.

8.3.7. Bredbo Flood Warning System (RM07)

The measure involves establishment of a flood warning system for flooding caused by Bredbo River at Bredbo. The catchment is suited to a warning system as it has sufficiently large catchment response time (estimated to be 6-7 hours between the end of a rainfall burst and the peak flood level occurring) and it has significant flood risk, specifically in rarer flood events.

The components of a flood warning system for Bredbo would be:

- A network of two automatic flood level recorders in the catchment, that are sufficiently far upstream to provide advance warning of flooding, while also capturing a large-enough portion of the catchment (further discussion of location is below). The gauges would be telemetered and automatically provide live data to the BOM. Ownership and management arrangements for the gauge would be established between Council, BOM and SES and follow the *Provision of and Requirements for Flood Warning* document (SES, 2018).
- An automated flood level recorder on Bredbo River at Bredbo (likely near the highway crossing, for ease of access). There is currently a Bredbo River gauge approximately 5 km upstream of the town, however, excavation works near the gauge mean a reliable rating table cannot be established for the site, and for this reason the gauge is unlikely to form part of the warning system. An automated flood level recorder at Bredbo will provide real-time information on the degree of flooding at Bredbo.

- The three gauges (two in the upper catchment, one at Bredbo) will then form a warning gauge network. A flood warning system will be prepared, that provides an estimate of when flooding at each gauge will cause flooding at the Bredbo River gauge. This information can be provided using modelling established by the current study. It will then be updated following large flood events.
- A new section in the Local Flood Plan and Flood Intelligence Card describing the consequences of flooding at Bredbo for different levels at the new Bredbo gauge, and the recommended emergency response procedures. This will include the gauge levels at which different roads are estimated to be cut-off, as well as areas of property flooding that will require evacuation.
- Communication channels that ensure flood warnings are disseminated to Bredbo. For localised flood events that do not affect Cooma, the SES will be able to warn residents in low lying areas. For more widespread flooding, Bredbo may be isolated and a system to ensure residents are warned may be necessary. This could entail an automated SMS to flood-affected households, or similar.

The location of the two catchment gauges would be on Strike-a-light River and Bredbo River. The existing Strike-a-light River gauge ('Strike-a-light Creek at Jerangle Road', No. 410076) is in a suitable location but may require upgrade to an automated, telemetered recorder. A new gauge on Bredbo River approximately 14.0 km east of Bredbo would be suitable, just downstream of the Cowra Creek confluence with the river. Figure 8-2 below shows the catchment map with subcatchments and the two major watercourses. The two large subcatchments in thicker black outline would be gauged and are a combined area of 530 km^2, approximately 72% of Bredbo River's catchment.

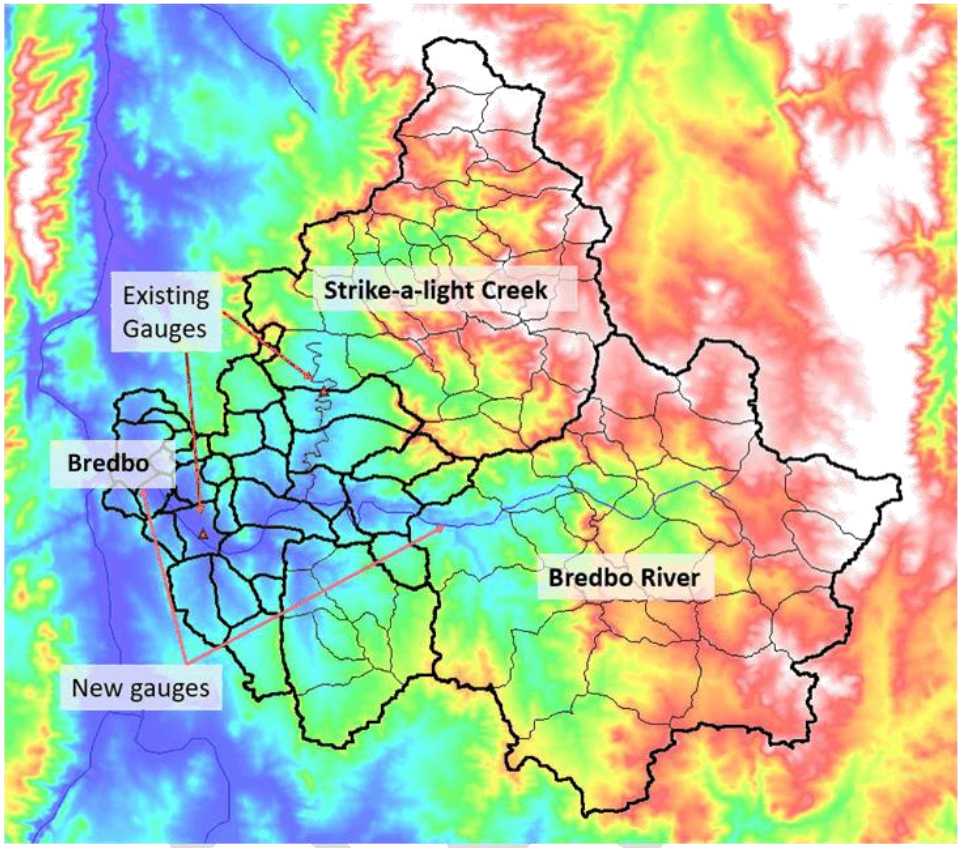


Figure 8-2: Bredbo River catchment map with warning gauge locations

Model results indicate a peak flow at the Strike-a-light gauge will take around 3 hours to reach Bredbo, while the nominated new Bredbo River gauge near Cowra Creek will take around 2 hours. More accurate estimates can be developed if the system is implemented. Based on these estimates the gauge system will provide 2-3 hours advance warning of flooding at Bredbo, and further warning will be provided by the existing BOM weather warnings. Feedback on the feasibility of a new warning system for Bredbo will be sought from Council, SES and other stakeholders during the public exhibition period.

Recommendation: A flood warning system is established for Bredbo, with input from BOM, SES and Council

8.3.8. Develop Communications Channel for Road Closures (RM08)

Liaison with NSW Ambulance indicated a relatively informal system of road closure notification. Currently, NSW Ambulance waits for Council or citizens to report road closures which could potentially affect emergency response times.

The establishment of a formal communications channel between Council, SES and NSW Ambulance regarding road closures due to flooding should be considered. Hazardous road flooding can significantly impact emergency services and prompt re-routing of vehicle access during times of flood, or even use of personnel from neighbouring areas if access is completely cut-off. The communications channel would be

developed based on feedback from each entity and overseen by Council who is responsible for road closures.

Recommendation: Develop a formal communications channel between Council, SES and NSW Ambulance regarding road closures due to flooding

8.4. FLOOD MODIFICATION MEASURES

Flood modification measures were developed based on assessment of the town's flood risk (see Sections 3 to 6) as well as via community consultation and discussion with Council. Measures were developed with focus on mitigating flood risk at the flooding hotspots described in the flood risk sections. There are also general planning and response measures that apply to the study area as a whole (see previous two sections).

8.4.1. Cooma Flood Modification Measures

A staged process was used to select measures that warranted assessment using the hydraulic model and other analyses. This involved developing a longlist of measures, and then further assessing those that were most likely to be effective, with input from Council. Those that were not assessed further are not necessarily infeasible and some were not included due to the limited scope and budget of the current study. Reasons that a measure may not be feasible include prohibitively high cost for limited benefit, significant technical constraints and adverse environmental impacts. The full list of measures has been included here in order to show why not all hotspots had flood modification measures assessed. It should also be noted that a discarded option can still be assessed in detail at a future time, particularly if development in a particular area warrants associated flood mitigation works. Table 42 lists the longlist of measures and the outcome for each.

Table 42: Cooma Flood Modification Measures Longlist

Measure	Outcome
Connect stormwater outlet draining through Mulach Street levee to point further downstream	Not selected – rated as moderate feasibility. Based on the necessary extension area a new outlet may provide limited improvement to the area's drainage, especially if the creek is high.
Construct a levee on both banks of Cooma Back Creek, from Tumut Street to confluence with Sandy Creek	Not selected – rated as low feasibility. There is very limited space for a levee between the channel and various properties and would require embankment that are approximately 4 m high. May also cause higher flood risk in events larger than the design event and significant flood impacts upstream.
Implementation of a Vegetation Management Plan	Selected for assessment – Option V01 in following section. Modelling not undertaken.
Enlarge Cooma Creek channel cross section area through main levee, with steeper channel sides	Not selected – rated as moderate feasibility. Option will significant reduce the amenity of the creek area by limiting pedestrian access. It is also likely to be expensive, provide limited benefits during rare flood events and cause downstream flooding impacts.
Enlarge drainage channel at Polo Flat	Selected for assessment – Option Z02 in following section
Extend levee to properties behind Amos Street	Not selected – rated as moderate feasibility. There is limited space for a levee to be built in this area. There is likely to be significant difficulty in developing a levee design due to intersection with the low level Massie Street crossing as well as significant flows that arrive to the area down Bombala Street. Upstream flood impacts are likely.

Extend main levee up to Campbell Street	Selected for assessment – Option L02 in following section
Improve stormwater drainage through the levee	Not selected – rated as moderate feasibility. Option will benefit only localised flood events when Cooma Creek levels are low. The option is expected to have a negligible effect when Cooma Creek is in flood.
Increase main levee height to 2% or 1% AEP level of protection	Selected for assessment – Options L01A and L01B in following section
Raise Church Road to be above 1% AEP	Not selected – rated as low feasibility. Expected to be prohibitively expensive and result in local drainage and driveway access issues.
Raise low sections of the main levee to achieve overall 5% AEP protection	Selected for assessment – Option L01C in following section
Upgrade culvert under Lambie Street near Tumut Street	Not selected – rated as moderate feasibility. Culvert upgrades are likely to exacerbate conditions for existing flood liable properties downstream
Upgrade culvert under Vulcan Street to relieve road flooding	Selected for assessment – Option C03 in following section
Utilise Rotary Oval as a flood storage area for Cooma Creek flow	Selected for assessment – Option L03 in following section
Re-grade and enlarge Cooma Back Creek downstream of Sharp Street	Selected for assessment – Option Z04 in following section
Levee along Cooma Back Creek downstream of Sharp Street	Not selected – rated as low feasibility. There is very limited space for a levee between the channel and various properties and would require embankment that are approximately 4 m high. May also cause higher flood risk in events larger than the design event and significant flood impacts upstream.
Massie Street Bridge	Selected for assessment – Option M01 in following section

8.4.1.1. *Increase Main Levee Height to 1% AEP or 2% AEP Level of Protection (L01A and L01B)*

The mitigation measure consists of raising the existing main Cooma Creek levee to give protection against either the 2% AEP or 1% AEP flood event. The levee is currently overtopped in the 5% AEP event and inundates a number of properties as well as Sharp Street/Monaro Highway and other streets – see Hotspot 2 (sections 3.3.1 and 3.3.2.2) for more information. High hazard flows on Sharp and Bombala Streets pose a significant risk to life once the levee is overtopped.

This inundation and associated flood risk warrants investigation of the costs, benefits and feasibility of raising the levee. The levee is an earth embankment structure (aside from some brick/concrete wall sections), with land generally available on the 'dry' side of the levee, and so raising the crest level and footprint is generally feasible from a technical viewpoint. If the increased footprint overlaps with private property, a walled section may be necessary. The existing levee crest varies between 789.2-793.7 mAHD and would be raised around 1 m to provide 2% AEP protection and 1.5 m for 1% AEP protection (assuming freeboard of 0.5 m, exact height to be determined based on freeboard assessment). It should be noted that some sections of the levee would only require minimal raising.

The option has been assessed via model simulation of both the 2% AEP and 1% AEP event with the levee raised. Both events were assessed and while the larger event (1% AEP) is preferable for the added protection, it is often the case that adverse flood impacts or other factors make a high levee unfeasible. The alignment of the raised levee and the impact on the two events is shown in Figure 8-3 and Figure 8-4. L01A refers to the levee raised to the 1% AEP level of protection and L01B refers to the 2% AEP level of protection.

Figure 8-4 shows that protecting against overtopping in the 2% AEP has a significant effect on flood affectation, with the greatest benefit at Sharp Street and Commissioner Street properties, with a

reduction of around 0.5 m on the west side of the creek and 0.3 m on the east side. The hazardous flow on Sharp Street west of the bridge, which is H3-H4 hazard in the 2% AEP existing case, is reduced to mostly H2, with some localised areas of H3 and H1. The residual flood depths are caused by overland flooding only. There is adverse impact of between 0.1 and 0.5 m along the leveed section of the creek, as flows that were previously overtopping the levee are now constrained to the channel. These impacts will be accommodated by the higher levee.

Figure 8-3 shows that protecting against overtopping in the 1% AEP has a greater reduction on flood affectation, but it also results in widespread adverse impacts upstream and downstream of the levee. The reduction is around 0.8 m on the west side of the creek and 0.5 m on the east side. The residual flood depths are caused by overland flooding only. The adverse impacts of between 0.1 and 0.2 m outside the creek occur over a large area near Albert and Campbell Streets, including impacting properties. The impact occurs because the 1% AEP creek flow is significantly constrained in entering the leveed section, which causes a backwater effect to the south.

Based on these results, only the 2% AEP level of protection (L01B) were investigated in further detail.

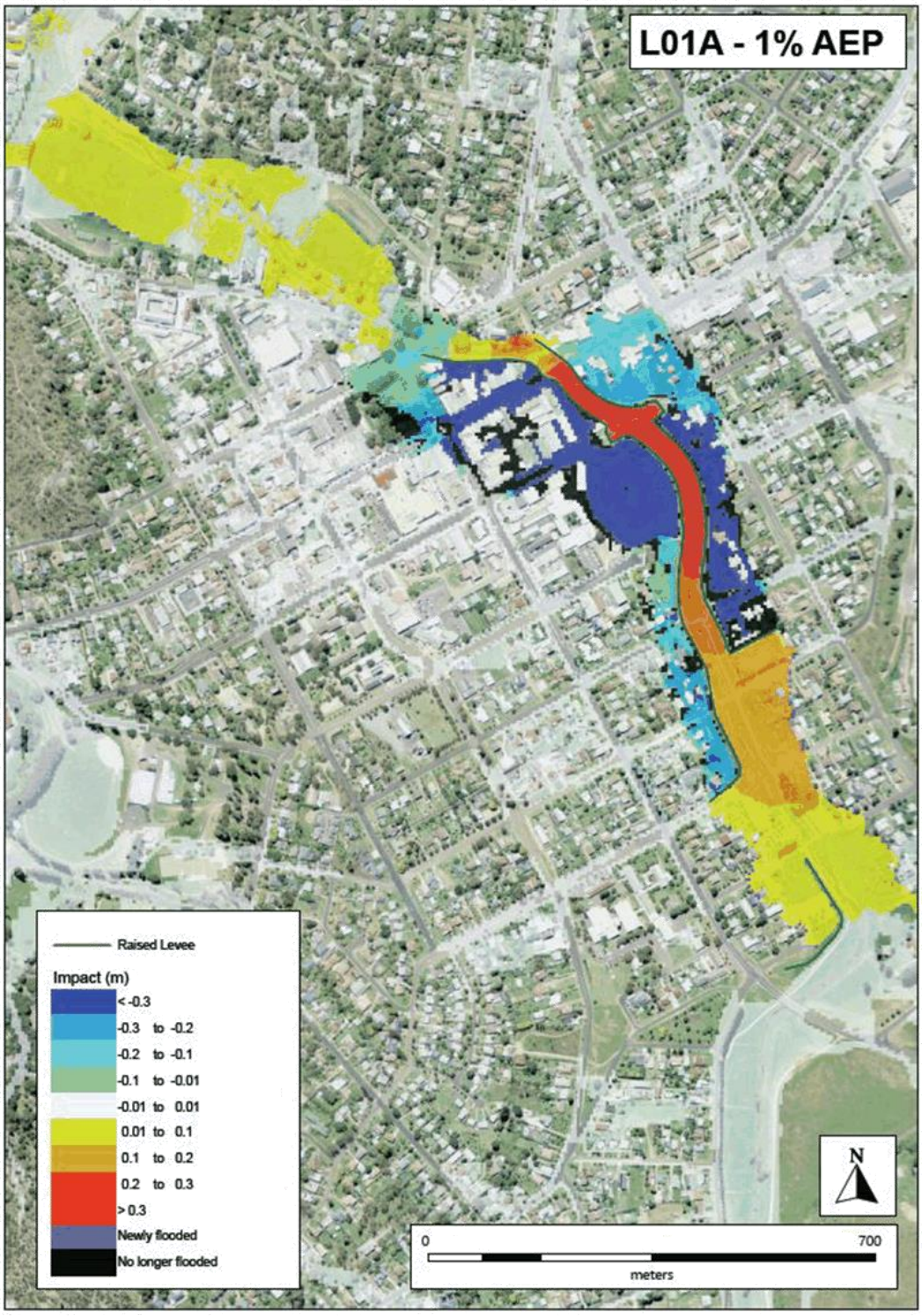


Figure 8-3: 1% AEP Impact - Option L01A (1% AEP Design level)

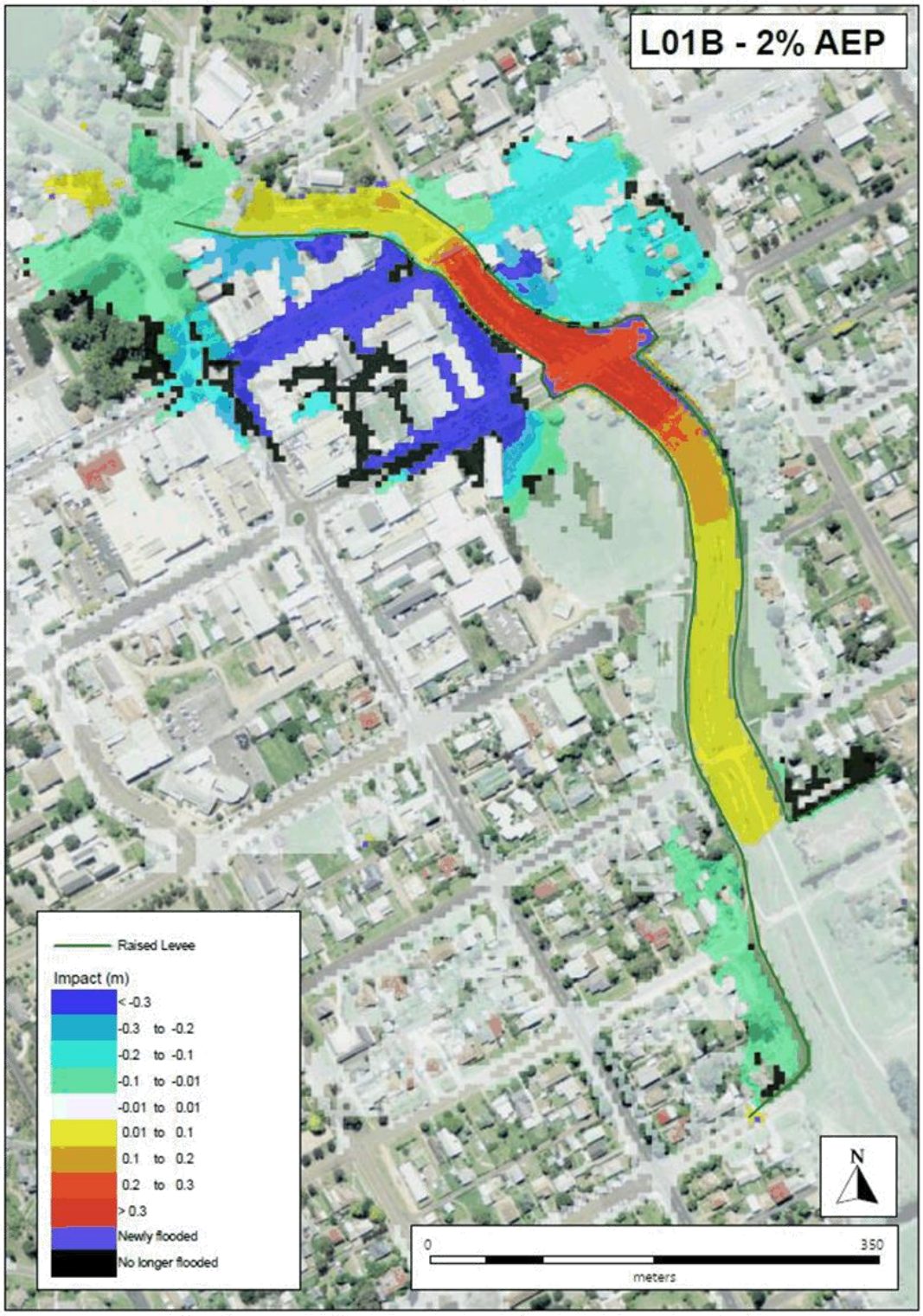


Figure 8-4: 2% AEP Impact - Option L01B (2% AEP Design level)

Further Analysis

Based on the assessment presented above, the 2% AEP levee option warranted further analysis including its benefit in a range of floods, the impacts on visual amenity and overall flood risk, and preliminary costing and cost. The option was simulated for each design flood event and the results are presented in Table 43 below. The table shows that the option has limited benefit in most flood events as the current levee is marginally overtopped in the 5% AEP, and the upgraded levee would still be overtopped in the 1% AEP (although by less than currently occurs). The greatest benefit is in the 1% and 2% AEP events, when around 10 properties are no longer flooded above floor and there is a saving of approximately $3 million in flood damages. The reduction in AAD ($90,446) is substantial.

Table 43: Option L01B 2% AEP Protection, Reduction in Damages and Above-floor Flooding

Event	Reduction in Properties Flooded Above Floor	Reduction in Event Damages
PMF	0	$ -
0.2% AEP	0	$ 277,600
0.5% AEP	1	$ 1,011,600
1% AEP	10	$ 3,337,400
2% AEP	8	$ 2,819,000
5% AEP	0	$ 107,400
10% AEP	0	$ -
20% AEP	0	$ -
Average Annual Damage Reduction		$ 90,446

The impact on visual amenity is estimated to be significant but not a major constraint in raising the levee. As described, the levee would be raised from its existing height by approximately:

- 0.8-1.3 m between Sharp and Commissioner streets
- 0.3-0.6 m between Commissioner and Murray streets
- 0-0.3 m between Murray and Denison streets
- The Sharp bridge would also require a flood barrier to be retrofit to the upstream side of the bridge to block flow up to the levee crest level

These heights assume a freeboard of 0.5 m, while the actual freeboard would depend on detailed assessment and may be higher. The levee currently obstructs the view of the properties on various streets that back on to the creek, and this view would be further reduced with a raised levee. Feedback on the option will be sought from residents during public exhibition of this study. The option does not have significant social or environmental impacts as it involves modification to an existing structure and will have no impact on the normal functioning of the creek for non-flood event flows. A typical cross-section and a visualisation of a raised area is presented in Figure 8-6 below.

There may be significant complications associated with retrofitting a flood barrier to the upstream site of the Sharp Street bridge. The design and proposed works would need to be undertaken in conjunction with Roads and Maritime Services as they are the asset owner.

Visualisation of levee raised by approximately 1 m (yellow lines) near Commissioner Street. The average raised amount is 0.4 m but some sections will be around 1 m higher.

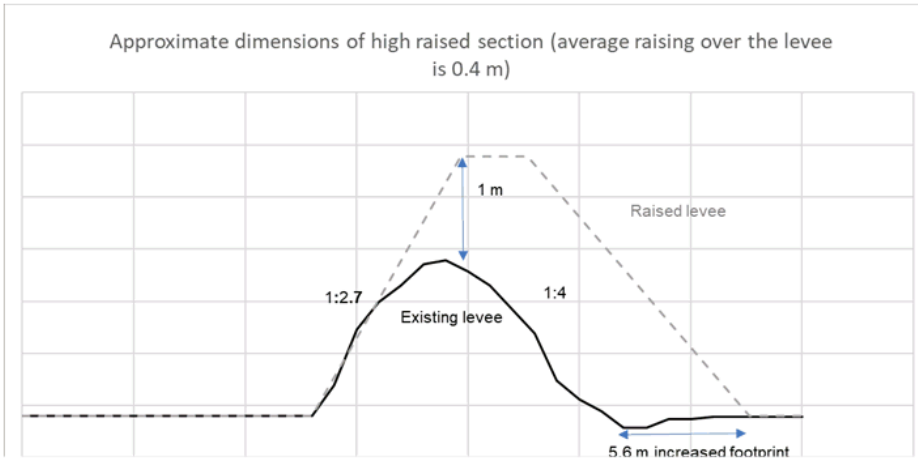


Figure 8-6: Visualisation of L01B and example cross-section

A preliminary cost estimate for the option is presented in Table 44 and the detailed costing is in Appendix F. It is noted that the per metre cost estimate is similar to levee upgrades in similar studies for Wagga Wagga and Albury. However, recent construction of a levee upgrade in Wagga Wagga cost substantially more than originally estimated (around twice as high). The cost estimate provided here is only for the purposes of economic analysis and the actual cost may be higher or lower.

Table 44: Option L01B Cost Estimate

Item	Cost Estimate
Pre-construction Costs	$118,200
Site Preparation	$10,800
Earthworks	$883,300
Civil Construction	$288,200
Total (incl. contingency and GST)	$1,820,800
Cost estimate is only approximate, for the purposes of economic analysis of the option. It is based on approximately 1176 m of levee raised by average of 0.42 m.	

The option's reduction in Average Annual Damages, the Net Present Value (NPV) of this reduction (assuming 50 year design life and 7% discount rate) and the benefit-cost ratio are as follows:

- Average Annual Damage reduction: $90,446
- NPV of reduction: $1,335,591
- Cost estimate of option: $1,820,800
- Benefit-cost ratio: 0.7

The benefit-cost ratio is 0.7, meaning its cost is slightly higher than it's expected benefit and the option cannot be justified on economic grounds alone. Overall, raising of the levee itself does not have significant technical constraints, and it provides a moderate benefit in the 1% and 2% AEP design flood events. However, modification of the Sharp Street bridge to prevent overtopping in the 2% AEP may have technical complexities and requires further investigation. Beyond the reduced property damage, the option also has a significant reduction in the risk to life from the hazardous flooding on Sharp Street during the 1% and 2% AEP events. It is therefore worth recommending for the short to medium term, pending consultation with Council, the community and other stakeholders. The overall comparison of the Cooma options is presented in Section 8.5.

Recommendation: Upgrade the Cooma levee system level of protection to 2% AEP or 5% AEP (see following section) as a short-term measure, pending Council and community feedback

8.4.1.1. *Raise low sections of the main levee to achieve overall 5% AEP protection (L01C)*

The mitigation measure consists of raising the existing Cooma Creek levee to the 5% AEP level of protection, in order to stop overtopping of low section in that event. This option is a less ambitious version of Option L01, but has been assessed in case there are significant constraints to implementing a higher level of protection (e.g. 2% AEP). The overtopping and level of protection of the current levee is described in detail in Section 3.3.1 and 3.3.2.2. As with the similar Option L01B, there is generally sufficient space to raise portions of the levee, but this would require confirmation during detailed design.

The option has been assessed via model simulation of the 5% AEP event with the levee raised. The alignment of the raised levee and the impact is shown in Figure 8-7.

Figure 8-7 shows that protecting against overtopping in the 5% AEP has minimal effect on flood affectation, with a slightly lower flood level between Sharp and Commissioner streets. The reduction is around 0.1 m and there is a corresponding increase of around 0.1 m in the channel. These impacts will be accommodated by a slightly higher levee on both sides.

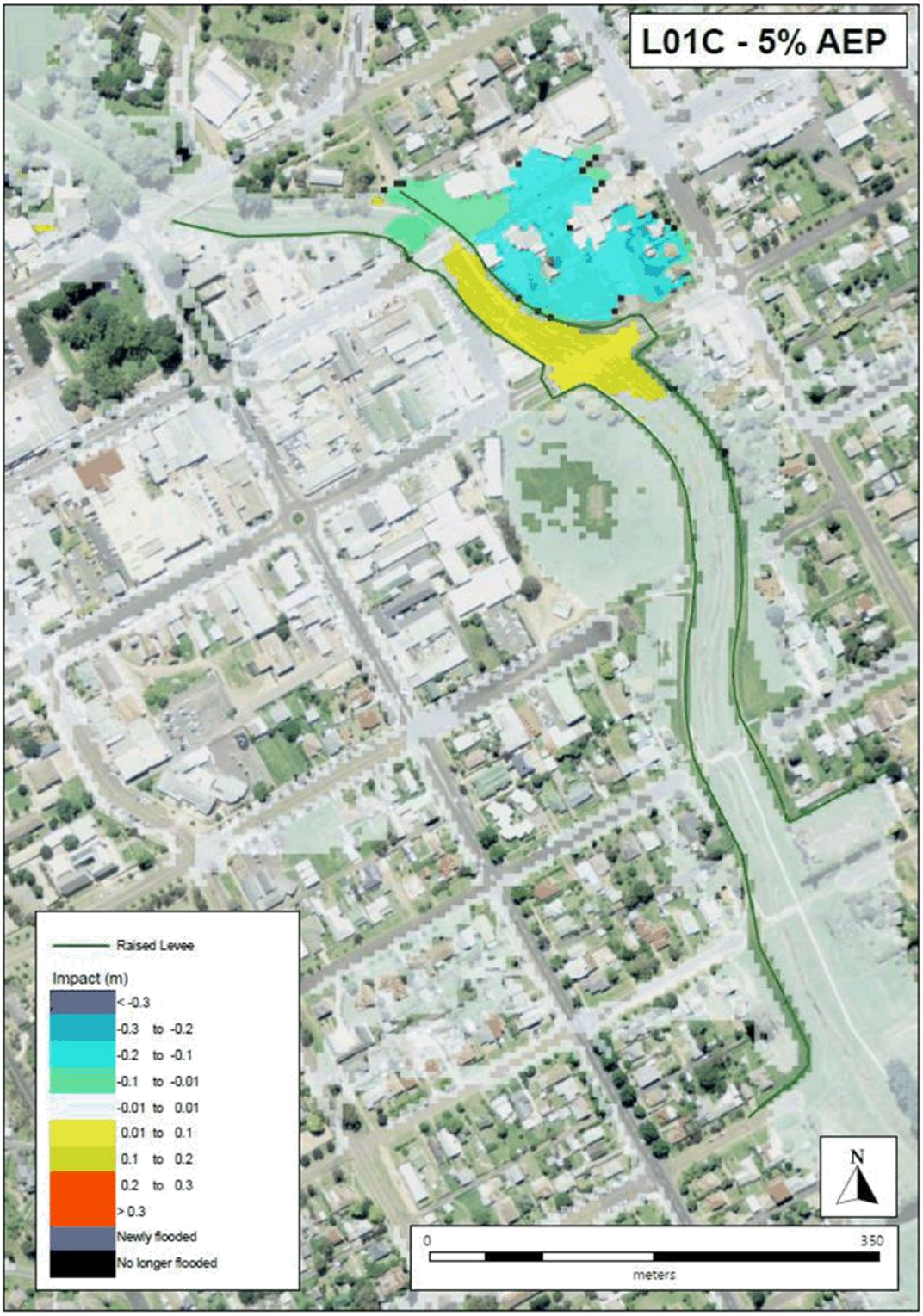


Figure 8-7: 5% AEP Impact - Option L01C (5% AEP Design level)

Further Analysis

Based on the assessment presented above, the 5% AEP levee option warranted further analysis including its benefit in a range of floods, the impacts on visual amenity and overall flood risk, and preliminary costing and cost. The option was simulated for each design flood event and the results are presented in Table 45 below. The table shows that the option has limited benefit in most flood events, which is expected as the levee would only be slightly raised from what currently exists. There is one less property flooded in the 5% AEP and one more flooded in 2% AEP. This is due to an increase in water depth northwest of the oval. There is reduced above-ground flooding in most events which results in a saving of around $100,000 in most events. The reduction in AAD is not particularly large ($10,866).

Table 45: Option L01C, Reduction in Damages and Above-floor Flooding

Event	Reduction in Properties Flooded Above Floor	Reduction in Event Damages
PMF	0	$ -
0.2% AEP	0	$ 99,400
0.5% AEP	0	$ 122,500
1% AEP	0	$ 108,000
2% AEP	-1	$ 25,300
5% AEP	1	$ 220,300
10% AEP	0	$ -
20% AEP	0	$ -
	Average Annual Damage Reduction	$ 10,866

The impact on visual amenity is estimated to be significant but not a major constraint in raising the levee. As described, the levee would be raised from its existing height by approximately:

- 0.2-0.6 m between Sharp and Commissioner streets
- 0 - 0.2 m between Commissioner and Murray streets
- 0-0.1 m between Murray and Denison streets

These heights assume a freeboard of 0.5 m, while the actual freeboard would depend on detailed assessment and may be higher. The levee currently obstructs the view of the properties on various streets that back on to the creek, and this view would be further reduced with a raised levee. Feedback on the option will be sought from residents during public exhibition of this study. The option does not have significant social or environmental impacts as it involves modification to an existing structure and will have no impact on the normal functioning of the creek. A typical cross-section and a visualisation of a raised area is presented in Figure 8-8 below.

Visualisation of levee raised by approximately 0.3 m (yellow lines) near Commissioner Street. The average raised amount is 0.2 m but some sections will be around 0.3 m higher.

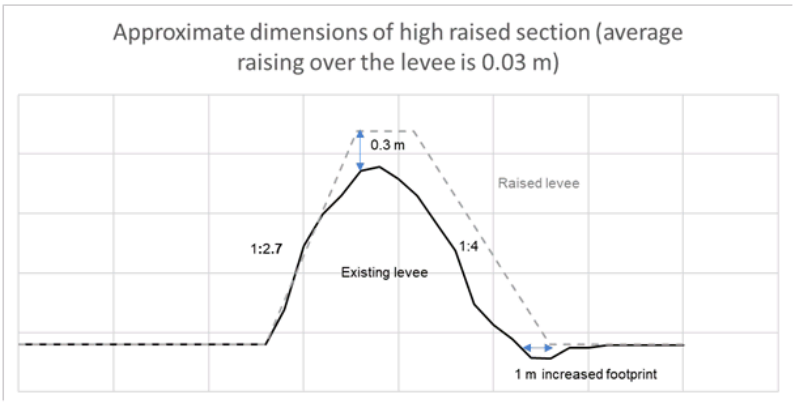


Figure 8-8: Approximate L01C Levee Height and Cross-Section

A preliminary cost estimate for the option is presented in Table 46 and the detailed costing is in Appendix F.

Table 46: Option L01C Cost Estimate

Item	Cost Estimate
Pre-construction Costs	$34,900
Site Preparation	$5,600
Earthworks	$154,500
Civil Construction	$188,700
Total (incl. contingency and GST)	$537,000
Cost estimate is only approximate, for the purposes of economic analysis of the option. It is based on approximately 382 m of levee raised by average of 0.2 m.	

The option's reduction in Average Annual Damages, the Net Present Value (NPV) of this reduction (assuming 50 year design life and 7% discount rate) and the benefit-cost ratio are as follows:

- Average Annual Damage reduction: $10,866
- NPV of reduction: $160,456
- Cost estimate of option: $537,000
- Benefit-cost ratio: 0.3

The benefit-cost ratio is 0.3, meanings its cost is around a third of the expected benefit and it is not justified on economic grounds alone. Overall, the option does not have significant technical constraints, but it provides limited additional benefit in most flood events, with most benefit in the 5% AEP event. It is recommended for implementation if a larger levee upgrade is not adopted. The option's feasibility is also dependent on feedback from Council, the community and other stakeholders. The overall comparison of the Cooma options is presented in Section 8.4.1.2.

Recommendation: Upgrade the Cooma levee system level of protection to 2% AEP or 5% AEP as a short-term measure, pending Council and community feedback

8.4.1.2. *Extend main levee up to Campbell Street (L02)*

The mitigation measure consists of extending the existing main Cooma Creek levee to the south, to give flood protection to the area between Polo Flat Road and Victoria Street. This option was also investigated in the SMEC (1994) study. This section of the creek currently floods some properties, although it is noted that there is minimal above-floor flooding in most flood events as most houses are located outside or close to the edge of the 1% AEP flood extent. Besides the potential to reduce property flooding, the option was considered as any improvements to the existing Cooma Creek levee may prompt explanation for why the levee is not extended further.

There is land available on the sides of the creek and so construction of an earth embankment levee is generally feasible from a technical viewpoint. For 5% AEP protection, the levee would be of a similar height to what exists further north, which is around 1.5-2.5 m above natural ground levels. The option has also been assessed based on a 1% AEP level of protection, for the 1% AEP event. The exact height would be determined based on freeboard requirements.

The option has been assessed via model simulation of both the 5% AEP and the 1% AEP with the existing levee extended to near Polo Flat Road. The existing levee has also been raised for the 1% AEP option to the 1% AEP level (i.e. similar to Option L01). The reason for this approach is:

- A 5% AEP levee would generally be an extension of the existing levee and so may be paired with upgrading of the existing levee to 5% AEP (see option L01C)
- A 1% AEP levee would substantially change the 1% AEP flood behaviour and may be paired with upgrade of the existing levee above the 5% AEP (see options L01A and L01B). A new 2% AEP levee is also a possibility but the results can generally be inferred from the 5% and 1% AEP options.

The alignment of the raised levee and the impact in the two design events is shown in Figure 8-10 and Figure 8-9.

Figure 8-9 shows that extending the levee to the south, with a 5% AEP level of protection, significantly reduces flooding but also causes adverse impacts upstream. The reduction is mostly on vacant lots and the yards of properties near the creek, and is around 0.5 m. The adverse impact is 0.1-0.3 m but mostly occurs in the channel area. Overall, while the reduction in flooding is significant, there is minimal flood liability or risk in the areas benefited.

Figure 8-10 shows that the same extended levee with a higher level (1% AEP) provides significant benefit but also reduces the flow area of the creek and this causes various adverse impacts. The impacts should be examined in the context of Figure 8-3, as this option is an extended version of the L01A 1% AEP option. The reduction is around 0.4 m on the west side of the levee around Campbell and Albert streets, while on the east side there is an increase of up to 0.8 m due to the levee blocking overland flow (this could be offset with cross-drainage in the levee, but will only be effective if the creek is at a low level). There are also significant adverse impacts at the upstream end of the levee, including on properties. The overall effect is to sacrifice the wide flow width of the existing channel, to provide additional protection to some areas. While a smaller levee is possible (i.e. as described in the previous paragraph) there is limited value to 5% AEP protection because there is relatively little flood risk in that event, compared to areas downstream where properties are closer to the creek.

Based on these results the option was not investigated further and is not recommended for implementation.

Recommendation: The option is not considered feasible and is not recommended for implementation

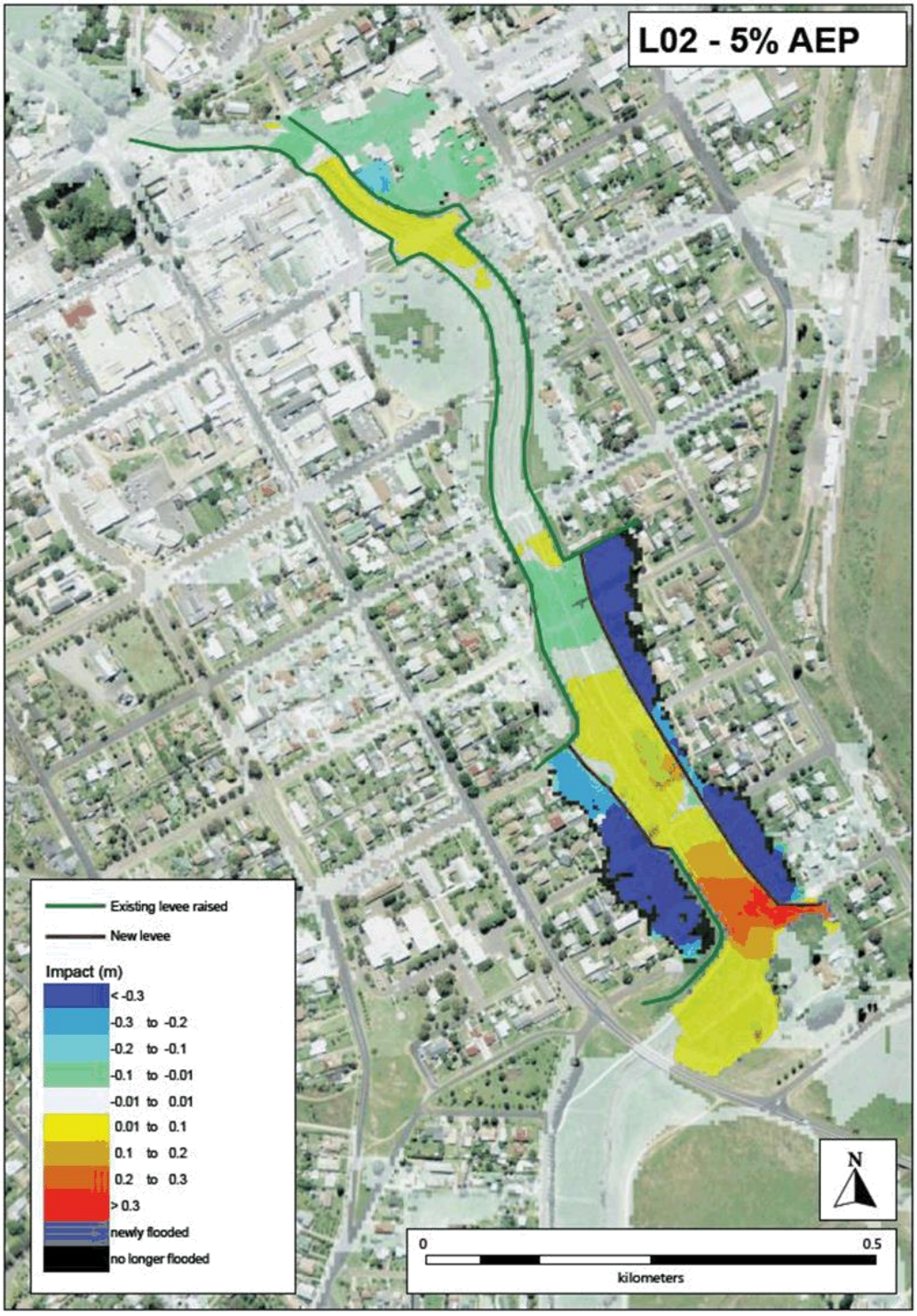


Figure 8-9: 5% AEP Impact - Option L02

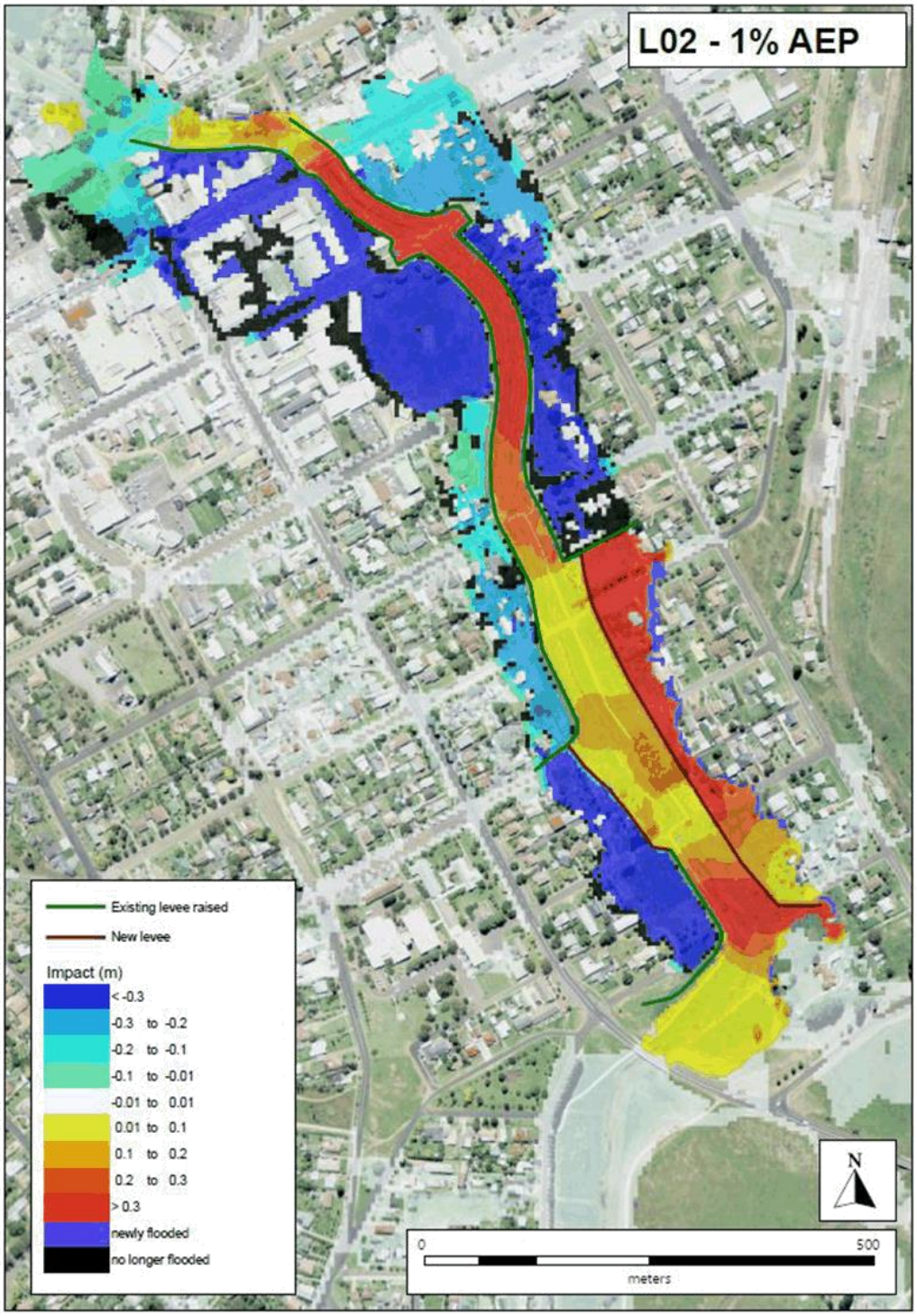


Figure 8-10: 1% AEP Impact - Option L02

8.4.1.1. *Utilise Rotary Oval as a flood storage area for Cooma Creek flow (L04)*

The mitigation measure consists of diverting a portion of Cooma Creek flow into Rotary Oval near Commissioner Street, with the objective of relieving the high flood level through this section of creek. This option aimed to complement Option L01, which involves raising the levee, as significantly more flow is confined to the creek which elevates the flood level. Rotary Oval is a large area adjacent to the creek that has potential to act as a flood storage area, so long as the increased depths are managed with levees or other works around the oval edge.

The option was developed for the 1% AEP event, where the creek levels are particularly elevated if the levee is also raised. The option uses the 1% AEP levee used in Option L01 but lowers a section of the levee adjacent to the oval by around 0.5 m. This allows flow into the oval without diverting the entire creek flow.

The option has been assessed via model simulation of the 1% AEP. The alignment of the raised levee and the overflow section into the oval, as well as the impact, is shown in Figure 8-11. The figure should be compared to Figure 8-3 which is the same except for the overflow section.

Figure 8-11 shows that utilising the oval as a flood storage area has minimal effect on peak flood levels in the 1% AEP. Relative to the impact shown in Figure 8-3, the peak flood level increase is only 0.02-0.03 m lower. This indicates that while a significant volume of flow is being diverted into the oval, as the depth is approximately 1.35 m greater, the volume is not large enough to significantly reduce the peak flow (and therefore level) on the creek.

Based on these results the option was not investigated further and is not recommended for implementation.

Recommendation: The option is not considered feasible and is not recommended for implementation

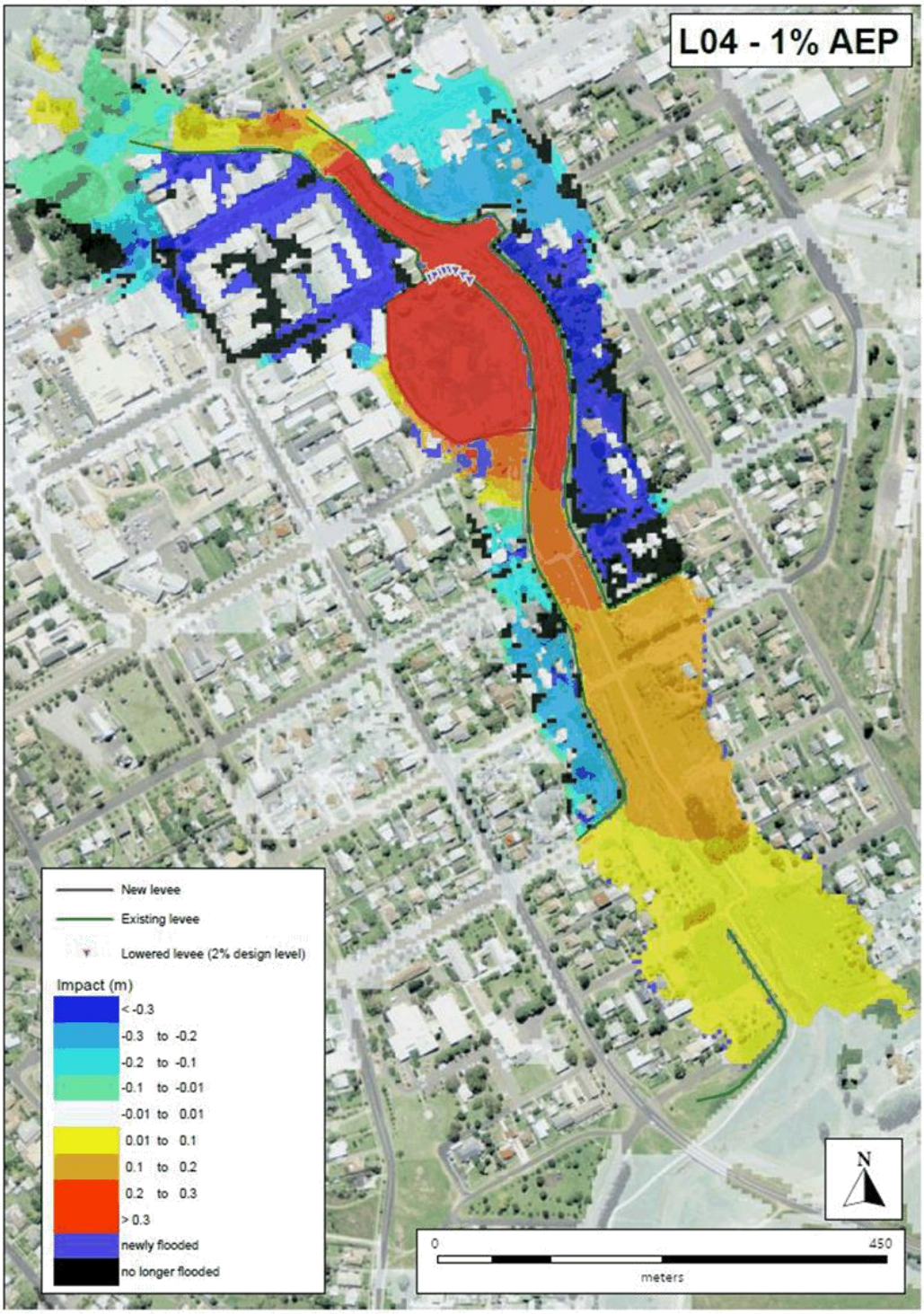


Figure 8-11: 1% AEP Impact - Option L04

8.4.1.2. *Upgrade culvert under Vulcan Street to relieve road flooding (C03)*

The mitigation measure consists of upgrading the culverts of Sandy Creek under Vulcan Street to reduce hazardous flooding on the road and provide access to the residential area to the north. This option was also investigated in the SMEC (1994) study. Currently in the 5% AEP event there is H4 hazard flow over the road, which becomes H5 in the 1% AEP. See Section 3.3.2.5 (Hotspot 5) for full description of the area's flood risk. The option consisted of raising a section of Vulcan Street, construction of a series of larger culverts, and lowering part of the creek area immediately upstream of the area.

The option has been assessed via simulation of the 1% AEP event. The dimensions of the culverts modelled are 5 culverts of 2.1 m x 1.5 m and the road is raised an average of 0.4 m, with a maximum increase of 0.9 m. The location of the culvert and the raised road, as well as the flood impact, is shown on Figure 8-12.

The figure shows that upgrading the culvert capacity (including road raising) has a significant effect on road flooding. Under the option, the road has a category H1 hazard which means the residential area to the north is accessible in most flood events. The culverts' peak flow in the 1% AEP increases from 1.0 m^3/s in the existing case to 26.0 m^3/s under the option.

Based on these results the option was given a preliminary costing estimate and compared to other options in the multi-criteria assessment (Section 8.4.1.2). The option has minimal effect on property flooding and so could not be justified on economic grounds using the standard damages assessment (which only includes direct damage to properties). An overview of preliminary costing is given in Table 47 below and full preliminary costing is provided in Appendix F.

Table 47: Option C03 Cost Estimate

Item	Cost Estimate
Pre-construction Costs	$49,000
Site Preparation	$42,200
Earthworks	$52,200
Civil Construction	$313,600
Total (incl. contingency and GST)	$628,900
Cost estimate is only approximate, for the purposes of comparison to other options	

Recommendation: Construction of the option be considered for the short to medium term

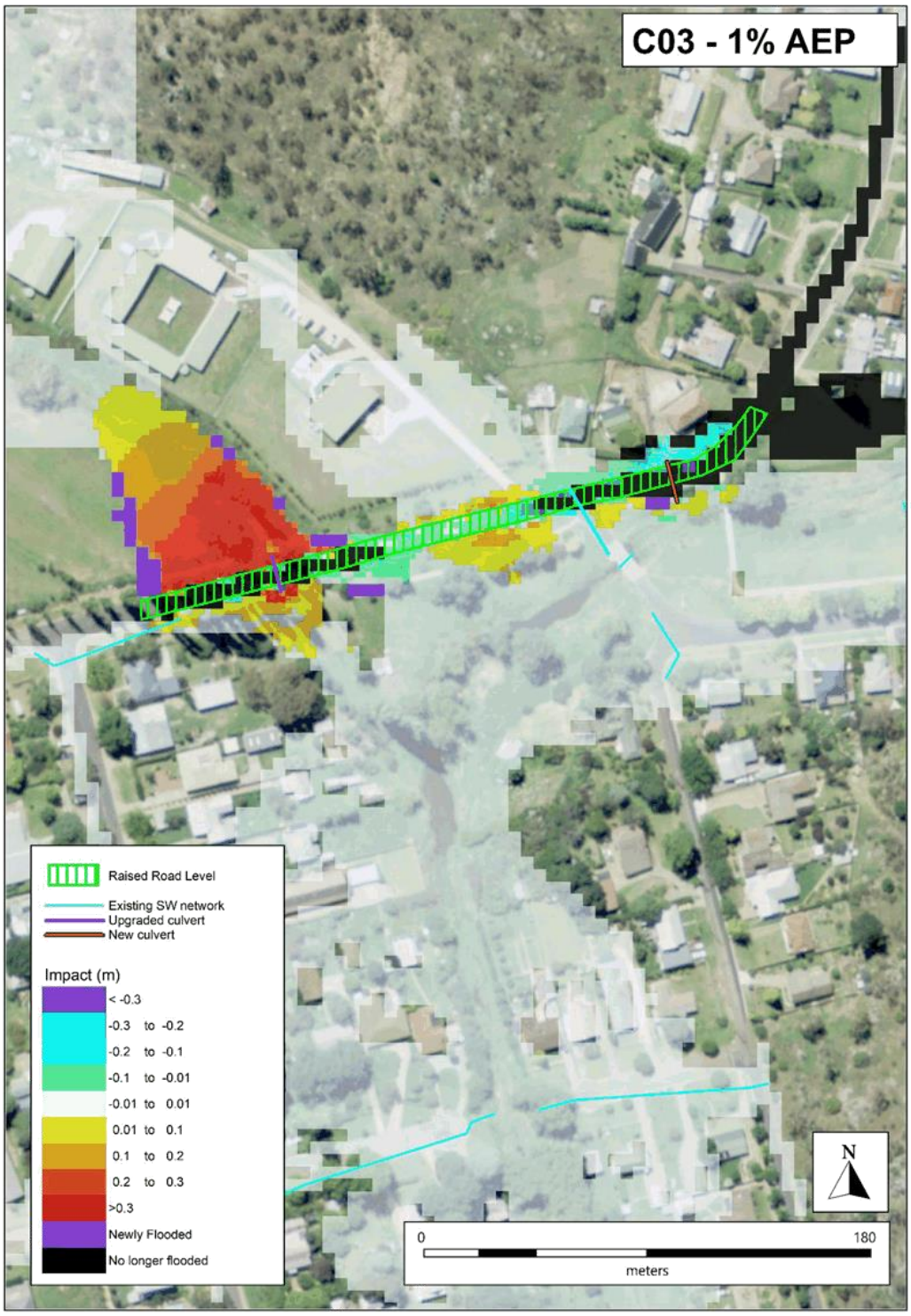


Figure 8-12: 1% AEP Impact - Option C03

8.4.1.3. *Enlarge drainage channel at Polo Flat (Z02)*

The mitigation measure consists of enlarging the drainage channel that runs through Polo Flat to drain a greater portion of the flood flows and reduce property and road flooding in the industrial area. The measure is aimed at reducing flood risk in Hotspots 7 and 8 (see Sections 3.3.2.7 and 3.3.2.8). The drain is an engineered channel that runs south to north through the area, generally adjacent to Polo Flat Road. South of Geebung Street it splits into a large culvert that passes under the Geebung Street loop road, and an open channel also through the area but adjacent to Polo Flat Road. Under the option, the drainage channel has been significantly increased in depth and width, and culverts at road crossings enlarged. The culvert section through private land has not been upgraded due to significant technical/economic constraints.

The option has been assessed via model simulation of the 1% AEP event. The alignment of the enlarged channel section and culverts is shown on Figure 8-13, along with the flood level impact. The figure also shows an example cross-section of the increased channel size.

Figure 8-13 shows that increasing the channel capacity has a significant effect on flooding in the 1% AEP, with a reduction in flood depth across a wide area. The reduction is around 0.1 to 0.2 m the southern portion of the upgrade, south of Airstrip Road, while around Geebung Street there is reduction of 0.2 m and areas that are no longer flooded. These reductions benefit around 15 buildings in the area. There is an area of adverse impact at the downstream (north) end of the upgrade, but it does not affect existing buildings.

Beyond the reduced property damage and road flooding, there is significant benefit relating to improved road access and building inundation for the SES unit on Geebung Street. This benefit, which reduces the likelihood that flooding will impede the emergency response during a flood, has a wider positive impact for the region's emergency response, as several towns are serviced by the Cooma SES unit.

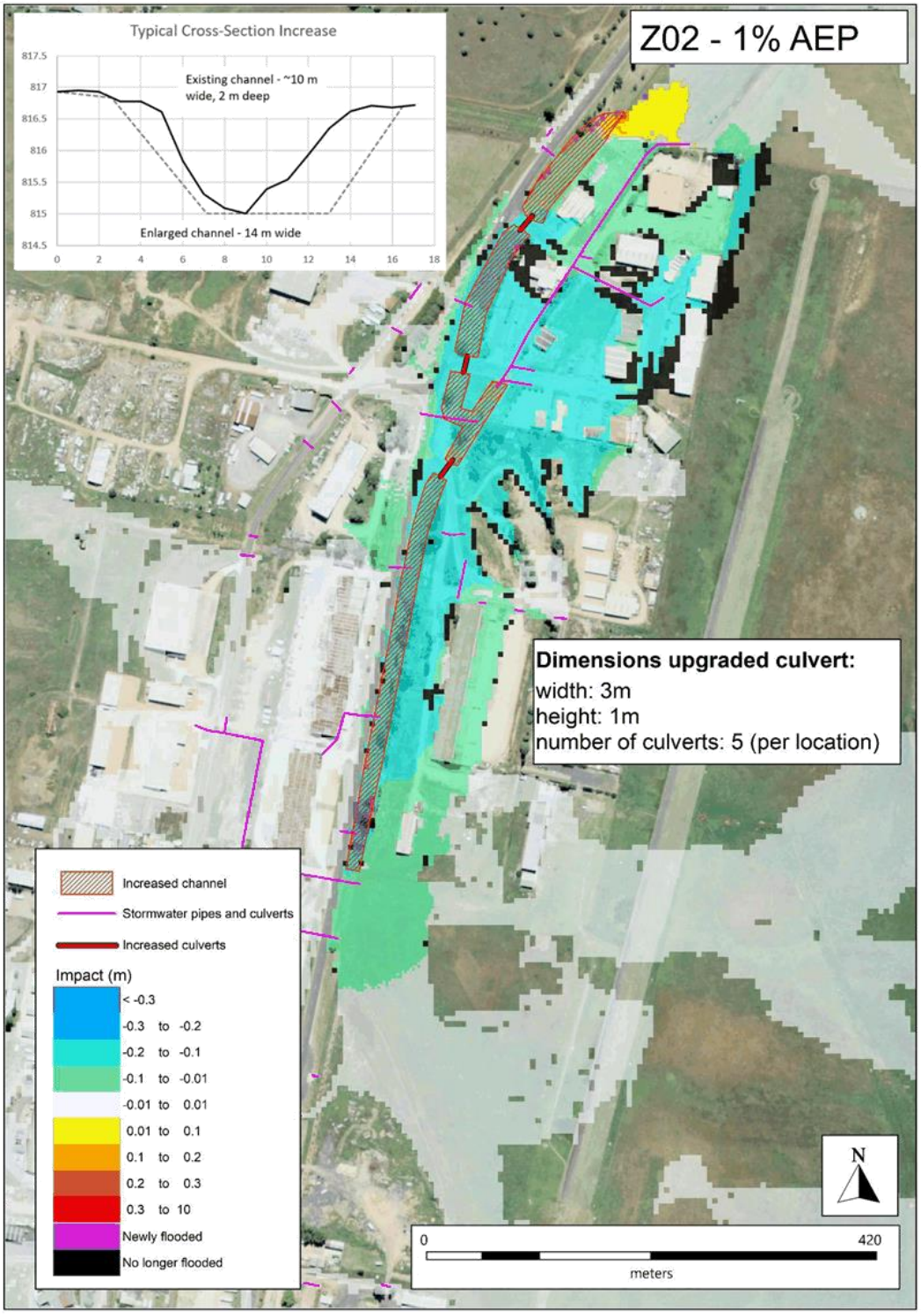


Figure 8-13: 1% AEP Impact - Option Z02 (1% AEP Design level)

Further Analysis

Based on the assessment presented above, the option warranted further analysis including its benefit in a range of floods, the impacts on natural amenity and overall flood risk, and preliminary costing and economic value. The option was simulated for each design flood event and the results are presented in Table 48 below. The table shows that the option has a significant benefit in the range of design flood events, with around 5 properties no longer flooded in most flood events. There is similar reduction in the properties flooded above ground (not shown in the table). The benefit is equivalent to around $2-3m reduction in damages in each event. The reduction in AAD ($205,283) is the largest of the options assessed.

Table 48: Option Z02, Reduction in Damages and Above-floor Flooding

Event	Reduction in Properties Flooded Above Floor	Reduction in Event Damages
PMF	0	$ 2,285,900
0.2% AEP	5	$ 3,925,200
0.5% AEP	5	$ 4,046,000
1% AEP	2	$ 2,984,200
2% AEP	4	$ 2,897,600
5% AEP	6	$ 1,087,500
10% AEP	3	$ 319,700
20% AEP	1	$ 146,100
	Average Annual Damage Reduction	$ 205,283

There are some impacts on natural amenity in the area due to the option. The area is currently an industrial zone and the option would involve increasing the width and depth of the existing channel. The channel alignment is constrained by the current drainage easement, between Polo Flat Road and various private properties. There are around 35 mature trees along the channel that would be removed if the option were implemented. While additional trees could be planted nearby, the existing mature trees could not be replaced in the short term.

A preliminary cost estimate for the option is presented in Table 49 and the detailed costing is in Appendix F.

Table 49: Option Z02 Cost Estimate

Item	Cost Estimate
Pre-construction Costs	$172,100
Site Preparation	$99,100
Earthworks	$654,500
Civil Construction	$599,700
Total (incl. contingency and GST)	$2,143,500
Cost estimate is only approximate, for the purposes of economic analysis of the option.	

The option's reduction in Average Annual Damages, the Net Present Value (NPV) of this reduction (assuming 50 year design life and 7% discount rate) and the benefit-cost ratio are as follows:

- Average Annual Damage reduction: $205,283
- NPV of reduction: $2,435,436
- Cost estimate of option: 2,143,500
- Benefit-cost ratio: 1.1

The benefit-cost ratio is 1.1, which means the cost of the option is similar to its benefit and it can be justified on economic grounds. Overall, the option has significant benefit at Polo Flat with both reduced property damage for the Polo Flat area and improved access to the SES unit on Geebung Street. While the option does not have significant technical constraints, it is relatively expensive and would require removal of some trees. An alternative to full implementation would be upgrade of the section near Geebung Street, or incorporating raising Geebung Street, in order to provide benefit to that area. The overall comparison of the Cooma options is presented in Section 8.5.

Recommendation: Construction of the option be considered for the short to medium term as part of development in Polo Flat.

8.4.1.4. *Re-grade and enlarge Cooma Back Creek downstream of Sharp Street (Z04)*

The mitigation measure consists of re-grading and enlarging Cooma Back Creek between Sharp Street and Vulcan Street, including removal of areas of thick vegetation, in order to reduce property flooding along the creek. The measure is aimed at reducing flood risk to property and risk to life in Hotspot 4 (see Section 3.3.2.4). Currently the creek has a well-defined channel with steep sides and areas of thick vegetation along the section, with several houses located on the relatively flat area on either side of the creek. The option has several significant constraints, but it has been assessed given the high flood risk posed to properties and residents in the area.

The option has been assessed via model simulation of the 1% AEP and 0.2% AEP events. The location of the modified creek section is shown on Figure 8-14, along with the 1% AEP flood level impact. The figure also shows an example cross-section of the increased channel size.

Figure 8-14 shows that increasing the channel capacity has a significant effect on flooding in the 1% AEP, with reduced flood risk for flood-affected properties along the creek section. The reduction is around 0.4-0.6 upstream of Kerwan Street and 0.1-0.2 m downstream of Kerwan Street. These reductions result in reduced hazard to many of the properties. In the 0.2% AEP (not shown), there is similarly significant reduction in hazard on several affected properties, although flowpaths of H4-H5 flow still isolate some properties.

There are three significant constraints associated with the option:

1. Any works in the creek would be carried out on what is currently private property. This would require consent from the landowners and purchase of part of their land as a drainage or creek easement, by Council. All landowners would need to accept the arrangement for the works to be constructed (i.e. if part of the works are not possible, the scheme will not function). Compulsory acquisition is also possible, however is fraught for Council/community relations.
2. Modified areas of the creek would have vegetation removed. The option assumes that some vegetation is re-planted but there would be significant short-term impacts on flora and fauna, and on the natural amenity of the area.
3. Due to the limited footprint available for construction and the high velocities (3-4 m/s in the 1% AEP event) experienced in the channel, revetment walls will likely be required to stop erosion and potential undermining of nearby properties. The concept design assumes 1 : 1 grade revetment walls, which will need to be fenced to minimise risk to pedestrians near the creek during flood and dry periods alike.
4. Due to the above constraints, and combined with the fact that the creek has not experienced significant out-of-bank flooding in many years, there is likely to be high community opposition to the option. There is likely to be low awareness of the high flood risk present in rare flood events and so there is likely to be little interest in increasing the creek's capacity.

Feedback on the option will be sought from Council and from the community and other stakeholders during the public exhibition period.

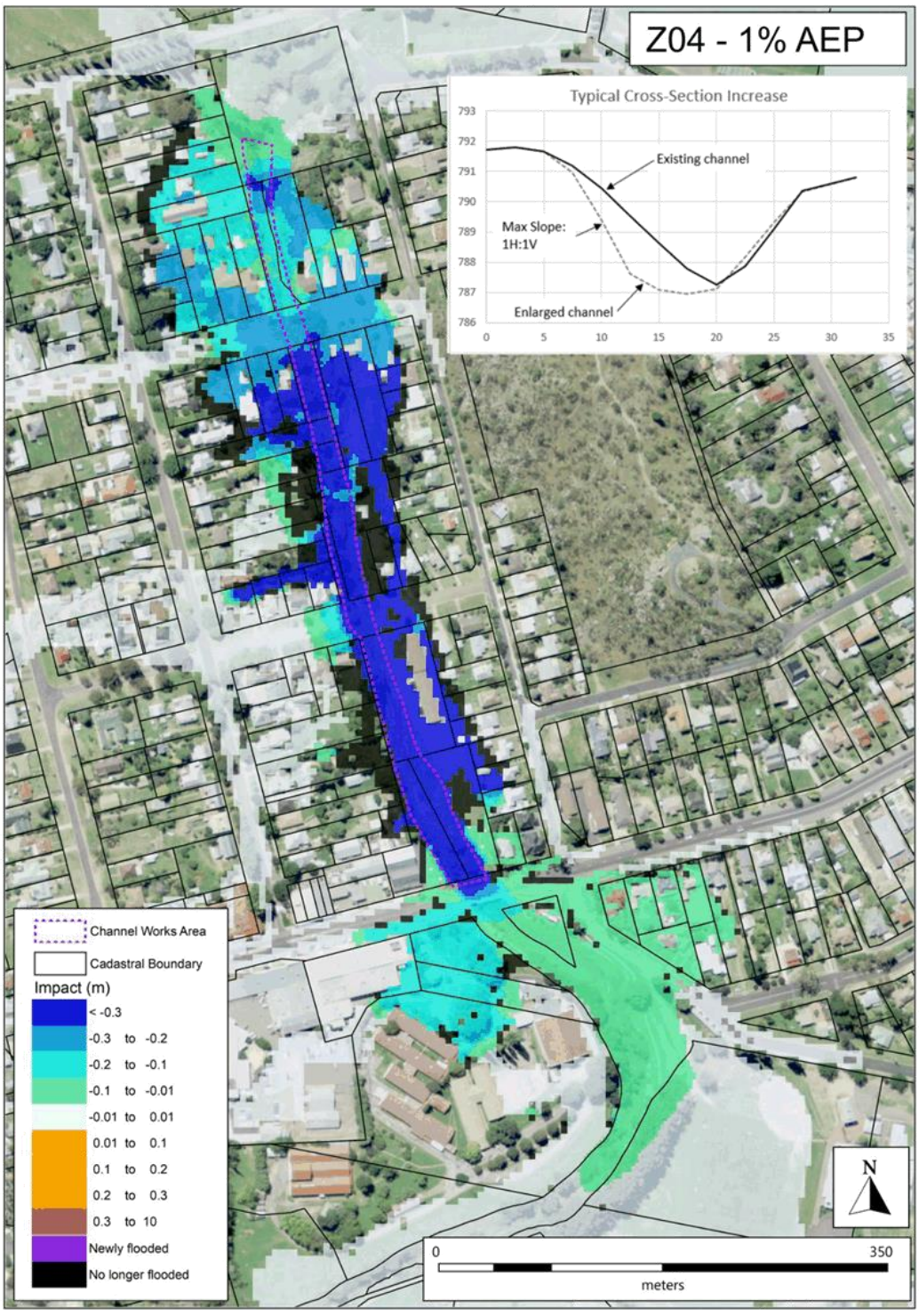


Figure 8-14: 1% AEP Impact - Option Z04

Economic Analysis

The option was simulated for each design flood event and the results are presented in Table 50 below. The table shows that the option has a significant benefit in the range of design flood events, with 10 less properties flooded above floor in the 1% AEP, and 5 less in the 2% AEP. The benefit is equivalent to around $1.7m reduction in damages in the 1% AEP event. There is a significant reduction in AAD ($58,389).

Table 50: Option Z04, Reduction in Damages and Above-floor Flooding

Event	Reduction in Properties Flooded Above Floor	Reduction in Event Damages
PMF	1	$ 335,400
0.2% AEP	15	$ 2,888,100
0.5% AEP	22	$ 2,462,100
1% AEP	10	$ 1,728,100
2% AEP	5	$ 442,700
5% AEP	2	$ 130,400
10% AEP	1	$ 42,000
20% AEP	1	$ 54,100
	Average Annual Damage Reduction	$ 58,389

A preliminary cost estimate for the option is presented in Table 51 and the detailed costing is in Appendix F.

Table 51: Option Z04 Cost Estimate

Item	Cost Estimate
Pre-construction Costs	$429,600
Easement Purchase	$1,821,800
Site Preparation	$56,100
Earthworks	$565,800
Civil Construction	$1,423,900
Total (incl. contingency and GST)	$5,177,200
Cost estimate is only approximate, for the purposes of economic analysis of the option.	

The option's reduction in Average Annual Damages, the Net Present Value (NPV) of this reduction (assuming 50 year design life and 7% discount rate) and the benefit-cost ratio are as follows:

- Average Annual Damage reduction: $58,389
- NPV of reduction: $862,214
- Cost estimate of option: $5,177,200
- Benefit-cost ratio: 0.2

The benefit-cost ratio is 0.2, which means the benefit of the option is around 20% the value of its cost and it cannot be justified on economic grounds alone. While the ratio is low, the benefit of the option largely relates to risk to life and reduced property flooding is a secondary benefit. Overall, the option has significant benefit for flood-affected properties along Cooma Back Creek but it has significant feasibility constraints. Without significant support from Council and the affected community, it is unlikely the measure could be implemented. The overall comparison of the Cooma options is presented in Section 8.5.

Recommendation: Gather feedback from community, Council and other stakeholders on the feasibility of the measure

8.4.1.5. *Massie Street Bridge (M01)*

A bridge at Massey Street over Cooma Creek was considered by the previous FRMS in 1994 (see Section 2.3.2). The road crossing is currently a causeway and is flooded relatively often following high rainfall, with a manual gate that is closed to prevent motorists from crossing the creek. A bridge replacing the causeway is now being considered by Council as a traffic improvement for the area, as the bridge will relieve demand on Sharp Street when the Massie Street crossing is closed.

The construction of a new bridge is supported as a floodplain risk management measure as it will reduce the likelihood of vehicles entering high hazard flow on Massie Street during a flood. While gates are used to prevent this currently, there is residual risk of the gates not being closed due to insufficient warning time or unforeseen factors. Secondly, there is an opportunity for a new bridge to improve access for emergency services during a flood, who currently use Sharp Street bridge, which has flood-prone approaches from both sides. Improved access offered by the new bridge is dependant on the bridge's level and its approaches, as there is currently a high hazard flowpath on Bombala Street and parts of Amos Street.

The bridge has not been assessed using the hydraulic model, as the concept design is currently being investigated by Council. The option is recommended in principle, as it will reduce flood risk at the crossing and potentially improve vehicle access during a flood. The bridge is expected to have minimal environmental impacts that can be managed during the construction phase.

Recommendation: Construction of a new bridge at Massie Street is supported as a floodplain risk management measure. The option is being investigated by Council, separate to this study.

8.4.1.6. *Vegetation management for all towns (V01)*

Vegetation management may provide limited localised benefits for flood affectation. Widespread removal of vegetation is not feasible and will results in significant detrimental impacts to the riparian corridor. However, selective removal of invasive species such as willows, blackberry and box elders can enhance channel conveyance and should be considered. Removal of vegetation should be undertaken in conjunction with replanting of native vegetation that is suitable for riparian regeneration. Replanting of native vegetation should aim to not increase the density of vegetation in sections of creek that are adjacent to urban areas. Selection of appropriate vegetation types will minimise the risk of channel erosion and provide various environmental benefits, whilst not significantly impacting on flood characteristics. A vegetation management program can be implemented to enhance channel conveyance characteristics and reduce erosion potential.

Recommendation: Council should consult with Waterwatch, Cooma Landcare and Local Land Services to develop a vegetation management program that aims to remove invasive plant species that impact on channel conveyance and replace with native vegetation that supports riparian health.

8.4.2. Bredbo and Michelago Flood Modification Measures

As with Cooma, a staged process was used to select measures that warranted assessment using the hydraulic model and other analyses. This involved developing a longlist of measures, and then further assessing those that were most likely to be effective, with input from Council. In Michelago there is minimal flood risk in most flood events. In Bredbo, where flood risk does exist, structural measures are unlikely feasible due to significant flood scaling and low-density development. Six measures were longlisted (see Table 52) but none were selected for further analysis by this study. Those that were not assessed further are not necessarily infeasible and some were not included due to the limited scope and budget of the current study. One (Michelago Creek crossing at Ryrie Street) is being assessed separate to

this study. Overall, property modification and response modification measures will be more effective in managing flood risk in Bredbo.

Table 52: Bredbo Flood Modification Measures Longlist

Measure	Outcome
[Bredbo] Construct two sections of levee, south of Anembo Street and west of Bransby Street, to protect properties from 1% AEP Bredbo River flooding	Not selected – rated as low feasibility. New levees would be very expensive relative to the benefit they offer (around seven houses each in the 1% AEP). There would also be significant impacts on visual amenity, and minimal benefit in floods smaller than the 1% AEP.
[Bredbo] Culvert upgrade under Monaro Highway near Clifford Street	Not selected – rated as moderate feasibility. The flooding issue near the culvert is minor compared to other areas and a larger culvert may cause adverse impacts downstream.
[Bredbo] Replace the North Street causeway with a set of culverts, to provide access to the area west of the creek.	Not selected – rated as moderate feasibility. There are minimal access issues as flooding of the creek is typically only short duration, however, risk will increase if further development occurs. The option may be recommended for future consideration. As an interim measure, warning signage at the crossing will mitigate some of the risk to vehicles.
[Michelago] Upgrade culvert under Ryrie Street near Monaro Highway, or construct a swale to increase flow into the culvert	Not selected – culvert rated as moderate feasibility, swale as low feasibility. The flooding issue at the location is small and only one property would benefit from the culvert upgrade. Warning signage at the crossing will mitigate the risk to vehicles.
[Michelago] Construct a creek crossing near Ryrie Street and Micalago Road to resolve the current access issue	Council are looking at the crossing separate to the current study, including access during a flood. An assessment of a crossing as a flood risk management measure has been provided below.
[Michelago] Raise Micalago Road near railway bridge to reduce hazardous flooding on the road	Not selected – rated as moderate feasibility. The option may be investigated pending the outcome of the creek crossing (previous option). As with that option, a significant constraint will be undertaking works in the rail corridor.
[Michelago] Construct a culvert at the low point on Ryrie Street near the general store, or construct a swale to increase flow to the existing culvert	Not selected – culvert rated as high feasibility and swale as moderate. There is no significant flooding at the location and a culvert will likely impact properties on the west side of the road.

8.4.2.1. *Ryrie Street crossing (R01)*

Community consultation during the flood study and discussion with Council has emphasised the strong community support for a crossing of Michelago Creek near Ryrie Street and Micalago Road. There is significant interest in improving the travel time to Michelago as currently residents living south of the creek, along Micalago Road, have to drive onto the Monaro Highway to access the town. Community members have also raised the value of improved access during a flood, as currently the Micalago Road area is cut-off from the town during flooding of Michelago Creek, which inundates Micalago Road near the railway bridge.

For the purposes of understanding the available options, three possibilities have been considered:

1. a new road causeway constructed between Micalago Road, approximately 40 m west of the railway bridge, and Ryrie Street to the north
2. a new bridge crossing of the creek, set approximately at the level of Micalago Road west of the railway bridge
3. a new bridge crossing of the creek, set above the 1% AEP flood level on Michelago Creek, which would have a bridge deck level of approximately 2.8 m above the current Micalago Road level.

Micalago Road from the bridge and to the east of the railway raised to the 1% AEP level to allow flood free access.

The first two options would improve road access to the town but the road would continue to be cut-off during a 20% AEP event. Given the high occurrence of vehicles crossing roads with hazardous floodwaters, a new road crossing that is flood-affected would likely increase flood risk in the area. Possible mitigation measures would be to include dynamic warning signage at the location, or an automatic boom gate to prevent vehicles entering floodwaters. Overall, the first two options would not reduce flood risk in the area and are not recommended as part of this study.

The third option involves a bridge and road raising that would provide access to the Micalago Road area for floods up to the 1% AEP event. This would allow residents to access the town during a flood, and provide access for emergency services to the area. The constraints of the option are related to the much larger structure required for a higher bridge and the significant length of road raising, including through a section under the existing rail bridge. It would require raising of three sections of road – Micalago Road to the west, to the east through the railway bridge, and Ryrie Street to the north, by 2-3 m above what currently exists. While technically feasible, the project would be very expensive relative to the expected benefit, with regards to flooding.

While this assessment does not oppose the construction of a creek crossing, it finds that a crossing is not feasible as a flood risk management measure. Option 3 has been included in the multi-criteria assessment for completeness and so it can be compared to other measures.

8.4.3. Berridale Flood Modification Measures

Similar to the other towns, a staged process was used to select measures that warranted assessment using the hydraulic model and other analyses. The full list of measures has been included here in Table 53 in order to show why not all hotspots had flood modification measures assessed. Options that improve road access to the area east of Myack Creek have incorporated previous studies' discussion of development in the area (see studies in Section 2.3)

Table 53: Berridale Flood Modification Measures Longlist

Measure	Outcome
Upgrade culvert under Dalgety Road at Myack Creek to improve road access	Not selected – rated as moderate feasibility. The measure may be considered during any future upgrades of Dalgety Road. In the interim, implementation of warning signage may reduce the risk to vehicles.
Upgrade culvert under Kosciuszko Road at Wullwye Creek secondary channel to improve road access	Not selected – rated as moderate feasibility. Would likely require very large culverts or a bridge and therefore prohibitive cost (and little benefit in small floods). Warning signage can better mitigate the flood risk.
Raise road and install culvert at Short Street causeway to improve road access	Selected for assessment – Option C01B in following section
Upgrade culverts at William Street and Myack Creek to improve road access	Selected for assessment – Option C02 in following section
Implement Vegetation Management Plan on Myack Creek near William Street	See Section 8.4.1.5 – rated as moderate feasibility. Wide-scale clearing will have significant environmental impacts. There is limited potential for beneficial clearing that also does not impact the existing ecosystem. Existing or planned programs involving removal of invasive species may have some benefit on flood risk.

Channel works from William Street to confluence with Coolamatong Creek	Not selected – rated as low feasibility. The option may have downstream impacts and also there is likely environmental impacts from channel works.
Improve Coolamatong Creek conveyance near Myack Street including culvert upgrade	Option already tested and designed separate to the FRMS. The proposed design has been included here for completeness (Option Z01 in following section)
Construct a bund to divert flow around Snowy River Hostel	Selected for assessment – Option B01B in following section

8.4.3.1. *Raise road and install culvert at Short Street (C01B)*

The mitigation measure consists of raising the road and install at Short Street causeway to reduce hazardous flooding on the road and provide access to the residential area to the east. Currently in the 5% AEP event there is H5 hazard flow over the road, which is also present in larger floods. It is likely that the Short Street causeway is frequently flooded by H2 hazard flow or higher, posing a significant risk to vehicles. See Section 5.3.1.3 (Hotspot 14) for full description of the area's flood risk. The option consisted of raising a section of Short Street and construction of a series of larger culverts.

The option has been assessed via simulation of the 5% AEP event. The dimensions of the culverts modelled are 7 culverts of 3 m x 1.5 m and the road is raised an average of 0.7 m. The location of the culvert and the raised road, as well as the flood impact, is shown on Figure 8-15.

The figure shows that installing culverts (including road raising) has a significant effect on road flooding. Under the option, the road is no longer flooded for most parts which makes the residences to the east accessible in most flood events. The culverts' peak flow in the 5% AEP is 26.7m^3/s.

The drawbacks of the option are that it requires very large culverts which are expensive relative to the benefit it offers. Flooding of the road is unlikely to last more than several hours during a flood, and the risk of crossing the hazardous flow may be better managed via warning signage and other response modification measures.

Based on these results the option was given a preliminary costing estimate and compared to other options in the multi-criteria assessment (Section 8.4.1.2). The option has minimal effect on property flooding and so could not be justified on economic grounds using the standard damages assessment (which only includes direct damage to properties). An overview of preliminary costing is given in Table 54 below and full preliminary costing is provided in Appendix F.

Table 54: Option C01B Cost Estimate

Item	Cost Estimate
Pre-construction Costs	$30,200
Site Preparation	$5,500
Earthworks	$18,900
Civil Construction	$280,300
Total (incl. contingency and GST)	$464,500

Cost estimate is only approximate, for the purposes of comparison to other options.

Recommendation: The option is not recommended at the current time but should be considered as part of any future development near Short Street

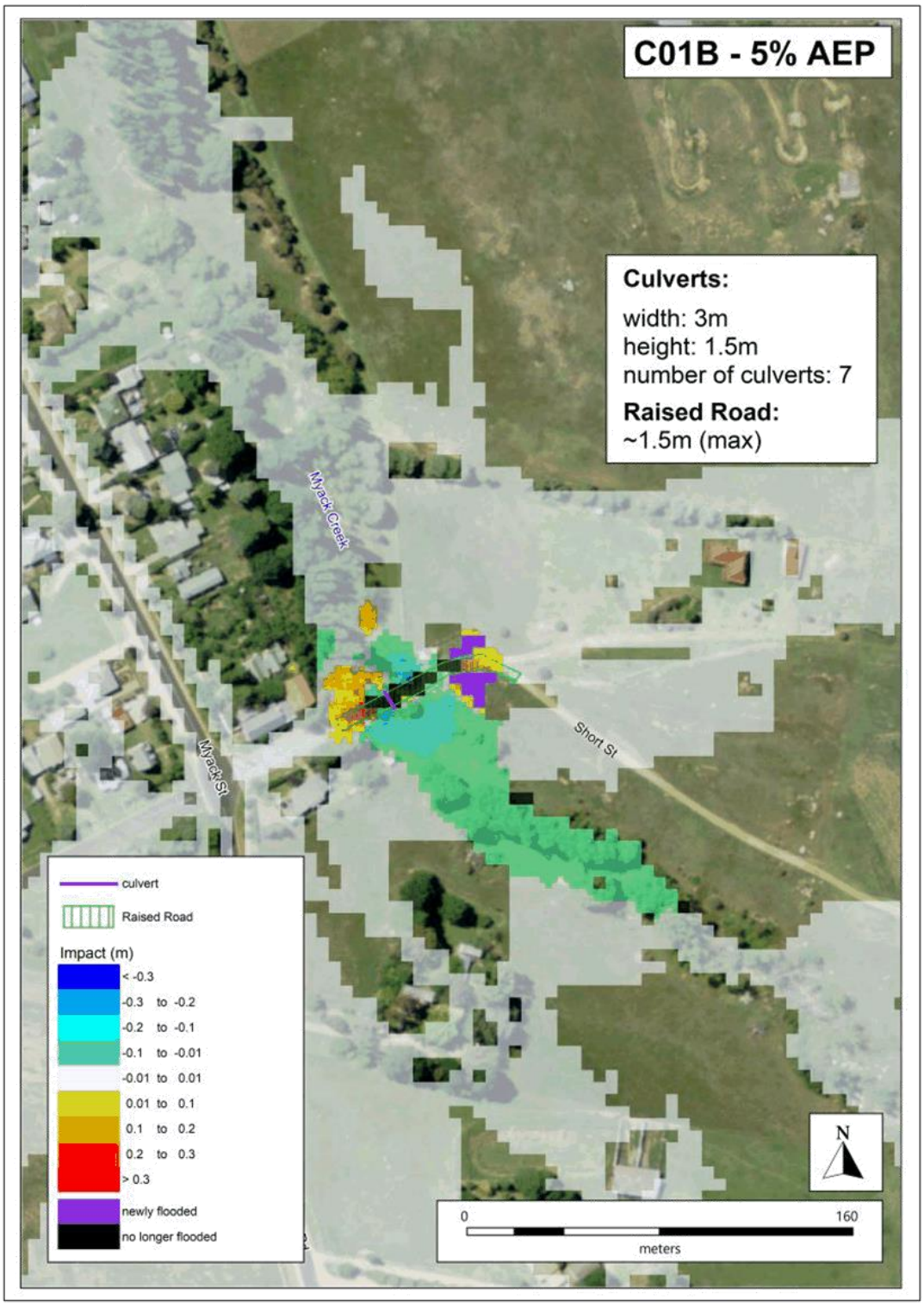


Figure 8-15: 1% AEP Impact - Option C01B

8.4.3.2. *Upgrade culverts at William Street on Myack Creek (C02)*

The mitigation measure consists of upgrading the culverts of Myack Creek under William Street to reduce hazardous on the road and provide access to the residential area to the east. Currently in the 5% AEP event all flow is conveyed through the existing culverts and there is no road flooding, while in the 1% AEP flow over the road is up to H4 hazard. The measure is aimed at reducing road flooding at Hotspot 15 (see Section 5.3.1.4 for further information). The option consisted of replacing the existing large culverts with a larger set, raising the road, and lowering part of the creek area immediately upstream of the area.

The option has been assessed via simulation of the 1% AEP event. The dimensions of the culverts modelled are 6 culverts of 3.6 m x 1.8 m and the road is raised an average of 0.65 m. The location of the culvert and the raised road, as well as the flood impact, is shown on Figure 8-16.

The figure shows that upgrading the culvert capacity (including road raising) has a significant effect on road flooding. Under the option, the road is no longer flooded which means the residential area to the east is accessible in most flood events. The culverts' peak flow in the 1% AEP increases from 23.1 m^3/s in the existing case to 50.7 m^3/s under the option.

The drawbacks of the option are that it requires very large culverts which are expensive relative to the benefit it offers. Relative to other crossings of Myack Creek, William Street is not severely flood-affected, due to the large culverts that currently exist. Also, flooding of the road is unlikely to last more than several hours during a flood, and the risk of crossing the hazardous flow may be better managed via warning signage.

Based on these results the option was given a preliminary costing estimate and compared to other options in the multi-criteria assessment (Section 8.5). The option has minimal effect on property flooding and so could not be justified on economic grounds using the standard damages assessment (which only includes direct damage to properties). An overview of preliminary costing is given in Table 47 below and full preliminary costing is provided in Appendix F.

Table 55: Option C02 Cost Estimate

Item	Cost Estimate
Pre-construction Costs	$40,000
Site Preparation	$3,000
Earthworks	$24,500
Civil Construction	$372,700
Total (incl. contingency and GST)	$616,300
Cost estimate is only approximate, for the purposes of comparison to other options	

Recommendation: The option is not recommended at the current time but should be considered as part of any future development near O'Brien Avenue

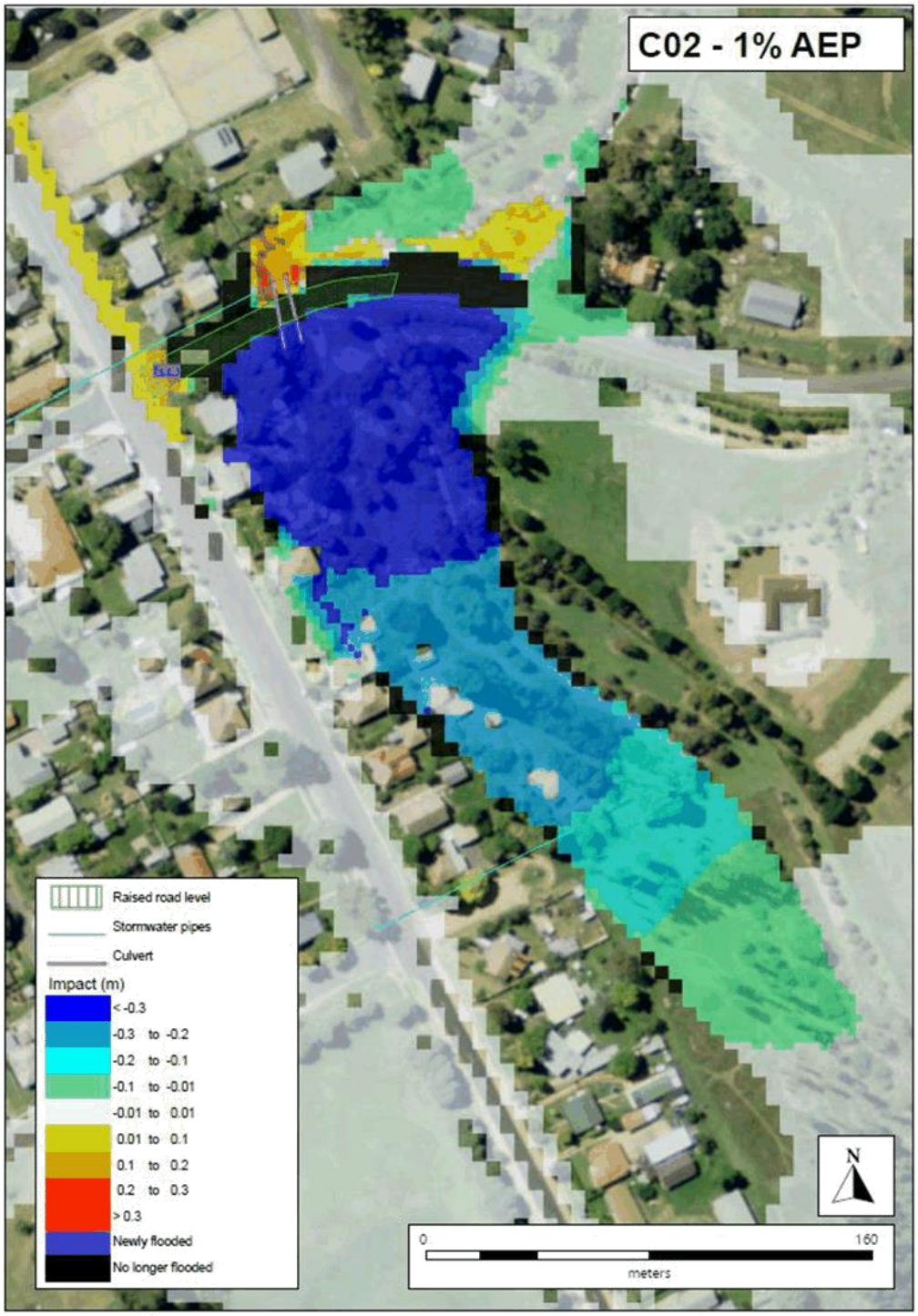


Figure 8-16: 1% AEP Impact - Option C02

8.4.3.3. *Improve Coolamatong Creek conveyance near Myack Street including culvert upgrade (Z01)*

The mitigation measure has been developed prior to the current study, drawing from the mitigation measures proposed by Berridale Township Flood Study in 2015 (see Section 2.3.7). It is aimed at reducing flood risk at Hotspot 16 (see section 5.3.1.5). Although the measure was not developed by the current study, it has been included here for completeness.

The mitigation measure consists of increasing the capacity of Coolamatong Creek including increasing the culvert size at Myack Street, to reduce property and road flooding in the area. Flooding of the area affects several properties and roads and is described in detail Section 5.3.1.5. The creek is currently a grassed park area with Myack Street close to the creek invert level, leading to overtopping in flood events. Design drawings for the proposed changes to the park area show removal of seven trees.

The option has been assessed via model simulation of the 5% AEP and 1% AEP events. The alignment of the enlarged creek and the upgraded culvert is shown on Figure 8-17, along with the flood level impact for the 5% AEP. Figure 8-18 shows the 1% AEP impact.

Figure 8-17 shows that increasing the channel capacity results in a reduction in flood depth of around 0.1 m in the 5% AEP event. There is an increased flood level on the road due to the road having been raised, while the hazard over the road decreases. The impact is similar in the 1% AEP, with a slightly larger decrease in flood level upstream (south) of the road.

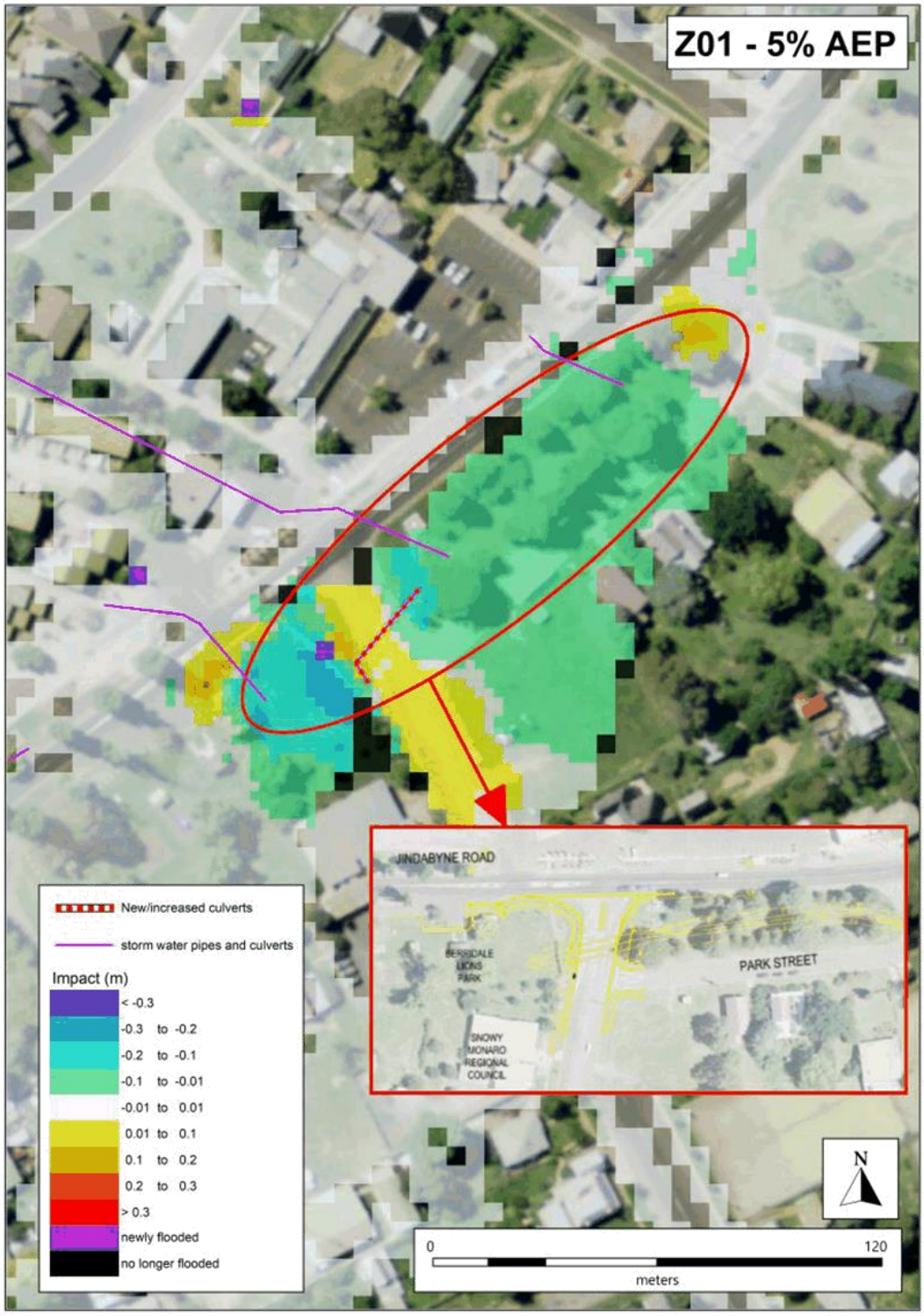


Figure 8-17: 5% AEP Impact - Option Z01

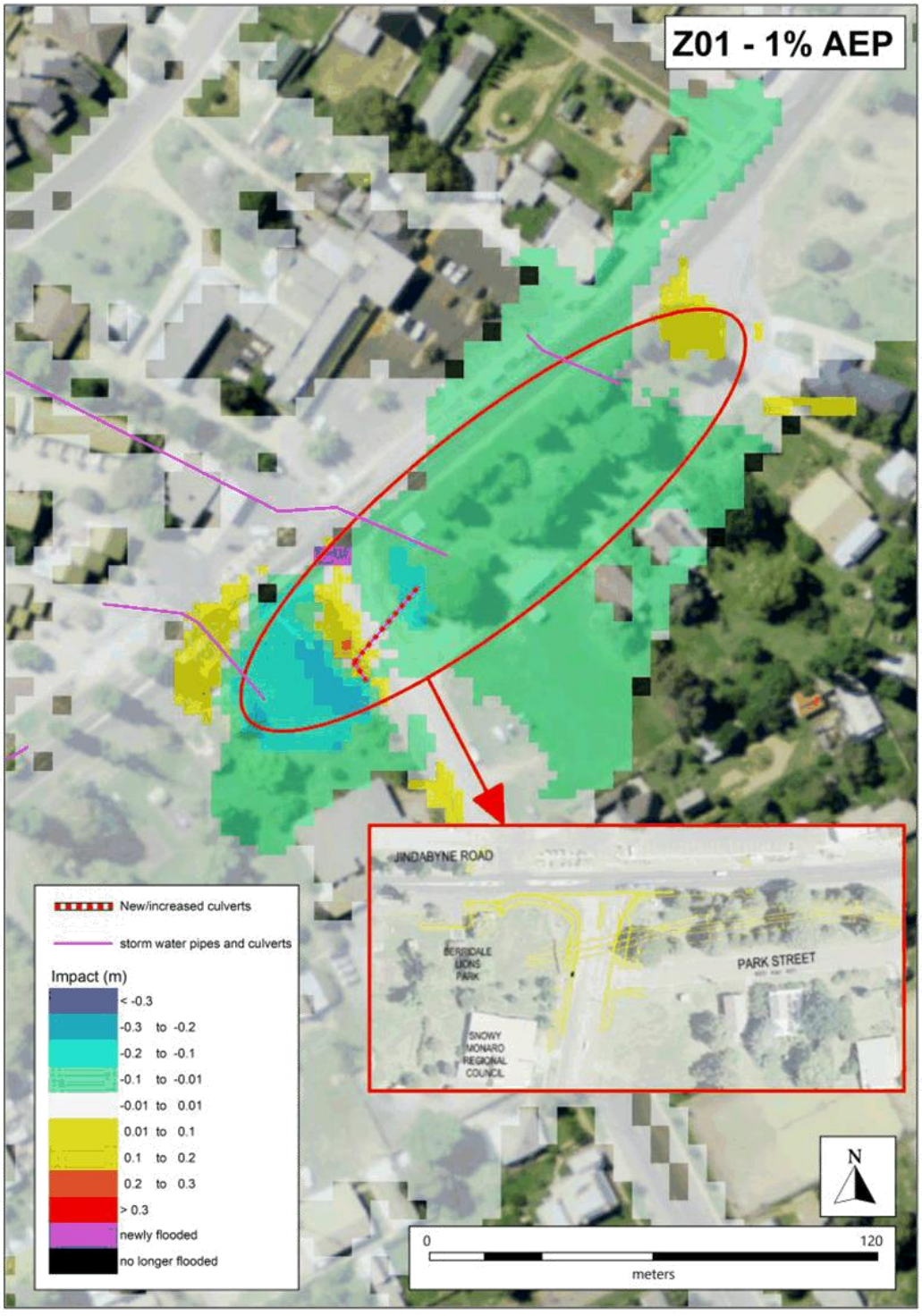


Figure 8-18: 1% AEP Impact - Option Z01

Based on the assessment presented above, the option warranted further analysis including its benefit in a range of floods. It is understood the social and environmental impacts have already been assessed for the option.

The option was simulated for each design flood event and the results are presented in Table 56 below. The table shows that the option has a minimal benefit in certain sized floods, with 2 properties no longer flooded above floor level in the 5% AEP event and 1 in the 10% AEP. In larger events the changes do not have as great an effect on flood behaviour, and in smaller events (10% and 20% AEP) there is less flooding in the existing case. The benefit is equivalent to around $45,000 reduction in damages in the 1%, 2% and 5% AEP events, but minimal in other events. The reduction in AAD is $3,681.

Table 56: Option Z01, Reduction in Damages and Above-floor Flooding

Event	Reduction in Properties Flooded Above Floor	Reduction in Event Damages
PMF	0	$ -
0.2% AEP	0	$ 14,900
0.5% AEP	0	$ 5,500
1% AEP	0	$ 36,400
2% AEP	1	$ 45,400
5% AEP	2	$ 61,000
10% AEP	0	$ -
20% AEP	0	$ -
	Average Annual Damage Reduction	$ 3,681

The reduction in AAD does not include the improved road access, which is significant. In the existing case, there is hazardous flow over Myack Street at the creek crossing, with H3 hazard in the 20% AEP and H4 hazard in the 10% AEP. With the upgraded culverts and re-graded channel, there is less flow over the road and the hazard is reduced to H1 (20% AEP) and H2 (10% AEP). There is still hazardous flow over the road in larger flood events.

A cost estimate of $500,000 for the option has been supplied by Council.

The option's reduction in Average Annual Damages, the Net Present Value (NPV) of this reduction (assuming 50 year design life and 7% discount rate) and the benefit-cost ratio are as follows:

- Average Annual Damage reduction: $3,680
- NPV of reduction: $54,344
- Cost estimate of option: $500,000
- Benefit-cost ratio: 0.1

The benefit-cost ratio is 0.1, meaning its cost is significantly higher than its expected benefit and it is not justified on economic grounds alone. Overall, the option improves road access in small floods and provides marginal improvements to property flooding in the 5% AEP event, but has limited benefit in larger flood events. It has not been included in the Floodplain Risk Management Plan or the multi-criteria assessment as the works are being undertaken by Council separate to this study's recommendations. The option is due to be constructed in 2020.

8.4.3.4. *Bund to divert flow around Snowy River Hostel (B01B)*

The mitigation measure consists of diverting the shallow overland flow that currently impacts the Snowy River Hostel. Currently sheet flow accumulates at the hostel causing depths of 0.3 m in the 5% AEP and 0.4 m in the 1% AEP, due to sheet flow from the adjacent paddock. See Section 5.3.1.6 (Hotspot 17) for full description of the area's flood risk. The option consists of constructing a bund of around 0.4 m height

along the north-east and north-west sides of the lot. This bund was found to cause adverse impacts and so it was paired with a swale, around 0.4 m deep and 8 metres wide, to divert the flow to the south.

The option has been assessed via simulation of the 1% AEP event. The location of the bund and the swale, as well as the flood impact, is shown on Figure 8-19.

The figure shows that diverting the flow is generally possible but there are small areas of adverse impact, and the overall works are very large relative to the benefit achieved. Construction of a bund and swale means that large areas around the hostel are no longer flooded, and flow is diverted to the natural drainage path between Highdale Street and Robertson Street. However, the slight redistribution of flow means there are small areas of adverse impact on Jindalee Street and Robertson Street properties. Therefore the works would likely require further development before a satisfactory impact is achieved.

Given the large scale of the works, with bund and swale over a length of ~200 m, as well as the constraints of building on private property, the option is not considered feasible. It is recommended the hostel look at improving the drainage within their site to divert the majority of flow away from entrances. Such a measure would be undertaken by the property owner and is not part of the Floodplain Risk Management Plan.

Recommendation: The option is not recommended but drainage improvements within the property may alleviate the issue

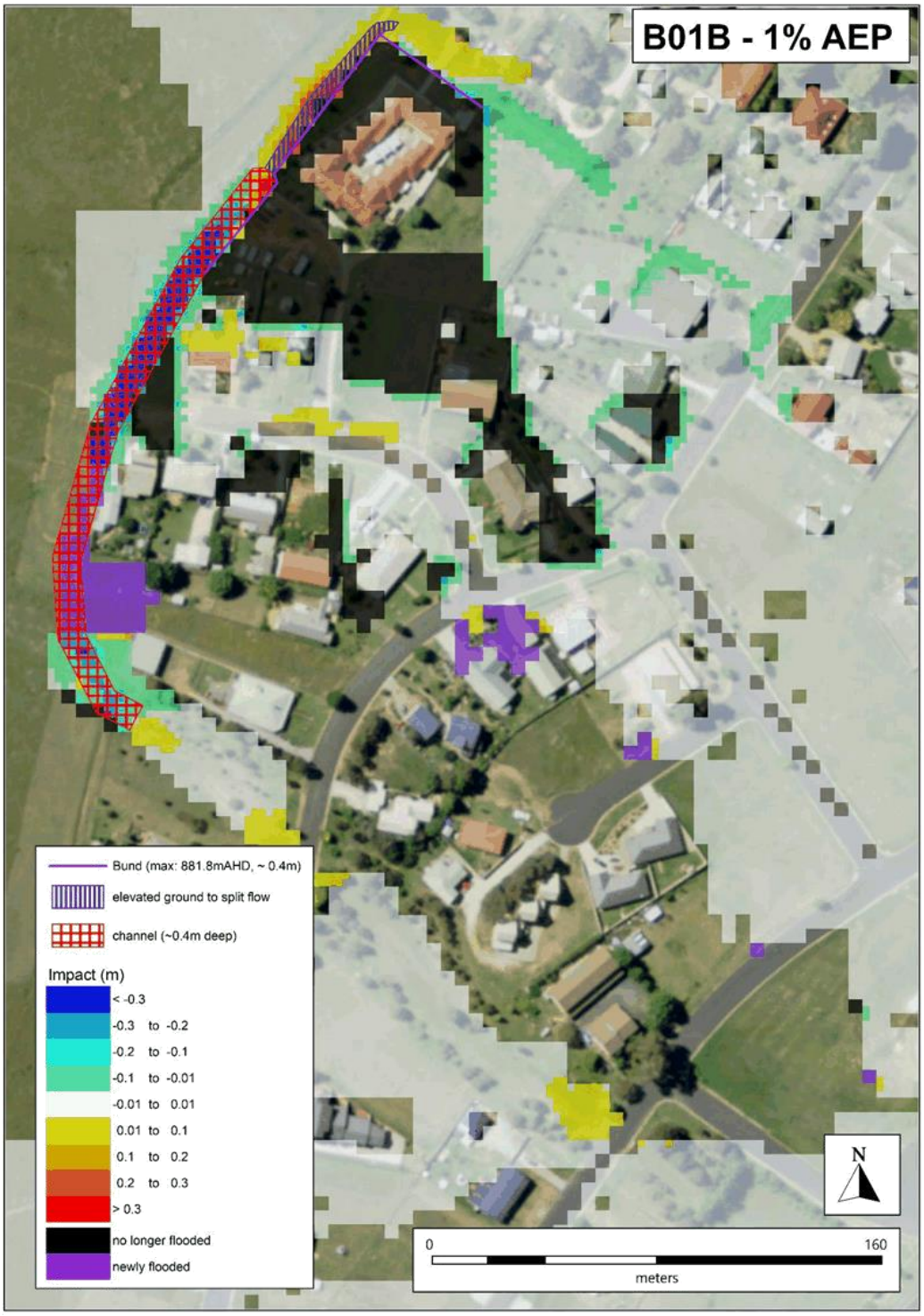


Figure 8-19: 1% AEP Impact - Option B01B

8.5. Multi-criteria Assessment of Measures

The assessment of various flood modification, property modification and response modification measures has been presented in the preceding sections, and measures that are both feasible and reduce flood risk have been recommended. In this section, these criteria and others are scored across the recommended options, in order to compare their relative advantages and disadvantages. This enables options to be prioritised and is a useful tool for decision-makers and other stakeholders. It should be noted that scoring and ranking is only used for an indicative comparison and is not intended to act as a final verdict on the options. Also note that the scoring and ranking may be updated following the public exhibition period, especially in regard to community acceptance.

The results of the analysis are presented in Table 57. Each criteria corresponds to a column and has been scored between -3 (lowest score) and 3 (highest score).

Table 57: Multi-criteria Assessment

Reference	Mitigation Measure	Impact on road flooding	Impact on property flooding	Impact on risk to life	Technical Feasibility	Community Acceptance	Economic Value	Cost and available funding	Environmental Impact	Impact on SES	Political Feasibility	Total Score	Rank
PM01	Adopt updated Flood Planning Area for each town	0	3	1	3	2	3	0	0	2	2	16	3
PM02	Local Environment Plan Amendments	0	2	1	3	2	3	0	0	2	2	15	4
PM03	Advice on Land-use Zoning Considering Flooding	0	2	2	2	2	2	0	0	1	1	12	9
PM04	Updated Flood Planning Controls in the DCP(s)	0	2	2	2	1	2	0	0	1	2	12	9
PM05	Voluntary Purchase in Cooma	0	2	3	0	-3	-2	0	0	2	-2	0	18
RM01	Warning Signage at Hazardous Road Crossings	0	0	3	2	2	1	1	0	3	2	14	6
RM02	Install automatic boom gates at high hazard/high traffic crossings	0	0	3	2	2	2	0	0	3	2	14	6
RM03	Community Flood Education	2	2	2	3	2	3	2	0	2	2	20	1
RM04	Updated Local Flood Plan and Intelligence Cards	1	1	2	3	3	3	2	0	2	3	20	1
RM06	Cooma Flood Warning System Improvements	1	1	2	2	2	2	1	0	2	2	15	4
RM07	Bredbo Flood Warning System	1	1	3	2	1	1	1	0	3	1	14	6
RM08	Develop communications channels for road closures	0	0	2	1	2	2	0	0	3	2	12	9
L01B	Increase Main Cooma Levee to 2% AEP Level of Protection	2	2	2	1	1	0	1	0	2	1	12	9
L01C	Increase Main Cooma Levee to 5% AEP Level of Protection	1	1	1	2	2	0	2	0	1	2	12	9
C03	Upgrade Culvert under Vulcan Street, Cooma	2	0	2	1	1	1	1	-1	2	1	10	14

Z02	Enlarge Drainage Channel at Polo Flat	2	2	1	1	1	1	1	-1	1	1	10	14
Z04	Re-grade and enlarge Cooma Back Creek downstream of Sharp Street	1	3	2	0	-3	-2	1	-3	1	-1	-1	21
V01	Vegetation management plan for all towns	0	1	0	2	2	-1	1	3	0	1	9	16
M01	Massie Street Bridge	0	0	2	1	2	-1	-1	0	2	2	7	17
C01B	Raise Road and Install Culvert at Short Street, Berridale	1	0	1	1	0	-3	-2	-1	1	-1	-3	22
C02	Upgrade Culverts at William Street, Myack Creek	2	1	1	1	0	-3	-2	-1	2	-1	0	18
R01	Ryrie Street crossing	1	0	1	0	3	-3	-3	0	1	0	0	18

The table shows the highest ranked measures are updating the Local Flood Plan and Flood Intelligence Cards and carrying out community flood education. Other highly ranked measures are adopting a Flood Planning Area for each town, amending parts of the LEPs, and improvements to Cooma's flood warning system. These measures all have widespread benefit, particularly to property flooding and risk to life, while having no significant drawbacks. High scoring structural measures include upgrading the Cooma levee system to either 5% or 2% AEP level of protection, upgrading Vulcan Street at Sandy Creek and enlarging the Polo Flat drainage channel. Other structural measures are ranked low as they are expensive and only provide localised reduction in flood risk.

The results of the assessment were used to inform the draft Plan in the executive summary of this document, including the priority of each recommended measure.

APPENDIX A FLOOD RISK MAPPING - COOMA

APPENDIX B FLOOD RISK MAPPING - BREDBO

APPENDIX C FLOOD RISK MAPPING - BERRIDALE

APPENDIX D FLOOD RISK MAPPING - MICHELAGO

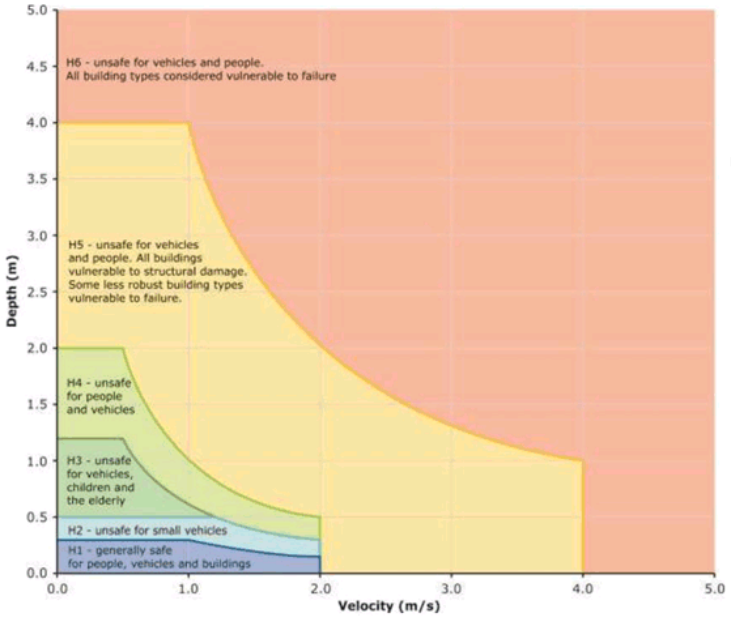
APPENDIX E TECHNICAL ANALYSIS BACKGROUND

E. INTRODUCTION

This appendix contains various background information to the technical analysis presented in the main body of the report, specifically the flood risk section for each town. The information is useful in understanding the analysis applied but was omitted from the main body to shorten the report and improve its functionality.

E.1.Hazard

Flood hazard is defined as the threat that a particular type of flooding will pose to human activity. It is initially calculated based on the flood's depth and velocity in each model grid cell, as part of the flood study stage. It is finalised during the floodplain risk management stage by considering other factors not covered by the depth-velocity calculation. The calculation is based on the Australian Emergency Management Handbook 7 guideline (reference in Table 3), which considers the threat to types of people (children, adult) and activity (pedestrian, vehicle and within a building). The calculation is presented in the below chart.



The chart divides a particular flood event into six categories of hazard, specifically:

- H1 – Generally safe for people, vehicles and buildings
- H2 – Unsafe for small vehicles
- H3 – Unsafe for vehicles, children and the elderly
- H4 – Unsafe for people and vehicles
- H5 – Unsafe for vehicles and people. All buildings vulnerable to structural damage. Some less robust building types vulnerable to failure.
- H6 – Unsafe for vehicles and people. All building types considered vulnerable to failure.

Assessment of the hydraulic flood hazard did not identify any requirements for finalising the flood hazard definition. Areas of hazard not captured by the depth-velocity calculation are described qualitatively in the flood risk section for each town. These include levee failure and evacuation constraints.

E.2.Flood Function

Flood function is a processed model output that classify floodwaters into flow conveyance (previously floodway), flood storage or flood fringe. These categories describe the function of flow in a particular area of the floodplain and are commonly used by town planners to understand flood behaviour in an area of potential development. According to the Australian Emergency Management Handbook 7 (AIDR, 2017), these three categories can be defined as:

Flow Conveyance – the areas where a significant proportion of the floodwaters flow and typically align with defined channels. If these areas are blocked or developed, there will be significant redistribution of flow and increased flood levels across the floodplain. Generally, the flow conveyance is areas of deep and/or fast-moving floodwaters.

Flood Storage – areas where, during a flood, a significant proportion of floodwaters extend into, water is stored and then recedes after a flood. Filling or development in these areas may increase flood levels nearby.

Flood Fringe – areas that make up the remainder of the flood extent. Development in these areas are unlikely to alter flood behaviour in the surrounding area.

There is no prescribed methodology for deriving each category and as such categorisation is typically determined based on experience and knowledge of the study area. As per the study brief, the hydraulic categories for mainstream flooding have been derived using three methods. The general approach uses the following steps for mainstream flow:

1. For the 1% AEP design event, derive an estimate of the hydraulic categories in accordance with Howells et al, 2003[3], which uses thresholds for the velocity-depth product, velocity and depth to define each category.
2. For isolated areas of flood storage or flood fringe that are surrounded by flow conveyance, convert them to flow conveyance if they are less than 0.3 ha in area. Similarly, if a particular channel or flowpath of flow conveyance is discontinuous at a point due to a localised man-made change, convert the area to flow conveyance if necessary to achieve correct impact in the next step.
3. Model the effect of fully developing the non-flow conveyance area by blocking out all non-flow conveyance areas of the model so they are impermeable to flow. Measure the change in peak flood levels that results from the reduced flow area. If the increase is around 0.1 m, the categories are considered reasonable, if a larger increase is recorded, increase the flow conveyance area by changing the thresholds in step 1, or decrease the area if the impact is too low.
4. Consider splitting the floodplain into sections with different depth-velocity thresholds, as recommended by Murtagh et al, 2017[4].
5. Once a reasonable estimate of the hydraulic categories is found, confirm their delineation by measuring the percentage of flow in areas of flow conveyance compared to total flow. The flow conveyance is expected to have approximately 80-90% of total flow.
6. Once the thresholds of velocity-depth product, velocity and depth are determined for the 1% AEP event, apply the same criteria for deriving the 5% AEP and PMF hydraulic categories.

[3] Howells, L., McLuckie, D., Collings, G. and Lawson, N. - *Defining the Floodway – Can One Size Fit All?* Floodplain Management Authorities of NSW 43rd Annual Conference, Forbes February 2003
[4] Murtagh, J., Albert, N., Babister, M., McLuckie, D., Robinson, K., *Hydraulic Categorisation*, 2017 Floodplain Management Australia National Conference

The dispersed and shallow nature of overland flooding means that the same process cannot be used to delineate hydraulic categories for overland flow. For overland flow, a velocity and velocity-depth product threshold is chosen and then iteratively adjusted until the predominant overland flowpaths in each town have a continuous floodway.

The adopted thresholds for each town are presented below.

Cooma

The velocity (v), depth (d) and velocity*depth (v*d) thresholds determined for mainstream flooding in Cooma are:

- Upstream of the confluence of Cooma Back Creek and Cooma Creek, flow conveyance where v*d > 0.40 m^2/s and v > 0.40 m
- Downstream of the confluence of Cooma Back Creek and Cooma Creek, flow conveyance where v*d > 0.70 m^2/s and v > 0.70 m
- For all areas outside the flow conveyance, flood storage where d > 0.5 m, otherwise flood fringe.

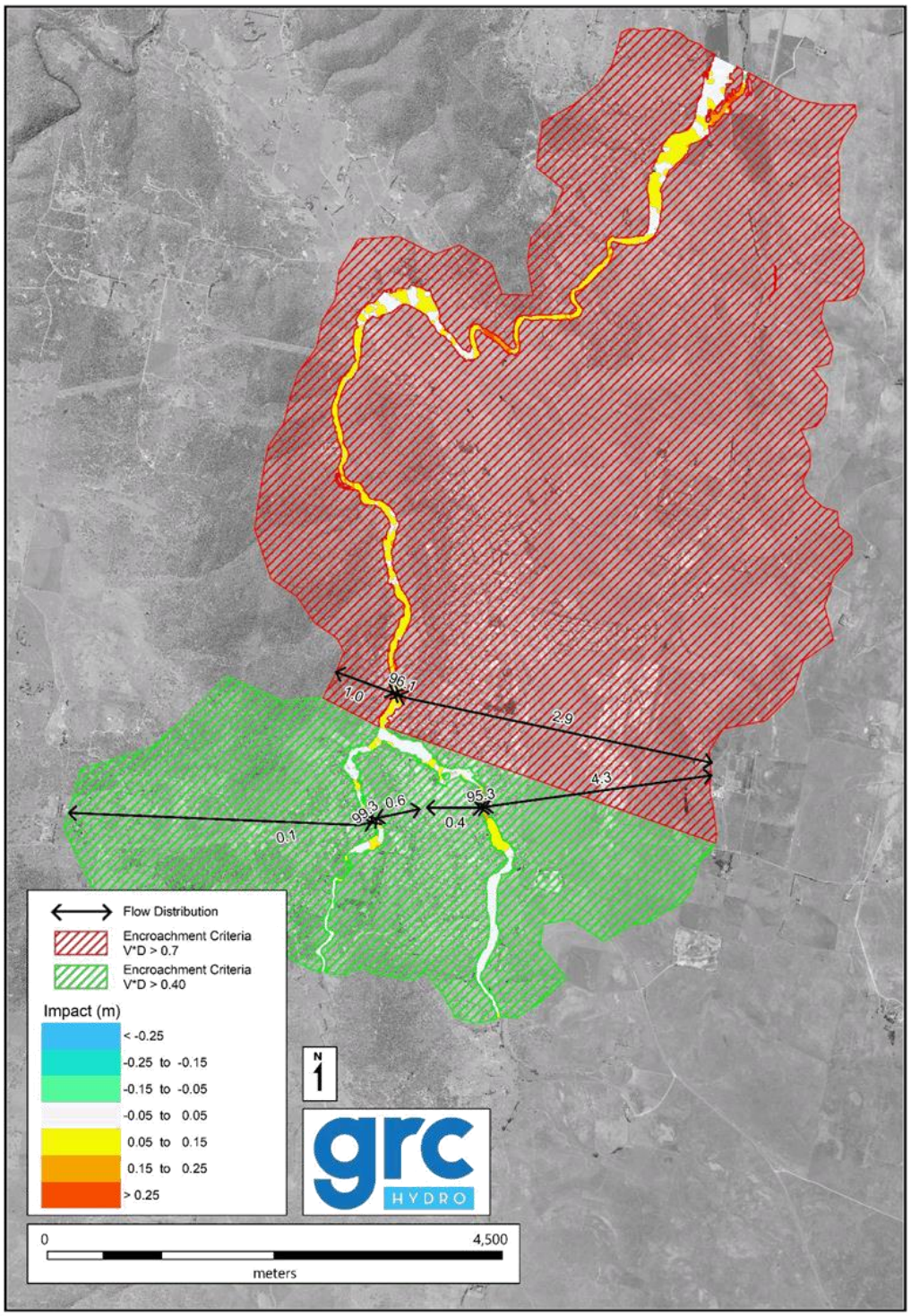
The results of the assessment are shown in Figure 8-20, which shows the afflux from blocking the adopted mainstream flood storage area, as well as a breakdown of the flow percentage for the mainstream flow, comparing the flow conveyance and non-flow conveyance area. The figure shows that the adopted thresholds achieve the 0.1 m afflux for most areas (see yellow areas of impact) and the flow conveyance flow is between 95 and 99%, which is indicative of the majority of the flow being contained in the channel, as occurs in Cooma.

The figure shows the target afflux was not achieved in all sections of the channel. The thresholds were adopted after running a number of velocity and velocity-depth thresholds, including 0.25, 0.3, 0.35, 0.4, (with and without additional manual changes) and 0.7. Multiple thresholds were adopted for upstream and downstream of the confluence, but further splitting of areas was concluded to have limited returns for the added complexity.

The adopted thresholds, which also use the approach proposed by Howells et. al., for overland flow are:

- Flow conveyance – peak value of velocity multiplied by depth (V × D) > 0.10 m^2/s and peak velocity > 0.10 m/s, or peak velocity > 1.0m/s and peak depth > 0.15m;
- Flood storage – catchment area outside flow conveyance where peak depth > 0.5m; and
- Flood fringe – catchment area outside flow conveyance where peak depth < 0.5m.

Figure 8-20: Encroachment Criteria Cooma



Bredbo

The velocity (v), depth (d) and velocity*depth (v*d) thresholds determined for mainstream flooding in Bredbo are:

- flow conveyance where v*d > 0.70 m^2/s and v > 0.70 m
- For all areas outside the flow conveyance, flood storage where d > 0.5 m, otherwise flood fringe.

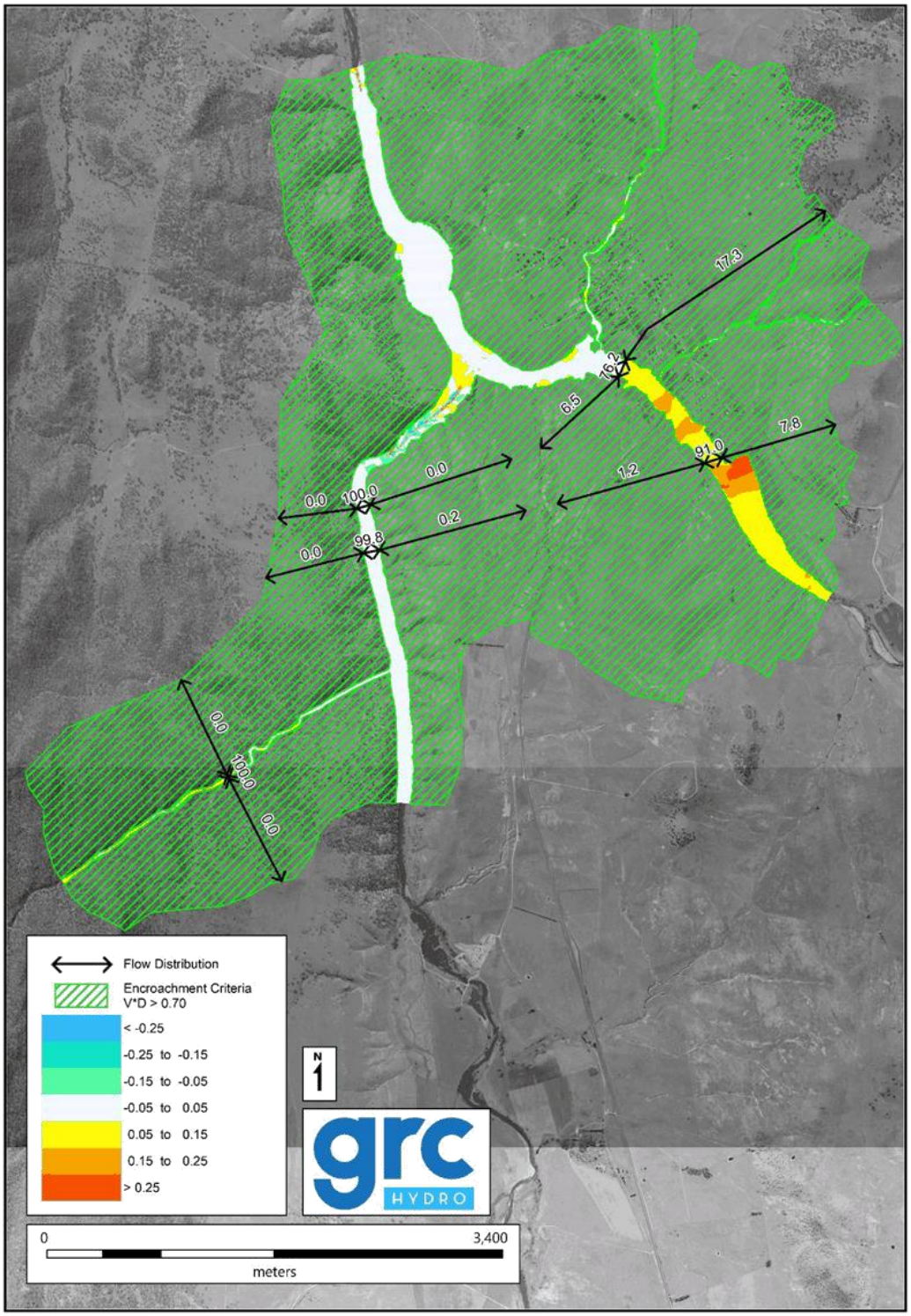
The results of the assessment are shown in Figure 8-21, which shows the afflux from blocking the adopted mainstream flood storage area, as well as a breakdown of the flow percentage for the mainstream flow, comparing the flow conveyance and non-flow conveyance area. The figure shows that the adopted thresholds achieve the 0.1 m afflux for most areas close to the town centre (see yellow areas of impact) and the flow conveyance is between 76% and 91% on Bredbo River.

The figure shows the target afflux was achieved in the vicinity of the town, however most sections of the Murrumbidgee River channel did not achieve the targets due to the gorge type topography which makes the majority of the floodplain behave as Flow Conveyance. The thresholds were adopted after running a number of velocity and velocity-depth thresholds, including 0.25, 0.3, 0.35, 0.4, 0.7 (with and without additional manual changes) and 1.0. Across these seven runs, the adopted values returned the best result.

The adopted thresholds for overland flow are:

- Flow conveyance – peak value of velocity multiplied by depth (V × D) > 0.25 m^2/s and peak velocity > 0.25 m/s, or peak velocity > 1.0m/s and peak depth > 0.15m;
- Flood storage – catchment area outside flow conveyance where peak depth > 0.5m; and
- Flood fringe – catchment area outside flow conveyance where peak depth < 0.5m.

Figure 8-21: Encroachment Criteria Bredbo



Berridale

The velocity (v), depth (d) and velocity*depth (v*d) thresholds determined for mainstream flooding in Bredbo are:

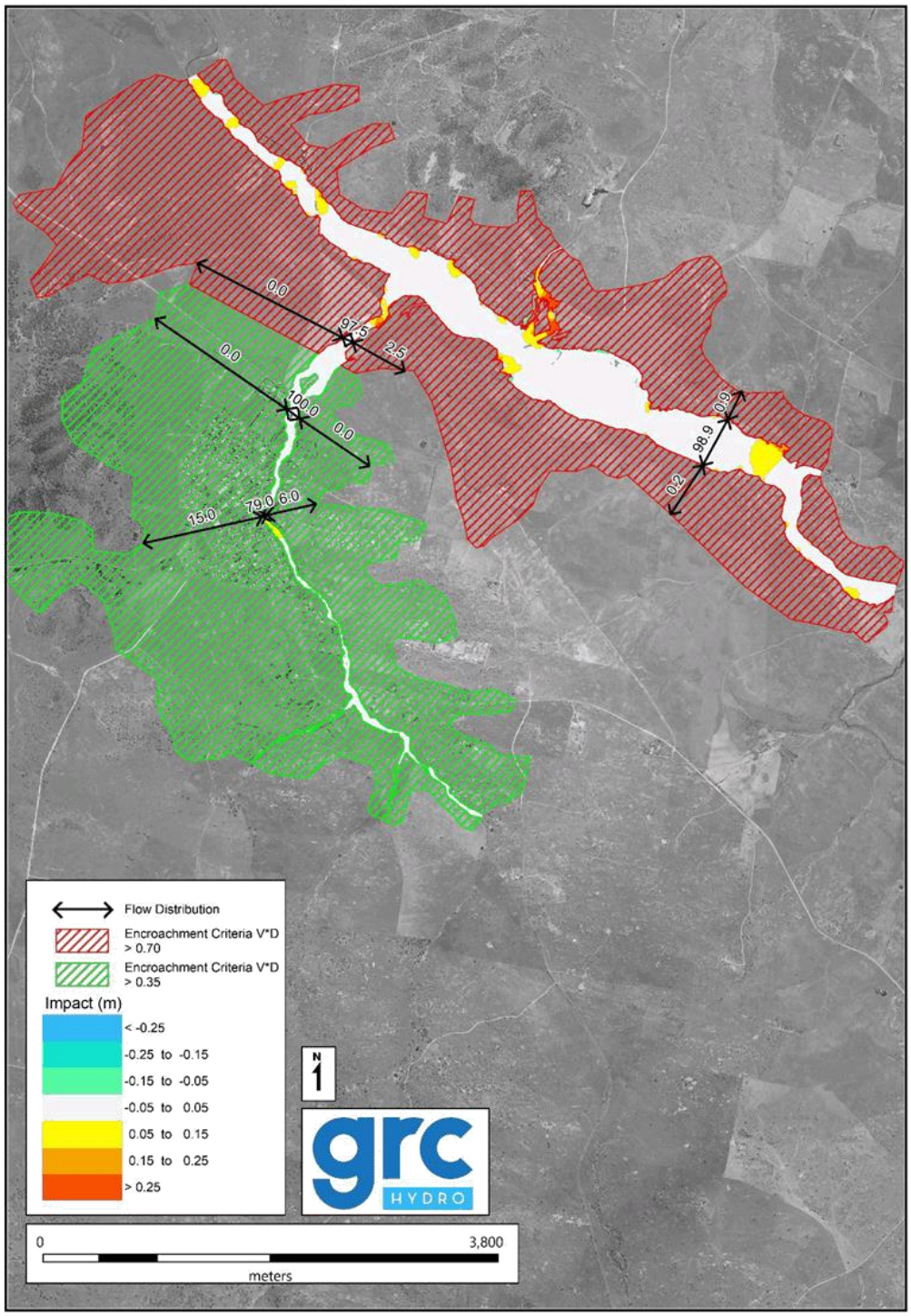
- For areas around Myack Creek, flow conveyance where v*d > 0.35 m^2/s and v > 0.35 m
- For areas around Wullwye Creek, flow conveyance where v*d > 0.70 m^2/s and v > 0.70 m
- For all areas outside the flow conveyance, flood storage where d > 0.5 m, otherwise flood fringe.

The results of the assessment are shown in Figure 8-22, which shows the afflux from blocking the adopted mainstream flood storage area, as well as a breakdown of the flow percentage for the mainstream flow, comparing the flow conveyance and non-flow conveyance area. The figure shows that the adopted thresholds achieve the 0.1 m afflux for some areas (see yellow areas of impact) and the flow conveyance flow is between 79% and 100%. The 0.1 m afflux is not achieved everywhere, because 'islands' of flood storage were changed to flow conveyance, which made a significantly larger flow conveyance in Wullwye Creek. As with other towns, the adopted thresholds are the result of an iterative process. For Berridale, six thresholds were tested: 0.25, 0.3, 0.35, 0.4 and 0.7 (with and without manual changes).

The adopted thresholds for overland flow are:

- Flow conveyance – peak value of velocity multiplied by depth (V × D) > 0.25 m^2/s and peak velocity > 0.25 m/s, or peak velocity > 1.0m/s and peak depth > 0.15m;
- Flood storage – catchment area outside flow conveyance where peak depth > 0.5m; and
- Flood fringe – catchment area outside flow conveyance where peak depth < 0.5m.

Figure 8-22: Encroachment Criteria Berridale



Michelago

The velocity (v), depth (d) and velocity*depth (v*d) thresholds determined for mainstream flooding in Bredbo are:

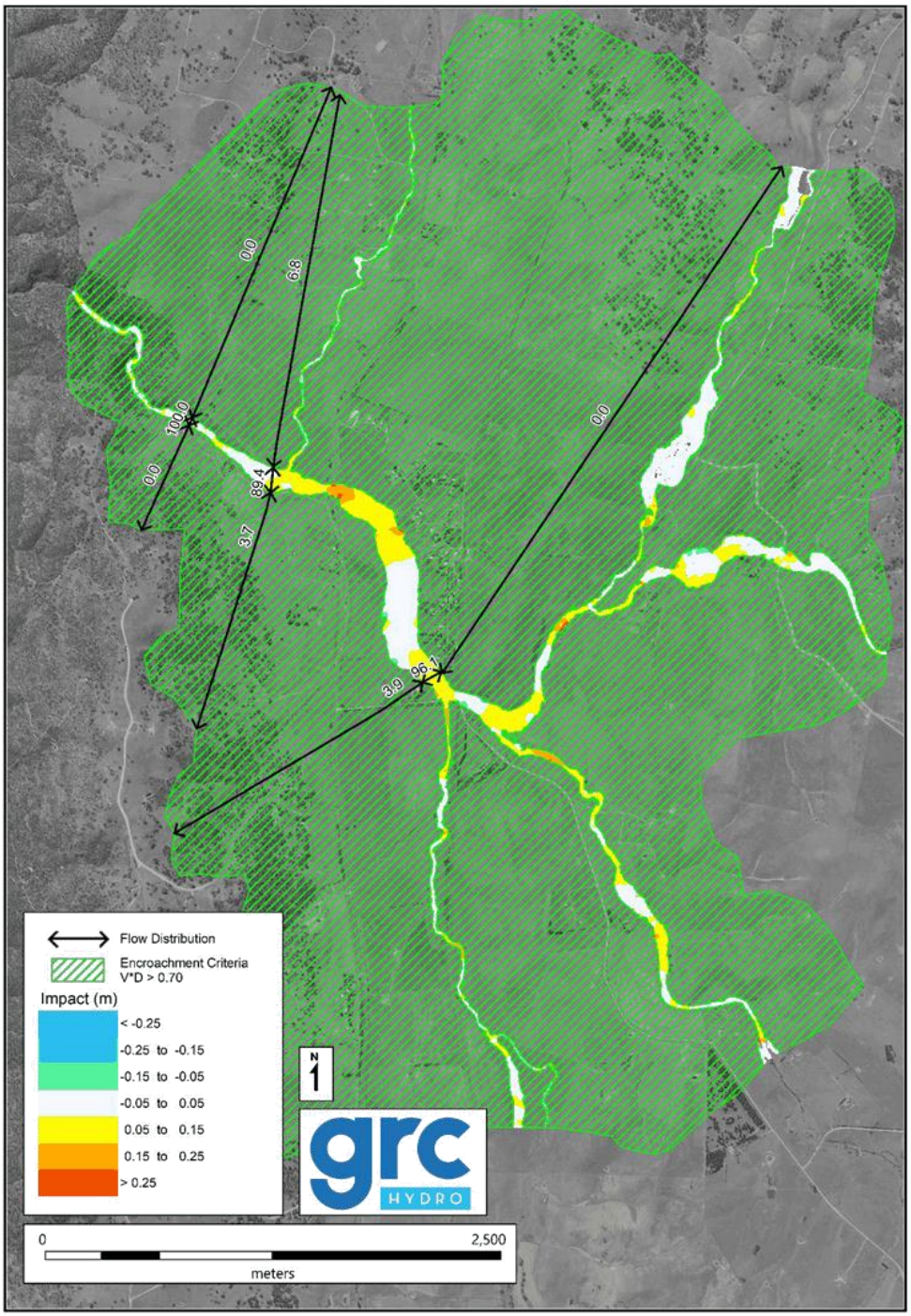
- Flow conveyance where v*d > 0.70 m^2/s and v > 0.70 m
- For all areas outside the flow conveyance, flood storage where d > 0.5 m, otherwise flood fringe.

The results of the assessment are shown in Figure 8-23, which shows the afflux from blocking the adopted mainstream flood storage area, as well as a breakdown of the flow percentage for the mainstream flow, comparing the flow conveyance and non-flow conveyance area. The figure shows that the adopted thresholds achieve the 0.1 m afflux for most areas (see yellow areas of impact) and the flow conveyance is between 89% and 100%. Similarly to Bredbo, most sections of the Murrumbidgee River channel did not achieve the targets due to the gorge type topography which makes the majority of the floodplain behave as Flow Conveyance. As with other towns, the adopted thresholds are the result of selecting from a number of tested values, with 0.25, 0.3, 0.35, 0.4, 0.7 (with and without manual changes) all run.

The adopted thresholds for overland flow are:

- Flow conveyance – peak value of velocity multiplied by depth (V × D) > 0.10 m^2/s and peak velocity > 0.10 m/s, or peak velocity > 1.0m/s and peak depth > 0.15m;
- Flood storage – catchment area outside flow conveyance where peak depth > 0.5m; and
- Flood fringe – catchment area outside flow conveyance where peak depth < 0.5m.

Figure 8-23: Encroachment Criteria Michelago



E.3.Flood Damages

A flood damages assessment is used to quantify the economic impact of flooding on the community. Generally, a flood damages assessment aggregates the following:

- Direct costs to individual properties such as structural damages or damage to contents;
- Indirect costs to individual properties such as clean-up, disposal or loss of income; and
- Cost of damage to infrastructure.

The flood damages assessment for the current study has been completed in accordance with guidance for estimating residential flood damages from the NSW Department of Environment and Climate Change (now DPIE). This guideline uses the depth of flooding above ground and floor level to estimate the variation of damage to structures and yards. The absolute flood damages flood value are used solely for the purpose of calculating benefit-cost ratios for proposed management measures and by the state government in prioritising resources.

The flood damages assessment entails comparison of design flood levels to the floor level and ground level at each property. Based on this comparison, a site-specific level of flood affectation is derived. This informs the residential flood damages calculation, whereby a monetary value is applied to each property based on the level of property damage over a range of design flood events. The flood damages for a town or suburb is typically summarised using the Average Annual Damages (AAD), which is an estimate of the average financial cost of flooding due to property damage in any year. The AAD is calculated by scaling down the cost of a flood event based on the likelihood it will happen in a given year.

For Cooma, the DPIE damages methodology was expanded to include non-residential properties, of which there are a significant number. Literature review indicates that estimates of tangible non-residential flood damages on a large scale can be highly varied. Non-residential flood damages are dependent on factors such as:

- The nature of business undertaken at the property. For example, a business which has a quick turnaround of produce (or limited stock), such as a florist, is likely to suffer a smaller economic loss due to flooding than a business with highly valuable stock and a slower turnaround time, such as an electronics store.
- The floor space of a non-residential property can be related to the amount of stock stored on site and therefore the amount of stock vulnerable to flooding.
- The duration of inundation of a non-residential property and extent of damages can directly affect the length of time that the business may be closed.
- The level of flood awareness/preparedness such as the amount of flood warning and ability to move vulnerable stock can affect the level of flood damage experienced.

To further complicate the calculation of non-residential flood damages, a change of occupancy of a non-residential property can greatly change the economic flood damage experienced due to the potential change in the nature of business at the property.

There is no prescribed methodology for calculating non-residential flood damages provided by DPIE.

The Flood and Coastal Erosion Risk Management – A Manual for Economic Appraisal produced by the Flood Hazard Research Centre at Middlesex University in the United Kingdom developed non-residential flood damages curves based on observed flood damages from the early 2000's. The current study has adopted a typical non-residential flood damage relationship between depth of inundation and damage per square metre of floor space from this Manual and applied it for non-residential properties in Cooma (the other three towns were not used as they have only a small number of non-residential properties). This flood damages curve was adjusted to account for the exchange rate from pounds sterling to Australian dollars and inflation from 2013 to present. The floor space of each non-residential property in Cooma was individually calculated and the flood damages curve was adjusted accordingly.

While the methodology described above will provide only an indicative non-residential Annual Average Damages estimate, this estimate is considered fit for purpose in the comparative assessment of flood mitigation measures and the relative cost benefit presented in Section 8.3.7.

E.4.Cumulative Impact Assessment

Section 7.1 describes the assessment of the cumulative impact on flood behaviour of a 'fully developed' scenario in each of the four towns. This was assessed via modelling of higher impervious in the hydrologic model, for areas of development. 30% imperviousness was used for suburban development and 80% imperviousness was used for Cooma's industrial areas. No existing areas of development had their imperviousness decreased. The 'fully developed' areas were based on the current LEP zonings and were confirmed with Council. These areas are shown in Figure 8-24 to Figure 8-27. While they may expand further or have higher intensities of development over longer term planning horizons, the modelling assumptions are valid for the current study and capture the most likely 'fully developed' state of each town.

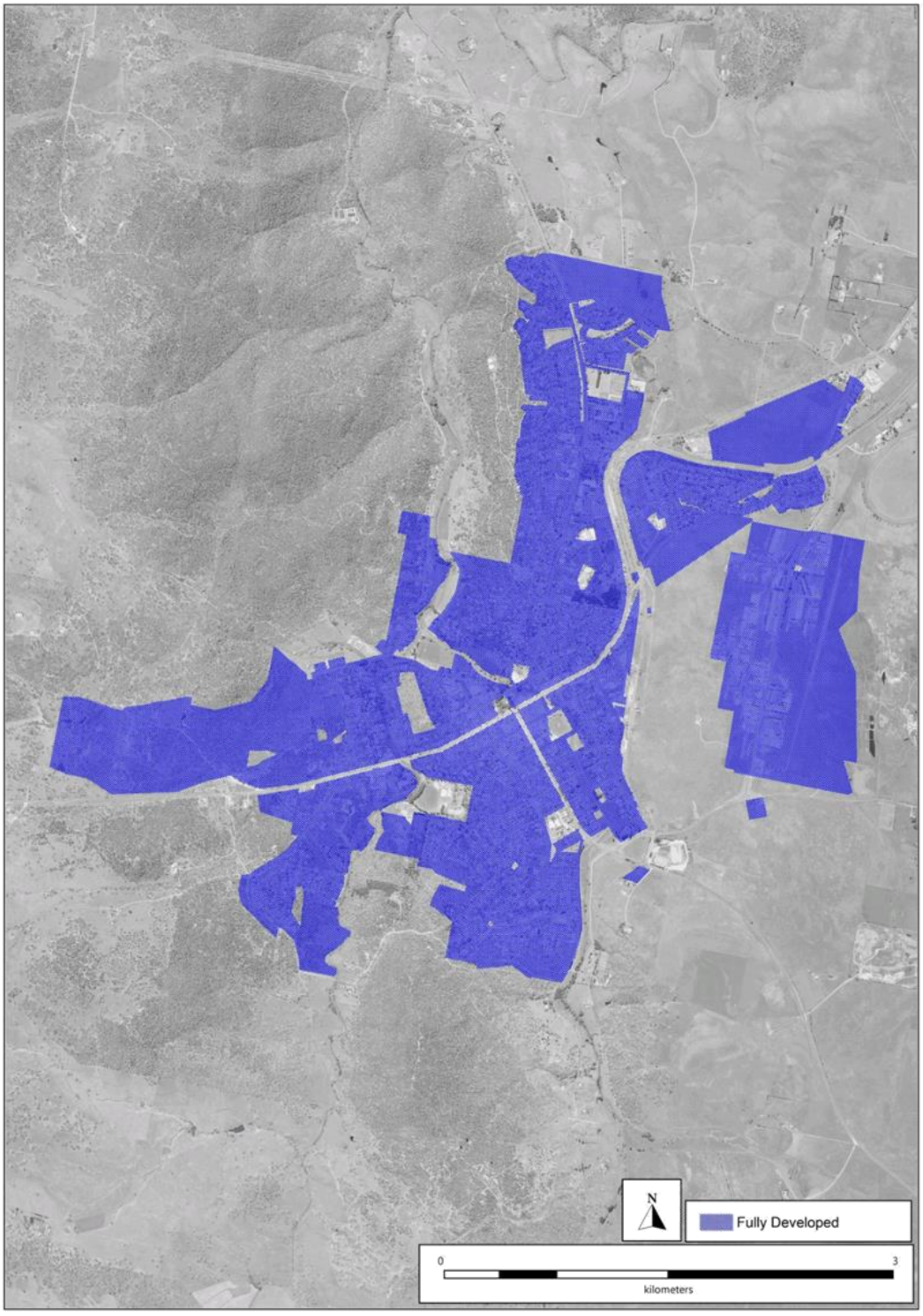


Figure 8-24 Cooma 'Fully Developed' Area

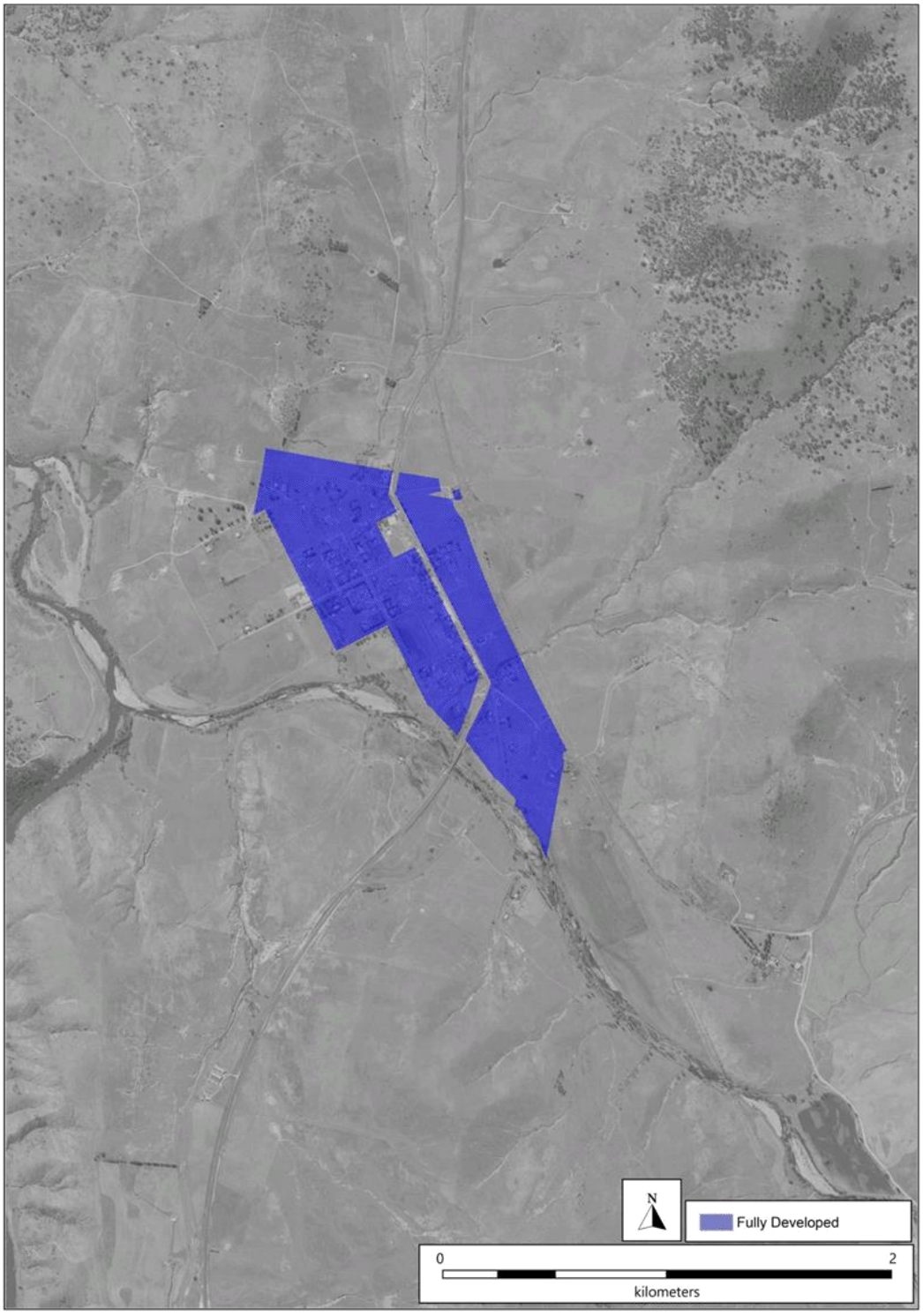


Figure 8-25: Bredbo 'Fully Developed' Area

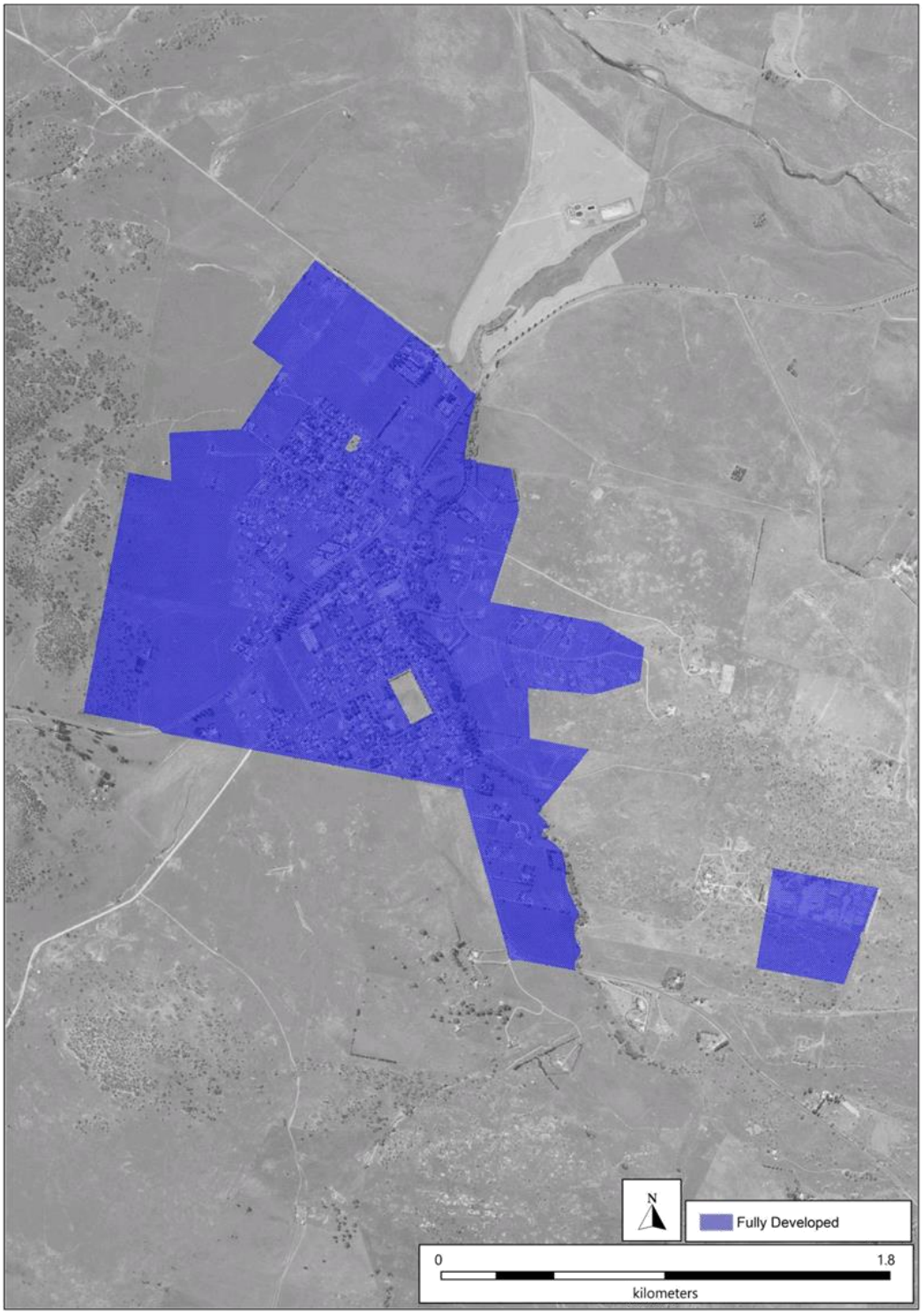


Figure 8-26: Berridale 'Fully Developed' Area

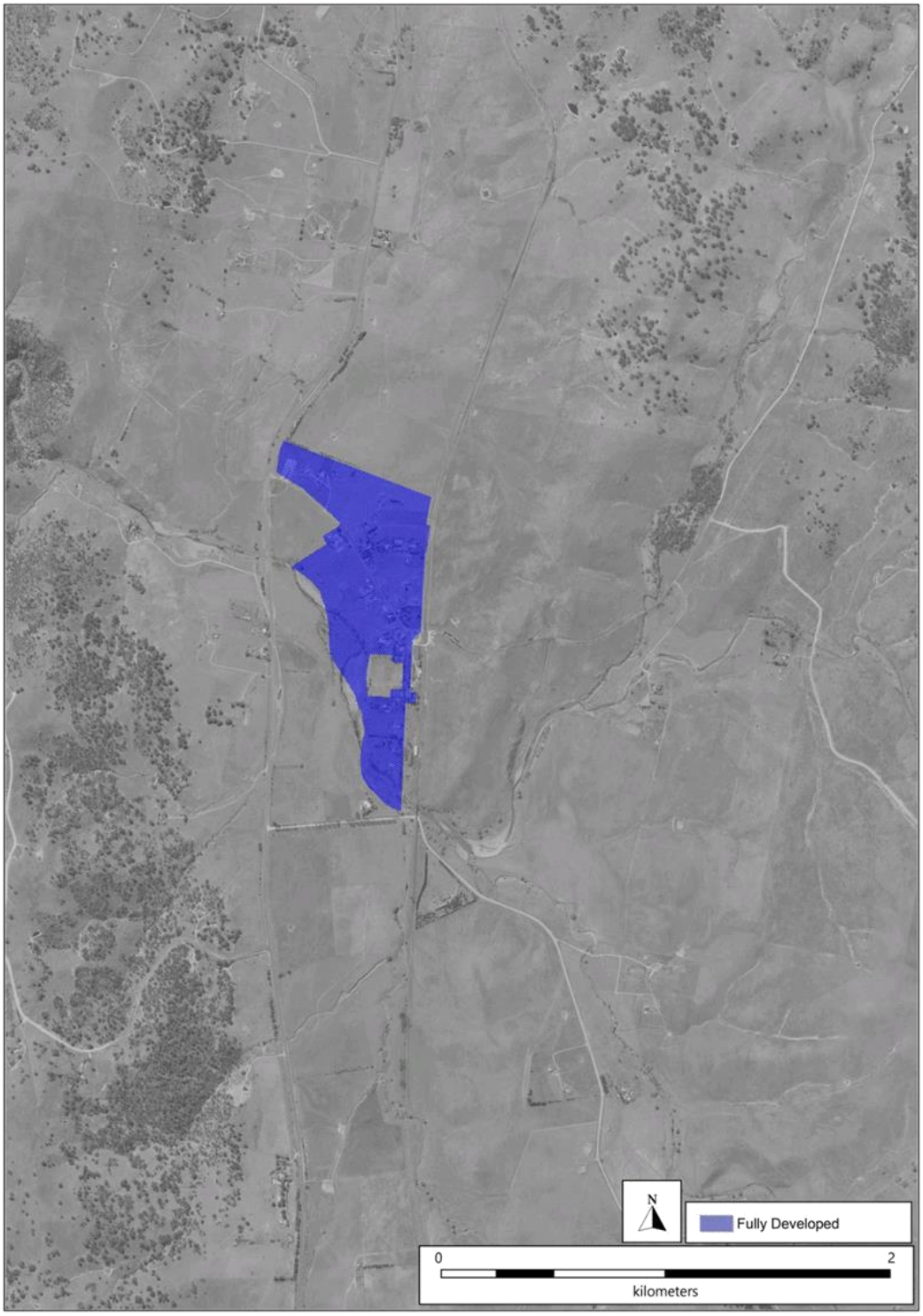


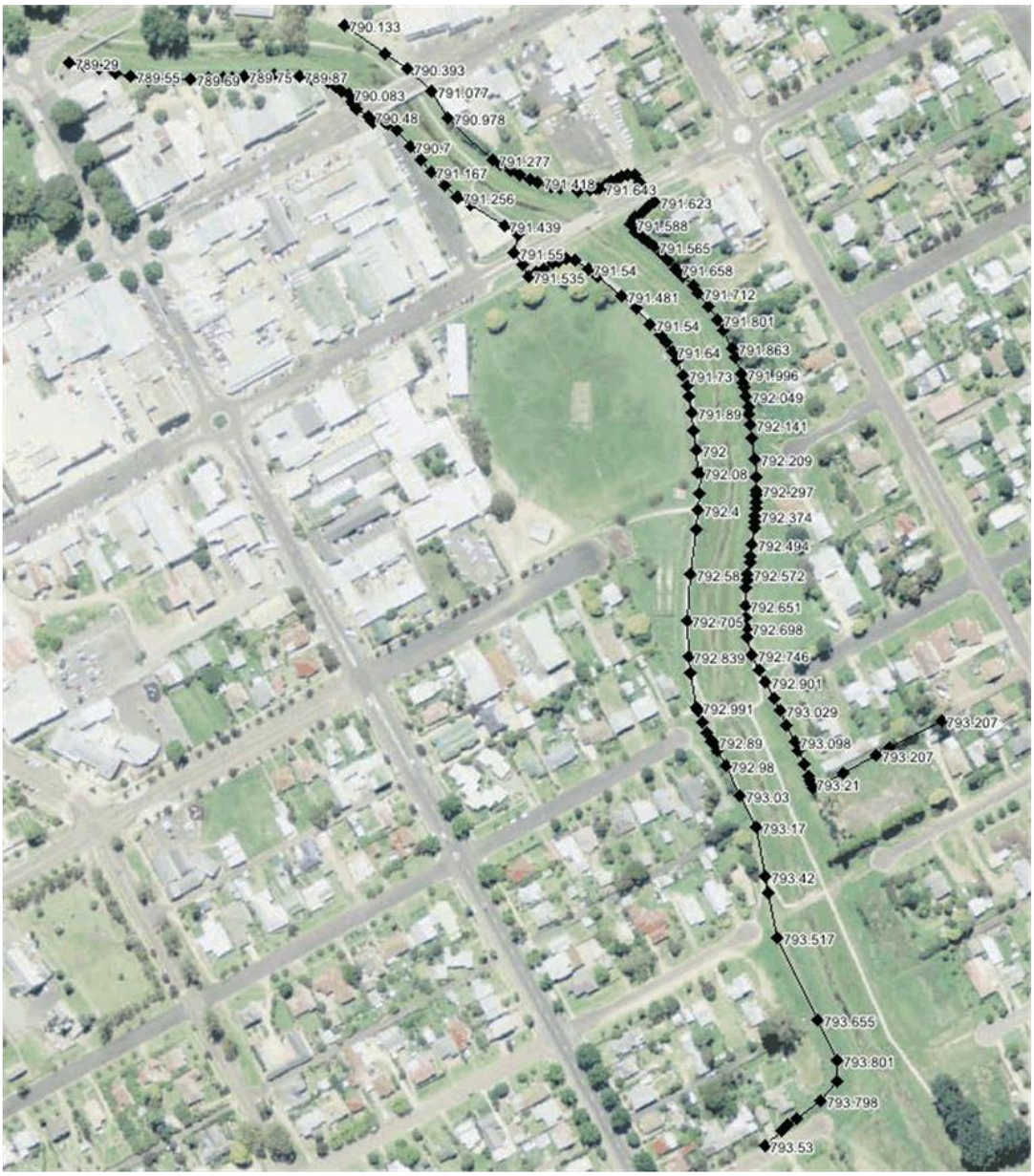
Figure 8-27 Michelago 'Fully Developed' Area

APPENDIX F PRELIMINARY COSTINGS

The following section provides cost estimates for the structural measures assessed for each town. The costings were developed based on Rawlinsons 2019 Construction Cost Guide and past experience. The costings are only estimates used for the purpose of economic assessment and comparison of each measure. For this reason they are only indicative and should not be used for any purpose beyond the current study.

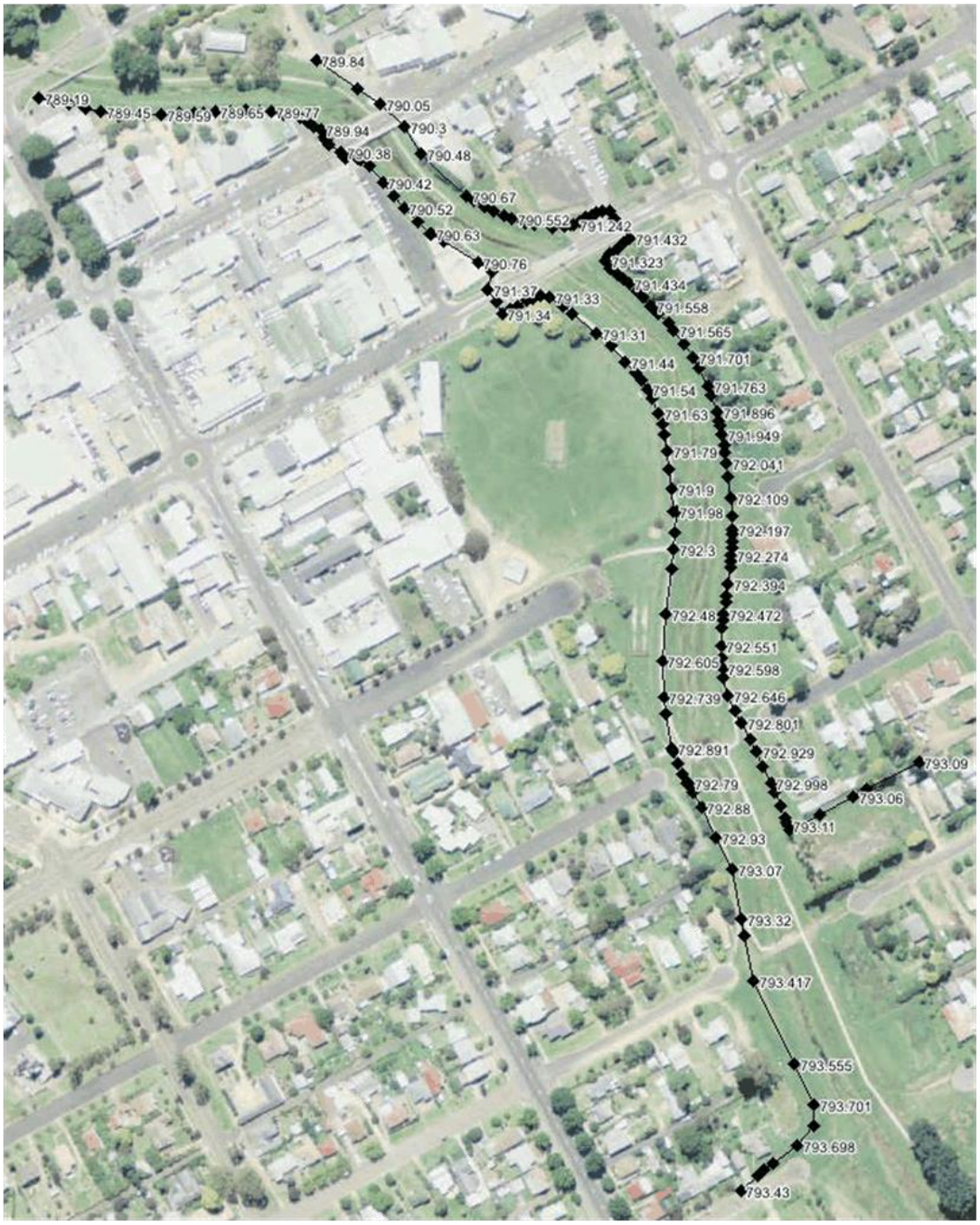
Costing Estimate – Raise Cooma levee to 2% AEP level (L01B)					
No.	**Item**	**Unit rate ($)**	**Amount**	**Units**	**Cost**
1	**Pre-construction Costs**				
1.1	Detailed Survey		1		
1.2	Contractor setup including WHS		1		
1.3	Project Management		1		
	Assume 10% of construction cost				$ 118,230.75
1.4	Detailed Design (assumed 10% of construction cost)				$ 118,230.75
2	**Site Preparation**				
2.1	Clear site of light vegetation and cart away	$0.38	14633.6	m2	$ 5,560.76
2.2	Demolition of footpath (~400m) near Rotary Oval	$3.50	600.0	m3	$ 2,100.00
2.3	Demolition of Commissioner Street approaches (~150m)	$3.50	900.0	m3	$ 3,150.00
3	**Earthworks**				
3.1	Excavation of fillling	$22.00	14633.6	m3	$ 321,938.51
3.2	Haulage of fill (assumed <10 km)	$13.80	14633.6	m3	$ 201,943.25
3.3	Placement, compaction and shaping	$6.50	20629.3	m2	$ 134,090.25
3.4	Top soil placement	$10.60	20629.3	m2	$ 218,670.25
3.5	Hydro mulch, sprayed grass seed compound	$3,250.00	2.1	ha	$ 6,704.51
4	**Civil Construction**				
4.1	Reinstate footpath (~400m) near Rotary Oval	$48.90	600.0	m2	$ 29,340.00
4.2	Modification to Sharp Street Bridge to obstruct flow	$100,000.00	1.0	$	$ 100,000.00
4.3	Replace retaining wall upstream of Sharp Street	$591.00	150.0	m	$ 88,650.00
4.4	Reinstate Commissioner Street road surface	$41.65	900.0	m2	$ 37,485.00
4.5	Kerbs and markings (~150m)	$42.25	300.0	m	$ 12,675.00
4.6	Traffic control for Commissioner Street	$4,000.00	5.0	days	$ 20,000.00
5	**Contingency**				
	Assume 20% of construction cost				$ 236,461.51
				Subtotal	$ 1,655,230.54
				GST	$ 165,523.05
				Total	$ 1,820,753.59

Map below indicates the modelled levee height (2% AEP). Height does not include freeboard.



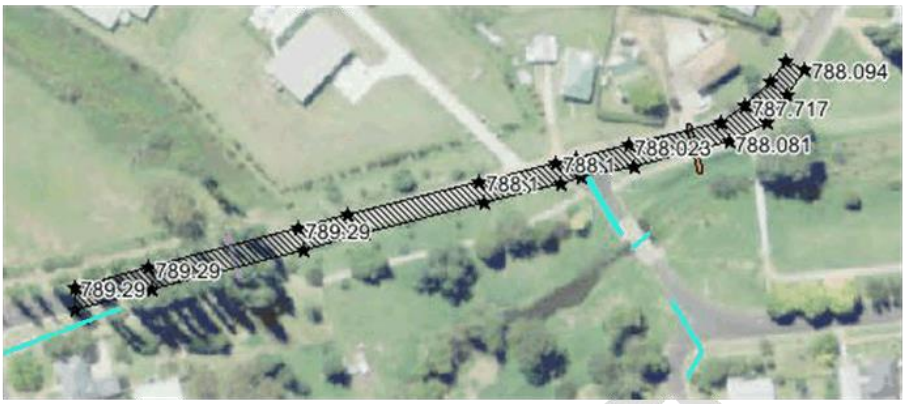
Costing Estimate – Raise Cooma levee to 5% AEP level (L01C)					
No.	**Item**	**Unit rate ($)**	**Amount**	**Units**	**Cost**
1	**Pre-construction Costs**				
1.1	Detailed Survey		1		
1.2	Contractor setup including WHS		1		
1.3	Project Management		1		
	Assume 10% of construction cost				$ 34,868.94
1.4	Detailed Design (assumed 10% of construction cost)				$ 34,868.94
2	**Site Preparation**				
2.1	Clear site of light vegetation and cart away	$0.38	14633.6	m2	$ 5,560.76
3	**Earthworks**				
3.1	Excavation of fill	$22.00	2070.8	m3	$ 45,558.41
3.2	Haulage of fill (assumed <10 km)	$13.80	2070.8	m3	$ 28,577.55
3.3	Placement, compaction and shaping	$6.50	4610.8	m2	$ 29,970.02
3.4	Top soil placement	$10.60	4610.8	m2	$ 48,874.18
3.5	Hydro mulch, sprayed grass seed compound	$3,250.00	0.5	ha	$ 1,498.50
4	**Civil Construction**				
4.1	Modification to Sharp Street Bridge to obstruct flow	$100,000.00	1.0	$	$ 100,000.00
4.2	Replace retaining wall upstream of Sharp Street	$591.00	150.0	m	$ 88,650.00
5	**Contingency**				
	Assume 20% of construction cost				$ 69,737.88
				Subtotal	$ 488,165.19
				GST	$ 48,816.52
				Total	$ 536,981.71

Map below indicates the modelled levee height (5% AEP or the existing levee, whichever is higher). Height does not include freeboard.



Costing Estimate - Raise Vulcan Street and upgrade culverts (C03)					
No.	**Item**	**Unit rate ($)**	**Amount**	**Units**	**Cost**
1	**Pre-construction Costs**				
1.1	Detailed Survey		1		
1.2	Contractor setup including WHS		1		
1.3	Project Management		1		
	Assume 10% of construction cost				$ 41,530.54
1.4	Detailed Design (assumed 10% of construction cost)				$ 41,530.54
2	**Site Preparation**				
2.1	Break up and remove bitumen paving with basecourse	$3.50	2385.0	m2	$ 8,347.50
2.2	Removal of large trees (~20)	$944.00	20.0	per	$ 18,880.00
2.3	Demolition of culverts and disposal	$15,000.00	1.0	per	$ 15,000.00
3	**Earthworks**				
3.1	Excavation of fill	$22.00	1034.2	m3	$ 22,752.17
3.2	Haulage of fill (assumed <10 km)	$13.80	1034.2	m3	$ 14,271.82
3.3	Placement, compaction and shaping	$6.50	2385.0	m2	$ 15,502.50
4	**Civil Construction**				
4.1	Install culverts (2100x1500mm)	$2,441.98	50.0	m	$ 122,099.14
4.2	Culvert head walls (large culverts)	$448.00	20.0	$	$ 8,960.00
4.3	Install culverts (diameter 450mm)	$246.00	17.0	m	$ 4,182.00
4.4	Culvert head walls (small culverts)	$1,375.00	2.0	per	$ 2,750.00
4.5	Traffic safety barriers	$390.00	100.0	m	$ 39,000.00
4.6	Reinstate Vulcan Street road surface	$41.65	2385.0	m2	$ 99,335.25
4.7	Kerbs and markings (~100m)	$42.25	100.0	m	$ 4,225.00
4.8	Traffic control for Vulcan Street	$4,000.00	10.0	days	$ 40,000.00
5	**Contingency**				
	Assume 20% of construction cost				$ 83,061.07
				Subtotal	$ 581,427.52
				GST	$ 58,142.75
				Total	$ 639,570.27

Map below indicates height of raised road section.



Costing Estimate - increase channel and upgrade culverts at Polo Flat (Z02)					
No.	**Item**	**Unit rate ($)**	**Amount**	**Units**	**Cost**
1	**Pre-construction Costs**				
1.1	Detailed Survey		1		
1.2	Contractor setup including WHS		1		
1.3	Project Management		1		
	Assume 10% of construction cost				$ 162,389.43
1.4	Detailed Design (assumed 10% of construction cost)				$ 162,389.43
2	**Site Preparation**				
2.1	Clear site of light vegetation and cart away	$0.38	13675.0	m2	$ 5,196.50
2.2	Removal of large trees (~20)	$944.00	20.0	per	$ 18,880.00
2.3	Demolition of Airstrip Road and Geebung Street (x2) crossing and disposal	$25,000.00	3.0	per	$ 75,000.00
3	**Earthworks**				
3.1	Excavate trenches 1.00/2.00 deep in light soil	$58.00	6177.5	m3	$ 358,295.00
3.2	Fill disposal (assumed <10 km)	$13.80	6177.5	m3	$ 85,249.50
3.3	Compaction and shaping	$4.50	13675.0	m2	$ 61,537.50
3.4	Top soil placement	$10.60	13675.0	m2	$ 144,955.00
3.5	Hydro mulch, sprayed grass seed compound	$3,250.00	1.4	ha	$ 4,444.38
4	**Civil Construction**				
4.1	Reinstate Airstrip Road and Geebung Street (x2) culverts	$2,441.98	150.0	m	$ 366,297.41
4.2	Culvert head walls	$448.00	30.0	m2	$ 13,440.00
4.3	Traffic safety barriers	$390.00	150.0	m	$ 58,500.00
4.4	Replace retaining wall upstream of Sharp Street	$591.00	150.0	m	$ 88,650.00
4.5	Reinstate Airstrip Road and Geebung Street	$41.65	3.0	m2	$ 124.95
4.6	Kerbs and markings (~150m)	$42.25	300.0	m	$ 12,675.00
4.7	Traffic control for Commissioner Street	$4,000.00	15.0	days	$ 60,000.00
5	**Contingency**				
	Assume 20% of construction cost				$ 270,649.05
				Subtotal	$ 1,948,673.14
				GST	$ 194,867.31
				Total	$ 2,143,540.46

Costing Estimate - Raise road and install culverts at Short Street, Berridale (C01B)					
No.	**Item**	**Unit rate ($)**	**Amount**	**Units**	**Cost**
1	**Pre-construction Costs**				
1.1	Detailed Survey		1		
1.2	Contractor setup including WHS		1		
1.3	Project Management		1		
	Assume 10% of construction cost				$ 30,165.39
1.4	Detailed Design (assumed 10% of construction cost)				$ 30,165.39
2	**Site Preparation**				
2.1	Break up and remove bitumen paving with basecourse	$3.50	492.0	m2	$ 1,722.00
2.2	Removal of large trees (~20)	$944.00	4.0	per	$ 3,776.00
3	**Earthworks**				
3.1	Excavation of fill	$22.00	353.5	m3	$ 7,777.81
3.2	Haulage of fill (assumed <10 km)	$13.80	353.5	m3	$ 4,878.81
3.3	Placement, compaction and shaping	$6.50	492.0	m2	$ 3,198.00
4	**Civil Construction**				
4.1	Install culverts	$3,158.02	70.0	m2	$ 221,061.52
4.2	Culvert head walls	$448.00	20.0	m2	$ 8,960.00
4.3	Traffic safety barriers	$390.00	60.0	m	$ 23,400.00
4.4	Reinstate Short Street road surface	$41.65	82.0	m2	$ 3,415.30
4.5	Kerbs and markings (~100m)	$42.25	82.0	m	$ 3,464.50
4.6	Traffic control for Vulcan Street	$4,000.00	5.0	days	$ 20,000.00
5	**Contingency**				
	Assume 20% of construction cost				$ 60,330.79
				Subtotal	$ 422,315.52
				GST	$ 42,231.55
				Total	$ 464,547.07

Costing Estimate - Raise road and upgrade culverts at William Street on Myack Creek (C02)					
No.	**Item**	**Unit rate ($)**	**Amount**	**Units**	**Cost**
1	**Pre-construction Costs**				
1.1	Detailed Survey		1		
1.2	Contractor setup including WHS		1		
1.3	Project Management		1		
	Assume 10% of construction cost				$ 40,017.08
1.4	Detailed Design (assumed 10% of construction cost)				$ 40,017.08
2	**Site Preparation**				
2.1	Break up and remove bitumen paving with basecourse	$3.50	864.0	m2	$ 3,024.00
3	**Earthworks**				
3.1	Excavation of fill	$22.00	526.2	m3	$ 11,575.50
3.2	Haulage of fill (assumed <10 km)	$13.80	526.2	m3	$ 7,261.00
3.3	Placement, compaction and shaping	$6.50	864.0	m2	$ 5,616.00
4	**Civil Construction**				
4.1	Install culverts	$4,208.21	60.0	m	$ 252,492.74
4.2	Culvert head walls	$448.00	20.0	m2	$ 8,960.00
4.3	Traffic safety barriers	$390.00	80.0	m	$ 31,200.00
4.4	Reinstate William Street road surface	$41.65	864.0	m2	$ 35,985.60
4.5	Kerbs and markings (~100m)	$42.25	96.0	m	$ 4,056.00
4.6	Traffic control for William Street	$4,000.00	10.0	days	$ 40,000.00
5	**Contingency**				
	Assume 20% of construction cost				$ 80,034.17
				Subtotal	$ 560,239.18
				GST	$ 56,023.92
				Total	$ 616,263.10

Survey Report

09 May 2017 - 03 December 2019

Feedback on the Snowy Monaro Flood and Floodplain Risk Management Studies

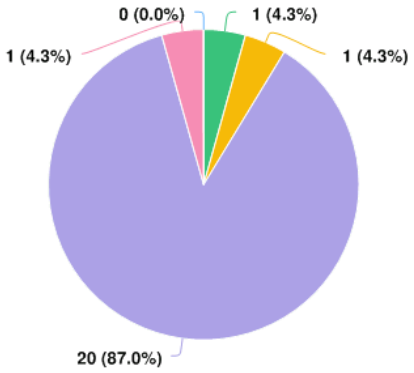
PROJECT: Snowy Monaro Flood and Floodplain Risk Management Studies

Your Say Snowy Monaro

engagement hq
by Bang the Table

Feedback on the Snowy Monaro Flood and Floodplain Risk Management Studies : Survey Report for **09 May 2017** to **03 December 2019**

Q1 Where in the Snowy Monaro do you live?



Question options

Cooma Bredbo Michelago Other (not one of the four towns in the studies) Berridale

Optional question (23 responses, 0 skipped)

Q2 What are your comments on the Snowy Monaro Flood and Floodplain Risk Management Studies?

Anonymous 11/09/2019 05:58 PM	Seems to be well done though ,But would like to see recommendations to remove all debri from back creek . And also more discussion on storm water from the dry gullies that empty into Cooma creek along Malach st.
Anonymous 12/02/2019 02:47 PM	The studies do not address the vital issue of restoring access across Micalago Creek, which once had a passable causeway but has been permanently flooded and inaccessible for many years. Michelago residents have been asking Council to address this issue for over a decade. The impassability of the creek renders Michelago a divided village, so that residents of Micalago Road are forced to enter the Monaro Highway with a dangerous right had turn and often a long wait. This means that fire brigade members trying to get to the Michelago fire shed in an emergency, school children trying to get to school, and members of the community trying to get to the local store are put in harms way instead of being able to safely and quickly enter the village across Micalago creek. Mayor Beer met with Michelago residents recently about this issue, and recommended that it be considered in the context of these Floodplain Risk Management Studies. Please ensure that the re-linking of Michelago village is addressed in the response to these Studies!
Anonymous 12/02/2019 04:02 PM	Dear Council members It has just come to my attention that consultation on this matter closes this afternoon. As a resident of Michelago for two decades, it is important that any planning addresses the issue of restoring access across Micalago Creek, which once had a passable causeway but has been permanently flooded and inaccessible for many years. I understand that Michelago residents have been asking Council to address this issue for over a decade. The current situation means that Michelago is a divided village, so that residents of Micalago Road are forced to enter the Monaro Highway with a dangerous right-hand turn and often a long wait - particularly during the snow season. For example, volunteer fire brigade members trying to get to the Michelago fire shed in an emergency, can wait up to 20 minutes by using the busy Monaro highway. And school children trying to get to school, as well as members of the community trying to get to the local store, face risk instead of being able to safely and quickly enter the village across Micalago creek. I understand that Mayor Beer met with Michelago residents recently about this issue, and recommended that it be considered in the context of these Floodplain Risk Management Studies. Finally, when it does rain steadily for days on end - and it will one day - the creek floods onto Micalago Road and can make access difficult. The restoration of the crossing and a suitable flood management plan should address both these issues. Yours sincerely Brien Hallett Ryrie Street
Anonymous 12/02/2019 04:04 PM	The studies do not address the extremely urgent issue of restoring the access crossing across the Michelago creek between Micalago Road and Ryrie Street, which was once a vital link between the village and the

	residents of micalago Road. Over a decade ago the existing causeway was severely damaged and washed away by floods and despite untold representations by local residents, the council has failed to reinstate the crossing. Because the crossing is no longer in existence, to access the village, residents of Micalgo Road have to go right up to the Monaro Hwy and navigate a dangerous right hand turn. Dangerous because there is often vehicles travelling north bound who overtake vehicles right near the intersection. To access the village to take our children to school everyday and return, or to take our children to the village to catch the school bus into Canberra is an extremely tedious and unnecessary challenge which would be made a lot simpler if the Michelago Creek crossing was reinstated between Ryrie St and Micalago Rd. As a firefighter with Michelago RFS, over 50% of our brigade members live on Micalago Rd. Our response times for fires and motor vehicle accidents would be dramatically reduced if we were able to access Ryrie St directly over a causeway instead of having to navigate the Monaro Hwy, especially in snow season when the traffic is extremely busy and it can sometimes take several minutes just to turn onto the Hwy. I have raised this issue previously with council, with the last two previous Mayors and to our local member and Deputy premier, John Barilaro and have been told by all parties that the causeway will be reinstated. Mayor Beer met with Michelago residents recently about this issue and recommended that the reinstatement of the causeway should be an urgent priority and should be included in the context of these Floodplain Risk Management Studies. Please ensure that the reinstatement of the Ryrie Street to Micalago road causeway is addressed in the response to these studies. Also please escalate to our state government representative for urgent consideration and funding.
Anonymous 12/02/2019 04:42 PM	I have lived in Michelago for past 5 years with my husband and 4 children who all attend Michelago public school. They have never been able to walk or ride a bike to school due to the Michelago creek being in constant flooding state. On multiple occasions my husband and multiple other community members have been delayed in responding to RFS call outs due to heavy traffic on the Monaro highway when they could have accessed the fire shed through the causeway. This is effectively splitting our community in half and needs to be rectified with a useable causeway.
Anonymous 12/02/2019 04:45 PM	This is not good enough. The Mayor Peter Beer told us the Micalago Creek crossing would be dealt with in the context of this study. It is the most important issue for the Michelago region, and there is not a word about it in this study. Please address!
Anonymous 12/02/2019 04:57 PM	As a former President of Michelago Community Association ten years ago and in consultation with the local community one of the priorities for Michelago village was to ask the then Monaro Council to organise the construction of a permanent cross across the Michelago Creek at the end of Ryrie St. The reason for this was to give the Michelago fire brigade rapid access to Micalago Rd without having to go out to the highway and back up Micalago Rd which adds 10-15 minutes to the journey and much longer when there is heavy traffic on the highway. It was also important for the community on Micalago Rd to come to the village to drop off children at the school,

	patronise the shop and go to functions at the Hall and Inn the latter being open at the time. This again avoids the busy Monaro Highway. To date there has been no action and it is still a priority for the village and surrounding properties. The construction of the bridge or permanent causeway would allow 24/7 access to and from the village in the case of floods.
Anonymous 12/02/2019 05:34 PM	I am writing specifically about the crossing on Micalago Rd which was destroyed in a flood a number of years ago. The residents of Michelago have been expressing concern about this for some time - including the risks posed to residents of Micalago Rd to having to go continuously on to the highway to drop children to school when children could make their own way if the crossing was fixed. The mayor has indicated that the rectification of the crossing should take place as part of the flood risk management plan, but I think that this is delaying what should have been fixed some time ago. It would create significant amenity for my fellow Michelageans (note that I do not live on Micalago Rd and would not directly benefit), but I do know there is a lot of community feeling that it should be fixed as soon as possible. Yours sincerely, Ben Wickham, 118 Lawler Rd, Michelago, bwickham@hcourt.gov.au
Anonymous 12/02/2019 08:29 PM	The studies do not address the urgent issue of restoring a causeway (or building a bridge) across Michelago Creek to reconnect the two halves of Michelago. Michelago residents and community associations have been asking for action on this issue for over a decade. And on each occasion we are told the Council will address the issue in the future. Michelago is truly the forgotten village. Other towns and villages have bridges, causeways even swimming pools and rubbish tips. Michelago ratepayers don't count. Apparently we live too far north to ever receive any substantial funding from "our local Council". There has been no access across MIchelago Creek from Micalago Road into the village for many years. So the residents of Micalago Road must drive onto the Monaro Highway at a dangerous right-hand turn. It is only a matter of time before a serious accident occurs at that intersection. How abhorrent that we have to wait for that to happen before anyone will act. Over 60% of the members of the MIchelago Rural Fire Brigade live on Micalago Road. The Fire Shed is in the village so they face delays in getting to fires and road accidents. School children can't get to school, nor the playground, nor to the sports oval unless their parents drive them the long way around via the Monaro Highway. Anyone needing to visit the local general store and is unlucky enough to live on the wrong side of Michelago Creek must go via the Monaro HIghway. The Mayor, Peter Beer, met with Michelago residents recently and inspected the "crossing". He understands the problem and recommended it be addressed through the Floodplain Risk Management Studies. Please ensure you consider the reconnection of Michelago village in response to these studies.
Anonymous 12/02/2019 10:30 PM	I would like Micalego Road and Ryrie Street to become joined. The current situation does not serve Michelago residents for a number of reasons. One of these is that the Micalego Road residents have to go to Michelago village via Monaro Highway. This adds additional time for Micalego Road members of the Michelago Rural Fire Service to respond to a call out. If a road and a

	bridge was constructed to join the two roads then Micalego Road school children would be able to walk to their primary school in Michelago safely.
Anonymous 12/03/2019 12:11 PM	The possible management action plan for Ryrie Street/Micalago Road problem area is a joke. Depth markers and flood warning signs do NOTHING to fix the flooding problem. The only alternate route is not an alternative. Residents also need access to the main village without using the highway, and a bridge or such would solve all issues.
Anonymous 12/03/2019 12:22 PM	Michelago is in desperate need of having Ryrie Street connected through to Micalago Road over the creek. This is important for a number of reasons including residents having an alternative to leaving the village and/or Micalago Road in case of an emergency (eg flood or bushfire) as well as primary school students from Micalago Road being able to safely travel to school without having to go via the highway.
Anonymous 12/03/2019 01:28 PM	I do traverse the intersection Ryrie/Michalago road over the causeway ..this has to be improved by drainage of some sort so as it will be possible to traverse this intersection in a car inlieu of 4Wheel drive ..raise the causeway and drain further should be good
Anonymous 12/03/2019 02:08 PM	As owners of the Michelago General Store we encourage Councils action in addressing the main 'hotspot' affecting the residents of Michelago as found in the Floodplain Risk Management Studies. We believe the completion of Ryrie Street as a thru road to Micalago Road is of vital importance on several levels. Firstly, to allow the expanding population along Micalago Road to access the village and amenities without having to go onto the busy Monaro Highway and enter the village via the only entry off the Highway. Secondly, to allow our Fire Brigade members (the majority of who live along Micalago Road) a much more time efficient and safer response to any call outs, and to allow the growing number of school children living around the village a safe road to walk or ride to the local school without going near the major roads.
Anonymous 12/03/2019 02:15 PM	I live on Micalago Road. We have frequent reason to attend the shop or petrol station on Ryrie Rd, and are finding it quite difficult in peak hours and seasons to have to do this via the Monaro Highway. The waiting time can be out of proportion to the errand when there is regular traffic flow firstly one way, then the other etc. If one is towing anything it can be even more difficult. I support a depth marker being installed with flood warning signs at the Micalago Creek causeway, so that in the rare circumstance of floods, we would know not to cross there, and use the Highway on those occasions. However, most of the year, particularly in drought this 'shortcut' would be extremely useful for those quick trips to the shops and back. I would also like to be able to ride my house in a bit of a loop from my end of Micalago Road to the other end of Michelago and back, something I cannot do if I need to cross the Highway. Many thanks Christina Dunn (resident)
Anonymous 12/03/2019 03:14 PM	A causeway between Micalago Road and Ryrie Street at Michelago would be beneficial to the community for many reason. A significant benefit would be during winter where Micalago Road residents could choose to enter or exit the highway where there are safe slip lanes from the hwy onto Ryrie Street. We have had many near misses attempting to exit the hwy or enter Micalago road during winter and it is only a matter of time before there is a significant

	accident which could easily be avoidable.
Anonymous 12/03/2019 03:51 PM	A causeway over the creek from Micalago Rd to Ryrie St will give us firefighters quicker access to the fire shed when responding to fires and MVA's.
Anonymous 12/03/2019 05:42 PM	The old crossing from Ryrie st to micalago rd needs to be repaired for a number of reasons. Firstly: As a member of the michelago RFS, we have 9 active members living on Micalago rd. Having no crossing increases our response times as we have to take the long way around to get to the station. This is worse during winter due to the snow traffic. It can add 15 to 20 minutes to our response time. Secondly..when traveling south on the monaro and turning left onto Micalago rd can be hazardous as there is no slip lane and there has been a number of near miss incidents where trucks have not be able to move over to go around turning vehicles. Fixing the crossing will allow traffic to turn off at the servo and go through the village and onto Micalago rd. Fixing the crossing will also allow traffic to turn north onto the highway at the servo, which is a far safer option then turning north off Micalago rd. It's only a matter of time before they is a serious accident at the Micalago rd turn off to the highway. Regard Scott Teys Duty Captain Michelago Fire Brigade
Anonymous 12/03/2019 07:45 PM	Causeway between the Michelago Village and Micalago Road I currently live on Karinya Plains Road (off Micalago Road) and would like to see the causeway between the village and Micalago Road repaired and re-opened. With this causeway currently closed, this causes a huge impact to the residents of Micalago and Karinya Plains Road. The entry/exit point on and off the Monaro Highway is extremely dangerous as it has no slip lane and the visibility when fog has set in through Winter, will one day be catastrophic, it's only a matter of time before somebody is killed! With the causeway repaired and re-opened the residents could go through the Village and enter/exit the highway where there is an established slip lane and a much safer option. We also have quite a few active volunteer fire brigade members living on Micalago and Karinya Plains Road and with the causeway being repaired and re-opened this would certainly assist with their response times and have the community feeling a little safer! The causeway is also an excellent fill up point for the fire brigades if required in an emergency. With the causeway being re-opened this would also assist with taking rubbish to the trucks on Saturday as we wouldn't have to go out onto the highway. Also, with all the sub-divisions being approved the population on Micalago and Karinya Plains Road has increased significantly which also increases the risk of an incident happening at the intersection with the highway. Getting the causeway repaired and re-opened would be such a positive step in bringing the community together, and also shows that the council is supporting local communities. Thank you Kind Regards Janelle Kennedy
Anonymous 12/03/2019 08:29 PM	Hi I live on karinya plains Rd michelago which is off micalago road And we would like the road from micalago Rd to ryrie st in town as it would make response time for us fire fighters much faster and safer then having to get onto the highway as it would also make it alot easier and safer to get our children to school in town

Feedback on the Snowy Monaro Flood and Floodplain Risk Management Studies : Survey Report for **09 May 2017** to **03 December 2019**

Anonymous 12/03/2019 09:19 PM	I will leave it to the experts to determine what is the best overall solution (tempered by whatever funds are available), but in Michelago when the causeway floods and becomes impassable the only way to get from one side of the town to the other is by travelling via the Monaro Hwy. Every time any car enters the Hwy, their is a risk of an accident, as there is when leaving the highway. The accident rate on the highway highlights how dangerous the road can be, so keeping off it, whenever possible is preferable. A solution that keeps the road open and doesn't just point you to the highway and let you know how deep the flooding is, would be preferable.
Anonymous 12/03/2019 09:54 PM	As the resident numbers continue to climb along Micalago Rd, it is very important that local traffic be kept off the highway by way of access from Micalago Rd to Ryrie Street. The exit from Micalago Rd onto the Monaro Hwy is inadequate as it is, but this would be somewhat mitigated by internal access to the village for the extended Michelago area.
Anonymous 12/03/2019 10:18 PM	A causeway between Micalago Rd and Ryrie st would be great as it makes access on and off the highway much safer especially with a horse float. A causeway would allow me to access the highway via turning lanes and not risk cars overtaking Unsafely. A causeway would increase access for fire trucks and allow school drop off without turning on and off the highway.

Optional question (23 responses, 0 skipped)

Project Report

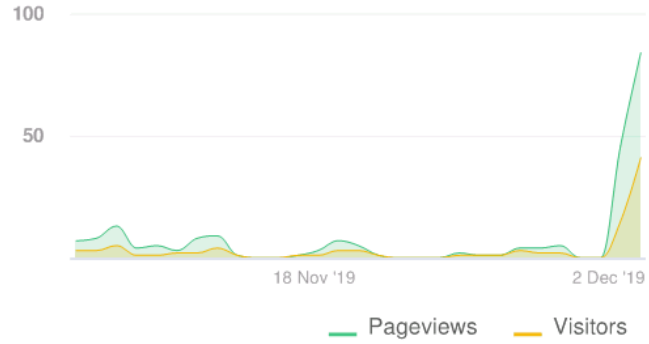
09 May 2017 - 03 December 2019

Your Say Snowy Monaro

Snowy Monaro Flood and Floodplain Risk Management Studies

engagement hq by Bang the Table

Visitors Summary



Highlights

TOTAL VISITS	MAX VISITORS PER DAY
111	41

NEW REGISTRATIONS: 0

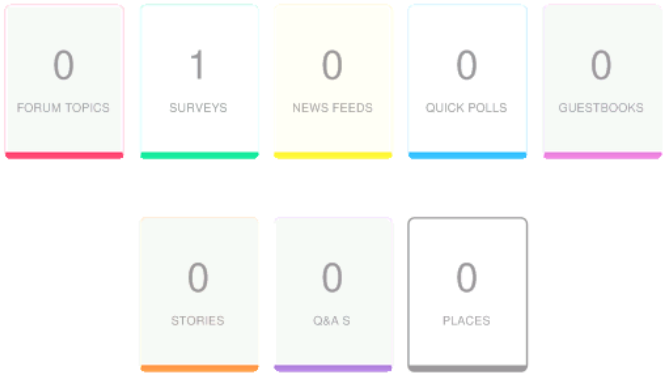
ENGAGED VISITORS	INFORMED VISITORS	AWARE VISITORS
23	46	82

Aware Participants	82
Aware Actions Performed	Participants
Visited a Project or Tool Page	82

Informed Participants	46
Informed Actions Performed	Participants
Viewed a video	0
Viewed a photo	0
Downloaded a document	18
Visited the Key Dates page	0
Visited an FAQ list Page	0
Visited Instagram Page	0
Visited Multiple Project Pages	24
Contributed to a tool (engaged)	23

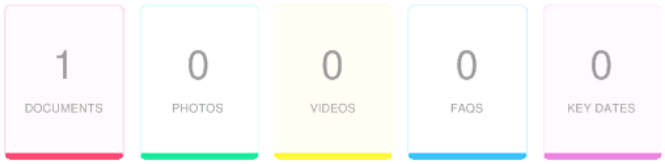
Engaged Participants	23		
Engaged Actions Performed	Registered	Unverified	Anonymous
Contributed on Forums	0	0	0
Participated in Surveys	0	0	23
Contributed to Newsfeeds	0	0	0
Participated in Quick Polls	0	0	0
Posted on Guestbooks	0	0	0
Contributed to Stories	0	0	0
Asked Questions	0	0	0
Placed Pins on Places	0	0	0
Contributed to Ideas	0	0	0

ENGAGEMENT TOOLS SUMMARY



Tool Type	Engagement Tool Name	Tool Status	Visitors	Contributors		
				Registered	Unverified	Anonymous
Survey Tool	Feedback on the Snowy Monaro Flood and Floodplain Risk Ma...	Published	44	0	0	23

INFORMATION WIDGET SUMMARY



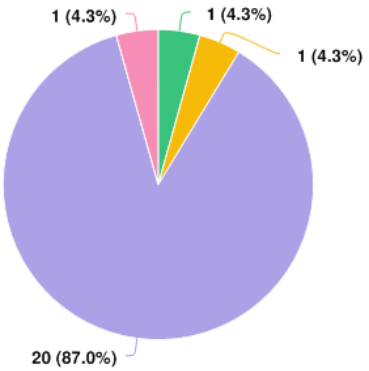
Widget Type	Engagement Tool Name	Visitors	Views/Downloads
Document	Snowy Monaro Flood and Floodplain Risk Management Studies	18	24
Key Dates	Key Date	0	0

ENGAGEMENT TOOL: SURVEY TOOL

Feedback on the Snowy Monaro Flood and Floodplain Risk Management Studies

VISITORS 44	CONTRIBUTORS 23	CONTRIBUTIONS 23

Where in the Snowy Monaro do you live?



Question options

Cooma Bredbo Michelago Other (not one of the four towns in the studies)

Optional question (23 responses, 0 skipped)

9.4.1 ANSWERS TO QUESTIONS WITH NOTICE

Record No:

Responsible Officer:	Chief Strategy Officer
Author:	Secretary Council and Committees
Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	10.2 Sound governance practices direct Council business and decision making
Delivery Program Objectives:	10.2.2 Councillors are supported to make informed decisions in the best interest of the community and to advocate on behalf of the community
Attachments:	1. In Progress Questions with Notice - Updates to End of June 2020
Cost Centre	3120 Governance
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

In order to provide Councillors with updates on questions asked by Councillors, a report has been generated with a summary of questions that are current and have recently been completed, for the period ending June 2020.

The Councillor Questions In Progress for the period ending June 2020 is attached to this report.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council receive and note the Councillor Questions In Progress report for the period ended June 2020.

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
2	05 April 2018	21.4	**Disability Friendly Premises for Council Meetings** Councillor John Castellari Question: Could Council identify disability friendly premises for our Meetings so that we are inclusive of all our population?	Manager Infrastructure (Operations) Group Manager Facilities Management	30/06/2020 – GH: Council will be seeking to include access as part of addressing building compliance at the Cooma offices. 01/06/2020 – GH: Included in the draft Operational Plan. Has been a project to deal with compliance issues with the office building in Cooma. If this project proceeds there will be a focus on moving the meeting rooms to improve access. 22/04/2020 – GH: Auto door install complete in April. BCA recommendations still under review with Finance determining funding options. 27/03/2020 – GH: Draft concept plans for floor plan changes under review with ELT. Auto Door to be provided for Cooma front entrance, Install date TBA. Stair Lift proposal revisited, not suitable for internal stairs. Is suitable for Chambers public entry stairs however will not enable access to accessible toilets located on ground floor. BCA Audit recommendations still under review. 02/03/2020 – GH: Final BCA reports and compliance cost estimates received. Total compliance upgrade cost estimated at $2.5M. Facilities investigate stair lift to Chamber.	Y

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					Internal stairs unsuitable leaving only Public access stairs. Accessible amenities would be required at basement level for this option. Continuing investigation of relocating Chambers to the ground level "finance area". CEO EA investigated use of school halls for Council meeting with this option deemed unsuitable. Facilities are proceeding with auto door install for the front Commissioner St entry. 31/01/2020 – GH: Draft building inspection reports received and being reviewed. Following receipt of final reports in February cost estimates will be requested for identified issues and will be submitted to Council for consideration in March.	
124	17 October 2019	12.6	**Werralong Road** Councillor John Rooney Question: When will Werralong Road be gazetted and maintained as a public road as previously agreed by Council?	Manager Infrastructure (Operations)	26/06/2020 – GS: Councils Application has not yet been signed off by the Minister. 29/05/2020 – GS: No Further update or response on Councils application for acquisition of Werralong Road has been received 29/04/2020 – GS: An update provided to Crown Lands Department dated 28 April 2020 stated: The application for acquisition (of Werralong Road) has been submitted to the Minister and the Governor for approval. We are currently waiting for a response. Included in Councils submission was an application to	Y

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					reduce the period of notification from 90 days to 30 days with sufficient evidence to support that request. A request for valuation has also been sent to the Valuer General's Department so that if the 30 day period is approved, the valuation shouldn't be too far behind. 27/03/2020 – GS: No further update from 02/03/2020 – Approval from the Minister for Local Government is yet to be received. 02/03/2020 – GS: Once Council approval from the Minister for Local Government and the Governor have been received Werralong Road can be gazetted and the road maintained. As yet, these approvals have not been received. 28/01/2020 – AW: Currently Councils Solicitor is preparing the section 30 agreements for the affected landowners. Once completed an application will be submitted to the Office Of Local Government for approval.	
134	20 February 2020	12.1	**Michelago Creek Bridge** Councillor John Rooney Question: The recent bushfires demonstrated once the need to improve access to the Michelago Fire Shed, to reduce the response time of the fire trucks, whose crews live mainly on Michelago Road. The	Manager Infrastructure (Operations)	26/06/2020 – GS: Council is pursuing grant funding opportunities for a crossing of Michelago Creek, as per Councils resolution below. 29/05/2020 – GS The subject was presented to Council via a report at the	Y

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
			best way to do this would be a bridge over the Michelago Creek connecting the fire shed on Ryrie Street to the crews on Michelago Road. Does the recently completed flood study support an application for State Government Funding for a flood proof creek crossing on Ryrie Street?		April meeting where the following resolution was carried: "*That Council receive and note the Michelago Ryrie Street Flood Impact Assessment and place option 5 on a listing of projects to be considered for future grant funding*" Option 5 was a Causeway crossing with culverts 29/04/2020 – GS: Comments from the Flood Committee on 7 April 2020 and in relation to Michelago Creek Bridge were: • A proposed crossing of Michelago Ck to connect Micalago Rd to Ryrie St is the subject of a separate design process being undertaken by SMRC in parallel with the FRMS process. • SMRC staff working on the Michelago Ck crossing design have sought to maximise collaboration between their design process and the FRM process. • The Michelago Hotspot analysis in the draft FRMS&P identifies that Micalago Rd residents may be isolated for hours to days by flooding at this hotspot. • The implications of the crossing for community safety and emergency response was a hot issue in the responses to the exhibition of the flood study stage of the project. • DPIE recommends that the community consultation section of the exhibition draft FRMS&P make explicit reference to that outcome of the FS consultation.	

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					• The FRMS includes analysis of the flood impact (and some FRM implications) of some Michelago Ck crossing options under consideration. • DPIE recommends consulting SES, Ambulance & Fire authorities for their views on the implications of the identified potential isolation & the desirability (or otherwise) of pursuing options to reduce the isolation potential. • DPIE also recommends liaison with ARTC (or whoever manages the railway line) to examine whether a road bridge parallel with the existing rail bridge accessed via a widened embankment might be a feasible option. Council actions from that meeting were to: • Liaise with SES/RFS to determine level of risk if residents along Micalago Road are cut off in a large flood event. Determine the duration of the cut-off, what duration would be deemed acceptable and other options to get residents out. That an independent report, prepared for Council by GRChydro (i.e. independent of existing Floodplain grant program) has offered various options. This report should be put to the Councillors to determine the priority of options for this site against competing priorities shire wide. 27/03/2020 – GS: No change since the update of 02/03/2020. 02/03/2020 – GS:	

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					An update from the project team dated 28/02/2020 stated: The flood study and modelling has provided options for the crossing and the final report will provide some high level costing and recommendations based on flood impacts, overall cost and benefit. Unfortunately the crossing will have a number of restrictions on it due to incoming flows from Booroomba Creek, increased risk of flooding to property and land ownership. Initial findings to be confirmed in final report is that a low level culvert option is possible but will be quite expensive. A low bridge is possible but will require some land acquisition and negotiation with the rail authority. This should be read in conjunction with Action 138 of Actions Report from the February Council meeting.	
142	16 April 2020	12.4	**Cooma Creek and Cooma Back Creek** Councillor Rogan Corbett Question: Could we have a report on progress on rehabilitation of Cooma creek and in particular Cooma Back Creek?	Manager Infrastructure (Operations)	26/06/2020 – GS: Completed. 29/05/2020 – GS: A presentation was provided to ELT on 21 May 2020 with a decision that this issue would be presented to Councilors at the Briefing Session on 4 June 2020. 29/04/2020 – GS: On 21 April 2020 The NSW Department of Planning, Industry and Environment – Environment, Energy & Science Group (EES), as part of its role in strategic management of levees have funded the preparation of a	Y

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					Levee Owner's Manuals (LOM) & Visual Audit for the Cooma Levee to assist council in the ongoing management of the levees. The draft Cooma LOM has been prepared for council and is now being reviewed by Council staff. Once complete a report will be prepared for Council consideration.	
143	16 April 2020	12.5	**Weeds and Long Grass Management in Michelago** Councillor John Rooney Question: Why can't council staff that mow the oval in Michelago mow the other public lands at the same time?	Manager Infrastructure (Operations)	26/06/2020 – GS: Completed. 01/06/2020 – GH: Meeting to be arranged. To be followed up with Infrastructure staff. 27/04/2020 – GH: The oval is maintained by a local contractor. OSR staff will arrange a meeting at Michelago with Clr Rooney to determine additional scope requirements in the coming weeks.	Y
148	18 June 2020	12.1	**Wildlife Rescue** Councillor Anne Maslin Question: Bushfire recovery funding: will Council expedite payment of $20,000 allocated to Wildlife Rescue groups, so that the money is paid before end of June 2020, to help treat animals injured in the January fires.	Local Recovery Officer	01/07/2020 – AF: **Background to grant:** The grant has been approved by Council from grant funding received under the DRFA (Disaster Recovery Funding Arrangements – joint Federal & State Funding arrangements. Council wanted to identify the needs of Wildlife Rescue Services within the region to provide support for ongoing services noting the impact on wildlife during the bush fire and the ongoing needs now	Y

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					that the region is in a recovery phase. **Total grant monies:** $20,000 **Recipients:** $5000 was 'presented' on 1/7/20 to Peter Day – Wildlife carer in Bombala. Paperwork is on its way to him. The funds will support his wildlife rescue program. These organisations have not been notified as yet of their grant funding support: • LAOKO to receive $10,000 • Two Thumbs Koala Sanctuary to receive $5,000 All grant recipients have been notified. Grant documentation has been provided to all grant recipients. When the documentation had been signed and returned to Council payment can be processed	
149	18 June 2020	12.2	**Swimming Pool Use** Councillor Sue Haslingden Can a full report on swimming pool operations and any impacts of proposed fee reductions be brought to the next briefing session on 2 July 2020. Can the report also include participation numbers, income and expenses?	Manager Finance	02/07/2020 – AS: Report to be drafted and presented to 16 July 2020 Council Meeting.	Y

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
150	18 June 2020	12.3	**Cooma Reservoir** Councillor Bob Stewart Question: How much is the Cooma Reservoir insured for?	Coordinator Governance	30/06/2020 – JM: The Cooma Reservoir is insured for a total value of $2,559,000.	Y
151	2 July 2020	N/A	**Heavy Vehicle Route (Cooma)** Mayor Beer When will Council start the investigation and report to Council into the :"Heavy Vehicle Route around Cooma (Bombala and Berridale) as stated in the adopted Snowy Monaro Local Statregic Planning Statement, Page 53 – point 6.7, 6.8, 2.6 and page 54.	Senior Strategic Land Use Planner	06/07/2020 – AA: **Timeframe** The timeframe identified in the Snowy Monaro Local Strategic Planning Statement (LSPS) for action 10.7 'Council will investigate heavy vehicle alternative route options for Cooma, Bombala and Berridale' is medium - long. The LSPS define the Medium to long term timeframe as projects to be completed within 5 to 20 years of the adoption of this document. This would mean that this action should be delivered between 2025 and 2040. Actions 6.5 'Council will develop a CBD Masterplan for Cooma to provide strategic direction to the town centre of Cooma' and 10.8 'Council will investigate ways to make the Cooma CBD safe and accessible for pedestrians and more permeable to traffic' are identified as a medium-term timeframe. The medium-term timeframe is defined as projects to be completed within 5 to 10 years of adoption of the document. These actions are to be completed between 2025 and 2030. **Rationale for timeframes** the LSPS is an overarching strategic document for the region over the next 20 years. As such it contains 83 actions to be completed across this timeframe. All actions	Y

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					have been categorised into the following five categories: • Immediate: 0-1 years following the adoption of the LSPS; • Short: 1-5 years following the adoption of the LSPS; • Medium: 5-10 years following the adoption of the LSPS; • Long: 10-20 years following the adoption of the LSPS; and • Ongoing: Action required when the item arises. A clear and concise methodology has been developed to prioritise the actions in the LSPS. This approach has been informed by priorities identified by the community throughout the 2019 discussion paper consultation and more recently the public exhibition of the draft LSPS, the priorities and directions in the South East and Tablelands Regional Plan and relevant ministerial directions and internal council priorities including input from Councillors. **Catalysts for Expediting Timeframes** Changing and evolving political directions, community views and community expectations is the most common catalyst for expediting timeframes for strategic projects. If this was to occur, it could result in priorities needing to be changed, and specific projects accelerated. Other catalysts include significant projects and investment which may see specific funding provided for a project to expedite its progression or create considerable pressure on infrastructure that accelerates the need for a particular project. An example of this is Snowy 2.0 or the	

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					Snowy Mountains Special Activation Precinct projects which could place significant pressure on existing infrastructure. To the same extent, a considerable expansion to facilities at the Port of Eden, particularly to the ports freight capacity could result in the need to accelerate road infrastructure improvements around Bombala. **Risk and Constraints to Expediting Timeframes** The primary constraint to expediting timeframes is a lack of resources and funding, resulting in no capacity to accelerate a specific project. It should also be noted that the acceleration of one project is often at the expense of others; this may result in essential projects being delayed or abandoned to priorities other projects. There are also external factors which can act as a risk to expediting projects such as a financial crisis, natural disaster or as a pandemic (as seen recently) may result in rapidly changing community and political priorities along with the viability of projects. **Other Related Matters** Action 10.1 of the LSPS is that 'Council will develop a Regional Integrated Transport and Access Strategy' this is identified as a medium-term priority and should be undertaken before further investigations of heavy vehicle alternative routes. Action 10.1 will assist in determining the need for such investigations and identify priority transport improvements across the Local Government	

No.	Date rec'd	Item No.	Question/Request	Responsible Officer	Response	Compl Y/N
					Area. In 2017 a Bombala and District Timber Industry Haulage Study was undertaken. Subsequently, Council engaged WSP to undertake an options study or Traffic Management in Bombala. The study considered the viability of heavy vehicle routes through or around Bombala and recommended Council pursue option 5 "Town Centre Improvements".	

9.4.2 RESOLUTION ACTION SHEET UPDATE

Record No:

Responsible Officer:	Chief Strategy Officer
Author:	Secretary Council and Committees
Key Direction:	7. Providing Effective Civic Leadership and Citizen Participation
Delivery Plan Strategy:	DP7.1.1.2 Council's leadership is based on ethics and integrity to enable informed and appropriate decisions in the community's best interest.
Operational Plan Action:	OP7.7 Provide timely, accurate and relevant information to Council to enable informed decision making.
Attachments:	1. In Progress Resolution Action Sheet for period ending June 2020
Cost Centre	3120

EXECUTIVE SUMMARY

In order to provide Councillors with updates on resolutions of Council, a report has been generated with a summary of action that are current and have recently been completed, for the period ending June 2020.

The In Progress Resolution Action Sheet for period ending June 2020 is attached to this report.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council receive and note the In Progress Resolution Action Sheet Update for the period ending June 2020.

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
16	05 April 2018	**118/18**		**Proposed Road Closure & Sale of old Lions Park at Bombala** That Council; A. Approve the partial road closure on the corner of High Street and Stephen Street Bombala so that the fence line becomes the boundary of lot 9 DP 995614; B. Engage the services of a land surveyor to provide a plan for the boundary adjustment; C. Authorise the General Manager to execute any documents necessary to complete the boundary adjustment and sale of the property; D. Readvertise the property on the open market for auction with an appropriate reserve; and E. Make the Report public once the matter is settled.	Property Officer	24/06/2020 – JH: A: Finalised. B: Finalised. C D and E: Still waiting finalised consolidation plans from surveyor for this item to be completed. Have sent numerous email requests to Surveyor. 28/05/2020 – JH: Surveyor again requested to provide the final plan, no response and will continue to follow up. This plan is in draft form with the Surveyor and would not be cost effective to engage another surveyor to finalise the plan. 27/04/2020 - JH: Email sent to Surveyor requesting a definite date for plan to be registered. Surveyor advised he will review the current draft of this consolidation plan this week and submit for Registration.	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						26/03/2020 - JH: Followed up with Surveyor and was advised this item is going to be delayed due to the large scale workload he has in place. 27/02/2020 - JH: Followed up with Surveyor and was advised this item is going to be delayed due to the large scale workload he has in place. 15/01/2020 - JH: The Surveyor has advised that he is hoping to have the consolidation plan ready for the end of January 2020.		
19	19 April 2018	**147/18**	16.9	**Compulsory Acquisition of Lot 13 DP 239506 - Access to Jindabyne Sewerage Treatment Plant, Jindabyne Landfill and Sewer Pump Station 6** That Council	Land & Property Officer	26/06/2020 – LB: Crown Lands has not yet responded to Council's application to waive the interest. A. Finalised B-G. Finalised	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				A. Rescind resolution 131/14 of 26 August 2014 B. Proceed to acquire Lot 13 Deposited Plan 239506 by compulsory process under the Land Acquisition (Just Terms Compensation) Act 1991 by authority contained in the Roads Act 1993 for the purposes of providing legal access to the Jindabyne Sewer Treatment Works, Jindabyne Landfill and Sewer Pump Station 6. C. Dedicate the land as Public Road in accordance with the Roads Act 1993 D. Note minerals are to be excluded from this acquisition E. Note this acquisition is not for the purpose of resale F. Make the necessary applications to the Minister for Local Government and the Governor G. Authorise the Common Seal be affixed to all documentation		28/5/2020 – LB Compensation has been paid. Council is currently waiting for Crown Lands to consider an application for waiver of the interest. 22/04/2020 – LB: Payment of $12,900 for fees incurred by Valuer General's Dept. has been made. Payment of $17,100 for purchase of lot 13 has been made and application for waiver of interest has been lodged. The delays have been incurred by Crown Lands and the interest relates to delay in payment of $17,100 due to Crown Land not issuing an invoice despite repeated requests and reminders. Crown Lands have advised Council to submit an application for waiver of interest. 26/03/2020 – LB: Invoice for costs of valuation and handling costs incurred by the Valuer General's		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				required to be sealed to give effect to this resolution.		department amounting to $12,900 has been received and paid. We should receive invoice for purchase of land shortly. Public Works has requested an update from Crown Lands regarding the invoice. 02/03/2020 – LB: The invoice has not been issued and a further enquiry has gone to Public Works who will follow up. 15/01/2020 – LB: Follow up with Public Works revealed that an enquiry has been placed with Crown Lands and we are expecting the invoice to be issued shortly.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
20	07 May 2018	**162/18**	11.1	**Proposal to Realign the Barry Way Jindabyne and to Address Issues with the Intersections of Barry Way with Eagle View Lane and Bungarra Lane** That Council A. Approve the proposal to realign The Barry Way over the constructed road from the intersection with MR286 to the boundary of the national park. B. Approve the proposal to apply to the Crown to transfer those sections of The Barry Way which are Crown reserve road to Council. C. Authorise staff to negotiate with landowners for acquisition of the constructed Barry Way and, where possible, to offer to close corresponding sections of paper road and to dedicate the land to the landowner in compensation. D. To engage the services of a surveyor to identify those sections of the Barry Way which are not on line with the constructed road.	Land & Property Officer	26/06/2020 – LB: The draft plan may be expected. The landowner is waiting on this information before proceeding. A. Survey is being done in sections B. Request for sections of Crown road to be transferred to Council will be carried out at the end of the project. C. Negotiations with landowners are ongoing. D. See A above. E. Acquisition will be carried out as necessary when the plan for individual sections is finalised. F-G Ongoing. 28/05/2020 – LB: The surveyor has promised to have the draft plan with the area of road to be closed and the area of the area to be acquired marked on the plan sent to Council within the next week. This plan will then be sent to the landowner.	31/08/2021	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				E. To acquire any Crown land upon which the Barry Way has been constructed through the process of the Land Acquisition (Just Terms Compensation) Act 1991 through the authority of the Roads Act 1993. F. Authorise the General Manager to execute any documents necessary to complete the project. G. Authorise the expenditure and allocate an amount of $135,000 in the 2018/19 year Budget with funding to be provided from Stronger Communities Project PP-219 (Undertake project to align the road with road reserves).		24/04/2020 – LB: Contacted the landowner on Eagle View Lane who has requested information. He wants to know how much land Council will require for the road and how much land he will receive in compensation. Will there be sufficient space for him to construct an eco-hut. The surveyor has been requested to calculate the area of both areas so that an accurate answer can be provided. 26/03/2020 – LB: In view of the fact that the landowner has not contacted the Land and Property Officer to date a letter has been sent asking him to contact the Land and Property Officer to discuss his consent to the creation of the road reserve over the road in its current location through his property. 02/03/2020 – LB:		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						The Land and Property Officer met with the landowner and he said he will respond after consultation with his wife. 20/01/2020 – LB: Waiting on response from landowner on Eagle View Road. He resides in Tasmania.		
29	21 June 2018	**253/18**	22.3	**Council Property - Town View, Waterworks Hill, Bombala** That Council A. Approve the proposal to demolish the residence located on lot 1 DP 1216130 B. Serve notice on the tenant to vacate the premises in accordance with the Residential Tenancy Act. C. Engage the services of a suitably qualified contractor to demolish	Manager Water & Wastewater Operations	06/07/2020 – MR: A. Under the provision of the State Environmental Planning Policy (Infrastructure) 2007, development for the purpose of water treatment facilities may be carried out by or on behalf of a public authority without consent on land in a prescribed zone. No DA would be required to rebuild the water treatment works in Bombala, however it will need an REF. The demolition of the existing building will be included as part of the REF for the	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				the residence, clear the site and dispose of any asbestos in accordance with the EPA Act; and D. Authorise the expenditure and allocate an amount in the 2018 Financial Year Budget with funding to be provided from the Former Bombala LGA Reserve.		rebuild. B. The tenant has vacated the dwelling and all utility services have been disconnected. C. Demolition will be a component of the WTP rebuild in accordance with the Options Study and REF. D. Expenditure is expected to be incorporated in the $10M options funding grant. 25/06/2020 – GS: Options study is complete covering Security of supply, alternate water sources and quality issues driving a new water treatment plant with presentation by designer to Councillors scheduled for 2 July 2020. 01/06/2020 – MR: No further update until adoption of final options study. 22/04/2020 – GS: Demolition of BWTP Cottage on hold pending Bombala/Delegate Water Supply Options Study recommendations.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						23/03/2020 – MR: Demolition of BWTP Cottage to coincide with Bombala WTP refurb or rebuild in accordance with Bombala/Delegate Water Supply Options Study recommendations. 02/03/2020 – MR: Demolishment of the residence will depend on the outcome of the Options Study and recommendations. Options Study will be provided to Council when received. 14/01/2020 – AS: Still waiting on the Bombala/Delegate Water Options Study Report – expected finalisation April 2020.		
57	6 September 2018	**314/18**		**Proposed Acquisition of Land in Cooma** That Council A. Acquire Lots 400 and 434 DP 750535 and lot 461 DP 41999 by compulsory process under the Land Acquisition (Just Terms Compensation) Act 1991 by authority contained in the Local Government Act 1993 for the	Property Officer	24/06/2020 – JH: A to H: Latest email received from OLG is that they are following up on our application and have not forgotten about it. No response from Crown as to permission to begin project whilst waiting for OLG to send documentation of approval. None of these items can be finalised until a response from OLG is received.	8/10/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				purpose of saleyards. B. That the land be dedicated as Operational land in accordance with the Local Government Act 1993 C. That minerals be included in this acquisition D. That this acquisition is not for the purpose of resale E. That the necessary applications be made to the Minister for Local Government and the Governor. F. That the Common Seal be affixed to all documentation required to be sealed to give effect to this resolution. G. That following the acquisition of the three Crown allotments, the eleven lots comprising the Cooma saleyards be consolidated into a single allotment. H. That this project be funded from the former Cooma Monaro Shire Council reserve fund.		28/05/2020 – JH: Email received from OLG on 20/5/2020 advising they can confirm that it has been processed, unfortunately they are unable to advise as to when/if it will be approved. Following up with Crown as to the option to gain approval for works to begin prior to acquisition taking place. Unfortunately with most staff working remotely responses are slower than usual. 27/04/2020 - JH: Numerous requests have been sent to Office of Local Government asking for this matter to be finalised. Council does not have the option to gain approval for acquisitions from anyone other than OLG. 26/03/2020 - JH: Waiting on response from OLG. 27/02/2020 - JH:		

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						All information is with OLG and waiting for approval to come through. 15/01/2020 - JH: Waiting on response from Crown to advise that the Special Lease will be extinguished after acquisition has been completed to finalise documents required by OLG.		
74	4 October 2018	**353/18**	15.1	**Clr Castellari Notice of Motion - Rooftop Solar** That Council A. Support the Albury City Council motion regarding legislative changes to enable the implementation of a program similar to that implemented by Darebin City Council in Victoria; B. Advocate for the legislative changes to local members and relevant Ministers; C. Carry out due diligence with a business case which includes funding options, power under	Chief Executive Officer / Executive Assistant to Chief Executive Officer, Mayor and Councillors	29/06/2020 – SC: A. Motion supported at LGNSW Annual Conference. B. Raised in conversation with Local Member and LGNSW. C & D – No action. 29/05/2020 – SC: No further update. 29/04/2020 – SC: No further update. 04/03/2020 – SC: No further update. 06/02/2020 – SC:	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				current legislation that would provide solar subsidy schemes for residence and businesses within the SMRC council area; and D. Provide for public consultation process once the above has been carried out.		No further update. 03/12/2019 – SC: B – The CEO requested an update from LGNSW in regarding to their advocacy of behalf of the local government sector (as per resolution 100 – Solar Buy Back - from the 2018 LGNSW Conference). LGNSW has made representations to the previous Minister for the Environment and Minister for Local Government prior to the latest cabinet reshuffle. The matter was also raised in LGNSW's submission to the Senate Standing Committee on Environment and Communications Inquiry into Treasury Laws Amendment (Improving the Energy Efficiency of Rental Properties) Bill 2108. Further to this, LGNSW also raised this matter at their liaison meeting with the Office of Environment and Heritage and will continue to advocate on the issue as opportunities arise.		
88	1 November 2018	**394/18**	12.1	**Planning Proposal 461 Barry Way, Moonbah to Amend Snowy River Local Environmental Plan 2013**	Senior Strategic Land Use Planner	22/06/2020 – AA: No further update.	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				That: A. The report from the Senior Strategic Land Use Planner on the Planning Proposal 461 Barry Way (Lot 101 DP 817374) be received. B. The Planning Proposal be submitted to the Minister of NSW Planning & Environment for a Gateway Determination in accordance with Section 3.34 of the *Environmental Planning and Assessment Act 1979.* C. The Department of Planning and Environment be advised that Council wishes to be issued with an authorisation to use delegation for the Planning Proposal. D. In the event NSW Department of Planning & Environment issues a Gateway Determination to proceed with the Planning Proposal, consultation be undertaken with the community and government agencies in accordance with Schedule 1, Division 1, Clause 4 of the		03/06/2020 – MA: No further update and not expected to be any significant progress until the SAP masterplan is more fully developed. 05/05/2020 – AA: An altered Gateway determination was issued by the Department of Planning Industry and Environment extending the timeframe for completion by 24 months to 7 June 2022. This allows the proposal adequate time to be considered and finalised after the Snowy Mountains Special Activation Precinct Masterplan is completed. 19/03/2020 – MA: No response received from DPIE regarding request for extension of time due to SAP Masterplan. In process of following up with DPIE. 31/03/2020 – AS: No further update.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				Environmental Planning and Assessment Act 1979 and any directions of the Gateway Determination. A.		02/03/2020 – BD: No further update. 20/01/2020 – AA: A letter has been forwarded to State Government requesting the Gateway Determination date be extended to coincide with the conclusion of the Go Jindabyne masterplan. 06/12/2018 – MA: B. Planning proposal has been submitted to the Minister of NSW Planning and Environment for a Gateway Determination. C. Council has advised Department of Planning and Environment that Council wishes to be issued with an authorisation to use Delegation for the Planning Proposal Cannot be actioned until a determination is given.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
89	1 November 2018	**395/18**	12.2	**DA Best Practice Guideline and Processing Times** That Council endorse the following recommendations; 1. Council staff develop a Snowy Monaro Region Development Guide that also includes a rural and regional context; 2. Increased promotion of pre-lodgement meetings with applicants and a media campaign be undertaken; 3. Creation of a user friendly information portal on Council's website; 4. Development assessment staff actively participate in the review of the consolidated LEP and DCP with the Strategic Planning Group to achieve practical workable provisions; 5. A review and report be presented to	Manager Built and Natural Environment	24/06/2020 – JG: The Draft DA Best Practice Guideline will be presented to the July 2020 Council meeting. 28/05/2020 – JG: The Draft DA Best Practice Guideline will be presented to the June 2020 Council meeting. 01/05/2020- JG: The Draft DA Best Practice Guideline will be presented to the May Council meeting. 30/03/2020 – JG: The Draft DA Best Practice Guideline will be presented to the May Council meeting. 03/02/2020 – JG: The Draft DA Best Practice Guideline will be presented to the March Council	18/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				the General Manager on resourcing requirements for Building Surveying and Development Engineering staff in order to reduce development application referral times, assist with approvals relating to the issuance with Complying Development Certificates and provide efficient and timely advice to applicants; 6. Councillors continue to be provided with a list of applications lodged with Council on a monthly basis and a list of determined development applications on a monthly basis; 7. Ensure that when the corporate IT platform is implemented it includes online tracking of applications and use of mobile IT platforms, to improve efficiencies in administration of development assessment and building certification processes; 8. That checklists and guidelines are updated and expanded to ensure applicants have detailed information to ensure applications		meeting. 03/02/2020 – JG: The Draft DA Best Practice Guideline will be presented to the March Council meeting. 03/06/2019 – JG: 1 – Being developed. 3 – Portal being created as part of IT platform development. Completed. 5 – Review being undertaken as part of organisational redesign review. Completed. 9 – Completed. 03/05/2019 – JG: 1- Being developed 3 - Being developed 5 - Waiting for structure 6 - Report going to June meeting 6. Lists have been and will be continued to be provided		

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				are submitted with all relevant information as required by Part 1 of Schedule 1 of the EP&A Regulation (in accordance with Clause 51 of the EP&A Regulation); 9. A review be undertaken and report be put forward to Council proposing amendments to the Bombala, Snowy and Cooma DCP's to align notification requirements as being commensurate with impacts and to reduce the number of development applications being notified; 10. That development applications be determined based on the information held at the time where an applicant has been requested to provide additional information (under Clause 54 of the EP&A Regulation) but has failed to respond within 21 days; and 11. Additional information requests be provided to applicants in a timely manner. The response time on these requests be increased from 14 days to 21 days.		7. Ongoing 8. Completed 9. To be undertaken 10. Ongoing 11. Ongoing 20/10/2018– JG: No further update at this time 06/12/2018 – DA: Best Practice Guideline and Processing Times is to be developed.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
117	20 December 2018	**575/18**	10.3	**Proposed Acquisition of Shannons Flat Community Hall** That Council A. Agree to accept the gift of Shannon's Flat Community Hall and approximately 800m2 of land surrounding the hall. B. Classify the property as "community land" upon transfer to Council. C. Engage the services of a surveyor to survey lot 78 DP 750527 and create a plan of subdivision of the land to excise the hall and surrounding land within the immediate fence line. D. Agree to bear all costs associated with the subdivision and registration of the plan including any legal costs. E. Fund the costs of approximately $8,000 from former Cooma Reserves.	Land & Property Officer	26/06/2020 – LB: This matter has been placed on hold until December 2020 at the request of the landowner at which time there will be a further report to Council. C. Survey has been completed and registered. D. Costs have been borne by Council. 28/05/2020 – LB: This matter has been placed on hold until December 2020 at which time there will be a further report to Council. 24/04/2020 – LB: Discussion with property owner's family revealed that no decision had been made with respect to the transfer of the Hall to Council. Insurance of the Shannon's Flat Hall is prohibitively expensive and out of the ability for either the family or the Management Committee to pay. Property owners have requested that Council delay any action on this matter until December	30/12/2020	N

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						2020 when the current restrictions have eased and the Management Committee can meet. This was agreed and will be followed up in December 2020. 26/03/2020 – LB: A letter has been sent to the landowner requesting confirmation of their intentions. 02/03/2020 – LB: Currently waiting on a response from the landowner to confirm their intentions. 20/01/2020 – LB: A report will be submitted to Council updating Councillors on the status of this matter. At present Council is paying the power bills.		
165	21 February	68/19	13.9	**Parking in the laneway at the rear of the Jindabyne Town Centre**	Land & Property	26/06/2020 – LB: The Road Safety Officer advised that the	31/12/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
	2019			That Council A. Approve the proposal to enter into public consultation with the shopkeepers and owners in Jindabyne Town Centre regarding changes to the laneway at the rear of the shops. B. Receive a further report regarding the results of the public consultation and the proposed way forward together with detailed costings.	Officer	surveyor has been selected and the project is progressing. A. Public consultation will take place when the survey and design is completed. 28/05/2020 – LB: RFQ sent out to four surveyors for quotation for survey and design. This is to be funded by RMS. 28/05/2020 – LB: RFQ sent out to four surveyors for quotation for survey and design. This is to be funded by RMS. 24/04/2020 – LB: Specification for the tender is currently underway. Collaboration between the Special Projects Officer and the Road Safety Officer is being undertaken in view of the issues encountered with the proposed construction of the public toilets in Jindabyne.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						26/03/2020 – LB: Tenders will need to be called for the survey and design work. When the survey and design is completed, staff will arrange for public consultation. 02/03/2020 – LB: Waiting on survey and design so that public consultation can be arranged. 03/02/2020 – LB: Shopkeepers and shop owners in the Jindabyne Town Centre have been notified by letter that Council has been successful in securing grant funding for survey and design of the back lane.		
200	21 March 2019	114/19	9.2.5	**Proposed Acquisition of Crown land - Part lot 209 DP 729704** That Council A. Acquire 3210m^2 of lot 209 DP 729704 by compulsory process under the Land Acquisition (Just Terms Compensation) Act 1991	Land & Property Officer	26/06/2020 – LB: No further update despite reminder phone calls. LLS has a process to follow with respect to TSRs which takes some time. B-D: Acquisition cannot progress until the	31/12/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				by authority contained in the Roads Act 1993 for the purpose of road; B. Include minerals in this acquisition; C. Make the necessary applications to the Minister for Local Government and the Governor D. Affix the Common Seal to all documentation required to be sealed to give effect to this resolution; and Request the owner of lot 6 DP 709106 to enter into a Deed of Agreement with Council requiring the owner of that land to be responsible for all costs associated with the acquisition, survey, transfer fees, solicitors fees and LRS fees etc. prior to commencing the process		consent of the Local Land Services is received and NSW Aboriginal Land Council is in full agreement. The landowner has been reminded to return the executed Deed to Council. 28/05/2020 – LB: Follow up letter to Local Land Services has been sent and negotiations with NSW Aboriginal Land Council are ongoing. 24/04/2020 – LB: Landowner/developer has agreed to review the Deed of Agreement and return it to Council. Further discussions with the NSW ALC have resulted in a plan for the way forward. Local Land Services still have not responded and a follow up phone call has been made. They will get back to us with an update on their progress. 26/03/2020 – LB: A reply from the NSW Aboriginal Land Council has not been received at this time.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						The landowner/developer has been reminded to amend the Deed of Agreement and return it to Council. 02/03/2020 – LB: The landowner has been asked to amend the Deed of Agreement. Council is currently waiting on amended Agreement. In the meantime the NSW Aboriginal Land Council has been approached for consent to acquire the "road" across lot 209. 20/1/2020 – LB: Discussions with the Crown and the ALC are ongoing.		
211	21 March 2019	127/19	13.2	**Delegate Disadvantaged Housing** That Council continue with the current arrangement of Facilities staff managing the tenants and maintenance on the properties pending community consultation, and bring a report back to Council.	Commercial Land Officer - Facilities	26/06/2020 – KH: There is no further update as there has been too much occurring with bushfires and COVID. 01/06/2020 – KH: No further update.	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						28/04/2020 – KH: No further update. 27/03/2020 – KH: No further update. 02/03/2020 – KH: Mail out to the community at Delegate seeking their feedback to be arranged asap to gauge thoughts. Ongoing.		
227	17 April 2019	151/19	9.2.2	**Consolidation of Reserve no. 530002 Centennial Park and Lot 6 DP 758280 Cooma Visitors Centre as one Crown Reserve for General Community Use** That Council A. Request that the Crown add lot 6 DP 758280 to Reserve 530002 comprising Centennial Park and add an additional purpose of "General Community Use" to the Reserve.	Land & Property Officer	26/06/2020 – LB: Communication with NSW ALC confirmed that the claim over the Visitors Centre has been rescinded. This information will be relayed to Crown Lands with a request to expedite the matter. A. Crown Lands is presently preparing the documentation for transfer to Council as Crown Land Manager B. The licence will be relinquished in	01/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				B. Relinquish Licence LI 453017 for the use of the Cooma Visitors Centre when Lot 6 DP 758280 is added to Reserve 530002.		conjunction with transfer to Council Management. 28/05/2020 – LB: Reminder was sent to Crown Lands last week. This matter will take some time to resolve at the Crown Lands level. 24/04/2020 – LB: Crown Lands has advised that due to the COVID-19 Pandemic this process may suffer some delays. 26/03/2020 – LB: Crown was sent a second reminder today. It is an involved process, and will take a while to review, given the current COVID-19 pandemic and the recent bushfires. 02/03/2020 – LB: Negotiations with the Crown are ongoing. It is likely that the Crown would prefer lot 6 to be placed under Council management and that the lease be rescinded. We are currently waiting on a reply.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						20/01/2020 – LB: This matter has been escalated at Crown Lands to achieve a decision on the way forward.		
241	17 April 2019	166/19	13.1	**Purchase of Part Lot 1 DP101714 and Part lot 1 DP 222016 in Commissioner Street Cooma - Flood Mitigation Works Stage 2** That Council A. Rescind Resolution 39/14 of 10 February 2014; B. Offer to purchase lot 4 DP 1242464 $9,650 ex GST; C. Offer to purchase lot 3 DP 1242464 for the sum of $5,500 ex GST; D. Authorise the General Manager to negotiate with the owners of lots 3 and 4 to within 10% of the valuation; E. Calculate the apportionment of property rates from the date of registration of the plan of subdivision	Land & Property Officer	26/06/2020 – LB: This matter has now been finalised. 28/05/2020 – LB: Council's solicitor has once again sent a letter to the vendor's solicitor to register a date for settlement with PEXA. No reply has been forthcoming at this time. 24/04/2020 – LB: Council's contribution was determined at $1,100 including GST and this was approved by the Chief Executive Officer. At present Council is waiting on the vendor's solicitor to notify us of the settlement date. When a date is set Council will transfer the funds to our		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				(17 December 2018); F. Classify both lots as operational land upon acquisition; and G. Authorise the expenditure and allocate an amount of $21,450 ex GST in the 2019 Financial Year Budget with funding to be provided from other internal reserves.		solicitor's trust account. 26/03/2020 – LB: At the Council meeting held on 19 March Council resolved to accept the vendor's offer of $25,000 with a contribution to costs to be negotiated by the CEO. 02/03/2020 – LB: A report has been submitted for the March Council meeting. Council is currently waiting on a response from the vendor's solicitor. 20/01/2020 – LB: There is a report to the February meeting of Council.		
251	16 May 2019	185/19	9.2.1	**CMCA RV Park – Cooma** That Council support in principle the development of a CMCA RV park at the Hawkins St site and provide in-kind assistance through internal plant rates.	Manager Corporate Projects	30/06/2020 – GH: CMCA are in the process of submitting the DA for Hawkins Street RV park site and are working with consultant on the bushfire and flood elements of the DA.	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						01/06/2020 – GH: CMCA has now commenced on a Development Application. 23/04/2020 – GH: Report with Draft MOU being prepared for May Council meeting. 27/03/2020 – GH: Report to Council planned for April meeting. 02/03/2020 – GH: Final plans and estimates received by CMCA. CMCA has provided a draft MOU and a sample lease documents which will be included in a report to Council. Pending support from Council to proceed a DA will be lodged. 31/01/2020 – GH: Local surveyor is finalising plan for CMCA		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						and is expected by end of January.		
260	16 May 2019	194/19	9.4.1	**Classification and Categorisation of Crown Land in Council's Care and Control** That Council approve the proposed categorisation of Crown land as per attachment 1 to report Classification and Categorisation of Crown Land in Council's Care and Control	Property Officer Land & Property Officer	24/06/2020 - JH: Updated changes completed and lodged with Crown, awaiting their approval of the application. 28/05/2020 – JH: Crown advised they would like some changes made to the application for some of the categories. Changes made as per request and submitted Friday 29 May following review by consultant. Community consultation process is being put in place by Consultant and hope to have a final plan for process. 27/04/2020 - JH: This application is with DPIE Crown Lands. There is a large backlog of applications and the implications of COVID-19 have added more time constraints on these applications. The contractors are also in contact with Crown to try and get this	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						process expedited. 26/03/2020 – LB: The consultants engaged by Council to do the Plan of Management for Crown Land have checked with Crown Lands about approval of the categorisation for Crown Land in SMRC and have advised that the Crown is still working through the many submissions it has received. 02/03/2020 – LB: Council is waiting on confirmation of approval of categorisations. The Plans of Management are currently underway. 20/1/2020 – LB: Requests for classification and categorisation have been submitted for approval by CL. A copy of the submission has been sent to Council's Contractors to enable them to commence work on the Plan of Management for Crown Land to be managed as community land under the Local Government Act.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
290	20 June 2019	227/19	9.4.1	**Application to Crown Land to be appointed as Land Manager to Various Waste Management Sites** That Council requests to be appointed as Land Manager of the following Reserves: A. Dalgety Landfill Lot 2 DP 837128, Reserve 88070 for Rubbish Depot under Crown control; B. Bombala Landfill Lot 123 DP 756819, Reserve 15472 for Night Soil Depot under Crown control; C. Bombala Landfill Lot 300 DP 756819, Reserve 49491 for Night Soil Depot under Crown control; D. Berridale Transfer Station Lot 178 DP 756837, Reserve 73609 for Sanitary Purpose under Crown control; E. Berridale Landfill Lot 153 DP 756694, Reserve 47391 for Rubbish Depot under Crown control; and Request the purpose of land be changed to Urban Services for	Property Officer Resource & Waste - Project Manager	24/06/2020 – JH: A, B, C & D – Complete. E. This item has been referred by NSWLALC to the Local Aboriginal Land Council (LALC) with the recommendation that the CEO of the LALC refer it to the LALC Board for consideration of claim withdrawal. NSWALC will advise of the outcome when received. 28/05/2020 – JH: Item E: Email received from NSWALC requesting further information on this Reserve. Gazette notices were researched and supplied to NSWALC. They still require any information that Council may have on the lawful use and occupation of this land and/or need for this land for an essential public purpose, as at 8 June 2010. Following up on this request with Waste Team. Spoke again to NSWALC 27/5/2020 advice they are also now discussing with LALC with regard to their interest in the	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				Reserves 15472 & 49491		land due to it not being used for many years, as such they may wish to keep the land claim active. 30/03/2020 – JH: No further update. 22/01/2020 – JH: E. Property officer has written to the NSW Aboriginal Land Council to see if they wish to revoke their interest as ALC 25795 is current on this reserve. 09/01/2020 – MD: A. Confirmation has been received Council is the Land Manager of Dalgety Landfill Lot 2 DP 837128, Reserve 88070 for Rubbish Depot; B. Confirmation has been received Council is the Land Manager of Bombala Landfill Lot 123 DP 756819, Reserve 15472 for Night Soil Depot; C. Confirmation has been received Council is the Land Manager of		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						Bombala Landfill Lot 300 DP 756819, Reserve 49491 for Night Soil Depot; D. Confirmation has been received Council is the Land Manager of Lot 178 DP 756837, Reserve 73609 for Sanitary Purpose under Crown control; E. Awaiting confirmation.		
333	18 July 2019	277/19	13.1	**Australian Tourist Park Management - NRMA - Caravan Park Jindabyne** That Council consider the approval for the Lessee to execute the 2 x 5 terms on the Lease Agreement when the first option to renew is due in October 2019 which will take the Lease Agreement through until October 2029.	Commercial Land Officer Property Officer	26/06/2020 – KH: Signed lease has been received and forwarded onto the CEO Office for signing. 28/05/2020 – JH: Solicitors have advised the signed lease agreement should be returned to Council next week. 27/04/2020 - JH: Correspondence has been received by Council's Solicitor advising the Lease Agreement has had a few minor amendments and is with NRMA for exaction of same.	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						26/03/2020 - JH: Council is liaising with NRMA in regard to this item. 27/02/2020 -JH: Council Solicitor and NRMA Solicitor are reviewing Agreement and making some minor amendments. 15/01/2020 - JH: Solicitor has sent through an updated Agreement with some changes that were required to be made for further review. This is now back with the Solicitor.		
342	15 August 2019	291/19	9.1.3	**Delegate School of Arts and Delegate Preschool** That Council A. Approve the construction of toilet amenities at the rear of the School of Arts and an accessible pathway from	Manager Corporate Projects Land &	30/06/2020 – GH: Additional application being prepared for the CRIFP 2020. To be submitted by 10 July 2020.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				exit points in the School of Arts to the toilet facility; B. Fund the toilet amenities and pathway from former Bombala LGA internal reserves to the value of $120,000 including project management cost; C. Apply to the Stronger Country Communities Fund Program for grant funding to carry out the works identified in the Building Condition Report attached to this report in the amount of $385,791. D. Seek quotations for a Building Condition Report for the Delegate Preschool to be funded from former Bombala LGA internal reserves; and E. Bring a report to Council for consideration when the Building Condition Report is completed.	Property Officer	01/06/2020 – GH: Application submitted to CRJO IWG Projects for funding following unsuccessful SCC3 grant. 23/04/2020 – GH: Council was unsuccessful in the SCCF3 grant application. Stage 1 (new toilets) funded by Council ($120K) will go out to tender in May. Investigating alternative funding opportunities for School of Arts. Preliminary BCA recommendations and costings received for pre-school – waiting for CRIF Funding to open. 26/03/2020 – LB: Tenders for construction of the toilets at the rear of the School of Arts will be advertised imminently but Council is still waiting on advice with respect to the application for funding for the building. PRMF grant funding for Crown assets has not yet been released so that the work on		

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						the Delegate Preschool has been placed on hold until the applications for funding become available. 02/03/2020 – LB: This project is being managed by the Special Projects Group. Council has not received any response concerning the grant application. 20/01/2020 – LB: Building condition assessment is currently underway for the Preschool. Tenders to carry out the remediation of the School of Arts have closed and are currently being evaluated.		
345	15 August 2019	294/19	9.1.6	**Minutes of the Arts and Culture S355 Committee Meeting held 12 June 2019** That Council note the minutes of the Arts and Culture 355 Committee	Community Development Planner, Tourism & Economic Development	30/06/2020 – KH: A. The Taking Flight sculpture will be assessed by Council's new insurer for asset and PLI purposes. B. Completed	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				meeting held 12 June 2019 and adopt its recommendations, being: A. That Council accepts the donation of the Taking Flight sculpture from Lake Light Sculpture and funds the cost of lighting associated with the installation (up to an amount of $1000), and accepts responsibility for ongoing maintenance as required; B. That the Rix Wright Shearing Sculpture is installed in the preferred location in Centennial Park after consultation with Council engineers regarding the installation requirements e.g. plinth construction, lighting; and That the amendments to the Charter are noted and approved		03/06/2020 – MA: Continuing to sort through funding and risk assessment issues to complete. 06/05/2020 – KH: The Taking Flight sculpture installation is held up by financial and insurance issues. The cost of installation borne by Council is likely to be much higher than originally anticipated. However, the installation design has been completed and we continue to work through the issues which are preventing installation at this point in time. 19/03/2020 – MA: The project team met on site in late February. Discussions are underway with Council's insurer. The project is temporarily on hold while the relevant staff member is on leave. 25/02/2020 – KH:		

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						A. Installation is ready to proceed with, however staff are engaging in negotiations with Council's insurance company who believe someone could be injured if they were to climb on it and fall. 04/02/2020 – KH: No further updates. 30/09/2019 – KH & DS: A. The installation plan for Taking Flight is underway, with the artist and the Design Engineer working together on concept designs. Once an installation design is confirmed, the installation will move to the next stage in partnership with Lake Light Sculpture and NPWS. B. The Shearer sculpture project is now finalised with the sculpture permanently erected in Cooma Centennial Park. An unveiling ceremony was held on 17 September 2019 with all contributors and those		

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						involved in the projected invited to attend. About 50 people attended. 29/08/2019 – KH: A. Council's Design Engineer has agreed to draw up design options and costings for installation of the plinth. Once this has been completed, we will be able to move forward with installation. B. Design of the display plinth and plaques was conducted in consultation across Council teams and with relevant community members. Construction of the plinth is almost complete, with a grand opening expected to take place in mid-September. Mayor and Councillors, the artist's family, former Arts 355 Committee members and other relevant stakeholders will receive an invite.		
347	15 August 2019	296/19	9.2.1	**Road Closure and Creation of Road Reserve - Badja Road** That Council A. Approve to formally close the Council public road that traverses lot 1 DP	Land and Property Officer	26/06/2020 – LB: A. Surveyor has given assurance that the plan will be sent to Council in the next two weeks. B. This will be done in consultation with	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				124507, Lot 2 DP 1195991 and Lots 15,16 &81 of DP 752146; B. Engage the services of a Surveyor to prepare a plan of subdivision for the creation of a road reserve over Badja Road; C. Agree to exchange the former closed road through the affected properties in compensation of the area required of the privately owned properties for the road reserve to be created over Badja Road; and D. Authorise the General Manager to execute the documents to give effect to the above		landowners after plan of subdivision is received. 28/05/2020 – LB: Contractor has been asked to forward plan and it is anticipated that it will be available very shortly. 24/04/2020 – LB: Discussion with the contractor revealed that due to COVID-19 there would be some delay but the plan is now expected any day. 26/03/2020 – LB: Council is waiting on survey plan before proceeding. 02/03/2020 – LB: Survey work is currently being carried out. 20/01/2020 – LB: Landmark Surveys have been engaged to		

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						carry out the survey and produce a plan.		
352	15 August 2019	301/19	9.3.4	**Proposed Closure and Sale of Public Pathway in Kalkite** That Council A. Agree to close the pathway and sell the land 50% to each adjoining landowner for $10,000 including GST each with each party to pay their own legal fees; B. Notify the owners of lots 38 and 39 that Council approves the payment for 50% of the pathway as a "repayment schedule" to be paid in conjunction with the land rates to be fully paid prior to 30 June 2020; C. Apply to the Crown to close the public pathway; D. Engage the services of a surveyor to create a plan of subdivision with the pathway to be divided along its length (front to back); E. Engage the services of a solicitor to draw up contracts for the sale of the land; and F. Authorise the General Manager to execute the documents for the sale of the property	Land & Property Officer	26/06/2020 – LB: C. Landowners have been notified of Council resolution. Resolution /19 reviews the payment period until 30/6/2023. D. Application cannot be made until plan of subdivision is to hand. E. Plan of subdivision to divide the pathway lengthwise cannot be done until the pathway is closed. F. Contracts will be drawn up as soon as closure of the pathway is registered and the plan of subdivision is ready. 28/05/2020 – LB: Council's Finance Dept. are unable to set up a Special Rate in the rating system and they have suggested that Sundry Debtor accounts be set up with regular quarterly payments to be fully paid prior to March 2023. This will enable the sale of the land to proceed prior to 30/06/2020.	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						24/04/2020 – LB: Arrangements are currently underway to set up a payment plan and a surveyor has been engaged. 26/03/2020 – LB: All parties have been notified of the Council resolution and quotes for the survey of the pathway have been sought. This resolution is now superseded by resolution 57/20. 02/03/2020 – LB: Purchasers were not happy with the timeline for completion set by the Council resolution and a further report has been submitted to the March Council meeting. 20/01/2020 – LB: Landowners were notified of Council resolution via mail but are intending to write to Council requesting more time to pay.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
363	15 August 2019	310/19	10.2	**NSW Government Funding** That Snowy Monaro Regional Council lobby the NSW Government for a grant of $6.5 million to cover the outstanding costs of amalgamating the Cooma Monaro, Snowy River and Bombala Shire Councils and reduce the current deficit.	Chief Executive Officer / Executive Assistant to Chief Executive Officer, Mayor and Councillors	24/06/2020 – SC: Awaiting response from NSW Premier. 29/05/2020 – SC: Awaiting response from NSW Premier. 01/05/2020 – SC: Letter sent to NSW Premier 15 April seeking additional funding. 31/03/2020 – DR: Further conversations have been had with local members and correspondence has been drafted to progress the request. 04/03/2020 – DR: Council is following up on the resolution with a letter having been sent to the Premier seeking the requested funding. 04/02/2020 – DR:	31/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						Issues around the bushfires have led to this item being deferred until there is time to revisit the issue. 03/12/2019 – DR: No additional information. 01/10/2019 -DR: NSW Government funding of $6.5 million for merger costs – the issue has been raised with the Member for Monaro and Deputy Premier John Barilaro MP by the Mayor and General Manager. This was a positive discussion on the issue and a formal request is being developed for submission with the NSW Government for consideration of funding. 09/09/2019 – DR: Background information has been gathered to support the lobbying efforts. Draft correspondence under development.		

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367	15 August 2019	315/19	13.3	**Replacement of Council's road maintenance truck. Plant number 3028** That Council approve the following A. Purchase the Fuso FK61FK/Flocon Engineering combination from Hartwigs Trucks Pty Ltd for $248,284 excluding GST; B. Additional funding of $11,075 from plant reserves to be included in the QBRS for September 2019; and C. The disposal of Plant 3028 via public auction with a reserve set at $36,000	Manager - Fleet & Plant	23/06/2020 – SS: Hartwigs Trucks advised there is a delay getting the truck from Flocon Engineering due to Covid 19. Waiting on firm advice. 29/05/2020 – SS: Advice from the supplier is that the vehicle will be available for delivery in June 2020. 22/04/2020 – SS: Due for May 2020 delivery. 26/03/2020 – SS: Flocon now advise mid-May delivery. 27/02/2020 – DC Flocon sending layout plans for our review to ensure suitability. Delivery April 2020. 14/01/2020 – SS:	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						Delivery is still expected in April 2020.		
379	19 September 2019	333/19	8.2	**Finalisation of Draft Bush Fire Prone Lands Map 2019** That Council A. Receive and note the report of the Senior Strategic Land Use Planner on the finalisation of the draft Bushfire Prone Land Map; B. Submit the draft Bush Fire Prone Land Map and associated supporting documentation to the NSW Rural Fire Service for certification and provide a letter (attachment 3) to the NSW RFS Commissioner; C. Consent to a public notice (attachment 4) being attached to Section 10.7 (formerly Section 149) Planning Certificates advising of the bushfire prone lands changes until such time as the draft map is certified; and D. Advise the community and stakeholders via its website and the local newspaper once the Bush Fire Prone Land Map has come into effect.	Senior Strategic Land Use Planner	22/06/2020 – AA: Letter sent to RFS in October 2019 requesting the Commissioner of the RFS to certify the draft map. Council Staff awaiting update from RFS on this certification process. 03/06/2020 – MA: No further update. Waiting for RFS to finalise. 30/09/2019 – AA: A. Noted. B. Letter will be forwarded the Rural Fire Service on 1 October 2019. C. Information has been circulated to all relevant planning administration officers to be distributed with all 10.7 certificates	Ongoing	N

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						Will be actioned once the Rural Fire Service have advised that the map will be certified by the commissioner.		
382	19 September 2019	336/19	9.1.3	**Adoption of Road Name Black Sallee Lane and Candlebark Circuit** That Council endorse A. The name of Black Sallee Lane for crown road accessed from Alpine Way, Crackenback Gazettal; and B. The spelling of Candlebark Circuit and proceed with measures needed to ensure this spelling of the road name is consistent on the road signage and in council and state government databases.	GIS Administrator	30/06/2020 – JC: A. Black Sallee Lane – Ongoing. B. Candlebark Circuit – Completed. 29/05/2020 – SG: Black Sallee Lane gazetted, sign not yet in place. Gazettal Notice Candlebark Circuit submitted. 02/12/2019 – JC: A. Black Sallee Lane Gazetted 4 October 2019 B. Candlebark Circuit name is concurred. Erratum Notice for road name Candlebark Circuit to be published.	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						02/10/2019- JC: Gazettal Notice for Black Salle Lane has been submitted and approved for publication The following actions are in progress for Candlebark Circuit. 1. Writing to all affected property owners to inform them of the Council decision and confirm their address 2. Preparation of Erratum Notice for Gazettal of name Candlebark Circuit 3. Once gazettal is complete the roads signs will be replaced, Valuer General and Spatial Services notified and advised to update relevant NSW databases.		
388	19 September 2019	343/19	9.3.1	**Proposed Compulsory Acquisition of Part Lot 7002 DP 1028529 Crown Land Travelling Stock Reserve** That Council A. Approves the acquisition of the constructed section of Dalgety Road 20m wide which traverses lot 7002 DP 1028529 for the purpose of public	Land & Property Officer	26/06/2020 – LB: Surveyor is presently carrying out the work. 28/05/2020 – LB: Surveyor advised that he will commence	28/12/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				road through the process of *Land Acquisition (Just Terms Compensation) Act 1991* for the purposes of s.178 of the Roads Act 1993; B. Seek approval from the Minister for Local Government and/or the Governor in accordance with section 187 of the Local Government Act 1993 to give all necessary Proposed Acquisition Notices in accordance with the Land Acquisition (Just Terms Compensation) Act 1991; C. Upon receipt of the Minister's/Governor's approval, Council serve each PAN and take each other action necessary to carry out the acquisition; D. Upon receipt of the Minister's/Governor's approval Council give effect to the acquisition by publication of an Acquisition Notice in the NSW Government Gazette and such other publication as may be required by law; E. Pay compensation to all interest holders entitled to compensation by virtue of the compulsory acquisition on the terms set out in the Land Acquisition (Just Terms Compensation) Act 1991;		the survey in the next week. 24/04/2020 – LB: Surveyor has been engaged and expects to commence the survey in the immediate future. 26/03/2020 - LB: The NSW ALC has requested a survey plan be provided prior to proceeding. Quotations are currently being sought for the survey. 02/03/2020 – LB: The NSW Aboriginal Land Council has given consent in principal and is waiting on a survey plan. 20/01/2020 – LB: Currently waiting on survey plan.		

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				F. That Council authorise the General Manager and the Administrator to complete and execute all documentation necessary to finalise and bring into force Council's acquisition of the land and if necessary to affix the Council seal to any documents related to the acquisition; and G. That upon acquisition the acquired Property is dedicated as road following gazettal of the acquisition;				
389	19 September 2019	344/19	9.3.2	**Proposal to Close Part of Laneway (Lot 32 DP 227005) At the Rear of Jindabyne Town Centre** That Council A. Approve the proposal to close part of the road reserve (lot 32 DP 227005) which forms the unnamed laneway behind the Jindabyne Town Centre shops in accordance with the plan attached to this report; and B. Classify the new lot as "Operational land".	Land & Property Officer	26/06/2020 – LB: This plan has been withdrawn until the plan is completed by the RMS. 28/05/2020 – LB: Council's surveyor will re-lodge the plan of subdivision for the road closure . 24/04/2020 – LB: Lodgement of the plan at the LRS has been delayed due to planning issues.	30/11/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						26/03/2020 – LB: The subdivision certificate has been released and the documents executed by Council. The documents have been delivered to the surveyor for lodgement at the LRS. 02/03/2020 – LB: The plan will be lodged as soon as the subdivision certificate is to hand. 20/01/2020 – LB: Application for subdivision certificate has been lodged. Application for gazettal of road closure will be submitted when SC is received. 02/12/2019 – LB: This matter is subject of a later resolution 408/19 of 21/11/19. 28/10/2019 – LB:		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						Letters will be sent this week and advertisement will appear in the Monaro Post next week. 30/09/2019-JH: The process to close part of laneway at rear of Jindabyne Town Centre has commenced. Notice to be placed in Monaro Post and letters to adjoining land owners being prepared.		
390	19 September 2019	345/19	9.3.3	**Proposed Men's Shed Relocation to the Ti Tree Racecourse, Cooma** That Council A. Approve a payment of no more than $8,970 for those costs for services that cannot be reused for any development application for construction of the Men's Shed at the Ti Tree Racecourse, Cooma, with such payment to be deferred until Council receives written confirmation of an agreement between the Ti Tree Trust and Cooma Men's Shed Inc to use the Ti	Chief Executive Officer / Executive Assistant to Chief Executive Officer, Mayor and Councillors	24/06/2020 – SC: No further update. Briefing scheduled for 3 September 2020. 29/05/2020 – SC: A. Men's Shed DA approved 8/4/2020. Refund of $8,970 completed 20/03/2020. B. To be addressed at Councillor briefing 3 Sep 20.	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				Tree Racecourse site; and B. Request the General Manager prepare a report on potential future use of the Mulach St property.		27/04/2020 – SC: C. Men's Shed DA approved 8/4/2020. Refund of $8,970 completed 20/03/2020. D. Report in progress. 30/03/2020 – SC: No further update. 04/03/2020 – SC: Ongoing. 04/02/2020 – SC: E. Men's Shed DA lodgement in Dec 19 was incomplete. Men's shed still waiting for approval from Crown Land. F. No action pending completion of racecourse DA. 03/12/2019 – SC: G. Men's Shed DA lodged 2 Dec currently		

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						being reviewed. H. No action pending completion of racecourse DA.		
408	17 October 2019	369/19	9.1.6	**Arts and Culture Advisory Committee Meeting held 11 September 2019** That Council A. Receive and note the minutes of the Arts and Culture Advisory Committee meeting held 11 September 2019; B. Support the Committee recommendations relating to Item 5.3 – Community Arts and Culture facility in Cooma; C. Support the Committee recommendation relating to Item 5.5 – Communication / Promotion of Committee; and D. Supports the Committee recommendation relating to Item 5.6 – Bombala Arts and Innovation Hub.	Coordinator Economic Development	02/07/2020 – MA: Nothing further to update over June. 03/06/2020 – MA: Bombala Arts and Innovation Hub committee has been advertising for members and is in progress of beginning. Continuing to investigate opportunities and options for the Arts and Culture Facility in Cooma that are compatible with the funding available in grant. 29/04/2020 – MA: The Arts and Culture Committee minutes 25/03/2020 will recommend a request for extension of time for the funding programme. 03/03/2020 – KH: B. Relevant stakeholder meetings will soon recommence.	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						C. No update. D. Committee positions have been advertised and recruitment will commence shortly. 04/02/2020 – KH: No further updates. 02/12/2019 – KH: B. A small working group continues to meet to work towards the goal of establishing a community arts and culture facility in Cooma. C. A media release will be released early January 2020. Updates to the website have been drafted and are expected to go live in the next 2 weeks. D. To be actioned after December Arts and Culture 355 meeting. 4/11/2019 – KH: A. Noted.		

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						B. The GM is to negotiate with Land and Property NSW to transmit the property at 5 Dawson St Cooma to SMRC for the nominal fee of $1, inclusive of related fees and charges such as stamp duty. C. The communications team are to prepare a media release and additional website to be included on the website. D. Community Development Planner & Support to form working group.		
429	17 October 2019	389/19	13.2	**Proposed Acquisition of Part Lot 6 DP 218752 for the Purpose of Road** That Council, consistent with the guidelines contained within with the body of report, A. Authorise the General Manager to negotiate the purchase of 0.2542ha of lot 6 DP 218752; B. That Council be responsible for any additional costs including survey, legal fees, fencing; C. Authorise the General Manager to execute all necessary documents and affix Council's Seal if required; and D. Approach the plantation owners for a contribution towards the works prior	Land & Property Officer	26/06/2020 – LB: Council's solicitor has been asked to produce the contracts. Application for subdivision certificate has been submitted. A. Purchase price has been negotiated and agreed by both parties. C. This acquisition does not affect the plantation owners. 28/05/2020 – LB: An email has been sent to the surveyor each week asking for the plan of	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				to commencing the project.		subdivision so that contracts for the purchase of the land can be exchanged. The plan has not been registered so the plan will need to be attached to the contract. 24/04/2020 – LB: Council's solicitor is organising the contract and it is anticipated that exchange will take effect within the next month. 27/03/2020 – LB: MOU has been returned to Council and Council's solicitor has been asked to arrange a contract. 27/02/2020- JH: MOU with property owner, waiting return of same. 15/01/2020 - JH: Staff have spoken to land owner and are		

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						waiting for a written response.		
439	21 November 2019	408/19	9.1.1	**Closure of Part of the Road Reserve in Barrack Street Cooma** That Council A. Approve the proposal to close part of the Barrack Street Cooma road reserve in accordance with the plan in this report; B. Classify this new lot as operational land; C. Approve the consolidation of lot 4 DP 32321 with the new lot to be created by the road closure; and D. Classify the new consolidated lot as operational land.	Land & Property Officer	26/06/2020 – LB: When the plan of subdivision was lodged, Council received requisitions on Title. A request has been sent to Crown Lands for evidence of gazettal of Barrack Street as a Council public road. Despite extensive research by Council staff and Council's solicitor definitive evidence was not found. B. Plan of consolidation will be sought after the road closing is complete through lodgement of the plan. 28/05/2020 – LB: Council's solicitor is currently carrying out investigations to provide information to the LRS. 24/04/2020 – LB: The plan was lodged at the LRS and the surveyor is presently addressing a	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						requisition from the LRS regarding the date of gazettal of Barrack Street Cooma as a Council public road. 26/03/2020 – LB: The subdivision certificate has been released and the documents executed by Council. The documents have been delivered to the surveyor for lodgement at the LRS. 02/03/2020 – LB: The plan will be lodged as soon as the subdivision certificate is to hand. 20/01/2020 – LB: Registration of the plan should be gazetted soon.		
449	21 November 2019	418/19	9.3.2	**Minutes of the Water and Sewer Committee held on 29 October 2019 and adoption of recommendations** That the recommendations of the meeting of the Water and Sewer	Engineer Capital Projects	24/06/2020 – JD: Proposed charges presented at ELT meeting on 3 June 2020. DSP values accepted by ELT and will be presented at	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				Committee held on 29 October 2019 be adopted.		the next council meeting on 2 July 2020 for acceptance by the Councillors. 28/05/2020 – JD: Proposed charges agreed on with Chief Strategy Officer. A report is being prepared to ELT recommending these charges and the way forward. 30/04/2020 – DR: Matter deferred due to impacts of COVID-19. 24/03/2020 – JD: Awaiting further Advice on charges from Acting Director Corporate and Community Services following meetings and discussions. A meeting will then be scheduled with Councillors. 02/03/2020 – JD: A. Discussions were held with DPIE Water and they indicated that all		

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						towns/villages must have charges. B. DPIE Water indicated we can look at only future assets when determining the charges which could bring the charge amount down. They also indicated we can set the charges ourselves for the smaller villages and present these to Council for approval. C. Charges have been proposed and a meeting will be set up with the councillors to discuss these proposed charges. 24/01/2020 – GA: A. S64 Workshop was held with ELT and the Consultant on 16 January 2020. As the charges were very high for the villages, advice is being sought from DPIE Water if the villages can be exempt from charges and any other changes that will meet the guidelines. B. Awaiting advice from DPIE Water prior to Councillor workshop and date for workshop to be determined after receipt of advice.		

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						27/11/2019 – GA: Noted and the following actions will be taken: A. The draft minutes will be adopted at the next water and sewer committee meeting. B. Adopted Terms of Reference will be sent to document control for finalising. C. Amendments to sewer pricing and billing was reported to Council on 21 Nov 2019. S64 DSP Councillor workshop has been proposed to be held on 19 Dec 2019.		
551	21 November 2019	420/19	9.3.4	**Request for Council to Apply for Poveys Road Colinton to be Transferred to Council as a Council Public Road** That Council A. Decline the request to open the Crown reserve road section of Poveys	Land & Property Officer	26/06/2020 – LB: The Crown has declined to enter into an MOU with Council. 28/05/2020 – LB:		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				Road as a Council public road; B. Notify the landowner of Council's decision; and C. Enter into negotiations with the Crown to authorise Council to carry out minor maintenance grading on certain Crown roads, to be identified, at the landowners' expense subject to a Memorandums of Understanding with the Crown and landowners.		Official notification was received from Crown Lands that they would not enter into an MOU with Council for maintenance of Crown reserve roads. Crown Lands Minor Road Maintenance Policy has been amended. What this means is that if Council carries out any maintenance on a Crown road in whole or in part this will trigger the transfer of the Crown road to Council. Council can only carry out maintenance on Crown reserve roads if the Crown consents to the work and if the job is done as a private works job and the landowner is invoiced for the work. Landowners will be notified. 24/04/2020 – LB: The MOU is still under consideration despite numerous requests for updates. 26/03/2020 – LB: A request for an update with respect to the MOU has been sent to the Crown. When the draft MOU is received a further report will be presented to Council.		

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						02/03/2020 – LB: MOU is currently with the Crown. A list of Crown roads in the Shire has been submitted to be attached to the MOU. 20/01/2020 – LB: Crown Lands is currently looking into their Minor Road Maintenance Policy (Crown Roads) and Council is gathering the list of Crown Roads which they will maintain.		
553	21 November 2019	422/19	9.3.6	**Managing Heavy Vehicles in Bombala Town Centre - Community Consultation** That the matter be deferred for further consultation with the public including correspondence from the Bombala Chamber of Commerce.	Water & Sewer Engineer	01/07/2020 – AS: No further update. Consultation occurred from September 2019 to October 2019. 01/06/2020 – GH: Communication distribution proposed re Bombala Town Centre Community Consultation: • Noticeboards – IGA and Newsagency • Bombala Times and Monaro Post	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						• Facebook – Bombala Noticeboard • Facebook – SMRC page • Facebook – SMRC Business Forum Group • Radio – capital network and 2MNO • Notice at SMRC office • Info sent to SMRC customer service for any enquiries • SMRC website 27/04/2020 – LN: Working with Chief Communications Officer to establish a strategy for community consultation during the COVID-19 restrictions. 24/03/2020 – LN: No further update. 28/02/2020 – LN: Ongoing.		

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						03/02/2020 – LN: Ongoing.		
573	21 November 2019	443/19	13.7	**Werralong Road - Proposed Acquisition With and Without Consent** That Council A. Approves the acquisition without consent of proposed lots 4, 5, 7, 8 and 10 in the plan of acquisition for the purpose of public road under the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991* in accordance with Division 1 Section 177 of the Roads Act 1993 and the making of the necessary application to the Minister and/or Governor. B. Approves the acquisition of proposed lots 1, 2, 3, 6 and 9 with consent for the purpose of public road under the provisions of the *Land Acquisition (just Terms Compensation) Act 1991* in accordance with Division 1 Section 177 of the Roads Act 1993 and the making of the necessary application to the Minister and/or Governor.	Land & Property Officer	26/06/2020 – LB: Council received a letter from the OLG to say that the process for requesting a shorter timeframe would result in the process taking longer due to their process. Therefore Council has withdrawn its application to reduce the notification time. The legislated timeframe for notification is 90 days and Council should not anticipate a decision from the OLG for at least 3 months. Recent experience has demonstrated that the OLG is not providing decisions on applications for 6 months or more. 28/05/2020 – LB: There has been no response from the OLG with respect to the application to reduce the notification time. The application is	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				C. To authorise the General Manager to execute all documents relevant to the acquisitions both without consent and with consent on behalf of Council. D. Agrees to bear all costs for the acquisition of the proposed lots.		with the OLG. 24/04/2020 – LB: The application for acquisition of Werralong Road has been lodged with the OLG. At the same time an application to reduce the notification time to 30 days has been lodged with the OLG. 26/03/2020 – LB: The OLG returned the application. A new application is currently being prepared by Council's solicitors for submission to the OLG. 02/03/2020 – LB: When consent is received from the OLG Werralong Road will be gazetted to Council. 28/01/2020 – LB: Council's solicitor is presently preparing Section 30 Agreements for execution by		

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						landowners who are gifting their land to Council. The solicitors are also preparing the application to the OLG for consent to acquire a portion of the land for road through the process of acquisition without consent. 02/12/2019 – LB: Resolution of Council has been sent to Council's solicitor to lodge with OLG for consent of the Minister and the Governor.		
584	19 December 2019	466/19	9.3.3	**Request for Council to Apply to the Crown for Cappanana Road to be Transferred to Council** That Council A. Refuse the request to have Cappanana Road transferred to Council as a Council public road; B. Write to the landowners who signed the petition notifying them of the decision; C. Add Cappanana Road to the list of Crown Roads to be attached to the MOU for grading by Council at the landowners' cost; and D. Request the CEO develop a policy	Land & Property Officer	26/06/2020 – LB: The Crown has declined to enter into an MOU with Council. Landowners will be notified. 28/05/2020 – LB: Official notification was received from Crown Lands that they would not enter into an MOU with Council for maintenance of Crown reserve roads. Crown Lands Minor Road Maintenance Policy has been amended. What this		Y

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				to manage requests to accept the ownership of crown and private roads or undertake maintenance of non-Council roads		means is that if Council carries out any maintenance on a Crown road in whole or in part this will trigger the transfer of the Crown road to Council. Council can only carry out maintenance on Crown reserve roads if the Crown consents to the work and if the job is done as a private works job and the landowner is invoiced for the work. 24/04/2020 – LB: The MOU is still under consideration despite numerous requests for an update. 26/03/2020 – LB: The Crown has been asked for an update on the draft MOU. A report will be put to Council when this is received. 02/03/2020 – LB: Cappanana Road has been included on the list of Crown Roads attached to the MOU with the Crown.		

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						20/01/2020 –LB: Letters have been sent to landowners who signed the petition. Negotiation with Crown Lands is ongoing.		
600	19 December 2019	483/19	13.3	**Sale of Council Land - Percy Harris Street Leesville by Auction off the Plan** That Council A. Approve for Lots 14, 15 and 16 at Leesville Industrial Estate to be sold off the plan via Public Auction; B. Authorise the Chief Executive Officer to establish the reserve price for Lots 14, 15 and 16 at Leesville Industrial Estate ahead of the auction, and to negotiate with the highest bidder should the property fail to meet the Reserve; C. Authorise for the Chief Executive Officer to select the Agent to carry the sale; D. Authorise the Chief Executive Officer to undertake all negotiations for the sale of Lots 14, 15 and 16 at Leesville Industrial Estate; and E. Authorise the Chief Executive Officer to execute all legal documents and	Property Officer	24/06/2020 – JH: A & C. Reviewing sunset clause in contract to ensure the works can be completed in time once sale takes place. Reviewing the requirements of the development to ensure all conditions of the CC are met for the sale to be finalised. Agent has been selected. B.CEO to establish the reserve price. D & E. To be undertaken as the process progresses. 28/05/2020 – JH: Reviewing sunset clause in contract to ensure the works can be completed in time once sale takes place. Reviewing the requirements of the development to ensure all conditions of the CC are met for the sale to be finalised.	01/08/2020	N

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				contracts for the Sale of Lots 14, 15 and 16 at Leesville Industrial Estate.		27/04/2020 - JH: Design plan received today from Surveyor, CC application will be completed and lodged. Preparation will commence for the Auction to take place. 26/03/2020 - JH: Still no response from surveyor with design plan. Multiple emails sent requesting update on expected completion of design plan. 27/02/2020 - JH: Met with Surveyor 27/2/2020 and was advised he will be visiting the site the week of 2 March 2020 to begin the design plan. 15/11/2020 - JH: A Real Estate Agent has been approved to carry out the sale by auction. The design plan should be received by end of January		

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						from Surveyor. The draft contract has been prepared by Solicitor and the process for sale is taking place.		
607	19 December 2019	490/19	13.10	**Chief Executive Officer's Annual Review** That Council: A. Approve the variation of the Chief Executive Officer's contract by: a) Extending the term from three years to five years; b) Increasing the total remuneration package from $300,000 pa to $320,000; c) Permitting the CEO to participate in Council's leaseback vehicle arrangements in a manner consistent with other senior staff. B. Authorise the Mayor to develop an appropriate Deed of Variation to give effect to the above;	Chief Executive Officer / Executive Assistant to Chief Executive Officer, Mayor and Councillors	24/06/2020 – SC: A. Complete. B. Complete. C. Panel scheduled to meet 7 July 2020 29/05/2020 – SC: D. Complete. E. Complete. F. Not yet finalised. 29/4/2020 – SC: G. Complete. H. Deed under review. I. Not yet finalised. 30/03/2020 – SC: No further update.	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				C. Authorise the Performance Review Panel to determine a new performance agreement with the Chief Executive Officer's.		04/03/2020 – SC: J. In progress K. Deed under review. L. Completed. M. Not yet Finalised 04/02/2020 – SC: A. In progress. B. Not yet finalised. C.		
613	20 February 2020	9.1.6	10/20	**Section 355 Snowy Monaro Tourism Advisory Committee** That Council: A. Receive and note the information regarding the purpose and membership of the Section 355 Snowy Monaro Tourism Advisory Committee; B. Endorse the Charter for this Committee as attached to this report; and C. Approve the community members recommended for membership of	Chief Communications Officer Coordinator Economic Development	02/07/2020 – GW: The Tourism Committee has been updated. The Committee resumed on 1 July 2020 (online). 03/06/2020 – MA: First meeting of Committee now to take place online. Consulting with members on a possible date in progress.	30/07/2020	N

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				the Committee, being Mr Luke Kneller (CEO TSM), Ms Susie Diver, Mr Peter Cottrell, Ms Gail Eastaway, Mr Tim Corkhill, Mr Barry Wrenford and Mr Duncan Isaksen-Loxton.		30/04/2020 – AS: No further update. 19/03/2020 – MA: Committee members have been notified. In process of finding date for the first meeting, likely now to be after April school holidays. 02/03/2020 – KM: A. Noted B. Noted Noted. Committee members are to be notified.		
615	20 February 2020	9.3.1	12/20	**Request to Acquire and Repair/Replace Bairds Crossing Bridge over Snowy River** That Council: A. Receive and note the report on the request to acquire, repair/replace Bairds Crossing Bridge over the Snowy River; B. Reject the proposal for Bairds Crossing Bridge to become a Council	Manager Infrastructure	26/06/2020 – GS **There is no action for A and B.** C. The latest update from Mr Makhoul dated 15 June was as follows: ***"we have received a recommendation letter from our local fire brigade for the need of a access bridge at Bairds Crossing, this has been sent to the RFS***	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				Asset and be subject to Council's asset maintenance/replacement program; and C. After the Proponent receives the advice from the minister with that advice, he consults with the council staff with a view of preparing a report to the council.		***and meet with open arms.*** ***Please see attached for your perusal, the bridge will be a topic at the next*** *Local Emergency Management Committee meeting for recommendation to be replaced with an adequate structure"* Councils response to that update was as follows: Thank you for your email and update on discussions relating to Bairds Crossing Bridge. I think a discussion at the Local Emergency Management Committee is excellent progress. Without being a pain, could I please ask for an update on the part of Council's resolution that stated: C. After the Proponent receives the advice from the minister with that advice, he consults with the council staff with a view of preparing a report to the council Has anything from the Ministers Office		

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						been received? This would allow a further report to be prepared for Council consideration. 29/05/2020 – GS: The latest update was an email from Mr Makhoul to John Barilaro MP on 30 April 2020 that stated: In reply to your below email, we would like to advise that • We are expecting documentation in support of our request for **retention and upgrade of the Bairds Crossing Bridge** from local **Fire Brigade at Numbla Vale** and in turn the **RFS NSW.** • We are expecting that funding can come from the recently advised increase in Safety/Fire expenditure budget • Our understanding is that ownership of the land upon which the bridge stands is passed onto Council		

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						• After ownership of the land is finalised, the State funding is allocated to Council, for the bridge works. As soon as these documents are to hand we will forward them to you. ***Note:- No documentation has yet been received from any agency supporting the proposal for a retention and upgrade of Bairds Crossing Bridge.*** 29/04/2020 – GS: On 6 April 2020 A letter was drafted for CEO approval in response to questions raised by John Barilaro MP on behalf of Mr Joseph Makhoul and in relation to Council's decision on Bairds Crossing Bridge. On 23 April 2020, Council staff wrote to Mr Makhoul and other residents seeking any information "the proponent" may have received from the relevant minister in relation to safety concerns should		

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						Bairds Crossing Bridge not be repaired or replaced. This correspondence reiterated the decision of Council from the February 2020 meeting, suggesting this information would assist in preparing a further report on Bairds Crossing Bridge for Council consideration. Unfortunately no reply has been forthcoming. 27/03/2020 – GS: There has been no confirmation of any advice from the Minister to the proponent and therefore this action has not been progressed. 28/02/2020 – GS Residents near Bairds Crossing Bridge were informed of Councils decision and amendment to the report recommendations; especially the inclusion of recommendation. A. Staff now await the advice from the minister, through the proponent in order to provide a further report for Council consideration.		

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628	20 February 2020	10.3	25/20	**Bombala Library Sign** That Council put up a sign at the street frontage entrance to the Bombala Library, indicating the opening hours for the Library and CTC before the end of May 2020.	Commercial Land Officer Manager Corporate Projects	26/06/2020 – KH: Providers have been contacted still trying to put together quotes. 01/06/2020 – KH: We are still waiting on quotes from sign providers. 28/04/2020 – KH: Suggestions from Bombala based Councillors –Manager Community Services to provide feedback. 27/03/2020 – KH: Still waiting on Bombala based Councillors for design and placement. 02/03/2020 – GH: Acting Land and Property Manager	30/08/2020	N

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						consulting with Bombala based Councillors and library staff for sign design and placement location		
636	19 March 2020	9.1.1	COV3/20	**No Stopping Zones along the Lake Jindabyne foreshore - review of the 2019 winter traffic / camping management campaign.** That Council: A. Note the successful outcomes of the 2019 "No Stopping Zone" campaign; B. Note that the demand for budget camping / parking, both in summer and winter, is increasing as tourist and visitor numbers coming to Jindabyne and the Snowy Monaro Region continue to grow; C. Allocates an annual budget to maintain this campaign during the 2020 winter ski season and subsequent seasons; D. Notes a feasibility study will be undertaken during the 2020 winter ski season to investigate	Corodinator Public Health & Environment	24/06/2020 – MR: The winter Lake Jindabyne Foreshore Parking program has commenced. Council Rangers are undertaking morning and evening patrols of the area. The number of campers are presently low. This is due to the Covid-19 restrictions and associated ski field access limitations. The patrols will continue throughout the ski season, with the initial focus on education moving to enforcement in early July 2020. 28/05/2020 – MR: Everything is ready to go for the 2020 ski season winter parking and camping campaign. This includes the collection of intelligence to undertake a feasibility study for the introduction of paid parking. 05/05/2020 – MR:	31/10/2020	N

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				the strengths, weakness, opportunities and threats associated with the introduction of a paid parking permit for the Claypits carpark; E. Approves the installation of "No Stopping Zone" signs in the following designated areas restricting parking from 6pm until midnight and from midnight until 7am between 01 June and 31 October annually: i. Wollondibby Inlet (6 sites) ii. Claypits (8 sites) iii. Town Centre (2 sites) iv. Townsend Street / Cobbon Crescent (5 sites) v. Other areas identified throughout the course of the campaign; and F. Embark on a campaign for a permanent solution to control and regulate camping around Lake Jindabyne.		The no stopping signage has been installed at the areas noted. I have confirmed that Council's Ranger working in collaboration with the Ranger for the area are ready for the winter ski season. Meeting held last week at the Clay Pits to discuss future works on the foreshore. These works will include the potential of charging a parking fee for long term parkers at the Clay Pits. This concepts discussed are going to be included in the community consultation for the proposed works and will form part of the feasibility study and long term strategies mentioned in the resolution. 23/03/2020 – BJ: "No stopping zone" signs have been ordered. Feasibility study to be undertaken throughout Winter 2020 season. Snowy Hydro, NSW Police and other key stakeholders to be consulted in identifying a permanent solution to camping arrangements around Lake Jindabyne.		

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639	19 March 2020	9.1.4	COV4/20	**Monaro Aquatic Services request to waiver difference in water usage** That Council A. Advertise the proposal to waive $7,645.90 for additional water usage at the Cooma Swimming Pool due to clean-up activities resulting from the bushfires, for 28 days; B. In the event that no negative submissions are received, authorise the Chief Executive Officer to waive the fees without the need for a further Council Resolution; and C. In accordance with the provisions of the Local Government Act, SMRC advertises for comments regarding the proposal to provide a credit of $20 where water consumption for the period encompassing the January 2020 period exceeds the 3 year averaged consumption for the same period in excess of 10%.	Community Development Planner, Tourism & Economic Development	26/06/2020 – KH: Manager Finance has confirmed that he will provide a course of action in order to have the additional fees waivered. 10/06/2020 – TV: The public exhibition period has concluded and a consultation closing report has been provided. 01/06/2020 – KH: Have contacted Communications team to see if there were any responses. 28/04/2020 – KH: Out for public comment. Closes 13 May 2020. 27/03/2020 – KH: Liaising with Manager Water and Wastewater to get an ad covering both areas out to the public.	30/07/2020	N

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643	19 March 2020	9.3.2	44/20	**Acquisition by Possessory Title - Lot 16 Section 1 DP 1242 - Berridale Memorial Park** That Council A. Apply for possessory title over lot 16 Section 1 DP 1242 (Berridale Memorial Park) B. Classify lot 16 Section 1 DP 1242 as community land upon acquisition.	Land & Property Officer	26/06/2020 – LB: Application is proceeding. 28/05/2020 – LB: Documentation is being prepared to lodge an application for Possessory Title. 24/04/2020 – LB: Council's solicitor is presently gathering all the evidence to lodge with the application for possessory title. A surveyor has been engaged to do a survey plan for identification purposes. 26/03/2020 – LB: Council's solicitor has been requested to prepare the documentation.	30/09/2020	N
655	19 March 2020	10.1	COV7/20	**Kosciuszko Road Speed Limit** That Council direct the CEO to approach Transport NSW to request a review of the appropriateness of the speed limit on the Kosciuszko Road	Manager Infrastructure, Transport Infrastructure (Operations)	26/06/2020 – GS A response from TfNSW was provided to Council and Jindabyne East Residents Committee on 12 June 2020.		Y

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				(highway) just north of the Snowy Valley Hotel, East Jindabyne, (as indicated in attached maps) through to the recently installed 80 kph limit just north of Rainbow Drive, with a view to setting the speed limit at 80 kph or lower		29/05/2020 – GS: Correspondence from TfNSW relating to this issue was received on 21 May 2020 stating: "*Reply is still with TfNSW for sign off. Council will be notified when the reply is sent"* This message was provided to Mr Trengove and acknowledged on 22 May 2020. 29/04/2020 – GS: The Local Traffic Committee Report considered and approved by Council at the meeting of 16 April 2020 contained the following comment from TfNSW in relation to Kosciuszko Road Speed Limits just north of the Snowy Valley Hotel, East Jindabyne, through to the recently installed 80 kph limit just north of Rainbow Drive: • TfNSW has received correspondence		

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						from the Jindabyne East Resident Committee and also community members. TfNSW is responding to the correspondence directly. 27/03/2020 – GS TfNSW will be requested to review the appropriateness of the speed limit on Kosciuszko Road, just north of the Snowy Valley Hotel, East Jindabyne through to the recently installed 80 kph limit just north of Rainbow Drive.		
657	19 March 2020	10.3	Nil.	**Snowy Hydro Traffic Movement Report** That Council A. Request Snowy Hydro to provide full details of traffic movements from the plant at Polo Flat Road and the proposed route through the town of Cooma including detailed traffic movements, types of vehicles and weights, both laden and unladen and hours of movements. Such traffic movements are in respect of the factory to be established at Polo Flat, and in relation to materials from that	Manager Infrastructure, Transport Infrastructure (Operations)	26/06/2020 – GS: Completed. 29/05/2020 – GS: The Traffic and Transport Liaison Group (TTLG), meeting 3 was held via phone conference on 28 May 2020. Updated OSOM movements for the period May – December were provided along with notification of heavy vehicle movement for the following:		Y

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				factory to be moved to works in connection with the proposed tunnels to be constructed; and B. That the aforementioned information be provided within 21 days from the date of the Council meeting		330/33kV, 80MVA Power Transformers Delivery dates: • First unit 28 July 2018; • Second unit week commencing 31 Aug 2020 • Weight 85t (load only) Demountable Buildings – 33kV Switchgear Building Delivery date: 5 August 2020 Weight: 36t Demountable Buildings – ASB/SSB Delivery date: Week commencing 29 June 2020 Weight: 30t 29/04/2020 – GS: An update on Snowy 2.0 traffic improvements was requested from Future		

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						Generation on 24/04/2020. The response was as follows: Future Generation have no new data at this point in time for truck movements from Polo Flat to site – that would obviously apply for when the segment factory is operational later this year. The OSOM forecast is periodically updated and incorporates truck movements for the Tunnel Boring Machines (TBM) segments ahead of the operational phase of the facility and this will be discussed at Traffic & Transport Liaison Group (TTLG) meetings in the coming months. Once all approvals for transporting the concrete segments via the special Segment Transport Vehicles is finalised and approved by all road managers, the figures can be firmed up accordingly. 28/04/2020 – SC: Request sent to Snowy Hydro. 23/03/2020 - AS:		

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						Item deferred to 16 April 2020 Council Meeting.		
658	19 March 2020	13.1	COV10/20	**Termination of Lake Wallace Grazing Lease** That Council terminate the Licence Agreement immediately as recommended in the Lake Wallace offset sites vegetation monitoring report.	Property Officer	24/03/2020 – JH: Notices have been issued and discussions are taking place with staff, Solicitors and the Licensee. 28/05/2020 – JH: Notices required changes, waiting for response with updated version from Council Solicitor to enable this process to take place. 27/04/2020 - JH: Termination Notice received from Solicitor and is with Group Manager Facilities for review and supply to Lessee. 26/03/2020 – JH: Request sent to Solicitor for termination notice to be prepared.	30/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
660	19 March 2020	13.3	55/20	**Proposed Acquisition of Easement for Access to Middlingbank Quarry** That Council A. Enter into negotiations with the owner of lot 1 DP 1022898 for a right of way for access across his land. B. Engage the services of a surveyor to create a plan for registration of a right of way across lot 1 DP 1022898. C. Council to be responsible for all costs for creation and registration of the plan for the right of way. D. Authorise the Chief Executive Officer to negotiate the compensation for the easement. E. Authorise the Chief Executive Officer to sign all necessary documents to give effect to the above.	Land & Property Officer	26/06/2020 – LB: A. Negotiations with landowners are ongoing. B. Requests for quotations for survey have been advertised. 28/05/2020 – LB: A meeting took place with the landowner, his father, Manager of Infrastructure, Land and Property Officer and Council's solicitor, Mark Herbert. Negotiations are ongoing. 24/4/2020 – LB: An email was sent to the landowner but there has been no response. A second email will be sent this week to be followed up with a phone call. 26/03/2020 – LB	30/12/2020	N

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						Negotiations have commenced with the landowner.		
661	19 March 2020	13.4	56/20	**Purchase of Lot 3 DP 1242464 - Cooma Levee Bank** That Council A. Accept the vendor's counter offer of $25,000 ex GST for lot 3 DP 1242464; B. Authorise the General Manager to negotiate the contribution towards the vendor's legal costs; C. Authorise the expenditure and allocate an amount of $21,850 ex GST (in addition to previous resolution 166/19 of $21,450 ex GST) in the 2020 Financial Year Budget with funding to be provided from other internal reserves.	Land & Property Officer	26/06/2020 – LB: The purchase of lot 3 has been finalised. 01/06/2020 – LB: Council's solicitor has once again sent a letter to the vendor's solicitor to register a date for settlement with PEXA. No reply has been forthcoming at this time. 24/4/2020 – LB: Council's contribution was determined at $1,100 including GST and this was approved by the General Manager. At present Council is waiting on the vendor's solicitor to notify us of the settlement date. When a date is set Council will transfer the funds to our solicitor's trust account. 26/03/2020 – LB: Currently waiting on a response from the		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						vendor's solicitor in respect to the contribution to costs.		
662	19 March 2020	13.5	57/20	**Proposed closure and sale of public pathway in Kalkite** Council A. Extend the maximum term for repayment of the purchase of the land, being the closed public pathway, to 30 June 2023 for both purchasers. B. Place a caveat on the subject land requiring payment for the outstanding amount before sale.	Land & Property Officer	26/06/2020 – LB: Application forms for Sundry Debtor accounts have been sent to both landowners. Solicitor has been requested to arrange for caveat on title of both properties. 28/5/2020 – LB: Sundry Debtor accounts are being arranged with a repayment schedule to be agreed with the landowners. As the public pathway does not have a registered title it is not possible to place a caveat on the land until the pathway is closed. It is intended to address the issue that payment for the land must be finalised by both parties prior to June 2023. 24/04/2020 – LB: Arrangements are currently underway to	31/12/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						set up a payment plan and a surveyor has been engaged. 26/03/2020 – LB: The landowners have been notified of Council's resolution and quotations are currently being sought for the survey work.		
667	16 April 2020	67/20	9.1.4	**Review of Lease Payments - COVID-19** That Council A. Approve a reduction in fees and charges for commercial and community group Leases/Licences for tenants affected by the impact of the bushfires and COVID-19 for the period 1 January 2020 to 30 June 2020. B. That the reduction be based on the drop in revenue experienced by the tenant during the period of 1 January 2020 to 30 June 2020 compared	Property Officer	24/06/2020 – JH: B. One request has been presented and a response supplied with the outcome of that request. C. The CEO will consider applications in accordance with this resolution. 28/05/2020 – JH: One request has been presented and a response supplied with the outcome of that request. 27/04/2020 - JH: Facilities Officer for Snowy River Health Centre has liaised with the affected	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				to the same period in 2019; and C. That the CEO be authorised to apply a reduction to tenants based on the current revenue impacts identified by the tenant with and adjustment to be made following the end of the reduction period for the actual drop in revenue experienced.		parties in that facility and requested they supply further evidence based on the current revenue impacts. Commercial Property Officer is liaising with the Caravan Parks to advise of documentation required for any requests in fee reductions. Property Officer will advise other applicants of these requirements so the requests can be determined to adhere to Items A, B & C in the Resolution.		
668	16 April 2020	68/20	9.2.1	**Monaro Rail Trail Draft Feasibility Report** That Council A. Receive and note the report B. Provide in-principle support for the Monaro Rail Trail noting that the rail line easement is not Council's asset, and subject to parts C and D of this recommendation. C. Prior to forming a final position on the use of the rail corridor, Council consider at a future date the recommendations of the state government feasibility study into the reinstatement of the Queanbeyan to Bombala	Recreation Planner	01/07/2020 – AD: No further update. 03/06/2020 – AD: No further update. 05/05/2020 – AD: The State Government have not released any information on the study for reinstatement of the Queanbeyan to Bombala rail (train) line and extension to Eden. The timeframe on this is unknown. The Rail Trail Feasibility Study is complete and there will be no further reporting to	Ongoing	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				rail (train) line and extension to Eden, once these recommendations are known. D. Prior to forming a final position on the use of the rail corridor, Council consider at a future date a report examining the specific conditions highlighted in the final rail trail feasibility report in detail, including the likely implications of these conditions for Council including the capital and ongoing costs likely to be involved, and the potential funding source(s) for these costs.		Council until the trail study is released to the public by state Government.		
669	16 April 2020	69/20	9.2.2	**Bombala Commercial Precinct Painting** That Council A. Note the previous resolution ADA96/16 adopted by the Administrator; B. Note the previous resolution 297/17 adopted by Council; C. Rescind Part C of resolution	Coordinator Economic Development	02/07/2020 – MA: Project in progress and resting with Bombala Chamber – no further update from below. 03/06/2020 – MA: Arrangements for payment finalised. Awaiting reports from the chamber on execution of the project in due course.	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				297/17 and replace it with: Authorise expenditure of $10,000 directly to the Bombala and District Chamber of Commerce to assist with the current street upgrade project. The Chamber must agree to use the money on paint and provide supporting documentation to Council once the project is completed.		05/05/2020 – SB: A purchase order will be issued to the Chamber of Commerce this week so that they can send us an invoice and be paid.		
679	16 April 2020	79/20	11.1	**Assistance to Maintain Essential Functions and Services** That Council A. Calls for the packages to include the following measures: • Increasing Financial Assistance Grants payments to 1% of federal government revenue to help councils maintain essential functions and services, acknowledging the increased costs and mounting revenue losses arising from COVID-19 (and drought and bushfire where affected) as well as giving councils capacity to provide hardship assistance to businesses and residents. • Immediate financial assistance to	Chief Executive Officer / Executive Assistant to Chief Executive Officer, Mayor and Councillors	24/06/2020 – SC: Letter from Minister for Local Gov. on behalf of NSW Gov. outlined previous funding provided and offered no additional commitment. Letter emailed to Councillors 10/06/2020. 29/05/2020 – SC: Awaiting response from NSW Premier. 06/05/2020 – SC: A letter was sent to the NSW Premier – Gladys Berejiklian on 22 April 2020 .Waiting on response.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				support council employees, especially in early education and care. • Providing stimulus funding to councils for projects that will help sustain council operations and boost local economies. This could be achieved through increasing or bringing forward funding under existing funding programs or introducing new programs. • Increased access to TAFE, VET and other apprenticeship opportunities that council staff can undertake to address skill shortages, especially for staff in non-essential services who are unable to be redeployed. B. Commends the NSW and Federal Governments on their stewardship during this crisis and commits to working in partnership to protect community health and sustain local economies through this crisis. C. Write to the local Federal and State Member(s) the Hon John Barilaro MP, Prime Minister the Hon Scott Morrison MP, NSW Premier the Hon Gladys Berejiklian MP, Federal Treasurer the Hon Josh Frydenburg				

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				MP, NSW Treasurer the Hon Dominic Perrottet MP, NSW Local Government Minister the Hon Shelley Hancock MP, Federal Minister for Local Government the Hon Mark Coultan, Federal Opposition Leader the Hon Anthony Albanese, NSW Opposition Leader Jodi McKay MP, Federal Shadow Minister for Local Government Jason Clare MP and NSW Shadow Minister for Local Government Greg Warren MP to confirm their support for increased financial assistance and stimulus funding for local government to help councils maintain essential services and employment during the COVID-19 pandemic. D. Endorses Local Government NSW's sector-wide campaign to obtain financial assistance, employment support and stimulus funding for the local government sector. E. Advise LGNSW President Linda Scott of the passage of this Mayoral Minute.				
680	21 May 2020	87/20	8.1	**Snowy Monaro Local Strategic Planning Statement - Post Exhibition Report**	Senior Strategic Land	22/06/2020 – AA: The LSPS as adopted by Council was submitted via the Planning Portal for the		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				That Council A. Note all key issues raised throughout the public exhibition process; B. Note amendments made to the draft Local Strategic Planning Statement (shown in attachment 1); and, C. Adopt the Snowy Monaro Local Strategic Planning Statement (attachment 1) and Appendix A Implementation and Monitoring document (attachment 2) as amended.	Use Planner	Department of Planning, Industry and Environments (DPIE) review. On 17 June 2020 DPIE advised Council they have reviewed Council's LSPS and have determined it meets the legislative requirements. Council's LSPS is available on Councils website and on the NSW Government Planning Portal. 03/06/2020 – MA: Arrangements in the process of being made to finalise requested amendments by Council and lodge the LSPS on the NSW Planning Portal and Council's website by 1 July 2020 deadline.		
690	21 May 2020	96/20	9.1.9	**Proposed East Jindabyne water tank mural project** That Council A. Receive and note the information in the report on Ben Eyles' proposal to install a mural on the East Jindabyne water tank as identified; B. Approve this particular artwork and endorse Mr Eyles to commence work on mural installation;	Community Development Planner, Tourism & Economic Development	01/07/2020 – KH: A. Completed B. Artist is working through risk assessment processes and hopes to complete the installation during July School Holidays (weather permitting). C. Ongoing D. The Arts and Culture Committee continues to work towards a strategic position which would support further arts initiatives in the region.	01/08/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				C. Support Mr Eyles to secure additional grant funding if required to expand the project; and D. Request Arts and Culture committee to investigate opportunities to create arts for SMRC region.		30/06/2020 – KH: Artist is working through risk assessment processes and hopes to complete the installation during July School Holidays (weather permitting). 03/06/2020 – MA: Mr Eyles has been connected with the Water and Wastewater team at Council to discuss installation. Mr Eyles will wait for the grant funding to come through to him before proceeding with the mural.		
691	21 May 2020	97/20	9.1.10	**Follow up Request for Sponsorship - Torah Bright Statue** That Council A. Refer the matter to the arts and cultural committee for the development of a fund raising programme for a statue to commemorate Torah Bright, and B. Determine to provide matching funding to 30 cents for every dollar raised.	Manager Corporate Projects	30/06/2020 – GH: The Arts and Cultural Committee meeting Minutes 3/6/2020 outlined a lack of support for the project and their inability to lead a fundraising effort. Council Resolution 83/20 directs the responsible officer to advise artists to pursue independent funding (corporate) and refer the matter back to the Arts and Cultural Committee for advice and guidance in the event that independent funding is secured. Council's Community Development Planner has advised the artists of the above and suggested		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						potential organisations to approach for funding 01/06/2020 – GH: Referred to Arts and Cultural Committee for fund raising options. Timing limited for this option as Organisers have asked for $15K / 50% deposit in the coming month.		
696	21 May 2020	102/20	9.3.1	**Design for truck Parking Area at Adaminaby** That Council A. Agrees to proceed with further investigative works and to seek endorsement from Transport for New South Wales for the proposed design; B. Allocates $50,000 for investigation and assessment from internal reserves for the 2020/2021 financial year; C. That the project be included in the listing of projects for consideration for grant applications; and D. Approach Snowy hydro or Future Gen for funding towards the project	Manager Corporate Projects	30/06/2020 – GH: Project preliminary investigations underway. 04/06/2020 – DR: The project has been included within the work schedule to be actioned.	30/07/2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
700	21 May 2020	Nil.	9.4.1	**Changes to Councils Code of Meeting Practice** That Council adopt the updated Code of Meeting Practice. **REPORT DEFERRED.**	Secretary Council & Committees	27/04/2020 – AS: Item has been deferred to the 18 June 2020 Council meeting.		Y
711	21 May 2020	114/20	10.1	**Legal and Practical Access** That Council A. Posts on the Home Page of SMRC Website in a prominent position, and on all Rates notices, the following advice: "SMRC Council alerts purchasers of land or property in SMRC region, be it for residential purposes or otherwise, that Legal and Practical Access to the purchased land is the responsibility of the purchaser" and B. That Council action this Motion within 21 days of today's date.	Chief Strategy Officer Chief Communications Officer	30/06/2020 – DR: The information has been included on the layout of the rates notices. 04/06/2020 – DR: The layout of the rate notices and instalment notices is currently under review with Council's mailing house. Council have notified the printing house of the requirement to include this wording in a prominent position on the front of the notice. Proofs will be reviewed in July prior to issuing of the 2020/21 rates notices. The information is on the Home Page of Council's Website. 04/06/2020 – GW: The information is on permanent rotation in information slides displayed at the top of SMRC webpage.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
						Information has also been posted on the Rates and Development Pages on SMRC website.		
715	21 May 2020	119/20	13.4	**Judgment of Court of Criminal Appeal on Tropic Asphalts case** That Council A. Get report on the costing; B. Report from staff on the progress of the case; C. Proceed with the case; and D. Receive and note the information in the report on the Court of Criminal Appeal's judgment in the Tropic case.	Coordinator Economic Development	02/07/2020 – MA: Expecting the outcome of a hearing into a subpoena issued by Council in the early days of the original investigation within the next fortnight or so. A further report will be provided to Council once the outcomes of the hearing are known. 03/06/2020 – MA: Proceeding with the case and further report(s) with requested details will be provided to future Council meeting(s).	Ongoing	N
716	18 June 2020	78/20	9.1.1	**Perpetual Special Leases for Kybeyan and Jerangle** That Council continues the Perpetual Special Leases 71470 and 71484 under the current terms and conditions.	Property Officer	24/06/2020 – JH: Crown has been notified of the Resolution and this item is now complete with the Special Leases continuing.		Y
717	18 June 2020	79/20	9.1.2	**Jerrara Drive Improvement Options Study**	Project Manager	30/06/2020 – MW: Report sent to the Local Traffic Committee on 22/06/2020.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				That Council refer the Jerrara Drive Road Safety Review to the Local Traffic Committee for technical review and comment.				
718	18 June 2020	80/20	9.1.3	**Acquisition of Land - RFS Shed Michelago** That Council A. Proceed with the compulsory acquisition of the Land described as part Lot 5405 DP 1244970 Land fronting Ryrie Street, Michelago between 369.945 Km and 370.000 Km and having an area of approximately 1,162.6m² for the purpose of Rural Fire Shed in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*; B. Make an application to the Minister and the Governor for approval to acquire part Lot 5405 DP 1244970 Land fronting Ryrie Street, Michelago between 369.945 Km and 370.000 Km and having an area of approximately	Property Officer	24/06/2020 – JH: A to C: The Acquisition process will begin, this is a lengthy process as all items take place under strict timelines. De & E Complete.	30/01/2021	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				1,162.6m² by compulsory process under section 186(1) of the Local Government Act 1993; C. Classify the land as operational land in accordance with the Local Government Act 1993; D. Note that this acquisition is not for the purpose of resale; and E. Authorise CEO to sign any documentation required for this Acquisition process.				
719	18 June 2020	81/20	9.1.4	**Monthly Funds Management Report - May 2020** That Council: A. Receive and note the report indicating Council's cash and investments position as at 31 May 2020; and B. Receive and note the Certificate of the Responsible Accounting Officer.	Finance Officer	22/06/2020 – AS: No further action required.		Y
720	18 June 2020	82/20	9.1.5	**Youth Council Meeting Minutes held on 25 May 2020** That Council receive and note the	Youth Development Officer	22/06/2020 – AS: No further action required.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				minutes of the Youth Council meeting held on 25 May 2020.				
721	18 June 2020	83/20	9.1.6	**Arts And Culture Advisory Committee Meeting Minutes Held on 3 June 2020** That Council receive and note the minutes of the Arts and Culture 355 Advisory Committee meeting held 3 June 2020, and adopt the following recommendations: A. Communicates with the artists to recommend that they pursue independent funding for the project, such as from corporate sponsors. B. Refers the matter back to the Committee in the event that independent funding is secured, for advice and guidance on placement and installation. C. Extend the duration of the existing membership to September 2021, in line with the postponed Local Government elections.	Community Development Planner, Tourism & Economic Development	30/06/2020 – KH: A. Completed B. It remains to be seen whether the artist will continue to pursue independent funding and move forward with fabrication of the sculpture. C. Noted.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
722	18 June 2020	84/20	9.1.7	**Re-accreditation of Yallambee Lodge and PwC Business Advisory Service Report** That Council receive and note this report and the: A. Yallambee Lodge reaccreditation decision; B. Yallambee Lodge performance report; C. Yallambee Lodge Plan for Continuous Improvement; D. Yallambee Lodge performance report – response from Snowy Monaro Regional Council Independent Nurse Adviser; and E. PwC Business Advisory Service draft report.	Manager Community Services, Community Support Services and Aged Care	26/06/2020 – BP: Completed.		Y
723	18 June 2020	85/20	9.1.8	**Cooma Regional Sports Hub Funding Agreement** That Council receive and note this update on the Cooma Sports Hub project and agree to: A. Proceed with signing the funding agreement of $15M to design and	Recreation Planner, Environmental Services	23/06/2020 - AD: A. Completed. The Funding Agreement was signed by the CEO 22/06/2020. No Further action is required. B. Negotiation with the Project Working Group will be ongoing throughout the	January 2023	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				construct a 3 court indoor sports facility and synthetic athletics track at the Snowy Oval and Monaro High School Precinct; B. Continue negotiations with Department of Education and Monaro High School for a Joint Use arrangement of the indoor sports facility while maintaining Council's right to withdraw if the long term business case places too much stress on Council's financial viability; and C. Undertake consultation with the community sporting clubs on the concept design phase.		design and construction phase. Council will be updated on the Joint Use Planning arrangements at the September Council meeting C. Consultation with the Community Sporting Groups has commenced and will be ongoing throughout the design process. Council will be updated on the Sports Hub design at the September Council meeting.		
724	18 June 2020	86/20	9.3.1	**Snowy Monaro Regional Council Traffic Committee Report** That Council receive and note the minutes of the meeting and adopt the following recommendations: A. The installation of a LOADING ZONE in a section of Caveat Street Bombala, between Therry Street and Maybe Street (Monaro Highway); B. That the LOADING ZONE operates between the hours of 7:30 am and 5:00 pm Monday to Friday;	Manager Infrastructure Road Safety Officer	26/06/2020 – GS: Recommendations adopted by Council.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				C. The line-marking of 45° Rear-to-Kerb parking spaces in Caveat Street between Therry Street and Maybe Street (Monaro Highway), D. Conditions to be set on the approval of the Section 138 Application; E. Approve the request by Coast to Kosci Ultramarathon to conduct this event on Council roads between 4 December 2020 and 6 December 2020, on the understanding that there will be no closure of any Council roads; F. Organisers of the Coast to Kosci event are required to provide an updated Certificate of currency for the event; and G. Organisers of the event to note Snowy Monaro Regional Council as the interested party for the event.				
725	18 June 2020	87/20	9.3.2	**Proposed Amendments to Snowy Hydro Lease** That Council lodge a submission setting out: A. That the information on the minimum quarterly guaranteed water releases should be included in the public information included in the	Chief Strategy Officer	30/06/2020 – DR: The submission has been lodged.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				Annual Water Operating Plan; B. That Schedule 5 be retained and updated until such time as the NSW Water Register shows the names of water extraction licenses, the purpose of the water extraction to the same level as included in Schedule 5 and allows for licences to be searched on catchments; C. Support the inclusion of the clauses for the agreed releases of environmental flows from Mowamba Weir and Eucumbene Dam; D. Council's continued support for releases of water to be managed to ensure the environmental health of the Snowy River system; and E. A future briefing session be held to discuss the impact of the licence conditions on the local community				
726	18 June 2020	88/20	9.3.3	**Update and Recommendations from the ARRB Strategic Analysis of Councils Transportation Network** That Council A. Acknowledge receipt of the ARRB Strategic Analysis of the Sealed and Unsealed road networks of Snowy Monaro Regional Council; B. Commit to engaging the Snowy Monaro Regional Council community	Manager Infrastructure, Transport Infrastructure (Operations)	26/06/2020 – GS: Completed.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
				in reviewing Service Level Agreements for Road Condition based on the ARRB recommendations; and C. Following consultation with the community, investigate all options for improved funding as per the ARRB recommendations.				
727	18 June 2020	89/20	9.3.4	**Minutes of the Snowy Monaro Region Biosecurity (Weeds) Advisory Committee Meeting held on 21 May 2020** That Council A. Receive and note the minutes of the Snowy Monaro Region Biosecurity (Weeds) Advisory Committee Meeting held on 21 May 2020. B. Consider the recommendation of the Biosecurity Snowy Monaro Region Biosecurity (Weeds) Advisory Committee Meeting held on 21 May 2020 not to reduce the weed control budget by $240,000 in conjunction with the submissions received on the 2021 Operational Plan.	Coordinator Biosecurity	22/06/2020 – BJ: Completed. Recommendation was passed at the 18 June 2020 Council Meeting: Consider the recommendation of the Biosecurity Snowy Monaro Region Biosecurity (Weeds) Advisory Committee Meeting held on 21 May 2020 not to reduce the weed control budget by $240,000 in conjunction with the submissions received on the 2021 Operational Plan.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
728	18 June 2020	90/20	9.4.1	**Local Government NSW Annual Conference 2020** That Council A. Authorise the Mayor and the Chief Executive Officer to attend the Local Government NSW Annual Conference in November 2020; B. Authorise Councillor Ewart and Councillor Rooney to attend as the remaining voting members; C. Authorise the expenditure and allocate an approximate amount of $7,000.00 in the 2020/21 Financial Year Budget with funding to be provided from Mayor and Councillor Conferences; and D. Determine whether Council wishes to submit any strategic motions that impact the broader local government sector.	Chief Executive Officer / Executive Assistant to Chief Executive Officer, Mayor and Councillors	24/06/2020 – SC: Registration is not yet open.	Ongoing	N
729	18 June 2020	91/20	9.4.2	**Changes to Council's Code of Meeting Practice** That Council adopt the updated Code of Meeting Practice.	Secretary Council & Committees	22/06/2020 – AS: Council's Code of Meeting Practice was adopted at the 18 June 2020 Council Meeting. The new version has been added to the SMRC website.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
730	18 June 2020	92/20	9.4.3	**Donations and Sponsorship Submissions for July to December 2021** That Council determine the submissions to be approved for Donations and Sponsorship July to December 2021FY.	Governance Administration Support	25/06/2020 – AC: Applicants have been contacted informing them of the status of the applications. Payments will be made to successful applicants post 1 July 2020 after the new system is implemented. Council has informed the applicants that the payments will be credited after 1 July 2020.		Y
731	18 June 2020	93/20	9.4.4	**Answers to Questions With Notice** That Council receive and note the Councillor Questions in Progress report for the period ending May 2020.	Secretary Council & Committees	22/06/2020 – AS: No further action required.		Y
732	18 June 2020	94/20	9.4.5	**Resolution Action Sheet Update** That Council receive and note the In Progress Resolution Action Sheet Update for the period ending May 2020.	Secretary Council & Committees	22/06/2020 – AS: No further action required.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
733	18 June 2020	95/20	9.4.6	**Bushfire Recovery Update** That Council receive and note the Bushfire Recovery Update.	Local Recovery Officer	22/06/2020 – AS: No further action required.		Y
744	18 June 2020	96/20	9.4.7	**Adoption Of The Draft 2021 Operational Plan And 2021 Schedule Of Fees And Charges** That Council A. Adopt the 2021 Operational Plan and budget as amended, in accordance with sections 402-406 of the *Local Government Act 1993*; B. Adopt the Draft *2021 Schedule of Fees and Charges*, in accordance with section 608 of the *Local Government Act 1993*; C. Place the revised fees for: (a) Section 10.7(2) certificate, 24 hour fast track fee; (b) Hire of commercial skip bins on public exhibition; D. That the fees for the Saleyards remain at the same level as the 2019/2020 fees and charges, and E. That the budget for Biosecurity be increased by $240,000	Coordinator Strategy Development	29/06/2020 – GM: A. The 2021 Operational Plan has been updated to reflect Council resolution. The 2021 Operational Plan has been published and placed on Council web page, and hard copies are available at each office. A formal response with feedback has been provided to each person/group who made a submission. B. 2021 Schedule of fees and charges have been updated to reflect Council resolution. The fees and charges have been published and placed on Council web page. C. Revised fees will be placed on Public exhibition for 28 days. Post exhibition, a Council report to be prepared for the adoption of revised fees. D. 2021 Schedule of fees and charges has been updated to reflect 2019/2020 charge. E. The 2021 Operational Plan has been updated to reflect the Biosecurity budget increase of $240 000.	August 2020	N

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
745	18 June 2020	97/20	9.4.8	**Making of the 2020/21 Annual Rates and Charges** *(Recommendations A to E – Item 9.4.8 – 18 June 2020 Council Meeting)*	Manager Finance	29/06/2020 – MP: Annual Rates and Charges loaded into the Finance system as adopted.		Y
746	18 June 2020	98/20	9.4.9	**Local Roads and Community Infrastructure Program (LRCI) - Council Project Nomination List** That Council; A. Include replacement of Little Plains River Bridge (Mila Road), and B. Identify the causeway crossing Ryrie Street (Michelago) as the alternative project if grant funding is approved for Little Plains River Bridge under the Bridge Renewal Program.	Finance	02/07/2020 – TP: Awaiting further correspondence from the State – including Work Schedule Template & Letter of Agreement. Refer: Correspondence from State SR.3249692 The resolved projects will be identified under LRCI as per Resolution 98/20.	Ongoing	Y
747	18 June 2020	Nil.	10.1	**Operational Weeds Budget for 2020 – 2021** That Council does not cut its current Weed management and operational budget for 2020-2021.	N/A	22/06/2020 – AS: Item 10.1 was withdrawn from the agenda, as the motion was added to the resolution of item 9.4.7 – Adoption of the Draft 2021 Operational Plan and 2021 Schedule of Fees and Charges.		Y

No.	Meeting Date	Res. No	Item No.	Action	R/Officer	Progress	Estimated Completion Date	Compl Y/N
748	18 June 2020	100/20	13.1	**Legal Actions and Potential Claims Against SMRC as at 31 May 2020** That Council receive and note the information in the Legal Actions and Potential Claims Against SMRC as at 31 May 2020 report.	Executive Assistant (Strategy)	22/06/2020 – AS: No further action required.		Y
749	18 June 2020	101/20	13.2	**Residential Aged Care - Business Improvement Fund Grant Application** That Council submit applications under stream 2 of the Australian Government Department of Health Business Improvement Fund grant program for Yallambee Lodge and Snowy River Hostel.	Manager Community Services, Community Support Services and Aged Care	26/06/2020 – BP: Consultant is in the process of being engaged.	30/09/2020	Y

9.4.3 STATUTORY UPDATES TO 2021 FEES AND CHARGES

Record No:

Responsible Officer:	Chief Strategy Officer
Author:	Manager Finance
Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	11.2 Council utilises sound fiscal management practices, pursues and attracts other sources of income
Delivery Program Objectives:	11.2.3 Alternative sources of revenue to rating income are identified and maximised
Attachments:	1. 20-27 OLG Circular Amendments to the Companion Animals Regulation 2. Annual permits for non-desexed cats and dangerous dogs 3. Statutory updates to fees and charges 2020-2021

EXECUTIVE SUMMARY

Council received notification for the CPI increase to fees set under the *Companion Animals Regulation 2018* via the Office of Local Government Circular on 1 July 2020 (Attachment 1). This includes new annual permits introduced for owners of non-desexed cats, restricted dog breeds and dogs declared to be dangerous (Attachment 2). The animal management fees and charges have been updated to reflect the changes (Attachment 3).

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council receive and note the updated fees and charges for companion animals registration fees set by the *Companion Animals Regulation* for the 2020-2021 financial year.

BACKGROUND

Council fees that are statutory in nature, which are externally set by another Government body and therefore are subject to control outside of Council, are brought to Council's attention by way of a Council report for notation and adoption throughout the year if they change. These externally set fees will not be advertised in advance for 28 days in accordance with the Local Government Act 1993 since Council cannot determine the amount of the fee.

From 1 July 2020 the NSW State Government has introduced annual permits for owners of non-desexed cats, restricted dog breeds, and dogs declared to be dangerous. Annual permits were to be implemented from 1 July 2019, however, the Government announced a 12-month grace period to give affected pet owners more time to prepare for their introduction.

This means that owners of cats not desexed by four months of age will be required to pay an $80 annual permit in addition to their one-off lifetime pet registration fee. Owners of dogs of a restricted breed or declared to be dangerous will be required to pay a $195 annual permit in

addition to their one-off lifetime pet registration fee. This applies to dogs that are already registered.

Pet owners will be able to pay for annual permits using the online NSW Pet Registry, or through their local council. Annual permits are not available from Service NSW. Anyone registering a cat on the NSW Pet Registry will be informed that they must pay for an $80 annual permit if their animal is not desexed by four months of age.

The following exemptions are in place:

- cats that were registered by 1 July 2020
- cats kept for breeding purposes by members of recognised breeding bodies
- cats which cannot be desexed for medical reasons.

Why is the NSW State Government introducing the annual permits?

- Annual permits will create a stronger incentive to desex cats, which in turn will improve their health and wellbeing, and reduce behaviours such as roaming and aggression.
- Improving desexing rates and preventing unwanted litters will also ease the burden on pounds and shelters, reduce euthanasia rates, and help to address concerns about feral and stray cats and their effect on wildlife.
- Placing further control measures on dangerous and restricted dogs will serve as a further disincentive to owning high-risk dogs and encourage owners to better manage the behaviour of their animal.

Annual permit fees will go directly to the Companion Animals Fund which pays for companion animal management by local councils including pounds/shelters, ranger services, dog recreation areas, and education and awareness programs.

The fund is also used to operate the NSW Pet Registry and carry out responsible pet ownership initiatives.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Social impacts are stated above under “why is the NSW State Government introducing the annual permits”.

2. Environmental

It is not considered that the recommendations will have any environmental impacts.

3. Economic

The budget assumed the same CPI level increase for these fees so there is no impact to the 2021 adopted 2021 Operational Plan. Any variations throughout the year will be reported through quarterly budget review statements.

4. Civic Leadership

Council resolved to adopt the Draft 2021 Schedule of Fees and Charges on 18th June 2020.

Office of Local Government

Circular to Councils

Circular Details	20-27 / 1 July 2020/ A708906
Previous Circular	*Not applicable*
Who should read this	General Managers / Companion Animals Compliance and Enforcement Officers / Pounds / Customer Service Officers
Contact	Policy Team / 02 4428 4100 / olg@olg.nsw.gov.au
Action required	For Information

Amendments to the *Companion Animals Regulation 2018*

What's new or changing

- The NSW Government is introducing annual permits for non-desexed cats and restricted and dangerous dogs as part of its commitment to promoting responsible pet ownership and improving animal welfare standards.
- From 1 July 2020 cat and dog lifetime registration fees increased in line with the Consumer Price Index (CPI).
- The *Companion Animals Regulation 2018* (the Regulation) has been amended to clarify certain aspects of these changes.
- Further changes to the Regulation also came into effect from 1 July 2020 as indicated below.

What this will mean for your council

- Annual permit requirements for dangerous and restricted dogs and for cats not desexed by four months of age commenced on 1 July 2020. Transitional arrangements provide pet owners with additional time to comply.
- The new lifetime registration fees are listed in the attached summary of amendments. This includes changes to registration categories as well as to the registration fees that apply from 1 July 2020.
- Councils should update their systems to accommodate the new registration, annual permit and penalty fees and categories.

Key points

- Changes to the Regulation, which are set out in more detail in the attachment, include:
  1. a 21-day transition period within which pet owners can comply with new annual permit requirements after 1 July 2020
  2. an annual permit exemption for recognised breeders for cats kept for breeding purposes
  3. a definition of "recognised breeder" for annual permit purposes
  4. an annual permit exemption for cats that cannot be de-sexed, either temporarily or permanently, until they can be de-sexed, where a vet has certified that in writing before the cat is four months of age
  5. abolishing the additional fee payable when registering a dog de-sexed after the age of six months if the dog was adopted from a rehoming organisation

Office of Local Government
5 O'Keefe Avenue NOWRA NSW 2541
Locked Bag 3015 NOWRA NSW 2541
T 02 4428 4100 **F** 02 4428 4199 **TTY** 02 4428 4209
E olg@olg.nsw.gov.au **W** www.olg.nsw.gov.au **ABN** 20 770 707 468

Strengthening local government

6. enabling notices for the seizure or surrender of animals to be served by email where an email address was provided upon registration
7. changing the registration fee category for cats so that the additional registration fee for cats not de-sexed by the age of four months is removed, to reflect the introduction of annual permits
8. reducing registration fees for all cats by $10 from 1 July 2020
9. prescribing fees payable for the 2020-21 year, and
10. creating new penalty notices for offences that relate to annual permits.

- The Companion Animals Register and NSW Pet Registry have been modified to allow councils to apply the new lifetime registration fees from 1 July 2020 and to incorporate the other changes to the Regulation.
- Both the old and new registration fee structures will be maintained on the Companion Animals Register to allow councils to correct registration details for existing records and catch up on data entry backlogs (i.e. where fees have been receipted before 1 July 2020 but not entered on the Register).
- The current R2 – Lifetime Registration form can continue to be used.

Where to go for further information

- Further information about annual permits is available on the Annual Permits page of OLG's website at https://www.olg.nsw.gov.au/councils/responsible-pet-ownership/nsw-pet-registry/annual-permits/.
- While the Pet Registry and Companion Animals Register are temporarily unavailable to allow urgent maintenance and upgrading work, councils should process any applications by way of paper forms and hold on to these forms until further notice. Further advice on processing of companion animal matters will be issued shortly.
- Further information will also be provided directly to councils and other registration agents about registration and annual permit processes.

[redacted]

Tim Hurst
Deputy Secretary
Local Government, Planning and Policy

Office of Local Government
5 O'Keefe Avenue NOWRA NSW 2541
Locked Bag 3015 NOWRA NSW 2541
T 02 4428 4100 F 02 4428 4199 TTY 02 4428 4209
E olg@olg.nsw.gov.au W www.olg.nsw.gov.au ABN 20 770 707 468

Circular Attachment

Summary of amendments to the *Companion Animals Regulation 2018* (the Regulation)

1) Annual permits transition period for compliance and enforcement

From 1 July 2020 owners of:

- cats not desexed by four months of age will be required to pay an $80 annual permit in addition to their one-off lifetime pet registration fee, and
- dogs of a restricted breed or declared to be dangerous will be required to pay a $195 annual permit in addition to a one-off lifetime pet registration fee.

The amendment provides for a 21-day transition period to provide affected pet owners with additional time to update their animal's records and pay for an annual permit.

The transition period will also assist local councils, rehoming organisations and the Office of Local Government to manage requests for support and advice as the new annual permit requirements are introduced.

2) Exemption for recognised breeders from needing annual permits for cats

Members of recognised breeder organisations are currently exempt from paying higher registration fees for a cat or dog that has not been desexed by the relevant desexing age, if the animal is kept for breeding purposes.

The amendment provides for a similar exemption to apply to the annual permit requirement for cats kept for breeding purposes by recognised breeders.

3) Definition of 'recognised breeder' for annual permits purposes

The *Companion Animals Act 1998* (Act) contains a definition for "recognised breeders organisation" for the purposes of issuing a Breeder Identification Number.

To provide for an exemption from holding an annual permit, this amendment includes the addition of a similar definition of 'recognised breeder' under clause 3(1) of the Regulation:

> ***recognised breeder***, in relation to a species of companion animal, means a person who is a member of a recognised breeders' organisation (within the meaning of Part 9 of the Act) for the species of companion animal.

4) Excluding cats that cannot be desexed, either temporarily or permanently, from permit requirements

The Regulation provides for an exemption to the requirement to pay the annual permit fee for a cat if a vet has specified in writing, before the cat reaches four months of age, that the cat should not be desexed:

- until it reaches an age specified (a temporary exemption), or
- that desexing the cat at any time of its life would constitute a serious health risk to the cat (a permanent exemption).

5) Abolishing the additional fee payable when registering dogs desexed after the age of six months if the dog was adopted from a rehoming organisation

The Regulation provides for a 50 per cent discount on registration fees for desexed animals sold by rehoming organisations. Many dogs sold by rehoming organisations are not desexed until they come into the custody of the organisation and are often older than the relevant desexing age.

This amendment provides for an exemption to the requirement to pay the additional registration fee for desexed animals, including those desexed after the relevant desexing age, when sold by a rehoming organisation.

6) Enabling notices for the seizure or surrender of animals to be served by email where an email address was provided upon registration

Where an animal is seized or surrendered, sections 63(1) and 63(1A) of the Act require that a notice of the fact be given to the owner of the animal. This amendment enables notices, required by section 63 of the Act, to be served by email to the owner's email address specified in the Companion Animals Register.

7) Changing the registration fee category for cats so that the additional registration fee for cats not de-sexed by the age of four months is removed, to reflect the introduction of annual permits

The annual permit requirements for non-desexed cats, commencing on 1 July 2020, replace the one-off additional fee requirement for cats that are not de-sexed by the age of four months (entire cats).

This amendment removes the additional registration fee for entire cats. The additional registration fee will only continue to apply to dogs not desexed by six months of age.

8) Reducing registration fees for all cats by $10 from 1 July 2020

In 2018 the Government committed to making a one-off $10 reduction in lifetime registration fees for cats, reducing the cost of registration for owners who do the right thing and desex their cats, to coincide with the introduction of annual permits.

The Regulation has been amended to specify that the registration fee for cats is to be $10 less than the registration fee for dogs that are de-sexed. In future, this registration fee for cats will be applied following the annual adjustment for inflation, which will keep it consistent in subsequent years at $10 less for cats.

9) Prescribing fees payable for the 2020-21 year

Registration related fees prescribed in the Regulation are to be adjusted annually for inflation before the commencement of each financial year. A formula is prescribed for this purpose.

The adjusted fees are usually notified annually by way of a notice made under the Regulation. However, as the Regulation has been amended at the same time, the fees for the 2020-21 financial year have been prescribed in the Regulation itself to reduce any confusion.

The 2020-21 registration categories and corresponding fee amounts from 1 July 2020 are as follows:

Registration Category	Fee Amount
Dog – Desexed (by relevant age)	$60
Dog – Desexed (by relevant age eligible pensioner)	$26
Dog – Desexed (sold by pound/shelter)	$30
Dog – Not Desexed or Desexed (after relevant age)	$216
Dog – Not Desexed (not recommended)	$60
Dog – Not Desexed (recognised breeder)	$60
Dog – Working	$0
Dog – Service of the State	$0
Assistance Animal	$0
Cat – Desexed or Not Desexed	$50
Cat – Eligible Pensioner	$26
Cat – Desexed (sold by pound/shelter)	$25
Cat – Not Desexed (not recommended)	$50
Cat – Not Desexed (recognised breeder)	$50

10) Creating new penalty notices for offences that relate to annual permits

A number of offences for annual permits have been established and penalties can be applied by a court for failure to comply.

To enable council rangers and other authorised officers to issue penalty notices (on the spot fines), these offences are set out in Schedule 2 of the Regulation together with the maximum penalty notice that may be issued, as below:

Section	Offence and penalty	Penalty notice amount
11B	Requires cats over the age of 4 months to have an annual permit from 6 months of age unless that cat is de-sexed (with exceptions). It is an offence if a permit is not in force. Maximum penalty of 50 penalty units ($5,500).	$400

Section	Offence and penalty	Penalty notice amount
11C	Requires dangerous dogs to have an annual permit from 7 days from the declaration date if declared after 6 months of age. It is an offence if a permit is not in force. Maximum penalty of 60 penalty units ($6,600). ***Note:*** two permits are required if a dog is restricted and dangerous.	$700
11D	Requires restricted dogs to have an annual permit from 6 months old. If a dog is of a breed that is restricted in future, the permit is due 21 days after the breed is listed as restricted. It is an offence if a permit is not in force. Maximum penalty of 60 penalty units ($6,600). ***Note:*** two permits are required if a dog is restricted and dangerous.	$700
11E (2)(a), and (2)(b)	Enables councils to issue a notice that requires a pet owner to apply for a permit within 14 days. It is an offence if a notice is not complied with. (a) Maximum penalty of 50 penalty units ($5,500) in relation to a cat, or (b) Maximum penalty of 60 penalty units ($6,600) in relation to a dog. ***Note:*** Under section 377 of the *Local Government Act 1993*, the governing body of council may choose to delegate this power. These notes may be given more than once to a pet owner, but only every three months at most.	For (a) $400 For (b) $700
11K	Conditions may be imposed on the holder of the permit. It is a $220 offence to not comply with any conditions. Maximum penalty of 20 penalty units ($2,200)	$220

Office of Local Government

Companion Animal Newsletter for Councils and Animal Welfare Organisations

5 June 2020

Introduction of annual permits for non-desexed cats and dangerous/restricted dogs

The NSW Government is committed to promoting responsible pet ownership and improving animal welfare standards.

From 1 July 2020 the Government will introduce annual permits for owners of non-desexed cats, restricted dog breeds, and dogs declared to be dangerous.

This means that owners of cats not desexed by four months of age will be required to pay an $80 annual permit in addition to their one-off lifetime pet registration fee.

Owners of dogs of a restricted breed or declared to be dangerous will be required to pay a $195 annual permit in addition to their one-off lifetime pet registration fee. This applies to dogs that are already registered.

Pet owners will be able to pay for annual permits using the online NSW Pet Registry, or through their local council. Annual permits are not available from Service NSW.

Anyone registering a cat on the NSW Pet Registry will be informed that they must pay for an $80 annual permit if their animal is not desexed by four months of age.

Exemptions will be in place for cats that are registered by 1 July 2020, cats kept for breeding purposes by members of recognised breeding bodies, and cats which cannot be desexed for medical reasons.

Why are annual permits being introduced?

Annual permits will create a stronger incentive to desex cats, which in turn will improve their health and wellbeing, and reduce behaviours such as roaming and aggression.

Improving desexing rates and preventing unwanted litters will also ease the burden on pounds and shelters, reduce euthanasia rates, and help to address concerns about feral and stray cats and their effect on wildlife.

Placing further control measures on dangerous and restricted dogs will serve as a further disincentive to owning high-risk dogs and encourage owners to better manage the behaviour of their animal.

Annual permits were to be implemented from 1 July 2019, however, the Government announced a 12-month grace period to give affected pet owners more time to prepare for their introduction.

Annual permit fees will go directly to the Companion Animals Fund which pays for companion animal management by local councils including pounds/shelters, ranger services, dog recreation areas, and education and awareness programs.

The fund is also used to operate the NSW Pet Registry and carry out responsible pet ownership initiatives.

How you can help

We would appreciate your support in actively promoting the introduction of annual permits and the benefits to animal welfare, the community, and the environment.

A Dropbox with downloadable promotional materials can be accessed here. This includes:

- Videos
- 3 x flyers (print and digital versions)
- 3 x posters (print and digital versions)
- 3 x email signature banners
- Social media toolkit
- Website banner, and
- Text for websites.

Where to go for further information

Frequently Asked Questions about annual permits can be viewed here.

If you require any further information or assistance, please contact the NSW Pet Registry at pets@olg.nsw.gov.au and 1300 134 460.

The NSW Government sincerely thanks you for your contribution to this new initiative.

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Snowy Monaro Regional Council | Environment & Sustainability | Environmental Management | Animal Management		2019/2020	2020/2021	% Increase	$ Increase	Comment
Reviewed	Dog - Desexed by 6 months of age	$58.00	$60.00	3.45%	$2.00	Change "Companion Animal" to "Dog"
Reviewed	Dog - Desexed – Pensioner* Rate	$25.00	$26.00	4.00%	$1.00	Change "Companion Animal" to "Dog"
Reviewed	Dog - Desexed – Acquired from Pound or Shelter	$29.00	$30.00	3.45%	$1.00	Change "Companion Animal" to "Dog"
Reviewed	Dog - Non-De-sexed or Desexed after 6 months of age	$210.00	$216.00	2.86%	$6.00	Change "Companion Animal" to "Dog"
Reviewed	Dog not Desexed	$58.00	$60.00	3.45%	$2.00	Change "Companion Animal" to "Dog"
Reviewed	Dog kept by a recognised breeder for breeding purposes	$58.00	$60.00	3.45%	$2.00	Change "Companion Animal" to "Dog"
Reviewed	Working Dog	No Charge				
Reviewed	Assistance Companion Animal	No Charge				
Reviewed	Dog in the Service of the State, eg Police dog	No Charge				
Reviewed	Greyhound currently registered under the Greyhound Racing Act 2009	No Charge				Not mentioned
Reviewed	Late payment of Registration	$16.00	$16.00	0.00%	$0.00	Not mentioned
	Cat - Desexed or Not Desexed		$50.00			New
	Cat- Eligible Pensioner		$26.00			New
	Cat - Desexed Acquired from Pound or Shelter		$25.00			New
	Cat - Not Desexed		$50.00			New
	Cat - Not Desexed kept by a recognised breeder for breeding purposes		$50.00			New
Snowy Monaro Regional Council | Environment & Sustainability | Environmental Management | Animal Management | Annual Permits						
	Dogs -of a restricted breed or declared to be dangerous (Additional to lifetime registration fee)		$195.00			New
	Cats - not desexed by four months of age (Additional to lifetime registration fee)		$80.00			New
Reviewed	Companion Animal Act Penalty Notices	As prescribed under the ACT				
Reviewed	Compliance Inspection – Menacing/Dangerous/Restricted Dog enclosures	$150.00	$150.00	0.00%	$0.00	Not mentioned
	As prescribed under the Act					
Snowy Monaro Regional Council | Environment & Sustainability | Environmental Management | Animal Management | Companion Animal General and Pound Fees						
Reviewed	Surrendered Companion Animal	$50.00	$50.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Reviewed	Adoption of Companion Animal	$115.00	$120.00	4.35%	$5.00	Non Statutory - As adopted 18/6/2020
Reviewed	Destruction of dog or cat	$85.00	$85.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Reviewed	Sustenance (dog/cat) – Registered	$55.00	$55.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Reviewed	Sustenance (dog/cat) – Unregistered	$100.00	$100.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Snowy Monaro Regional Council | Environment & Sustainability | Environmental Management | Animal Management | Release of animal from pound						
Reviewed	Release fee – Registered Animal	$30.00	$30.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Reviewed	Release fee – Unregistered Animal	$30.00	$30.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Snowy Monaro Regional Council | Environment & Sustainability | Environmental Management | Animal Management | Companion Animal released from custody of Ranger or Ranger vehicle						
Reviewed	Registered Companion Animal	$30.00	$30.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Reviewed	Unregistered Companion Animal	$30.00	$30.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020
Snowy Monaro Regional Council | Environment & Sustainability | Environmental Management | Animal Management | Companion Animal Micro Chipping						
Reviewed	Microchipping Companion Animal	$65.00	$65.00	0.00%	$0.00	Non Statutory - As adopted 18/6/2020

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9.4.4 MINUTES OF WASTE MANAGEMENT COMMITTEE MEETING HELD ON 11 JUNE 2020

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Resource & Waste Administration Officer
Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	10.1 Planning and decision making is holistic and integrated and has due regard to the long term and cumulative effects
Delivery Program Objectives:	10.1.1 Council has a transparent and bold growth objective which provides a framework for decision making
Attachments:	1. Waste Management Committee Meeting Minutes 11 June 2020
Cost Centre	
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

The Waste Management Committee met on 11 June 2020. The Committee's recommendations from the meeting are presented for Council's consideration and adoption.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council

A. Receive and note the minutes of the Waste Committee held on 11 June 2020; and
B. Adopt recommendation WMC19/20 of the Waste Management Committee meeting held on 11 June 2020 as listed in this report.

BACKGROUND

The Waste Management Committee met on 11 June 2020. The minutes of this meeting are provided as attachment 1. The Committee has made a number of recommendations for consideration by Council.

Councillors' particular attention is drawn to the following recommendation:

COMMITTEE RECOMMENDATION **WMC19/20**

That the Committee approve the mail out notification to the WJ Drive and Old Settlers Road community of the removal of the Bank of Bins service from this area.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Council is responsible for providing its residents with an environmentally and economically sound option for domestic waste and recycling management services. The recommendations which have been adopted by the Waste Committee have considered the social impacts to the community.

2. Environmental

Council is committed to providing Snowy Monaro Regional Council residents with an effective and efficient waste and recycling disposal service through the use of regular kerbside collection services, landfill facilities, transfer stations, collection points and Bank of Bins (BOBs). This ensures that environmentally sustainable disposal habits can be developed thus reducing waste to landfill and increasing the recycling throughout the region. Council's services and site operations are required to meet minimum acceptable standards and EPA requirements.

3. Economic

Economic impacts of the actions endorsed by the Waste Committee have been identified within the reports presented to the Waste Committee. In particular, the proposed revised operating hours for various transfer stations is reflective of the Committee's and Council's previous request to identify operational savings for the 2019/20 operational year and beyond.

4. Civic Leadership

Council is showing strong civic leadership through the recommendations which have been made by the Waste Committee. Such recommendations have considered past reports along with the social, economic and environmental impacts of the recommendations.

SNOWY MONARO REGIONAL COUNCIL

Minutes

Waste Management Committee Meeting

11 June 2020

WASTE MANAGEMENT COMMITTEE MEETING
HELD IN COMMITTEE MEETING ROOM, COOMA OFFICE

ON THURSDAY 11 JUNE 2020

MINUTES

Notes:

MINUTES OF THE WASTE MANAGEMENT COMMITTEE MEETING HELD IN COMMITTEE MEETING ROOM, COOMA OFFICE

ON THURSDAY, 11 JUNE 2020 COMMENCING AT 2:30PM

PRESENT: Councillor, James Ewart
Councillor, Rogan Corbett
Deputy Mayor, Lynley Miners
Mandy Thurling, Manager Resource and Waste Services
Lorinda Coulton, Resource and Waste Administration Officer

1. OPENING OF THE MEETING

The Chair opened the meeting at 2:30PM

2. APOLOGIES

Jeff Morgan, Chief Operating Officer, Executive Officer not present

3. DECLARATIONS OF PECUNIARY INTERESTS/CONFLICT OF INTEREST

Nil

4. ADOPTION OF MINUTES OF PREVIOUS MEETING

4.1 WASTE MANAGEMENT COMMITTEE MEETING 14 APRIL 2020

COMMITTEE RECOMMENDATION		**WMC14/20**
THAT the minutes of the Waste Management Committee Meeting held on 14 April 2020 are confirmed as a true and accurate record of proceedings.		
Moved Councillor Ewart	**Seconded Deputy Mayor Miners**	**CARRIED**

5. BUSINESS ARISING

Nil

6. ACTION SHEET

6.1 ACTION SHEET

Record No:

Responsible Officer: Manager Resource & Waste Services

Author: Resource & Waste Administration Officer

Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	10.1 Planning and decision making is holistic and integrated and has due regard to the long term and cumulative effects
Delivery Program Objectives:	10.1.1 Council has a transparent and bold growth objective which provides a framework for decision making
Attachments:	Nil
Cost Centre	
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

The following officer's recommendation is submitted for Council's consideration.

Reference	Date	Action	Assignee	Completed	Notes

1	12/04/18	Development and implementation of Resource and Waste Strategy	Mandy Thurling and Mark Doran	Deferred to 2019/20	Subject to funding provided in the 2018/19 financial year. Copies of Resource and Waste strategies have been obtained from other councils, as well as CRJO's documents for review. Strategy will most likely not be completed by this financial year. 12/4/19 Item now forms part of the 2019/20 Council DP/OP program 26/9/19 RFQ specification is nearing completion. Document scheduled to be issued in early October 5/11/2019 This week will see the engagement of the consultants to undertake the development of the SMRC Regional Waste Strategy. Strict timelines will need to be adhered to, to ensure that the final waste strategy document is presented to Council in June 2020 for adoption. 12/12/2019 Consultants now engaged, process now commenced. 30/1/2020 Community consultation has been delayed due to recent bush fire emergencies in the area. Consultation will occur in March with locations of Cooma, Jindabyne and Bombala each receiving face to face consultation and an additional survey will be available for the public to complete and return. 11/06/2020 Community consultation that was

					consultation that was scheduled for March was delayed as a result of COVID-19 social distancing restrictions. Community Consultations will be done as a virtual online presentation. Draft Strategy to be displayed for community feedback from July – August with the final adoption scheduled for September 2020. Draft Strategy is now on Council's Facebook page and on Council's Your say website. Communications are answering feedback on Facebook.

2	12/04/18	EPA and Council operation and site planning for Bombala and Delegate Landfills	Mandy Thurling and Mark Doran		26/2/19 A written report of site inspections from EPA has been received and a formal response, management plan and timeline will be drafted. Works to be costed and included in response to EPA. Report to Committee and Council approved plant to be sent to EPA. Proposed works plan sent to EPA. 12/4/19 Received a draft design and fill plan from consultant. Once finalised will be used to design stormwater and leachate system. 30/5/19 The draft is now a proposed design for storm water and leachate. 26/9/19 Final design received for Bombala Landfill. Operational changes are currently incorporated into daily operations. Tender documents are under preparation. 26/9/19 Quotes for Delegate Landfill extend investigations are currently being sought. 30/1/20 Detailed drawings getting developed for Bombala to allow for a price estimate to be determined through the roads/construction department. Delays with EPA are occurring due to recent bush fire emergencies.

3	12/04/18	Legacy Landfill Sites	Mandy Thurling and Mark Doran		Ongoing investigations. A report is to be prepared for ARIC and a third party assessor. A business case is to be prepared for the General Manager in relation to resourcing work. The EPA is to be contacted to discuss how other regions are tackling this issue. Report went to Council meeting on 7/2/2019 for information. 30/5/19 Open discussions with EPA to occur. 5/9/19 Email sent to EPA with draft program of sites to visit. 26/9/19 Email sent to EPA again on 19/9/19. Still awaiting response on proposed dates and attendees to visit sites. 5/11/2019 Met with the EPA 2 weeks ago. EPA visited 4 legacy site to gain an overview of the rehabilitation requirements of different sites. Purpose of the meeting was to discuss a risk based approach to the rehabilitation of sites which could allow some sites to be rehabilitated to a lesser standard than currently. Individual closure plans will be required to be submitted to EPA before final rehabilitation cost estimates can be determined. Development of closure plans will require additional resources to complete. 30/1/2020 ongoing,

					complete. 30/1/2020 ongoing, however looking at utilising some sites for disposal of bushfire material. Mark Doran outlined project relating to the disposal of bushfire waste from Snowy Hydro, National Parkes and Wildlife Services. Material will include asbestos. Investigations into contract with Snowy Hydro and utilising former Maffra Road, Cooma Legacy site are occurring. 11/06/2020 Inspection of bushfire affected properties currently been undertaken by Laing O'Rourke with materials taken to Windellama for disposal. Mandy Thurling and Mark Doran are currently discussing all sites and investigating possibility of contracting an external consultant to do costing of rehabilitation of sites.

4	12/04/18	Harmonisation of Commercial Waste method of Charging	Mandy Thurling	Deferred to 2019/20	22/3/19 Ongoing investigations. 12/4/19 Review of commercial pricing structure is currently underway with all possible options to be investigated. Item now forms part of the 2019/20 Council DP/OP program 23/9/2019 Ongoing investigations and options 5/11/2019 Investigation of options is ongoing. A report is intended to be presented at the next Waste Committee meeting with recommendations for consideration. 12/12/2019 Report presented in today's Waste Management Committee Meeting. 30/01/2020 Report presented at today's Waste Management Committee Meeting. 11/06/2020 Letters are currently been drafted to advise commercial customers of changes which will be occurring to the billing structure. Report has also been submitted to the Executive Leadership Team to advise of communication with commercial customers. Changes will be implemented on 1 January 2021.

					22/2/19 Community Consultation to occur about site closure and rehabilitation. Improved layout to be considered. 25/7/19 Consultation with community is commencing. 25/7/19 consultation with Councillor Bob Stewart, Councillor Anne Maslin and Councillor Sue Haslingden to occur. 16/8/19 Email sent to all Councillors regarding the removal of the Delegate BOB and the response from Delegate Progress association 26/9/19 Council endorsed the actions from the last committee meeting at the OCM 19/9/19. Requires meeting to occur prior to 17 October 2019 5/11/2019 The committee was updated on the meeting held on the 17 October with 4 Councillors. The EPA have also communicated their concerns with Council about the management of the sites, the environmental impact caused form illegal dumping, the potential for Council to be liable for clean-up costs and potential fines. Local Land Services have also previously raised concerns about the facility and the impact to Biosecurity through feral animal impacts as the site is not secure.
5	12/04/18	Removal of the caged bin enclosure to the entrance of the Delegate Landfill	Mandy Thurling		The committee believes that the proposed community meetings for

					he committee believes that the proposed community meetings for Cathcart and Delegate should be combined with the community consultation for the development of the Waste Strategy which is to be held in January/February. One option suggested by the committee is that if the bins are removed from the Delegate bin enclosure, the previous opening hours of the waste facility could be reinstated for a period of time, possibly until the end of the financial year. This would assist the community with adjusting to the changes associated with waste disposal in the region. The current Delegate waste facility operating hours would then be reinstated from 1 July 2020. This could be put forward during the community consultation. 30/01/2020 Included in the Waste Strategy consultation process, which is delayed due to the bushfire emergency. A report is presented to today's meeting. 11/06/2020 Community consultation delayed due to COVID-19 social distancing restrictions. Alternate disposal options currently been investigated for community. Mandy to acquire progress photos of site each week to inform Councillors of on-going

					issues at site.

6	12/04/18	Cathcart Transfer Station Prior Street Cathcart be removed and the area rehabilitated	Mandy Thurling		22/2/2019 Community Consultation is required and the possibility of relocation of the site to within the villages are to be investigated with the proposed site closure and rehabilitation. 25/7/19 consultation with Councillor Bob Stewart, Councillor Anne Maslin and Councillor Sue Haslingden to occur. 26/9/19 Council endorsed the actions from the last committee meeting at the OCM 19/9/19. Requires meeting to occur prior to 17 October 2019 5/11/2019 The committee was updated on the meeting held on the 17 October with 4 Councillors. The EPA have also communicated their concerns with Council about the management of the sites, the environmental impact caused form illegal dumping, the potential for Council to be liable for clean-up costs and potential fines. Local Land Services have also previously raised concerns about the facility and the impact to Biosecurity through feral animal impacts as the site is not secure. The committee believes that the proposed community meetings for Cathcart and Delegate should be combined with the community consultation for the development of the Waste Strategy which is
			13		to be held in January/February

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WMC21/19 A.	30/02019	Community consultation to occur regarding establishing an enclosed BOB within the confines of the former Michelago RFS shed and proposed BOB within the grounds of the Colinton RFS.	Mandy Thurling		26/9/19 community consultation occurred on 17/9/19 regarding establishment of Michelago RFS shed been used as a BOB. Captain of Colinton RFS has expressed a number of concerns about the establishment of a BoB on the land near the RFS Shed. An alternative location is now being investigated. 23/09/2019 Community consultation was undertaken at Michelago Hall on Tuesday 17 September – 19 community residents were in attendance and voice their concerns over the repurposing of the Michelago RFS Shed for the purpose of housing bins for disposal of waste and recyclables for the Michelago rural residents. Further investigations and consultations required matter ongoing. Community survey will be distributed through the Michelago rural community. 12/12/2019 community survey distributed with a closure date of 3 January 2020. 30/01/2020 Mandy advised of discussions held with Councillor Rooney and will verify if surveys or community consultation are to occur. 11/06/2020 Delayed due to the impacts of COVID-19. Donation to be approved

					at Council meeting on 18 June 2020.
WMC21/19 B.	30/05/19	Establishment and servicing of the enclosed BOB within the confines of the former Michelago RFS shed	Mandy Thurling		26/9/19 DA for Michelago RFS shed has been submitted to planning. 15/11/2019 submissions received as part of the DA process. 12/12/2019 DA to go to December 2019 Council meeting. 30/01/2020 – Discussion on Council recommendation regarding further community consultation relating to the Michelago RFS shed. Council Resolution 15/19 That the item be deferred to the 19 March 2020 Council Meeting to allow for further consultation with the Michelago Community in the interim. 11/06/2020 Delayed due to the impacts of COVID-19. Donation to be approved at Council meeting on 18 June 2020.
WMC34/19 B.	05/11/19	Snowy Monaro Regional Council Waste Strategy Nominate Councillor Corbett to assist with reviewing documentation during development of the Waste Strategy as required during the project	Mandy Thurling		12/12/2019 Consultants now engaged, process has now commenced. 30/01/2020 Ongoing 11/06/2020 Ongoing with draft Strategy to be received shortly.

WMC35/19 A.	05/11/19	Survey of residents in the Moonbah area regarding proposed Domestic Waste and Recycling Bank of Bins Service Arrangements	Mandy Thurling		12/12/2019 Creation of survey underway. 30/01/2020 Moonbah survey and cover letter was distributed on Tuesday 28 January 2020 to 243 residents in the Moonbah area. Residents have a month to return the survey. 11/06/2020 Survey results were positive and has allowed for the construction of a new Bank of Bins Service in the Moonbah area. Report presented to today's meeting.
WMC35/19 B.	05/11/19	Report to Waste Management Committee advising of outcomes of survey for residents proposed Bank of Bins in the Moonbah area	Mandy Thurling		12/12/2019 Survey to be distributed shortly to residents of the area. 30/01/2020 Moonbah survey and cover letter was distributed on Tuesday 28 January 2020 to 243 residents in the Moonbah area. Residents have a month to return the survey. 11/06/2020 Report is presented to today's meeting. Report presented to today's meeting.

COMMITTEE RECOMMENDATION **WMC15/20**

That the Committee receive and note the information in the Action Sheet.

Moved Deputy Mayor Miners **Seconded Councillor Ewart** **CARRIED**

7. GENERAL BUSINESS

7.1 ROCKY PLAIN RURAL FIRE BRIGADE REQUEST FOR EMERGENCY GREEN WASTE COLLECTION

Record No:

Responsible Officer: Manager Resource & Waste Services

Author:	Resource & Waste Administration Officer
Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	10.1 Planning and decision making is holistic and integrated and has due regard to the long term and cumulative effects
Delivery Program Objectives:	10.1.1 Council has a transparent and bold growth objective which provides a framework for decision making
Attachments:	1. Rocky Plain Rural Fire Brigade Cover Letter 2. Rocky Plain Rural Fire Brigade Community Debrief Meeting Minutes 21 February 2020
Cost Centre	
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

The Rocky Plain Rural Fire Brigade wrote to Mr Peter Bascomb, CEO on 3 March 2020 in relation to the intensive fire period of January 2020, in particular the Eucumbene Cove area.

Rocky Plain Rural Fire Brigade have asked Council to consider providing a green waste area and disposal facility to the Eucumbene area to assist with continual mitigation work of residents land.

The following officer's recommendation is submitted for Council's consideration.

COMMITTEE RECOMMENDATION **WMC16/20**

That the Waste Management Committee

a. receive and note the information provided by Rocky Plain Rural Fire Brigade in their request for a green waste collection and disposal area.
b. reply letter to be sent to Rocky Plain Rural Fire Brigade advising of investigation into laydown areas for remote and rural areas.
c. Mandy, Manager Resource and Waste Services to advise Andrea Forsyth, Local Recovery Officer of possibility to potentially have laydown area for remote and rural areas in event of future bushfire emergency.

Moved Deputy Mayor Miners **Seconded Councillor Ewart** **CARRIED**

7.2 PETRA AND ENJO CLEAN UP JINDY - VOLUNTEERS COLLECTING LITTER AROUND JINDABYNE TOWNSHIP

Record No:

Responsible Officer:	Director Technical Services & Operations
Key Direction:	3. Environment Outcomes
Delivery Plan Strategy:	7.1 Protect, value and enhance the existing natural environment
Operational Plan Action:	7.1.3 Council delivers a range of initiatives to the Snowy Monaro community to enhance their awareness and engagement of sustaining

	our pristine natural environment
Attachments:	1. Docket Jindabyne Landfill 26.04 - Petra and Enjo Clean Up Jindy 2. Photo 1 - Petra and Enjo Clean Up Jindy 3. Photo 3 - Petra and Enjo Clean Up Jindy 4. Photo 4 - Petra and Enjo Clean Up Jindy 5. Photo 2 - Petra and Enjo volunteer group
Cost Centre	2270 Jindabyne Landfill
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

A local volunteer group was established in the Jindabyne area in March 2020, collecting litter from around the Jindabyne Township and including the lake foreshore area.

Council's Resource and Waste staff were recently contacted by the groups organiser Petra Richter seeking approval from Council for the disposal of material that had been collected over the past few weeks, they requested a waiver for charges associated with disposal of waste, and the waste was disposed of at no charge under illegal dumping after discussions with the Acting Group Manager of Resource and Waste.

"Petra and Enjo Clean Up Jindy" are a volunteer group and are requesting continuing support in the disposal of the litter collected by the group at no charge and potential supply of gloves and/or bags which are supplied by the Clean Up Australia Day program.

In 2016 another Clean Up Jindy volunteer group requested that Council approve free of charge disposal once a month for litter collected. At the ET Meeting on 18 February 2016 this request was approved.

The following officer's recommendation is submitted for Council's consideration.

Note: Item deferred

Item deferred until Waste Management Committee Meeting to be held on Thursday, 13 August 2020.

OFFICER'S RECOMMENDATION

That the Waste Management Committee

a. Receive and note request for donation from the "Petra and Enjo Clean Up Jindy" community litter collection group for waiver of disposal charges for litter collected from around the Jindabyne township and including the lake foreshore area.
b. That the "Petra and Enjo Clean Up Jindy" community litter collection group be advised to complete Council's application for Support and Donations, to formalise the request for donation process.

7.3 RESOURCE AND WASTE EDUCATION UPDATE REPORT - JANUARY TO MAY 2020

Record No:

Responsible Officer:	Manager Resource & Waste Services
Author:	Resource & Waste Education Officer
Key Theme:	3. Environment Outcomes
CSP Community Strategy:	7.1 Protect, value and enhance the existing natural environment
Delivery Program Objectives:	7.1.3 Council delivers a range of initiatives to the Snowy Monaro community to enhance their awareness and engagement of sustaining our pristine natural environment
Attachments:	Nil
Cost Centre	
Project	220010 Waste Education
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

Council's Resource and Waste Department continue to promote and improve on educating the community on best practices of recycling and waste diversion, ensuring that less waste is disposed of to landfill.

The following officer's recommendation is submitted for Council's consideration.

COMMITTEE RECOMMENDATION		**WMC17/20**
That the Waste Management Committee receive and note the information in this report for Resource and Waste Education updates for the period of January to May 2020.		
Moved Deputy Mayor Miners	**Seconded Councillor Ewart**	**CARRIED**

7.4 BANK OF BINS FOR MOONBAH RESIDENTS - SURVEY OUTCOMES

Record No:

Responsible Officer:	Manager Resource & Waste Services
Author:	Resource & Waste Education Officer
Key Theme:	3. Environment Outcomes
CSP Community Strategy:	7.2 Water, waste, sewer and stormwater management practices are contemporary and efficient
Delivery Program Objectives:	7.2.3 Innovative solutions and infrastructure supporting waste and recycling operations to reduce landfill have been investigated
Attachments:	Nil
Cost Centre	

Project 220079 - Bank of Bins

Further Operational Plan Actions:

EXECUTIVE SUMMARY

As part of the Resource and Waste Committee Action Plan the outcomes of the survey for residents for the proposed Bank of Bins (BOB) in the Moonbah area are summarised in this report.

The following officer's recommendation is submitted for Council's consideration.

COMMITTEE RECOMMENDATION		**WMC18/20**
That the Committee receive and note the information in this report on the Bank of Bins (BOB) for Moonbah Residents - Survey Outcomes.		
Moved Councillor Ewart	**Seconded Deputy Mayor Miners**	**CARRIED**

7.5 DOMESTIC WASTE AND RECYCLING BANK OF BINS SERVICE ARRANGEMENTS FOR RESIDENTS

Record No:

Responsible Officer:	Chief Operating Officer
Author:	Manager Resource & Waste Services
Key Theme:	3. Environment Outcomes
CSP Community Strategy:	7.2 Water, waste, sewer and stormwater management practices are contemporary and efficient
Delivery Program Objectives:	7.2.3 Innovative solutions and infrastructure supporting waste and recycling operations to reduce landfill have been investigated
Attachments:	1. Recycling and Waste Collection Service - Bank of Bins Old Settlers Road and WJ Drive
Cost Centre	PJ220053
Project	

Further Operational Plan Actions:

EXECUTIVE SUMMARY

Residents in the WJ Drive and Old Settlers Road area had lodged interest with Council in providing a Bank of Bins (BOB) at the T intersection of WJ Drive and Old Settlers Road for the disposal of their waste and recyclable material. Community members had undertaken a small survey for residents situated in the area and as a result 4 property owners supported the installation of a BOB at this location. However after the installation of the BOB placement in its designated location members of the community decided to relocate the BOB to an alternate location without approval from Council.

The above survey results and site placement were tabled at a Waste Management Committee meeting under general business, however is appears not to have been Minuted.

The following officer's recommendation is submitted for Committee's consideration.

COMMITTEE RECOMMENDATION		**WMC19/20**
That the Committee approve the mail out notification to the WJ Drive and Old Settlers Road community of the removal of the Bank of Bins service from this area.		
Moved Deputy Mayor Miners	**Seconded Councillor Ewart**	**CARRIED**

8. MATTERS OF URGENCY

Mandy, Manager Resource and Waste Services outlined urgent project of storm water and leachate at the Cooma Landfill. This will be conducted at the same time as the Bombala and Delegate facilities.

9. NEXT MEETING

Thursday, 13 August 2020 at 2.30pm to be held in Level 3 Meeting Room, Cooma Office.

There being no further business the Chair declared the meeting closed at 3.25pm

CHAIRPERSON

The above minutes of the Waste Management Committee Meeting of Snowy Monaro Regional Council held on 11 June 2020 were confirmed by Committee at a duly convened meeting on 13 August 2020 at which meeting the signature hereon was subscribed.

9.4.5 INTERNAL AUDIT FUNCTION CHARTER REVIEW

Record No:

Responsible Officer:	Chief Executive Officer
Author:	Senior Internal Auditor
Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	10.2 Sound governance practices direct Council business and decision making
Delivery Program Objectives:	10.2.1 Independent audit and risk framework drives accountability
Attachments:	1. Internal Audit Function Charter
Cost Centre	3136 - Internal Audit

EXECUTIVE SUMMARY

This report seeks to obtain approval from Council on the revised *Internal Audit Function* (IAF) *Charter.* The IAF Charter is due for a review, which had been deferred in anticipation of guidance from the OLG on a proposed risk management and internal audit framework.

The Charter has been endorsed by Council's Executive Leadership Team at its meeting on 3 June 2020 [Resolution #: ELT68/20] and recommended by Council's Audit, Risk and Improvement Committee at its meeting on 19 June 2020 [Resolution #: ARIC27/20].

The following officer's recommendation is Council's consideration.

OFFICER'S RECOMMENDATION

That Council approve the DRAFT *Internal Audit Function Charter.*

BACKGROUND

The *Internal Audit Function (IAF) Charter* [ATTACHMENT 1] was last adopted by ARIC on 14 March 2018 and the annual review of the charter was deferred in anticipation of a new risk management and internal audit framework from the OLG. On release of the discussion paper on the proposed framework in November 2019, the OLG advised that the framework is scheduled to be implemented by the end of 2020 with model charters to be provided only by 2021. A further delay to the implementation timeline is expected due to COVID-19 hence, a much needed review of the charter was conducted.
Key changes to the charter are:

- Update to Council's standard template;
- Updated reporting lines of Senior Internal Auditor as per new organisation structure;
- Enhanced details on the services provided by the IAF;
- Inclusion of "Management and Staff Obligations" section as per Institute of Internal Auditors (IIA) guidance;

- Inclusion of "Standards of Audit Practice" section as per IIA guidance; and
- Change of review period to every two years.

QUADRUPLE BOTTOM LINE REPORTING

1. Social

Council's Internal Audit Function as a key component of Council's governance framework. Advantages to the community from Council's Internal Audit Function are independent assessment of controls and operations, giving assurance indirectly to the Community that Council is systematically addressing risk, ensuring compliance and implementing better practice.

2. Environmental

It is not expected that there will be any impact on the environment through the actions of the Internal Audit Function.

3. Economic

Costs for the operations of the Internal Audit Function are met in the budget as set.

4. Civic Leadership

Internal audit provides an independent and objective review and advisory service to:

a. Provide assurance to Council and the Audit, Risk and Improvement Committee that Council's financial and operational controls, designed to manage the organisation's risks and achieve the entity's objectives are operating in an efficient, effective and ethical manner; and

b. Assist management in improving business performance.

SNOWY MONARO
REGIONAL COUNCIL

DRAFT Internal Audit Function Charter

Record of Versions

Date Published	Reason for Amendments	Resolution	Author/Document Owner
14/03/2018	New Document	ARIC48/18	Internal Auditor

Uncontrolled document when printed. Please refer to intranet for controlled document

Contents

1 Introduction

1.1 Snowy Monaro Regional Council (Council) has established its Internal Audit Function as a key component of Council's governance framework. This charter provides the framework for the conduct of the Internal Audit Function at Council.

1.2 Council's Internal Audit Function is managed by the Senior Internal Auditor who is the designated Chief Audit Executive. The Chief Audit Executive is the most senior member of staff in Council responsible for internal audit, as defined in The International Standards for the Professional Practice of Internal Auditing (Standards) contained within the International Professional Practices Framework (IPPF) issued by the Institute of Internal Auditors.

2 Purpose

2.1 Internal audit is an independent, objective, assurance and consulting activity designed to add value and improve Council's operations.

2.2 It helps Council accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes.

2.3 Internal audit provides an independent and objective review and advisory service to:

a. Provide assurance to Council and the Audit, Risk and Improvement Committee that Council's financial and operational controls, designed to manage the organisation's risks and achieve the entity's objectives are operating in an efficient, effective and ethical manner; and

b. Assist management in improving business performance.

3 Authority

3.1 Internal Audit, with strict accountability for confidentiality and safeguarding records and information, is authorised full, free and unrestricted access to any and all records, personnel and physical properties relevant to the performance of engagements and information that the Senior Internal Auditor considers necessary to enable the Internal Audit Function to meet is responsibilities.

3.2 Internal Audit will also have free and unrestricted access to Council's Chief Executive Officer (CEO), all Chief Officers and Audit, Risk and Improvement Committee (Committee).

4 Independence and Objectivity

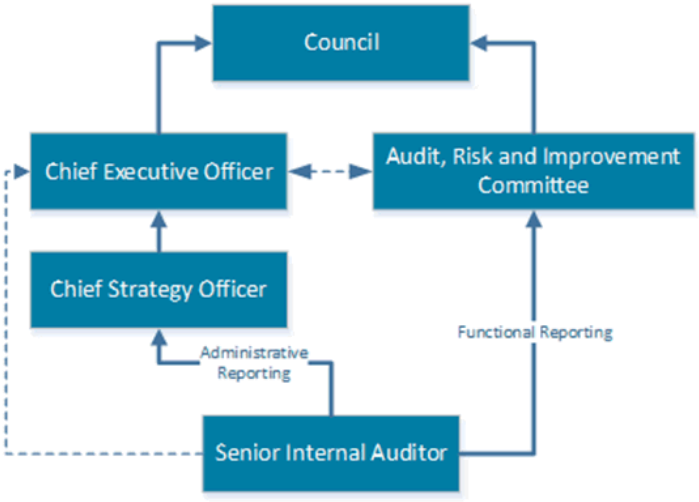
4.1 Independence is essential to the effectiveness of the Internal Audit Function. Internal Audit must be independent and internal auditors must be objective in performing their work. Internal auditors must have an impartial, unbiased attitude and avoid any conflicts of interest. The Senior Internal Auditor must confirm to the Committee, at least annually, the organisational independence of the Internal Audit Function.

4.2 The Internal Audit Function has no direct authority or responsibility for the activities it reviews. The Internal Audit Function has no responsibility for developing or implementing procedures or systems and does not prepare records or engage in first line process functions or activities (except in carrying out its own activities).

4.3 The Internal Audit Function is responsible on a day-to-day basis to the Senior Internal Auditor. The Senior Internal Auditor, reports functionally to the Audit, Risk and Improvement Committee on the results of completed audits, for strategic direction and accountability purposes and reports administratively to the Chief Strategy Officer to facilitate day-to-day

operations.

4.4 The following reporting line is prescribed:



4.5 Any change to the role of the Senior Internal Auditor and, where the Internal Audit Function uses an outsourced service delivery model, the external service provider will be approved by the Chief Executive Officer in consultation with the Committee.

5 Confidentiality

5.1 All records, documentation and information accessed in the course of undertaking internal audit services are to be used solely for the conduct of these activities. The Senior Internal Auditor and individual internal audit staff are responsible and accountable for maintaining the confidentiality of the information they receive during the course of their work.

5.2 All internal audit documentation is to remain the property of Council, including where internal audit services are performed by an external provider.

6 Roles and Responsibilities

6.1 The Internal Audit Function must evaluate and contribute to the improvement of governance, risk management and control processes using a systematic and disciplined approach.

6.2 In the conduct of its services, the Internal Audit Function will play an active role in:

a. Developing and maintaining a culture of accountability and integrity;

b. Facilitating the integration of risk management into day-to-day business activities and processes; and

c. Promoting a culture of cost-consciousness, self-assessment and adherence to high ethical standards.

6.3 Internal Audit has a primary responsibility to advise on governance, risk management and control issues and is required to report inadequately addressed risks and non-effective control processes to management and / or the Committee. Reporting must be escalated to a level consistent with Internal Audit's assessment of risk.

6.4 While Internal Audit is responsible for examining and evaluating the adequacy and effectiveness of the controls over risks, Internal Audit is not primarily responsible for the detection of fraud as it is management's responsibility. However, Internal Audit's activities

may identify instances of fraud, areas of high risk of fraud or consult on fraud risk matters.

6.5 The Senior Internal Auditor is required to report any major restrictions on the scope of Internal Audit, impairments, resource issues and any conflicts of interests to the Chair of the Committee and the Chief Executive Officer.

7 Internal Audit Services

Internal audit activity encompasses the review of all financial and non-financial policies and operations. Internal audit reviews may cover any of the programs and services of Council and any associated entity (where applicable). It will comprise of the following:

7.1 Assurance Services

Assurance services include audits with the following areas for consideration:

7.1.1 Risk management

a. Evaluate the effectiveness and contribute to the improvement of risk management processes

b. Provide assurance that risk exposures relating to the organisation's governance, operations, and information systems are correctly evaluated including:

i. Reliability and integrity of financial and operational information;

ii. Effectiveness, efficiency and economy of operations; and

iii. Safeguarding of assets.

7.1.2 Compliance

a. Assess compliance with applicable acts, regulations, Government policies and Council policies, directives and procedures;

b. Appraise and make appropriate recommendations for improving Council's governance process in the accomplishment of its objectives;

c. Examine the integrity and effectiveness of financial, administrative and operating controls including information technology system controls and the completeness and accuracy of information reported;

d. Evaluate the design, implementation and effectiveness of Council's ethics-related objectives, programs and activities in line with Council's statutory responsibilities, stated objectives and operational plan;

e. Assess whether the information technology governance sustains and supports Council's strategies and objectives; and

f. Appraise and monitor the procedures and controls over external contractual relationships.

7.1.3 Performance improvement

a. Appraise the adequacy, application and cost effectiveness of financial, administrative and operating controls and promote continuous improvement; and

b. Examine and evaluate operational functions to maximise the economic, efficient and effective use of all Council resources in the achievement of Council's objective and priorities.

7.1.4 Additional assurance services

a. Internal Audit may also assist in the investigation of suspected fraud or misappropriation within Council and notify management and the Committee; and

b. Other reviews as requested by the Chief Executive Officer or as a service to management to help improve operational efficiency and effectiveness.

7.2 Consulting and Advisory Services

Consulting and advisory services will be provided as defined in the International Standards for the Professional Practice of Internal Auditing. In providing consulting and advisory services, internal Audit will maintain operational independence and will participate on relevant committees and working groups with a status of observer only.

It is the responsibility of Council management to accept or reject advice provided by Internal Audit, to implement advice where considered appropriate and be accountable for decisions taken.

The Internal Audit Function can advise management on a range of matters including:

7.2.1 New programs, systems and processes

a. Providing advice on the development of new programs and processes and /or significant changes to existing programs and processes including the design of appropriate controls.

7.2.2 Risk management

a. Assisting management to identify risks and develop risk mitigation and monitoring strategies as part of the risk management framework.

7.2.3 Fraud control

a. Evaluate the potential for the occurrence of fraud and how the organisation manages fraud risk; and

b. Assisting management to investigate fraud, identify the risks of fraud and develop fraud prevention and monitoring strategies.

7.2.4 Additional consulting and advisory services

a. Internal Audit may be required to carry out special reviews from time to time at the direction of the Committee or the Chief Executive Officer.

7.3 Audit Support Services

The Senior Internal Auditor is also responsible for:

7.3.1 Managing the Internal Audit Function;

7.3.2 Assisting the Committee to discharge its responsibilities;

7.3.3 Developing a flexible risk-based internal audit plan (annual and strategic) in a form and timeframe agreed with the Committee;

7.3.4 Monitoring the implementation of agreed recommendations; and

7.3.5 Disseminating across Council, better practice and lessons learnt arising from its audit activities.

8 Management and Staff Obligations

8.1 An executive sponsor will be nominated for each engagement. This starts with input to the objectives and scope for upcoming engagements.

8.2 At conclusion of audits, management and staff are obligated to professionally and constructively contribute to internal audit work and the implementation of management action plans in response to improvement opportunities and recommendations contained in internal audit reports.

8.3 Management has a maximum of 15 working days from when they receive a draft internal audit report to provide their management responses and action plans, which should contain:

a. Agreed, partially agreed or not agreed;

b. If not agreed, why not;

c. Action to be taken;

d. Responsible person;

e. Target date for implementation; and

f. Interim control arrangements to be relied upon where there is a long lead time, such as waiting to close-out an improvement action through implementation of a technology solution.

8.4 Where formal management responses and action plans have not been received within 15 working days, recommendations will be provided to the Committee, with a timetable for implementation to be pursued separately through the Chief Executive Officer.

8.5 Where management responses to any audit recommendation are not considered adequate, the Senior Internal Auditor will consult with the executive sponsor and attempt to reach a mutually agreeable resolution. If agreement is not reached, the Senior Internal Auditor will refer the matter to the Chief Executive Officer for resolution. If agreement is still not reached, the final arbiter will be the Committee.

8.6 Each quarter Internal Audit will request an update from management on progress of implementation for every improvement action and recommendation. Timing will align to Committee meetings.

8.7 The executive sponsor may request a revision of implementation date, should this be necessary due to unexpected delay, by submitting a *Request for extension of Target Date form* to the Committee for approval. Where an original implementation date is passed and / or not approved by the Committee, the executive sponsor will provide an anticipated completion date and the recommendation will be reported as overdue until completion.

8.8 Where an audit recommendation rated high or above is not implemented and closed-out by its target date, the executive sponsor will be required to attend the next Committee meeting and present details on why the management action has not been fully implemented and how the resulting risk is being addressed in the interim.

9 Relationship with External Audit

9.1 Internal and external audit services will be coordinated to help ensure the adequacy of overall audit coverage and to minimise duplications of effort.

9.2 Periodic meetings and contact between internal and external audit shall be held to discuss matters of mutual interest and facilitate coordination.

9.3 External audit will have full and free access to all internal audit plans, working papers and reports.

9.4 To ensure that the Internal Audit Function is aware of all matters associated with its functional responsibilities, Senior Internal Auditor is to be supplied with copies of all relevant

correspondence received from External Audit.

10 Reporting

10.1 The Senior Internal Auditor will report to each meeting of the Committee on:

a. Matters arising from previous meetings;

b. Audits completed;

c. Progress in implementing the internal audit annual plan;

d. Progress in development of the 4 year rolling internal audit strategic plan (annual reporting);

e. The implementation status of agreed internal and external audit recommendations.

10.2 The Internal Audit Function will also report to the Committee at least annually on the overall state of internal controls at Council and any systemic issues requiring management attention based on the work of the Internal Audit Function and other assurance providers.

11 Standards of Audit Practice

11.1 The Internal Audit Function will meet or exceed the mandatory guidance provided in the International Professional Practices Framework (IPPF), published by The Institute of Internal Auditors (IIA): the Definition of Internal Auditing, Code of Ethics and International Standards.

11.2 The Internal Audit Function will adhere to IPPF strongly recommended guidance: Position Papers, Practice Advisories and Practice Guides as applicable to the individual review being undertaken.

11.3 In addition, the Internal Audit Function will adhere to Council's Code of Conduct, policies and procedures and Council's Internal Audit Manual and Quality Guidelines.

11.4 To enable continuous evaluation of conformance to the Standards of Audit Practice, the Senior Internal Auditor is responsible for ensuring a Quality Assurance and Improvement Program is in place and includes the following:

a. Internal assessments comprising of:

i. Ongoing monitoring of the performance of the Internal Audit Function;

ii. Periodic reviews performed through self-assessment or by other persons within the organisation with sufficient knowledge of internal audit practices; and

b. External assessments conducted at least once every five years by a qualified, independent reviewer or review team from outside the organisation.

12 Review of the Charter

12.1 At least once every two years the Senior Internal Auditor will review this Charter. The review will include consultation and endorsement by the Chief Executive Officer and approval by the Committee.

12.2 Any substantive changes to this Charter will be recommended by the Committee and formally approved by Council.

Endorsed by Executive Leadership Team: 3 June 2020 [ELT68/20]

Recommended by Audit, Risk and Improvement Committee: 19 June 2020 [ARIC27/20]

Approved by Council: Date [Resolution Number]

9.4.6 BUSHFIRE RECOVERY UPDATE

Record No:

Responsible Officer:	Chief Executive Officer
Author:	Local Recovery Officer
Key Theme:	4. Leadership Outcomes
CSP Community Strategy:	10.2 Sound governance practices direct Council business and decision making
Delivery Program Objectives:	10.2.2 Councillors are supported to make informed decisions in the best interest of the community and to advocate on behalf of the community
Attachments:	Nil
Cost Centre	
Project	
Further Operational Plan Actions:	

EXECUTIVE SUMMARY

This is an information report to update the Councillors on the activities being undertaken to assist the community with the recovery after the impacts of the 2019/20 bushfires.

The following officer's recommendation is submitted for Council's consideration.

OFFICER'S RECOMMENDATION

That Council receive and note the Bushfire Recovery Update.

BACKGROUND

Bushfire Clean up - Laing O'Rourke head contractor has communicated directly with Residents who have registered with Service NSW for the clean-up. This is an opt in program.

The Recovery Team are working with Laing O'Rourke & Public Works to ensure the clean-up program proceeds as quickly and smooth as possible.

Laing O'Rourke have advised

- all contact calls have been completed
- all late registrations have been contacted and site visits undertaken
- Site works have commended in the Bumbalong / Michelago area. Additional site works have commenced in Rockton & surrounds and Adaminaby & surrounds.
- Feedback from land holders who have the clean-up completed has been positive.

- An issue has arisen with access to Bumbalong along properties with Laing O'Rourke needing to cross the private road/causeway at Bumbalong. An independent engineering report was commissioned placing a 2 ton load limit on the bridge. Laing O'Rourke are working with Public to solve this issue. Potentially this will be additional support on the causeway which will increase the load bearing capacity. This is being done for the clean-up and not by Council. Residents are disappointed with the delay.
- The Recovery Team is keeping Bumbalong residents informed of the progress.

The Recovery Team is working closely with the Red Cross and Salvation Army Chaplains to provide support to land holders during this clean up. This can be an emotional time.

Blaze Aid

Bredbo/Numeralla

This camp has now closed.

- 61 properties registered
- All were completed by 25 June 2020
- Over 69 km of fencing was cleared
- Over 40.5 km of fencing was completed
- Local RFS assisted with some of the clearing

Land holders were very appreciative of the Blaze Aid Assistance.

Bombala

Bombala camp will continue through winter and is working hard to continue to support land holders

- 63 properties registered
- 18 properties completed
- 52 km fencing cleared
- 33 km fencing prepared
- 36 km fencing completed

With 38 volunteers in camp work continues to support land holders.

SMRC Recovery Committee

Work continues with the Sub Committees with the development and implementation of action plans. Currently working with Teena Patterson Grants Officer to implement the 7 approved projects with funding allocation from the Bushfire Community Resilience & Economic Recovery Fund Application – Phase 1.

A support grant has been announced for the Snowy Scheme Museum as part of the Bushfire Community Resilience & Economic Recovery Fund Application.

Good news for Adaminaby ….. A $50,000 grant through the NSW Government Bushfire Community Resilience & Economic Recovery Fund is to be provided to support to the Snowy Scheme Museum Adaminaby.

The small township of Adaminaby was not flame affected by bush fires however the surrounding areas were significantly affected resulting in the township suffering a major economic impact with the major tourism attractions and activities significantly affected. This town relies on tourism to keep the local economy going, not just now but going forward into the future.

A major attraction Selwyn Snow Resort was totally destroyed by fire and will not be reopening for the 2020 Ski Season and the summer attractions of bushwalking, horse riding, fishing and historic hut exploring have been heavily affected by the fires with significant damage occurring in the Kosciuszko National Park.

Snowy Monaro Regional Council has obtained a grant of $50,000 through the Bushfire Community Resilience & Economic Recovery Fund to provide support to the Snowy Scheme Museum Adaminaby.

The Adaminaby Snowy Scheme Collection is managed by an elected committee who will be working hard to improve the Snowy Scheme Museum and encourage visitors and locals back to the township.

Changing model of community engagement

With COVID – 19 restrictions easing the Recovery Team is now holding Recovery Assistance Point Days with Covid Safe Guidelines

As at the date of this report the following have been held

Bombala 25 June 2020

Cooma 26 June 2020

Colinton RFS Fire Shed 2 July 2020

Further dates planned

Bombala 9 July 2020

Cooma 10 July 2020

Peakview Community Hall 11th or 18th July being confirmed

Further dates and locations of RFS Fire Sheds are being determined.

The community welcomes the smaller RFS Fire Shed meetings.

At each Recovery Assistance Point Days agency support is available to assist residents with grants.

Significant mental health issues are emerging. At the 6 month point of the recovery journey this is not unexpected. Residents often feel they can get back on top of everything quickly and life will return to normal. It is now that it is clear particularly with the Covid-19 Restrictions this is not the case and the road to recovery is a long a complex one.

The Assistant Recovery Officers are working with Chaplains, Counsellors and Bushfire Mental Health Clinicians to provide support to the community.

Out Reach Calls

The Recovery team is continuing to make phone calls and engage with the community on a one to one basis. Community members value this contact from Council.

The recovery ongoing engagement model continues to cover dedicated social media pages, webinars, videos, email distribution, 2MNO radio segments weekly, ABC South East interviews, and comments in Mayoral Column.

Email Distribution lists

We now have the following contacts who distribute SMRC Newsletters and information to their contact lists.

- 8 x Chambers of Commerce
- 13 x Progress Association
- 10 x Service & Other Clubs
- 9 x CWA
- 5 x Show Societies
- 7 x Livestock Property Agents/Rural Suppliers
- 52 x RFS

2MNO – Community Radio

- 9 segments have been recorded and aired
- This is scheduled for 9.25am each Thursday
- Segments are then posted to social media
- Each week will be a different topic and will cover agencies that are able to provide support as well as Health & Well Being topics.
- This is being well received by the community

Newsletters

These are scheduled fortnightly and are well received. These are distributed direct to the community via email and through our distribution support network.

Assistant Recovery Officers continue to deal directly with enquiries that come to Council. This continues to be well received by the Community

Robin Guthrie: Bombala & Surrounds
Tracy Crompton: Adaminaby / Numeralla/ Bredbo and surrounds

QUADRUPLE BOTTOM LINE REPORTING

1. Social

The program is designed to support the social recovery of the community within the available funding.

2. Environmental

There are significant environmental impacts and funds have been allocated towards assisting with the recovery operation for wildlife, who have been majorly impacted by the events.

3. Economic

Recommended	Budget	Adjustments	Balance	Actual
Recovery Centre and support	$310,000.00	$34,481.00	$275,519.00	$0.00
Mayoral Fund	$475,000.00		$475,000.00	$475,000.00
Add waste Budget Mayoral Fund	$5,850.00		$5,850.00	$5,850.00
Add Mayoral Fund Shortfall for oversubscription			$99,481.00	$99,480.00
Financial advisory service for business	$80,000.00	$15,000.00	$65,000.00	$0.00
Research on economic impacts and effective support	$50,000.00	$15,000.00	$35,000.00	$0.00
Economic support programs	$240,000.00	$35,000.00	$205,000.00	$0.00
Improved fire resilience on Council Facilities	$50,000.00		$50,000.00	$0.00
Wildlife Rescue Support	$20,000.00		$20,000.00	$0.00
Total expenditure				$580,330.00
Initial Funding Grant $1,225 plus $5850 Waste	$1,230,850.00			
Balance available	$1,230,850.00	$99,481.00	$1,230,850.00	$580,330.00

4. Civic Leadership

Council is demonstrating leadership by providing support to the many people in the community affected by the event, whether directly or indirectly.

10.1 ACKNOWLEDGEMENT OF COUNTRY

Record No:

Responsible Officer:	Chief Executive Officer
Author:	Councillor James Ewart
Attachments:	Nil

Councillor James Ewart has given notice that at the Ordinary Meeting of Council on 16 July 2020, he will move the following motion.

Executive Summary: An Acknowledgement of Country is an opportunity for anyone to show respect for Australia's Traditional Owners, and the continuing connection that Aboriginal and Torres Strait Islander peoples have to the land, sea, sky and waterways.

MOTION

That Council require section 355 committees meetings begin with the same acknowledgement of country used for Council meetings.

BACKGROUND

Aboriginal and Torres Strait Islanders continue to experience exclusion, discrimination and oppression, and have since the invasion of this country. Acknowledging Country is a good step towards reconciliation between the colony of Australia (non-Indigenous people) and Aboriginal and Torres Strait Islander people.

Including an Acknowledgement of Country shows that the Council respects the Traditional Custodians, their Country and their history. When you acknowledge Country you also acknowledge the Elders of that mob and their Lore, promising to respect them and their land while you're on it. In 2010, the Federal Parliament made it official protocol for the beginning of every session to have an Acknowledgment of Country to accompany the Lord's Prayer, which many smaller government and local councils have since followed. Today, it's more common than not to see someone give an Acknowledgement of Country at the beginning of formal events and meetings, and even in some informal situations such as local sports matches.

GENERAL MANAGER'S RESPONSE

Clause 9. 1 of Council's Code of Meeting Practice provides as follows:

9.1 Notices of Motion

(1) The deadline for lodging notices of motion in writing for inclusion on the business paper for consideration at any meeting of the Council, shall be eleven (11) days prior to the meeting.

(2) A councillor must give notice of business in writing no later than 4.00pm on the Tuesday that follows the ordinary meeting of council.

(3) At an Ordinary meeting Councillors may give notice of motions in writing to be listed as matters on the business paper for the next Ordinary meeting of Council.

(4) The rules applying to the content of Questions also apply to the content of Notices of Motion.

(5) *Councillors are to ensure, where it is intended that staff be asked to carry out some specific defined action, that a Notice of Motion is written in such a way that, if carried, the motion carries such clear and unambiguous direction.*

10.2 NOTICE OF MOTION TO RESCIND A RESOLUTION: REQUEST FOR CABLING IN RESERVE ROAD – PROPOSED ELYSIAN WIND FARM

Record No:

Responsible Officer:	Chief Executive Officer
Author:	Councillor Bob Stewart
Attachments:	1. Notice of Motion to Rescind a Resolution - Councillor Bob Stewart

Councillor Bob Stewart has given notice that at the Ordinary Meeting of Council on 16 July 2020, he will move the following motion.

MOTION

"That the Council resolution relating to

Minutes No. OC 21052020_MIN_1276

Item No. 9.1.4

Title Request for cabling in Reserve Road – Proposed Elysian Wind Farm

Passed at the Council meeting held on 21 May 2020

COUNCIL RESOLUTION		**92/20**
A. That Council provides in-principle approval to the Elyssian Wind Farm proponents for the use of the Kybeyan and Tuross road reserves for transmission line cabling, subject to Council having the right to reconsider pending the assessment of the Environmental Impact Statement, and prior to the final determination of the project; and B. Such in-principle approval is not to be taken as an indication of Council's support for the Elyssian Wind Farm project.		
Moved Councillor Ewart	**Seconded Councillor Corbett**	**CARRIED**

be and is hereby RESCINDED".

BACKGROUND

Nil.

GENERAL MANAGER'S RESPONSE

Clause 9. 1 of Council's Code of Meeting Practice provides as follows:

9.1 Notices of Motion

(1) The deadline for lodging notices of motion in writing for inclusion on the business paper for consideration at any meeting of the Council, shall be eleven (11) days prior to the meeting.

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(4) The rules applying to the content of Questions also apply to the content of Notices of Motion.

(5) Councillors are to ensure, where it is intended that staff be asked to carry out some specific defined action, that a Notice of Motion is written in such a way that, if carried, the motion carries such clear and unambiguous direction.

SNOWY MONARO REGIONAL COUNCIL

Notice of Motion to Rescind a Resolution

To: The General Manager
Snowy Monaro Regional Council

Motion to Rescind Resolution

We hereby give notice of the following motion of rescission:

"That the Council resolution relating to

Minutes No. 92/20

Item No. 9.1.4 – Request for cabling in Road Reserve – Proposed Elysian Wind Farm

A. That Council provides in-principle approval to the Elyssian Wind Farm proponents for the use of the Kybeyan and Tuross road reserves for transmission line cabling, subject to Council having the right to reconsider pending the assessment of the Environmental Impact Statement, and prior to the final determination of the project; and
B. Such in-principle approval is not to be taken as an indication of Council's support for the Elyssian Wind Farm project.

PASSED AT THE COUNCIL MEETING HELD ON : 21 MAY 2020

be and is hereby RESCINDED".

Notice of Motion:

Should the rescission motion be adopted we give notice that it is our intention to move the following motion in lieu of which due notice is hereby given.

Dated this 2 day of July (year) 2020

JOHN LAST
Name of Councillor

[redacted]
Signature of Councillor

SUZANNE HASLINGDEN
Name of Councillor

[redacted]
Signature of Councillor

MOVER BOB STEWART
Name of Councillor

[redacted]
Signature of Councillor

13. CONFIDENTIAL MATTERS

In accordance with Section 10A(2) of the Local Government Act 1993, Council can exclude members of the public from the meeting and go into Closed Session to consider confidential matters, if those matters involve:

(a) personnel matters concerning particular individuals; or
(b) the personal hardship of any resident or ratepayer; or
(c) information that would, if disclosed, confer a commercial advantage on a person with whom the council is conducting (or proposes to conduct) business; or
(d) commercial information of a confidential nature that would, if disclosed;
 (i) prejudice the commercial position of the person who supplied it, or
 (ii) confer a commercial advantage on a competitor of the council, or
 (iii) reveal a trade secret,
(e) information that would, if disclosed, prejudice the maintenance of law; or
(f) matters affecting the security of the council, councillors, council staff or council property; or
(g) advice concerning litigation, or advice that would otherwise be privileged from production in legal proceedings on the ground of legal professional privilege or information concerning the nature and location of a place; or
(h) an item of Aboriginal significance on community land.

and Council considers that the closure of that part of the meeting for the receipt or discussion of the nominated items or information relating thereto is necessary to preserve the relevant confidentiality, privilege or security of such information, and discussion of the material in open session would be contrary to the public interest.

In accordance with Section 10A(4) of the Local Government Act 1993 the Chairperson will invite members of the public to make verbal representations to the Council on whether the meeting should be closed to consider confidential matters.

RECOMMENDATION

1. THAT pursuant to Section 10A subsections 2 & 3 and Section 10B of the Local Government Act, 1993 (as amended) the following items on the agenda for the Ordinary Council meeting be dealt with in Closed Session for the reasons specified below:

   13.1 Legal Actions and Potential Claims Against SMRC as at 30 June 2020

   Item 13.1 is confidential in accordance with s10(A)(2)(e) of the Local Government Act because it contains information that would, if disclosed, prejudice the maintenance of law and discussion of the matter in an open meeting would be, on balance, contrary to the public interest.

2. The press and public be excluded from the proceedings of the Council in Closed Session on the basis that these items are considered to be of a confidential nature.

3. That the Minutes and Business Papers including any reports, correspondence, documentation or information relating to such matter be treated as confidential and be withheld from access by the press and public, until such time as the Council resolves that the reason for confidentiality has passed or become irrelevant.

4. That the resolutions made by the Council in Closed Session be recorded in the Minutes of the Council Meeting.

5. That upon this recommendation being moved and seconded, the Chairperson invite representations from the public as to whether this part of the meeting should be closed to consider the nominated item.