



Draft

**Bungendore Structure Plan
Discussion Paper**

2018 – 2048 (30 years)



Version	Description	Date
1	<i>Draft Bungendore High Growth Structure Plan 2018 – 2048 (30 years)</i> C1958449	October 2018
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Background

Review of the current Bungendore Structure Plan

Council is considering the growth of Bungendore over the next thirty years (2018-2048) and has prepared a draft revised Structure Plan based on several growth scenarios to facilitate discussion with the community and government agencies. In preparing the draft Structure Plan, three population scenarios have been developed:

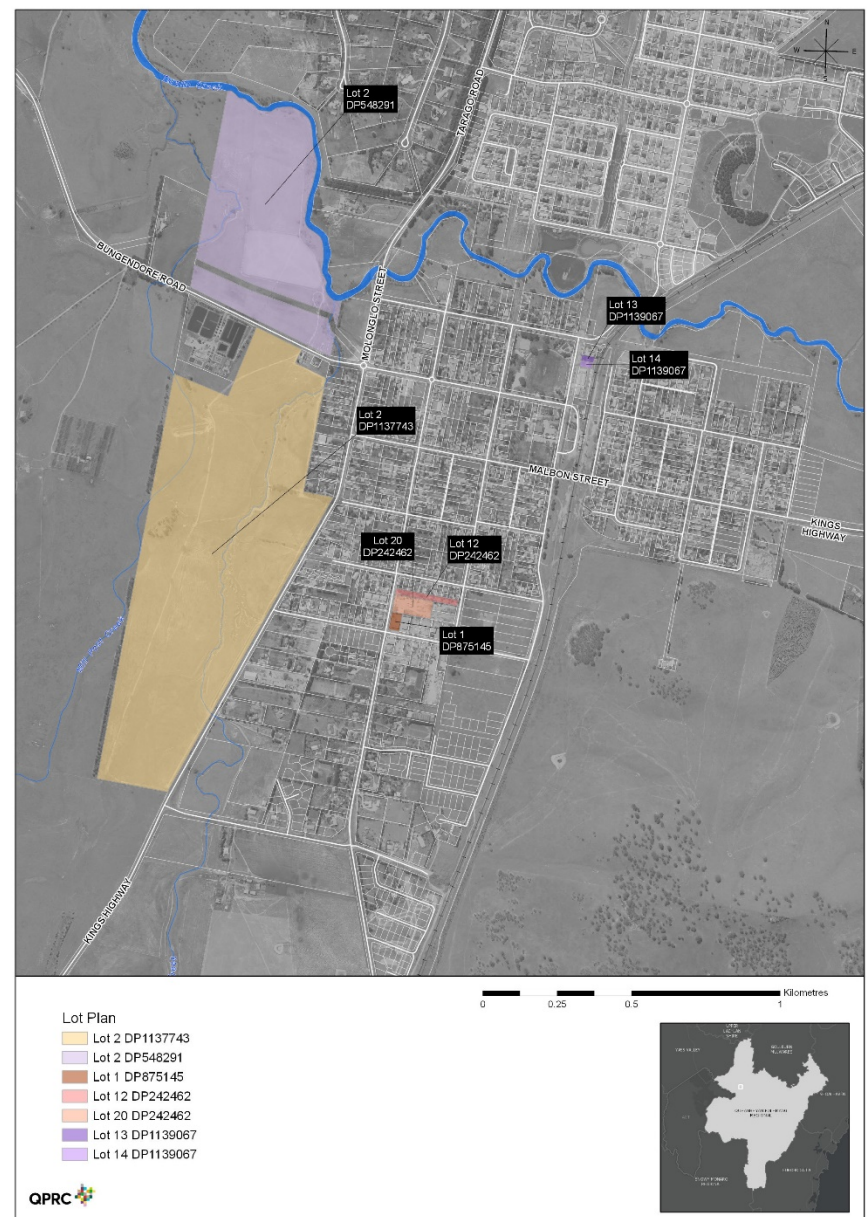
- Steady Growth Rate – 5,000 people by 2048
- Medium Growth Rate – 7,000 people by 2048
- High Growth Rate – 12,000 people by 2048

Although the revised draft Structure Plan will discuss all three growth scenarios government agency consultation has been based on the high growth scenario. It was considered that using this scenario was likely to stimulate discussion and feedback from agencies and given the strong interest in residential development in Bungendore in the last ten years. Greenfields development is currently occurring predominantly in the southern part of Bungendore and a 'Gateway Determination' has been granted for environmental assessments to proceed for approximately 300 lots on the northern side of Bungendore. Given these, it is likely that the steady growth scenario of 5,000 will be achieved in the next ten years. If this happens, the steady state scenario will be superceded and the structure plan will need to be reviewed. Whilst there is estimated to be approximately 462 potential lots for single dwellings within in the existing Bungendore urban area, much of this is likely to be taken up by the current development in southern Bungendore or contains site constraints relating to access, heritage issues or the shape of the existing lot which may prevent subdivision.

If Bungendore is to grow beyond its current boundaries, it is necessary that an increase in the town's water allocation is obtained from the NSW government. Council is currently seeking an increase in its allocation and the options and matters to be considered are detailed in Council's Integrated Watercycle Management Strategy (IWMS) adopted in February 2019. Without an increase in the water allocation it will not be possible to pursue the medium or high growth scenarios. The discussion outlined in the Structure Plan is therefore based on the assumption that additional water will be able to be provided. If additional water cannot be provided the Structure Plan will need to be revisited.

The draft Structure Plan contains some features that Council feels should be included in the draft revised document regardless of the level of growth, these are:

- road bypasses around Bungendore connecting to the Kings Highway
- the use of Lot 2 DP 1137743 for public recreation facilities and possibly a caravan park and Lot 2 DP 548291 for agriculture
- a new Council depot
- medium density dwellings on Lot 1 DP 875145, Lot 12 DP 242462 and Lot 20 DP 242462 (existing depot site)
- a group home on Lot 13 DP 1139067 and Lot 14 DP 1139067
- an industrial zone outside of the Bungendore urban area



Map 1 Lots with potential for specific future uses

Note It is stressed that the growth scenarios are not plans of what is going to be developed rather they should be seen as devices used to consider opportunities and challenges if Bungendore was developed. If Bungendore was to grow there would need to be support from the community and government agencies as well as an increase in Council's water allocation granted by the NSW government.

Some of the advantages of reviewing the Structure Plan in addition to determining the potential for growth are:

1. an awareness of previous and current work for all involved including the community – often people are not aware that work in an area has been undertaken and an outcome has either been determined or achieved
2. the identification of the various perspectives of individuals and groups – when people are aware of previous and current work their perspective may alter and compromise or consensus may be reached on major issues
3. the ability to discuss and make a decision about major issues – for example the identification and management of areas with high development potential r areas which may be difficult to develop due to constraints. This will allow Council to make a decision in regard to these sites and the community can 'move on' from the issue.

Process for developing the revised Bungendore Structure Plan 2018-2048

The process for developing the revised Bungendore Structure Plan is:

1. analysis and discussion of the existing situation in relation to

land use, each of the environments, issues and opportunities and infrastructure (hard and soft)

2. discussion of the issues and opportunities in Bungendore by staff and councillors
3. preparation of the draft revised Bungendore Structure Plan 2018-2048
4. discussion with government agencies and utility organisations including:
 - Southern NSW Local Health District
 - NSW Department of Education
 - Family and Community Services
 - Housing NSW
 - Roads and Maritime Services
 - NSW Police
 - NSW Ambulance
 - NSW Rural Fire Service
 - Fire and Rescue NSW
 - Office of Environment and Heritage (biodiversity, Aboriginal cultural heritage and flood)
 - NSW Department of Primary Industries
 - Water NSW
 - Planning and Environment
 - Transport NSW
 - Premier and Cabinet, Office of Small Business Commissioner
 - Cross Border Commissioner
 - Essential Energy (electricity) and Jemena (gas)
5. revision of the draft Bungendore Structure Plan and Council adoption of the draft for exhibition
6. exhibition of draft revised Bungendore structure plan
7. finalise the revised Bungendore structure plan and Council adoption of the Plan
8. endorsement of the Bungendore structure plan by the Secretary of the NSW Department of Planning and Environment

Format of the draft revised Bungendore Structure Plan 2018-2048

The draft revised Bungendore Structure Plan 2018-2048 has the following format:

- introduction to the Structure Plan situation
- outline of the growth scenarios
- outline of each of the existing environments (natural, community, economic and infrastructure)
- rezoning requests
- strategies for implementation

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Glossary

ABS Australian Bureau of Statistics

AEP Annual Exceedance Probability. The chance of a flood of a given or larger size occurring in any one year, expressed as a percentage. E.g. if a peak flood discharge of 500m³/s has an AEP of 5%, it means that there is a 5% chance (that is one-in-20 chance) of a 500m³/s or larger event occurring in any one year.

CPI Consumer Price Index

Floodway Those areas of the floodplain where a significant discharge of water occurs during flooding. Areas that even if only partially blocked will cause significant redistribution of flood flows or a significant increase in flood levels. The placement of structures in floodways should be minimised.

Flood Planning Area The area below the Flood Planning Level and thus subject to flood related development controls.

Flood Planning Level For Bungendore the level of the 1% AEP flood event plus 500mm

GIS Geographical Information Systems. Electronic system which is used for the capture, storage and analysis of spatial data

Hard infrastructure The fixed assets and control systems to operate, manage and monitor the systems. This type of infrastructure includes waste management, sewer, water and transport systems.

LGA Local Government Area

PDCP *Palerang Development Control Plan 2015*

PLEP *Palerang Local Environment Plan 2014*

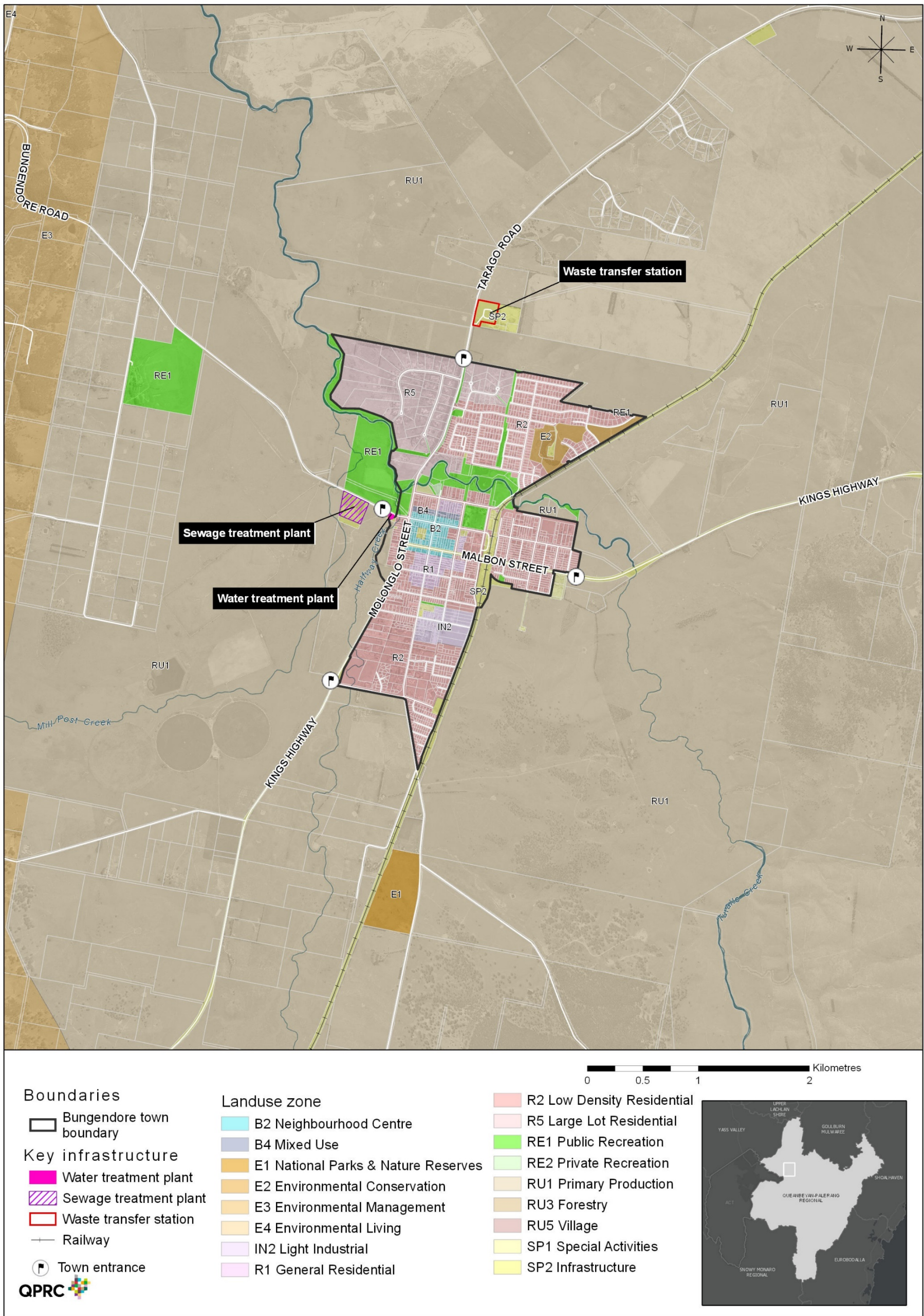
Soft infrastructure The institutions required to maintain economic, health and cultural and social standards sought by a country. They include the financial, health care and law enforcement and emergency services.

STP Sewage Treatment Plant

UCL Urban Centre Locality

Note

The aerial image used in the maps throughout the document was taken in 2016. As a result it does not show the development that has occurred since then particularly in the southern part of Bungendore.



Map 2 Bungendore Structure Plan area

1. Introduction

The town of Bungendore, with a current population of 3,317 (UCL 115031, ABS, 2016) people is located on the Kings Highway, thirty minutes east of Queanbeyan in NSW. Over the last fifteen years the town has experienced substantial residential development and subsequently high population growth.

The Bungendore Structure Plan 2018-2048 is being prepared to ensure that the development of Bungendore occurs in a co-ordinated and efficient manner and in a direction that reflects the views of the community. The Structure Plan has been closely aligned with the Integrated Water Cycle Management Strategy adopted by Council on 27 February 2019 which includes Bungendore. It is intended that the Structure Plan is reviewed and updated every four years over the life of the Plan, at the same time as the Integrated Water Cycle Management Strategy.

The Structure Plan will build on the *Bungendore Land Use Strategy and Structure Plan* which was adopted by Council on 5 August 2010 and endorsed by the Director-General of the NSW Department of Planning on 30 November 2010.

1.1 What is a structure plan

There is no single definition, either in NSW legislation or in the NSW planning community, of what constitutes a structure plan. It is suggested that a structure plan provides a framework for the co-ordinated provision and arrangement of future land use. It links the provision of transport, public open space, utility and service networks, water management, social and other infrastructure such as roads. A structure plan is a medium to long term broad plan, an 'umbrella' plan. The strategies for achieving the plan are contained in the 'tools' associated with it, for example the Local Environmental Plan, Development Control Plan, development contributions and water and sewer contribution plans, Council designs for roads and traffic management features, asset plans and landscape plans. The detail of each location, for example the central business district or a residential area can be planned using a master plan. The hierarchy of the landuse planning 'tools' and strategic documents that apply to Bungendore are shown below:

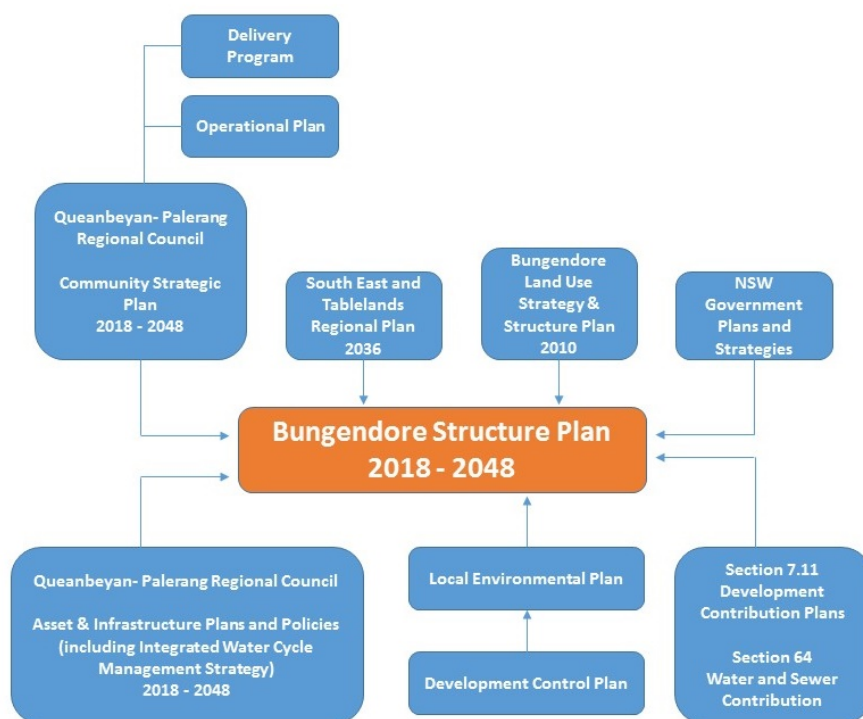


Figure 1 Landuse planning 'tools'- strategic documents and Plans that apply to Bungendore

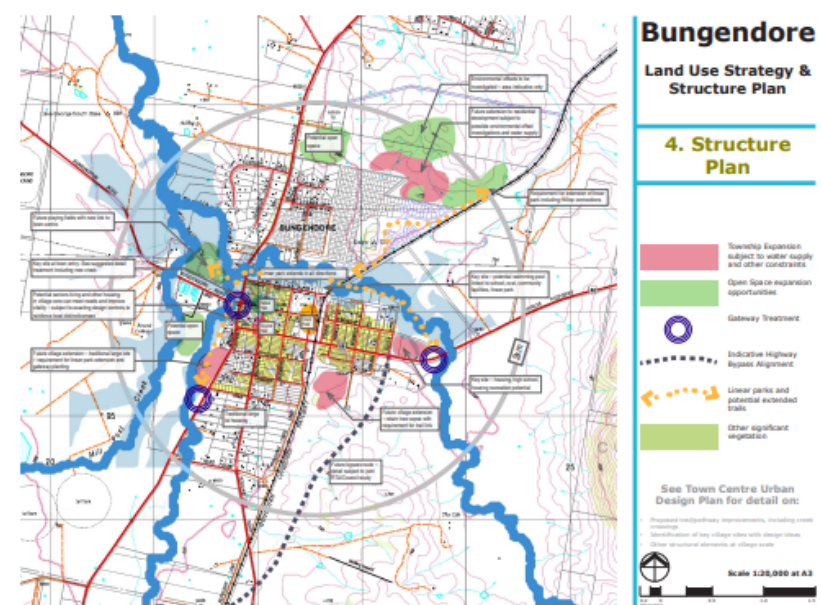
1.2 The benefits of having a structure plan for Bungendore

The key benefits of having a structure plan for Bungendore are:

- infrastructure co-ordination (hard and soft) - structure plans identify sites for future infrastructure development, reduce land use conflicts and enable better staging of infrastructure provision to support land development
- land supply monitoring – structure plans enable the tracking of prospective amounts and yields (dwellings, employment etc) of land to ensure the future supply and timely release of land for development
- efficient subdivision and development approvals – structure plans address and resolve broader, more strategic planning issues ahead of detailed planning in respect to subdivision and development, allowing for more efficient assessment and approval processes
- review and development of planning policy – use of structure plans to measure the effectiveness of planning strategies and policies
- guidance – structure plans assist landowners and their representatives and decision making authorities to identify the specific issues and actions required to progress the land through the required planning and development processes
- project co-ordination - non-government projects can be co-ordinated resulting in maximising opportunities for developers and the community
- a cohesive 'look' and 'feel' across developments in separate areas of Bungendore can be achieved
- there is a reduction in unintended consequences due to a lack of awareness of other projects or the 'direction/flavour' of an area
- an implementation plan can be prepared and over the life of a plan, the strategies are budgeted for and undertaken
- Currently, development is driven by developers and vacant land opportunities. There is limited ability to co-ordinate infrastructure as the timing, funding and location of development is frequently unknown.
- there are a large number of plans which have either no or limited links to each other. A list of these plans can be found in the Appendices.

1.3 Past approaches to the management of development in Bungendore

The first structure plan for Bungendore was the *Bungendore Land Use Strategy and Structure Plan*. This plan takes into account water availability, available infill residential land and identifies areas for possible 'greenfields' residential development. A section of the Structure Plan is shown below:



Map 3 Bungendore Land Use Strategy and Structure Plan

Since the completion of this Structure Plan, the following have occurred:

- the *Palerang Local Environmental Plan 2014* which has applied specific land use zones such as business, residential and industrial to areas of Bungendore moving away from a 'village' zoning with a wide range of permissible land uses across the entire town has been gazetted. Prior to the *Bungendore Land Use Strategy and Structure Plan*, the development control plan covering Bungendore identified land use zoning and precincts but had limited ability to control the location of development. This has resulted in development in parts of Bungendore that may be better suited in the long term to other areas of Bungendore
- a draft local environmental plan (Queanbeyan-Palerang Local Environmental Plan) is being prepared to bring together the local environmental plans covering the former Palerang and Queanbeyan local government areas as a result of the merger of these areas in 2016
- the Palerang Development Control Plan 2015 (PDCP) has been approved which includes the identification and description of the character of Bungendore and the inner Bungendore precincts.
- the *Bungendore Floodplain Risk Management Study and Plan* (flood study) has been completed, a recreation strategy commenced and an Integrated Water Cycle Management Strategy has been adopted by Council
- work on enhancing the potable water supply is currently being undertaken (refer to section 10.5)
- land in the south Bungendore area has been subdivided for residential lots and numerous dwellings including townhouses have been erected. There are few vacant lots in the Elmslea area (refer to Map 11 for the location of precincts). The 2016 census found that there were 1,125 dwellings (occupied and unoccupied), the 2011 census 967 dwellings and in the 2006 census there were 817 dwellings (ABS)
- a gateway determination has been given for approximately three hundred residential lots on the northern side of Bungendore
- a planning proposal has been received for approximately 750 residential and a high school on the eastern side of Bungendore, there is no gateway determination for this proposal. Additionally, numerous requests for the rezoning of land have been received. There is strong interest in 'greenfields' residential development on the edges of Bungendore (refer to section 9)
- residential development around the light industrial area has increased
- a new supermarket has opened in Malbon Street and the supermarket in Gibraltar Street has closed
- stage one of an Aboriginal cultural heritage map and a revised native vegetation map have been prepared. Both require ongoing work such as the inclusion of the grassland areas surrounding Bungendore in the native vegetation map. A revised bushfire map is also being prepared
- the completion of the *South East and Tablelands Regional Plan 2036* which includes strategies across all environments and neighbourhood planning principles. This plan does not contain development specific strategies for Bungendore except it states the need to secure long-term water supplies.
- A draft Integrated Transport Strategy for the whole local government area has been developed.

It is good planning practice to regularly review plans, and it is now well over eight years since the current structure plan was finalised. In addition to the policy work completed by Council in the past 8 years, regional strategies and policies have been completed. These include NSW Government priorities and strategies outlined in Future Transport 2056, Regional NSW Services and Infrastructure Plan and heavy Vehicles Access Policy Framework.

1.4 Structure plan area

The area to be considered in the Bungendore Structure Plan is shown in Map 1 above. It consists of the following areas:

- the existing urban area
- the areas immediately around Bungendore zoned RU1 Primary Production and RE1 Public Recreation
- the gateway areas Kings Highway (east and south), Tarago Road and Bungendore Road
- the existing water and sewage treatment plants

1.5 Structure plan objectives

1. integrated, efficient and timely development of land and associated soft and hard infrastructure
2. implementation of the Structure Plan 2018-2048 principles and desired future character (see below)

1.6 Desired future character of Bungendore

The desired future character for Bungendore has been based on the *Bungendore Land Use Strategy and Structure Plan, 2010* and the PDCP. The following principles from these documents have led to the development of a desired future character for Bungendore. (For more detail refer to section 6 for the historical background, current character of Bungendore and the desired future characteristics of the precincts).

- the rural and heritage environment, ease of moving around and the internet provide the opportunity for innovative commercial and industrial businesses
- there is local employment, vitality and a range of services but no large shopping centre
- there is opportunity for creative industries
- the town is surrounded by productive rural landscapes and there is a strong sense of rural living and space
- structures are of a low scale with a distinct divide between the town and the surrounding rural landscape
- there is a country/heritage feel that appeals to residents and visitors
- rural entry roads are retained (i.e. not dominated by housing)
- the historic grid street pattern is retained and where practical a grid pattern is used in new development
- there is a visible town identity which includes heritage items being dominant features
- development is generally of a low density with buildings well separated (except in the commercial area, precinct 2)
- new buildings are of sympathetic form and external materials relate to the existing town character
- friendly, safe community with a good level of services and infrastructure
- the preservation and improvement/extension of the Common and other green spaces to allow for walking, cycling, dog walking, horse riding etc.
- open space areas are not cluttered with new structures
- a landscaped setting including mature trees and shrubs, grassed verges and gardens, all of which combine exotic and native species. Street trees will be predominantly deciduous species
- the town is recognised for the care of the natural environment and living sustainably
- Visual corridors and open vistas should be protected.
- Agricultural land surrounding Bungendore contributes to the identity and sense of place, future development needs to ensure this is not lost.

1.7 Development principles

In association with the desired future character, the following development principles will guide future development at both the strategic and statutory stage:

- If Bungendore is to grow beyond its current boundaries, it is necessary that an increase in the town's water allocation is obtained from the NSW government and the discussion in this document is based on the assumption that additional water will be provided. If this is not the case the Structure Plan will require revisiting.
- rural residential, residential, commercial and industrial development should not be located in the areas which contain extractive industries or have the potential for these
- areas of High Environmental Value native vegetation should be avoided for rural residential, residential, commercial and industrial development
- critical infrastructure and residential development should not be located in flood planning areas
- a 400 metre buffer should be retained around the water and sewerage treatment plants for residential development
- in determining future infrastructure, the cost of installation and long term maintenance, functionality and ease of operation is to be considered in addition to its fit with the desired future characteristics
- pedestrian and cycling opportunities for all ages with links across all areas of the town
- limit the road access from the Kings Highway to individual precincts
- encourage pedestrian links throughout the central business district
- allow for public transport networks
- provide opportunities for affordable and adaptable housing, appropriate policies should be included in Council Local Environmental Plan which encourage the development of multi dwelling housing in the R1 zone in locations close to transport corridors and within close proximity to centres.
- medium density dwellings are located within one kilometre of the centre of Bungendore
- implement strategies appropriate to a growing town from the Smart Cities Plan (Australian Government), three pillars - Smart Investment, Smart Policy and Smart Technology
- development occurs in an ecologically sustainable development manner
- development should provide for certainty and security of agricultural enterprises
- development should proceed in an orderly fashion with future development taking place sequentially where it is close to existing infrastructure

1.8 Influences on Bungendore

There are a number of 'influences' that impact Bungendore, each of these are viewed as directly influencing the ability of Council, the community and non-government organisations in trying to achieve the vision, desired town characteristics and strategies in the Structure Plan. It is acknowledged that it is not possible to control these but there is a need to work with them. The following are some of the influences, in no particular order:

1 The proximity to Canberra and Queanbeyan

The presence of Canberra and Queanbeyan with a combined population of over 400,000 people has a significant impact. There are advantages and disadvantages from this external population and its economic influence. Advantages include:

- much of the economic activity of the Bungendore area depends on these centres, be it new subdivision and home construction or local tourism
- a large number of Bungendore residents work in either Canberra or Queanbeyan

Disadvantages include a significant proportion of retail expenditure going to other centres given the large proportion of people working in Canberra or Queanbeyan and the accessibility of retail and other services in these large centres.

2 The availability of water

There are natural limitations on water sources and climate change may further limit supply (refer to section 10.5 for more detail).

3 Climate change

The possible impacts of climate change for the area are an increased number of extreme weather events, more pressure/competition on water resources, increased chance of bushfires and an increase in the number of very hot days (above 35 degrees Celsius), increases which will affect the number of illnesses and heat-related deaths with the elderly being particularly vulnerable.

The *South East and Tablelands Regional Plan* contains a direction in relation to climate change (Direction no. 17) and several actions which are primarily the responsibility of state government:

- 17.1 Enhance government service delivery and implement local initiatives to address climate change impacts on local communities.
- 17.2 Collaborate with the ACT Government to reduce emissions and adopt adaptation strategies
- 17.3 Support councils to assess and respond to impacts and opportunities associated with a changing climate
- 17.4 Help communities and businesses to understand and respond to climate-related risks and opportunities by providing climate information, building capacity and unlocking financial mechanisms to help fund emission reductions and climate adaptation

While Council and the community can play a part in reducing climate change impacts, the responses rest with federal and state government international processes. Council can support strategies and community education in relation to reducing climate change. Within budget capacity, Council might continue to reduce its own energy consumption through strategies such as the use of solar energy mechanisms.

4 Legislation

Local government is required to work within the legislation of the state and federal governments. Within the legislation there are provisions that councils are obliged to enforce regardless of local views and opinion, for example, environmental and planning legislation.

5 The surrounding rural area

The agricultural, forestry and mining activity on rural land and the activities of the rural residential residents have an impact on retail spending, participation in community activities and childcare, preschool and school enrolments.

6 Information technology and its application

On-line shopping, professional services being available via portals, mobile telephones with apps and the ability to work from home for many is changing the nature of rural towns and the lifestyles of residents.

2. Steady Growth Scenario

Population

Year	Estimated Population	Annual Growth Rate from 2011	Growth from 2011
2011 (Census)	2 754	+0%	+0%
2016	3 040	+2%	+10%
2021	3 360	+2%	+22%
2031	4 100	+2%	+49%
2041	5 000	+2%	+82%

Table 1 Estimated population growth of Bungendore for the steady growth scenario

Note

- Table 1 above indicates the census data as at 2011 with an estimate of future population. The actual population of Bungendore at the time of the 2016 census was 3,317 people
- this does not allow for deaths or emigration

Possible area of land

- *Palerang Local Environmental Plan 2014* urban zones including infill (approximately 1400 residential lots)
- 300 residential lots outside of edge of the former town boundary
- Total 1700 residential lots (3 people per lot)

Character and landuse

- Predominantly single storey brick dwellings
- Commercial area focused around existing CBD and new supermarket site
- No additional land zoned light industrial
- Minor changes in land use around Bungendore

Social environment

- Existing primary school maintained and the State Government has made a commitment that a high school will be located in Bungendore
- New recreational facilities in the area zoned RU1, west of the town, pool upgrade/relocation dependent on funding
- No significant changes to open space provision although potential new facility at the eastern end of Trucking Yard Lane
- No additional emergency services in Bungendore, except for the Ambulance Station currently nearing completion.

Natural environment

- Bungendore Common remains relatively unchanged
- Streetscape improvements around Bungendore
- Large areas to the north and east of Bungendore converted from rural to residential

Economic environment

- Commercial area focused around existing CBD and new supermarket site. No expansion of existing commercial zonings
- No additional land zoned light industrial
- Minor increase in employment opportunities in Bungendore. Major employment sources located in Queanbeyan and ACT

Infrastructure environment

- No significant upgrades to water and sewer infrastructure except those required to service new development
- No significant upgrades to road infrastructure except those required to service new development

Possible implications

- The lack of industrial land reduces local employment opportunities and diversity of businesses for the town and surrounding population
- Residents are required to travel to Queanbeyan and Canberra for employment, education, services and recreation

- A larger population may enable more health, education, community and emergency services to be located in Bungendore
- There is not the population and traffic to warrant a bypass which in turn means that the town retains through-traffic which is positive for local businesses

Population source

Population Source	Approximate Population
2016 census population	3 317
Infill development	883
Greenfields	900
Total	5,100 (1700 residential lots with 3 people per lot)

Table 2 Estimated population sources for the steady growth scenario

3. Medium Growth Scenario

Population

Year	Estimated Population	Annual Growth Rate from 2011	Growth from 2011
2011 (Census)	2,754	+0%	+0%
2016	3,270	+3.5%	+19%
2021	3,880	+3.5%	+41%
2031	5,470	+3.5%	+99%
2041	7,500	+3.5%	+172%

Table 3 Estimated population sources for the medium growth scenario

Note

- Table 3 above provides an estimate of future population with medium growth. The actual population of Bungendore at the time of the 2016 census was 3 317 people.
- this does not allow for deaths or emigration

Possible area of land

- *Palerang Local Environmental Plan 2014* urban zones including infill (approximately 1400 residential lots)
- 1100 residential lots outside of edge of the former town boundary
- Total 2500 residential lots (3 people per lot)

Character and landuse

- Predominantly single storey brick dwellings
- Commercial area focused around existing CBD and new supermarket site
- No additional land zoned Light Industrial
- Significant changes in land use around Bungendore

Social environment

- Existing primary school maintained and the State Government has made a commitment that there will be a high school in Bungendore
- New recreational facilities in the area zoned RU1, west of the town, pool upgrade/relocation dependent on funding
- Significant additional open space provided through development and a potential new facility at the eastern end of Trucking Yard Lane
- Work on a new ambulance station for Bungendore commenced in January 2019 and is nearing completion

Natural environment

- Bungendore Common remains relatively unchanged. Expanded open space provided by developments
- Streetscape improvements around Bungendore
- Large areas to the north and east of Bungendore converted from rural to residential

Economic environment

- Commercial area focused around existing CBD and new supermarket site. No or limited expansion of commercial zonings
- No additional land zoned light industrial
- Major employment sources located in Queanbeyan and ACT

Infrastructure environment

- Potential significant upgrades to water and sewer infrastructure resulting from growth. Infrastructure provided by development with some contribution likely from existing ratepayers
- Potential upgrade of key intersections including Macs Reef Road and Bungendore Road and intersections with the Federal Highway
- Additional intersections on Tarago Road and Kings Highway required to service development
- Additional infrastructure from urban release areas

- Potential bypass of Bungendore constructed and Kings Highway traffic is diverted from the town environs. The bypass removes through traffic from the centre of Bungendore which improves traffic movement on the weekend and public holidays

Possible implications

- The lack of industrial land reduces local employment opportunities and diversity of businesses for the town and surrounding population
- Residents are required to travel to Queanbeyan and Canberra for employment, education, services and recreation
- A larger population may enable more health, education, community and emergency services to be located in Bungendore
- There is not the population and traffic to warrant a bypass which in turn means that the town retains through-traffic which is positive for local businesses

Population Source	Approximate Population
2016 census population	3 317
Infill development	883
Greenfields	3300
Total	7,500 (2500 residential lots with 3 people per lot)

Table 4 Estimated population sources for the medium growth scenario

4. High Growth Scenario

Population growth scenarios were developed to assist with the future planning of Bungendore. The scenarios were developed on population growth rates of 2.0% per annum (low growth scenario), 3.5% per annum (medium growth scenario) and 5.0% per annum (high growth scenario) up until 2041.

The draft structure plan is based on the high growth scenario. The scenario is illustrated in maps 4 and 5 below.

Assumptions

- there is sufficient potable water supply that can be supplied at a reasonable cost to households and businesses
- there is sufficient interest in people wanting to reside in Bungendore
- Council has the resources to strategically manage growth
- the existing community supports the growth scenario

Matters to take into account when considering the scenario

- ensuring there are good connections across the town particularly for pedestrians with an emphasis on the very young and older people in the community
- timing and funding of infrastructure to support a growing community
- the character of Bungendore and why people want to live or work there
- government policy
- what people would like to do in Bungendore
- the type of housing that is wanted, size, style and potential cost

The high growth scenario assumes an annual growth rate of 5%. This is based on the growth rate in the last ten years, the demand for housing in the region and 'greenfields' residential development.

Between 2006 and 2011 there was an increase of 571 people and between 2011 and 2016 there was an increase of 563 people (ABS 2006, 2011 and 2016 Population and Housing Census).

Estimated population by year for the high growth scenario

Year	Estimated Population	Annual Growth Rate from 2011	Growth from 2011
2011 (Census)	2,754	+0%	+0%
2016	3,500	+5%	+28%
2021	4,500	+5%	+63%
2031	7,300	+5%	+165%
2041	12,000	+5%	+332%

Table 5 Estimated population by year the high growth scenario

Population sources for the high growth scenario

population source	population	number of single dwellings
2016	3,317 (census)	1,357 (July 2018)
Infill development	1,386	462 (potential no of dwellings July 2018)
Greenfield development	7,297	2,432
total	12,000	4,251

Table 6 Population sources for the high growth scenario

Note

1. three people per dwelling for infill and greenfield development

may be suitable for future residential development.

Map 5 shows possible greenfield residential areas based solely on GIS analysis. Using GIS, areas of slope greater than 15%, flood planning areas and High Environmental Value native vegetation were identified as 'challenging' for development. The remaining

Map 5 shows the potential number of dwellings and people that could be accommodated on the areas identified for possible future residential development. The method for determining this was:

- the area in hectares was converted to square metres (1 hectare equals 10,000m²)
- the area in square metres was divided by 1,000. This is based on a residential lot being 850m² with 150m² being allowed for hard and soft infrastructure
- the number of potential lots was then multiplied by three. This allows for three people per dwelling

Social environment

- an expanded existing primary school catering for pre-school to Year 3 and a separate campus for Year 4 to Year 12 including rooms for early year tertiary students. The majority of children are obtaining their primary and secondary education and recreation in Bungendore
- multi-purpose health facility and large community health facility
- aged care facilities
- new recreational facilities to the west of the town including an aquatic centre
- significant expansion of the open space network in Bungendore
- additional and expanded emergency services (police, ambulance and fire) provided in Bungendore

Natural environment

- Bungendore Common remains relatively unchanged and streetscape improvements around Bungendore
- large areas to the north, east and west of Bungendore converted from rural to residential
- willows removed from Turallo Creek

Economic environment

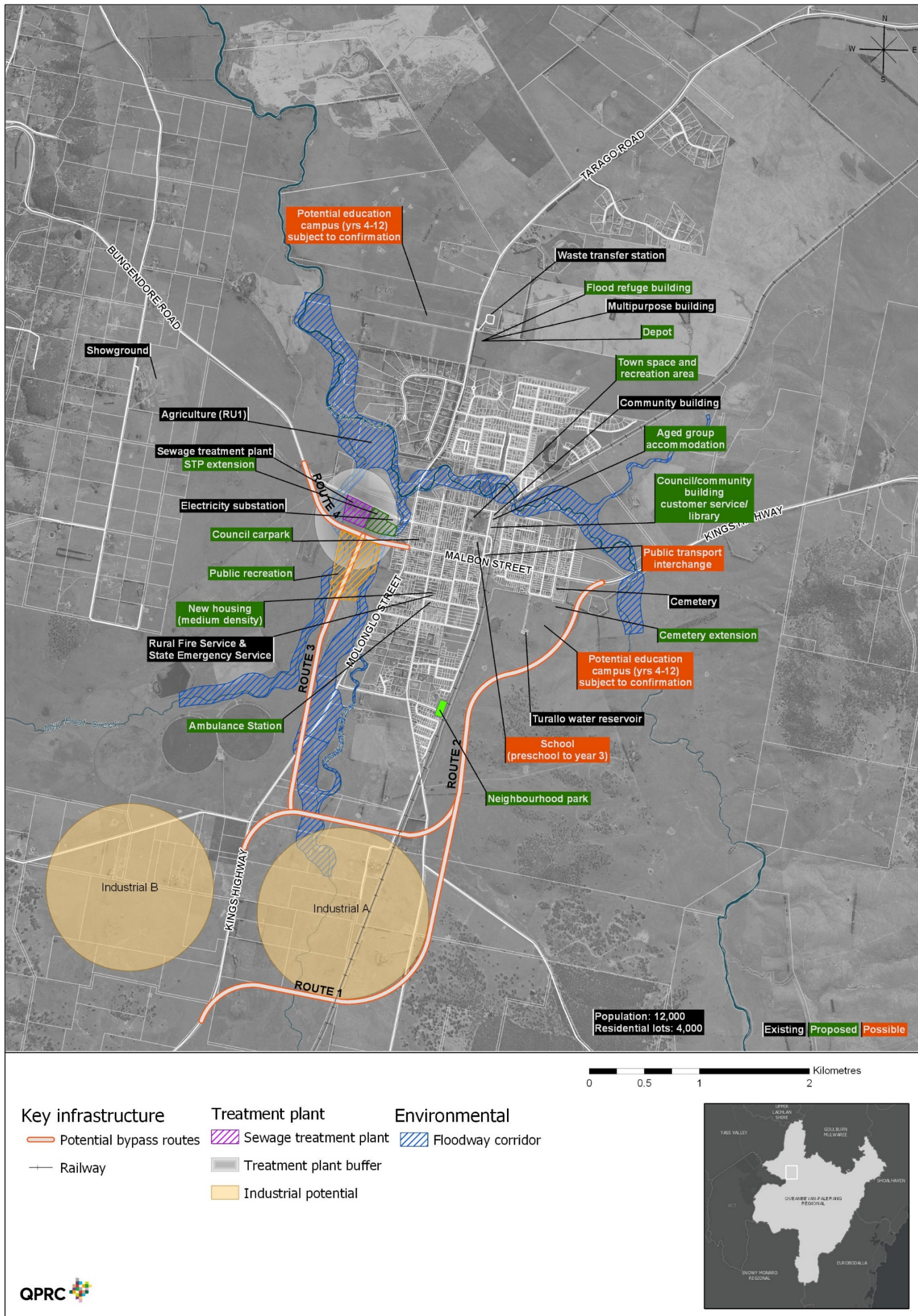
- commercial area focused around Gibraltar, Ellendon and Malbon streets
- 20 hectare industrial area separate to the urban area

Infrastructure environment

- significant upgrades to water, sewer and stormwater infrastructure
- upgrade of key intersections including Macs Reef Road and Bungendore Road and intersections with the Federal Highway
- additional intersections on Tarago Road and Kings Highway to service development
- bypass of Bungendore constructed and Kings Highway traffic is diverted from the town environs. The bypass removes through traffic from the centre of Bungendore which improves traffic movement on the weekend and public holidays
- new Council depot

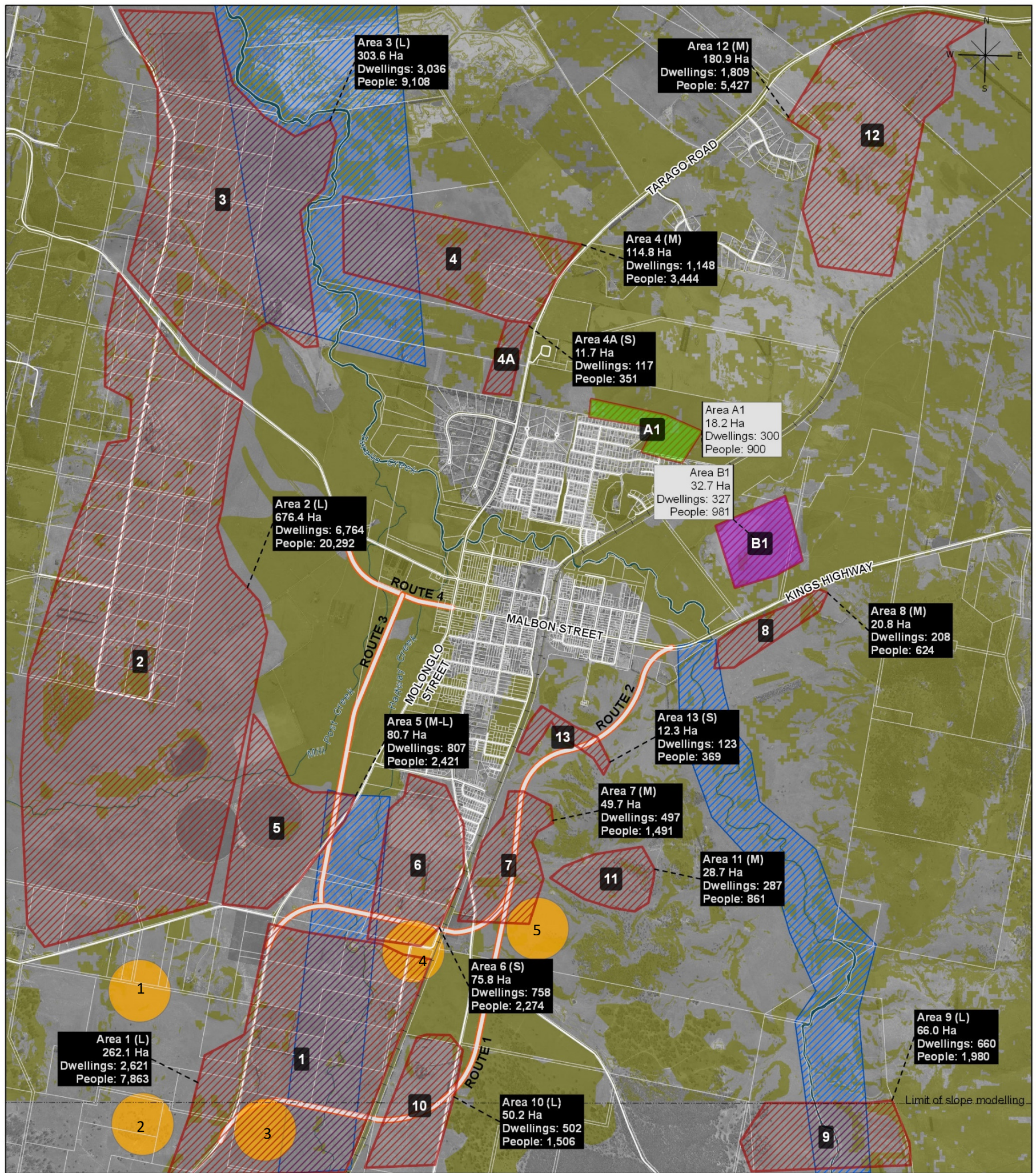
Possible implications

- significantly increased employment opportunities in Bungendore. Major employment sources located in Queanbeyan and ACT
- Bungendore is easy for local traffic, cyclists and pedestrians to move around
- variety of business opportunities and having a diversity of skills in the population



Map 4 High growth scenario infrastructure

Note: A Neighbourhood Park must ensure it has no adverse impact on Stockyards



Note: Area numbering does not indicate development sequence



Development

- Potential future investigation areas
- Area A1*
- Area B1*

Infrastructure

- Potential bypass routes
- Industrial potential (20 Ha)

Environmental

- Unmodelled flood area
- Challenging development area
- Watercourse

Area A1 - North Elmslea Planning Proposal: gateway issued, further in depth studies being undertaken
 *Area B1 - Bungendore East Planning Proposal: gateway determination being sought

Expected timeframe
 S - Short-term
 M - Medium-term
 L - Long-term



Map 5 High growth scenario residential areas

POTENTIAL RESIDENTIAL DEVELOPMENT AREAS (Refer Map 5 above)

Area	Size	Development type	Additional growth (people)	Comments	Constraints	Opportunity		Running total of Population
A1	18.2 Ha	300 dwellings	900	Gateway determination issued	Public exhibition pending allocation of water licence	Adjoins existing town edge on north east boundary and infrastructure.		
B1	32.7 Ha	327 dwellings	981	Gateway determination being sought	Pending allocation of water licence (applies to all future development)			
4A	11.7 Ha	117 dwellings	351	Short term	Requires a buffer to waste transfer station	Adjoins existing town edge on northern west boundary and infrastructure. Opportunity for active transport to access services and facilities.		
13	12.3 Ha	123 dwellings	369	short term	Located on western side of rail corridor, increase traffic across rail corridor to access town centre, Queanbeyan & Canberra. Bisected by potential bypass route 2 - TfNSW preferred bypass option. TfNSW - Future residential housing should avoid areas adjacent to the railway line and key freight routes and the area adjacent to the passing loop is least desirable for residential housing. Active transport to access services and facilities unlikely due distance to town centre. Area is relatively small and due to being located on the eastern side of the railway line could be costly with regard to the provision of infrastructure.		short term growth	2601
6	75.8 Ha	758 dwellings	2,274	Short -medium term	Partly impacted by unmodelled flood area. Located on potential bypass route 2 - TfNSW preferred bypass option. TfNSW - Future residential housing should avoid areas adjacent to the railway line and key freight routes and the area adjacent to the passing loop is least desirable for residential housing. Area includes part one potential industrial area, residential zones adjoining industrial zones can result in conflict between land uses (noise, odour, dust etc)	Adjoins the existing southern town centre edge, and represents increased efficiency for infrastructure provision. Opportunity for active transport to access services and facilities.	short - medium growth	4,875
4	114.8 Ha	1,148 dwellings	3,444	Medium term	Partly impacted by unmodelled flood area. RFS - North Elmslea – emergency refuge- large community space, would need additional fire protection as it is located on the northern side of town, ideally community emergency refuge located on south eastern side of town.	Currently isolated from town centre, however adjoins 4A potential area for development which adjoins town edge.		

POTENTIAL RESIDENTIAL DEVELOPMENT AREAS (Refer Map 5 above)

Area	Size	Development type	Additional growth (people)	Comments	Constraints	Opportunity		Running total of Population
7	49.7 Ha	497 dwellings	1,491	Medium term	Likely to increase traffic across rail corridor to access town centre. Located on potential bypass route 2 - TfNSW preferred bypass option. TfNSW - Future residential housing should avoid areas adjacent to the railway line and key freight routes and the area adjacent to the passing loop is least desirable for residential housing.	Located on southeastern edge of existing town and may represent increased efficiency for infrastructure provision, note infrastructure would be required to traverse rail corridor.		
8	20.8 Ha	208 dwellings	624	Medium term	Area separated from town by Turallo creek and unmodelled flood area. Development will increase traffic across rail corridor to access town centre, Queanbeyan & Canberra.	Opposite area B1, therefore represents consolidation of residential development on the eastern side of rail corridor		
11	28.7 Ha	287 dwellings	861	Medium term	Area isolated from town centre, therefore increased cost to provide infrastructure. Active transport to access services and facilities unlikely due distance to town centre. Increase traffic across rail corridor to access town centre, Queanbeyan & Canberra. Adjacent to area identified as having Industrial potential, may result in conflict between residential zone and industrial zone.	This area is identified as class 4 land (refer map 24) and may be an opportunity for industrial land rather than locating industrial land on the higher quality class 3 land.	short; short to medium and medium term growth	11,295
12	180.9 Ha	1,809 dwellings	5,427	Medium-long term	Development of this land will not lead to a compact town and the provision of infrastructure will be more expensive as a result. Active transport to access services and facilities unlikely due distance to town centre.	Adjoins existing isolated pocket of residential development, therefore infrastructure in place. Access to village centre via Tarago Road	short; short to medium; and medium- long term growth	16,722
1	262.1 Ha	2,621 dwellings	7,863	Long term	Partly impacted by unmodelled flood area. TfNSW - Future residential housing should avoid areas adjacent to the railway line and key freight routes and the area adjacent to the passing loop is least desirable for residential housing. Active transport to access services and facilities unlikely due distance to town centre. Area includes one potential industrial area, residential zones adjoining industrial zones can result in conflict between land uses (noise, odour, dust etc)	Two separate parts of this area are identified as class 4 land (refer map 24) and may be an opportunity for industrial land rather than locating industrial land on the higher quality class 3 land		
2	676.4 Ha	6,764 dwellings	20,292	Long term	RFS - operationally forest fires along Lake George have the potential to turn into grassland fires – therefore prefer not to have development along western escarpment. Area does not adjoin the existing village edge, therefore increased cost to provide infrastructure. Limited opportunity for active transport to access services and facilities. Southern part of area is impacted by the PLEP Riparian land and watercourse.			

POTENTIAL RESIDENTIAL DEVELOPMENT AREAS (Refer Map 5 above)

Area	Size	Development type	Additional growth (people)	Comments	Constraints	Opportunity		Running total of Population
3	303.6 Ha	3,036 dwellings	9,108	Long term	Partly impacted by unmodelled flood area. Area does not adjoin the existing village edge, therefore increased cost to provide infrastructure. Active transport to access services and facilities unlikely due distance to town centre. RFS - operationally forest fires along Lake George have the potential to turn into grassland fires – therefore prefer not to have development along western escarpment.			
5	80.7 Ha	807 dwellings	2,421	Long term	Partly impacted by unmodelled flood area. Area isolated from town centre, therefore increased cost to provide infrastructure. Active transport to access services and facilities unlikely due distance to town centre. TfNSW - Future residential housing should avoid areas adjacent to the railway line and key freight routes and the area adjacent to the passing loop is least desirable for residential housing. Northern part of area is impacted by the PLEP Riparian land and watercourse.			
9	66.0 Ha	660 dwellings	1,980	Long term	Largely impacted by unmodelled flood area. Area isolated from town centre, therefore increased cost to provide infrastructure. Active transport to access services and facilities unlikely due distance to town centre. Development will increase traffic across rail corridor to access town centre, Queanbeyan & Canberra			
10	50.2 Ha	502 dwellings	1,506	Long term	Area isolated from town centre, therefore increased cost to provide infrastructure. Active transport to access services and facilities unlikely due distance to town centre. Development will increase traffic across rail corridor to access town centre, Queanbeyan & Canberra. TfNSW - Future residential housing should avoid areas adjacent to the railway line and key freight routes and the area adjacent to the passing loop is least desirable for residential housing.		short; short to medium; medium- long and long term growth	59,892

Table 7 Constraints and opportunities for the potential future residential development areas including comments from government agencies

POTENTIAL INDUSTRIAL DEVELOPMENT AREAS (Refer Map 5)

Industrial Land - land currently zoned IN2 in Bungendore = approx 12.9 Ha

Option	Size	Development type	Comments	Constraints	Opportunity
1	20 ha	Industrial	located on the western side of the railway corridor	Located on class 3 agricultural land. Located some distance from the urban are which may make alternative transport unviable.	Removed from potential residential development areas, therefore unlikely to be impacted by future residential growth. Less likely to be visible from access routes into town therefore retains Bungendore 'rural setting' intact.
2	20 ha	Industrial	located on the western side of the railway corridor	Located on class 3 agricultural land. May be visible from access routes into town therefore may reduce Bungendore 'rural setting' (refer DPI submission). Located some distance from the current urban are which may make alternative transport unviable.	Removed from potential residential development areas, therefore unlikely to be negatively impacted by future residential growth.
3	20 ha	Industrial	located on the western side of the railway corridor	Located on class 3 agricultural land. Potential conflict between industrial and residential uses (noise, dust, odour). Located on Molonglo inersection - likely to reduce the 'agricultural setting' of Bungendore and reduce rural vistas typical of Bungendore surrounds (refer DPI submission). May be impacted by flood. Located some distance from the current urban are which may make alternative transport unviable.	Located on intersection of Molonglo Street and proposed bypass route 1 - good access to road transport.
4	20 ha	Industrial	located on the western side of the railway corridor	Located partly on class 3 and part class 4 agricultural land. RMS - prefer use and upgrade of existing road infrastructure - Bypass options a very long term option and may not occur. Located partially within potenial residential area 6 on southern edge of town. May be impacted by flood. Potential conflict between industrial and residential uses (noise, dust, odour)	Located on bypass route 2 (route supported by TfNSW). Not likely to be visible from access routes into town therefore retains Bungendore 'rural setting' intact.
5	20 ha	Industrial	located on the eastern side of the railway corridor	Located partly on class 3 and part class 4 agricultural land. RMS prefer the use of existing road infrastrucutre - Bypass options a very long term option and may not occur.	Located on bypass route 2 (route supported by TfNSW). Possible to located wholly on class 4 agricultural land. Not likely to be visible from access routes into town therefore retain Bungendore retains 'rural setting' intact.

Table 8 Constraints and opportunities for the potenital future industial development areas including comments from government agencies

5. Natural Environment

5.1 Topography

The inner, southern and eastern parts of Bungendore are relatively flat with the northern part of town being at approximately 700 metres in height. Map 5 shows the areas with a slope greater than 15%. Due to the topography and location of watercourses within the town, much of the town is located on a flood plain (refer to 5.6.1 Flood).

The town is surrounded by small ranges with wind generating towers being located on the northern ranges. The Lake George escarpment to the west can be seen from the town. Lake George itself is a wetland of national significance, containing a critically endangered ecological community, several threatened species and acts as a refuge for migratory species protected under international treaties. It is also a site of geomorphological significance. Town water supply is dependent on groundwater from the Bungendore Alluvium in the Lake George catchment.

Issues and Opportunities

Residential development to the north of the town will result in many of the dwellings overlooking Bungendore and being highly visible from the Kings Highway. Development north of the town will also result in loss of natural temperate grasslands without careful planning and ongoing management. Whilst some issues can be addressed through regular policy reviews of the local environmental plan and development control plan, the loss of grasslands should be avoided due to their environmental value.

5.2 Climate

The climate of Bungendore is temperate with snow falling on the surrounding ranges once or twice a year. As stated previously climate change will have an impact on the region.

5.3 Watercourses

Bungendore is located at confluence of three creeks – Millpost Creek, Halfway Creek and Turallo Creek (refer to Map 9) and is within the Lake George catchment. All three watercourses generally have pool and riffle geomorphology through town, with permanent pools fed by intermittent flows caused by rainfall events. These creeks are defined as watercourses under the PLEP, with a 40 metre buffer on each side of the watercourse defined as riparian land. The objective of the PLEP clause related to this classification is to protect and maintain water quality, bank and bed stability, aquatic and riparian habitats and ecological processes.

Characteristics of the watercourses of Bungendore are set out in the table below. The table includes information on a fourth watercourse to the east of Bungendore running between the Kings Highway and the railway.

Watercourse	Environmental Characteristics	Social Characteristics	Importance to Town Character
Turallo Creek	Floodway/flood storage Some native vegetation Infested with willow Issues with stagnant water due to debris dams	Separates the older parts of Bungendore from new residential developments Forms an important green corridor with passive and active recreation areas	High social and environmental importance
Millpost Creek	Floodway/flood storage Little native vegetation Farmland	Runs through large agricultural holding on the western edge of town	Minimal social and environmental importance; Potentially of agricultural importance; climate refuge for native fauna and contributes to landscape character
Halfway Creek	Floodway/flood storage Little native vegetation Farmland and public land Infested with willow Issues with stagnant water due to debris dams	Forms the western edge of town Runs through large agricultural holding on the western edge of town Runs through Frogs Hollow	Minimal social and environmental importance
Unnamed Creek	Floodway/flood storage Little native vegetation Farmland	Runs through large agricultural holding on the eastern edge of town	Minimal social and environmental importance ; Potentially of agricultural importance; climate refuge for native fauna and contributes to landscape character

Table 9 Watercourses of Bungendore

Issues and Opportunities

The enhancement of Turallo Creek through the management of willow species and fallen vegetation is likely to provide increased recreation opportunities, remove the barrier between older parts of Bungendore and newer residential areas and assist in the management of the flood hazard. It will also provide for an improved riparian habitat, better oxygen levels and reduced smell from anaerobic decomposition, thus increasing the aquatic and other wildlife.

5.4 Flora and fauna

Apart from the Days Hill area there is very little native vegetation in the existing urban area of Bungendore. Because of its location in a forest hollow between the Great Divide and Lake George escarpment, much of the original vegetation in the area would have been Natural Temperate Grasslands, with grassy woodlands and snow gum woodland on the slopes surrounding the town. As well as Days Hill, there are good but unsecured grassland remnants north of the town and smaller remnants scattered through the area. Turallo Nature Reserve and Gidleigh Travelling Stock reserve to the south are more substantial and diverse Native Temperate Grasslands remnants and act as a brake on urban expansion. Lake George is an example of ephemeral lakebed grassland, part of the critically endangered Natural Temperate Grasslands of the South East Highlands ecological community. Brooks Hill, located north east of the town centre is a substantial and significant Box Gum Woodland reserve extending to the ACT Border. The Days Hill area is 12.95 hectares of native grassland and exotic vegetation on the north side of Bungendore. The area

was set aside as part of the Elmslea residential development (north Bungendore).

As seen in Map 8, there are areas immediately surrounding Bungendore with patches of native vegetation that may meet the definition of the endangered ecological community Natural Temperate Grassland of the Southern Tablelands of New South Wales and the Australian Capital Territory which is listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). Map 6 shows the areas of native vegetation determined as being High Environmental Value by the NSW Office of Environment and Heritage.

Areas of native grassland may contain listed grassland reptiles such as *Delma impar* (Striped Legless Lizard) and *Suta flagellum*.

Issues and Opportunities

- setting aside areas of native vegetation such as Days Hill as part of a subdivision requires consideration as management of such areas is costly for Council, however this is an offset area under the Environment Protection and Biodiversity Conservation Act 1999 and there is a legal requirement for Council to manage this and other offset sites for biodiversity conservation in perpetuity
- Council's native vegetation map (map 8) identifies areas of native vegetation surrounding Bungendore that require further investigation, primarily critically endangered Natural Temperate Grasslands and grassy Box-Gum Woodland, and endangered Tablelands Snow Gum ecological communities. Development of areas containing critically endangered communities or threatened flora and fauna within may have severe and irreversible impacts. In these circumstances developments cannot be approved by Council alone and concurrence of the Office of Environment and Heritage is required. Consideration should be given to thoroughly mapping grasslands, which are at this stage unable to be mapped using satellite or aerial photography
- the native vegetation reforms introduced by the NSW government require offsets for impacts on threatened communities and species that cannot be avoided or minimised. The Biodiversity Offset Scheme (BOS) may provide opportunities for both development (Biodiversity Certified development) and conservation (payments into the BOS to manage offset sites)
- Although areas of high environmental value in and around Bungendore may be regarded as a constraint to development, biodiversity reforms offer real opportunities for Council to proactively conserve these remnants and to derive a modest income through the Biodiversity Offset Scheme.

5.5 Implications

Native vegetation and areas of High Environmental Value Vegetation surrounding Bungendore are major constraints. In terms of future growth development and retention of environmental values need to be balanced. This will particularly be the case for the high growth scenario as growth pressures may impact on these areas.

However, irrespective of the growth scenarios some areas of Bungendore and surrounds should not be developed due to their environmental values. Map 5 of the Structure Plan identifies areas which are constrained due to their environmental value or other issue as 'Challenging Development Areas'.

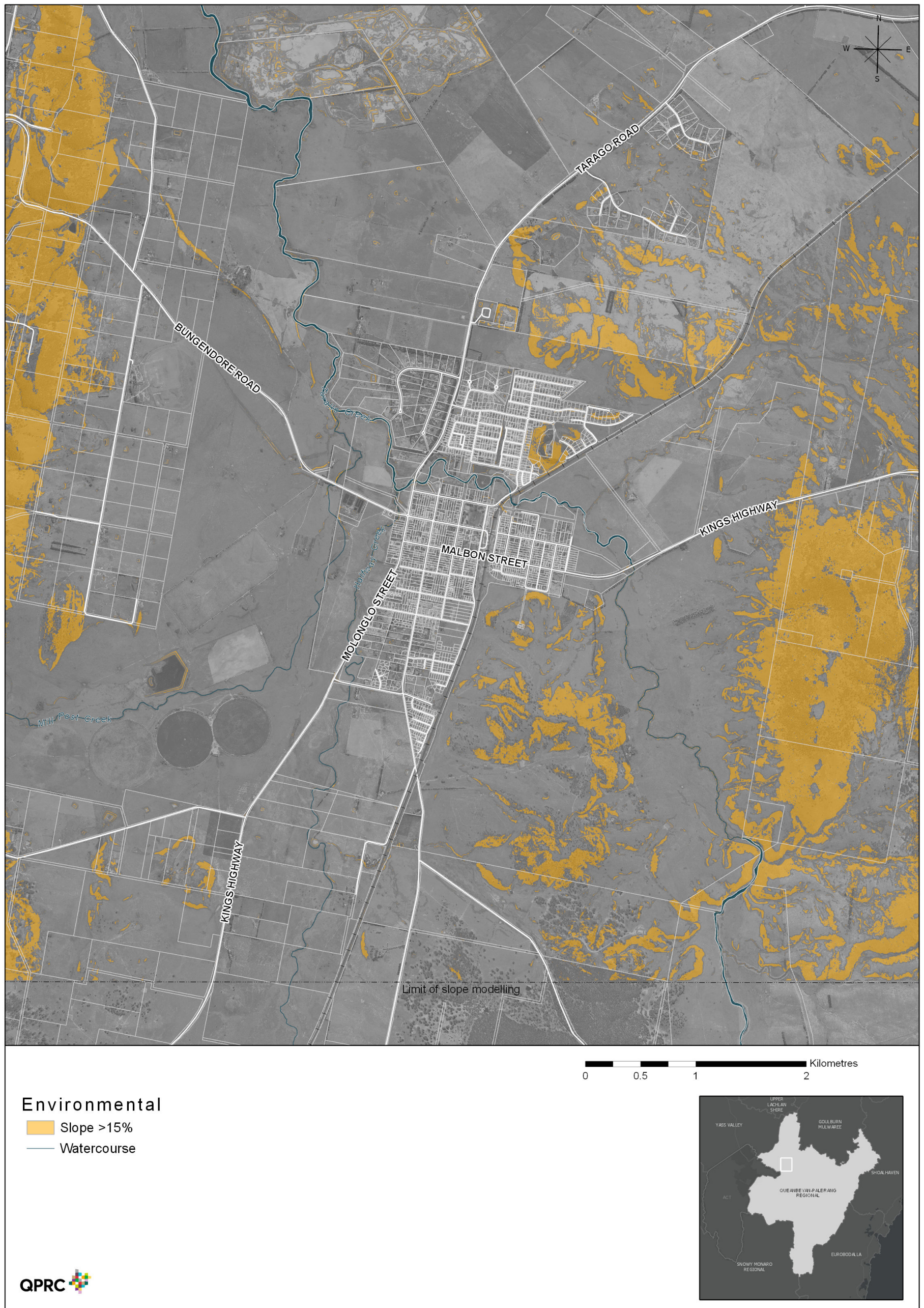
Even with the steady growth scenario, not all the additional housing requirement can be met through infill development and the urban area will expand. However, such urban expansion will be limited and the least constrained land can be utilised.

In both the medium and high growth scenario, more urban land will need to be found to meet the demand for housing of an increasing population. As such careful planning is required to ensure this is not at the expense of land with high environmental value. This task may be more difficult in the high growth scenario as the supply of

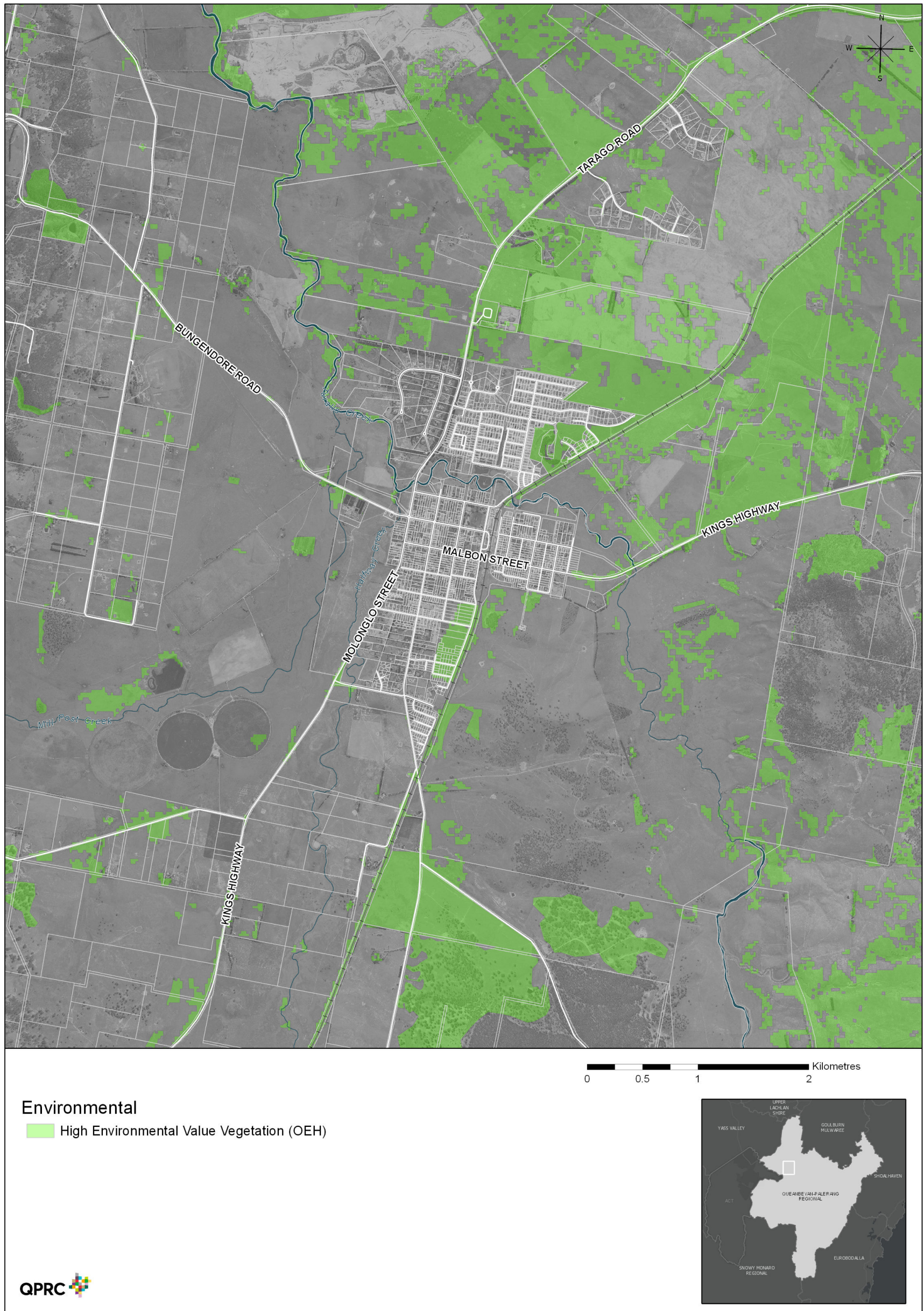
land which can be utilised for urban purposes is finite. In addition, there may be added costs due to the requirement to fund and acquire Biodiversity Offset sites.

The management of native vegetation areas if provided as part of subdivisions are costly in terms of maintenance and unaffordable for Council. How these areas are managed and how to fund them (for example through BOS) is an issue which will require consideration.

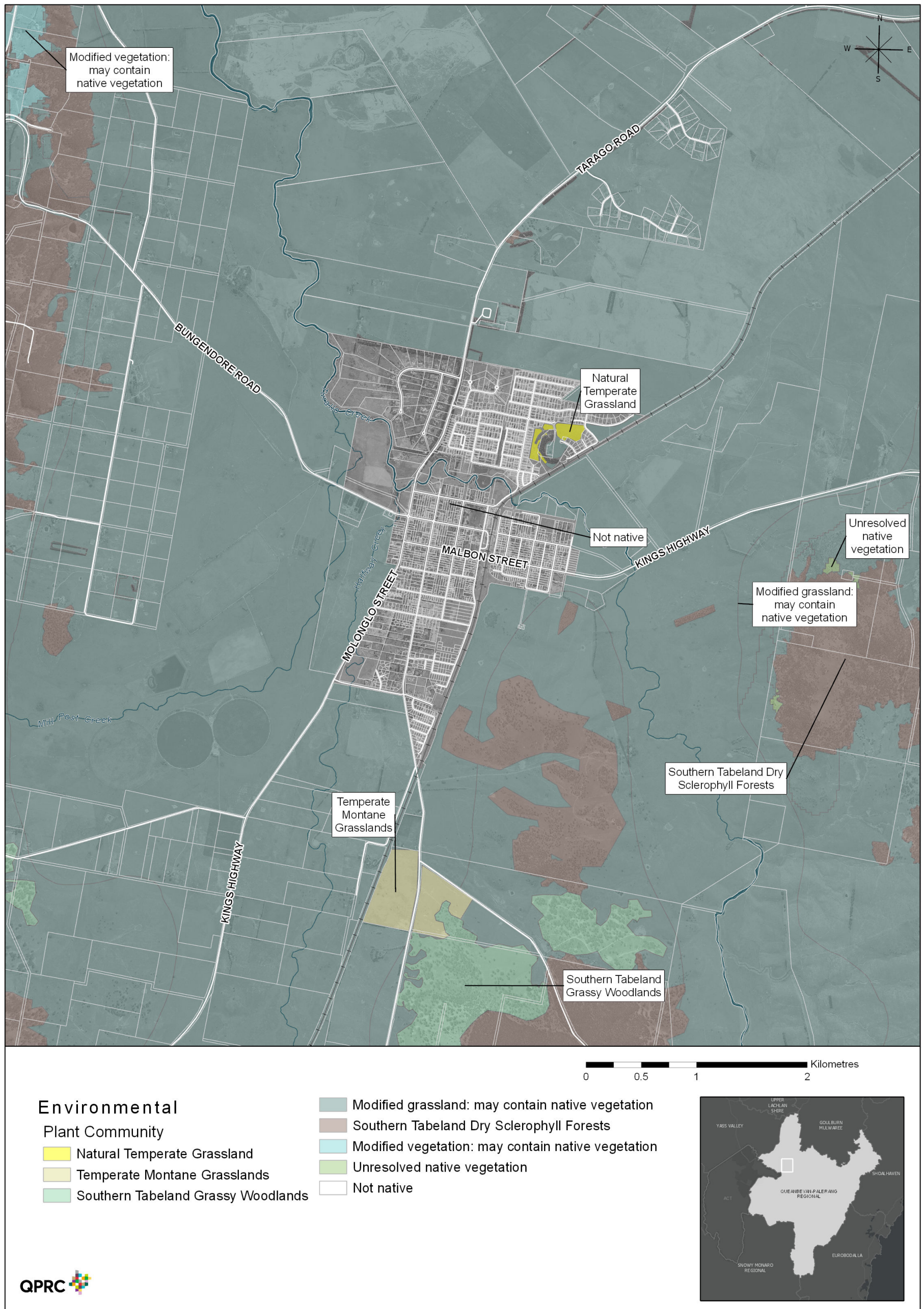
Ultimately, growth scenarios will be constrained by water available for households, agriculture and the environment. Bungendore is an acknowledged leader in innovative, ecologically sustainable agriculture and has attracted a significant number of entrepreneurial primary producers to the district. Protection of the Lake George catchment and aquifer must therefore be regarded as a priority.



Map 6 Slope greater than 15%



Map 7 High Environmental Value Native Vegetation (NSW Office of Environment and Heritage)



Map 8 Native vegetation type and contours

5.6 Hazards

5.6.1 Flood

Current Situation

Bungendore is located at the confluence of Turallo, Halfway and Millpost Creeks and is susceptible to flooding at high frequencies. Major flooding at Bungendore has occurred on a number of occasions, with severe flooding in 1934, 1956, 1974, and 1988, with the 1934 flood considered the largest although not necessarily the most damaging. Council has adopted the *Bungendore Floodplain Risk Management Study and Plan* (WorleyParsons 2014) and is currently implementing the strategies contained in the *Bungendore Floodplain Risk Management Plan*.

Development within the town is required to comply with Clause 6.2 of the PLEP and the Flood Planning Map. It shows all land identified as being within the 'Flood Planning Area', which is defined as all land below the level of the 1% (AEP-refer to the Glossary) flood event plus 500mm.

Map 10 illustrates the floodway corridor and the flood planning level.

Areas of Bungendore, particularly around the existing commercial area, experience flooding in events as common as the 20% AEP with larger areas of the town being impacted in less frequent flooding. Road access to Elmslea from the southern side of Bungendore is cut off in all flood events of 20% AEP magnitude and greater.

Flooding in the town is short term (lasting less than a day) and is considered to be flash flooding, that is, flooding with little warning. Despite this, flooding is generally manageable given the low number of residences impacted and the availability of multiple access routes away from flooded areas. Hydraulic and hazard categories have been defined for the town to guide future development and emergency planning.

The impact of flooding on major access routes for Bungendore is shown in Table 9 above. Major arterial roads to and from Bungendore from the south are cut during flooding and will result in the effective isolation of Bungendore from surrounding areas for a period of time.

Issues and Opportunities

Development is controlled by the *NSW Floodplain Development Manual*, which recognises that flood prone land is a valuable resource that should not be sterilised by unnecessarily precluding its development and that development within floodplains should be assessed on a merits basis.

Generally speaking, and subject to cumulative assessment, the filling of storage areas and fringe areas of a floodplain is possible. Each development will need to assess the cumulative impacts of their proposed works and ensure that the works do not exacerbate or re-direct flooding within the town.

Flooding in Bungendore provides a constraint to development to the west of the existing town and will potentially isolate the entire town for a short period of time. Future development must consider flooding to avoid exacerbating existing issues.

The *Bungendore Floodplain Risk Management Plan* identified a number of structural and non-structural measures to relieve flooding in Bungendore.

A number of areas of the floodplain are potential residential or commercial development areas. These areas will require further investigation to ensure that they are suitable for development.

5.6.2 Fire

Map 9 illustrates the Bungendore section of the Palerang bushfire map. The areas on the edge of Bungendore and surrounds are bushfire prone due to the grasslands. The categories are 1, 2 and B (buffer). Category 1 is the highest risk for bushfire. Whilst this does not prevent development additional measures will be required to reduce the risk of bushfire.

5.6.3 Wind

Strong winds in Bungendore are common which requires a higher wind rating for buildings. It also provides the opportunity for wind generated energy production.

5.7 Implications

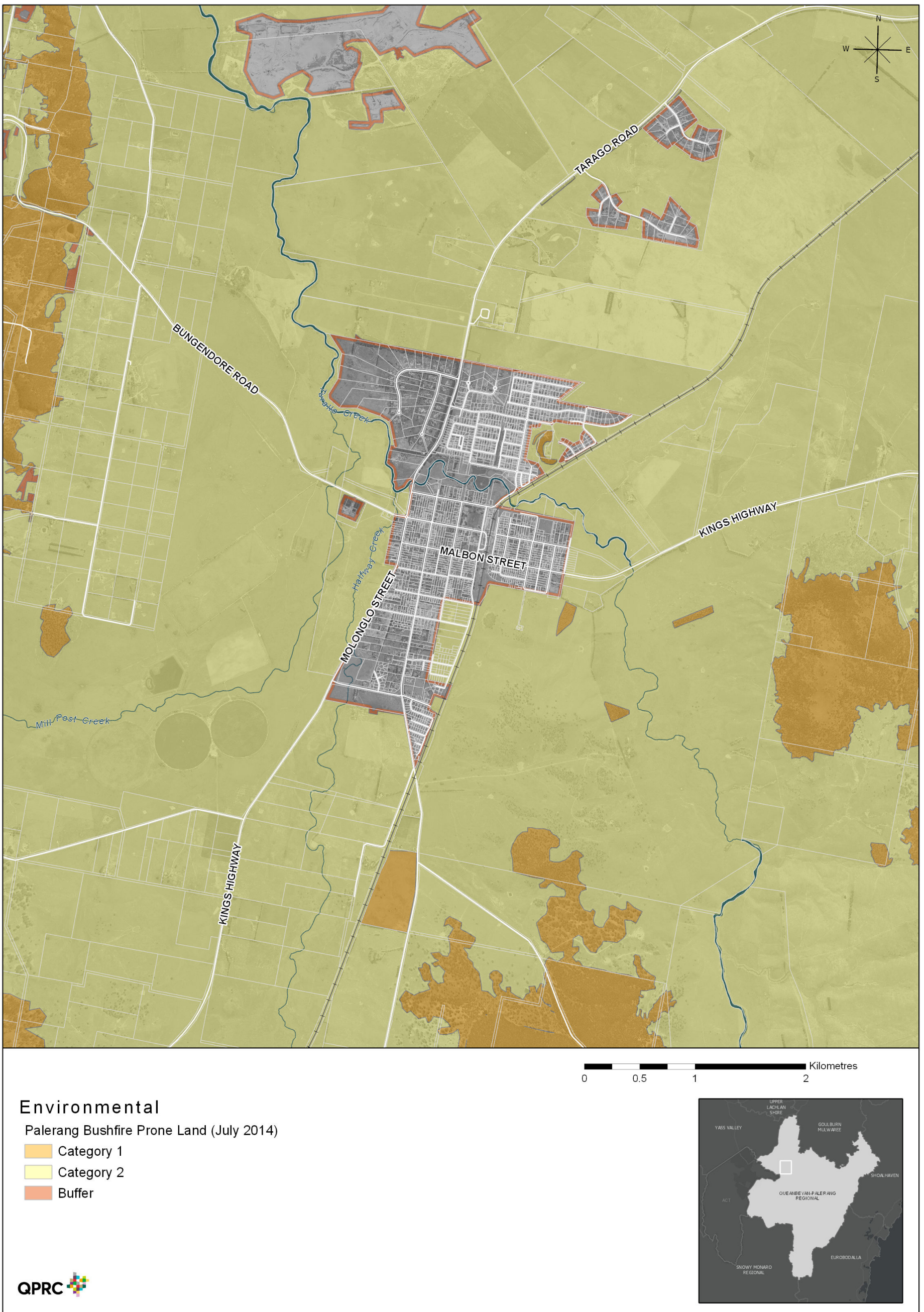
Map 11 below illustrates the areas that are not within the flood planning area or contain High Environmental Value native vegetation or slopes greater than 15%. These areas may be considered less challenging for development

Natural Hazards of Flooding, Bushfire and high Winds are constraints which will have an impact on development. Further studies will be required to ascertain to what extent these hazards restrict or impact development of specific areas. Prior to considering any planning proposals evidence that this has been considered will be required to be provided to Council which will then be peer reviewed.

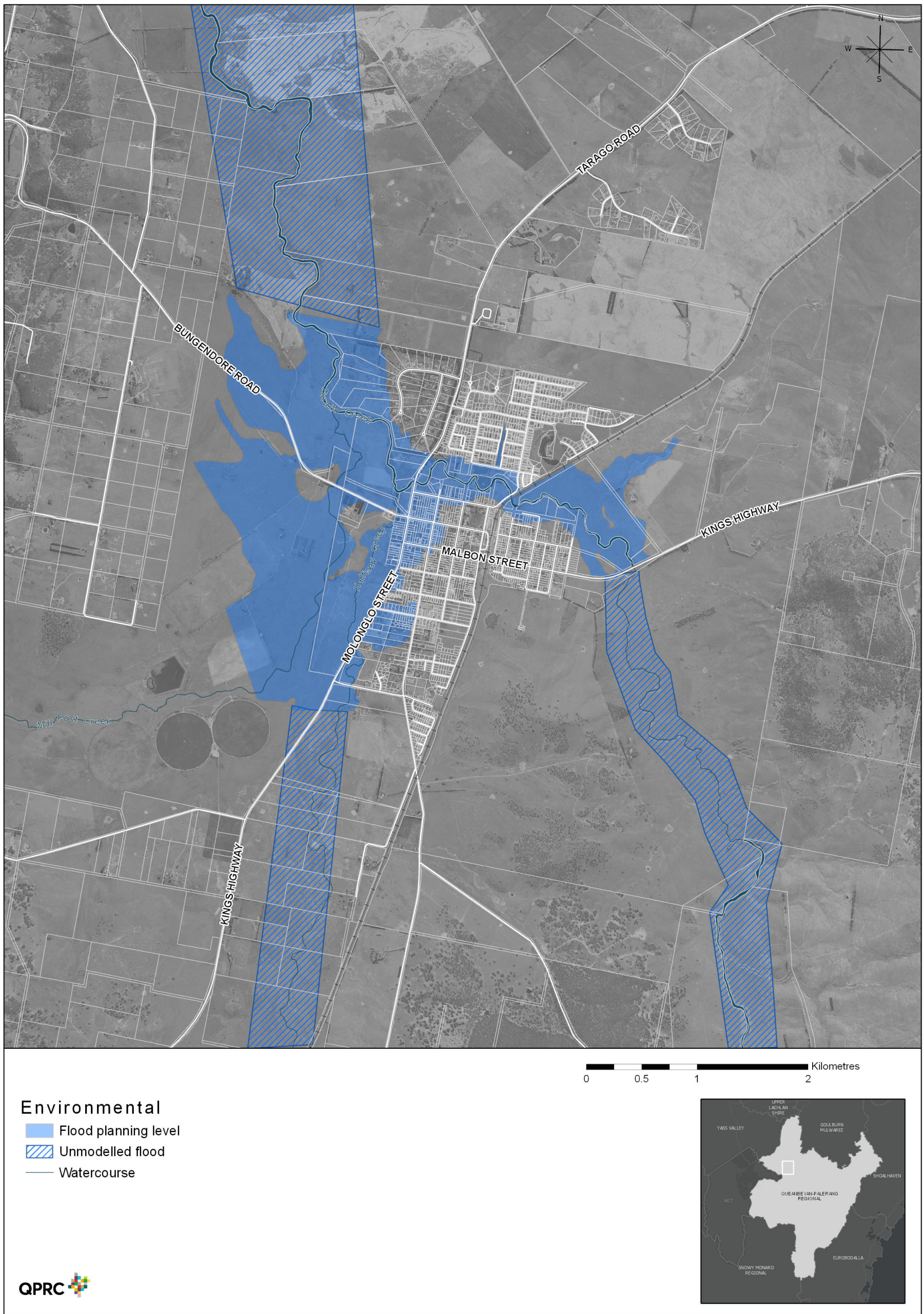
Most of the land surrounding Bungendore is rated Category 2 under the Palerang Bushfire Plan, July 2014. Whilst this is a constraint to development it will not mean that any of the three growth scenarios cannot be implemented. It does, however require that consideration be given to how the risk can be minimised in the planning and design stage of particularly new urban areas.

Similarly, high winds although a constraint can be addressed through siting and design of buildings and will not be an issue to limit the growth options.

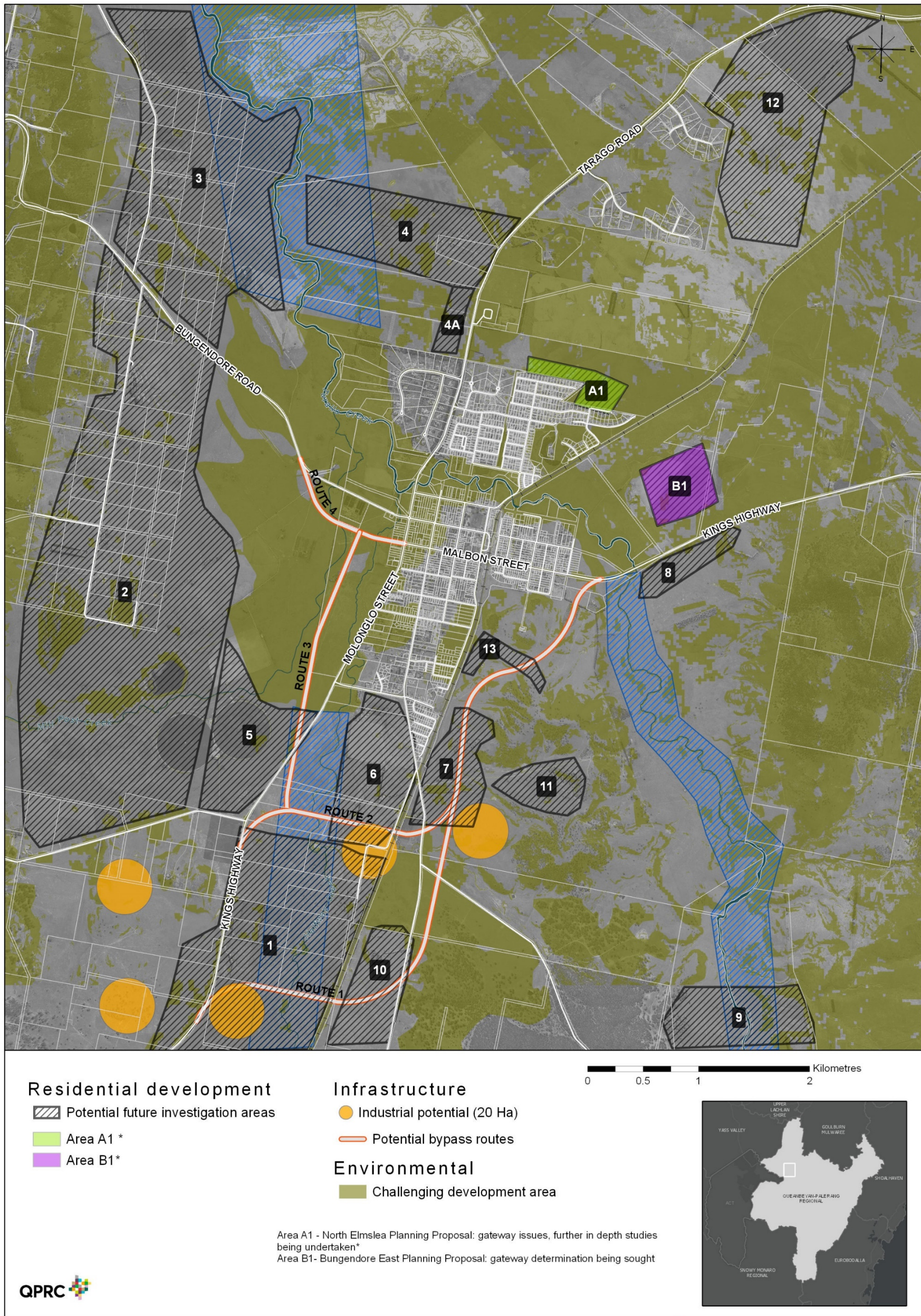
Flooding is, however a constraint which may prevent certain lands from being suitable for urban expansion. In the case of the steady growth scenario, any future expansion of the urban area of Bungendore should be accommodated on land that is outside of the Flood Planning Area. This will also be applied in the circumstance of the medium and high growth scenario and residential development will be limited to areas outside of the flood planning level. However, some land uses may be considered on flood affected land subject to meeting certain design criteria. These may be commercial, industrial and recreational land uses which are part of the urban fabric contributing to the economic viability of the town.



Map 9 Bushfire prone land



Map 10 Flood hazard



Map 11 Development possibilities and challenging development areas

6. History and character

As part of the preparation of the PDCP, the historical background and current and the desired future character of the whole of Bungendore was identified. Additionally, the inner parts of Bungendore were divided into precincts and the current and future character identified. This work enables the important elements of the town to be maintained and enhanced. It is not intended that the heritage aspects be replicated or retained at 'all costs'. It should be noted that the original village of Bungendore is not listed as a heritage conservation area in the PLEP or under the *NSW Heritage Act 1977*.

6.1 European and Aboriginal heritage

Heritage consists of those places and objects that we as a community have inherited from the past and want to hand on to future generations. Our heritage gives us a sense of living history and provides a physical link to the work and way of life of earlier generations. It enriches our lives and helps us to understand who we are today. Heritage items have special qualities that make them significant and in undertaking development, care needs to be taken to ensure that the features or characteristics that make a heritage item significant are not compromised by change.

Aboriginal Heritage

Aboriginal objects are physical evidence of the use of an area by Aboriginal people. Aboriginal objects include:

- stone tools, Aboriginal –built fences and stockyards, scarred trees and the remains of fringe camps
- material deposited on the land such as middens
- the ancestral remains of Aboriginal people

Aboriginal heritage also includes places associated with stories of traditional activity known to local Indigenous people. The places may include natural features such as large rock formations, waterholes and particular shaped trees. Aboriginal sites (both known and unknown) and areas of significance are an important part of Australia's cultural heritage. The sites and areas of significance provide a direct link for Aboriginal people with their culture. It is important to preserve as many of them as possible. The *NSW National Parks and Wildlife Act 1974* protects Aboriginal objects and places in NSW.

Current Situation

The NSW Office of Environment and Heritage database Aboriginal Heritage Information Management System (AHIMS) maintains records in relation to Aboriginal cultural heritage. It should be noted that only known sites are included in the database. Council has prepared a GIS layer in association with the Aboriginal community identifying known sites, areas where there is potential for sites and areas of significance. The layer is not available for use outside of Council and government agencies.

Issues and Opportunities

There are numerous sites in the vicinity of Turallo Creek and in the rural areas surrounding Bungendore. It is likely that as development occurs beyond the existing urban area of Bungendore that Aboriginal cultural heritage will be disturbed. The Lake George area is a known significant Aboriginal cultural heritage site. Any planning proposal to rezone land where there is the potential that Aboriginal cultural heritage may be impacted will as part of the process require further detailed studies.

European Heritage

Current Situation

There is a strong early rural Australian European heritage element which contributes to the character of Bungendore. There are 65 items in Bungendore listed in the PLEP heritage schedule. Many of these items were contained in the former development control plan for Bungendore. The information was based on the Bungendore

Conservation Planning Study undertaken by David Scobie in 1982. The railway station and associated items are listed on the state heritage register. A Heritage Strategy was prepared for Bungendore in 2010. The Heritage Strategy contributed to the character and precinct sections of the PDCP.

During 2018, a review of the Bungendore Conservation Planning Study has been undertaken. A comprehensive European heritage GIS layer has been developed based on the study.

Issues and Opportunities

Heritage items and the street grid pattern provide key elements in the inner part of Bungendore which in turn contribute to a strong and unique character for Bungendore.

There are numerous older items in Bungendore, particularly buildings which have not been included in the PLEP heritage schedule. Consideration needs to be given to the approach to the management of heritage. For instance should every older building be listed or only those which are representative of a particular period or style and how would either approach impact on the development and enhancement of precincts.



Photo 1 Bungendore Railway Station

Natural Heritage

Natural heritage refers to components of the living environment such as land resources, inland water and diverse animal and plant life. There are several sites in the local government area which are of high natural heritage value including Lake George and karst areas such as The Big Hole and London Bridge. There are no known natural heritage sites in Bungendore.

6.2 Historical background of Bungendore

Bungendore commenced as a rural village to provide services to surrounding properties, a staging post for travellers. The historic nineteenth century area is bounded by Molonglo Street, Rutledge Street, Majara Street and Turallo Terrace.

The grid layout of roads in the original part of the village were gazetted in 1837 and a number of significant commercial and civic buildings were established along Gibraltar Street. Several inns to service travellers were located along the main roads. The Anglican and Catholic churches are within the historic grid and positioned with a block separation. Substantial private houses were established in the period 1850- 1900, many of which survive.

The Rutledge Estate to the east of the railway line was developed in the 1880s at the time of the development of railway and the opening of the rail route from Goulburn to Queanbeyan in 1883. Residential

development also extended to the south of Rutledge Street during this period.

In the last twenty years the Elmslea Estate has been developed to the north of the original village, distinctly separated from the original village by Turallo Creek and reserve. The estate has two parts – project houses on suburban lots on the eastern side and small rural lots to the west. Most recently new suburban style residential development has occurred on the southern edge of the village in the area known as Trucking Yard Lane.

A detailed historical overview is provided in the document *Thematic History Lake George, Molonglo Valley and Burra* by Suzannah Plowman.



Photo 2 Bungendore Police Station

6.3 Current character of Bungendore

The village of Bungendore has a strong visual setting on the open plain south of Lake George, bounded by significant ridges to the east, west and south. There is a clear divide between the rural landscape and the town. The village topography is flat and is bisected by Turallo Creek running east – west and the Sydney to Canberra rail line running north - south. The creek and its reserve is the only dominant natural land feature within the village.

Four roads converge on the village, linking it with Braidwood and the south coast, Queanbeyan, Canberra, Goulburn and Sydney. From the east, the Kings Highway (Malbon Street) has views of older dwellings, the cemetery and the new housing development in the northern part of the village. From the south, the Kings Highway includes a mix of heritage buildings and rural commercial suppliers. From the west, Bungendore Road contains views of the rural landscape, the village's sewerage treatment plant and the commercial area. From the north, Tarago Road is lined with a belt of native and pine trees. It passes the newer housing estate and crosses over Turallo Creek.

Bungendore is a rural town with commercial, civic and residential neighbourhoods. The characteristic subdivision pattern of the original village and low scale development creates an open, informal and spacious character that contributes to the rural village character. This area is bounded by Molonglo Street, Rutledge Street, Majara Street and Turallo Terrace. There is a clear delineation between the historic nineteenth century village and the late twentieth and twenty first century residential areas.

The small commercial and light industrial areas provide local employment and services to residents in the town and the surrounding rural community. Bungendore accommodates high numbers of tourists – day trippers from Canberra and Queanbeyan, and travellers passing through.

The original village area has four distinct precincts; the civic, commercial, open space areas and the residential area which surrounds the commercial area. The civic area contains numerous significant heritage buildings which continue to serve the functional needs of the village. These include the police station, post office, public school and the railway station. Bungendore Park, well known for its mature pine trees, Anzac memorial and oval, forms the centre of this area. As well as being a sporting facility, it provides a rest stop for visitors and a meeting place for the community. The role of

the area has continued to grow with the development of a community health centre and in recent years additional buildings at the school and the new council administrative building.

The commercial area has two distinct parts; the 'tourist' area on Malbon Street and the 'shopping' area on Gibraltar and Ellendon Streets. An IGA supermarket is located at Malbon Street. Unusually for a nineteenth century village, there is not a focal point such as a village square or a 'main' street. The area has many historic buildings some being used for residences and others for business. Most buildings are single storey, constructed with local timber, brick or stone with corrugated steel roofs, either pitched between 25-30 degrees with hips or gables or low slope skillions often concealed behind parapets. There are a few two storey buildings, including the Royal Hotel. A dominant feature of almost every building is a verandah or awning, some forward of, some behind the street boundary line. The newer buildings are generally in sympathy with the character of the village. Materials include brick, painted timber and corrugated steel.

The subdivision pattern in the 'old' part of Bungendore is generally consistent with, and responds to the grid road layout that is oriented east-west. Street blocks are typically square (200 metres by 200 metres), some with service lanes. Original lots were deep and narrow (100 metres by 20 metres). The lots are large, some of the streets have verges without kerbs and those in the inner area have upright kerbs. There has been some change to the shape of the lots over time through amalgamation and subdivision. Lots front the road and buildings are typically oriented to the street.

Historic buildings of the mid nineteenth century village are substantial stone and brick structures. Many of the buildings are important as heritage features in their own right or for their historic stylised contribution to the streetscape. They include places with plain Georgian frontages and modest cottages with verandahs, steeply gabled roofs or other features. Buildings are predominantly single storey. Residences with heritage values are scattered throughout the village. Turallo Terrace on the northern edge of the original village area has a concentration of historic buildings. The churches, important for their rustic gothic style are notable heritage features of the village.

Residential lots are characterised by single dwellings with the front of the dwelling facing the front of the lot (the street frontage) and the rear of the dwelling and the rear yard facing and adjacent to the rear of the lot. Houses are generally set back from the street (average 7 metres) and are generally located within the front half of the lot leaving significant rear yards. Many lots and the streets are planted with mature trees that have created a significant canopy. The planting of mature trees along lot boundaries provides substantial buffers between lots.

The vacant rear yards and significant amount of unbuilt-upon area allow for the growth of large canopy trees, which are prevalent high above rooftops. Trees are a mix of evergreen and deciduous so that there is a constant view of greenery year round. Existing planting is generally informal with clumps of trees in rear yards and some trees in front yards.

There is characteristically a larger proportion of unbuilt-on area to built-on area, and a larger proportion of soft landscape to hard landscape (such as concrete and paving), that creates a feeling of openness and rural village character. The significant gaps between buildings allow for views through to the surrounding rural landscape.

The major landscape within the village is trees and spaces consisting of the Turallo Creek reserve, Frogs Hollow, Bungendore Park and the Bungendore cemetery.

The eastern part of Bungendore is largely formed by the Rutledge Estate. This area contains several individually listed places dating from the mid nineteenth century comprising small rural landholdings including farm houses and associated outbuildings. The late nineteenth century street subdivision pattern was laid over the former (area). There are several early twentieth century dwellings which exhibit characteristics of Californian Bungalow Style. Later development comprises mid twentieth century dwellings of no heritage value.

In recent years, Bungendore has experienced residential growth at the northern and southern ends of the town and some infill development in the older residential areas.

The new dwellings are predominantly single story with some multi-dwellings (town houses) being erected in the inner southern area. The commercial area is undergoing change with dwellings being used for commercial purposes, improvements to existing

commercial buildings and the development of a new supermarket and a two story building which will contain office and commercial space. These developments are of greater scale, height and bulk than the existing development with very specific functional requirements such as large scale delivery and loading docks and greater parking requirements.

Key features of the Bungendore character are open space, the surrounding rural landscape, a mix of heritage with new and predominantly single story buildings

The PDCP desired future characteristics of Bungendore are:

- structures are of a low scale with a distinct divide between the town and the surrounding rural landscape
- development is generally of low density with buildings well separated (except in the commercial area (precinct 2))
- a landscaped setting including mature trees and shrubs, grassed verges and gardens, all of which combine exotic and native species
- the historic grid pattern is intact
- heritage items are dominant features
- new buildings are of sympathetic form and external materials relate to the existing town character
- open space areas are not cluttered with new structures

The PDCP objectives for development in Bungendore are:

- to encourage development that is consistent with the desired future character of Bungendore
- to promote a mix of uses and a variety of building styles that enhance and contribute to the character and identity of the precinct and which do not have a detrimental impact of the heritage values of significant prominent buildings and the townscapes.
- to achieve a balance between the functional and aesthetic needs of new development and conserving the historic character of the town

These objectives and the desired future character of Bungendore have been included in Section 6.4.

6.4 Current character and desired future character of the precincts

Bungendore has been divided into ten precincts, precincts 1-4 are part of the PDCP (p150-153). The other six precincts current and desired future characters have been developed as part of the draft Structure Plan Discussion paper.

Each of the precincts is illustrated in map 12 below.

Precinct 1 - Civic

Current characteristics

- single story buildings designed and used for public purposes with generous open curtilages
- buildings face Bungendore park
- a heritage railway complex from the late nineteenth century

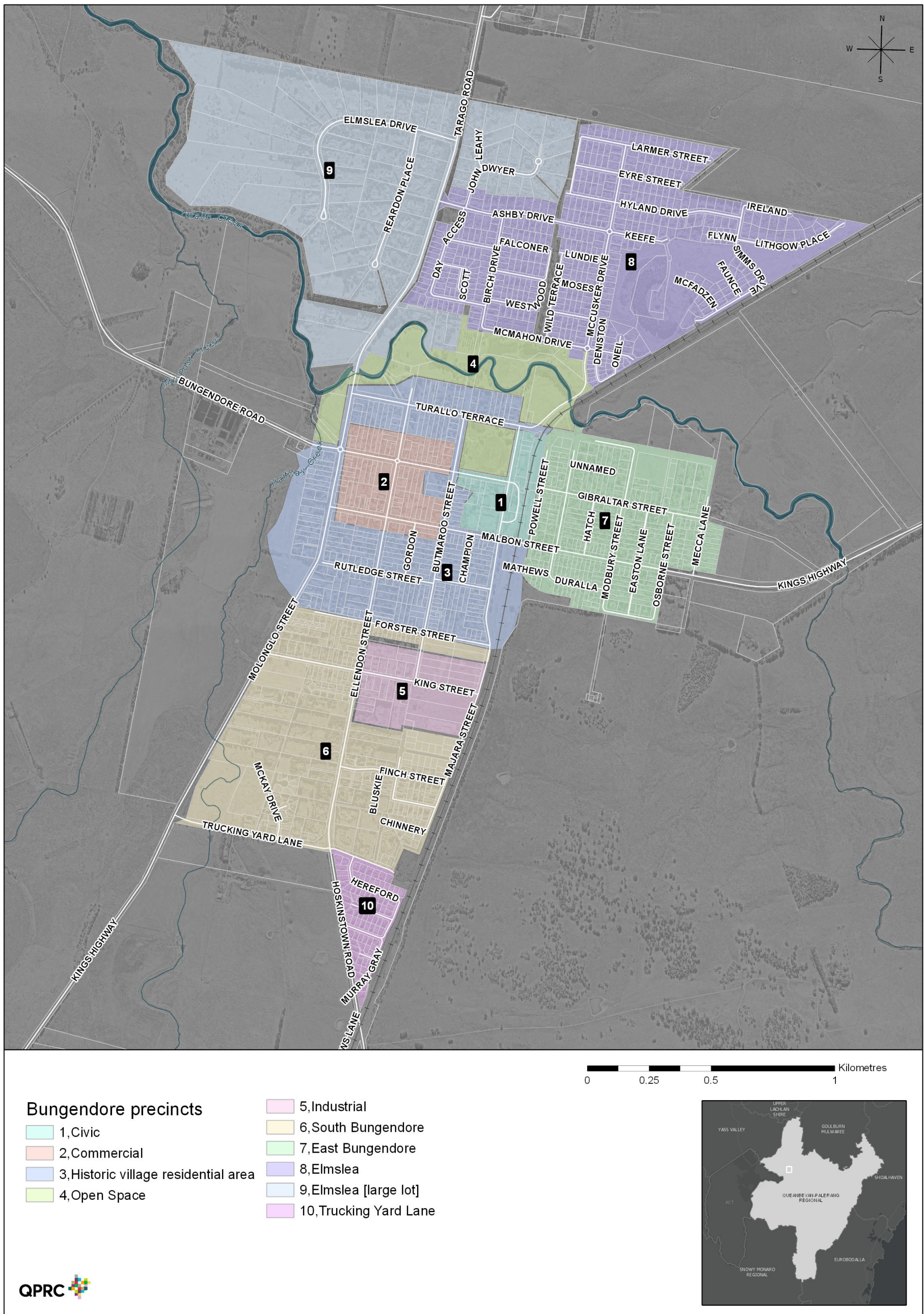
Suggested desired future characteristics:

- heritage buildings including singular civic buildings such as the Railway Station, School of Arts, Police Station and Schoolhouse are dominant features
- single storey detached buildings with generous open curtilages
- combinations of materials including stone, brick and weatherboard walls, and corrugated steel, slate or tiled roofs
- simple gable or hipped roofs of relatively narrow spans and pitches between 25-35 degrees

- generous landscaped surrounds to buildings
- variety of front setbacks

Controls

- (1) buildings facing the street (or both streets in the instance of a corner lot) shall have openings of a scale and proportion which is sympathetic to the existing historic buildings. Openings should read as being punctuations of the overall wall. The ratio of opening areas should be less than that of the wall area
- (2) buildings are not to contain large sections of blank walls
- (3) new buildings are to align with the town grid
- (4) roof planes are to be aligned parallel, or 90 degrees to the side boundary of the lot
- (5) new roofs are to be consistent with historic roof forms. i.e. narrow span gables and hips, with a high degree of articulation over the floor plan
- (6) existing mature trees are to be retained



Map 12 Bungendore precincts

Precinct 2 Gibraltar, Ellendon, Malbon and Molonglo Streets commercial

Current characteristics

- two distinct areas:
 - the 'tourist' area on Malbon Street
 - the 'shopping' area on Gibraltar and Ellendon Streets
- no focal point such as a village square or a 'main' street
- mix of residential and commercial historic buildings
- mostly single storey buildings constructed with local timber, brick or stone with corrugated steel roofs, either pitched between 25-30 degrees with hips or gables or low slope skillions often concealed behind parapets
- few two storey buildings, the prominent one being the Royal Hotel
- a dominant feature of almost every building is a verandah or awning, some forward of, some behind the street boundary line
- the newer buildings have generally been in sympathy with the character of the village
- amongst the newer buildings there is no distinct style except that they are single storey. Materials include brick, painted timber and corrugated steel.

Suggested desired future characteristics:

- a mix of styles and building types –commercial, retail and residential use
- a variety of front setbacks, including zero front setbacks for buildings facing the Gibraltar and Malbon Streets
- front awnings or verandahs
- combinations of materials including stone, timber, brick and weatherboard walls, and corrugated steel walls and roofs, slate or tiled roofs

Controls

- (1) buildings fronting Gibraltar, Malbon or Ellendon streets may have a zero front or side setback
- (2) buildings fronting Gibraltar, Malbon or Ellendon streets shall incorporate a verandah or awning on the front elevation.
- (3) new buildings are to align with the town grid. Roof planes are to be aligned parallel, or 90 degrees to the side boundary of the lot
- (4) buildings facing the street (or both streets in the instance of a corner lot) shall have openings of a scale and proportion which is sympathetic to the existing historic buildings. Openings should read as being punctuations of the overall wall. The ratio of opening areas should be less than that of the wall area.
- (5) buildings are not to contain large sections of blank walls on elevations facing the street. These elevations should be articulated.
- (6) new roofs should be consistent with historic roof forms. i.e. narrow span gables and hips, with a high degree of articulation over the floor plan
- (7) front elevations may incorporate a glazed shopfront. This should not be fully glazed, i.e. full width floor to ceiling but be broken up in traditional proportions with sill, head and transom and have a separately identified entry door
- (8) verge design should be consistent with adjoining properties, e.g. a combination of brick or concrete paving, timber and soft landscaping and if not fully paved should continue the existing paved footpath alignment
- (9) Car parking should be located at the rear of development as to not dominate the streetscape

Precinct 3 - Historic village residential area

Current characteristics

- the subdivision pattern is generally consistent with, and responds to the grid road layout that is oriented east-west. There are several service lanes
- the precinct is predominantly residential, characterised by single storey dwellings facing the street
- heritage listed buildings are scattered throughout the precinct but there is a notable concentration in Turallo Terrace on the northern edge of the original village
- the more substantial buildings are generally stone or brick
- houses are typically single or double fronted with pitched gable or hipped roofs and verandahs. Wall materials include brick, stone or weatherboard and roofs have been predominantly corrugated steel
- many lots and the streets are planted with mature trees that have created a significant canopy. Planting of mature trees along lot boundaries provides substantial buffers between lots
- the lots are large. Houses are generally set back from the street (average 7 metres) but are generally within the front half of the lot leaving significant rear yards
- there are a variety of verge treatments. Inner streets tend to have formed kerbs. Outer streets have grass or gravel with swales.

Suggested desired future characteristics:

- low scale predominantly detached dwellings with generous curtilages and landscaped surrounds
- simple gable or hipped roofs of relatively narrow spans and pitches between 25-35 degrees with attached awnings and verandahs
- a variety of front setbacks
- combinations of materials including stone, timber, brick and weatherboard walls, and corrugated steel walls and roofs, slate or tiled roofs

Controls

- (1) new roofs should be consistent with historic roof forms. i.e. narrow span gables and hips, with a high degree of articulation over the floor plan

Precinct 4 - Open Space (Bungendore Park, Turallo Creek and Frogs Hollow)

Current characteristics:

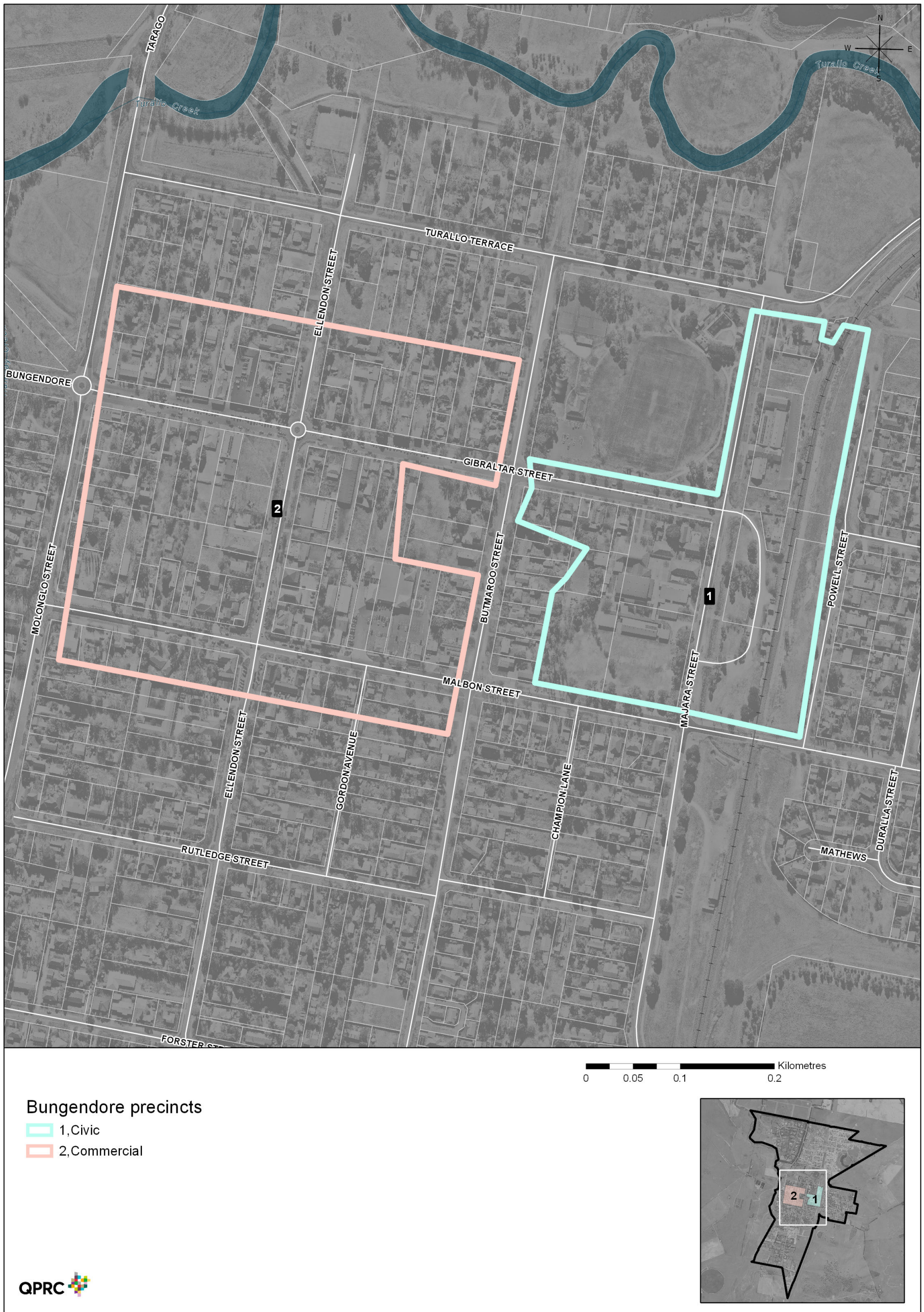
- Bungendore Park is a town park with semi-formal landscaping surrounded by civic buildings
- Turallo Creek and Frogs Hollow areas are semi-rural open spaces which provide a green edge to the village.
 - both have substantial frontage to Turallo Creek
 - exotic species are dominant in both, with heavy infestations of willows
- none of the open spaces contain a lot of recreational infrastructure

Suggested desired future characteristics:

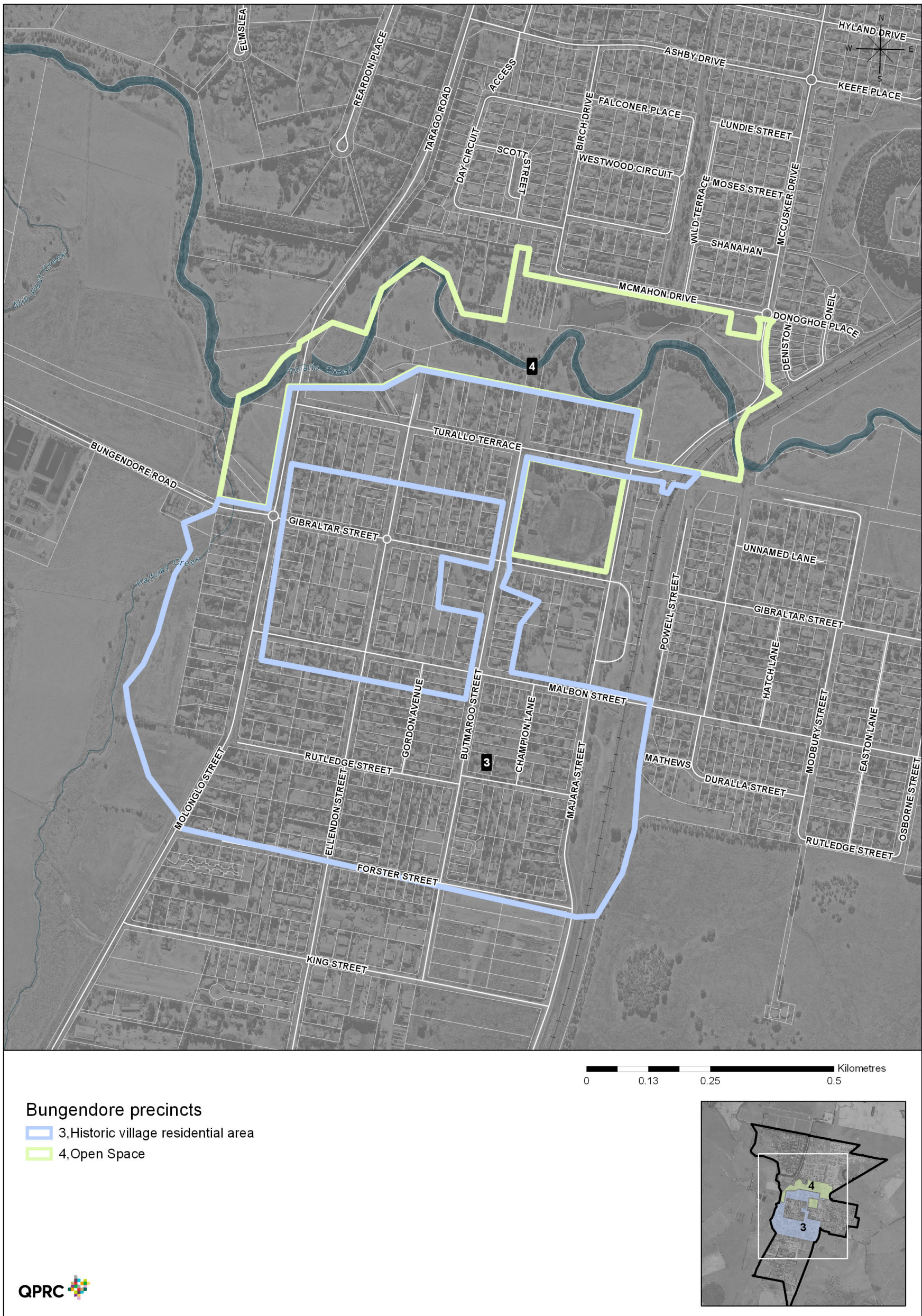
- a mix of native and exotic plantings with few willows
- limited number of structures
- open space areas are not 'cluttered' with structures
- structures are appealing and the design is interesting

Controls

- (1) structures are to be of a low scale and have a rural character
- (2) structures are not to detract from the open landscaped character of the open space
- (3) development is to be in accordance with the management plans for each of the open space areas



Map 13 Precincts 1 and 2, Civic and Commercial areas of Bungendore



Map 14 Precincts 3 and 4, Historical Village Residential Area and Open Space

Precinct 5 - Industrial

Current characteristics:

- generally light industrial activities
- little landscaping and low amenity
- surrounded by dwellings of varying ages

Suggested desired future characteristics (for the current precinct):

- well maintained landscaping both on and off street
- light industrial activities only

Precinct 6 – South Bungendore

Current characteristics:

- residential lot sizes ranging from 850m² to 1000 m²
- roads generally contain mature trees
- not all roads have kerb and gutter
- low scale predominantly detached dwellings
- mix of ages, architectural dwelling styles and materials in the dwellings

Suggested desired future characteristics:

- low scale predominantly detached dwellings with generous curtilages and landscaped surrounds
- simple gable or hipped roofs of relatively narrow spans and pitches between 25-35 degrees with attached awnings and verandahs
- a variety of front setbacks
- combinations of materials including stone, timber, brick and weatherboard walls, and corrugated steel walls and roofs, slate or tiled roofs
- this precinct could in the long term be suitable to accommodate some higher density development subject to such development not being located on land that is flood affected. In addition, higher density development needs to be consistent with the existing character of the locality in terms of scale and form of development.

Precinct 7 – East Bungendore

Current characteristics:

- the precinct is predominantly residential characterised by single storey dwellings facing the street
- heritage listed buildings are scattered throughout the precinct
- houses are typically single or double fronted with pitched gable or hipped roofs and verandahs. Wall materials include brick, stone or weatherboard and roofs have been predominantly corrugated steel
- many lots and the streets are planted with mature trees that have created a significant canopy. Planting of mature trees along lot boundaries provides substantial buffers between lots
- the lots are large. Houses are generally set back from the street (average 7 metres) but are generally within the front half of the lot leaving significant rear yards
- there are a variety of verge treatments. Inner streets tend to have formed kerbs. Outer streets have grass or gravel with swales.

Suggested desired future characteristics:

- low scale predominantly detached dwellings with generous curtilages and landscaped surrounds
- simple gable or hipped roofs of relatively narrow spans and pitches between 25-35 degrees with attached awnings and verandahs
- a variety of front setbacks
- combinations of materials including stone, timber, brick and weatherboard walls, and corrugated steel walls and roofs, slate or tiled roofs

- this precinct could in the long term be suitable to accommodate some higher density development subject to such development not being located on land that is flood affected. In addition, higher density development needs to be consistent with the existing character of the locality in terms of scale and form of development.

Precinct 8 - Elmslea

Current characteristics:

- the precinct is predominantly residential characterised by single storey dwellings facing the street
- predominantly single storey detached brick dwellings
- small number of large trees

Suggested desired future characteristics:

- low scale predominantly detached dwellings with landscaped surrounds
- combinations of materials including stone, timber, brick and weatherboard walls, and corrugated steel walls and roofs, slate or tiled roofs

Precinct 9 – Elmslea-Large Lot

Current characteristics:

- large lots
- mature landscaping
- predominantly large single dwellings with large setbacks
- semi-rural nature

Suggested desired future characteristics:

- large lots
- mature landscaping
- predominantly large single dwellings with large setbacks
- semi-rural nature

Precinct 10 – Trucking Yard Lane

Current characteristics:

- the precinct is predominantly residential characterised by single storey dwellings facing the street
- streets tend to have formed kerbs

Suggested desired future characteristics:

- low scale predominantly detached dwellings with landscaped surrounds
- combinations of materials including stone, timber, brick and weatherboard walls, and corrugated steel walls and roofs, slate or tiled roofs

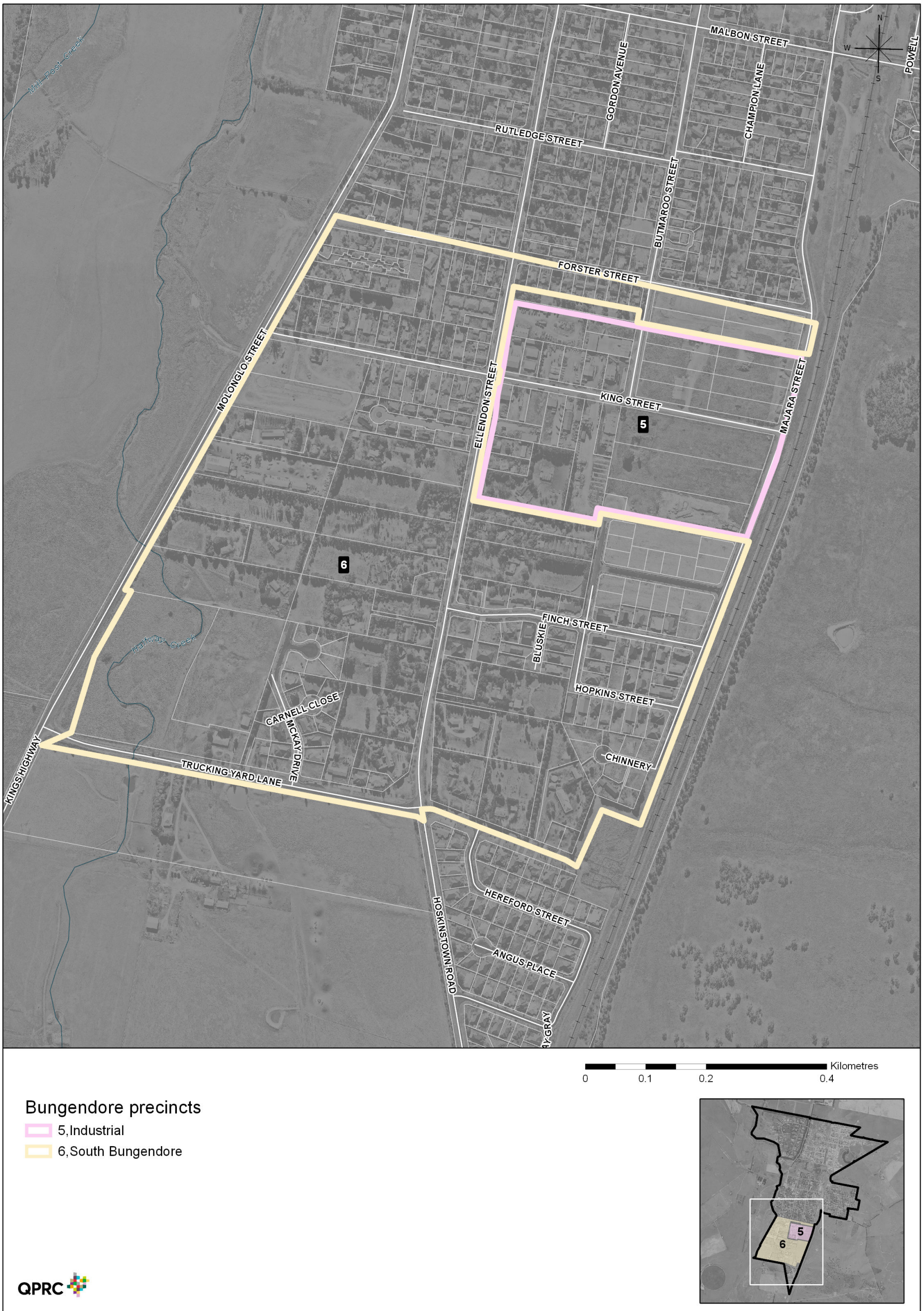
6.5 Implications

Heritage values form another constraints layer when considering future growth options for Bungendore. The pressure of growth needs to be balanced against retention of the existing heritage values (including Aboriginal cultural values, European and Natural Heritage). Any planning proposal to rezone land where there is the potential that Aboriginal cultural heritage may be impacted will as part of the process require further detailed studies. Further investigation and/or studies may also be required with regard to European and Natural Heritage.

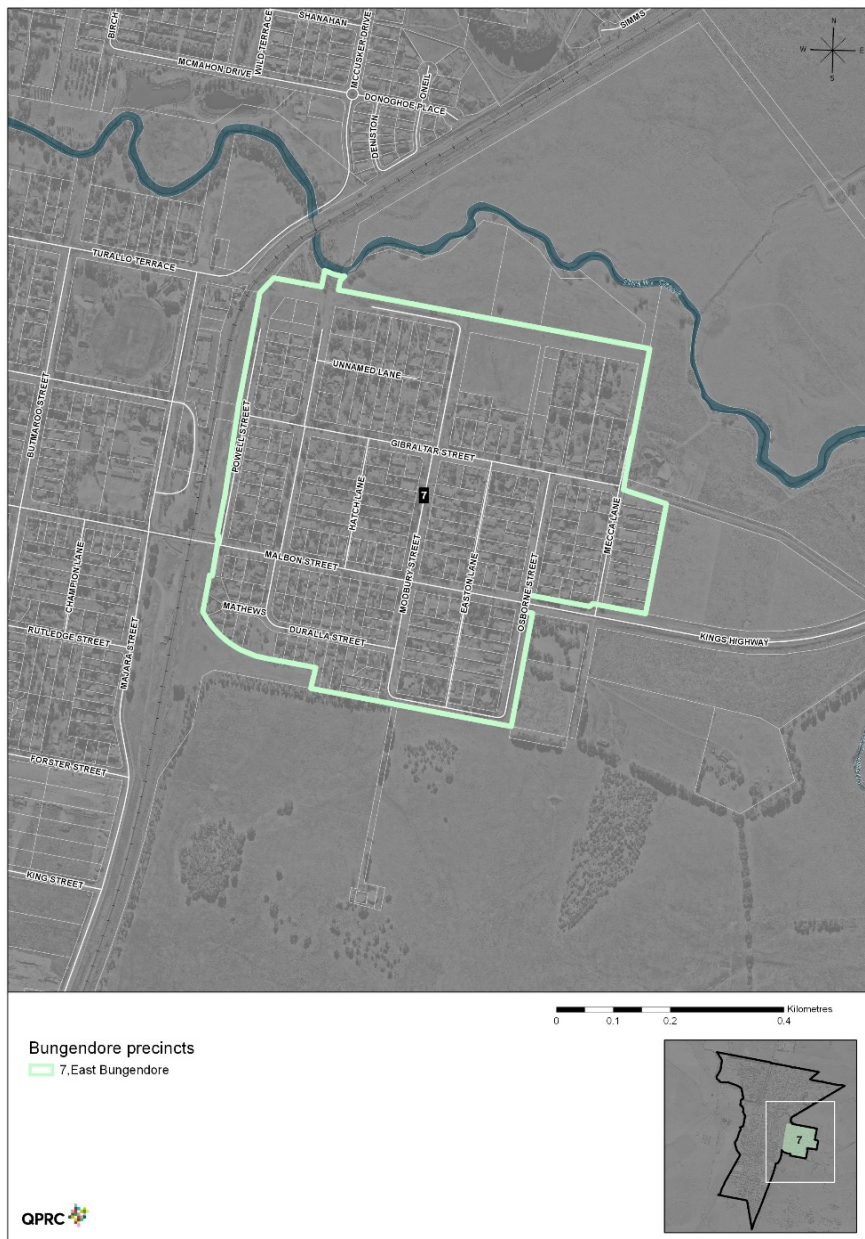
Note: Any development adjacent to a State listed heritage item will require a Heritage Management Strategy.

Heritage values will have an impact in all three growth scenarios. For example infill development (occurring under the steady growth scenario) will need to be sensitive to existing local (and State) heritage items and new development designed to be compatible.

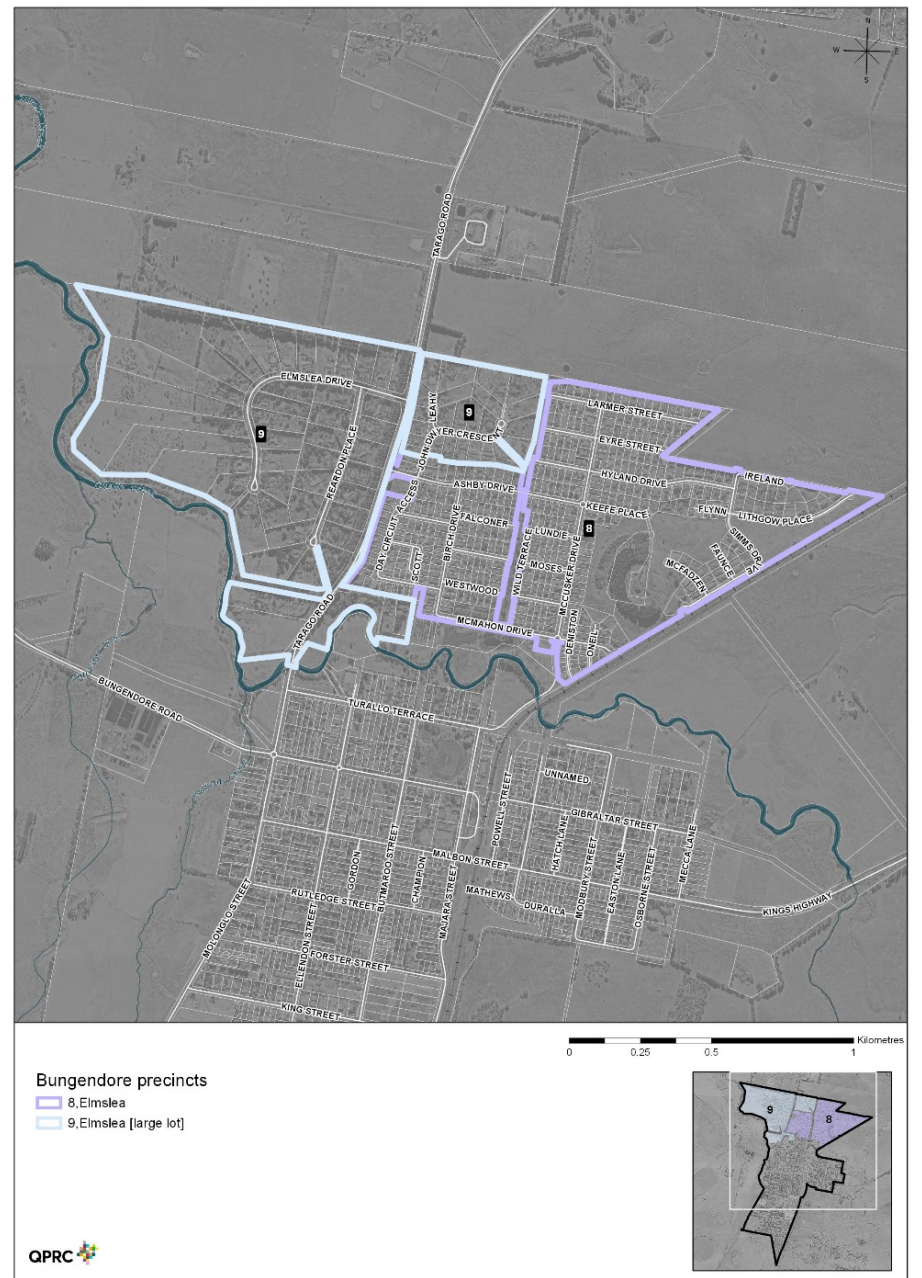
The identification of sites suitable for infill development need to recognise heritage constraints and ensure the heritage values of the town are retained and protected. Under the medium and high growth scenario, heritage values will also need to be considered. In terms of infill development the projected population growth which will be met through infill development is the same for the steady and medium growth scenarios, however the number is substantially larger for the high growth scenario. This is likely to place more development pressure on the existing town and there may be a need to review and strengthen policy controls to protect the existing character and heritage values of Bungendore.



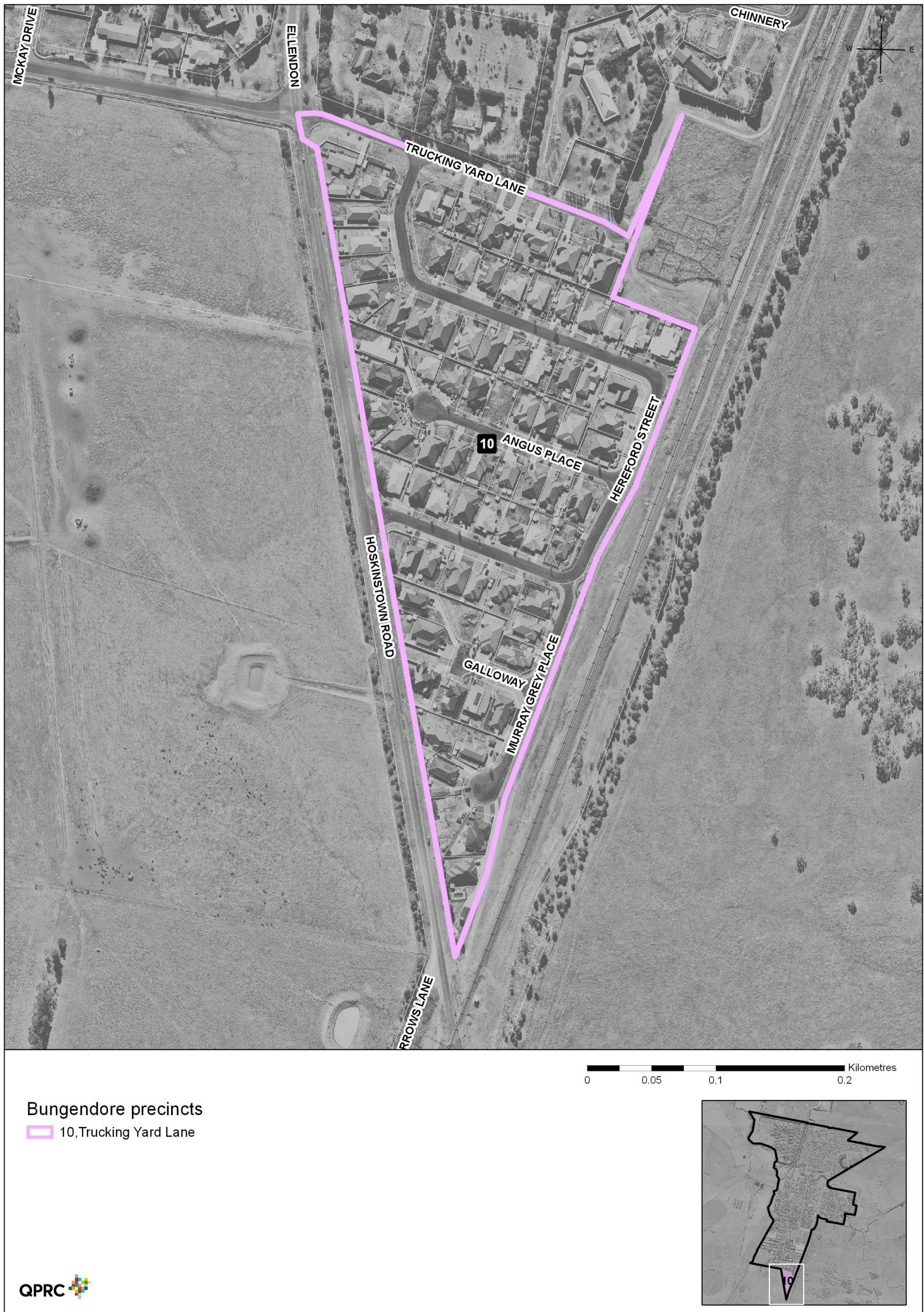
Map 15 The industrial precinct surrounded by the South Bungendore precinct



Map 16 East Bungendore, precinct 7



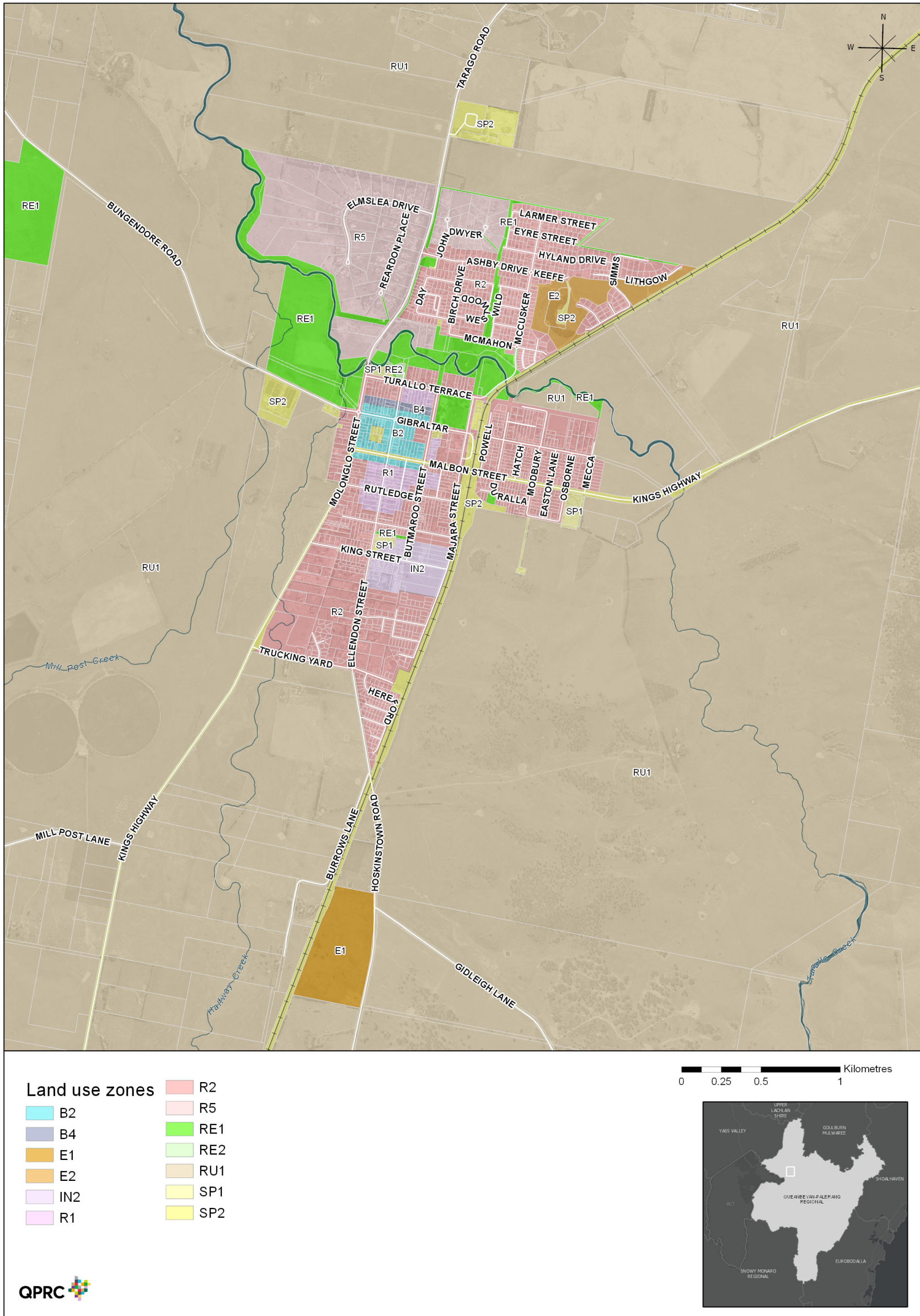
Map 17 Precincts 8 and 9, Elmslea and Elmslea-Large Lot



Map 18 Precinct 10, Trucking Yard Lane

7. Landuse Zones

Residential, commercial and industrial landuse zones in Bungendore are shown on Map 18. An outline of each zone is provided in the section below.

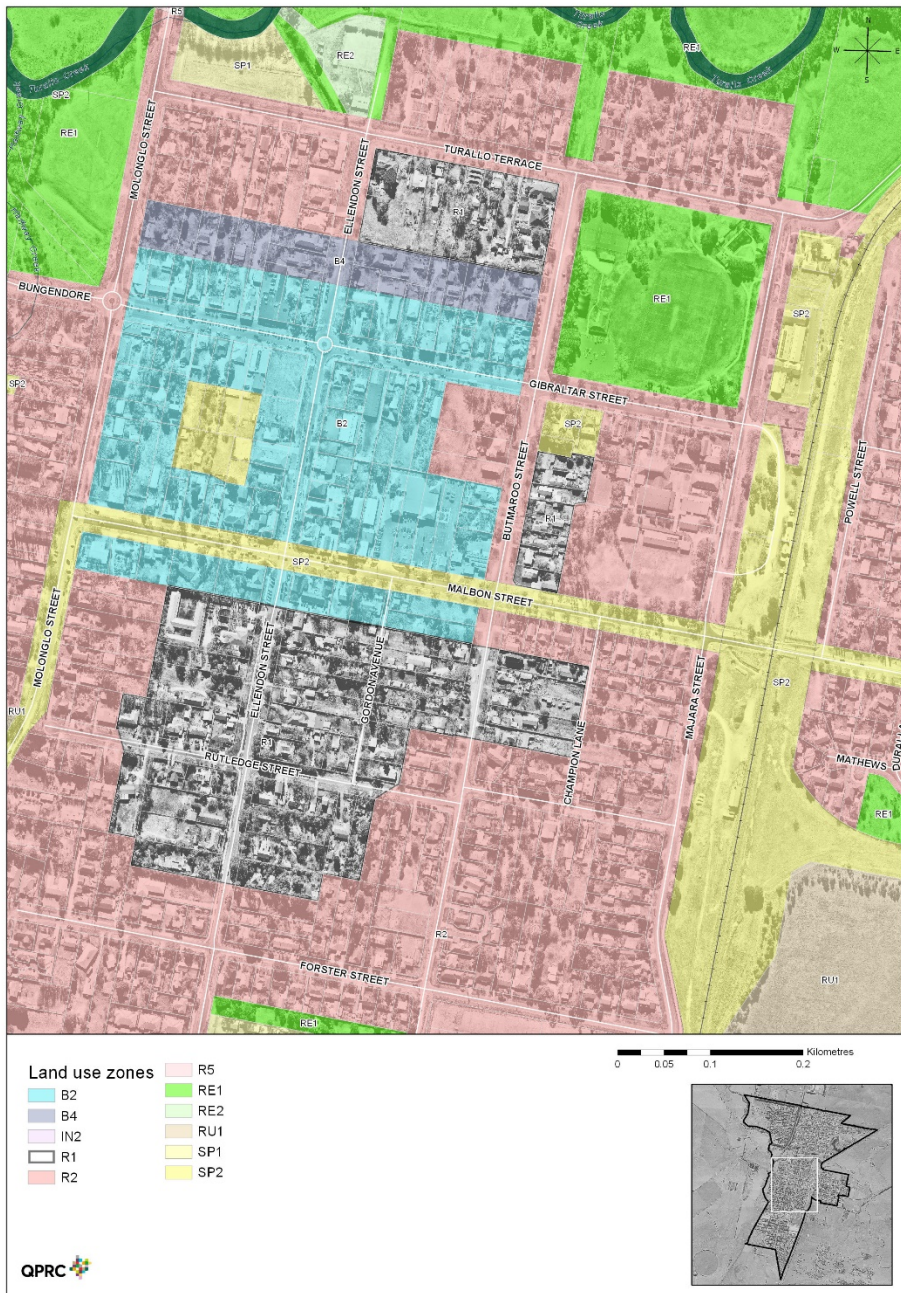


Map 19 Land Use Zones

7.1 Residential

Current Situation

In accordance with the *NSW Environmental Planning and Assessment Act 1979*, the PLEP uses the Standard Instrument landuse zones. The majority of residential land in Bungendore is R2 Low Density Residential with a minimum lot size of either 850 or 1,000 square metres. The rural residential area on the north-western side of Bungendore is zoned R5 Large Lot Residential and has a minimum lot size of either 1 or 5 hectares. There is a small amount of R1 General Residential in the centre of Bungendore as shown in map 20 below. Medium density residential living is permissible in this landuse zone. Refer to map 18 (above) for the zoning of all lots.



Map 20 R1 General Residential landuse zone

An audit by Council of existing dwellings in Bungendore in August 2017 found that there were 1,255 dwellings in the existing village area. *Note: the audit was undertaken from aerial photography and as a result dwellings such as attached dual occupancies may not have been included. Flats in the commercial precinct have not been included.*

Another audit was undertaken in July 2018 using a refined GIS method and it found that there were 1,357 dwellings (refer to map 20 and appendix 2 for the method).

The 2016 census (ABS) found that there were 1,125 occupied and unoccupied dwellings in Bungendore. Of the occupied private dwellings in Bungendore, 97.3% were separate houses, 1.7% were semi-detached, row or terrace houses, townhouses etc., 0.7% were flat or apartments and 0.4% were other dwellings (ABS).

The following table provides data on the number of approved dwellings 2015 to 2018.

Year	Total Number of Dwelling Approvals
2015	20
2016	38
2017	37 plus 40 Seniors Housing Dwellings – total of 77
2018	14

Table 10 Approved dwellings 2015 - 2018

The current *Land Use Strategy and Structure Plan for Bungendore* (p17) states that in 2002 there were 11 dwellings approved, in 2003 43, in 2004 52, 2005 61, 2006 48, 2007 99 and in the first half of 2008 30.

An analysis of land and potential for residential subdivision (based on the current minimum lot size and only single dwellings) undertaken in July 2018 found that potentially approximately 462 dwellings could be created within the existing Bungendore town area (refer to Appendix 2 for the method and to map 21 below to see potential areas). *Note there is a strong probability that not all these dwellings would be developed as infill development (subdivision and dwellings) due to constraints such as laneways, heritage items, existing dwellings in the centre of the lots and the existing lots being long and narrow.*

With an average Bungendore household size being three people (2016 census) this equates to potentially an additional 1,386 people within the existing Bungendore urban area.

Issues and Opportunities

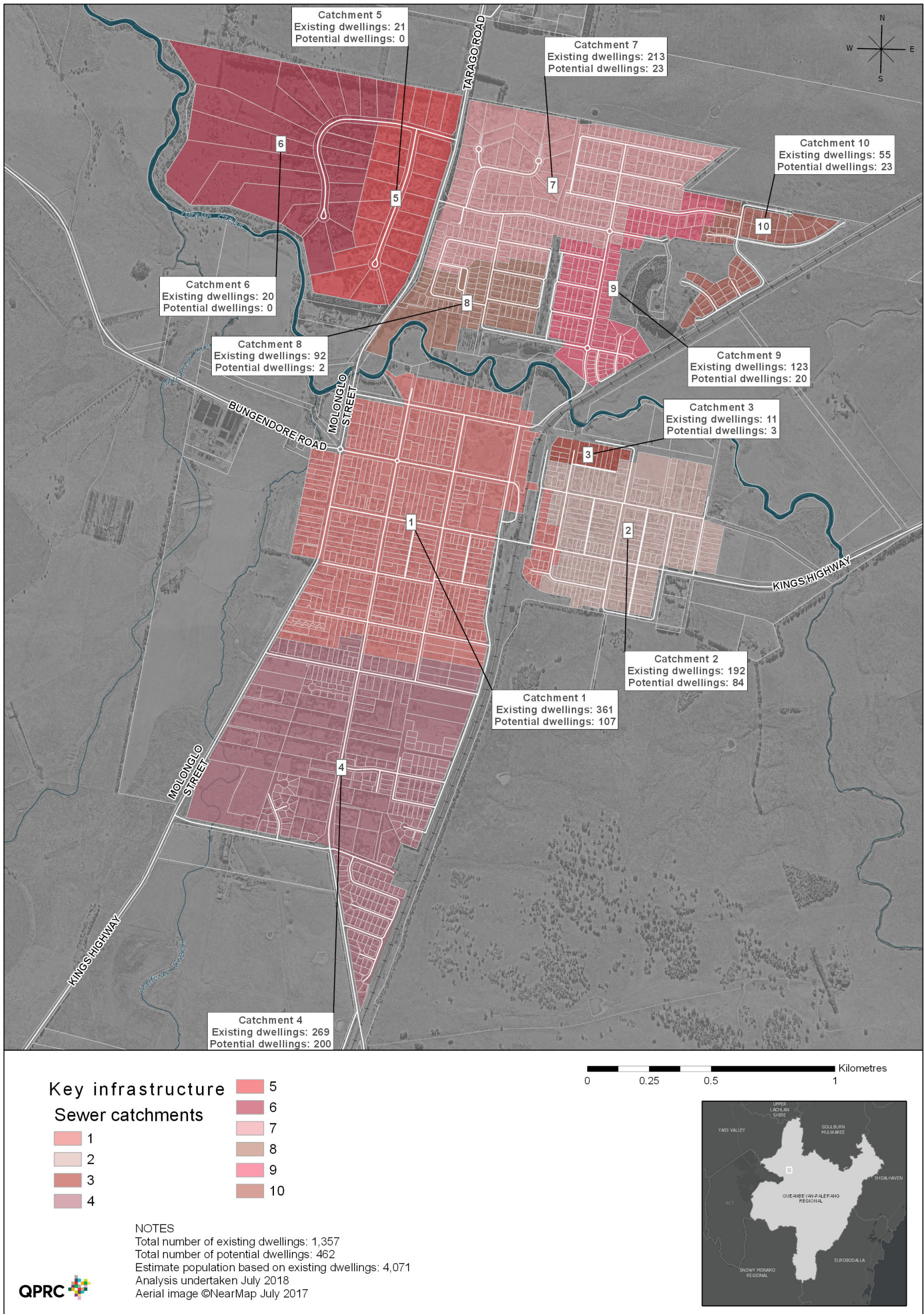
- There is a planning proposal for approximately 300 lots which has a Gateway Determination. The assessments for the proposal are currently being finalised. If the planning proposal proceeds this would potentially result in an additional 900 people (see map 5)
- Clause 4.1C of the PLEP allows the creation of three or more lots at a minimum lot size of 350m² in the R1 Residential landuse zone provided that the subdivision application includes an application for all the dwellings on the proposed lots. There has been no analysis of the potential number of lots using this particular clause in this landuse zone. This clause has not been used by developers. There is potential to combine the use of this clause and the use of some of the laneways as the primary access
- It is estimated that approximately half the dwellings in Bungendore are less than 15 years old based on there being 628 dwellings (occupied and unoccupied) at the time of the 2001 census and the 2016 finding that there were 1,125 dwellings (occupied and unoccupied) in addition to the dwellings erected since the 2016 census
- The need for housing for older people who require assistance has been recognised for some time as an issue in Bungendore. Without this type of housing it will continue to be necessary for people who are socially connected to Bungendore to leave when they are no longer independent. It is suggested that this is not appropriate for either them or their families as they lose contact with their friends and family and these people have to travel which can be expensive and time consuming to be with their family member. Development approval was given in 2016 for independent living dwellings for older people in the South Bungendore precinct and construction is now underway on the first stage of this development. Additionally, there is a proposal for group home accommodation adjacent to the Council administration building in Majara Street

7.2 Implications

Population growth and demographic change are the key drivers informing strategic decision making in respect of future development. This in turn will influence the demand for additional residential development in Bungendore. Implementation of a high growth scenario will require a higher demand for residential development than a lower growth scenario. In addition, the needs of a changing population demographic will need to be met. Monitoring of population demographics and changing trends are therefore an important step in the process of planning for growth. For example, the ageing population will need to be catered for in terms of housing needs and facilities like aged care homes and medical facilities. Another example are smaller household sizes which may result in changing requirements for the housing market, e.g. higher demand for town houses on smaller blocks. Irrespective of the growth scenarios, demographic changes and trends need to be monitored. For the steady growth scenario the additional housing demand will be met through infill development as well as some additional residential lots just outside the edge of the former town boundary. The impact of such additional development will be minor and the additional population will be able to be catered for by existing services, such as medical facilities, aged care services, transport services.

In terms of the medium growth scenario the population for which housing will be met from infill development does not deviate from the one under the steady growth scenario, however greenfields development is estimated to accommodate an additional population of 3,300. Such growth will place some additional demand on services and facilities. For example, more traffic to commute to work outside of Bungendore could result in a requirement for upgrading road infrastructure. There is a potential requirement to upgrade water and sewer infrastructure. There will be more demand on services such as health services, schools, child care, emergency services however, a larger population may also justify additional services. Where Council is the service provider for infrastructure although new development will be required to fund this in part, some contribution is likely required from existing ratepayers.

For the high population growth scenario, the population projections for infill development are substantially higher than under the steady and medium growth scenario. In addition, the estimated population to be catered for by greenfields development is much higher than under the other scenarios. A high growth scenario will place a higher demand on infrastructure and services. Similarly to the medium growth scenario some of the additional service demand is likely to be funded from existing ratepayers. However, compared to the medium growth scenario, the costs are likely to be higher. As is the case with the medium growth scenario, the higher population number may be sufficient to meet the threshold requirements for additional services.

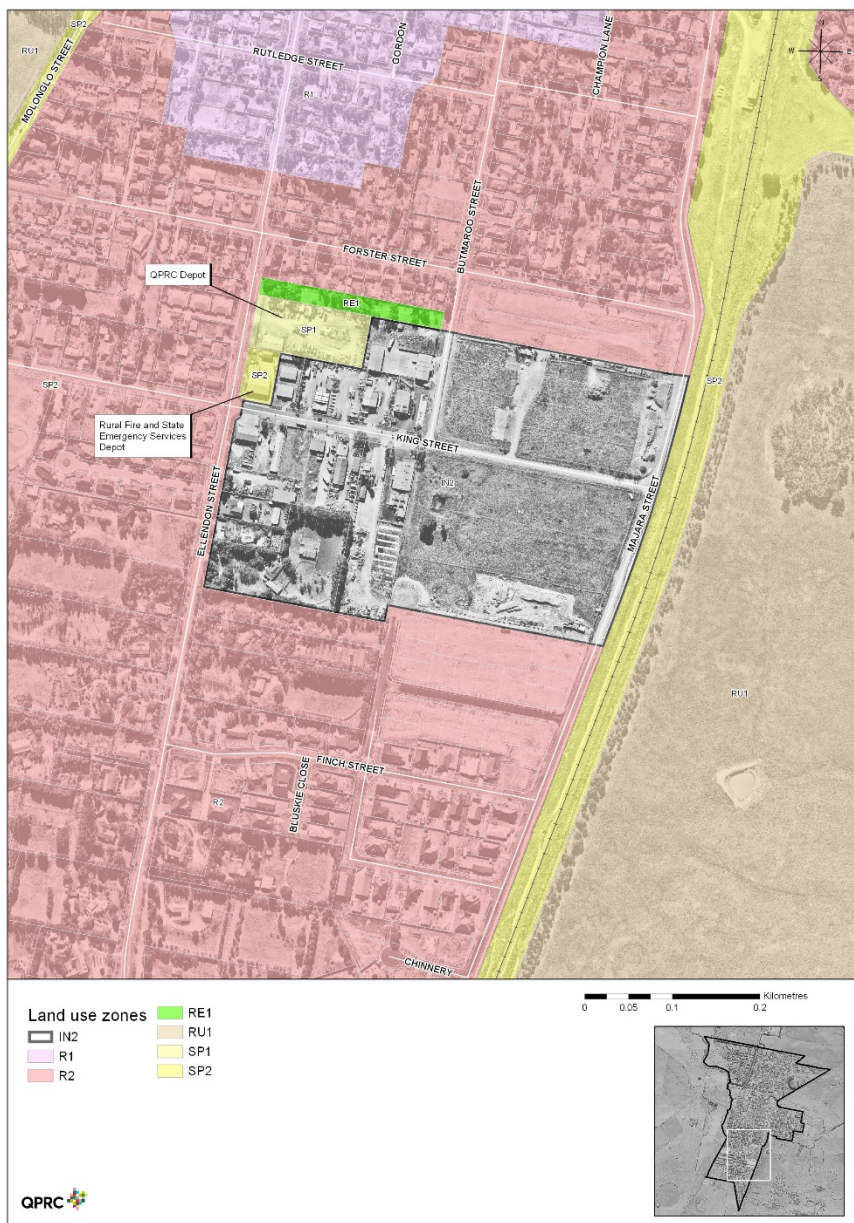


Map 21 Number of existing dwellings and subdivision potential for single dwellings, August 2018

7.3 Industrial

Current situation

The existing industrial area on the eastern side of Bungendore is zoned IN2 Light Industrial as shown in Map 19 above and 22 below.



Map 22 Light Industrial landuse zone (IN2)

The following tables show the number of approved industrial development applications from 2015 to September 2018

Year	Number of development applications
2018	0
2017	2
2016	1
2015	0

Table 11 The number of development applications from 2015 to September 2018 for IN2 landuse zone

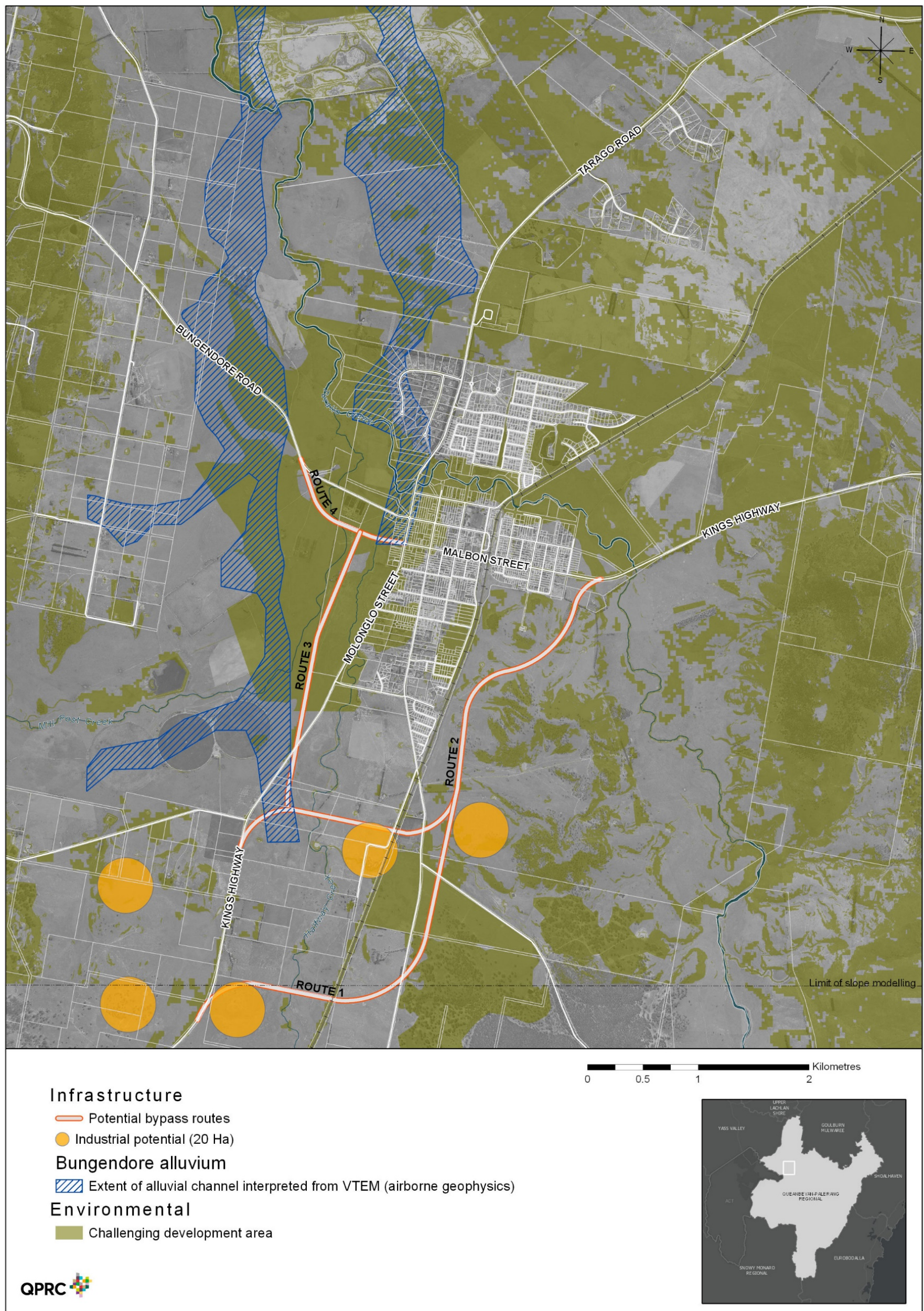
In October 2016, Council undertook a landuse audit of the area zoned IN2 Light Industrial. It was found that there were eighteen industrial landuse activities ranging from self-storage units, vehicle repair businesses, a concrete batching plant and landscaping/rural supplies. Some of the lots contain multiple landuses. Adjacent to the area is the Council depot and there were eleven vacant lots. Since the audit one of the lots has been rezoned R2 Low Density Residential.

Issues and Opportunities

- It was a recommendation of the Council meeting associated with the adoption of the PLEP that the future of the IN2 Light Industrial area be considered following the gazettal of the local environmental plan. The zone is amongst a growing residential area and contains industries such as a concrete batching plant and car repairers. This is impacting on the amenity of the residential landuses and the operational activities of the industrial landuses. Additionally, a greenfields site may attract industries who don't need to be in a large urban area and it may provide local business and employment opportunities for Bungendore residents
- It is suggested that consideration be given to a greenfields industrial area outside of the established Bungendore town area. If the area was approximately twenty hectares then it could in addition to industrial landuses accommodate a Council depot, a waste transfer station, green waste facility, freight centre, creative industries, cafes and outdoor recreation facilities such as mountain biking, adult adventure playgrounds, mazes, go-karts and outdoor games such as paintball
- Map 23 below identifies numerous potential industrial greenfield sites based on a 'desktop' analysis taking the following matters into account (in no particular order):
 - the distance from Bungendore – the majority of noise from industrial activities could not be heard, it is also within cycling distance (assuming a cycle path was constructed)
 - Aboriginal cultural heritage, there are no known cultural heritage sites however, an on-ground assessment and discussion with the community would be necessary
 - groundwater, not within the Bungendore alluvial source; the alluvial channel has been mapped (Map 23) as this would have the potential to provide access to water and industrial development sites would be inappropriate
 - native vegetation, there are no known listed communities or plants however, an on-ground assessment would be required
 - European heritage
 - utility access (electricity, NBN, potable water, gas)
 - proximity to sealed roads
 - proximity to freight route
 - major easements - gas pipeline and communications
 - slope, it is relatively flat (note: industrial areas should be relatively flat)
 - land tenure
 - soil type
 - known contaminated land
 - state agricultural land
 - agricultural classification
 - watercourses/flood, the sites are located away from these
 - zoning, the area is zoned RU1 Primary Production

7.4 Implications

Planning for the growth of Bungendore needs to ensure that the processes also facilitate economic development opportunities. This could result in the creation of more local jobs, increasing the range and choice of local jobs, reducing the need to commute elsewhere to work, reduce the need for out-migration of young people and increased community income and wealth, which means more money spent locally. Although the steady growth scenario may lead to some increase in industrial development in Bungendore, this is more likely to be the case for the medium and high growth scenario. As a result it may be necessary to find additional land for employment lands purposes to create local employment opportunities. Any new employment lands should be located close to major transport routes. The high growth scenario will generate a higher demand for the creation of additional employment lands. This is also likely to place additional demand on infrastructure services. However, more industrial development will result in a broader range of local trades and other commercial ventures which the population can access.

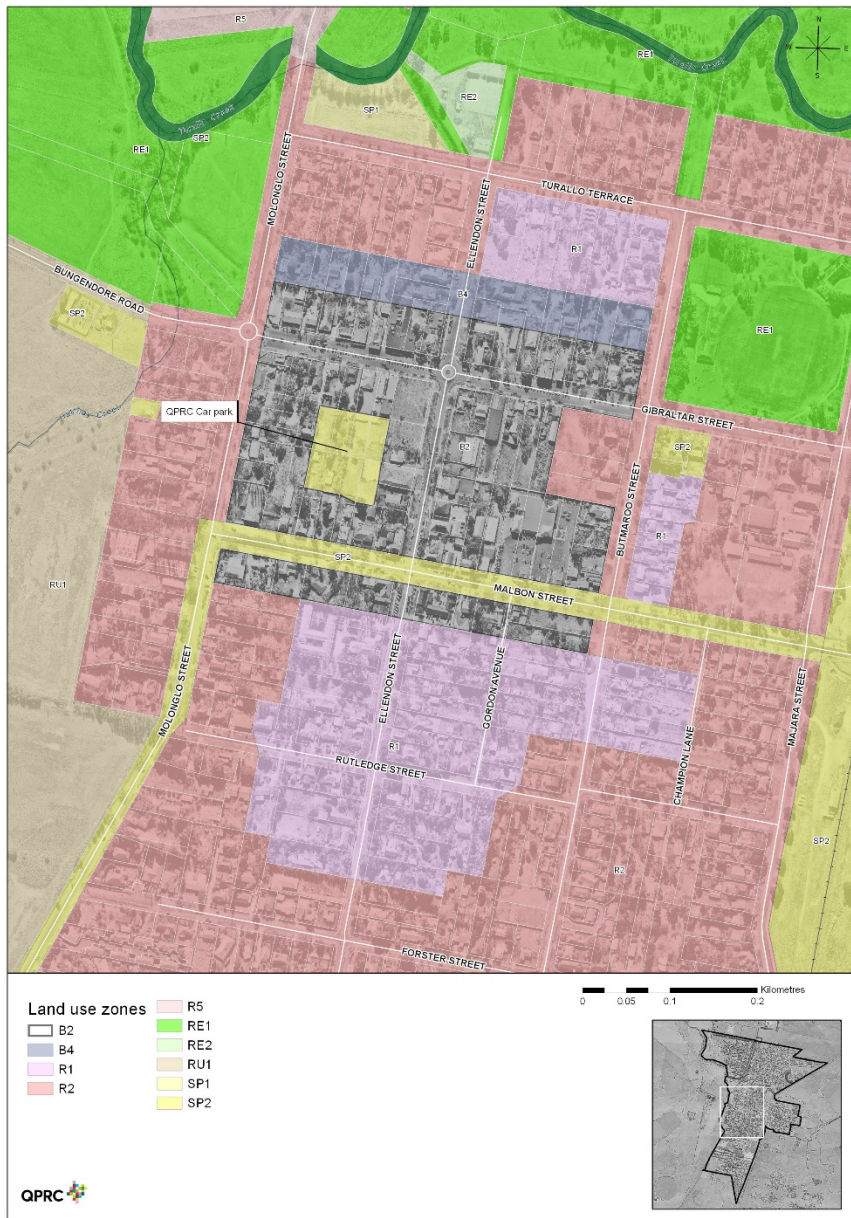


Map 23 Possible greenfield industrial sites

7.5 Commercial

Current situation

The retail and tourist areas in the inner part of Bungendore are zoned B2 Local Centre and B4 Mixed Use as shown in Map 24 (below). The types of dwellings permitted are limited. There is no minimum lot size in the B2 Local Centre landuse zone



Map 24 The business (B2 and B4) landuse zones within Bungendore

Development consent has been given for the erection of retail and office space for the vacant lot on the corner of Gibraltar and Ellendon Streets. Additionally, a supermarket in the vicinity of the corner of Malbon and Butmaroo Streets opened in early 2017. The former supermarket in Gibraltar Street closed at the same time. Table 12 below shows the number of business development applications.

Year	Number of development applications
2018	2
2017	1
2016	3
2015	2

Table 12 The number of development applications in the business landuse zones from 2015 to September 2018

In October 2016, Council undertook an audit of commercial landuse in the zones B2 Local Centre and B4 Mixed Use and from this developed a GIS layer which can be used for a variety of analysis. It found that the approximately sixty landuses ranged from galleries, business premises including health professionals, food and drink premises to a vehicle repair business. This is also the location of the proposed Council carpark. Within these zones there are four

vacant sites of varying sizes. There are numerous lots which have multiple landuses including residential. Additionally, there are commercial landuses in the landuse zones R1 General Residential and R2 Low Density Residential. Landuses in these zones include a function centre, motel and shops. This reflects the original broad village zoning.

Council is aware that there are a large number of home businesses but as there is no government data collected on these and many do not require development consent, the number of these is not known.

Issues and Opportunities

- whilst the proximity of Canberra and Queanbeyan to Bungendore means that it is unlikely that large commercial and retail businesses will be established in Bungendore, the location of the town in a rural setting and thirty minutes travelling time provides the opportunity for businesses orientated towards visitors, for instance accommodation and food and drink premises
- if the population increased, there would be a need for an increase in service businesses such as professional services, food and groceries, cleaning, maintenance and personal care
- The higher than average personal income of Bungendore residents provides opportunity for a diverse range of businesses in Bungendore including those based on surrounding agricultural activities
- it will be necessary to regularly assess commercial landuses, development controls and trends to ensure that there is sufficient floor space for likely needs. Early work has commenced on this with the audit referred to above and some economic modelling work

7.6 Implications

As stated in the previous section planning for the long term growth of Bungendore will also need have regard to facilitating opportunities for economic growth. This includes consideration of the needs for commercial development and the emerging and changing trends in the commercial sector. The impacts in regard to the three growth scenarios are similar to the ones discussed under the previous section of Industrial development. The steady growth scenario may result in a small increase in commercial opportunities and lead to some benefit with regard to choice of goods and services and additional local employment opportunities. For the medium growth scenario, a broader range of good and services will be the result of more commercial development. For the high growth scenario, an even broader range can be expected as result of the population threshold levels. Both the latter scenarios will place additional demand on water, sewer, stormwater and road infrastructure.

7.7 Surrounding rural areas

Current situation

The land surrounding Bungendore is used for broadscale agriculture and sand and gravel extraction. The agricultural classification of the land is generally class 3 and 4 (refer to Map 25 below). The extraction areas are included in Ministerial Directions under section 117 of the *NSW Environmental Planning and Assessment Act 1979* requiring them to be considered in landuse planning for the region. Approximately five kilometres to the west is a large rural residential area. Bungendore is the closest centre for food and fuel for these areas. Although compared to other areas land may not be of a high agricultural value, however land that is of a relatively high agricultural value to the region should be retained.

Issues and Opportunities

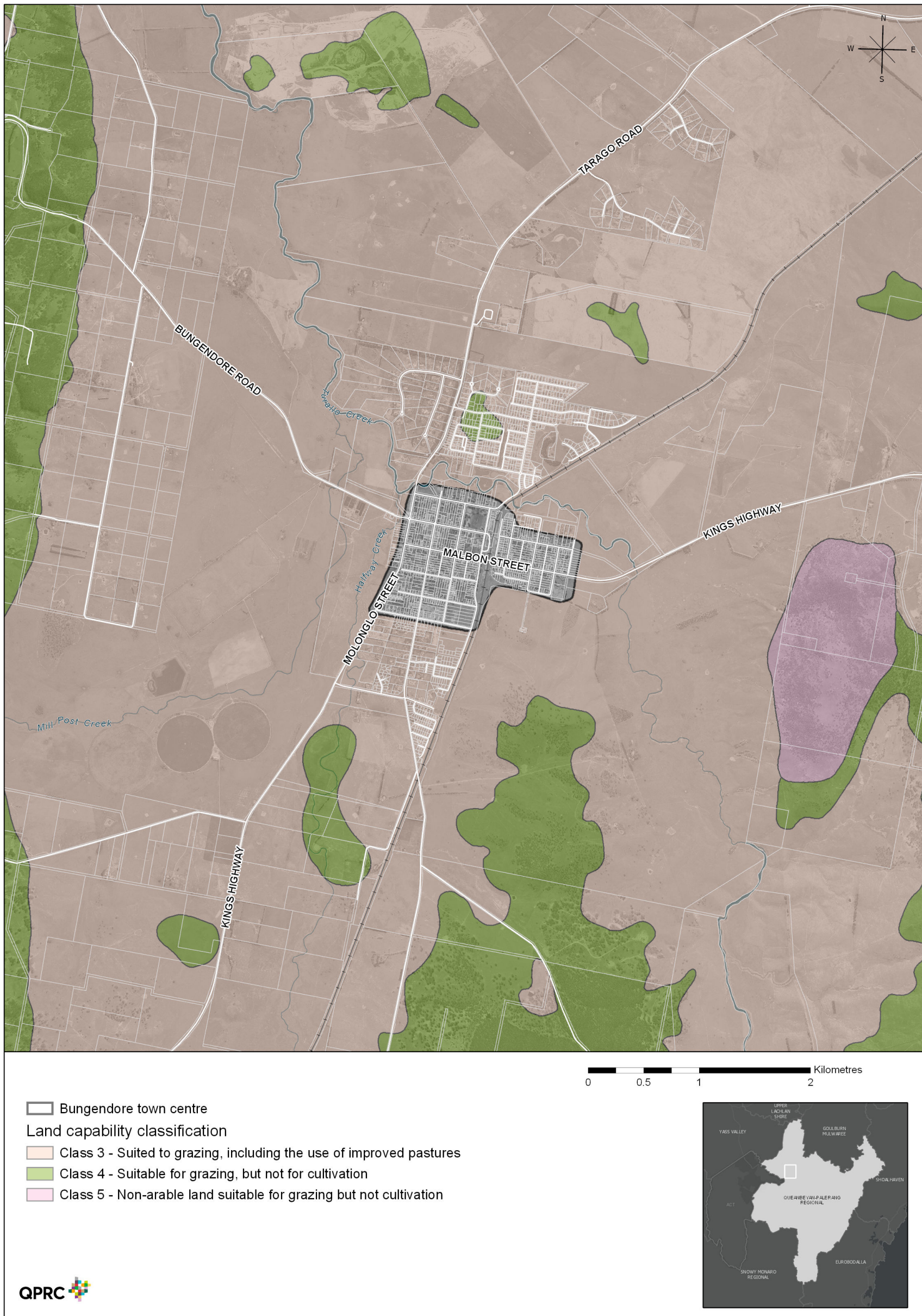
- there is a need to ensure the existing agricultural and extraction industries are not impeded through residential development
- there is a growing interest in produce and farmers markets

7.8 Implications

Future development and growth of Bungendore will need to ensure that it is consistent with the relevant Government policies which seek to protect rural lands from fragmentation and loss. Agricultural land is categorised into classes from class 1 (the most productive) to class 5 (least productive) and while, the rural area may not comprise the most agricultural lands compared with the rest of the state, the most productive agricultural land in the LGA should be retained and protected. Detailed further investigations will be required as part of any planning proposal to ensure that, land of higher agricultural value is protected. Consideration should be given to the following agricultural principles:

- land with the best combination of soil, climate, topography and water for agricultural production is a limited resource in NSW and should be maintained for future generations.
- Agricultural land should not be alienated directly through lands being used for non-agricultural purposes and indirectly by incompatible developments on adjacent land restricting routine agricultural practices.
- Agricultural industries are a fundamental asset to the state of NSW as they provide a long term means of providing employment, raw materials and fresh safe secure food while supporting regional communities.

For the steady growth scenario, there will be no detrimental impact in terms of loss of valuable agricultural land as the only a relatively small additional urban area is needed to accommodate the extra population. For both the medium and the high growth scenario the requirement for additional urban land is likely to impact on the surrounding rural lands of Bungendore and careful planning is required to protect lands of high agricultural value.



Map 25 Agricultural classification of the land surrounding Bungendore

8 Community

8.1 Demographics

Current Situation

There were 2,754 people residing in Bungendore urban area at the time of the 2011 census (ABS). The 2016 census found that there were 3,317 people residing in Bungendore (UCL 115031) (ABS). This is an increase of 563 people between census periods. There was an average of 3 people per household (ABS), a small increase from 2011 when the average was 2.9 people.

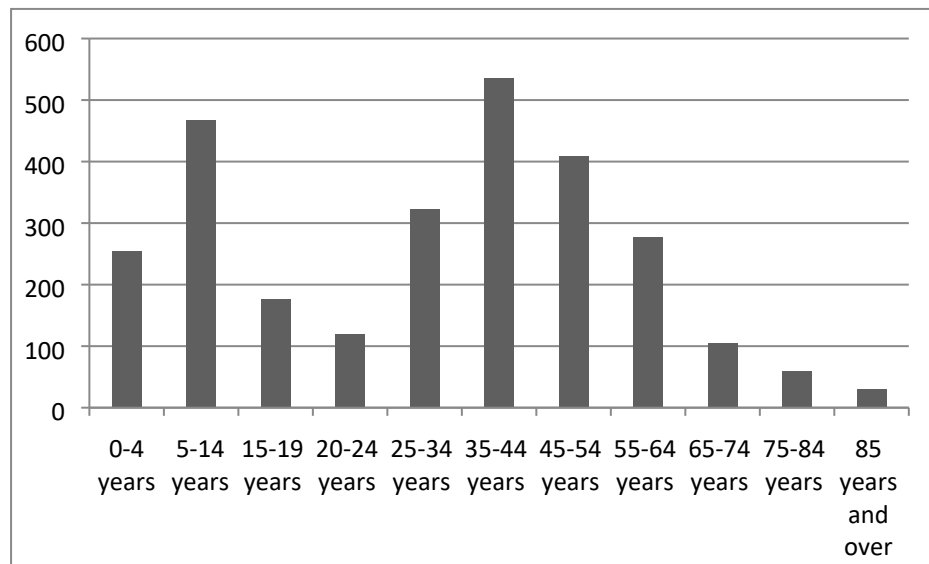


Figure 2 Bungendore population, 2016 (ABS)

Children aged 0 - 14 years made up 24.4% of the population in 2016 compared to 26.1% in 2011 (ABS). People aged 65 years and over made up 8.7% of the population whereas they made up 7.1% of the population at the time of the 2011 census.

The median age of Bungendore residents is 36 years (ABS, 2016) compared to the whole of Australia which is 38 years.

The largest five year age groups were those aged 5-9 years and 45-49 year olds (ABS, 2016), this probably due to many young families choosing Bungendore for a new dwelling.

There were 920 families in Bungendore in 2016 compared to 746 at the time of the 2011 census (ABS), an increase of 174. There was an average of 1.9 children per family at the time of the 2016 census which is the same as the 2011 census.

The 2016 census (ABS) also found that there were fewer people in the 60 years plus group than is the case for the rest of NSW and Australia. It is suggested that few of this age group would be likely to purchase a dwelling in a town that they do not have a connection to and the frail aged have had to leave Bungendore as there is no residential care facility for these people. Forty senior people's dwellings are currently under construction in the southern area of Bungendore.

At the time of the 2016 census, 2.3 % of the Bungendore population stated that they were Aboriginal and Torres Strait Islander people (ABS).

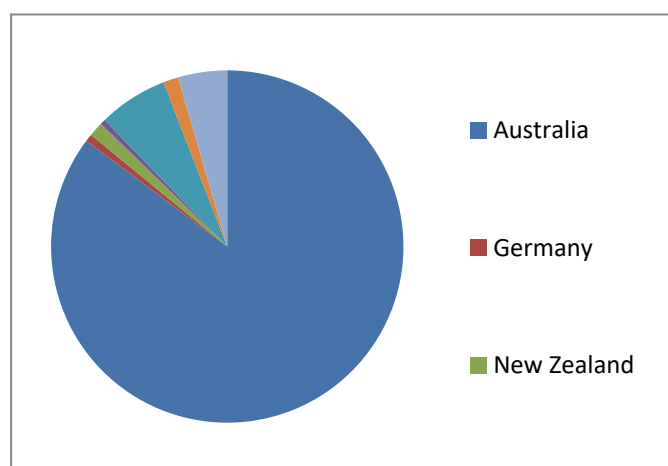


Figure 3 The most common ancestries in Bungendore, 2016 (ABS)

The 2016 census in relation to immigration to Bungendore found that over 2,490 people had the same address a year ago (at the time of the census). The highest number of people with a different usual address one year ago were from NSW and the second highest were from the ACT (ABS). The origin of residents was the same as in the 2011 census.

For the same census but for the place of usual residence five years ago, there were only 1,428 that had the same usual address. The highest number with a different usual address five years ago were from NSW and the ACT (ABS).

Data from the 2011 census shows that there are 1,054 households in Bungendore, the majority of these are classified as family households (909). At the time of the 2011 census there were 739 family households. In 2016 there were 129 single person households. If the trend of one person households continues there will be a need for a mix of dwellings ranging from those preferred by single residents to those suitable for up to four residents.

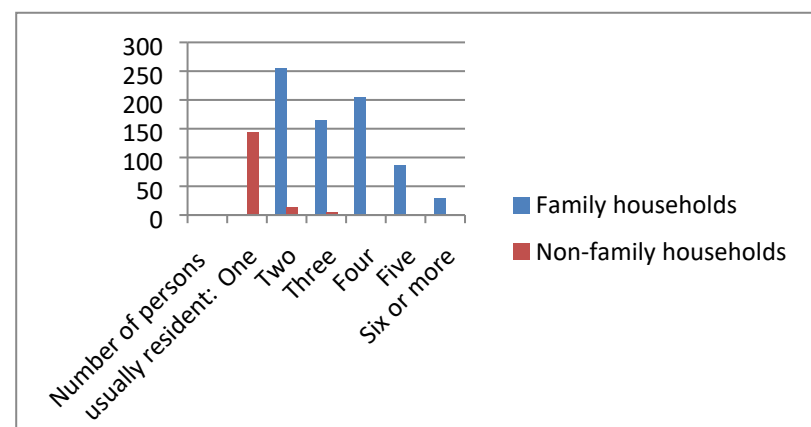


Figure 4 Number of persons in household types in Bungendore, 2016 (ABS)

Issues and Opportunities

- There is a need for a range of housing types to provide for a broader demographic mix
- The high number of people not resident in Bungendore for more than one census period has implications for strategic planning as many new residents will not be familiar with the background to decisions. It is suggested that this needs to be taken into account in planning the development of Bungendore
- Council in planning for the growth of Bungendore should provide for opportunities for social interaction, cultural diversity, a shared local identity and participation in decision making by the community.

8.2 Health

Current Situation

There is one medical practice. The practice includes doctors, nurses, a podiatrist, psychologists, a dietician, physiotherapists and an occupational therapist. This is shown in Map 26 below.

There is no hospital, the closest is Queanbeyan. Ambulance services are outlined in Section 8.5 – Emergency Services. There is one chemist, a physiotherapy practice and a dentist. The Southern NSW Local Health District, part of NSW Health operates a community health centre.

Issues and Opportunities

As the population of Bungendore increases it will be necessary to discuss the provision of private and public health services in Bungendore. It is suggested that it is not possible at the moment to determine the required future services and buildings because Bungendore is unique in its proximity to Queanbeyan and Canberra and with many of its residents not being in Bungendore during the day it is necessary to discuss requirements with health care providers.

Planning for the future expansion of Bungendore should promote health through environmental design through the provision of mixed land uses, a mix of housing densities, footpaths and cycleways, facilities for physical activity, attractive street design and high street connectivity and integrated transport systems.

8.3 Support services

Current Situation

Support services available in Bungendore include; meals, handyman, personal care, transport, cleaning and a mobile library.

Family Day Care is also available for children under school age and those requiring afterschool care.

Issues and Opportunities

As with health, it is suggested that it will be necessary to take into account the unique situation of Bungendore and discuss requirements with service providers

8.4 Education

Current Situation

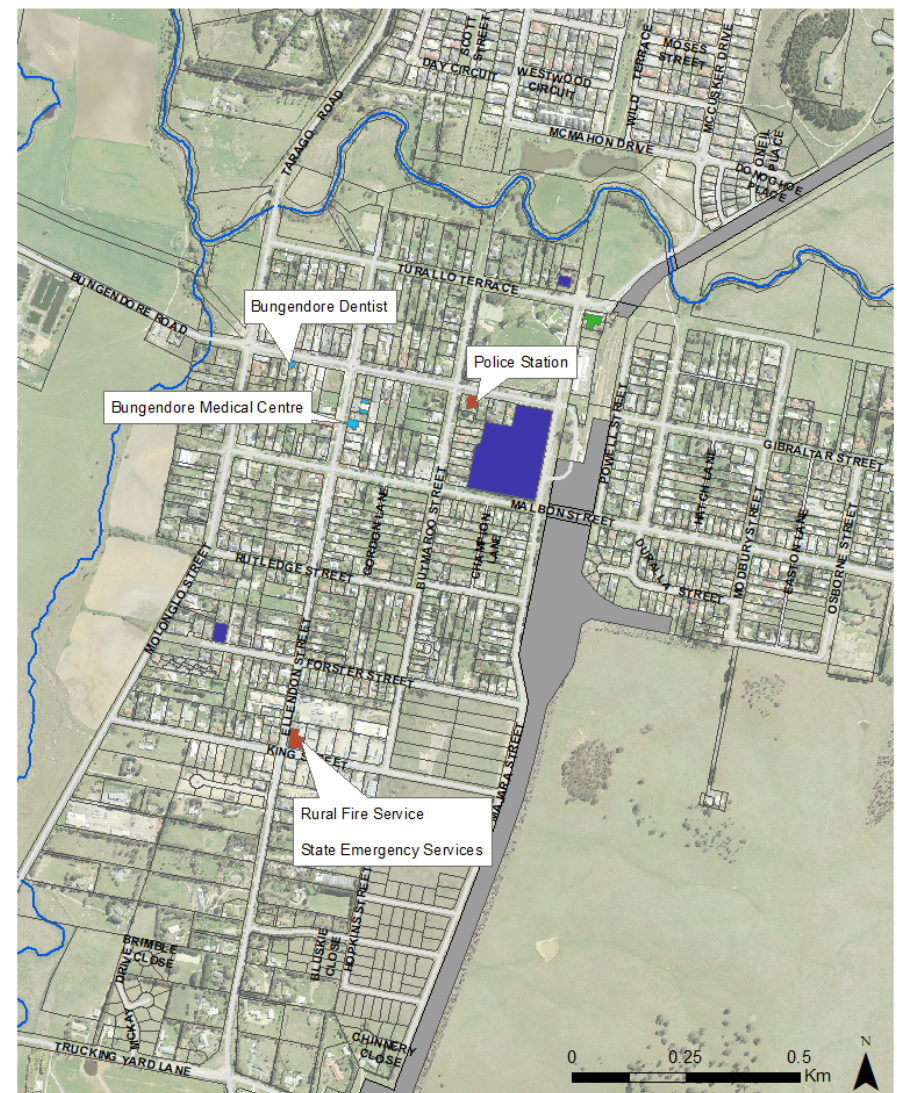
There is a primary school (with an enrolment of 505 students in April 2018), a preschool (refer to Map 26) and childcare centre. There is no high school and high school age children attend high school in a wide range of locations including Queanbeyan, Canberra, Braidwood, Goulburn and further afield. The mix of school types is also varied from public, independent, Catholic and public colleges in Canberra.

Type of institution	Number
Pre-school	68
Primary school	
Primary - Government	318
Primary - Catholic	32
Primary - Independent	12
Secondary school	
Secondary - Government	184
Secondary - Catholic	65
Secondary - Independent	26
TAFE	74
University	107
Other	22
Total	908

Table 13 The number of Bungendore students attending educational institutions at the time of the 2016 census

Issues and Opportunities

- The State Government has made a commitment that a high school will be located in Bungendore. This commitment means that a high school will be built regardless of the growth scenario. Siting and design criteria for the proposed High School should take into account principles such as ensuring the site:
 - is not located on land that is flood affected
 - is within easy access to the town centre
 - is within easy access to transport
 - is not adjacent to a railway line
 - is sufficient in size to meet the required off street parking
 - is suitable from a traffic management perspective
 - the development enable the use of school facilities (including recreation facilities) to be shared with the community
- many regional areas have a tertiary centre which is part of an established university. The centre provides support for on-line students and lectures for students in the early part of their degree. There may be an opportunity for this type of facility to be part of a high school in Bungendore



Map 26 Community services provided located within Bungendore

8.5 Emergency Services

Current Situation

NSW Ambulance

Work on a new ambulance station for Bungendore commenced in January 2019 and is nearing completion. This ambulance station has the capacity to service an increased population including the high growth scenario. Bungendore is located within the Southern Zone Regional Division and additional ambulance stations are located at Queanbeyan (26km), Braidwood (50km) and Goulburn (68km).

NSW Police Service

Bungendore has a local Police Station (refer to Map 26), however it is not staffed 24 hours a day. Bungendore is located within the Monaro Local Area Command. During times when the local police station is not open, the nearest station that is staffed 24 hours a day is Queanbeyan (26km).

Fire and Rescue NSW

Bungendore does not have a local fire station. Bungendore is located within the RS1 zone of the Regional South Area Command. The nearest fire stations are Queanbeyan (retained and permanent staff, 26km) and Braidwood (retained only, 50km).

Rural Fire Service

Bungendore has a rural fire station (refer to Map 26) with approximately 50 volunteers (Source: Bungendore RFS website). Bungendore is located within the Lake George Zone of the Rural Fire Service.

State Emergency Service

Bungendore has a local State Emergency Service Unit and is located within the Southern Highlands Region.

Issues and Opportunities

It is unlikely that Bungendore has the required population to warrant additional emergency service facilities in the next five years. The distance between the nearest facilities is considered to be a concern as response times for urgent cases are far in excess of NSW averages. As the population grows, additional facilities may be required and suitable land should be identified with relevant services and secured as appropriate

8.6 Social and Recreational Organisations and Businesses

Current Situation

Social and recreational organisations in the Bungendore area include the scouts, church groups, pony clubs, rugby, spinning and weaving, swimming and community service groups such as the rural fire service and Rotary. Residents are likely to undertake activities both within Bungendore and the region (Canberra and Queanbeyan) as the population is not big enough to provide a diverse range of activities. As there is a higher proportion of residents 0-14 years it is probable that this age group attend swimming lessons, play sport and attend music lessons outside of Bungendore. There is a gym, dance and Pilates studios as well as a bowling club. Activities such as markets are becoming a popular social activity as well as providing goods.

Issues and Opportunities

As the population increases the range of activities will increase and this will require a variety of indoor and outdoor venues. For example, meeting rooms and halls which are easily accessed, a range of sizes, well lit and heated that can be used for a variety of activities that are affordable for community groups. There is no formal central public community meeting space in Bungendore such as a town square.

8.7 Implications

A growing population will require planning to meet the needs in terms of housing for a broader and changing demographic mix as well as planning for facilities such as health and allied service facilities, family day care and education facilities, libraries emergency services, and recreation facilities. Many of these facilities and services are currently accessed outside of Bungendore and with a growing community such services should be located at Bungendore.

For the steady growth scenario although it can be expected that there is some extra demand on services, the impact will be quite minimal. As has already been discussed under the heading of 'Residential' earlier in this document, there will be more demand on services such as health services, schools, child care, emergency services however, a larger population may also justify additional services. The higher the growth scenario the higher the demand for additional services and facilities. Where Council is the service provider for infrastructure although new development will be required to fund this in part, some contribution is likely required from existing ratepayers. Consideration needs to be given to the timing, siting and funding for these facilities.

9. Economic

9.1 Individuals and households

Household and personal income

The median weekly household income for Bungendore is \$2,477 (ABS, 2016) and for Australia it is \$1,438.

The median weekly personal income for people aged 15 years and over in Bungendore was \$1,081 at the time of the 2016 census (ABS). For Australia it was \$662.

Mortgage and rent payments

The median monthly mortgage repayment was \$2,383 at the time of the 2016 census (ABS).

The median weekly rent was \$450 at the time of the 2016 census (ABS) compared to it being \$400 at the time of the 2011 census.

Housing affordability

“Affordable housing is housing that is appropriate for the needs of a range of very low to moderate income households and priced so that these households are also able to meet other basic living costs such as food, clothing, transport, medical care and education. As a rule of thumb, housing is usually considered affordable if it costs less than 30 percent of gross household income”
(<http://www.housing.nsw.gov.au/Centre+For+Affordable+Housing/About+Affordable+Housing>)

At the time of the 2011 census (ABS) 15.8% of Bungendore households had mortgage payments which are 30% or greater than the household income. This is a higher percentage than NSW or Australia. In the 2016 census it was found that the level was 8.7% slightly higher than NSW and Australia (ABS).

Employment

There were 1,849 people who reported being in the labour force in the week before census night in Bungendore. Of these 66.3% were employed full time, 23.6% were employed part-time and 3.1% were unemployed (ABS, 2016).

The most common occupations in Bungendore included Professionals 19.8%, Clerical and Administrative Workers 19.7%, Managers 19.5%, Technicians and Trades Workers 15.3%, and Community and Personal Service Workers 9.6% (ABS, 2016).

Socio-economic disadvantage

“The SEIFA Index of Disadvantage measures the relative level of socio-economic disadvantage based on a range of census characteristics. It is a good place to start to get a general view of the relative level of disadvantage in one area compared to others and is used to advocate for an area based on its level of disadvantage.

The index is derived from attributes that reflect disadvantage such as low income, low educational attainment, high unemployment, and jobs in relatively unskilled occupations. When targeting services to disadvantaged communities, it is important to also look at these underlying characteristics as they can differ markedly between areas with similar SEIFA scores and shed light on the type of disadvantage being experienced.

A higher score on the index means a *lower* level of disadvantage. A lower score on the index means a *higher* level of disadvantage” (profile id, downloaded 19 July 2015)

The SEIFA index of relative disadvantage (2016) for Bungendore is – 1,106.7 compared with 1053 for the whole of the Queanbeyan-Palerang local government area and 1,075 for the ACT. In comparison, the SEIFA index of relative disadvantage index for NSW is 1001.0 and for Australia as a whole the index is 1,001.9

(<https://profile.id.com.au/queanbeyan-palerang/seifa-disadvantage-small-area>, 18 June 2019)

(Note: The larger the number the less disadvantaged the area is in comparison to other areas)

Issues and Opportunities

The median household incomes and high SEIFA disadvantage index for Bungendore indicates a community with good economic wellbeing. However, there is a proportion of Bungendore that has a very low income.

9.2 Business

Bungendore’s business and employment mix is strongly influenced by its location – close to both Canberra and Queanbeyan and so relying on neighbouring cities for employment for residents. This situation is unusual, therefore the common approaches to projecting the types of businesses that would align with a particular population is not possible. Refer to section 5.3 for information regarding types of business.

Issues and Opportunities

- the proximity to Canberra and Queanbeyan and until recently the relatively small population has meant that Bungendore commonly does not have the types of businesses associated with a rural town, for instance a business selling white goods. It is suggested that the thresholds for these businesses are not applicable in Bungendore for these reasons
- the retail and commercial areas of Bungendore have been zoned either B2 Local Centre and B4 Mixed Use. The aim of this was to allow the development of commercial land without the matters associated with residential land perhaps inhibiting commercial development (refer to section 5 Landuse zones)
- there is no data relating to the tourism and retail sector of Bungendore. However, anecdotal evidence such as the number of cars in the centre of Bungendore on the weekend, particularly Malbon Street, indicates that this sector is an important part of the Bungendore economy. The proximity to Canberra and Queanbeyan provides opportunity for this commercial sector to increase
- Council is part of regional and economic groups which aim to increase the economic sustainability of the region. Opportunities that have been discussed include rural, cultural and heritage tourism, freight (refer to 10.1 Roads), light industrial and aged care

9.3 Implications

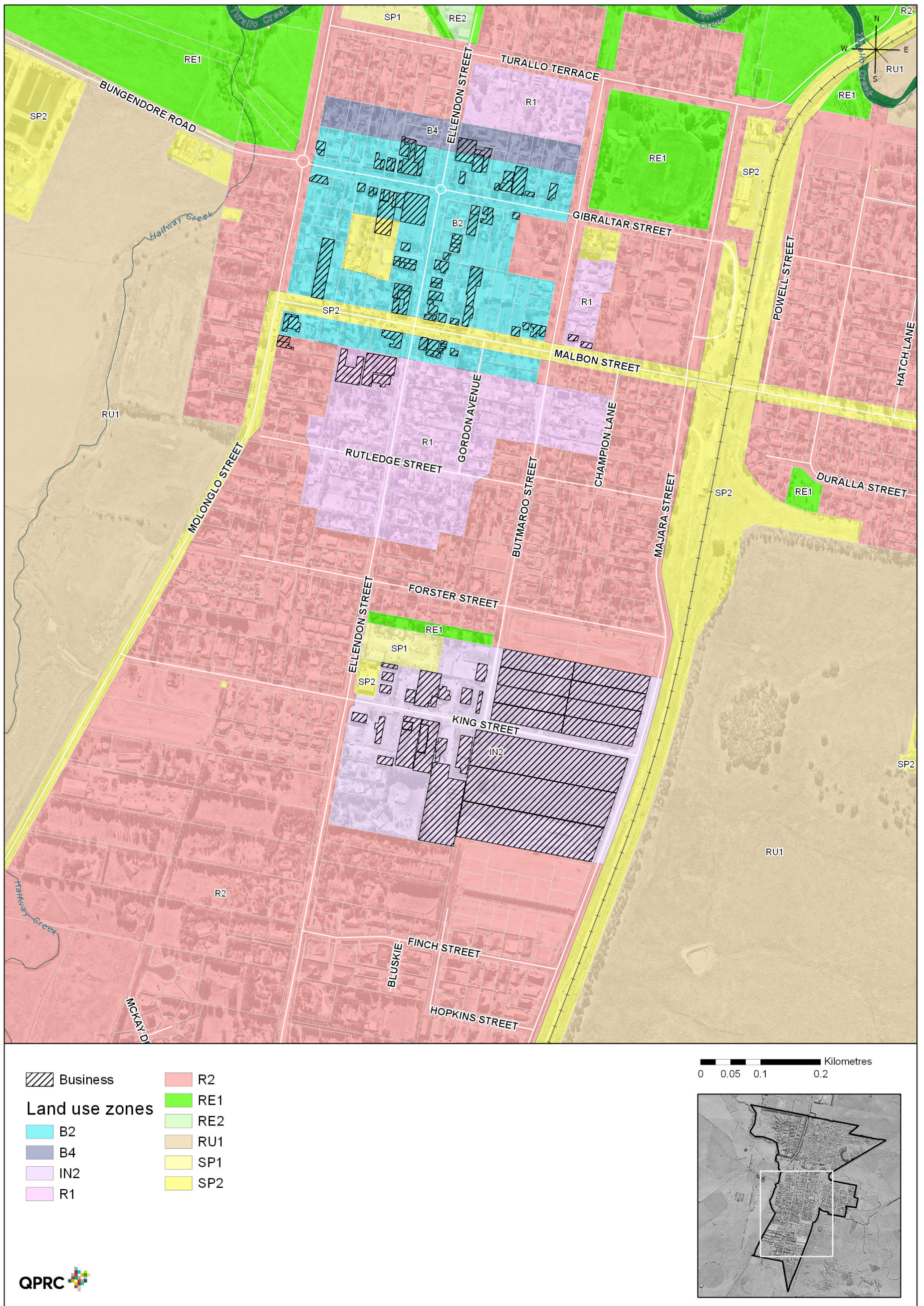
The implications with regard to economic development of the Bungendore Structure Plan area have already been stated under the discussion of employment land uses zones and they are re-stated below.

Planning for the growth of Bungendore needs to ensure that the processes also facilitate economic development opportunities. This could result in the creation of more local jobs, increasing range and choice of local jobs, reducing the need to commute elsewhere to work, reduce the need for out-migration of young people and increased community income and wealth, which means more money spent locally.

Planning for the long term growth of Bungendore will also need to have regard to facilitating opportunities for economic growth. This

includes consideration of the needs for commercial development and the emerging and changing trends in the commercial sector.

The impacts with regard to the three growth scenarios have been discussed under the headings of 'Industrial' and 'Commercial' earlier in the document. The impact in terms of demand on services will be relatively minor for the steady growth scenario. The medium and high growth scenarios will generate additional demand on services, however the positive benefit will be the generation of economic opportunities for the town.



Map 27 Commercial and industrial land use

10 Infrastructure

10.1 Roads

Council has prepared an Integrated Transport Strategy which will guide future infrastructure investment and provides direction for transport including public transport, cycling and footpaths network and links, heavy vehicle management, future road planning and integration with ACT and NSW networks.

Current Situation

General

Bungendore is a highly car-dependent town. On the day of the 2016 census, the most common methods of travel to work for employed people were: car, as driver 71.1%, as passenger 5.6% and worked at home 4.3%. There were 2.4% of the population that walked (only). On the day, 0.9% of employed people used public transport (train, bus) as at least one of their methods of travel to work and 78.2% used a car (either as driver or as passenger) (ABS).

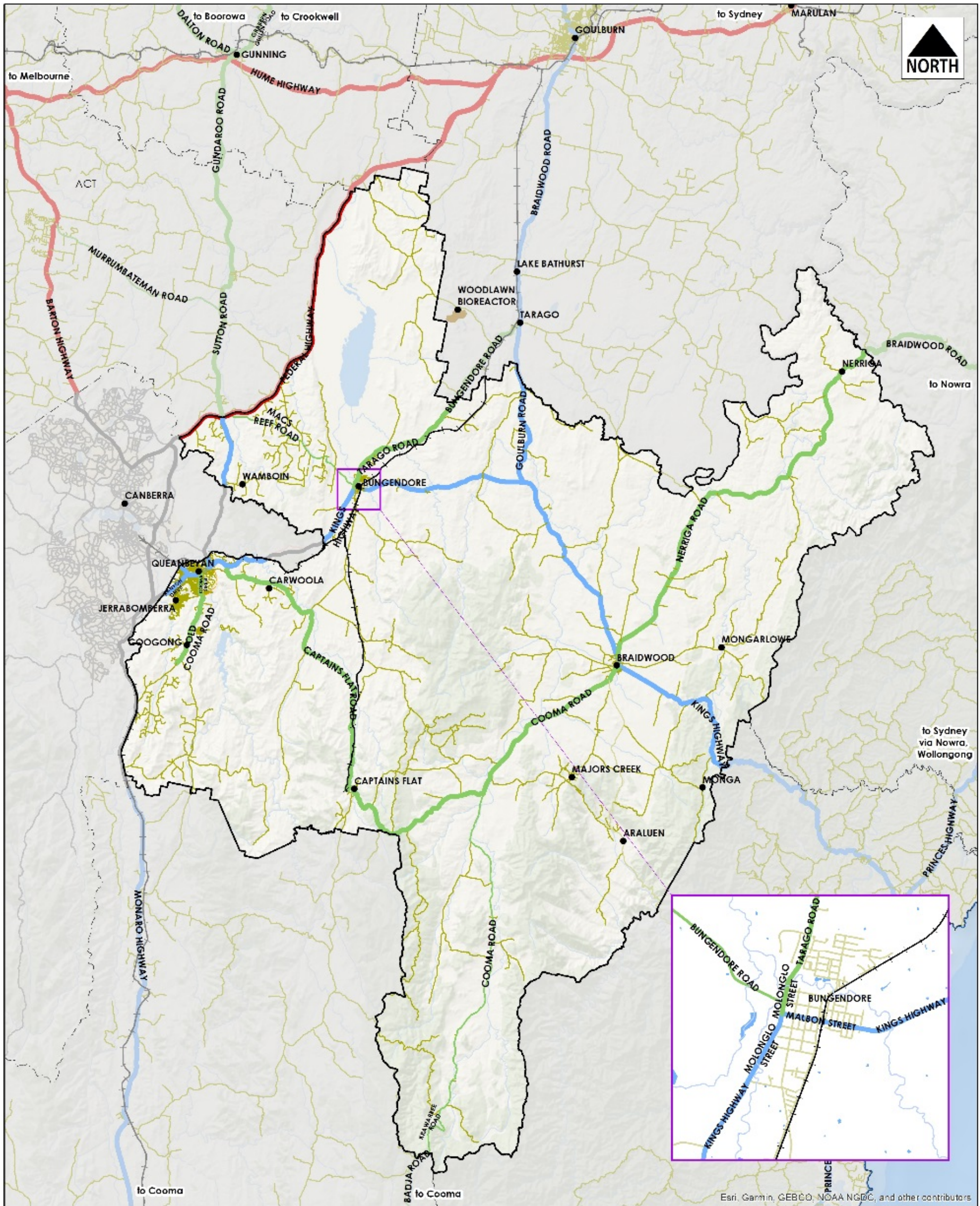
Given the strong connection between Bungendore and Queanbeyan and the ACT, this dependence on cars is unlikely to change until Bungendore reaches sufficient size to sustain a larger commercial, educational and social base.

Major Access Roads

Bungendore is serviced by three major access roads. Given the dependence of Bungendore on neighbouring major centres for employment and commercial needs, maintenance of a high quality, safe and efficient access network is critical.

In addition to servicing the needs of Bungendore residents, major access roads also serve to bring visitors to Bungendore and as a route between the ACT, NSW South Coast and Illawarra.

Major access roads within the regional context are shown below.



Map 28 Major roads across the Queanbeyan-Palerang local government area

Roads within Bungendore Town Environs

Bungendore has a number of key roads that provide access within the town. The key roads of Bungendore are shown on map 29 below .

Molonglo Street and Malbon Street form the Kings Highway through Bungendore. Pedestrian refuges have been installed at four locations along the highway providing important pedestrian amenity, particularly during peak holiday traffic periods. Malbon Street also crosses the Canberra – Goulburn railway line

Malbon Street has kerb and gutter and sealed shoulders between Molonglo Street and Butmaroo Street, and construction of kerb and gutter to Majara Street has recently been completed. Molonglo Street has kerb and gutter and sealed shoulders between Turallo Creek and Rutledge Street. Outside of these areas shoulders are generally unsealed, do not have kerb and gutter and have significant drops in locations to facilitate drainage

There are six laneways (unformed Council roads) in Bungendore which some residential properties use for access. Over the last five years there has been interest in subdividing the lots adjoining some of these. However, developers have viewed the cost of the constructing the laneways to the standard required in the *Palerang Development Control Plan 2015* (section B7.4) including in some instances the need to relocate utilities as prohibitive. The controls include the need for the laneway to be 8 metres in width and sealed. Drainage, existing utilities and the cost of sealing are common issues.

The development of the laneways as the only means of accessing newly created lots has been encouraged by Council as a means of supporting infill development in Bungendore. They are also a means of avoiding the need for battle-axe handles as the management of these can be problematic. Council has agreed to consider policy options for the development of the laneways as part of the structure plan work. The first part of this work involved an assessment of the public laneways in 2017 by Council staff. The assessment and associated map is in Appendix 3. The next step is to consider whether laneways should be developed and if so possible strategies. Such strategies could include the development of a Part 7 local infrastructure plan (refer to section 10) for individual laneways which would contribute to the construction of the laneway and rezoning some lots adjacent to the laneways R1 General Residential. The R1 zoning would allow the application of clause 4.1C in the PLEP to be applied to the lots. This clause allows the creation of residential 350m² lots. The installation of street lights in all laneways should also be considered.

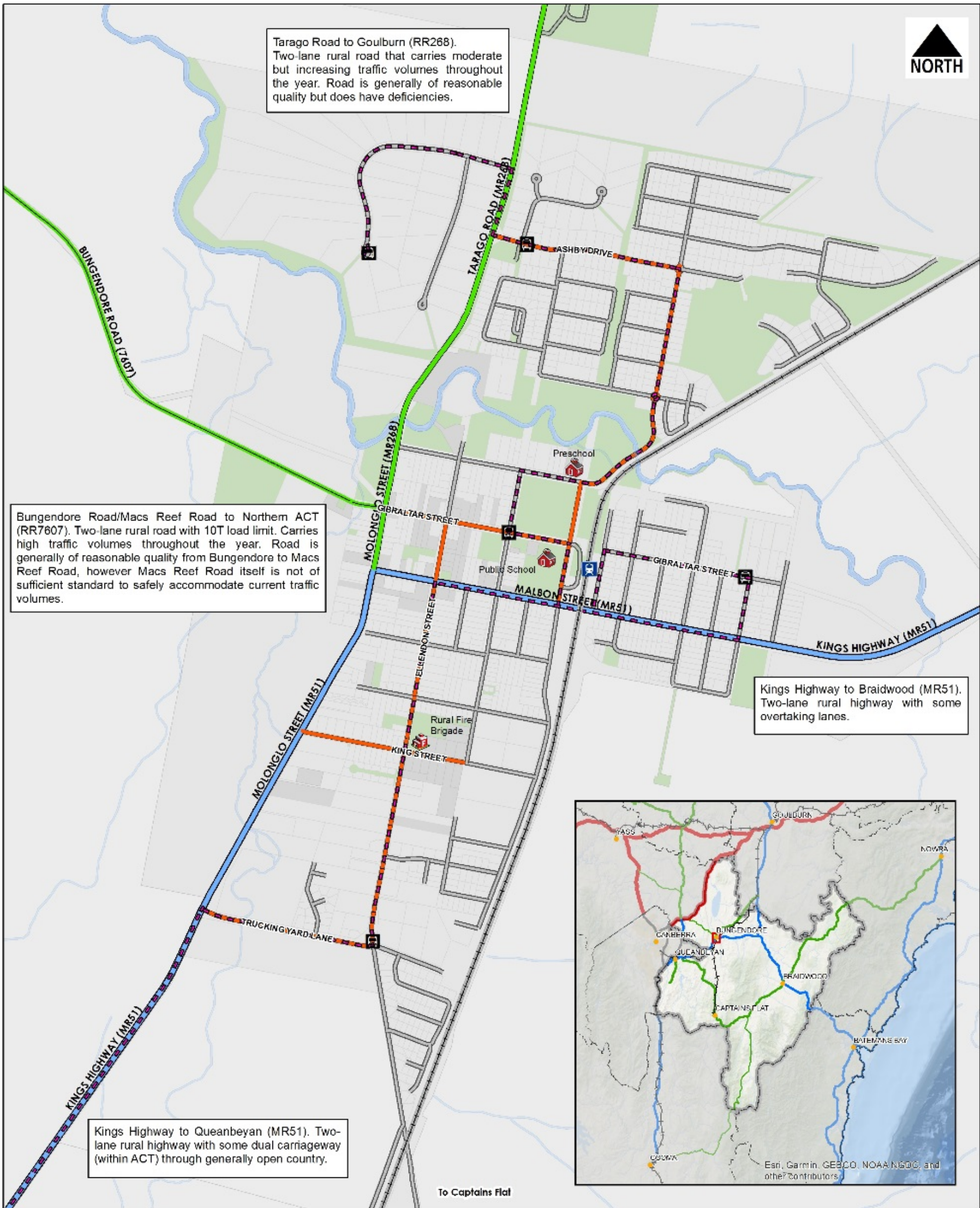
Issues and Opportunities

Major access roads

- the development and expansion of commercial and industrial sectors of Bungendore is currently restricted by the imposition of a load limit on Bungendore Road. The load limit prevents heavy vehicles taking the shortest route from Bungendore to the Federal Highway and northern ACT. The load limit was imposed to protect the Bungendore Road pavement and in recognition that some sections of Bungendore Road are not to the standard desirable for increased heavy vehicle movements. Removing the load limit on Bungendore Road would allow shorter and faster connections to significant business opportunities in surrounding areas, but would require careful consideration of safety and community concerns along the route
- undertake a pavement upgrade and widening of Bungendore Road from Bungendore to the Federal Highway to improve road safety and open the route for High Mass Limit vehicles. This would potentially involve bridge replacements, the extension of the overtaking lane at Smiths Gap, additional overtaking opportunities north of Macs Reef Road, intersection upgrades, shoulder widening and minor realignments. These upgrades

would be in line with the adopted “Beyond Nerriga Route Options Study” recommendations

- convert Macs Reef Road from a regional road to a local road and install traffic management to discourage vehicles travelling to and from the ACT. This would improve traffic safety on the road, reduce ongoing maintenance costs and improve amenity in the area
- particular safety and access concerns exist at the intersections of Bungendore Road and the Federal Highway, and Macs Reef Road and the Federal Highway. These intersections are primarily controlled by the NSW Roads and Maritime Services
- Bungendore Road and Macs Reef Road have a high crash history. Accidents along Macs Reef Road are exacerbated by a combination of roadside vegetation, narrow travel lanes, narrow or no sealed shoulders and multiple poorly located driveways and road intersections. Bungendore Road has a lower crash rate. Macs Reef Road and Bungendore Road also have few overtaking opportunities
- the “Beyond Nerriga Route Options Study” commissioned by South East Australian Transport Strategy Inc. (SEATS) (of which Council is a member) investigated potential transport corridors to improve heavy vehicle movements between inland NSW (including the ACT) and the NSW South Coast. The study recommended that Bungendore Road be upgraded to High Mass Limit vehicle standard to become part of this transport corridor
- undertake pavement upgrades and widening of Tarago Road to accommodate High Mass Limit vehicles for the entire length within the Queanbeyan-Palerang local government area



Map 29 Bungendore road network

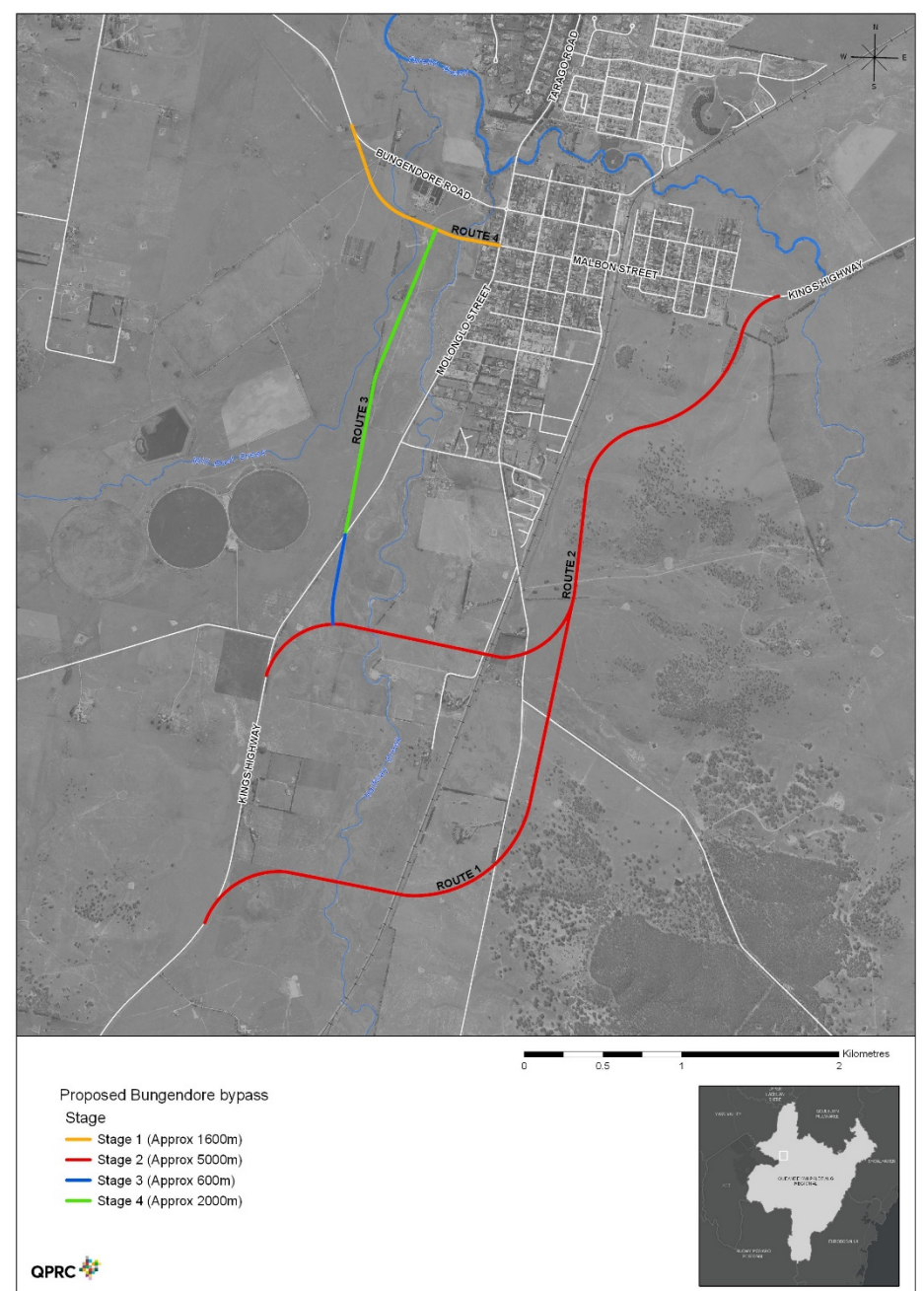
Roads within the Bungendore Town Environs

- the Kings Highway travels through Bungendore along Malbon Street and Molonglo Street. During peak times, traffic volumes can restrict the ability of residents to move easily around the town, particularly for those south of Malbon Street
- construct traffic management controls to improve traffic flows, including construction of a roundabout at the intersection of Molonglo and Malbon streets (construction is scheduled for the 20/21 financial year)
- roads within Bungendore generally have sufficient capacity to cater for existing traffic. Some upgrades will be required at intersections as the town grows along with more consistent streetscapes
- some roads within Bungendore are used as “rat runs” during peak periods. These roads are used in an attempt to reduce travel time, with popular routes being Majara St-King Street, Ellendon Street-Trucking Yard Lane and Gibraltar Street-Majara Street
- heavy vehicles currently use Molonglo Street when travelling north. A heavy-vehicle bypass would remove this traffic and improve the amenity of the area, although heavy vehicles would still need to use the Kings Highway alignment if they still travelled through Bungendore
- access via lanes facilitates the development of infill dwellings at the rear of existing residences. These dwellings would utilise the lane as their sole access to the street network. This facilitates the greater use of urban land (thereby avoiding urban sprawl) without detrimentally affecting the streetscape and character of an area. The use of lanes provides a superior living environment to battle axe development. It is preferable for dwellings to face streets and lanes, thus having an ‘outlook’ and direct, private access, rather than be enclosed in backyards. It also contributes to personal safety through surveillance.

Possible bypass routes

Map 4 and 30 illustrate possible bypass routes for Bungendore. All routes are indicative only and each requires consideration in regard to the future development of Bungendore, regional freight routes and vehicle numbers.

At this stage, Council has had preliminary discussions with the NSW Roads and Maritime Service about the bypass options and funding options. There has been no environmental analysis of any of the routes but matters for consideration would include; the allowance of a 100 metre corridor, groundwater, native flora and fauna, the impact on the Bungendore retail environment, Aboriginal cultural heritage, topography and current traffic counts particularly on weekends and accident statistics.



Map 30 Possible bypass routes

10.2 Active Transport

Active transport is generally considered to be any form of transport that uses human energy to reach the destination. Active transport includes walking and cycling along with other vehicles such as skateboards, scooters and rollerblades/skates. Active transport is generally considered feasible and appropriate if the desired destination is within 2km if walking and 5km if cycling. Active transport provides positive health outcomes for community members in addition to reducing the reliance on motor vehicles. The majority of Bungendore is located within a 2 kilometre radial distance of the Bungendore town centre as shown in Map 31.

Current Situation

Bungendore is identified in the Southern Regional Transport Plan (*Transport for NSW, 2014*) as an area suitable for increased active transport opportunities.

With respect to active transport infrastructure, Bungendore can generally be divided into two portions – older areas such as the central area of the town and the area east of the railway line which have low levels of infrastructure and poor connectivity, and Elmslea and South Bungendore which have good or improving levels of infrastructure.

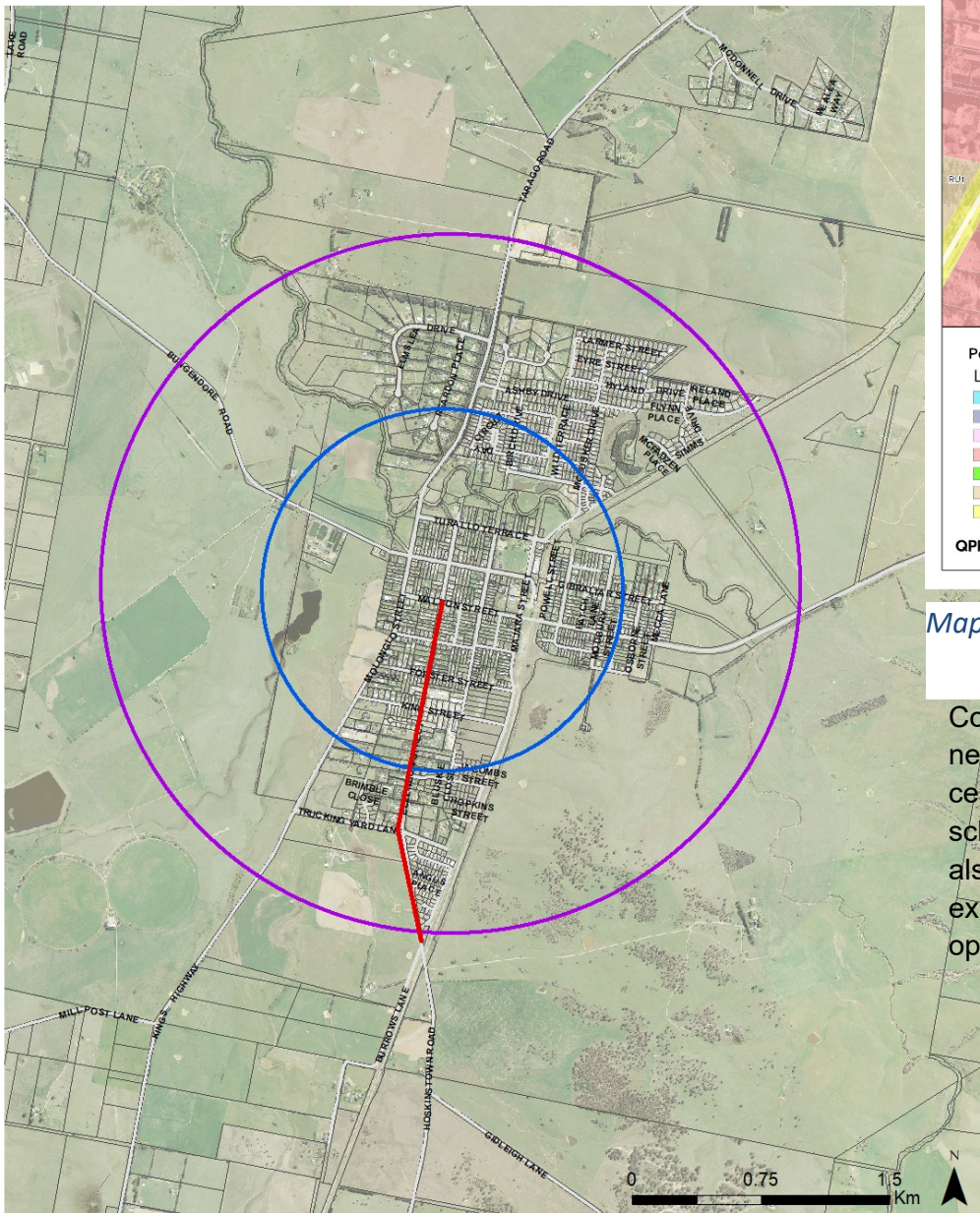
A *Pedestrian Access and Mobility Plan and Bike Plan* (the PAMP) has been adopted by Council for Bungendore. The PAMP was adopted in 2009 and laid out a conceptual network for active transport, defined the standard of facility to be provided and established a 5 year action plan for construction of the facilities. The PAMP is currently being reviewed and included in the Queanbeyan-Palerang Integrated Transport Strategy.

A Part 7 infrastructure contributions plan (refer to section 10) for the Provision of Pathway Networks at Bungendore was adopted by Council in 2007. The Plan provides for new developments to

contribute to the construction of key active transport infrastructure to improve connectivity and safety.

Issues and Opportunities

As the majority of Bungendore lies within the 2km walking catchment of the Bungendore town centre (see map 31), there is a strong opportunity to expand and enhance the active transport network of Bungendore. Bungendore is suitable for increased active transport. Construction of ‘missing links’, provision of appropriate end-of-trip facilities (such as bike racks and drinking fountains) and improved connectivity to key destinations will encourage cycling and walking within Bungendore. Map 32 below illustrates potential pedestrian pathways in the commercial area.



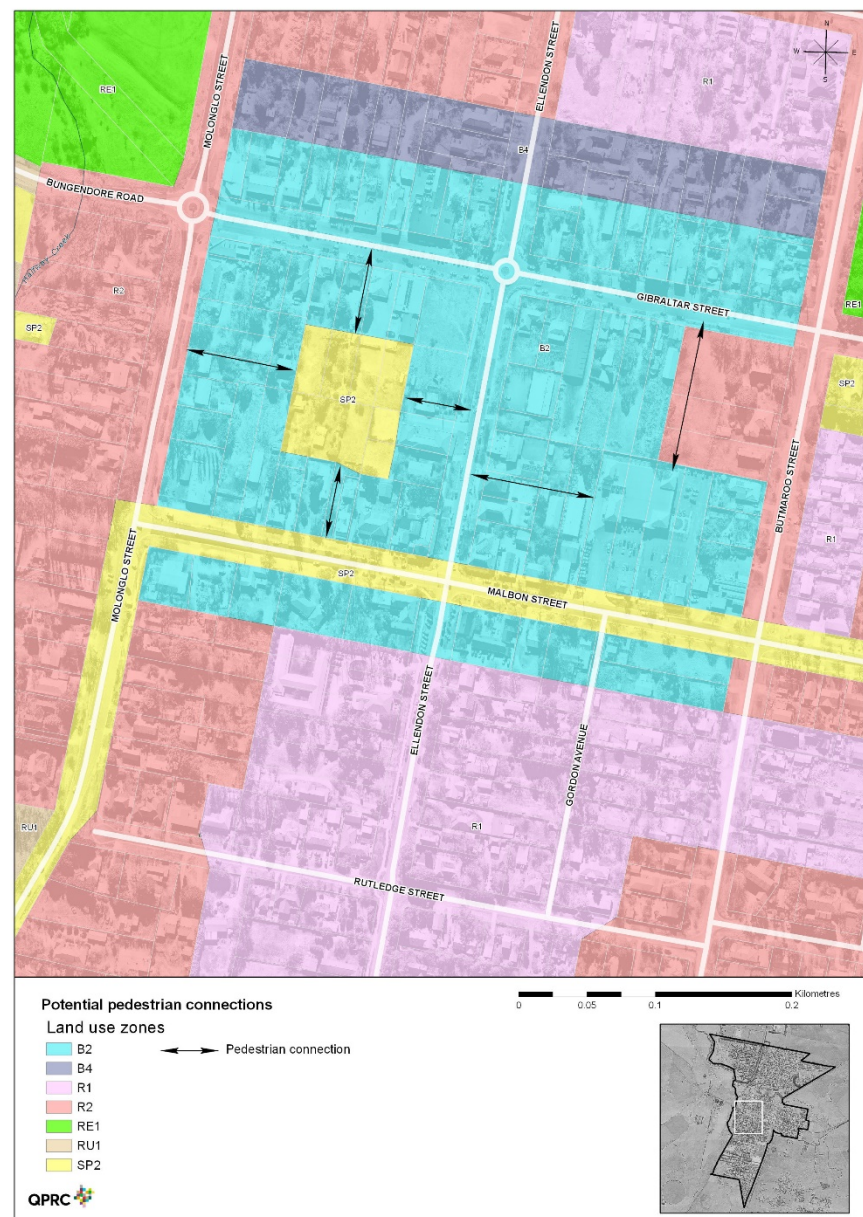
Walking Distance

— Roads — 1 Km Distance — 25 Minute walk

□ Lots — 2 Km Distance

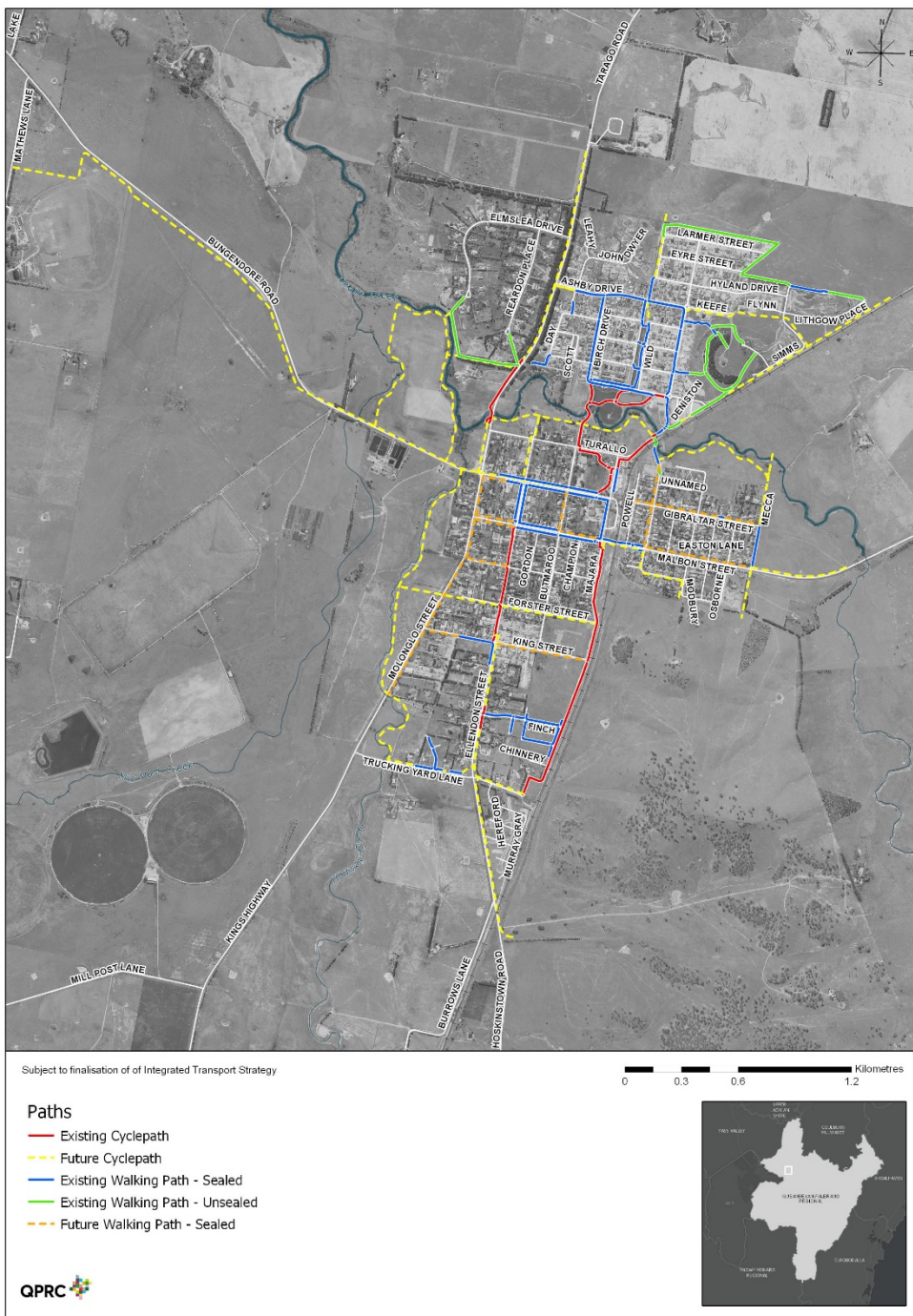
Map 31 Walking distances

- Significant progress has been made in improving the active transport network in the southern section of Bungendore with the construction of the shared use path between Trucking Yard Lane and Malbon Street along Majara Street and partial construction of the shared use path along Ellendon Street. Further development in the southern portion of Bungendore will expand this network and provide greater connectivity and access
- As the town expands, it will be important that new development includes appropriate provision of active transport infrastructure both within the development and connecting to the town centre. New development should also attempt to keep access routes within the walking and cycling catchments if possible.



Map 32 Possible pedestrian links in the commercial area

Council should work towards a safe and attractive active transport network that connects residential areas to the Bungendore town centre and other key attractors such as sports fields, churches, schools and other community facilities. Network improvements will also lead to better health outcomes. Map 33 below records the existing pedestrian and cycle paths. This map also identifies opportunities for future walking and cycle paths.



Map 33 Current and proposed walking and cycle path

10.3 Public Transport

Current Situation

Bus

Qcity operates direct services to Queanbeyan from Bungendore daily during the week, running four services to Bungendore and three services to Queanbeyan. The trip between Bungendore and Queanbeyan takes approximately 30 minutes, with multiple pick-up/drop-off points in Bungendore. Passengers can catch connecting buses into the ACT, requiring a further 40 minutes travel. Refer to map 34 below.

Murrays operate a daily service between Canberra and the NSW South Coast. The service arrives from Canberra at 8:20am and returns en route to Canberra at 5:10pm. The service is not suitable as a commuter service, but does service those with greater travel flexibility. Refer to map 34 below.

A number of school buses depart Bungendore for schools in Queanbeyan, Braidwood and the ACT. The buses travelling to Canberra, pick up passengers from various locations around Bungendore. Some of these buses are required to drop students at bus interchanges to comply with cross-border differences in regulations. A number of buses collect students from surrounding areas and deliver them to Bungendore Public School.

Rail

NSW TrainLink provides three northbound and three southbound daily train services between Canberra and Sydney, stopping at Goulburn and Bungendore. The service takes approximately 45 minutes to reach Canberra and 50 minutes to Goulburn. The current arrival and departure times are not suitable for commuters.

Taxi

Bungendore has one provider who operates one taxi and one hire car. There is currently insufficient demand to allow them to operate wholly within the Bungendore area, and significant income is derived from fares to Canberra Airport and the ACT.

Air

Bungendore is located approximately 30km from Canberra International Airport, which services Australian state capitals and Newcastle and Gold Coast airports. The airport also carries commercial freight traffic. Limited international flights have been available since 2016.

Issues and Opportunities

Bus

- The proximity of Bungendore to Canberra, Queanbeyan and Goulburn, coupled with population increases provides an opportunity to increase bus patronage through better services. Currently, Yass and Goulburn have commuter bus services to/from Canberra on a daily basis which are reasonably well patronised
- There is a lack of direct services to Canberra, particularly to the northern parts of the ACT which is a disincentive to potential passengers. There is not a single terminus with adequate parking and amenities. There are no passenger bus services operating on the weekend
- If high numbers of students continue to leave Bungendore for schooling, particularly secondary schooling the provision and enhancement of bus stops and shelters will require review. As buses from outside the ACT are not able to directly access schools, Council should continue to work with transport providers, the ACT Government and the NSW Government to improve this situation and reduce travel times for students

Rail

- Existing rail services are currently not adequate to encourage a change in transport mode. Currently, services are infrequent, slow and do not terminate at convenient locations. In addition to this, the services require booking and tickets and cannot be purchased at the station
- Establishment of a frequent, hop-on/hop-off commuter service between Canberra and Goulburn stopping at Bungendore, HQJOC and Queanbeyan. Whilst it is unlikely that any change can be effected in the short term, an opportunity exists to work with Goulburn-Mulwaree Council and the ACT government for more frequent rail connections during peak periods between Goulburn and Canberra
- A future bus interchange could be co-located with the existing railway station. Assessment of the potential for a park-and-ride facility – potential to co-locate with train station and the options of a bus interchange facility
- A commuter rail service between Bungendore and Canberra

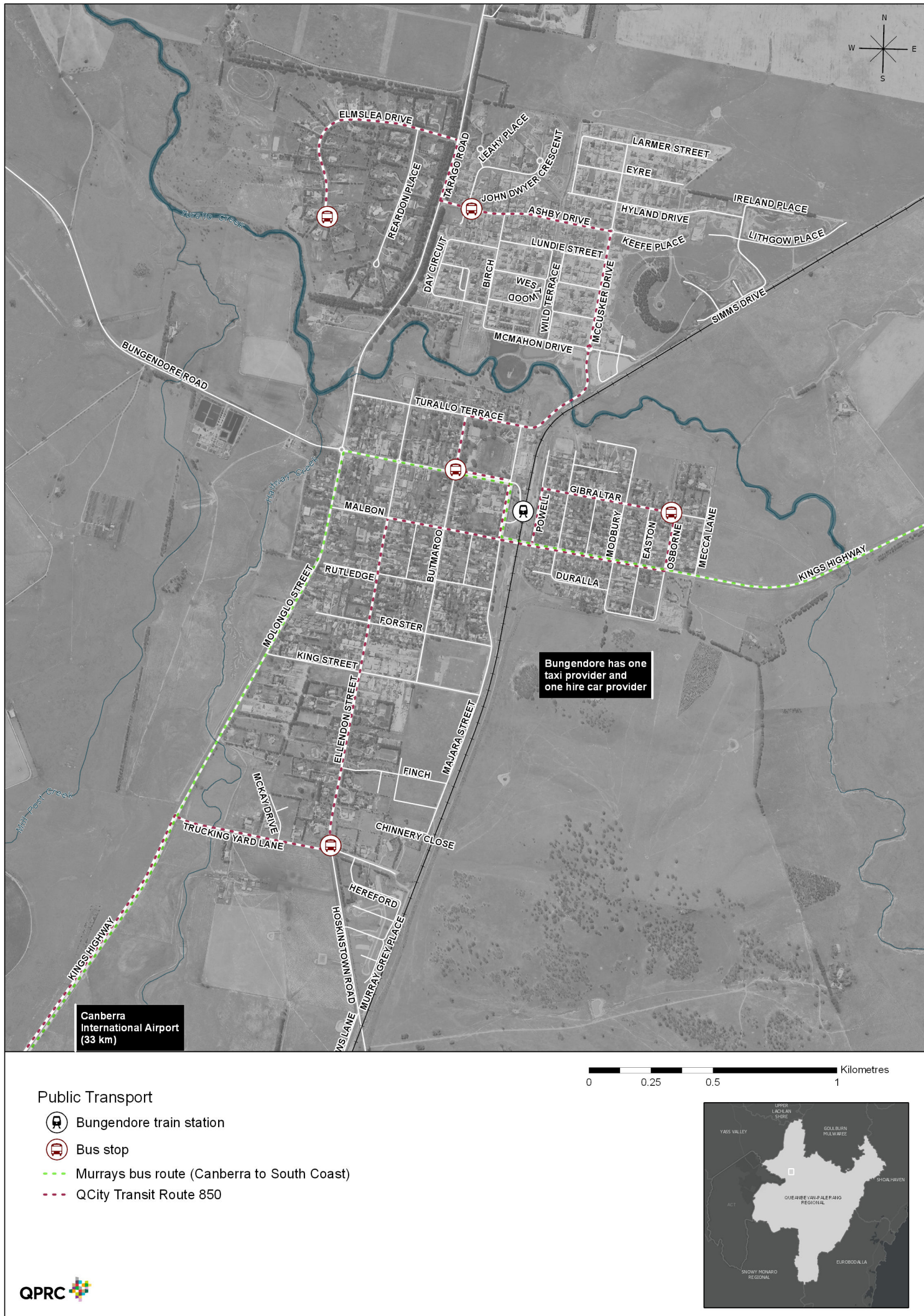
Taxi

The current population of Bungendore is insufficient to support a viable on-call taxi service. It is estimated that three to four taxis would be required for a population of about 10,000 people. The current operator is highly dependent on federal government expenditure to maintain their viability. They have also suffered losses since Canberra International Airport improved their parking facilities.

If growth was to occur that would increase financial sustainability, it may be possible for the current operator to expand their services to include a maxi-taxi/wheelchair accessible taxi. Consideration could be given to the need for a taxi rank at the supermarket – preferably with an awning at the entrance.

Air

The operation of the Canberra Airport is unlikely to cause any issues for Bungendore. An opportunity may exist for a private provider to commence direct Bungendore to Canberra Airport shuttle services as the town grows. This is likely to be on an on-demand basis.



Map 34 Bungendore public transport

10.4 Waste Management

Current Situation

Council currently undertakes kerbside collection of residual waste (red bins), recycling (yellow bins) and kitchen and garden organics (green bin) and has an on-going commitment to maintain the three services

The waste collected by Council collections and from resident drop-off is temporarily stored at the Bungendore Resource Recovery Facility (RRF). At the RRF, the waste is separated into major waste streams and sent to a variety of locations for processing, recycling or disposal

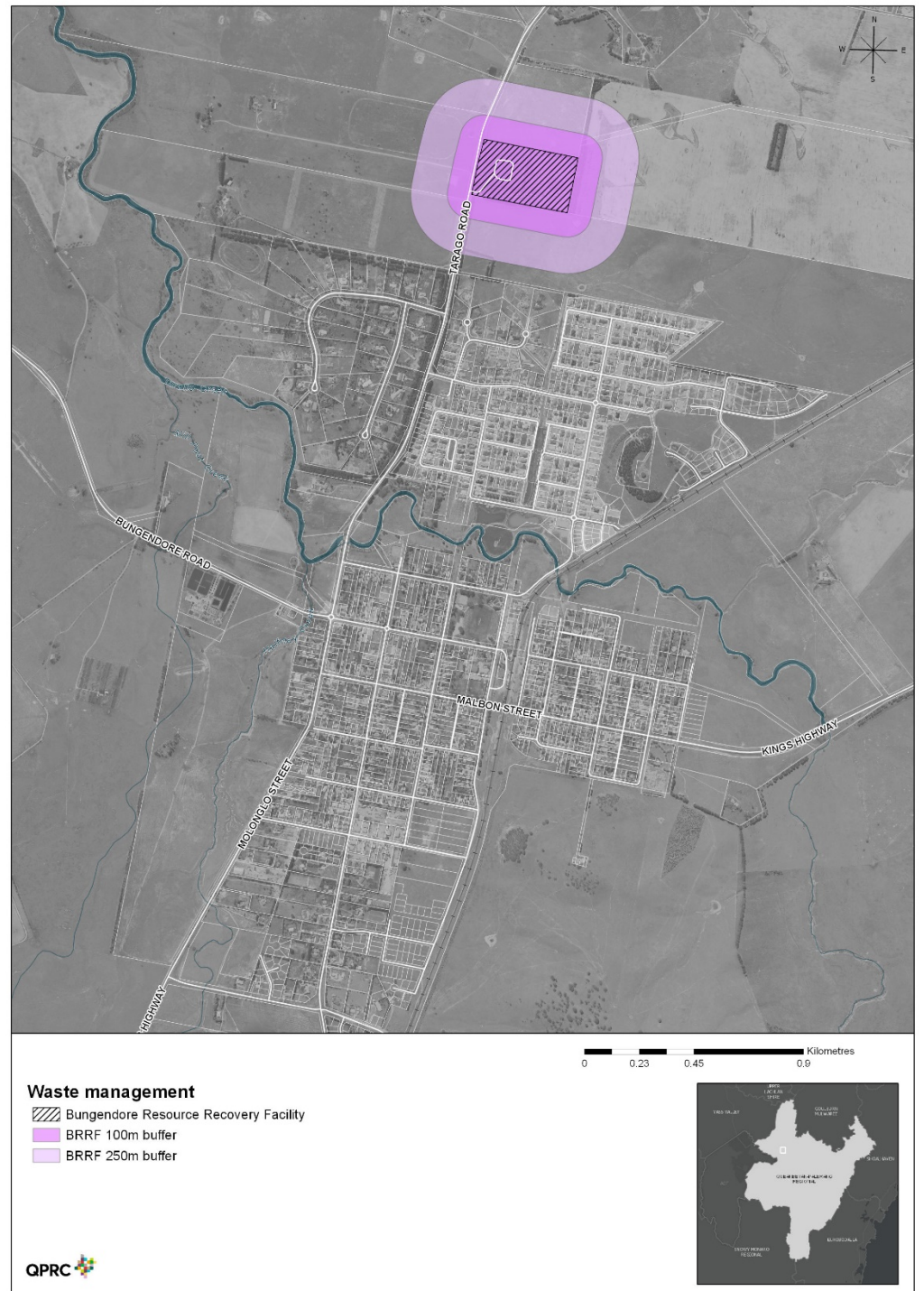
The RRF has been recently constructed and is a high quality asset for Council and a significant step towards complying with state waste reduction targets. Council currently has a commercial arrangement with Veolia for the parking of their vehicles and 'bulking up' of waste collected from Veolia contracts prior to transfer to Woodlawn for disposal. The RRF has recently gained an Environmental Protection Licence under the *Protection of the Environment Operations Act*.

Council is currently undertaking a waste strategy for the entire LGA. The strategy will review Council's waste management practices to improve operations and management of waste.

The Bungendore Resource Recovery Facility currently has a 500m buffer around it. The purpose of the buffer is to protect the amenity of surrounding residential development and to protect the efficient on-going use of the facility. Residential development is not permitted within the buffer area. Monitoring and investigations have been conducted and a 250m buffer may be appropriate in the future subject to finalisation of risk assessments and consultation with relevant State Government agencies. Map 35 indicates the location of the Bungendore Resource Recovery facility to the north of Bungendore town and the potential future 250m buffer.

Issues and Opportunities

- as the population increases, the demand for waste services and the generation of waste will also increase. The recently constructed RRF is considered to have suitable capacity to service the needs of Bungendore for the foreseeable future, however changes to the operation of the facility may be required to maintain this capacity
- to ensure maximum efficiency of Council collection services, future development will need to consider collection routes. As the town expands, additional kerbside collection vehicles or the introduction of collections zones within Bungendore will need to be considered
- to ensure Council continues to improve the management of waste, on-going investment into the RRF will be required. This may take the form of greater separation of materials at the RRF or at kerbside collection. Continual improvement of waste, particularly commercial and industrial, construction and demolition and problem wastes will greatly enhance Council's ability to meet state waste reduction targets
- to increase the amount of revenue generated by the RRF, Council could examine further opportunities with commercial operations to bulk up waste from other areas. This would increase revenue, improve efficiency and enhance employment in the area. This in turn would enable Council to open the RRF for longer periods of time
- Council receives large volumes of greenwaste at the RRF. Recent changes to Environmental Protection Authority (EPA) regulations now require Council to undertake a more rigorous process to achieve compliance. Construction of a facility to undertake this process would enable Council to sell compost or mulch back to residents and the commercial market, increase revenue, improve efficiency and enhance employment in the area. The location of a greenwaste facility should be considered as part of the possible greenfields industrial site.



Map 35 Location of the Bungendore Resource Recovery Facility

10.5 Potable Water

Current Situation

Bungendore sources potable water from a number of groundwater bores situated around the town. The bores draw from two separate borefields – the Turallo aquifer and the Butmaroo aquifer. Water quality from the Turallo bores is generally good and is able to be pumped at economic rates. Water from Butmaroo bores is currently of a lesser quality and is high in iron and manganese in particular.

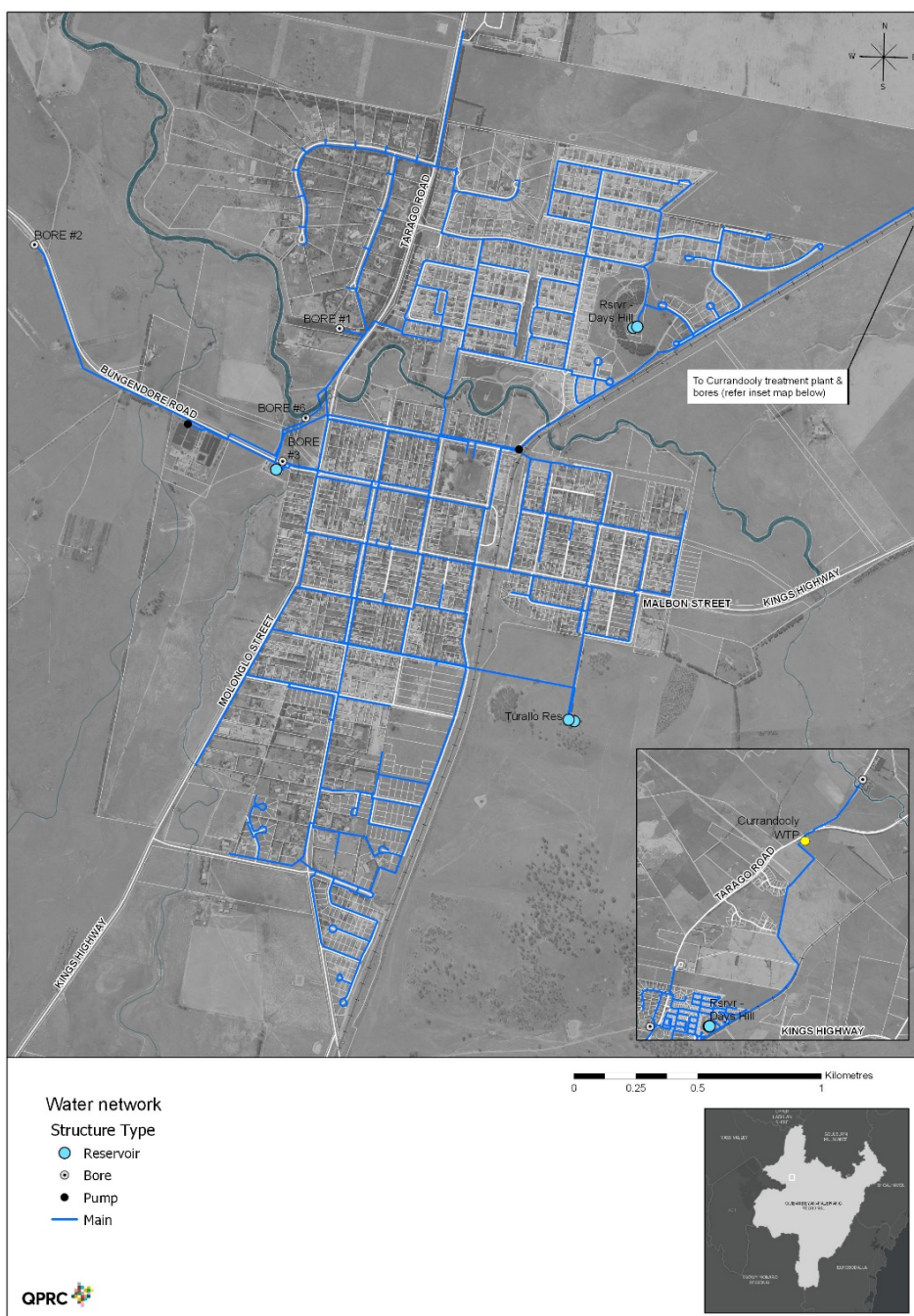
Water from these borefields is pumped to treatment facilities at Bungendore or Currandooly and is transferred to the three service reservoirs after treatment. The reservoirs are located at two reservoir sites on Days Hill (single 2.5ML reservoir) and on a hill to the east of the town off Modbury Street (the Turallo Reservoir site – one 0.91ML reservoir, one 1.45ML reservoir).

Council has an existing groundwater allocation of 472ML per annum, with 272ML available per annum from the Turallo borefield and 200ML per annum from Butmaroo borefield

Council adopted the Integrated Water Cycle Management Strategy (IWCM) on 27 February 2019. This strategy as required by state government covers a period of 30 years and addresses the interactions and connections between elements of the urban water cycle (water supply, sewage and stormwater), the physical operating environment, legislative and regulatory requirements and community expectations. The Strategy will 'right size' any necessary capital works projects and ensure that appropriate, affordable, cost-effective urban water services are provided to the satisfaction of the community and protection of public health and the environment.

Issues and Opportunities

- access to groundwater as a source of potable water is the major development constraint in Bungendore. Council has previously committed the existing groundwater allocation to service the potable water needs of the existing town and in-fill development within the existing town boundaries. To expand beyond these boundaries, Council and state government agencies will need to be satisfied that additional groundwater is available within the system
- water use within the Murray-Darling Basin (in which Bungendore is located) is controlled by various agreements between a number of state governments and the federal governments, various state and federal Acts of Parliament and a number of Water Sharing Plans. Council is currently seeking an additional water allocation from the State government. As an alternative, Council may need to consider purchasing existing groundwater allocations from surrounding land holders to secure additional groundwater for town expansion
- the IWCM process undertaken to date has indicated that there is sufficient water available in the Murray-Darling Basin system, and Council should seek an additional groundwater allocation to allow further development in Bungendore
- any additional groundwater allocation will require significant infrastructure upgrades. A section 64 plan should be developed to allow Council to finalise upgrade requirements and locations, construct the works and to claim reimbursement for the capital costs from future developments



Map 36 Bungendore water network

10.6 Non-Potable/Recycled Water

Current Situation

Council currently recycles water from the Bungendore Sewerage Treatment Plant and transports it via a pipeline to Bungendore Park for use as irrigation water. In addition, recycled water is used as road construction water which is collected in water tankers and transported to the applicable site

Issues and Opportunities

- the current use of recycled water is restricted to two uses. Further use of the recycled water could be made if new sports fields are constructed, and costs will be minimised if the land zoned RE1 Public Recreation on Bungendore Road is the chosen site for the fields. Additionally, recycled water could be used for watering of other parks in the area
- the current recycled water system requires a Recycled Water Management Strategy and a section 60 approval under the *Local Government Act 1993*. This work is currently being undertaken by NSW Public Works Advisory on Council's behalf
- the extent of recycled water is restricted by the current pipe network, which services Bungendore Park only. Future enhancements can be made to provide recycled water to other areas and uses, however, this should not include providing recycled water infrastructure to residential properties

10.7 Sewerage

Current Situation

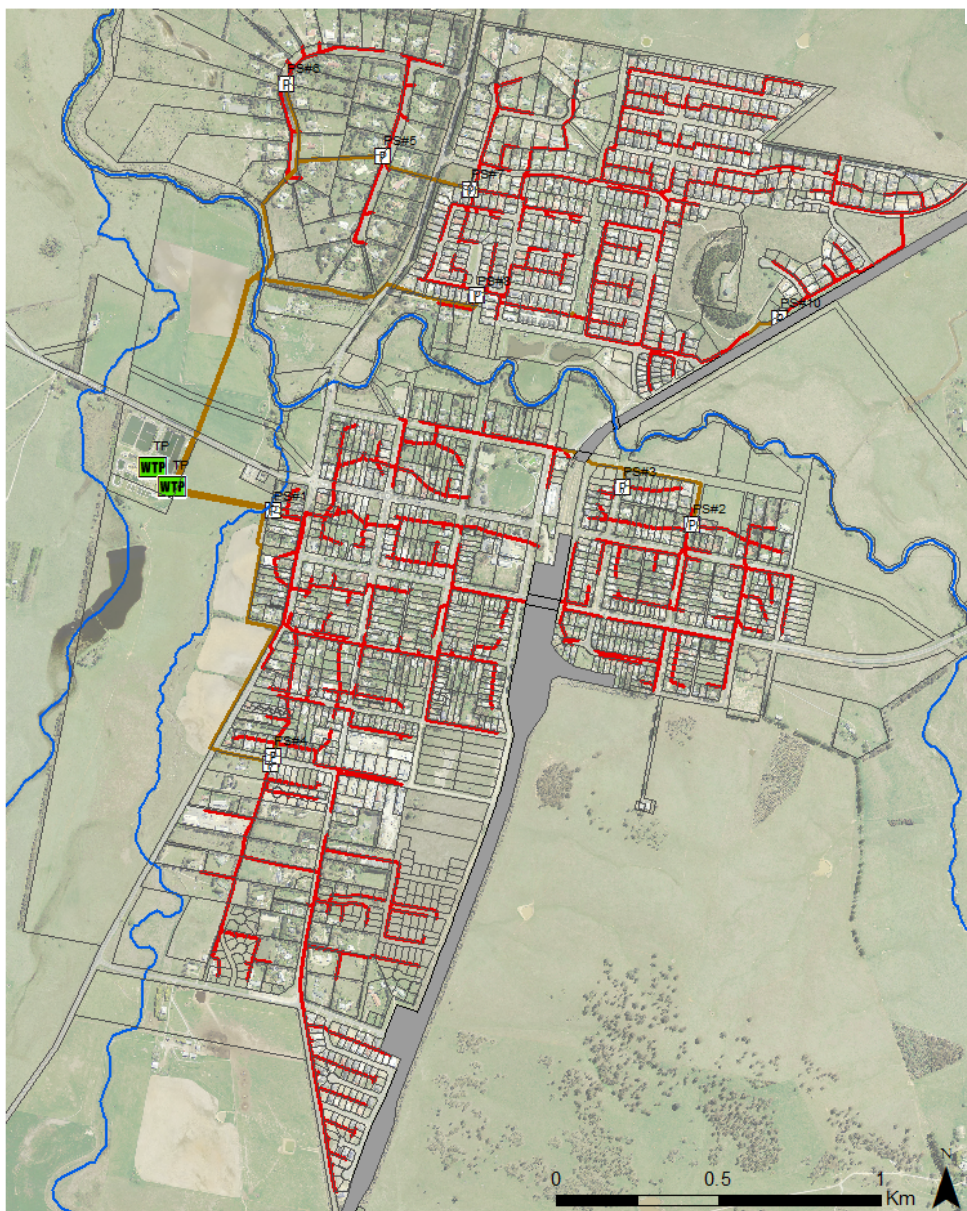
Bungendore has a sewerage network that extends to the current town boundaries. Gravity reticulation mains deliver raw sewage to a number of sewage pump stations where it is then delivered to downstream catchments or directly to the Bungendore sewage treatment plant. Map 36 illustrates the Bungendore sewerage network.

Bungendore has one sewage treatment plant (STP) with current capacity for 5,000 equivalent population with a further 3,000 EP available with upgrades. Once treated, some of the treated sewage is recycled for road construction use and park irrigation. The remaining treated effluent is released to Millpost Creek in accordance with Council's Environmental Protection Licence (No. 201).

Issues and Opportunities

- although there is spare capacity within the STP, this capacity will likely be required in the near future and further upgrades would be required after that. There is limited space on the existing site, and additional land adjacent to the site may be required. Expansion of the STP is limited by the floodplain surrounding the site
- as the commercial centre of Bungendore grows, and other facilities are constructed such as new schools and light industry, the demand per person at the STP will increase. Currently, large numbers of residents from Bungendore leave the town during weekdays and therefore do not produce sewage during these periods. As more people stay in town during weekdays, demands will change and greater volumes of sewage will be produced on a per capita basis.
- this will likely require a facility with capacity for approximately 12,000-15,000 EP (high growth scenario), and the purchase of additional land contiguous with the existing site and above the 1% Annual Exceedance Probability flood. To minimise capital and operational costs, a single treatment plant is proposed for Bungendore.
- a section 64 plan should be developed to allow Council to finalise upgrade requirements and locations, construct the works and to claim reimbursement for the capital costs from future developments.

Map 37 Bungendore sewerage network



10.8 Recreation Facilities

Current Situation

The facilities are shown on map 38 below and a brief description is provided below:

General

Bungendore Park is the primary recreation facility in Bungendore and hosts Mick Sherd Oval, three tennis courts and associated club-room, two cricket nets and the swimming pool.

Mick Sherd Oval

Mick Sherd Oval, located in Bungendore Park, comprises one field with an associated amenities building. The field currently hosts rugby league, rugby union, soccer training, Oz-tag and school athletics. The field has lighting and a successful sprinkler system.

Warren Little Oval

Warren Little Oval is located to the north of Turrallo creek at 5 McMahon Drive. The oval contains a small AFL field with a central cricket pitch. Although currently not used by any AFL

club for competition football, it is used by Oz-tag and junior cricket in the summer months. The oval does not have an amenities building, nearby parking or any lighting.

Swimming pool

The existing pool facility is located at the corner of Turallo Terrace and Majara Street and is on the same site as the tennis courts and Mick Sherd Oval within the civic hub of the town. The main pool has a 25 metre long shotcrete concrete tank with five demarcated competition lanes and starter blocks at the deep end. It includes a curvilinear “beach” along the one long side, apparently conceived to be the future location of a water-slide. There is a separate kidney-shaped paddling pool with full shade protection.

There are barbecue and shaded picnic facilities provided, and a shaded earth mound along the north-west long side of the pool provides accommodation for spectators.

A report prepared for the April 2011 Ordinary Council Meeting (Item 10.5) identified that the existing pool is inadequate for the current population, does not meet current standards and has a number of deficiencies.

Medium and high growth scenarios will require the existing aquatic facility to be completely upgraded or replaced at the Bungendore Sports Hub.

Playgrounds

Bungendore Park – The larger of the two playgrounds, Bungendore Park playground consists of a large covered area with a small adventure playground, a set of swings, a see-saw and a slide. In addition, the playground has BBQs and uncovered tables and seats. The playground has large vegetation in close proximity and is adjacent to the public toilets located in Mick Sherd Oval amenities building. The playground has parking nearby

Wild Terrace – a small, uncovered adventure playground with a cubbyhouse, see-saw and spinners. The playground is located just south of the corner of Wild Terrace and Lundie Street, Bungendore and has a seat and bin, but little shade.

Bungendore Showground

Bungendore Showground is a large facility located approximately 5 kilometres from the town at the foot of the Lake George Escarpment. The facility is managed by a Trust, and hosts equestrian events along with dog competitions. It also hosts a number of cultural events such as the Bungendore Show and Bungendore Country Muster. The site is currently difficult to access by any means other than car due to narrow shoulders and no footpath.

Bungendore Skate Park

The Bungendore Skate Park is the only youth-specific recreation facility located within Bungendore. It is located on McMahon Drive in Elmslea. It comprises a skate park, half-court basketball court, toilets and a BBQ, and has a shade-sail covering a portion of the Skate Park. This has been subject to ongoing antisocial behaviour.

Passive Recreation Areas

Bungendore has a number of passive recreation areas. These generally comprise open space and have limited amenities or pathways. The areas include Frogs Hollow, The Common (Turallo Creek corridor), Elmslea Park (located on the northern side of The Common), Days Hill and the dog off-leash area. The majority of these sites are cleared and affected by flooding. Paths within the areas range from bitumen shared paths to informal gravel paths

Bungendore has a number of buildings that can be used for passive recreation. These include the School Library, Memorial Hall (poor

access and parking and an older less friendly facility), the Multipurpose Hall located within the school and the Country Womens Association Rooms.

Private Recreation Facilities

Bungendore has low levels of private recreation facilities. Excluding community halls, the only two private recreation facilities are the Bowling Club with a single bowling green and a small gym and dance school operating on the corner of Gibraltar and Molonglo Streets.



Map 38 Location of recreation and community facilities

Issues and Opportunities

General

- there are currently insufficient sporting and recreation facilities for Bungendore and surrounding areas. The lack of facilities is limiting recreational opportunities for residents and clubs they represent. Council is currently implementing components of the recreation strategy

Mick Sherd Oval

- a masterplan has been adopted for Bungendore Park. The masterplan does not include provision for the expansion of the facilities provided at the ground
- the field and existing change room arrangements have recently revived funding for an upgrade
- the opportunity to convert Mick Sherd Oval to a passive recreation area for town should be considered. This would create a 'town meeting place' to act as the social focus of the community



Photo 3 Mick Sherd Oval masterplan

Warren Little Oval

The oval is considered to be too small by the community. The facilities are inadequate. It is located entirely within floodway. The floodway location will mean it will be difficult to provide amenities in close proximity. It is located in a meander, meaning a large flood may significantly impact through the re-direction of the channel

Swimming pool

The following issues were identified in the previously mentioned report to Council

- there is no dedicated First Aid Room
- the paddling pool does not have an independent filtration system
- the original design brief required pool volume turnover rates of 1 hour and 4 hours for the paddling and main pools respectively. Current practice requires 30 minutes and 3 hours respectively, with the capacity to reduce the latter to 1.5 hours
- there is an abrupt change in floor level of the wet concourse area. This is not recommended
- the depth of the pool at the starting blocks is 1.2m. This is allowed by Guidelines for Safe Pool Operation for competition swimming only. The blocks should be removed or isolated when the pool is being used for recreational swimming. This is not currently being applied
- the pool depth markings and warning signs do not comply with requirements

The report also identified a number of options to address the situation. The report developed an optimum aquatic facility based on a catchment population of 8,200 people. The catchment population includes rural and rural-residential areas surrounding Bungendore.

The report also proposed a number of possible locations. These locations included:

- the existing site
- east of the railway line near the intersection of Rutledge Street and Modbury Street
- adjacent to the existing northern boundary of Elmslea on Tarago Road
- the area currently zoned RE1 Public Recreation to the west of Turallo Creek off Bungendore Road

A multi-criteria analysis determined that the existing location and the proposed site off Bungendore Road were the best options.

The financial viability of a stand-alone outdoor pool is an on-going concern for pool operators. Outdoor pools require a large public subsidy to ensure their on-going operation. Having an all year round aquatic facility does not necessarily result in increased financial viability. Greater utilisation and financial viability of the facility may be achieved through an approach similar to current ACT practice, where facilities are part of an overall hub having a range of health and aquatic programs to cater for diverse ages, interests and abilities. These services include swimming lessons, personal training, gyms, child care, cafés, group fitness classes, small group training, recreational swimming, squad training and school programs.

Playgrounds

- there are currently no playground facilities in the southern section of town, with the most southern facility being Bungendore Park. Potentially, the old cattle yards at the eastern end of Trucking Yard Lane could be converted to a playground for this area
- create pocket parks (with swing and small playground similar to Wild Terrace) a requirement as part of larger developments with majority of lots located within 400 metres of a park. Review the development control plan requirements for open space. Levy a Section 94 contribution for open space playground in South Bungendore
- Bungendore Park playground could be upgraded to a regional playground with improved picnic and BBQ facilities. A new playground could be incorporated with any new sporting fields development

Bungendore Showground

The showground is currently disconnected from the town. While the majority of recreational users require vehicle access for their animals, the cultural events and individual campers may benefit from the provision of a sealed shared path to the town. This would enhance connectivity as well as provide a safe walking route

Bungendore Skate Park

The Skate Park is prone to vandalism due to siting and surveillance difficulties, and is not reflective of current best practice. There are also some safety and construction concerns related to cracking and subsidence.

Passive Recreation Areas

Many of the passive recreation areas in Bungendore are flood affected and have limited facilities. Many of the indoor passive

recreation facilities have accesses that do not comply with current standards

10.9 Stormwater

Current Situation

Bungendore currently has a limited drainage network, and relies to a large extent on overland drainage through large portions of the town. This, coupled with the flat topography of Bungendore makes stormwater drainage problematic. Several areas of the town are regularly inundated during heavy rain events including the area east of the Kings Highway Street between King Street and Trucking Yard Lane. Council is currently undertaking a stormwater masterplan for this area. The commercial areas of Gibraltar Street are also inundated during heavy rain events.

Newer areas of the town, such as Elmslea and Bungendore Meadows are provided with suitable stormwater drainage infrastructure and are not expected to present drainage issues

Bungendore currently has limited stormwater quality devices in older sections of the town.

Issues and Opportunities

- there is no overall model of the Bungendore stormwater network. This is problematic as it does not allow Council to readily consider whole-of-network impacts from new developments and proposed solutions to existing problems
- there is a limited drainage network in the older sections of the town, which relies to a large extent on overland drainage through large portions of the town. This approach frequently causes stormwater flooding of roads and private property
- Bungendore currently has limited water quality infrastructure. This may result in high concentrations of pollutants in stormwater runoff, which may adversely impact downstream environments
- The opportunity exists to develop a town-wide stormwater network model to allow modelling of existing problems, investigation of potential solutions and assessment of the impact of future development. In addition, this would consider stormwater quality improvements to reduce pollutants in stormwater. These works would complement improved streetscapes around Bungendore and provide consistent infrastructure levels throughout the town. To fund these works, a contributions plan could be developed under the *Water Management Act* or the *Environmental Planning and Assessment Act*

10.10 Utilities

In addition to water and sewer utilities, Bungendore has reticulated gas, copper phone lines, NBN and a mix of overhead and underground electricity mains. The provision of these utilities is outside of Council's control.

10.11 Street lighting

Current Situation

Streetlighting in Bungendore is common in newly developed areas and is absent or of low standard in older areas. Streetlighting has been provided along the Kings Highway alignment through Bungendore. The lighting is to improve safety and was installed by RMS.

Issues and Opportunities

- there is an inconsistency in the provision of streetlighting around Bungendore. In areas with newer development streetlighting

has been provided, while older areas do not have any or are widely spaced and not to current standards.

- low standard streetlighting decreases pedestrian and non-motorised traffic safety, particularly at intersections. In addition, low quality streetlighting can increase the likelihood of crime.
- streetlighting in Bungendore is common in newly developed areas and is absent or of low standard in older areas. Streetlighting has been provided by RMS along the Kings Highway alignment.
- there is an inconsistency in the provision of street lighting around Bungendore.

10.12 Street furniture

Street furniture includes outdoor chairs, tables and rubbish bins.

Issues and Opportunities

- develop a streetscape plan for precincts 1 and 2 taking into account work previously undertaken by the former Palerang Council and the community
- consider the inclusion of artwork such as sculpture and bespoke street furniture

10.13 On-street and Off-street Parking

Current Situation

The majority of parking in the Bungendore town centre is unrestricted on-street parking. There is a one off-street public parking area at Bungendore Park, which is a popular rest-stop for travellers. There is some private off-street parking which is typically located at the rear of private commercial premises.

There is currently high demand for parking during peak periods, particularly around the western end of Gibraltar Street and the hotels. There are also pockets of high parking demand on Malbon Street and Ellendon Street. While demand in these areas is high, there is generally available parking located nearby, and the peak period is usually not for an extended length of time. There are anecdotal reports of people experiencing difficulties finding a parking space on weekends.

A public off-street carpark is planned for the vacant land in part of the block bordered by Malbon, Ellendon, Molonglo and Gibraltar Streets (refer to map 19 and 32). The area will have approximately 130 parking spaces and will be accessed from Gibraltar Street and Ellendon Street. A pedestrian path is proposed from Malbon Street, however, there will be no direct access to or from the Kings Highway from the carpark.

Issues and Opportunities

- there are currently insufficient parking spaces to cope with peak parking demand. The proposed off-street parking area will alleviate this issue, however, demand will need to be monitored to determine if additional parking is required
- there is currently a lack of parking for long vehicles/vehicles towing in Bungendore. The design and access locations of the proposed off-street carpark will make long vehicle access difficult, so other locations should be provided. Currently long vehicles can park along the Kings Highway, however the frequency of driveways and narrow parking lane makes this difficult. The off-street parking area in Bungendore Park is also used by long vehicles but has limited space and is used by local sporting clubs during the evenings and on weekends.
- Council has resolved to include electric vehicle charging stations in off-street parking areas, and the parking area proposed in the commercial area will be provided with an appropriate facility

10.14 Cemeteries

Current Situation

Bungendore has one lawn cemetery located at the eastern end of the town at the corner of Mecca Lane and the Kings Highway as shown in map 39 below. There are currently no plans for either expansion of the existing cemetery or a new cemetery, however it will be necessary to investigate the spare capacity at the existing facility.

Issues and Opportunities



Map 39 Location of the Bungendore cemetery

As the population of Bungendore expands, additional demand will be placed on the existing cemetery. This will reduce the period of time the existing facility can be used. As such, an expanded or new cemetery will be required. There is currently vacant land surrounding the existing cemetery which may be suitable for use as a cemetery site

10.15 Implications

This chapter of the Bungendore Structure Plan provides an overview over the infrastructure matters to be considered when planning for the growth of Bungendore. Such infrastructure includes roads and parking, public transport, pedestrian and bicycle paths, waste management, utility services and other facilities that the community needs such as recreations facilities and cemeteries. Council's Operational Plan and Delivery Program sets out the services provided to the community. As part of the Delivery Program and Operational Plan Council produces a capital works schedule which lists capital projects (e.g. new roads or community centre). Council's budget outlines the funding for such projects, this may be via grant funding, general revenue (rates), loans, developer contribution plans/agreements. In addition to capital projects,

maintenance of existing infrastructure has to be funded by Council. Whilst each growth scenario will have budget implications a higher growth scenario will require more investment in terms of provision of social and service infrastructure to ensure the needs of a growing community can be met.

Although the steady growth scenario will have budget implications for Council as even a small increase in population will place extra demand on services and facilities. The medium growth scenario will generate a proportionately higher demand on services and facilities, as will be the case with the high growth scenario.

As the document states in the 'Background' section, the three growth scenarios are not plans of what is going to happen. Key drivers of population changes are birth and death rate and in and out migration. To what extent the population of Bungendore grows can depend on large number of factor such as:

- Availability and cost of housing
- Access to employment
- Lifestyle choice
- Availability of services and facilities
- Continued globalisation of many elements of daily life (e.g. access to sports and movies via paid TV channels)
- Technological advancement (e.g. more opportunity to work from home)
- Other influences (e.g. location of HQJOC at Bungendore created employment close to Bungendore)

Each of the growth scenarios has positive and negative aspects, however growth cannot be limited. Council can, however plan for future growth and ensure the impact is minimised by adhering to the development principles set out in the document. The following additional principles should guide future growth:

- Future development should maximise the efficient use of existing infrastructure and services and minimise the need for additional ones where possible.
- New greenfields development should where possible be contiguous with the existing urban area.
- Rural industries and agricultural landscapes should be protected.

Council will need to continue to monitor population changes and trends and plan for future growth. This will require that planning for additional urban release areas is integrated with the infrastructure requirements. Such planning for the future will also be required to consider how to fund infrastructure projects.

11 Rezoning requests

Over the last five years numerous written requests have been received by Council concerning the rezoning of land within or adjacent to Bungendore. Each is shown on the map below and an outline of each is provided (no particular order).

It should be noted that:

- there is sufficient potable water available for development within the existing town boundary
- if development is to occur outside the existing town boundary then it is necessary for Council to obtain an increase in its water allocation licence. As stated in section 10.5 Potable water this process is currently underway. However, whether an increase is possible is not known at the time of the development of this document
- Bungendore is surrounded by large areas of native grassland, some of these areas are likely to meet the criteria for the federally listed Natural Temperate Grassland Endangered Ecological Community (refer to section 5.4 Flora and fauna for more detail)
- large areas surrounding Bungendore are likely to contain Aboriginal cultural heritage
- an assessment against the Directions by the Minister and State Environmental Planning Policies will be required. This includes the *State Environmental Planning Policy (Primary Production and Rural Development)*

These matters amongst others such as flood and road capacity require careful consideration and a strategic evidence based approach to the extension of Bungendore's boundary. Additionally, the draft structure plan needs to have regard to the desired future character of Bungendore and the draft document's development principles. This includes the retention of a country/heritage feel and improvement/extension of open space.

1 North Elmslea (eastern)

Lot and DP	Lot 1 DP 798111 (eastern part of the lot, three-quarters of the lot)
Current landuse zone	RU1 Primary Production
Proposal	To create approximately 300 R2 Low Density Residential lots with a minimum lot size of 850m ²
Current status	<ul style="list-style-type: none"> • gateway determination issued – proceed to studies and consultation • environmental and engineering assessments have been completed, a revised planning proposal taking into account the environmental assessments has been prepared. The next stage is the consideration of government agency comments and community consultation
Comment	<ul style="list-style-type: none"> • the planning proposal was originally for the entire lot but was reduced in area due to the need for a 500 metre buffer from the Resource Recovery Facility until an assessment for landfill gases was undertaken. The assessment has been undertaken and it is thought that the buffer can be reduced to 250 metres while ongoing monitoring occurs • potential development area identified in the current Bungendore Structure Plan • requires an increase to the Bungendore water allocation licence to occur
Recommendation	That the zoning process be continued for this site.

2 North Elmslea (western)

Lot and DP	Lot 1 DP 798111 (western part of the lot)
Current landuse zone	RU1 Primary Production
Proposal	To create R2 Low Density Residential lots and R5 Large Lot Residential lots, the number is unknown
Current status	Discussion with Council staff
Comment	<ul style="list-style-type: none"> • the planning proposal for North Elmslea was originally for the entire lot but was reduced due to the need for a 500 metre buffer from the Resource Recovery Facility until an assessment for landfill gases was undertaken. The assessment has been undertaken and it is thought that the buffer can be reduced to 250 metres while ongoing monitoring occurs. This proposal would encompass the remainder of the lot • potential development area identified in the current Bungendore Structure Plan • the environmental and engineering assessments undertaken for the eastern part include this area • requires an increase to the Bungendore water allocation licence to occur
Conclusion	The process for rezoning enquiries involves a number of steps. The first step requires lodgement of a formal Preliminary Rezoning Enquiry together with supporting information and relevant fees. This enables Council Officers to assess if the proposal has any merit and whether or not a Planning Proposal if lodged is of a minor or major nature and what fees are required. The fees required depend upon the estimated time required to assess and process the Planning Proposal.
Recommendation	To enable Council to formally assess the proposal, it is recommended that the applicants be advised to lodge a formal preliminary Rezoning Enquiry together with supporting information and the required fees

3 Northern area beyond North Elmslea

Lot and DP	Lot 1 DP 880087
Current landuse zone	RU1 Primary Production
Proposal	To create residential lots. The minimum lot size and potential number of lots is not known
Current status	Discussion with Council staff
Comment	<ul style="list-style-type: none"> potential large areas of Aboriginal cultural heritage significance potential areas of Natural Temperate Grassland Endangered Ecological Community and associated listed fauna species particularly grassland reptiles not within the potential development area identified in the current Bungendore Structure plan requires an increase to the Bungendore water allocation licence to occur
Conclusion	The rezoning of this site is not supported due to its environmental constraints, it is outside of the areas identified as having development potential within the Structure Plan and the site has the potential to contain large areas of Aboriginal cultural heritage significance
Recommendation	That Council does not support the rezoning of this site

4 Bungendore East

Lot and DP	Lot 1 DP 747767, Lots 275, 279 and 273 DP 754915, Lots 7301 and 7302 DP 1168137 and Lot 1 DP 193988
Current landuse zone	Primarily RU1 Primary Production
Proposal	Residential lots and associated landuses
Current status	Council recommendation to seek a Gateway determination, Council has referred the planning proposal to the Minister for Planning. The Department has advised that the required increase in the Bungendore water allocation and review of the Bungendore Structure Plan needs to occur. No Gateway determination has been issued
Comment	<ul style="list-style-type: none"> not within the potential development area identified in the current Bungendore Structure Plan requires an increase to the Bungendore water allocation licence to occur the proponent has undertaken environmental and engineering assessment without consultation with Council a large proportion of the proposal is within the flood planning area residential areas adjoining the rail corridor are not generally encouraged by John Holland Rail
Conclusion	<p>Whilst the site contains a number of constraints including areas of high environmental value and a large proportion of the site being flood affected, the planning proposal has been forwarded to the Department of Planning for a Gateway Determination.</p> <p>The Bungendore Structure plan has identified areas which present opportunities for development (pending site specific investigations) refer map 4, area B1.</p>
Recommendation	That Council await the outcome of the water allocation issue

5 Lot 2 DP 1079627, southern side of the Kings Highway

Lot and DP	Lot 2 DP 1079627, southern side of the Kings Highway
Current landuse zone	RU1 Primary Production
Proposal	Residential or R5 Large Lot Residential
Current status	Brief discussion with Council staff and written request
Comment	<ul style="list-style-type: none"> the southern part of the lot is not within the potential development area identified in the current Bungendore Structure Plan requires an increase to the Bungendore water allocation licence, currently being managed by Council
Conclusion	<p>Flood modelling has not been carried out for part of the site and may contain some areas of high environmental value. Further investigation will be required to ascertain if a planning proposal for the site can be supported.</p> <p>The process for rezoning enquiries involves a number of steps. The first step requires lodgement of a formal Preliminary Rezoning Enquiry together with supporting information and relevant fees. This enables Council Officers to assess if the proposal has any merit and whether or not a Planning Proposal if lodged is of a minor or major nature and what fees are required. The fees required depend upon the estimated time required to assess and process the Planning Proposal.</p>
Recommendation	To enable Council to formally assess the proposal, it is recommended that the applicants be advised to lodge a formal preliminary Rezoning Enquiry together with supporting information and the required fees

6 Lot 1 DP 794724 and Lot 1 DP 986065, Tarago Road

Lot and DP	Lot 1 DP 794724 and Lot 1 DP 986065
Current landuse zone	RU1 Primary Production
Proposal	Residential or R5 Large Lot Residential
Current status	Written request from consultant
Comment	<ul style="list-style-type: none"> not within the potential development area identified in the current Bungendore Structure Plan requires an increase to the Bungendore water allocation licence, currently being managed by Council within the 500 metre landfill buffer zone the land includes the heritage building 'Ashby'
Conclusion	Site constraints include the proximity to the landfill buffer zone, the existing heritage building and a substantial part of the site is subject to flooding. Further investigation will be required to ascertain if a planning proposal for the site can be supported.
Recommendation	That the applicant be advised that a formal planning proposal will be required to be lodged to enable Council to further investigate the matter. Further that the applicant be advised that the lodgement of such a proposal will require payment of the relevant fees in accordance with Council's schedule of fees and charges.

7 Lot 2 DP 1137743, Kings Highway/Molonglo Street

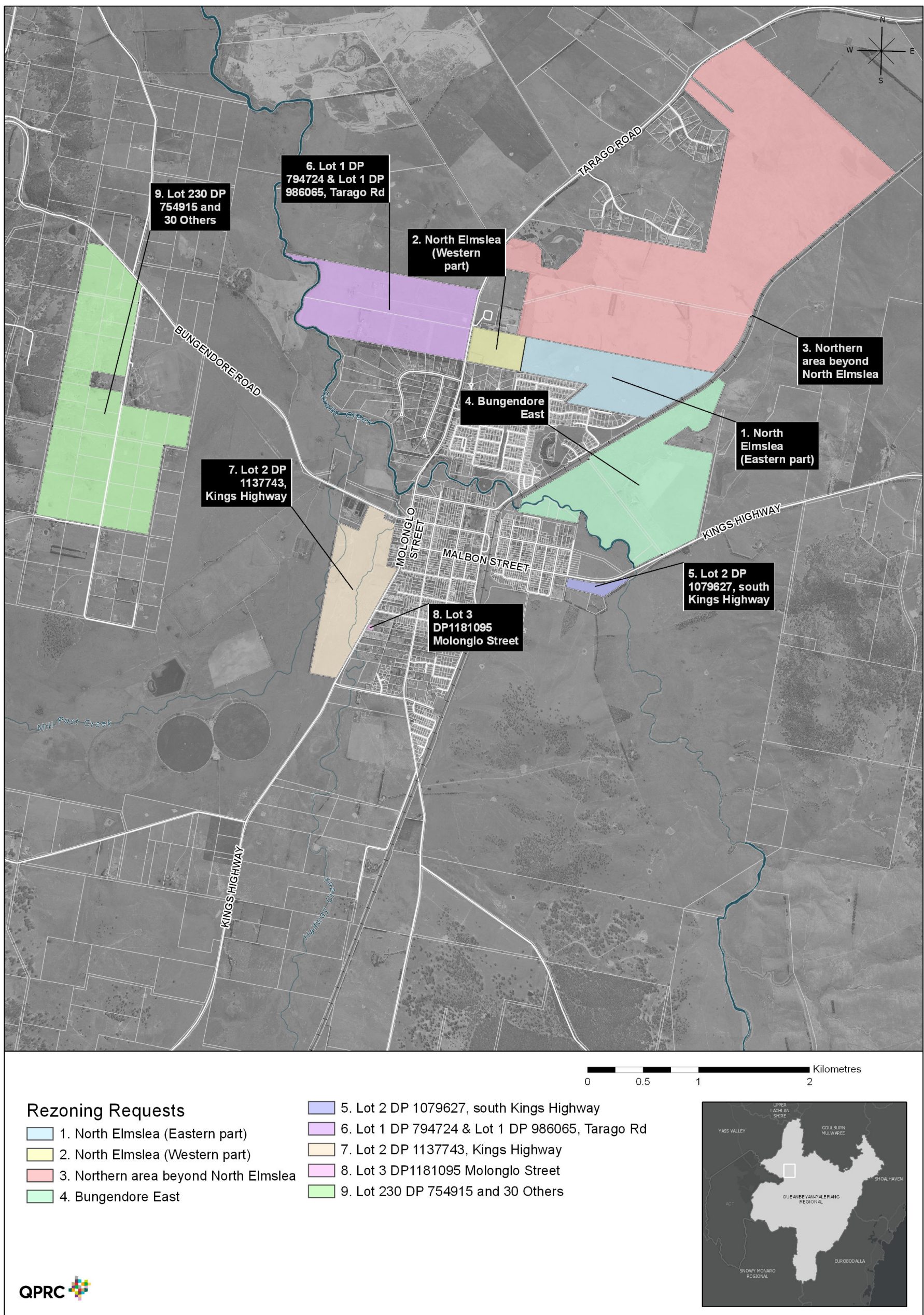
Lot and DP	Lot 2 DP 1137743
Current landuse zone	RU1 Primary Production
Proposal	The property owner has discussed numerous landuses with Council, these include residential, caravan park, recreation and commercial (caravan park, service centre and motel)
Current status	Discussion with Council and various written proposals
Comment	<ul style="list-style-type: none"> the site is contiguous with the existing urban area of Bungendore requires an increase to the Bungendore water allocation licence the lot is shown on the PLEP Flood Planning map there are a lot of easements associated with the lot
Conclusion	Although the area is adjacent to the existing urban area of Bungendore, the site is highly constrained due to it being located within the Flood Planning Area.
Recommendation	That Council does not support the rezoning of this site

8 Lot 3 DP 1181095, Molonglo Street

Lot and DP	Lot 3 DP 1181095, Molonglo Street
Current landuse zone	R2 Low Density Residential
Proposal	IN2 Light Industrial
Current status	Written request
Comment	The lot is within in the current Bungendore Structure Plan area and is shown on the PLEP Flood Planning map
Conclusion	The site is not suitable to be rezoned due to it being located within the Flood Planning Area.
Recommendation	That Council does not support the rezoning of this site

9 Lot 230 DP 754915 and others, Matthews Lane

Lot and DP	Lot 230 DP 754915 and others, Matthews Lane
Current landuse zone	RU1 Primary Industry
Proposal	Residential (lot size unknown)
Current status	Brief discussion with Council staff
Comment	The lot is outside of the current Bungendore Structure Plan area. It is within the Lake George catchment.
Conclusion	The site does not meet the relevant development principles of being adjacent to the existing urban area of Bungendore and the extension of infrastructure services would be quite costly and inefficient
Recommendation	That Council does not support the rezoning of this site



Map 40 Rezoning requests

12 Strategies for Implementation

Required strategies

The draft structure is an evidence based document and as such will require regular reviews and it is recommended that landuse databases in GIS format be maintained.

Strategy no.	Strategy	Priority
Traffic/Transport and Connectivity		
1.	Undertake pavement upgrades and widening of Tarago Road to accommodate High Mass Limit vehicles for the entire length within the Queanbeyan-Palerang local government area	B
2.	Assessment the viability of a frequent, hop-on/hop-off commuter service between Canberra and Goulburn stopping at Bungendore and Queanbeyan	A
Future Review of Policy Documents		
3.	Regularly and continually review Council's Section 64 and development contributions plans	O
4.	Determine the rezoning requests where these are supported by the Strategy and where a formal enquiry has been lodged with supporting information and the required fees	A
5.	Encourage the development of multi-dwelling housing in the R1 General Residential landuse zone using the LEP provision that allows a reduction of lot size provided the subdivision and dwelling applications are jointly submitted. Consider the analysis of the laneways and infill development and development of a policy and any associated strategies for the laneways.	A
6.	Review the PDCP including assessment whether specific controls for precincts 5-10 are required and review DCP requirements for open space	B
7.	Investigate establishing a new industrial area away from residential and commercial land use zones. The industrial area would cater for general industrial landuses including a freight centre, possibly a depot and greenwaste facility	C
Infrastructure Capacity		
8.	Determine a site for a new reservoir to provide water storage for the expanded population and pump station	A
9.	Develop a town-wide stormwater network model and masterplan incorporating water quality improvements and develop implementation strategies/funding model	A
10.	Investigate the current the capacity of the Bungendore cemetery	A
11.	Determine the future of the current swimming pool and the development of a new pool	A

	Amenity	
12.	Develop a streetscape plan for precincts 1 and 2 taking into account work previously undertaken by the former Palerang Council and the community	A

Legend

Priority		Timeframe in years
Priority A	High	Within 5
Priority B	Medium	Within 10
Priority C	Low	Within life of this plan
Priority O	Ongoing	

It is also recommended that Council implement the Integrated Transport Strategy. The recommendations of this study include:

- Identify a connected and accessible path hierarchy and way finding strategy for active travel.
- Implement a program to promote active transport use and facilitate community participation.
- Develop a strategy for integrated bus routes between ACT and NSW.
- Review parking supply and demand and restrictions in Queanbeyan CBD and surrounds, as well as other key centres in Queanbeyan, Braidwood and Bungendore.
- Continue to review need for intersection improvements.

In addition continued discussions should be held with NSW Roads and Maritime Services in regard to:

- A future bypass around Bungendore and such discussions to include funding options.
- Conversion of Macs Reef Road from a regional road to a local road, including installation of traffic management to discourage vehicles travelling to and from the ACT. This would improve traffic safety on the road, reduce ongoing maintenance costs and improve amenity in the area

Funding

Current Situation

Council has a range of funding options to undertake the strategies depending on the nature of the strategy and the legislative situation. These include:

- general rates including water and sewer charges
- special rate variations requiring approval by the NSW Independent Pricing and Regulatory Tribunal (IPART)
- grants from federal and state governments and some private funding bodies
- development contributions under section 94 of the *Environmental Planning and Assessment Act 1979*
- the imposition of development consent conditions for works-in-kind allowed under section 80 of the *Environmental Planning and Assessment Act 1979*
- voluntary planning agreements with developers
- development servicing levies available under section 64 of the *Local Government Act 1993*
- public-private partnerships

The general rates and water and sewer charges are detailed in the annual Operational Plan which is part of the Community Strategic Plan process (refer to sections 1.1 and 1.4). As Council prepares the Operational Plan each year consideration can be given to funding the strategies in the Structure Plan that are the responsibility of Council. In addition to general rates and water and sewer and charges Council can levy contributions for new development, an outline of these is provided below:

Development Contributions

Section 64 Development Servicing Plans

- Section 64 development servicing plans (DSP) apply to areas serviced by water, sewer or stormwater infrastructure. They are reviewed every 5 years and require a submission be made to IPART prior to coming into force
- Council currently has two plans in place for Bungendore – a Water DSP and a Sewerage DSP. Council does not currently have a Stormwater Drainage DSP. Details of each DSP are below:

1. Palerang Council Section 64 Development Servicing Plan – Water Supply

- adopted by Council on 30 June 2011
- applies to all land within the urban and rural areas of Bungendore serviced or proposed to be serviced by water supply services
- it provides extension or augmentation of the water supply services required as a consequence of development
- the contribution amount in 2015 was \$9,676.50

2. Palerang Council Section 64 Development Servicing Plan – Sewerage

- adopted by Council on 30 June 2011
- the plan applies to all land within the urban and rural areas of Bungendore serviced or proposed to be serviced by sewerage services
- it provides for the extension or augmentation of sewerage services required as a consequence of development
- the contribution amount in 2015 was \$11,612.50

There is no DSP for stormwater drainage. There are provisions for the making and application of one under section 496A *NSW Local Government Act 1993*. The DSP would allow for the extension or augmentation of stormwater drainage services required as a consequence of development.

Part 7 Local Infrastructure Contributions Plans (formally known as Section 94 Contributions Plans)

- Part 7 local infrastructure contributions are able to be levied under the *Environmental Planning and Assessment Act 1979*. They are currently capped at \$20,000 per lot and have no provision to increase in time with the CPI. Exemptions to the cap are available but they must be submitted to the state government for approval
- There are currently eight plans that may apply to development in the town of Bungendore or surrounds, these are:
 - *Plan No 10 For The Provision Of Kings Highway Culverts At South Bungendore*
 - *Plan No 11 For The Provision Of Public Off-Street Carparking At Bungendore*
 - *Plan No 7 For The Provision Of Recreation Facilities At Bungendore*
 - *Plan No 8 For Provision Of Pathway Network At Bungendore*
 - *Plan No 9 For Street Upgrading At Bungendore*
 - *Yarrowlumla Council Section 94 Contribution Plan (No. 2) For Provision Of Access Roads*
 - *Yarrowlumla Council Section 94 Plan No. 1 Bungendore*
 - *Yarrowlumla Council Section 94 Plan No. 3 Provision Of Community Facilities*

Issues and Opportunities

- the existing cap on Part 7 local infrastructure contributions has the effect of shifting the burden of funding growth onto the existing population, as the shortfall in funding of new and upgraded infrastructure will still need to be funded. This shortfall funding will come from existing ratepayers
- many of Council's existing Part 7 local infrastructure contributions are old. The plans are unlikely to be suitable for the future growth of Bungendore, and a significant portion of the works outlined in the plan have now been completed
- Council does not currently have a section 64 development servicing plan for stormwater drainage. Such a plan was investigated previously and it was found at that time not to be worthwhile pursuing (refer to section 10.9)
- Council should continue to review funding options to ensure that the best mix of options is being used. This should include a review of existing Part 7 local infrastructure contributions plans to assess their ongoing suitability. Many of Council's existing Part 7 plans applicable to Bungendore are quite old and may no longer be suitable for development growth

11 Appendices

Appendix 1 – List of existing plans and studies

Land use plans prepared by Council or the NSW Government

- *The South East and Tablelands Regional Plan 2036*
- *Palerang Local Environmental Plan 2014*
- *Palerang Development Control Plan 2015*
- *Bungendore Land Use Strategy and Structure Plan, 2009, P and A Walsh Consulting Pty Ltd*

Heritage

- *Bungendore Heritage Conservation Planning Strategy, Palerang Heritage Advisory Committee, adopted 22 July 2010*
- *Scobie, D. Bungendore Conservation Planning Study, October 1982*
- draft Bungendore Heritage Study, 2018

Infrastructure plans

open space and recreation

- *Bungendore Park Master Plan, adopted March 2014*
- identification of site for playing fields
- sport forums

asset management

- Asset Management Plan

traffic movement and parking

- *Bike Plan and Pedestrian Access and Mobility Plan (PAMP) for Bungendore and Braidwood*
- draft Integrated Transport Strategy, 2018. This includes an updated PAMP
- road pattern south of King Street – adopted
- parking in commercial area – internal work being undertaken on predicted demand and current usage
- Bungendore Off-Street Carpark – Design and Landscaping Plans
- Traffic Report – Braidwood and Bungendore Local Traffic Study 2013

water

- *Water Sharing Plan for the Murrumbidgee Unregulated and Alluvial Water Sources 2012*
- existing water allocation licence
- draft Integrated Water Cycle Management Strategy

wastewater

- analysis document assessing capacity

Flood

- *Bungendore Floodplain Risk Management Plan, 2013*

Other plans

- dsb Landscape Architects, draft Bungendore Village Town Centre Concept Plan, August 2009

It is understood that this has been exhibited but not finalised. Some of the data is either incorrect or out of date.

- Various drafts have been developed for the Central Business Districts however, none have been adopted by Council

Development contributions and Section 64 Plans

- *Yarrowlumla Section 94 Plan No.1 Bungendore, (no list of proposed works)*
- *Palerang Section 94 Plan No.(2) for Provision of Access Roads, (no list of proposed works)*
- *Palerang Section 94 Plan No. 11 – Off-Street Carparking at Bungendore, (no list of proposed works)*
- *Palerang Section 94 Plan No. 10 – Provision of Kings Highway Culverts at South Bungendore, (no list of proposed works)*
- *Palerang Section 94 Plan No.7 - Recreation Facilities at Bungendore (no list of proposed works)*
- *Palerang Section 94 Plan No.8 - Provision of Pathway Network at Bungendore (no list of proposed works)*
- *Palerang Section 94 Plan No.9 - Street Upgrading at Bungendore (no list of proposed works)*
- *Palerang Council, Section 64 Development Servicing Plan, Sewerage, May 2011*
- *Palerang Council, Section 64 Development Servicing Plan, Water Supply, May 2011*

Appendix 2 – 2018 Existing Dwelling and Potential Dwellings Audit Method

The method used to determine the number of existing dwellings and potential number of single dwellings is outlined below:

- The following GIS data was used; latest cadastre and PLEP data:
 - landuse zones, as of 21 July 2018
 - minimum lot size, as of 21 July 2018
 - flood planning, as of 21 July 2018
 - heritage items as of 21 July 2018
 - geolocated water meter data from 17/7/2018
- 1. GIS data from water meters was used as a proxy for dwellings on a lot. Initially a one-to-one spatial join of water meters within lots was undertaken, with the number of water meters that are active being used to determine the number of dwellings
- 2. data was then visually checked, and lots with a strata manually counted using Nearmaps imagery from 21 July 2018
- 3. Empty lots were then verified by site inspection to account for recent development
- 4. Spatial joins were done of lots to land use zones and minimum lot size
- 5. An erase operation was then applied to the lots using the flood layer, thus leaving partial unaffected lots where a lot was not entirely affected by flood
- 6. All lots not zoned R1,R2 or R5 zoned were deleted
- 7. One lot, which was only partially within a minimum lot size zone, was cut at the boundary so as to only include the area with a minimum lot size zone in the analysis
- 8. Lots within a heritage overlay were flagged and given a usable percentage based on the planners' expertise
- 9. The final calculation used the formula $\text{floor}(\frac{[\text{area of lot}] * [\text{percent usable}]}{[\text{minimum lot size}]}) - [\text{number of houses on the lot}]$ to arrive at the potential number of lots that could be created from each lot

Note

1. the number of dwellings counted by this method generally equates with the dwellings counted as part of the 2016 Population and Housing Census which used a different method

Appendix 3 – Laneways assessment



Map 41 Bungendore laneways

- 1 **Gordon Avenue (Malbon and Rutledge streets)**
 - the laneway is zoned R1 General Residential and is not in the flood planning area
 - sewer infrastructure is located at each end of the laneway, it may be possible to have water and sewer down the lane
 - the lane is approximately 6 metres wide
 - there is a heritage listed cottage at the Malbon Street at each end of the laneway which could make achieving the required 8 metres width problematic
 - it may be possible to have 6 metres for the first section with no parking and then 8 metres width in the other part of the laneway
 - there are some dwellings which could be demolished if development was to occur
 - there is an electricity pole at each end of the laneway
 - it would probably be necessary to send the drainage towards Malbon Street, the laneway surface needs to be levelled
 - there appears to be only one dwelling which is using the lane for access
 - most trees could stay if the laneway was developed

- 2 **Champion (Malbon and Rutledge streets, near Majara Street and the railway line)**
 - some of the western side is zoned R1 General Residential but the majority is zoned R2 Low Density Residential. It is not in the flood planning area
 - there are three heritage listed lots adjacent to the laneway
 - sewer and water are available
 - possible that some dwellings use the laneway for access
 - it would be necessary to consult with the Roads and Maritime Service re access from Malbon Street as there is currently no formed access
 - it is 6 metres wide

- 3 **Easton Lane (near the reservoir)**
 - the laneway is zoned R2 Low Density Residential and not in the flood planning area
 - it is 6 metres wide
 - there are drainage issues at the Malbon Street end
 - sewer is a possible issue
 - it appears that there is one dwelling access off the laneway
 - the laneway at the Malbon Street end is not formed, substantial work is required

- 4 **Easton Lane (north)**
 - the laneway is zoned R2 Low Density Residential and not in the flood planning area
 - it is 6 metres wide
 - work is required at the Malbon Street end
 - there appear to be several dwellings and sheds using the lane for access

- 5 **Hatch Lane (Duralla and Modbury streets)**
 - the laneway is zoned R2 Low Density Residential and not in the flood planning area
 - drainage work is required at the northern end
 - electricity pole at the Malbon Street end which may require shifting

- 6 **No name (off Duralla Road)**
 - the laneway is zoned R2 Low Density Residential and not in the flood planning area, although some of the adjacent northern lots are affected
 - there is only one entrance to the laneway (off Duralla Street)
 - there is an unformed, low point approximately half way down the laneway
 - sewer, water and electricity are possible

