

Urban and Fringe Housing Strategy

Goulburn and Marulan

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Abbreviations

Abbreviation	Description
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AEP	Annual Exceedance Probability
BSAL	Biophysical Strategic Agricultural Land
CBD	Central Business District
Council	Goulburn Mulwaree Council
DCP	Development Control Plan
DPE	NSW Department of Planning and Environment (now DPIE)
DPIE	NSW Department of Planning, Industry and Environment
DPI	Department of Primary Industries
DSP	Development Servicing Plan
EEC	Endangered Ecological Communities
ELA	Ecological Australia Pty Ltd
EP	Equivalent persons
EP&A Act	Environmental Planning and Assessment Act 1979
GIS	Geographic Information System
GMLEP	Goulburn Mulwaree Local Environmental Plan 2009
ha	Hectare
HEV	High Environmental Value
Km	Kilometres
LEP	Local Environmental Plan
LGA	Local Government Area
LLS	Local Land Services
MLS	Minimum Lot Size
NBN	National Broadband Network
NSW	New South Wales
OEH	Office of Environment and Heritage
PMF	Probable Maximum Flood
PPRD	Primary Production and Rural Development
RFS	Rural Fire Services

Abbreviation	Description
SA2	Statistical Area 2
SDWC	Sydney Drinking Water Catchment
SLWCA	Strategic Land and Water Capability Assessments
SEIFA	Socio-Economic Indexes for Areas
SEPP	State Environmental Planning Policy
SETRP	South East and Tablelands Regional Plan
sqm	Square metres
SSC	State Suburbs
Strategy	Urban and Fringe Housing Strategy
TEC	Threatened Ecological Communities
WSUD	Water Sensitive Urban Design

Executive Summary

This Urban and Fringe Housing Strategy (Strategy) investigates and identifies areas suitable for the provision of additional housing to assist Goulburn Mulwaree Council (Council) meet the housing demands generated by expected continued population growth. The Strategy has been prepared in response to both the limited supply of residential land available to meet the short and medium term needs of the community and the directions of the South East and Tablelands Regional Plan 2036.

The scope of the Strategy includes looking at the urban areas of Goulburn and Marulan and identifying opportunities for an additional recommended 3,500 dwellings over the next 18 years to 2036.

The Strategy also considers land for large lot residential development (typically greater than 2ha and often referred to as rural residential development) particularly on the urban fringe of Goulburn.

The Strategy identifies *opportunity areas* for:

urban residential land – General or Low Density Residential, serviced with reticulated water and sewer and a minimum lot size of 700 sqm

future urban land – investigation areas for future urban residential land that will be critical in the delivery of housing in the very long term in both Marulan and Goulburn

large lot residential land – land suitable for the development of rural residential housing, typically un-serviced. The minimum lot size of 2ha takes into consideration the Strategic Land and Water Capability Assessment results, the buffer distances required for effluent management areas and the required 'neutral or beneficial effect' of development on water quality within the Sydney Drinking Water Catchment area.

Council Resolution 2020/224 on 16 June 2020 identified two additional opportunity areas for large lot residential land (10ha minimum lot size) within the Sooley and Marulan East precincts. These areas were added to the yield calculations and section 3 Precinct opportunities and constraints and resubmitted to the 21 July 2020 Council Meeting. Council Resolution 2020/261 on 21 July 2020 extended and refined the large lot residential opportunity area within the Sooley precinct to include consideration of lots with a minimum lot size of 2ha. The resultant changes have been updated in this final adopted version.

The preparation of the Urban and Fringe Housing Strategy has been overseen by Council's Planning and Environment Directorate, the General Manager and Senior Staff.

Housing Vision and Guiding Principles

The housing vision and principles reflect the outcomes of the community consultation undertaken by Council and submissions received during the public exhibitions of the draft Strategy. The priorities and principles support delivery of the vision, underpin the Strategy and inform the housing actions outlined in Section 4 of the Strategy.

The Strategy consultation informed a vision of the delivery of housing that:

- » encourages higher density residential development closer to the Goulburn CBD
- » relies on the already zoned land to continue to deliver infill and medium density housing in suitable locations
- » considers sites on a merits-basis where serviced lots within the existing urban footprint become surplus to needs, or the land uses change
- » maximises the use of existing infrastructure and minimises the cost of development to Council and the community
- » encourages and meets the demand for a range of lot sizes and dwelling types
- » provides adequate open space, green linkages, and opportunities for walking and cycling
- » considers opportunities for larger lots, especially around Marulan, with a suitable supply of land for this purpose provided for to 2036, identified within the Strategy
- » recognises that rural residential subdivision is land intensive, therefore proposals to rezone to urban residential or to reduce minimum lot sizes outside the areas nominated in this Strategy will generally not be considered by Council
- » avoids environmentally sensitive areas and areas of high value conservation and natural hazards
- » meets the strategic direction articulated in the Regional Plan

Approach

The Strategy aligns with the NSW Department of Planning and Environment (now the NSW Department of Planning, Industry and Environment) *Local Housing Strategy Guideline* and as such is divided into four sections:

Section 1 Introduction

Section 2 The Evidence

Section 3 Precinct Constraints and Opportunities

Section 4 The Priorities

Section 5 Actions

Population and Demographics

Growth across the LGA has been strong over the past decade increasing by 14 percent. In Marulan population growth has been significant with an increase in population between 2006 and 2016 of 27 percent.

With the Goulburn Mulwaree LGA expected to reach between 33,350 and 37,202 residents by 2036, approximately 5,000 to 7,000 additional residents are expected. Given the drivers of growth include proximity to economically viable regions and affordable housing, these growth rates may increase over time if prices in Sydney and the ACT continue to rise. Advances in

technology and improvements in transport, for example higher speed rail, may further stimulate growth.

Of particular note, between 2016 and 2036, the 35 to 49 and 70 to 84 year old service age groups will be the largest growing groups within the Goulburn Mulwaree LGA. In addition, childless households will make up 59.1 percent of all households by the year 2036, which is likely to generate an increase in demand for smaller dwellings.

Families with children will continue to reside within the current development front in Goulburn's north as evidenced by the forecast occupancy ratio of 2.60 people per dwelling by the year 2036, the highest of all Goulburn areas.

To provide sufficient appropriate housing through to 2036, population growth, demographics and expected household sizes needs to be compared with current housing supply to determine the expected housing and residential needs of Goulburn and Marulan.

Further housing appropriate for families is required in the short to long term. Housing appropriate for the ageing population will be required to allow current residents to age in place. Additionally, housing appropriate for ageing populations can be appropriate for residents seeking affordable and efficient living options.

Housing Demand

The majority of recent growth has been through residential subdivisions in Goulburn and Marulan. These new subdivisions have typically provided R2 Low Density Residential zoned land with a minimum lot size of 700sqm. The market responded well to these releases driving demand for additional land as the currently zoned land nears full utilisation.

Further to the demand for the typical 700sqm house block, there is an emerging trend for more compact living close to the urban core. Recent development activity and increasing supply in this form of higher density development indicate the acceptance of the market to sacrifice large block sizes for more compact living with improved proximity and access.

Anecdotal evidence gained through the initial community and stakeholder engagement process indicated demand for large lot residential blocks (2ha). This was corroborated by Council analysis of rural residential lot uptake on the western and south western Goulburn fringes over the past decade. Council found that 200 of the 290 lots registered had a dwelling approved, or a development application lodged. Most of which were within 2 years of lot registration. The relatively low subdivision costs associated with creating these lots has resulted in this form of development being the preference of proponents looking to rezone land. These products offer diversity in lifestyle choice. Given the current and expected demand for residential land in Goulburn and Marulan it would be anticipated that small volumes of large lot residential land will be absorbed by the market, however, the actual annual demand is difficult to determine.

Given that household sizes are expected to decline and population will continue to grow. It is estimated that an additional 3,359 dwellings will be required to meet demand to 2036. If a 10 percent surplus is maintained to provide a buffer to accommodate fluctuation in the market, this could be as high as 3,695 dwellings.

For the purposes of analysis, the housing demand has been assumed to be midway at **3,500 dwellings (195 dwellings per year assuming 18 years)**.

Dwelling Approvals

In the 10 years to 2017, Council and private certifiers issued approvals for 1,303 dwellings, which is an average of 130 residences per annum. The majority of approvals were for single detached dwellings (820), of which 105 were located in Marulan. Approvals for multi-dwelling housing accounted for 474 dwellings over the same period, all of which were in Goulburn.

During this 10 year period, Goulburn has experienced significant subdivision activity, particularly in the area around Marys Mount. A total of 1,279 lots have been approved under subdivision applications in Goulburn to 2017. Marulan has also experienced growth in the development of land for housing with an additional 82 lots approved to 2017. In the years between 2009 to 2017 (8 Years) 583 lots were approved in Marys Mount in Goulburn alone (72 lots per annum).

Dwelling Approvals – Infill

Analysis of development approvals for Goulburn over the financial years 2014/2015 to 2017/2018 shows that the rate of infill and intensification has been increasing per annum. The redevelopment of existing residential land has increased from 15 dwellings in 2014/2015 to 75 dwellings in 2017/2018. These redevelopments have typically been on underdeveloped large land holdings within the existing urban area. These have been approved for more compact dwellings or a subdivision with community titles to permit a multi-dwelling occupancy of new lots. The redevelopment of land generally correlates with the increasing growth within the Goulburn City.

Dwelling Approvals

Dwelling Type	Total Number of Dwellings / Lots		
	Goulburn	Marulan	Total
Detached Dwelling*	715	105	820
Dual Occupancy	90	0	90
Secondary Dwelling	24	8	32
Multi-Dwelling Housing	474	0	474
Subdivision	1279	82	1361

Data sourced from Council. *Includes large lot residential approvals

Large Lot Residential Demand

Large lot residential lots (also referred to as rural residential) are those lots that are not connected to both reticulated water and sewer.

The overall dwelling approval data has not been sensitised for the split between approvals on 1-2ha large lot residential lots, compared to approvals for serviced residential lots. However, a review of Council data suggests that there is reasonable demand for rural residential development on the fringe of the study area. Within the LGA, rural residential development is typically located in areas zoned R5 Large Lot Residential, RU6 Transition and E4 Environmental Living and with minimum lot sizes ranging from 2,000sqm to 10 hectares depending on zoning and minimum lot size.

For Goulburn, the majority of recent rural residential development has been on the western and south-western fringe. In the past decade, 290 lots have been created through subdivision of existing properties in this area. Of these, approximately 200 dwellings had been approved or had a development application submitted within 2 years of the subdivision being registered. This represents an approximate uptake of 70 percent and demonstrates a consistent demand for larger blocks on the urban fringe.

Housing Supply

Goulburn and Marulan have residentially zoned land available for immediate needs, however, Goulburn is set to exhaust the supply of greenfield residential land within the next 2-5 years if current development trends continue. Both settlements have been analysed for their supply in regard to the current demographic and market trends.

A common misconception is that if land is zoned, vacant and undeveloped, then it is available for immediate development. In practice, this may not be the case. In fact, there is often a 'disconnect' between the amount of zoned land and actual delivery of housing lots.

Land that is rezoned for residential development may not necessarily be delivered to the market. This could be due to a variety of reasons, including planning constraints (e.g. statutory requirements, difficulties with infrastructure provision, fragmentation of ownership, etc.), capacity constraints (e.g. bushfire, flooding, slope and landslide, etc.) and commercial pressures. Each has the potential to severely impede the supply response to demand pressures.

The adequacy of land release is therefore crucial for the supply of housing. From first principles the supply of housing directly impacts the price of housing. A constrained supply of land will drive up landowner expectations making site assembly a high risk and high resource activity. Planning controls within the Goulburn Mulwaree Local Environmental Plan 2009 (GMLEP 2009) provide an opportunity for infill development for R1 General Residential and R2 Low Density Residential zoned land. Clause 4.1A of GM LEP 2009 allows an exception to the minimum lot size for the subdivision of land for a dwelling, either detached or semi-detached, to create a lot not less than 350sqm. The provision also allows subdivision to create five or more lots with an area of at least 300sqm. R1 and R2 land is the most common zoning of Goulburn, with a corresponding minimum lot size of 700sqm. While infill development is not expected to provide a substantial stream of future housing supply, it does present an opportunity to contain some growth within the existing urban footprint.

Large Lot Residential Supply

Based on the current data, 290 lots have been created in the R5 Large Lot Residential zone in the past ten years in Goulburn. Over this same period, approvals have been granted for 200 dwellings. This indicates that there are at least another 90 vacant lots in the R5 zone. Based on the historic conversion or take up rate (lots to approved dwellings) of 20 per annum, this would suggest around 4.5 years supply of large lots in Goulburn.

Marulan has a much more limited supply of R5 Large Lot Residential zoned land. Supply in Marulan has been driven by demand for standard, serviced residential land, rather than unserviced lots. The constraints to development in Marulan (discussed in more detail later in the Strategy) may contribute to the supply of this form of development.

Current and Planned Housing

As noted above, for the purposes of analysis, the housing demand has been assumed to be midway at 3,500 dwellings (195 dwellings per year assuming 18 years).

Based on the evidence, which includes stronger growth in Marulan than Goulburn and an assumption that at least a proportion of housing will be delivered in the form of large lot residential development on the urban fringe, the forecast demand scenario as to the distribution of the dwelling and land requirements is summarised in the following table.

Goulburn

Goulburn currently accommodates 13,739 dwellings.¹

The majority of subdivision and development for housing in Goulburn is occurring on existing zoned land in Goulburn at Marys Mount. This area is currently zoned R2 Low Density Residential with a 700sqm minimum lot size. The zoned land has been largely developed with around 91ha remaining of undeveloped residential zoned land. Of this undeveloped land, approvals are in place for approximately 500 additional lots at Marys Mount. When developed for housing, this represents around two to five years of supply of dwellings.

Dwelling Assumptions

Area	No. Dwellings	% of total	Minimum Lot Size	Yield dwellings/ha	Land Requirement (ha)
Goulburn Infill	250	7%	-	12-20	-
Goulburn Serviced Residential	2,435	70%	700sqm	8.5	276
Goulburn Urban Fringe (large lot)	360	10%	1-2ha	0.35	1,029
Marulan*	355	10%	700sqm	8.5	53
Other Rural#	100	3%	-	-	-
Total	3,500	100%		-	1,358

*Marulan has experienced strong growth. There are a number of approvals in place that will yield up to 130 residential lots which is up to 6.5 years supply based on current trends.

#Assumption based on change over time.

At present, residentially zoned land is being developed at an average 8.5 dwellings per hectare. If this trend is continued Goulburn will require around 276 hectares of serviced residential land to meet the required demand by 2036.

Taking a conservative approach based on historic approvals data, coupled with the projected change in populations, the LGA will generate demand for an additional 170-195 dwellings per annum.

Goulburn is likely to provide the majority of these, historically around 70 percent (up to 137 dwellings per annum) with the balance being provided in Marulan and limited amounts provided elsewhere throughout the LGA.

If an assumed 2,435 of the required 3500 dwellings are provided in Goulburn through greenfield development, approximately 276 hectares would be required.

An additional 250 dwellings could be provided through further urban infill and intensification. The assumption for infill is deliberately very low. Recent development approvals indicate a spike in

¹ ABS Community Profiles 2016.

housing approvals for multi-dwelling housing with up to 36 percent being for residential accommodation other than single detached dwellings. However, this spike has not been reflective of the trend set by other years, and may be more reflective of a couple of larger infill developments which may not be likely to be replicated on yearly basis. However, should a trend develop on this basis, Goulburn could see between 360-700 dwellings delivered as multi-dwelling housing over the life of the Strategy in both greenfield and infill areas. Given the potential for fluctuation of demand and in trends for infill development, accurately monitoring dwelling approvals will be a key element of the implementation of the Strategy.

Marulan

It is expected that Marulan will continue to grow as projected. If an assumed 355 dwellings are required to meet the estimated demand, around **53 hectares** of residential zoned land is required (as some lots will be greater than 700sqm). Marulan currently has around 20 hectares of developable residential land. The land requirement for additional serviced land is **33 hectares** across the life of the Strategy to 2036.

Marulan will need to ensure that sufficient land is identified and preserved for future urban residential zoning. Council could consider rezoning this area with an Urban Release Area provision and concept plan that demonstrates the arrangement of larger lots (>2 ha) such that they can be efficiently re-subdivided in the medium/long term.

Given the constraints to development to the south and west and physical barrier created by the Hume Highway to the east, the land area to the north should be reserved for this purpose. Based on the positive growth experienced by the town over the past 10 years, it will be important to monitor the take-up of existing urban land. Should Marulan's growth accelerate the area in the north will provide sufficient land for future growth.

Constraints to Development

The Strategy includes assessment of residential development opportunities against constraints. The combined mapping highlights the constraints to development (refer **Figures A and B** Maps showing **Goulburn Constraints and Marulan Constraints** below). The maps sieve out that land that presents a challenge to development and in doing so identifies the land that is least constrained. It is these areas that have been priorities for urban development.

Biodiversity

The consideration and approach to biodiversity proved to be a challenge with conflicting data and limited scope to undertake property level vegetation assessments. The constraints mapping includes three biodiversity data layers; the High Environmental Value (HEV) land provided by the Office of Environment and Heritage (OEH), HEV data that has been validated by Ecological Australia Pty Ltd (ELA) in specific areas, and other vegetation which includes areas of known Threatened Ecological or Endangered Ecological Communities (TEC and EEC).

In some cases, the information available may be sufficient to rezone land, in others, further site-specific assessment and validation of HEV data will be required.

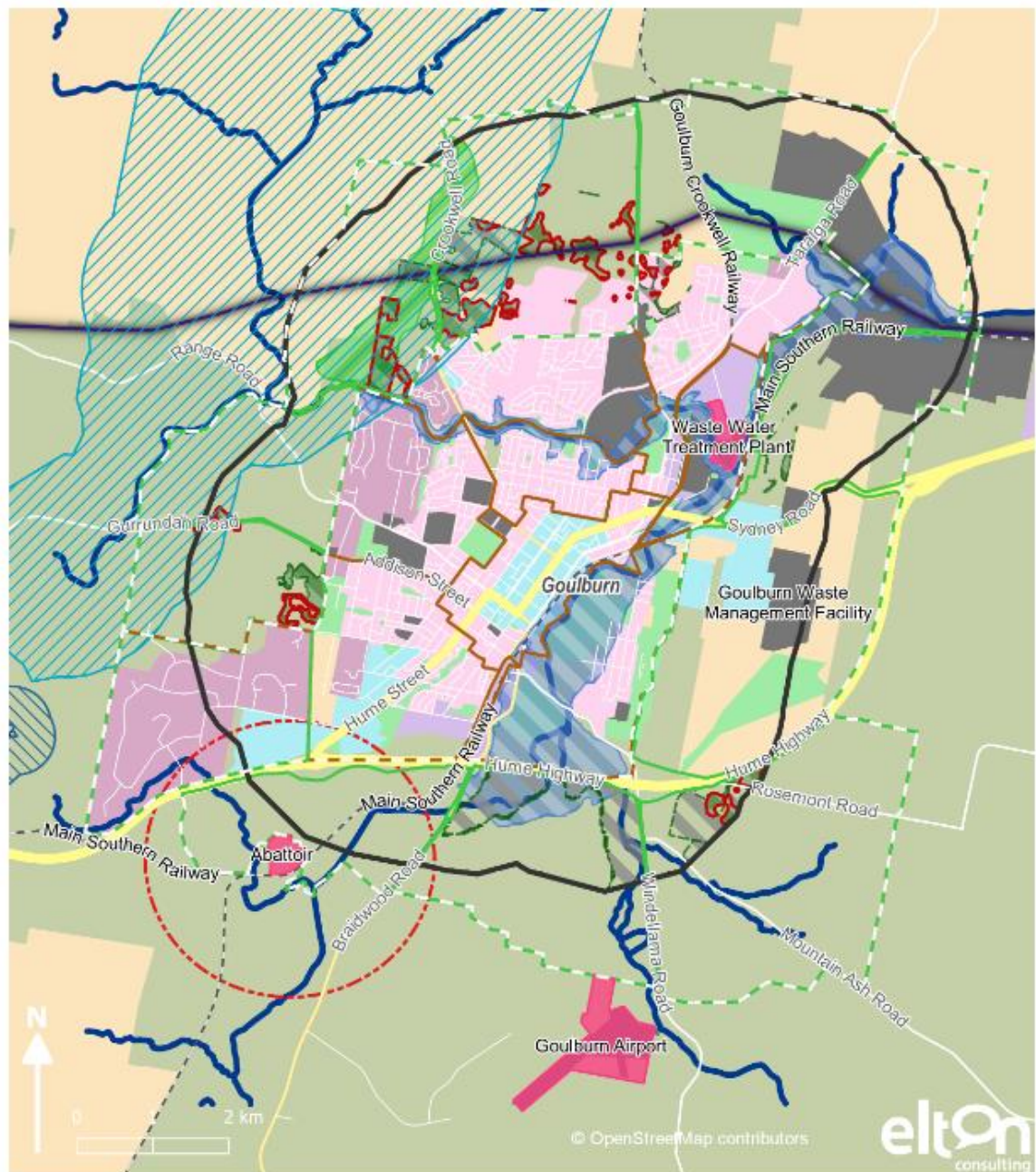
Other Constraints

The Strategy acknowledges built physical constraints to urban development. These constraints include infrastructure; gas pipeline, high voltage transmission lines, particular haulage routes, the Hume Highway, Goulburn aerodrome, abattoir and extractive industries. While the existence of these land uses does not in every case prohibit residential development from occurring nearby, they do all require a degree of consideration in any assessment process.

Site Suitability

Simply meeting the capability criteria, particularly for large lot residential development, does mean that the land is suitable for development. This is particularly the case for land immediately north of both Marulan and Goulburn, currently zoned RU6 Transition. These areas will be critical in the long term sustainability of urban growth and need to be protected from fragmentation as a priority. It is recommended that minimum lot sizes in these areas do not fall below 10 ha.

Figure A Goulburn Constraints



Legend

Land Zoning

- Urban area
- Business area
- Non-urban environmental protection
- Non-urban environmental protection
- Light Industrial
- Rural residential
- Infrastructure
- Rural area
- Infrastructure

Constraints buffers

- Land use constraints

- Flooding

Riparian buffers

- 4th order (40m)

- Strategic agricultural land

ELA Vegetation

- TEC
- Other Vegetation (ELA)
- Validated (ELA)

- Gas pipeline






Mines and quarries




- Transition Area

Urban and Fringe Housing Strategy



Land Zoning

-  Constraints buffers
-  Land use constraints
- Riparian buffers
 -  4th order (40m)
 -  250m from Hume Highway
 -  Electricity transmission line

-  Gas pipeline
- Mines and quarries
-  Transition Area
-  Ridge line
- Haulage route and 250m **buffer**

Precinct Approach

In order to enable the consideration of both Goulburn and Marulan in sufficient detail, the study area has been divided into precincts (refer **Figures C & D**). Each precinct has been considered having regard to the existing planning controls and environmental and physical constraints to further development. This approach enabled the identification of the *opportunity areas* described above.

An objective based approach has been taken in determining the opportunity areas. The principles are largely constraints based and include environmental and servicing constraints, sequencing of development and maximising existing and future infrastructure. They also seek to complement and enhance elements of the existing settlements and physical locations.

The principles have also been applied to a number of sites historically identified by Council and individual land owners as sites that could be considered for more intensive residential development. These were the sites identified in the Site Assessment – Opportunity Sites (formerly **Appendix D**, now included in the Consultation Report under separate cover). This has been retained. Where specific submissions included comment in relation to this aspect of the Strategy, these have been addressed in the Consultation Report. In many instances, feedback during the exhibition process has also led to key inclusions or exclusions of opportunity areas in some precincts, for example around Gorman Rd, Run 'O' Waters and North and South Marulan.

To ensure a sound evidence-based approach, the Strategy includes analysis of the demographic characteristics of the Local Government Area (LGA), housing demand and housing supply, again having regard to the land use planning policy framework in place. This analysis found that the LGA can expect a change in the structure of households, and importantly, that Council will need to provide for a range of different dwelling typologies to accommodate housing choice to assist older people downsizing and younger couples and families entering the housing market.

The existing planning controls in both the Local Environmental Plan (LEP) and Development Control Plan (DCP) have also been considered in the context of their operation and effectiveness in delivering appropriate housing and housing diversity, particularly in relation to multi-dwelling and infill development. While the LEP controls are sufficiently flexible, feedback from Council indicated more certainty is required about the location of higher density housing rather than the seemingly ad hoc approach facilitated by the current controls.

The location of multi-dwelling and higher density housing has been carefully considered. Opportunities for intensification of the existing urban area, within close proximity to the Goulburn City Centre and rail station was preferred. The most significant constraint to the redevelopment of land in this precinct is the Heritage Conservation Area. Incentives such as relaxing the car parking and open space standards may be required to encourage and facilitate greater development. While accessing public transport per se is not a major consideration, proximity to services, shopping and opportunity for social connectivity continues to be important.

The opportunities for development of the urban fringe have been based on the forecast yield apportioned between serviced and un-serviced land requirements. These assumptions are discussed in detail in the Evidence section of the Strategy.

Opportunities for Development

The key areas identified for growth are illustrated in **Figures C & D** and shown in the table below.

Additional Residential Land Goulburn - Serviced

Precinct	Area Identified (ha)	No. Dwellings/lots*	% total new dwellings	Years Supply
Serviced Residential Land				
1/2 Run 'O' Waters	199.13	1,693	44	12.4
4 Sooley	28.38	241	6	1.7
5 Middle Arm West	144.22	1,228	32	9
6 Middle Arm East	26.55	225	6	1.7
16 Bradfordville	13.1	111	3	0.8
7 Kenmore	38.3	326	9	2.4
Sub-Total	456.51	3,824	100	27.9
Urban Release Areas Long Term (beyond 2036)				
3 Baw Baw	110.6	940	27	6.9
5/6 Middle Arm	299.96	2,550	73	18.7
Sub Total	410.46	3,490	100	25.6
Total	869.97	7,368	-	53.7

*Based on single detached dwelling typology

Additional Residential Land Large Lots – Goulburn

Precinct	Area Identified (ha)	No. Dwellings/ lots^	% total new dwellings	Years Supply
Large Lot Residential				
2 Run 'O' Waters	50.5	11		0.6
There may be an opportunity to consider a smaller MLS 2000-4000sqm should water and sewer infrastructure become available in the long term.				
4 Sooley*	52.93	18	4.9	0.9
8 Gorman Rd	86.84	30	8.1	1.5
9 Mt Gray	72.89	26	7.0	1.3
10 Mountain Ash	467.45	164	44.3	8.2
11 Brisbane Grove	376.13	132	35.7	6.6
Total	1,056.24	370	100	18.5

^based on MLS of 2ha. Lots may be larger which will impact yields.

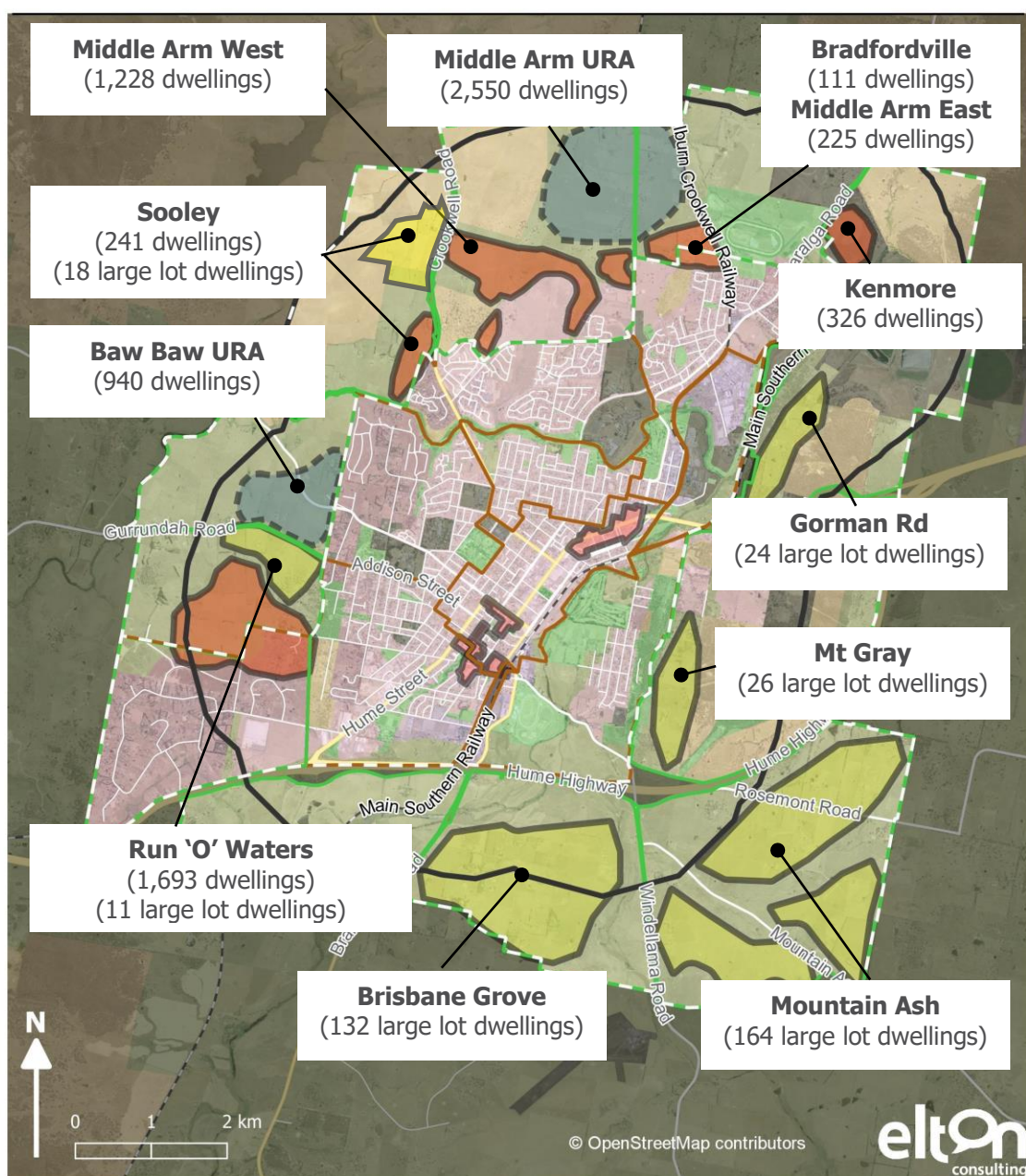
* for consideration of 2ha lots as per Council Resolution 2020/261, 21 July 2020. Lots may be larger which will impact yields.

Additional Residential and Large Lots Marulan

Marulan	Area Identified (ha)	No. Dwellings/ lots*	% total new dwellings	Years Supply
Serviced Residential				
3 Marulan North	86.81	694	96	35
Consider staged approach, rezone with an Urban Release Area and Concept Plan to deliver 2ha lots in the short term and re-subdivide in the future				
Large Lot Residential				
2 Marulan East~	341.98	29	4	1.45
Sub-Total	428.79	723	100	36.45
Urban Release Areas Long Term (beyond 2036)				
3 Marulan North	74.26	631	100	32

~based on a MLS of 10ha. Lots may be larger which will impact yields.

Figure C Precincts and Opportunities for Development - Goulburn



Legend

Precincts

- Urban
- Fringe

Opportunity area

- Serviced Urban Residential
- Large Lot Residential
- Urban Release Area Long Term
- Existing Residential Zone

- G - 1 Run 'O' Waters (existing)
- G - 2 Run 'O' Waters (rural north)
- G - 3 Baw Baw
- G - 4 Sooley
- G - 5 Middle Arm West
- G - 6 Middle Arm East
- G - 7 Kenmore
- G - 8 Gorman Rd

- G - 9 Mt Gray
- G - 10 Mountain Ash
- G - 11 Brisbane Grove
- G - 12 Abattoir
- G - 13 Garfield
- G - 14 West Victoria Park
- G - 15 Marys Mount
- G - 16 Bradfordville

- G - 17 Eastgrove
- G - 18 Central Goulburn
- G - 19 Ifield
- G - 20 Correctional Centre



Opportunity a

 Serviced Urban Residential

 Urban Release / Long Term

Existing Residential

M - 2 Marulan East

M - 4 Marulan West

Section 1 - Introduction

1 Introduction

The Urban and Fringe Housing Strategy (Strategy) has been prepared in response to residential land pressure from sustained population growth in the Goulburn Mulwaree Local Government Area (LGA) and an increasing shortage of available, zoned residential land, particularly in the City of Goulburn.

The objective of the Strategy is to identify the future housing needs for Goulburn and Marulan to 2036 and provide recommendations to guide land use decisions and local policy. Fundamental to this Strategy is the need to identify land which is potentially suitable for **urban residential use** in both the short to long term, to ensure the preservation of this area for the future orderly growth of Goulburn and Marulan to occur.

The Strategy has been developed in two phases with the first phase being the initial community and stakeholder engagement undertaken by Goulburn Mulwaree Council (Council) in April and May 2018, and the second phase being the revision following public exhibition of the Draft Strategy. The first phase of the project established the issues and tested these with stakeholders and the community. This built on the vision of the LGA adopted in the Regional Community Strategic Plan:



To build and maintain sustainable communities while retaining the region's natural beauty.²



The Strategy has been developed having regard to the direction provided in the South East and Tablelands Regional Plan 2036 and the draft Housing Strategy Guidelines prepared by the Department of Planning and Environment (now the NSW Department of Planning, Industry and Environment). The Strategy will guide land use and planning decisions and inform amendments to the Goulburn Local Environmental Plan in the immediate and medium term.

The document is structured into four sections as follows:

Section 1 – Introduction – examines the planning framework in which the Strategy needs to be considered, the general characteristics of the area and establishes a long term housing vision for the area.

Section 2 – The Evidence – comprises an overview and analysis of demographic, housing and affordability statistics to establish the local context and housing needs.

Section 3 – Precinct Constraints and Opportunities – this section identifies the key constraints to development and opportunities at a precinct level.

Section 4 – The Priorities – outlines an integrated picture of the current LGA, the desired future and roadmap to achieve this.

Section 5 – Actions – implementation and delivery of the Strategy along with timeframes for monitoring and review.

² The Tablelands Regional Community Strategy Plan 2016-2036.

1.1 Process and Consultation

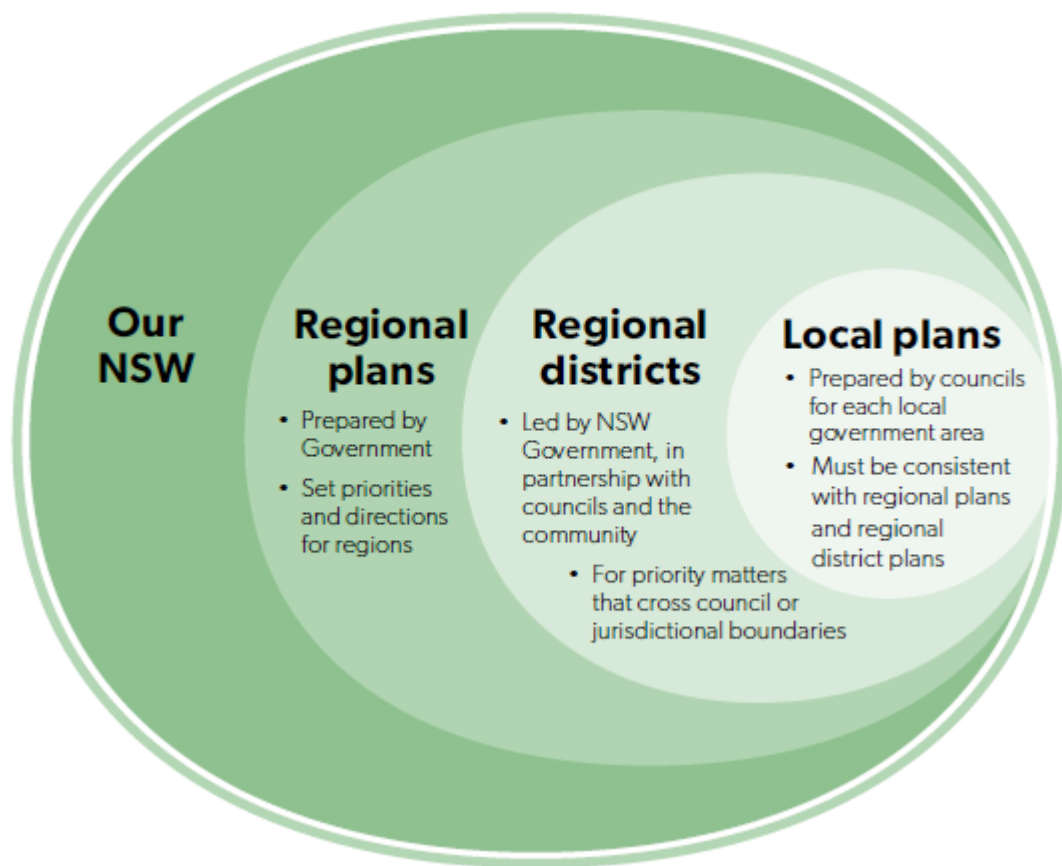
The Strategy has been developed over a number of stages as illustrated below. The initial consultation was undertaken by Council in early 2018. A Draft Strategy was developed and subsequently endorsed for public exhibition in late 2018. This Strategy has been amended following the community and agency feedback. A Consultation Report has been prepared including a summary of the submissions received during the exhibition (refer **Consultation Report** under separate cover).

The steps in the preparation of the Strategy have been as follows:



1.2 Planning Policy and Context

In planning for growth in the Goulburn Mulwaree LGA it is important to understand the strategic policy and planning framework that applies to the area. This framework is set primarily by the NSW Government and the Goulburn Mulwaree Council (Council). The planning policy framework is illustrated as follows:

Figure 1 State Planning Hierarchy

Source: South East and Tablelands Regional Plan 2036.

The strategic policy and land use planning framework of the ACT Government is also important to understand given the proximity of Goulburn Mulwaree to Canberra and the influence the latter has on the local economy.

In the context of the planning hierarchy, Council has a role in leading local strategic planning. This includes:

- » Development of Local Strategic Planning Statements
- » Local Housing Strategies
- » Local Environmental Plans
- » Town Centre and Precinct Plans
- » Development Control Plans

The Local Strategic Planning Statements, in particular, will complete the strategic planning hierarchy and will set out the land use vision, priorities and actions for the local area.

While the focus of the Urban and Fringe Housing Strategy is on delivering land for housing, it will be necessary to integrate planning for housing with broader local planning for infrastructure, employment and open space provision.

1.2.1 Ministerial Directions

Section 9.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) provides that any direction of the Minister is to be taken into account in the preparation of a planning proposal. As

the Strategy will make recommendations to inform a Planning Proposal to rezone land for urban development, the Strategy has been prepared having regard to the relevant Directions. The relevant Directions are listed in the table below. An overview of these is provided in **Appendix A**.

Table 1 Ministerial Directions

Direction	Application to the Strategy/Planning Proposal
Employment and resources	
Direction 1.1 Business and Industrial Zones	Applies to certain land in Marulan that is currently zoned Industrial and recommended to be included in the Residential zone and to land identified in Goulburn by the <i>Employment Lands Strategy</i> to be rezoned from Enterprise Corridor to Residential.
Direction 1.2 Rural zones	Applies to all rural land zoned rural and being considered for urban purposes
Direction 1.3 Mining, petroleum production and extractive industries	Particularly relevant in Marulan
Direction 1.5 Rural lands	Applies to all land that is rural or environmental protection and being considered for urban purposes. Highlights the need to consider constraints.
Environment and heritage	
Direction 2.1 Environment Protection Zones	Applies to all environmentally sensitive areas
Direction 2.3 Heritage conservation	Applies to all land. Need to consider heritage.
Housing, infrastructure and urban development	
Direction 3.1 Residential zones	Key direction for consideration. Objectives include housing choice, efficient use of infrastructure, minimise impact of residential development of land resources.
Direction 3.4 Integrating Land Use and Transport	Applies to any proposal that relates to residential land.
Direction 3.6 Shooting Ranges	Applies to land adjacent /adjoining the Goulburn Rifle Range.
Hazard and risk	
Direction 4.3 Flood prone land	Any development of flood prone land needs to be consistent with NSW Flood Prone Land Policy.
Direction 4.4 Planning for bushfire protection	To discourage development in bushfire prone areas. Note that all of the non-urban area of Goulburn and Marulan is Bush Fire Prone.

Direction	Application to the Strategy/Planning Proposal
Regional Planning³	
Direction 5.2 Sydney Drinking Water Catchments	Protect Sydney Drinking Water Catchment.
Direction 5.10 Implementation of Regional Plans	Consistency with the South East and Tablelands Regional Plan.

Consideration of Ministerial Directions

The Ministerial Directions will need to be fully addressed in any Planning Proposal. The Strategy provides the evidence and analysis to enable the identification of land suitable for future residential development.

1.2.2 State Environmental Planning Policies

A number of State Environmental Planning Policies (SEPPs) need to be considered in the context of delivering housing. Generally, these policies will form part of the statutory consideration of specific development applications.

The most relevant SEPPs are highlighted in the following table with more detail provided in **Appendix A**.

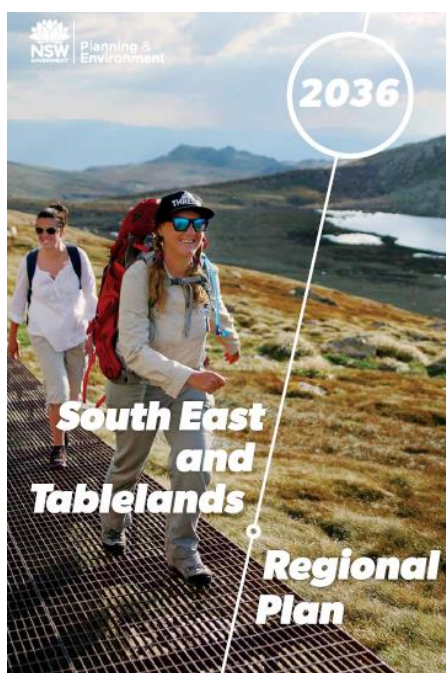
Table 2 State Environmental Planning Policies

SEPP	Implication for the Strategy
Exempt and Complying Development Codes SEPP	Referred to as the Codes SEPP, this policy allows for certain development, in particular circumstances to be undertaken without a development application from Council. This includes single dwellings, dual occupancy and multi-dwelling housing.
Inland Code	
Greenfield Housing Code	This means that Council has little influence in terms of the design, setback, material and landscaping elements of development.
Medium Density Housing Code	It highlights the need for clear and precise DCPs and structure plans for Urban Release Areas so that elements such as street width, footpaths and street trees, open space networks and linkages, community facilities and water and sewer infrastructure can all be considered and resolved prior to any residential development occurring in an area.
Sydney Drinking Water Catchment 2011	All of the land being considered on the Urban Fringe of Goulburn and Marulan is in the Sydney Drinking Water Catchment (SDWC). The SEPP requires new development to have a neutral or beneficial effect (NorBE) on water quality. This represents a key environmental constraint to the expansion of land for residential development where the site would be reliant on on-site waste treatment. The importance of this policy is highlighted by the renewed focus on the suitability of delivering more large lot residential development.

³ Direction 5.1 Implementation of Regional Strategies was revoked on 17 October 2019 and has since been removed from this Strategy.

SEPP	Implication for the Strategy
	This SEPP relates to Direction 5.2 Sydney Drinking Water Catchment (noted above).
Affordable Housing (SEPP 70)	<p>The policy identifies the need for affordable housing within each area of the State. The SEPP allows for Councils to include affordable housing contribution schemes and amend their local environmental plans to reference the schemes.</p> <p>Given the concerns about access to affordable housing in the LGA, Council should consider how this SEPP could be applied in the LGA.</p>
Affordable Rental Housing	The policy provides incentives for the delivery of affordable rental housing as part of a development proposal.
Primary Production and Rural Development	Focused of the identification and protection of land for agriculture, including State significant agricultural land. The Strategy needs to consider the impact on existing and potential agricultural uses of land when rezoning for urban purposes.

1.2.3 South East and Tablelands Regional Plan 2036



The South East and Tablelands Regional Plan, came into force in July 2017 and outlines a 20-year vision to build sustainable communities by balancing opportunities for new homes and jobs with the protection of the region's natural environment.

The Plan covers the council areas of Goulburn Mulwaree, Wingecarribee, Eurobodalla, Bega Valley, Snowy Monaro, Queanbeyan-Palerang, Yass Valley, Hilltops and Upper Lachlan.

The overarching vision for the Plan is: *A borderless region in Australia's most geographically diverse natural environment with the nation's capital at its heart.*

As the region's 'heart', the ACT plays a significant role as both the primary driver of growth and the provider of employment and higher order services, just one hour south of Goulburn.

The Plan anticipates that 45,450 additional people are expected to populate the region by 2026, the majority of

who will live within commuting distance of Canberra and/or Sydney. As Goulburn is a commutable distance to either Canberra or Sydney it is likely to accommodate considerable population growth to 2036.

Planning Principles in the Regional Plan

The Plan presents a planning framework that is founded on the following principles:

- » facilitate economic growth, environmental management and social wellbeing

- » respond to the region's landscape, environmental assets, natural and cultural resources, mineral and energy resources (including renewable energy)
- » respond to long term structural economic and demographic changes, with a focus on ageing, migration patterns and productivity
- » recognise the implications of a changing climate and build resilience to natural hazards
- » guide the locations for new housing and provide greater housing choice
- » encourage economic activities, consistent with changing market demands and industry needs
- » inform infrastructure and services investment, and coordinate with land use
- » integrate cross-border drivers of change and coordinate responses state-wide and nationally.

The Key Priorities outlined in the Local Government Narrative for Goulburn Mulwaree identified in the Plan (Pg. 61) related to the delivery of housing are:

- » diversify the housing market to respond to demographic change and pre-empt housing affordability pressures
- » promote successful adaptive heritage re-use opportunities and conserve the area's unique built heritage
- » encourage design innovation and quality outcomes to complement the natural and built heritage with modern architecture.

There are four goals in the Plan aimed at achieving the vision of building resilient and sustainable communities by balancing growth opportunities with protecting the region's diverse environment and lifestyles. The goals are supported by a number of directions and actions. The goals are as follows:

Goal 1: A connected and prosperous economy

Goal 2: A diverse environment interconnected by biodiversity corridors

Goal 3: Healthy and connected communities

Goal 4: Environmentally sustainable housing choices.

The key directions and actions under each of these goals have been considered in the development of the Strategy to the extent that they provide the broad policy direction for the strategies and actions identified in the Housing Strategy in **Section 4**. A detailed summary of the directions and actions that relate to the Strategy, how they have been considered in terms of actions in the Strategy and the outcome or implementation measure is expressed in a table in **Appendix B**.



Having a ready supply of well-located land for residential development will create downward pressure on house prices, maximise the use of existing infrastructure and protect environmentally sensitive areas.

Local housing strategies prepared by councils are the first step in identifying housing needs and planning for a range of housing types. These strategies enable communities to assess the broader implications and consequences of identifying locations for proposed new housing. They also help identify the infrastructure needed to support local communities.

Local housing strategies need to consider community aspirations. They must be flexible and responsive to shifts in local housing markets for both greenfield and infill developments, and deal with unforeseen constraints, including uneven rates of development or unexpected population growth.

These strategies should plan for a range of housing choices, including retirement villages, nursing homes and opportunities to modify existing dwellings to enable people to stay in their homes as they age.

The strategies should be consistent with Settlement Planning Principles that align with the Memorandum of Understanding between the NSW and ACT Governments. These will be complemented by guidelines for local housing strategies that will assist councils when undertaking local strategic planning.

NSW Government, *South East and Tablelands Regional Plan 2036*



The Plan also outlines settlement planning principles and neighbourhood planning principles (overleaf) which have informed the development of the Housing Strategy.

Settlement Planning Principles

Local housing strategies focus on urban areas where residents can access services, jobs and transport. Some strategies will need to acknowledge connections to Canberra as a location for higher-order services and employment.

Decisions around the most suitable locations for new housing must consider the compatibility of land uses, as well as the availability of road connections and service infrastructure. Other considerations include:

- » avoiding or mitigating the impacts of hazards, including the implications of climate change;
- » protecting areas with high environmental value and/or cultural heritage value and important biodiversity corridors;
- » identifying a sustainable water supply;
- » protecting the region's water supply and the environmental qualities of rivers and streams;
- » considering the impact of aircraft noise;
- » protecting areas that contain important resources and minimising the potential for land use conflict;
- » protecting important agricultural land to capitalise on its potential to produce food and fibre now and in the future; and
- » identifying and designing new neighbourhoods so they are environmentally sustainable, socially inclusive, easy to get to, healthy and safe.

Source: NSW Government, *South East and Tablelands Regional Plan 2036*, July 2017

Neighbourhood Planning Principles

The Neighbourhood Planning Principles provide overarching principles that may apply to new developments in both greenfield and existing urban areas. The application of the principles may apply more strongly depending on the context of the proposed development.

- » public transport networks that link frequent buses into the rail system
- » a range of land uses to provide the right mix of houses, jobs, open space, recreational space and green space
- » easy access to major town centres with a full range of shops, recreational facilities and services along with smaller village centres and neighbourhood shops
- » jobs available locally and regionally, reducing the demand for transport services
- » streets and suburbs planned so that residents can walk to shops for their daily needs
- » a wide range of housing choices to provide for different needs and different incomes. Traditional houses on individual blocks will be available along with smaller, lower maintenance homes, units and terraces for older people and young singles or couples
- » housing diversity can be facilitated by providing a number of purpose-designed smaller lots and dwellings
- » new housing developments are to provide a proportion of adaptable housing to further increase housing choice across the region to cater for the ever-changing needs of its residents
- » conservation lands in and around the development sites, to help protect biodiversity and provide open space for recreation
- » minimise the negative impacts on the natural water cycle and protect the health of aquatic systems, for example, through Water Sensitive Urban Design principles.

Source: NSW Government. South East and Tablelands Regional Plan 2036. July 2017

1.2.4 Department of Primary Industries Policies (DPI)

A number of DPI policies are relevant considerations in the preparation of this Strategy, particularly in the fringe areas of Goulburn and Marulan, as they consider land use conflict, agricultural land use protection and sustainability of agriculture.

Maintaining land for agricultural industries

This DPI policy was developed to provide certainty and security for agricultural enterprises over the long term, and guidance to planning authorities and communities in developing and implementing environmental planning instruments. The Policy has been taken into consideration in the development of this Strategy as it will impact rural communities in the Goulburn Mulwaree LGA and inform the future Planning Proposal to change the LEP.

Key elements are:

- » Preserving the best productive land
 - > land with the best combination of soil, climate, topography and water for agricultural production is a limited resource in New South Wales and should be maintained for future generations
- » Minimising land use conflict

- > 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
- » Maintaining and improving the economic viability of agricultural operations
 - > 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

The Policy notes that once land is converted to other uses it is unlikely to return to agricultural production, particularly once converted to residential or industrial uses. Therefore, the long-term costs and benefits (i.e. triple bottom line or people, planet, profit assessment) need to be evaluated during strategic planning, including open and informed consultation with the community.

NSW Right to Farm Policy

In 2015 the NSW Government adopted the *Right to Farm Policy*. The policy is supported by the Regional Plan and has been given effect by the PPRD SEPP and amended Ministerial Directions outlined above. It outlines the need to ensure that adjoining land users recognise the legitimate right of farmers to carry out agricultural practices.

The policy highlights the importance of planning for agricultural industry development and maintain access to agricultural resources including land. It emphasises the need for appropriate zoning and permissible land uses that are compatible with agricultural activities and supports local strategies that guide land use and minimise conflict.

The Right to Farm Policy brings together a collection of actions including:

- » reinforcing rights and responsibilities
- » establishing a baseline and ongoing monitoring and evaluation of land use conflicts
- » strengthening land use planning
- » ensuring ongoing reviews of relevant environmental planning instruments include consideration of options to ensure best land use outcomes and to minimise conflicts
- » improving education and awareness on management of land use conflicts
- » considering potential future legislative options, should additional Government intervention be required.

1.2.5 Council Strategies and Plans

Regional Community Strategic Plan

The *Tablelands Regional Community Strategic Plan 2016-2036* is a joint plan between Goulburn Mulwaree, Yass Valley and Upper Lachlan Local Government Areas. The plan recognises the synergies between the three LGAs and synthesises the priorities and expectations for the community to 2036.

The plan focuses on the relationship with and proximity to Canberra and the opportunities that improvements in transport infrastructure in particular, will provide to the region as a whole. While not including specific strategic priorities for housing, the focus on employment and strengthening economic development support the need to ensure that the towns and villages are able to respond to the continued population growth in the region.

The plan also aims to focus development in and around existing regional centres and towns to create vibrant and attractive places for residents to live and work, and to develop new communities in release areas, supported by infrastructure and services reinforcing Goulburn and Marulan in the regional hierarchy.

Goulburn Mulwaree Settlement Strategy 2020

The *Goulburn Mulwaree Settlement Strategy 2020* was prepared by Parsons Brinkerhoff and adopted by Council in 2006. The objective of the Strategy was to promote sustainable management of the newly amalgamated Local Government Area (LGA) and guide land use decisions to 2020.

The Strategy also facilitated the conversion of the former Local Environmental Plans into a single Comprehensive LEP consistent with the Standard Instrument LEP Order. In addition to the LEP, the Strategy informed the content and structure of the Development Control Plan.

In terms of residential development, the Strategy (p.259) made the following observations:

“Areas within Goulburn, including Marys Mount, Ducks Lane and Run 'O' Waters provide appropriate locations for future development with areas north of Ducks Lane presenting potential for further expansion for low density residential development. However these areas are limited by the capacity and availability of infrastructure to appropriately service new development. Heritage and the retention of key items also need to be considered as part of the overall planning for the City.

Potential for low scale residential uses is also available north of the existing town centre of Marulan along Brayton Road this has been identified as a R5 Large Lot Residential Zone with RU6 Transition areas being identified for future development opportunities dependent on land supply within the existing town boundary. Identifying a moderate level of new residential land would minimise potential for industrial lands to locate in this area and avoid land use conflict between inconsistent land uses. Also, potential for further expansion has also been identified along Wilson Drive Marulan. This area would present a sensible extension of the existing village for industrial purposes providing employment opportunities for Marulan. This is considered an appropriate outcome given the approve Lynwood Hard Rock Quarry and proposed expansion of mining operations in South Marulan.

It is important to note that these areas would be able to be serviced and provide an appropriate expansion of the existing residential areas. These areas would supply the bulk of the residential land demands to support incoming residents to 2020.”

Source: Extract from *Goulburn Mulwaree 2020* Parsons Brinkerhoff 2006, p259

The principles adopted for urban expansion in 2006 included the following:



Urban expansion principles

To achieve well-located new development areas, the following principles have been considered:

- *Assessment of land suitability* – based on an assessment of all existing and potential land uses.
- *Minimise land use conflicts* – locating growth which minimises conflicts that would affect the current and future viability of other land uses, such as mining, agriculture, industry, forestry and tourism.
- *Impacts on sustainable agriculture* – locate development areas where this will minimise increases in agricultural land values or incrementally reduce the lot size of prime agricultural lands.
- *Land capability* – locate development areas on land generally free of hazards such as flooding, contamination, erosion, subsidence, or land slip. Avoid areas susceptible to salinity, such as land with a high water table, or land subject to waterlogging.
- *Access to water resources* – consider adequacy of water supply and locate large lot residential development where on-site effluent disposal would not lead to pollution of waterways or degradation of soil and vegetation.
- *Biodiversity* – locate development areas where they would not endanger threatened species or critical habitat and minimise modification of natural ecosystems, habitat loss and fragmentation.
- *Create liveable communities* – locate residential development where people want to live including convenient access to facilities and services having regard to the existing settlement pattern, efficient service provision, road access and the protection of cultural and rural heritage.
- *Existing infrastructure* – locate development areas which complement the capacity of the existing road network, and the ease with which utility services can be provided.
- *Community wellbeing* – locate development areas near social infrastructure.
- *Water quality* – ensure new development areas can achieve a neutral or beneficial effect on water quality.



Source: Extract from Goulburn Mulwaree 2020 Parsons Brinkerhoff 2006, p260

The work undertaken by Parsons Brinkerhoff informed the Local Environmental Plan and a significant area zoned for urban purposes as a result has now been fully developed. The planning assumptions made in 2006 remain consistent with the objectives discussed in the Strategy in

Section 2.

Employment Lands Strategy 2016

Employment Lands Strategy 2016, identifies rural industries in Section 5.2.6 and Meat Processing in Section 5.2.7 as being a significant sector to the economy of NSW particularly in relation to wool and livestock for slaughter. The Strategy states:

“The rural industry in Goulburn Mulwaree LGA requires land for industrial uses including processing and packaging facilities; storage facilities and distribution facilities. The biggest rural industries in the LGA are not of a scale to require significant additional processing facilities but may have some needs that can be met by working closely with the industry. The most significant rural industry within Goulburn Mulwaree which requires employment lands is meat processing”

Key Strategy recommendations for **Goulburn** are outlined for each precinct as follows.

Opportunities for **Goulburn Town Centre**:

- » Economic growth across the LGA which could increase demand for retail and business services in Goulburn CBD;
- » Reviewing the current planning controls/urban design to enhance the appearance/built form of the CBD whilst providing opportunity for new development;
- » Encouraging the conservation of heritage buildings and sympathetic surrounding development; and
- » Redeveloping upper floors and vacant and underutilised sites within the CBD.

The **South Goulburn Enterprise Corridor Precinct** encompasses:

- > Ducks Lane Enterprise Corridor Sub-Precinct
- > Lockyer Street/Sowerby Street Enterprise Corridor Sub-Precinct
- > Hume Street Bulky Goods Enterprise Corridor Sub-Precinct
- > Robinson Street Enterprise Corridor Sub-Precinct

Opportunities identified for the **South Goulburn Enterprise Corridor Precinct** are:

- » Localised improvements to the Ducks Lane/Hume Street intersection should be considered to improve heavy vehicle access;
- » Extension of Lockyer Street to Tait Crescent to provide improved access and connectivity;
- » Increasing the number of bulky goods retailing along Hume Street (although may draw shoppers from CBD);
- » The rezoning of the previously Council owned land east of the cul-de-sac at the end of Lockyer Street will provide additional enterprise land; and
- » The north of the sub-precinct includes a caravan park which may form a long term supply for enterprise uses if required.

The **North East Goulburn Enterprise Corridor Precinct** encompasses:

- > North Common Street Enterprise Corridor Sub-Precinct
- > Hetherington Street Enterprise Corridor Sub-Precinct
- > Sydney Road Enterprise Corridor Sub-Precinct

- > South Common Street Enterprise Corridor Sub-Precinct

Opportunities identified for the **North East Goulburn Enterprise Corridor Precinct** are:

- » Given the constraints and existing land uses, consideration could be given to a change in land use in parts of the precinct; and
- » Investigate opportunities to improve access within the precinct.

The **South Goulburn Industrial Precinct** encompasses:

- > Tait Crescent Industrial Sub-Precinct
- > Sale Yards Industrial Sub-Precinct
- > Rail Yards Industrial Sub-Precinct

Opportunities identified for the **South Goulburn Industrial Precinct** are:

- » Undertake investigation on the appropriateness of extending Tait Crescent and the rezoning of the land to the south of Tait Crescent to facilitate subdivision and use of the lots for more general employment land;
- » South of Tait Crescent is a large parcel of land zoned rural which could potentially be utilised for Enterprise/Industrial land if access was provided. The expansion of this precinct should be considered in conjunction with the Lockyer Street Enterprise Corridor Sub-Precinct;
- » Re-use saleyards and wool stores for a more intensive employment use subject to remediation, planning and development of the site. This would increase the area of available land for industrial uses;
- » Proximity of the Sale Yards Industrial Sub-Precinct to the Goulburn Rail Freight Facility;
- » Potential land to the south of the Sale Yards Industrial Sub-Precinct which could be explored for industrial uses;
- » Given the size of the lots at the southern end of the Rail Yards Industrial Sub-Precinct there is potential to develop land to accommodate uses and/or to utilise spare capacity within larger lots; and
- » Within the Rail Yards Industrial Sub-Precinct there are further opportunities to redevelop some existing dwellings or underutilised lots for industrial uses including to the north of Bungonia Road and the residential lands located at the intersection of Braidwood and Bungonia Roads.

Opportunities identified for the **North Goulburn Industrial Precinct** are:

- » Considering the current level of existing activity, the precinct is suitable for industrial uses/urban support services and it will most likely grow through expansion of existing uses in response to population growth within Goulburn Mulwaree.

Opportunities for the **Bradfordville Industrial Estate Precinct** are:

- » The development of a medical centre on Ross Street has led to a proposal to develop a health hub within this sub-precinct on a large lot. It is assumed that the proposal is in response to an underlying demand within Goulburn for health related services. Rezoning would be required to facilitate the intent to provide a private hospital

Murrays Flat Industrial Precinct

- » Longer term once Council's site is available for redevelopment; and
- » Investigate improvements to access into and out of the North East Goulburn Enterprise Corridor Precinct and the Murrays Flat Precinct onto Hume Highway.

Abattoir Precinct

The Strategy notes that a number of areas across the LGA are considered suppliers of employment land, however these sit outside Industrial or Enterprise Corridor zones. The Abattoir Precinct has been specifically considered in light of supporting existing rural industry and recognising potential growth. In addition, this specific Precinct has been recognised for industries of a similar nature.

Key Strategy recommendations for **Marulan** are as follows:

- » Rezone the area along George Street north of the Railway Bridge to the end of Marulan from B2 Local Centre to B6 Enterprise Corridor;
- » Rezone Thoroughfare and Austin Streets from B2 Local Centre to R1 General Residential to reflect the existing land use;
- » Review the types of residential land use that should be permissible in the B2 Local Centre and controls such as the minimum amount of commercial floor area in the Development Control Plan for Marulan; and
- » Identify opportunities to work with local businesses such as the quarries for ongoing improvements to the town centre, including access for heavy vehicles.

Opportunities for the **Marulan Enterprise Corridor Precinct** are:

- » Opportunities for new enterprise businesses (light industrial, office, business) which will have good access to the Hume Highway.

Opportunities for **Marulan Town Centre** are:

- » Economic growth in the local region which could increase demand for retail and business services;
- » Development of a vision for the future of the centre; and
- » Investigation of alternative transport routes for trucks to minimise travelling through the town centre.

The **Marulan Industrial Precinct** encompasses:

- > Portland Avenue/Wilson Drive Industrial Sub-Precinct
- > West Marulan Industrial Sub-Precinct
- > Suffolk Road Industrial Sub-Precinct
- > South Marulan Industrial Precinct

Opportunities for the **Marulan Industrial Precinct** are:

- » Investigate the potential to obtain alternate access to the Hume Highway through private land; and
- » Increase in support industries with the expansion of the quarries utilising vacant industrial lots.

Draft Recreational Needs Strategy (2019)

The *Draft Recreational Needs Strategy* identifies a shortfall in provision of open space in the newer areas of Goulburn around Marys Mount. It recommends new statutory planning provisions to address the shortage of parks. Key findings and recommendations of the Recreational Needs Strategy will need to be considered in the context of the release of additional land, particularly on the urban fringe of Goulburn, for urban development.

The identification of open space needs to be part of the master planning process and DCPs for Urban Release Areas. As part of this process, Council will need to consider the mechanism for delivery of open space and other essential services and infrastructure.

Climate Change Risk Management Plan (2009)

Council is in the process of reviewing the *Climate Change Risk Management Plan*. The impact of climate change on the delivery of housing needs to be considered at the DCP stage so that measures to mitigate impacts such as increased temperatures can be incorporated. For example, inclusion of street and lot orientation, vegetation and landscaping to reduce the urban heat bank, sustainability inclusions such as materials, energy reduction measures and targets for carbon emission should all form part of the approach to addressing climate change.

Social Sustainability Strategy and Action Plan 2020

The *Draft Social Sustainability and Action Plan* was publicly exhibited from December 2019 to January 2020 and adopted by Council on 19 May 2020. Social Sustainability has a direct influence on the liveability of communities and is a key factor in designing and planning for both new housing and the redevelopment of existing urban areas. The Strategy will need to be taken into consideration when preparing Planning Proposals in the LGA.

1.2.6 Goulburn Mulwaree Local Environmental Plan 2009

Informed by strategic land use planning undertaken at both State and local levels, the *Goulburn Mulwaree Local Environmental Plan 2009* (GMLEP) is a statutory instrument that provides for land use planning in the LGA. The GMLEP provides the mechanism for the approval of development. It identifies a number of general aims specific to housing and provides detailed land use zones and development permissibility.

The relevant aims of this Plan are as follows:

- » to promote and co-ordinate the **orderly and economic use and development of land** in the area.
- » to enhance and **provide a range of housing opportunities** in, and the residential and service functions of, the main towns and villages in Goulburn Mulwaree.
- » to **establish a framework for the timing and staging of development** on certain land in Goulburn and Marulan.
- » to provide a range of housing opportunities, including **large lot residential development in the vicinity of the villages**.
- » to allow development only if it occurs in a manner that **minimises risks due to environmental hazards**, and **minimises risks to important elements of the physical environment, including water quality**.
- » to **provide direction and guidance as to the manner in which growth and change are to be managed** in Goulburn Mulwaree.
- » to **protect and enhance watercourses**, riparian habitats, wetlands and water quality within the Goulburn Mulwaree and Sydney drinking water catchments so as to enable the **achievement of the water quality objectives**.

The GMLEP includes two primary Residential zones; General Residential (R1) and Low Density Residential (R2), although little distinguishes these.

Residential accommodation in a number of forms, is equally permissible in both Land Use Zones, including, for example, multi-dwelling housing in the Low Density Residential R2 zone. The minimum lot size for the erection of a dwelling in the R1 and R2 zones is 700sqm, however, despite the minimum lot size, the GMLEP includes provisions in clause 4.1A that allow lots to be created at a minimum of 350sqm in certain circumstances.

Flexibility in the planning instrument is important in encouraging development, however, in reviewing the operation of the GMLEP in the context of the Strategy, consideration has been given to the built form outcomes and community feedback in relation to lower lot sizes in the greenfield development areas which are R2 zone.

Appendix C includes clause 4.1A and provides additional comparison of the R1 and R2 land use tables.

1.3 Local Government Area Snapshot

Goulburn Mulwaree LGA is centrally located on the fringe of the ACT within a one hour drive from Canberra and less than two hours' drive from Sydney, providing access to employment and global markets. The LGA is dissected by the Hume Highway, one of the most significant and trafficable transport corridors in Australia. It is connected to Canberra and the ACT by the Federal Highway.

The Goulburn Mulwaree LGA offers a lifestyle founded on historic agricultural and pastoral enterprises, as well as an emerging urban centre with the attributes and amenities of a sophisticated regional city.

It is estimated that around 2,000 people currently commute daily from Goulburn to Canberra or Sydney. It is likely that this number will increase in the future due to constrained land supply in these major cities and significant housing affordability issues, increased transport options from Goulburn, and the introduction of the NBN, making Goulburn and Marulan attractive places to reside. The (former) Department of Planning and Environment (DPE) population projections (2016) forecast that the population of Goulburn will reach **33,550** by 2036. This population growth will further increase the demand for housing within Goulburn Mulwaree LGA.

In 2016 the usual resident population of Goulburn Mulwaree was 30,261, living in 13,739 dwellings with an average household size of 2.39. Consistent with regional NSW, people aged between 50 and 60 represent the highest proportion of Goulburn Mulwaree's population.

The predominant housing type across the LGA is single detached dwellings at 85.9 percent. Dwellings with 3 bedrooms were the most common in the LGA in 2016 at **41.0 percent**. The percentage of 4 bedroom dwellings increased by 1.3 percent to **26.3 percent** between 2011 and 2016 meaning that over 67 percent of all dwellings have at least three bedrooms. Over the same period the average occupancy rate of dwellings fell from 2.4 to 2.3 persons per dwelling.

In 2017 a significant majority of all residential building approvals were for detached houses. However, the proportion of other housing types is increasing and in 2017, 31 percent of all residential building approvals were for other forms of residential development.

Connectivity to the two major capital cities and surrounding region means that a key proportion of Goulburn residents travel outside the LGA for employment. As transport infrastructure improves and technology evolves, it is anticipated that this trend will continue. In response, Goulburn provides an attractive and affordable option for lifestyle or tree changers seeking reprieve from high property prices and congestion while still benefiting from access to a strong and growing region and the global economy for employment.

The high-quality natural assets and biophysical attributes of the region also provide opportunities for economic development and in turn are generating growth in population and driving demand for housing. The region has seen continued economic growth particularly in the renewable energy sector in the form of wind and solar farms.

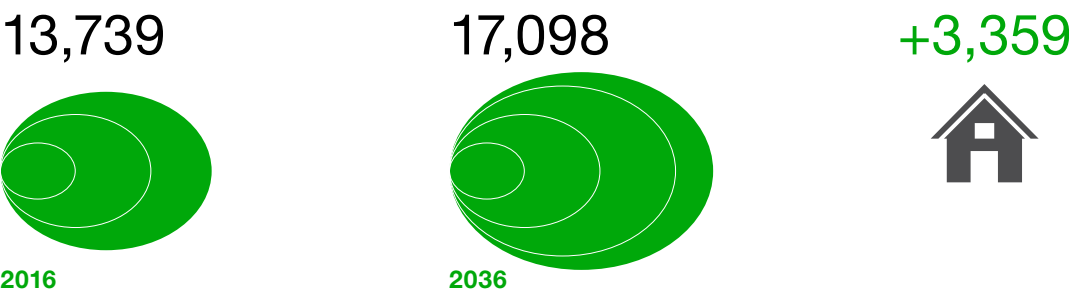
Recent announcements by both State and Federal Governments in relation to improving the rail commute between Sydney, Melbourne and Canberra are promising and will further drive housing demand in the LGA through improved access to markets, employment, higher order services and recreation. It will also drive improved tourism through counter flow to Goulburn and the Goulburn Mulwaree LGA.

LGA Snapshot

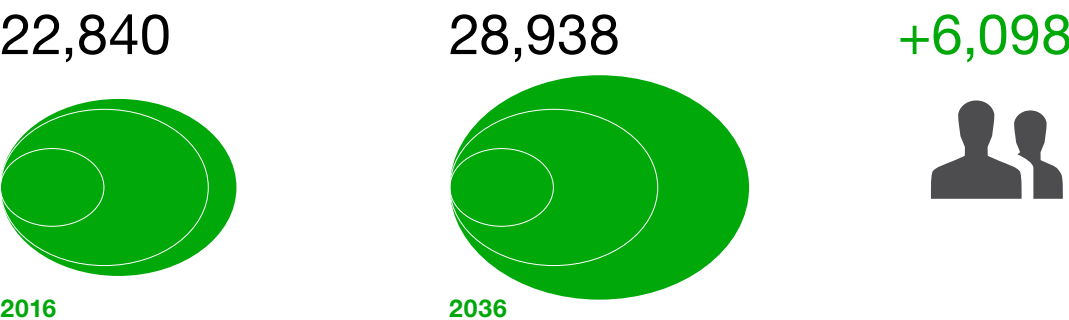
Dwellings Growth Forecast Goulburn Township 2016-2036



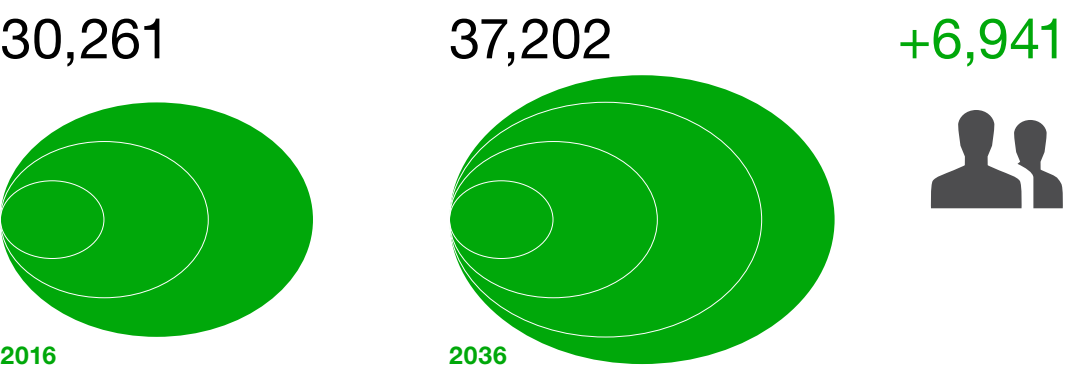
Dwellings Growth Forecast Goulburn Mulwaree LGA 2016-2036



Population Growth Forecast Goulburn Township 2016-2036



Population Growth Forecast Goulburn Mulwaree LGA 2016-2036



Growth rings in intervals of 5,000 or 10,000 people of proportion thereof



Population

Estimated Resident Population (ERP) for the whole LGA as of 2016 census

30,261

Median age as of the 2016 census

40 years old

Projected population for the whole LGA to 2036

37,202 (+6,941)

Projected annual growth rate

1.15% per year

Projected number of single person households for whole LGA to 2036

4,633 (+1,128)



Property

GOULBURN

R1 General Residential Land –
693.7ha

R2 Low Density Residential Land –
621.3ha

MARULAN

R1 General Residential Land –
131.4ha

R2 Low Density Residential Land –
14.9ha

MEDIAN RESIDENTIAL LAND VALUE Median house price

www.realestate.com.au/neighbourhoods/

Goulburn –

\$425,000

Marulan –

\$460,000

TOTAL PRIVATE DWELLINGS FOR THE WHOLE LGA AS OF THE 2016 CENSUS – 13,562

% of detached dwellings –

85.9%

% of medium density dwellings* –

11.0%

% of high density dwellings^ –

0.7%

Number of dwellings approved in 2017/18 –

241

* includes dual occupancy attached, villa and town house development

^ residential flat buildings, shop top housing



Employment

14,031

residents employed as of June 2017

22.5% (2,852)

of residents **work outside of the Goulburn Mulwaree LGA**

77.5% (9,842)

of residents **work within the Goulburn Mulwaree LGA**

6.9% (882)

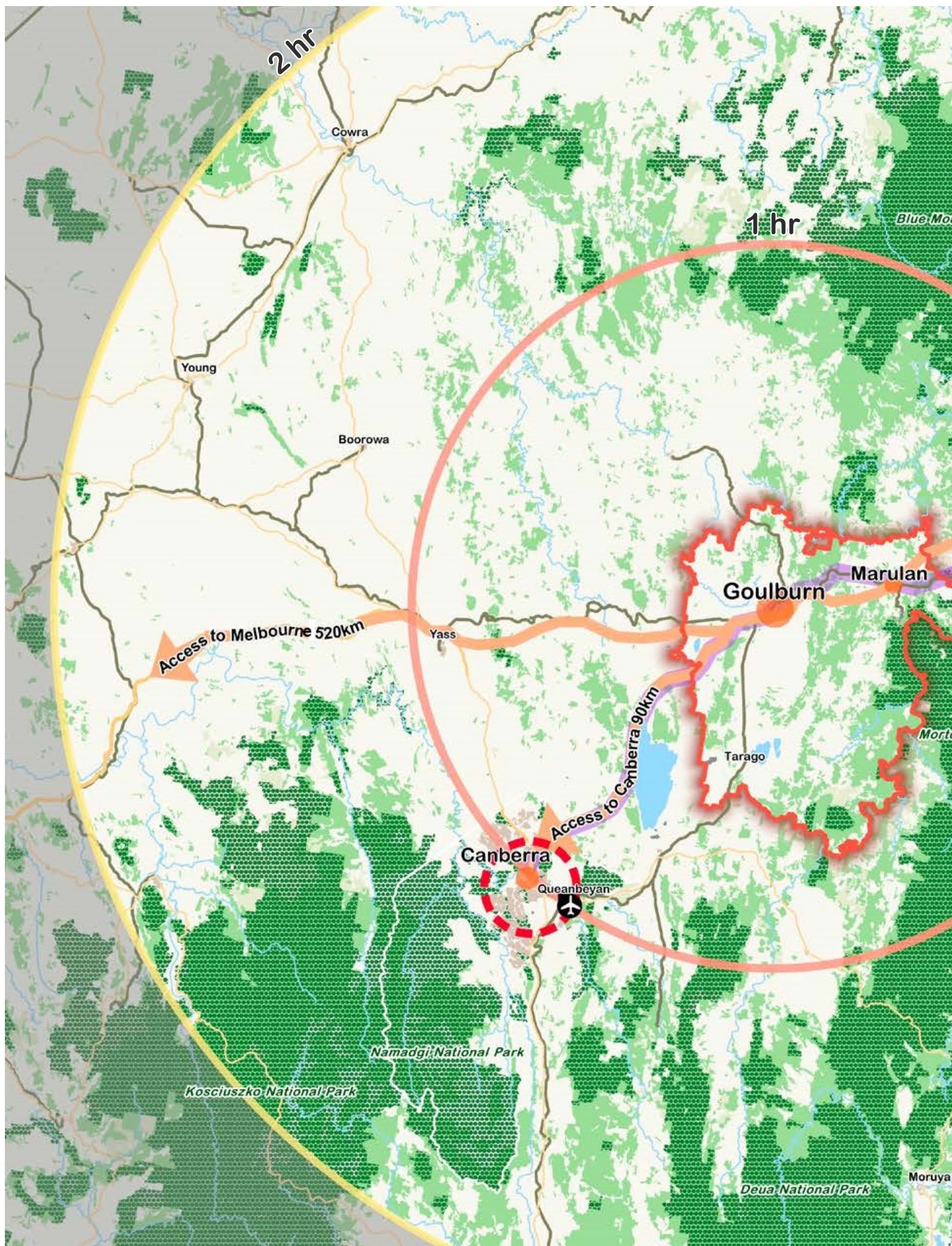
of residents **travel to the ACT for work**

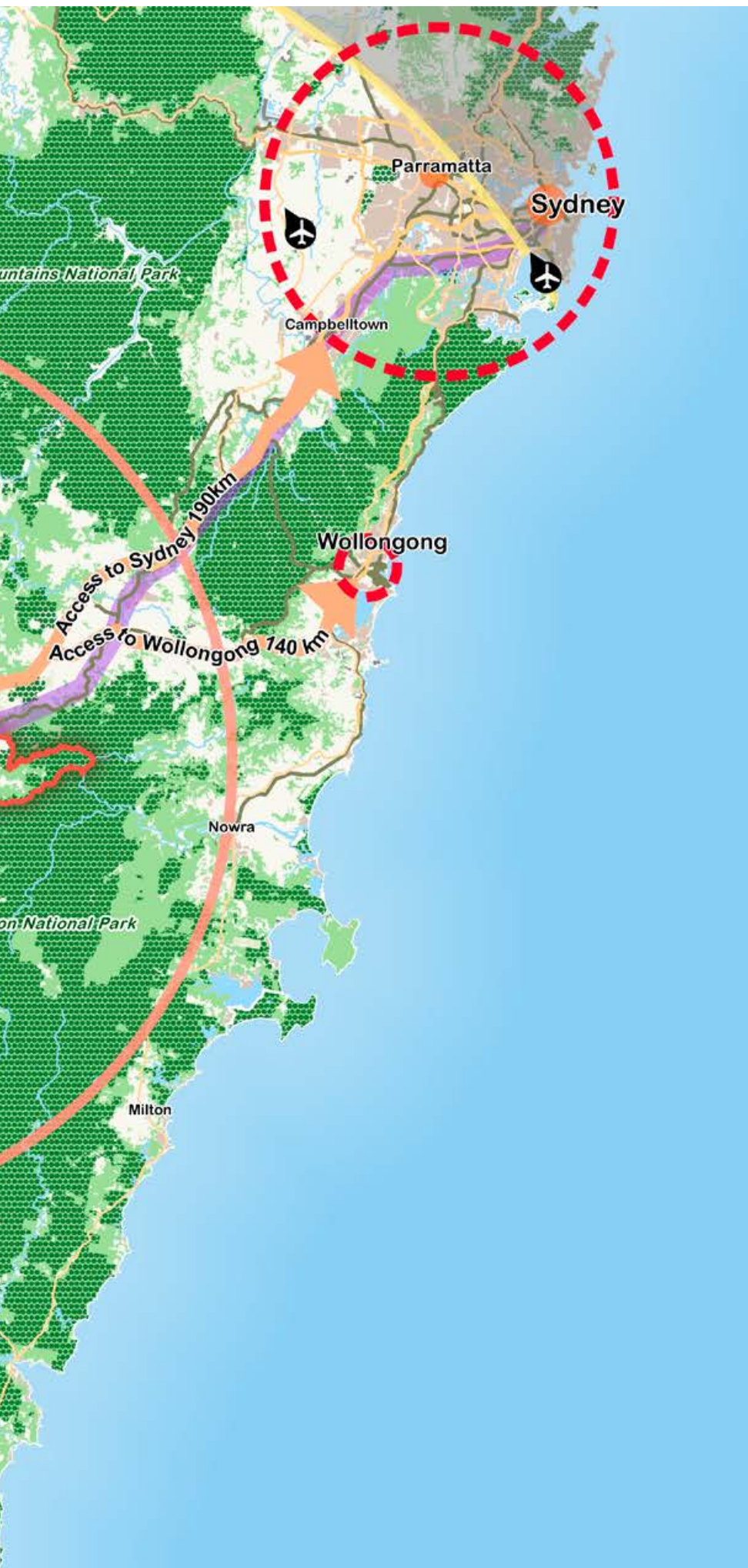
The largest industry is the Health Care and Social Assistance industry employing

17.4% (2,295)

of residents

Context map





Legend

- Goulburn Mulwaree LGA
 - Major urban areas
 - Major Airports
 - Major roads
 - Railways
 - Railway corridor Sydney to Canberra including proposed faster rail link
- Note: VFT Routes under investigation not mapped



1.4 What Land is Affected by the Strategy

The land to be considered under the Strategy was identified by Council as all land within the urban areas of Goulburn and Marulan and land immediately adjoining land zoned for urban purposes as illustrated in the Figures below.

Figure 2 Goulburn

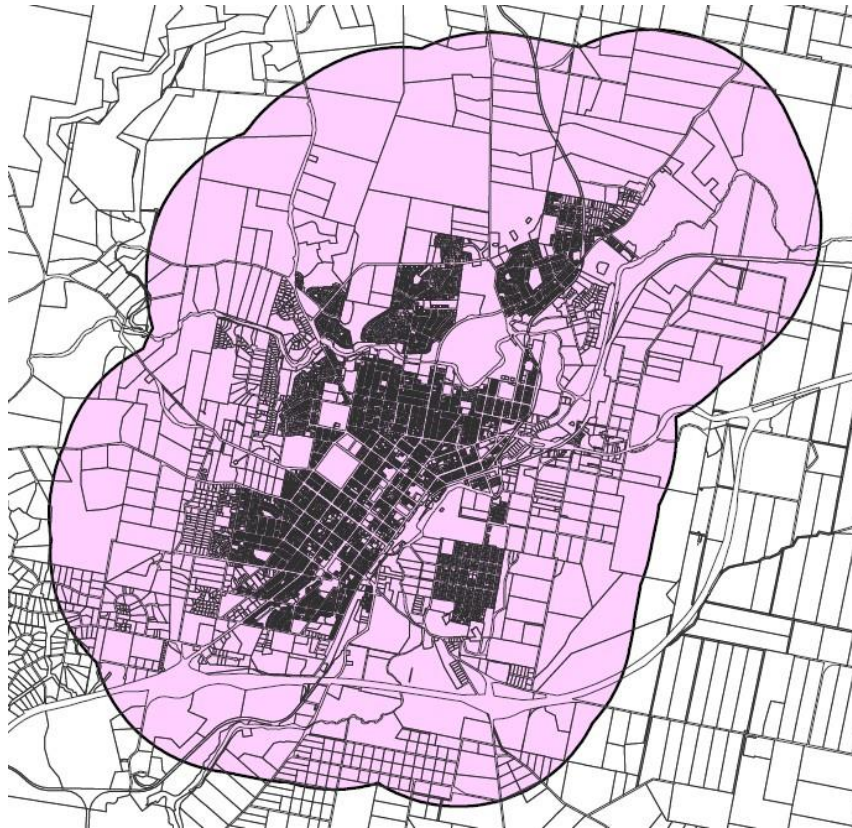
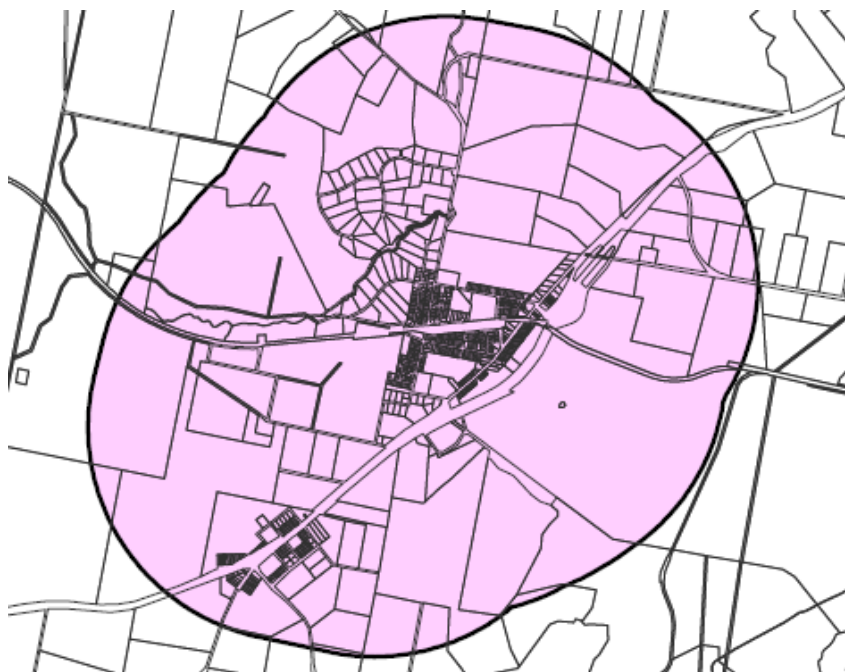


Figure 3 Marulan



1.5 Precincts

For the purpose of this Strategy Goulburn has been divided into twenty (20) precincts (Urban and Fringe) and Marulan into four (4). The precinct boundaries are mapped and shown in Figures 4 and 5.

Goulburn Fringe Precincts

There are eleven (11) precincts identified on the urban fringe of Goulburn. The precincts are defined by physical characteristics, rather than visual or character elements. The additional precincts have been created in response to the need to better define the constraints, understand the existing development and enable consideration of large lot residential development in addition to Urban Release Areas (URAs) for serviced residential growth.

Goulburn Urban Precincts

The character of the urban area of Goulburn is influenced by the built form and housing typologies. The Heritage Conservation Area in Goulburn and numerous heritage items in both Goulburn and Marulan also contribute to the urban character.

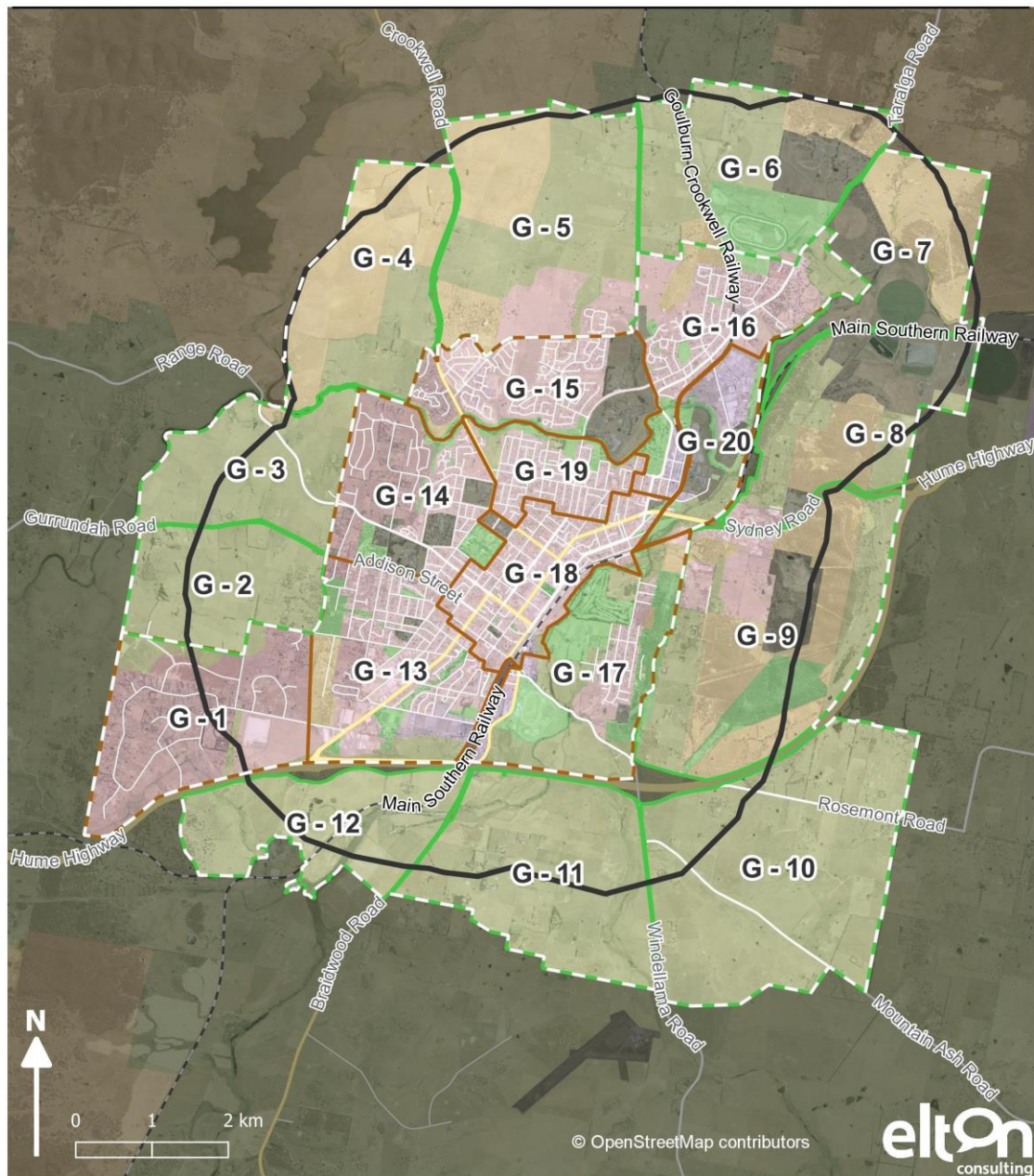
The DCP identifies 6 distinctive locality character areas in Goulburn based on the original Heritage Study undertaken in 1983 by Leister Firth Associates. The character areas focus on the housing character and in reviewing the urban areas for the purpose of the Strategy it has been necessary to define a further three localities, being Goulburn Central (including the Heritage Conservation Area), Correctional Centre, and Run 'O' Waters (formerly Ducks Lane).

The existing locality character areas in Goulburn have been used as the basis for the Housing Strategy and are identified in the DCP as follows:

- » **Bradfordville:** the area between Kenmore and the NSW Police College, on the Taralga Road approach. This area includes historic Kenmore Asylum and the site is identified in the GMLEP as a Heritage Conservation Area
- » **Eastgrove:** the area on the slopes below Memorial Road, east of the Railway line
- » **Garfield:** below Combermere Street
- » **West Victoria Park (formerly Western):** broadly west of Victoria Park and Fitzroy Street
- » **Ifield:** older streets abutting the existing conservation area whose block pattern springs off the line of Citizen Street, bounded by the Wollondilly River
- » **Marys Mount:** the area north of the Wollondilly River below Marys Mount Road

The three additional areas are:

- » **Goulburn Central:** including the city centre and the Heritage Conservation Area
- » **Correctional Centre:** including Goulburn Correctional Centre and Sewerage Treatment Plant
- » **Run 'O' Waters (formerly Ducks Lane):** Large Lot residential area on the western fringe of the urban area

Figure 4 Goulburn Urban and Fringe Precincts**Legend**

Precincts
 Urban
 Fringe

G - 1	Run 'O' Waters (existing)	G - 9	Mt Gray	G - 17	Eastgrove
G - 2	Run 'O' Waters (rural north)	G - 10	Mountain Ash	G - 18	Central Goulburn
G - 3	Baw Baw	G - 11	Brisbane Grove	G - 19	Ifield
G - 4	Sooley	G - 12	Abattoir	G - 20	Correctional Centre
G - 5	Middle Arm West	G - 13	Garfield		
G - 6	Middle Arm East	G - 14	West Victoria Park		
G - 7	Kenmore	G - 15	Marys Mount		
G - 8	Gorman Rd	G - 16	Bradfordville		

Marulan Precincts

As with Goulburn, Marulan has been divided by precinct to facilitate a more robust analysis of the key constraints and in doing so identification of opportunities for development. There are four (4) precincts in Marulan:

- » **Marulan** Town Centre: the existing village footprint
- » **Marulan North:** the area between Brayton Road, Hume Highway and Ambrose Road/Red Hills Road
- » **Marulan East:** the area east of the Hume Highway and north east of Marulan South Road
- » **Marulan West:** the area west of Marulan Town Centre including Lynwood Quarry.

Figure 5: Marulan Precincts**Legend**

Precincts

Urban

Fringe

M - 1 Marulan Town Centre

M - 2 Marulan East

M - 3 Marulan North

M - 4 Marulan West

1.6 Housing Vision and Guiding Principles

The housing vision and principles reflect the outcomes of the early community consultation undertaken by Council and submissions received during the two public exhibition periods. The priorities and principles support delivery of the vision, underpin the Strategy and inform the housing actions outlined in Section 4 of the Strategy.

The LGA is experiencing significant growth, the demographic is changing and the population is getting older. The proximity of the region to Canberra and Sydney, particularly West and South Western Sydney and the new Western Sydney Airport are key regional advantages. Government policy that includes investigation of faster rail and improved road transport will further enhance the liveability for the LGA.

Technology will continue to influence and change the way we live and work. Improvements in connectivity, the NBN and faster and more reliable internet will enable a generation that will include a mobile and flexible workforce.

The Strategy consultation informed a vision of the delivery of housing that:

- » encourages higher density residential development closer to the Goulburn CBD
- » relies on the already zoned land to continue to deliver infill and medium density housing in suitable locations
- » considers sites on a merits-basis where serviced lots within the existing urban footprint become surplus to needs, or the land uses change
- » maximises the use of existing infrastructure and minimises the cost of development to Council and the community
- » encourages and meets the demand for a range of lot sizes and dwelling types
- » provides adequate open space, green linkages, and opportunities for walking and cycling
- » considers opportunities for larger lots, especially around Marulan, with a suitable supply of land for this purpose provided for to 2036, identified within the Strategy
- » recognises that rural residential subdivision is land intensive, therefore proposals to rezone to urban residential or to reduce minimum lot sizes outside the areas nominated in this Strategy will generally not be considered by Council
- » avoids environmentally sensitive areas and areas of high value conservation and natural hazards
- » meets the strategic direction articulated in the Regional Plan

Strategic approach to zoning

- » encourages higher density residential development closer to the Goulburn CBD
- » relies on the already zoned land to continue to deliver infill and medium density housing in suitable locations
- » Zone boundaries are not nominated in this Strategy in recognition that detailed site analysis through a Planning Proposal process is required
- » Council will consider zoning land for Public Recreation and Environmental Conservation on a case by case basis
- » Lots will generally be zoned with a 700sqm Minimum Lot Size in areas that are serviceable
- » Large lots will be strictly limited to areas that cannot be feasibly serviced at any point in the lifetime of the Strategy
- » Planning proposals for urban release areas which maximise the use of existing hard infrastructure will be prioritised. Planning proposals for sites which require extension of services beyond other green field sites will not be supported

Section 2 - The Evidence

2 The Evidence

The following section provides the evidence base for the Strategy. It includes the demographic and population analysis, housing supply and demand, the opportunities and constraints to the delivery of housing and the identification of areas that have capacity for further development.

The opportunities and constraints have been provided at both a high level for both Goulburn and Marulan and at precinct level; twenty (20) precincts for Goulburn and four (4) in Marulan.

2.1 Demographic Overview

2.1.1 Population

As of 2018, the Estimated Regional Population for the Goulburn Mulwaree LGA was 30,556⁴ compared with the 2016 Census population of 29,609⁵. The population data and projections used for the Strategy have been compiled by Forecast.id. Forecast.id have divided the LGA into six smaller areas: Central – CBD; Central – North; Central – South; North; South East; and West. Two other areas, Rural North and Rural South, make up the remainder of the LGA's population. It should be noted that Marulan is included in the statistics for Rural North, however, where relevant the ABS Community Profile Data for Marulan Urban Centre⁶ has also been used.

As of 30 June 2018, the official population of Goulburn was 23,319⁷, compared with a 2016 Census population of 22,890⁸. Goulburn's population represents approximately three quarters of the overall LGA population.

Estimated Regional Population data is not available for Marulan. Based on the 2016 Census, the population for the Marulan Urban Area (**Figure 7**) was 685⁹. Together Goulburn and Marulan accounted for 83 percent of the LGA's total population in 2016.

⁴ <https://profile.id.com.au/goulburn/population-estimate>

⁵ https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA13310

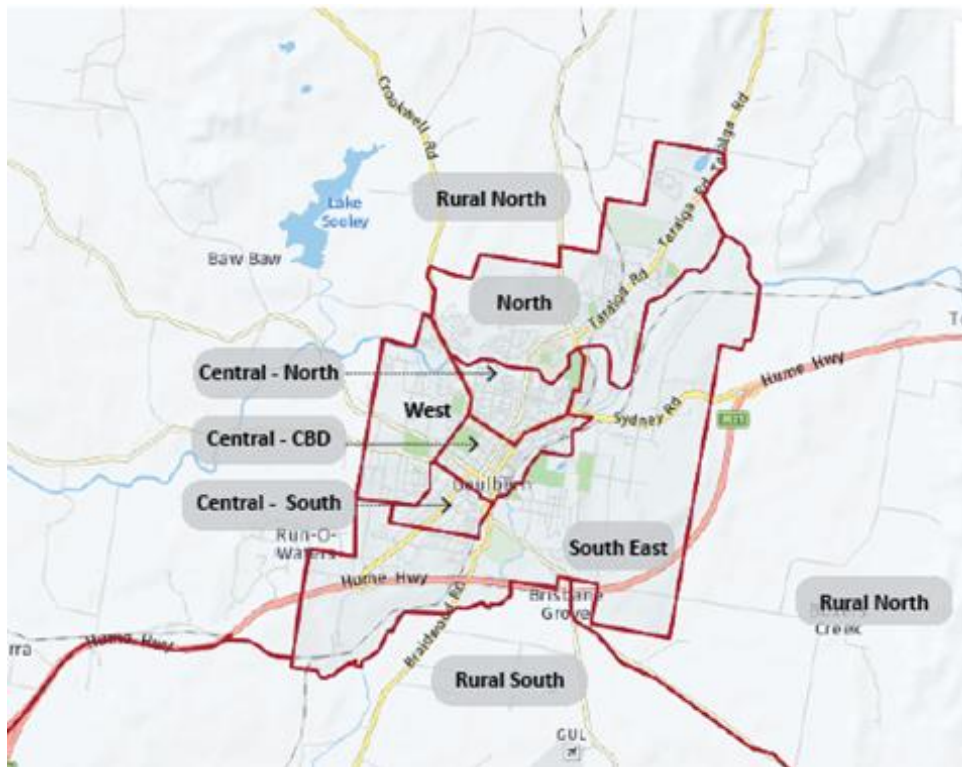
⁶ Marulan Urban Centre as defined by the ABS at <https://quickstats.censusdata.abs.gov.au/census>

⁷ <https://profile.id.com.au/goulburn/population-estimate>

⁸ https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/UC112008

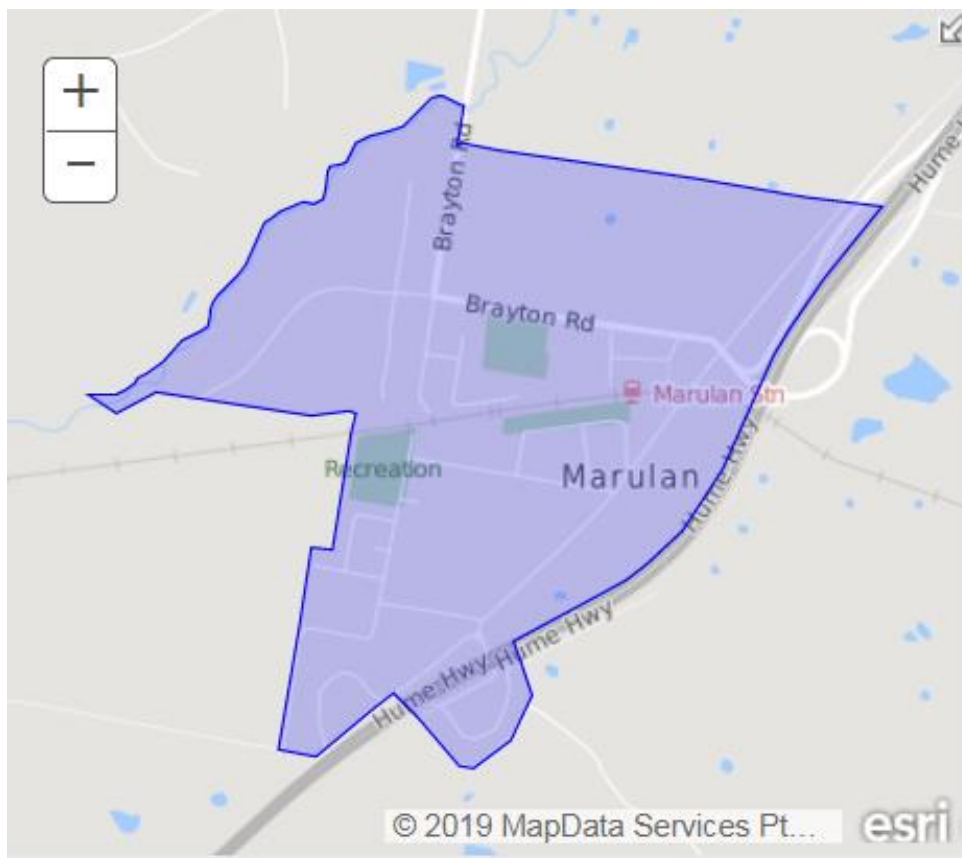
⁹ http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC12513

Figure 6 Goulburn City Population Catchments



Source: Population experts/ABS/Elton Consulting

Figure 7 Marulan Urban Area

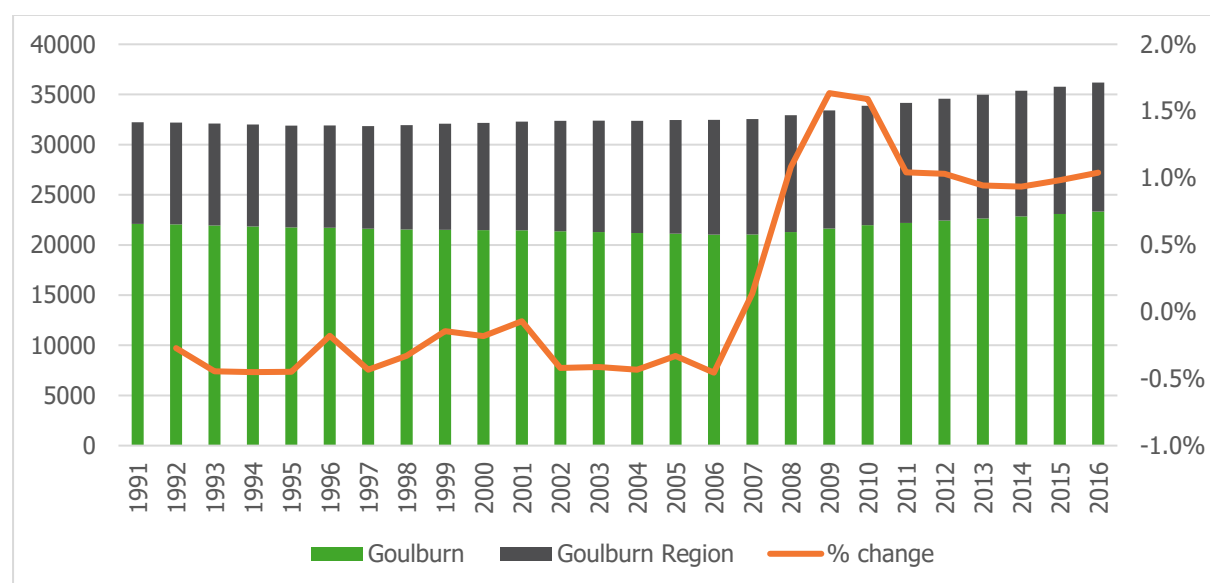


Source: ABS 2016 Census Community Profile (Marulan Urban Area)

In the years between 1991 and 2006, Goulburn experienced a declining population of between -0.1 percent and -0.5 percent per year (in line with the LGA). In 2007, the population increased for the first time since 1991, gaining 29 people (0.1 percent). In 2009 and 2010, the population of Goulburn increased 1.6 percent each year before steadying to growth of between 0.9 percent and 1.0 percent between 2011 and 2016.

The population of Marulan in 2011 was 587, increasing by 17 percent to 685 in 2016. For Goulburn, the population increase was less pronounced, increasing from 21,484 in 2011 to 22,890 in 2016; an increase of 7 percent.

Figure 8 Goulburn Mulwaree LGA Population 1991 to 2016



Australian Bureau of Statistics, Census of Population and Housing, 1991-2016

Table 3 Population Size (2006-2016)

	2006	2011	2016	Percentage change 1996 to 2016
Goulburn	20,127	21,484	22,890	14%
Marulan	540	587	685	27%
Balance of LGA	5,419	5,410	6,034	11%
Total	26,086	27,481	29,609	14%

Population forecast

There are two sources of population forecasts; the first is work commissioned by Council and undertaken by Forecast.id. The second set of data has been provided by the former NSW Department of Planning and Environment (DPE). The projections vary, however are consistent to the extent that the trend continues to be upward.

The table below includes the total population forecast for the LGA including the DPE projections.

Table 4 Goulburn Mulwaree Population Forecast 2016 to 2036

	2016	2021	2026	2031	2036	Percentage change 2016 to 2036
Forecast .id	30,158	32,167	33,863	35,567	37,202	23.4%
DPE low estimate	29,600	30,850	31,900	32,750	33,350	12.7%
DPE medium projection	29,750	31,100	32,350	33,450	34,400	15.6%
DPE high projection	29,900	31,450	32,950	34,400	35,750	19.6%
Average projection	29,852	31,392	32,766	34,042	35,176	17.8%

2016 New South Wales State and Local Government Area Population Projections/ Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017

As shown in the table above, the Goulburn Mulwaree LGA has a projected population growth of between 12.7 percent and 23.4 percent between 2016 and 2036. At its highest estimate, the LGA will increase by 7,000 people to a total population of 37,202. At its lowest estimate, the LGA will still see an increase of 5,000 people to 33,350.

In 2016 Marulan accounted for 4 percent of the total population and Goulburn 79 percent. Applying the same proportions, the population increase would be 200-280 additional people in Marulan and 3,950-5,530 people in Goulburn between 2016 and 2036.

The population of the Goulburn Mulwaree LGA by Forecast.id is forecast to increase by 23.4 percent to an estimated 37,202 by the year 2036. Of the estimated growth, Goulburn City is forecast to house a total population of 28,938 by 2036, maintaining an increase of between 0.9 percent and 2.0 percent each year. The areas forecast to experience the largest growth will be Goulburn North (+63.1 percent), Goulburn West (+17.9 percent) and Goulburn South East (+16.3 percent). This forecast aligns with current trends due to recent rezoning and subdivision occurring in those areas and the availability of zoned residential land.

Table 5 Goulburn Population Forecast 2016 to 2036

	2016	2021	2026	2031	2036	Percentage change 2016 to 2036
Goulburn (Central - CBD)	2,437	2,531	2,560	2,583	2,611	7.1%
Goulburn (Central - North)	4,735	4,820	4,914	4,988	5,066	7.0%
Goulburn (Central - South)	2,514	2,610	2,707	2,877	2,911	15.8%
Goulburn (North)	6,398	7,560	8,453	9,417	10,437	63.1%
Goulburn (South East)	3,248	3,416	3,610	3,707	3,776	16.3%
Goulburn (West)	3,508	3,760	3,957	4,052	4,137	17.9%
Goulburn Total	22,840	24,697	26,201	27,624	28,938	26.7%

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017

Age Distribution

The Goulburn Mulwaree LGA increased by 2,147 people between the 2011 and 2016 Census. The age groups that experienced the greatest growth were the Young Workforce (+597), Seniors (+443) and Empty Nesters and Retirees (+416). There were declines experienced in the Parents and Homebuilders (-108) and Secondary Schoolers (-81) groups.

Table 6 Service Age Groups Census 2016

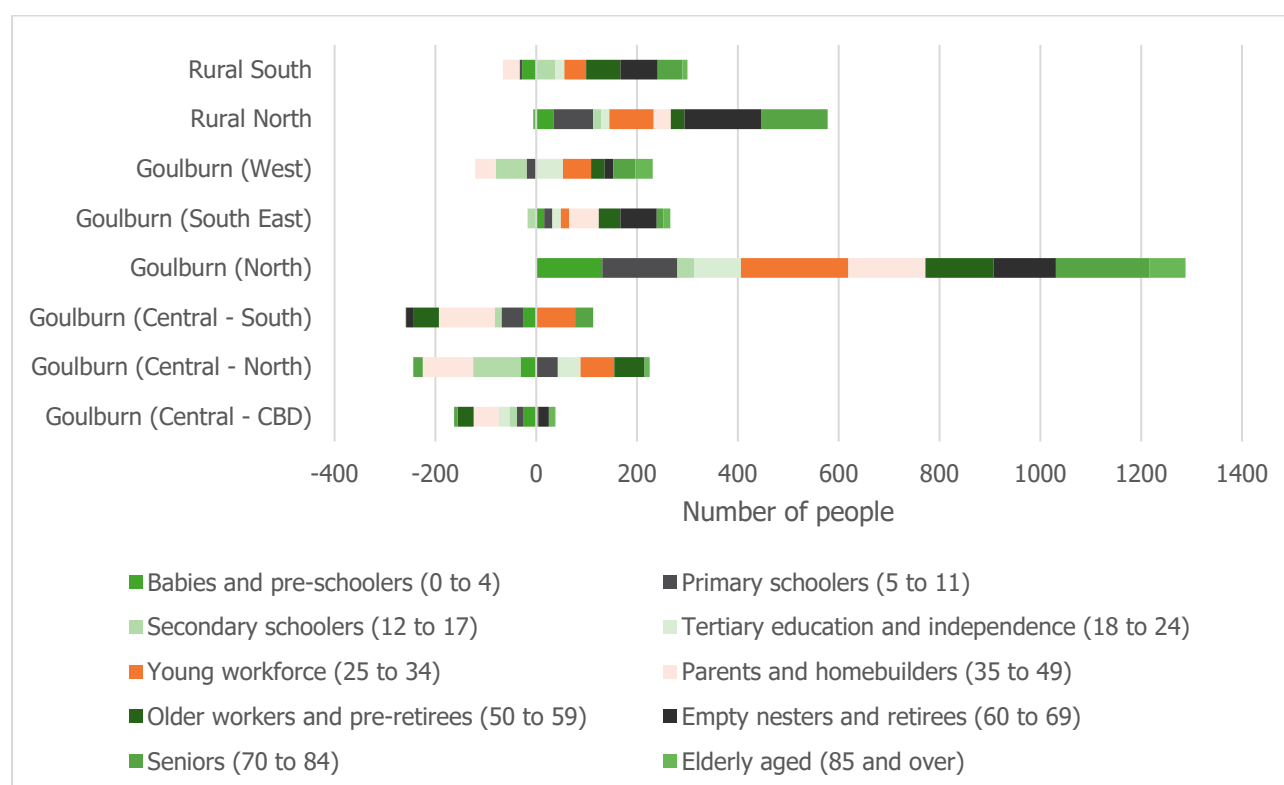
Service age group (years)	2011		2016		Change
	Number	%	Number	%	2011 to 2016
Babies and Pre-Schoolers (0 to 4)	1,676	6.1	1,742	5.9	+65
Primary Schoolers (5 to 11)	2,417	8.8	2,612	8.8	+194
Secondary Schoolers (12 to 17)	2,214	8.1	2,134	7.2	-81
Tertiary Education and Independence (18 to 24)	2,113	7.7	2,302	7.8	+188
Young Workforce (25 to 34)	2,969	10.8	3,567	12.0	+597
Parents and Homebuilders (35 to 49)	5,615	20.4	5,507	18.6	-108
Older Workers and Pre-Retirees (50 to 59)	3,785	13.8	4,084	13.8	+299
Empty Nesters and Retirees (60 to 69)	3,321	12.1	3,738	12.6	+416
Seniors (70 to 84)	2,748	10.0	3,192	10.8	+443
Elderly Aged (85 and over)	605	2.2	738	2.5	+132
Total			29,616	100.0	+2,147

Australian Bureau of Statistics, Census of Population and Housing, 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.

A breakdown of the age structure change by locality indicates the extent of growth and where growth has occurred. The greatest increase was experienced in Goulburn (North) with an increase of 1,288 people. Central - South and Central - North both experienced declines in population (-146 and -125 respectfully). Of the decline Parents and Homebuilders (35 to 49) were the largest group. Central - South saw a decline of -111 and Central - North saw a decline of -100. In addition, Central North saw a decline of -94 Secondary Schoolers.

Of the largest segments of growth, being the 60-84 age bracket and Young Workforce, 131 young workers chose to locate within the LGA and 466 located within the City of Goulburn. Of this around half have located within Goulburn (North).

The north has seen the greatest growth as it is a recent greenfield land supply.

Figure 9 Age Structure Change by Locality (Precinct), 2011 to 2016

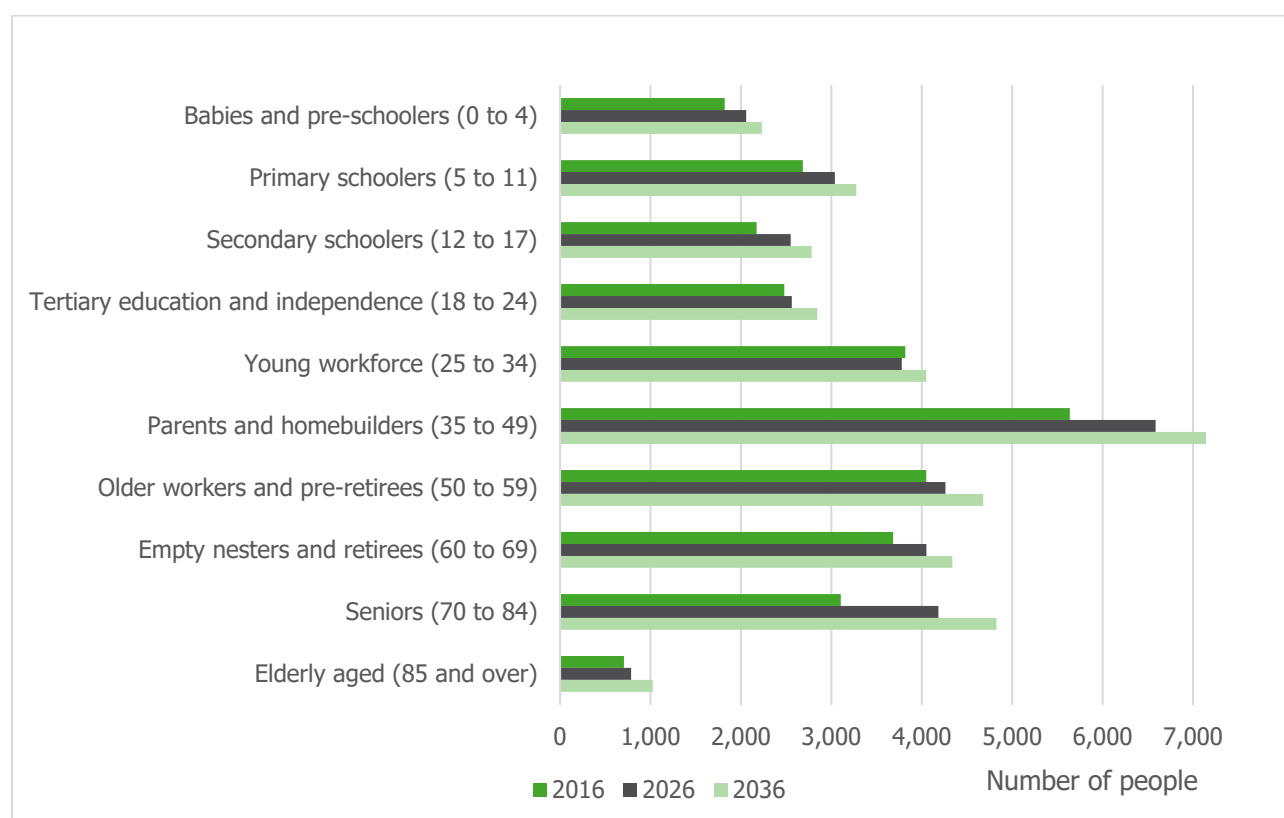
Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

It is expected that between 2016 and 2036, the age groups with the largest growth will be the 70 to 84 age group (55.4 percent) and the 85 and over age group (45.4 percent). This indicates that Goulburn Mulwaree will need to prepare for an ageing population. This is typical of many LGAs in the surrounding area and the nation. Parents and Homebuilders will also represent one of the dominant sectors of the community. This trend represents the successful growth and retention of the current (2017) Young Workforce. By 2036, it is anticipated that 27.5 percent of the population will be over the age of 65.

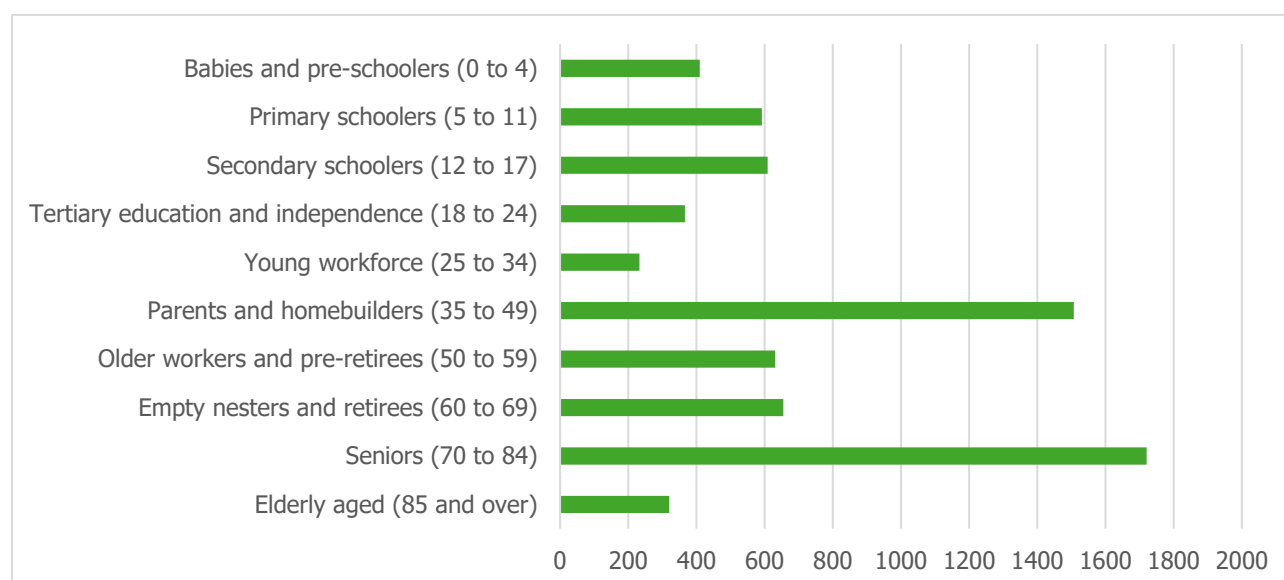
Table 7 Forecast Age Structure - Service Age Groups

Goulburn Mulwaree Council area - Total persons	2016		2026		2036		Change between 2016 and 2036
Age Group (years)	Number	%	Number	%	Number	%	Number
Babies and Pre-Schoolers (0 to 4)	1,822	6	2,058	6.1	2,232	6	410
Primary Schoolers (5 to 11)	2,685	8.9	3,039	9	3,277	8.8	592
Secondary Schoolers (12 to 17)	2,174	7.2	2,551	7.5	2,783	7.5	609
Tertiary Education and Independence (18 to 24)	2,479	8.2	2,563	7.6	2,845	7.6	366
Young Workforce (25 to 34)	3,818	12.7	3,779	11.2	4,050	10.9	233
Parents and Homebuilders (35 to 49)	5,638	18.7	6,587	19.5	7,145	19.2	1,507
Older Workers and Pre-Retirees (50 to 59)	4,049	13.4	4,263	12.6	4,680	12.6	631
Empty Nesters and Retirees (60 to 69)	3,684	12.2	4,052	12	4,339	11.7	655
Seniors (70 to 84)	3,105	10.3	4,185	12.4	4,826	13	1,721
Elderly Aged (85 and over)	705	2.3	786	2.3	1,024	2.8	320
Total persons	30,158	100	33,863	100	37,202	100	7,043

Australian Bureau of Statistics, Census of Population and Housing, 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.

Figure 10 Forecast Age Structure - Service Age Groups

Australian Bureau of Statistics, Census of Population and Housing, 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.

Figure 11 Change in Service Age Groups - 2016 to 2036

Australian Bureau of Statistics, Census of Population and Housing, 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts

Dwelling Requirements

The number of required dwellings within the Goulburn Mulwaree LGA can be inferred based on the current rate of population growth, and would be expected to increase by an additional 3,359

dwelling by the year 2036. Of this, the area with the largest increase is expected to be Goulburn (North) with 1,688 dwellings. This is due to the recent rezoning and development of Rural land to Residential which has provided affordable and desirable housing for Goulburn City.

Table 8 Dwelling Forecast 2016 – 2036 (Forecast.id)

	2016	2021	2026	2031	2036	Change 2016 to 2036
Goulburn (Central - CBD)	1,294	1,353	1,378	1,403	1,428	134
Goulburn (Central - North)	2,330	2,340	2,354	2,374	2,394	64
Goulburn (Central - South)	1,220	1,230	1,259	1,309	1,335	115
Goulburn (North)	2,425	2,880	3,266	3,679	4,113	1,688
Goulburn (South East)	1,208	1,306	1,410	1,475	1,524	316
Goulburn (West)	1,561	1,682	1,781	1,830	1,880	319
Rural North*	2,232	2,356	2,467	2,586	2,711	479
Rural South	1,469	1,512	1,570	1,640	1,713	244
Total	13,739	14,659	15,485	16,296	17,098	3,359

Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017 * Rural North includes Marulan

Table 9 Dwelling Forecast 2016 – 2036 (DPE)

	2016	2021	2026	2031	2036
Goulburn LGA	14,200	15,050	15,900	16,600	17,250

NSW Department of Planning 2016

By the end of the 2017/18 financial year, the Goulburn Mulwaree LGA had approved 241 residential dwellings. The largest number of dwellings approved was within the Goulburn City Statistical Area 2, ABS (SA2) with 123 houses. This was followed by the Goulburn Region (SA2) with 75 houses. There were 43 semi-detached dwellings approved in the Goulburn City (SA2).

2.1.2 Households

Table 10 Number of Households

	2016	2021	2026	2031	2036	Change 2016 to 2036
Goulburn (Central - CBD)	1,162	1,217	1,238	1,260	1,282	120
Goulburn (Central - North)	2,192	2,214	2,238	2,269	2,301	109
Goulburn (Central - South)	1,116	1,145	1,192	1,258	1,283	167
Goulburn (North)	2,312	2,746	3,112	3,505	3,920	1,608
Goulburn (South East)	1,116	1,206	1,302	1,364	1,409	293
Goulburn (West)	1,477	1,592	1,685	1,731	1,777	300
Rural North*	1,849	1,954	2,049	2,151	2,254	405
Rural South	1,011	1,040	1,082	1,130	1,179	168
Total	12,235	13,114	13,898	14,668	15,405	3,170

Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017. * Rural North includes Marulan

All household types in the Goulburn Mulwaree LGA are expected to increase between 2016 and 2036. In the City of Goulburn, the households with the largest increase will be 'other families' (+38 percent), 'couples without dependents' (+32 percent), 'lone person households' (+29 percent) and 'couple families with dependents' (+28 percent). In the rural areas, lone person households are forecast to increase by 50 percent. This indicates that household sizes in the Goulburn Mulwaree LGA are expected to decrease.

Household Type

The following table shows that Goulburn contained a high proportion of family households in 2016. This suggests that families are attracted to the regional city and its facilities and residential amenity. Marulan likewise contains a significant proportion of family households. Both Goulburn and Marulan also have a high proportion of lone households (compared with Regional NSW).

Table 11 Family Composition

Household Type		2016	2021	2026	2031	2036	Change 2016 to 2036
Central/Urban	Couple families with dependents	2,384	2,611	2,768	2,905	3,041	28%
	Couples without dependents	2,386	2,598	2,792	2,976	3,156	32%
	Group households	235	239	242	253	260	11%
	Lone person households	2,950	3,156	3,378	3,594	3,799	29%
	One parent family	1,275	1,350	1,412	1,469	1,511	19%
	Other families	148	164	175	190	204	38%
	Total households	9,377	10,118	10,767	11,387	11,972	28%
Fringe	Couple families with dependents	860	856	869	895	934	9%
	Couples without dependents	1,119	1,170	1,220	1,266	1,312	17%
	Group households	70	71	68	67	66	-6%
	Lone person households	555	633	706	768	834	50%
	One parent family	188	195	197	207	209	11%
	Other families	67	69	72	78	81	21%
	Total households	2,860	2,995	3,131	3,280	3,434	20%

Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017

2.1.3 Household Characteristics

Household Size

By the year 2036, the average household size in the Goulburn Mulwaree LGA is expected to reduce to 2.33 people per household. This trend is consistent with the reducing number of bedrooms in dwellings. Different areas within the Goulburn Mulwaree LGA fluctuate between a household size of 1.98 and 2.60. Goulburn (North) is forecast to have the largest dwelling size (2.60) by the year 2036, while the Central CBD is expected to have the smallest (1.98). This indicates that the central area of Goulburn should expect to cater for smaller households while Goulburn (North) will need to provide for larger households.

Table 12 Household Size 2016 – 2036

	2016	2021	2026	2031	2036
Goulburn (Central - CBD)	2.03	2.02	2.01	1.99	1.98
Goulburn (Central - North)	2.13	2.15	2.17	2.17	2.18
Goulburn (Central - South)	2.15	2.18	2.17	2.17	2.15
Goulburn (North)	2.69	2.69	2.66	2.62	2.60
Goulburn (South East)	2.30	2.27	2.24	2.21	2.19
Goulburn (West)	2.35	2.34	2.33	2.32	2.31
Rural North*	2.59	2.51	2.46	2.42	2.41
Rural South	2.46	2.41	2.38	2.37	2.36
Total	2.37	2.36	2.35	2.34	2.33

Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017 * Rural North includes Marulan

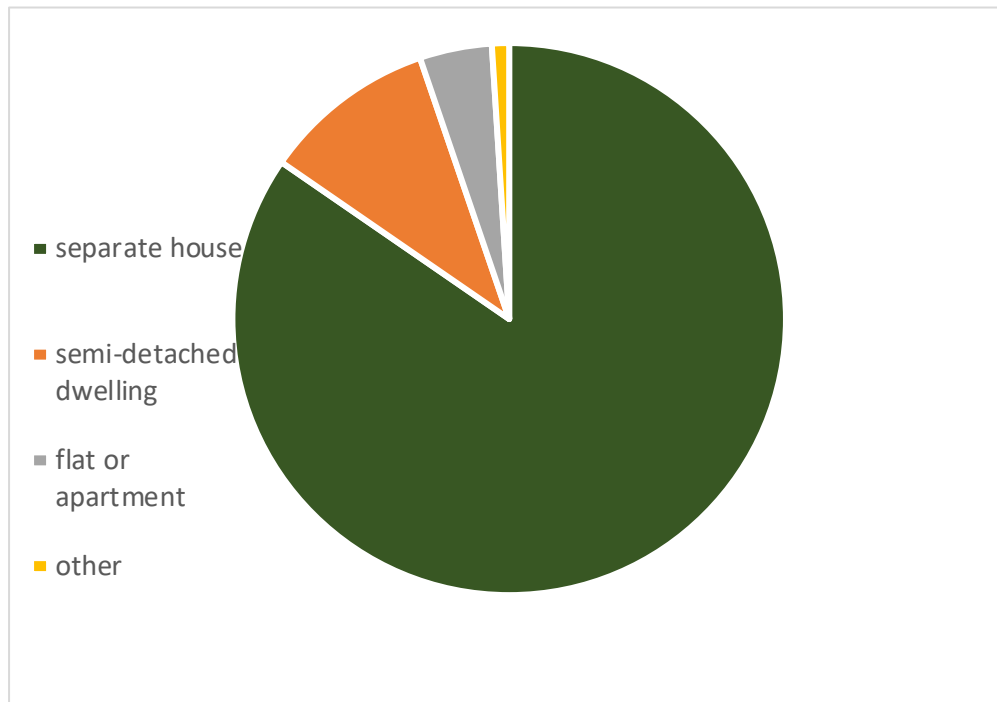
2.1.4 Dwelling Characteristics

Dwellings

Between 2011 and 2016 the number of dwellings in Goulburn increased from 9,136 to 9,445 or 3 percent. In Marulan there was a more significant increase of the number of dwellings from 254 to 291 or 15 percent.

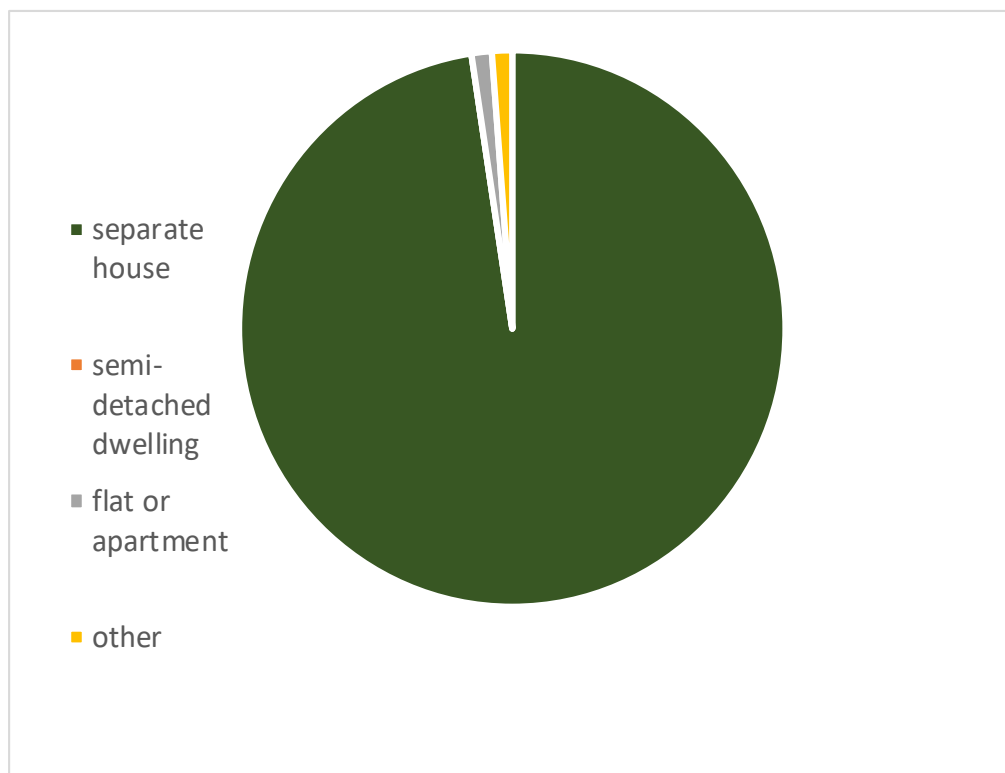
The 2016 Census confirmed that separate detached dwellings are the predominate form of housing in Goulburn representing 84 percent, with 10 percent described as semi-detached, row terrace or townhouses and 4 percent as flats or apartments. As of the 2016 census, 98 percent of dwellings in Marulan were separate detached houses.

Figure 12 Goulburn Dwelling Types



Source: ABS Community Profiles 2016

Figure 13 Marulan Dwelling Types



Source: ABS Community Profiles 2016

Table 13 Number of Bedrooms 2016

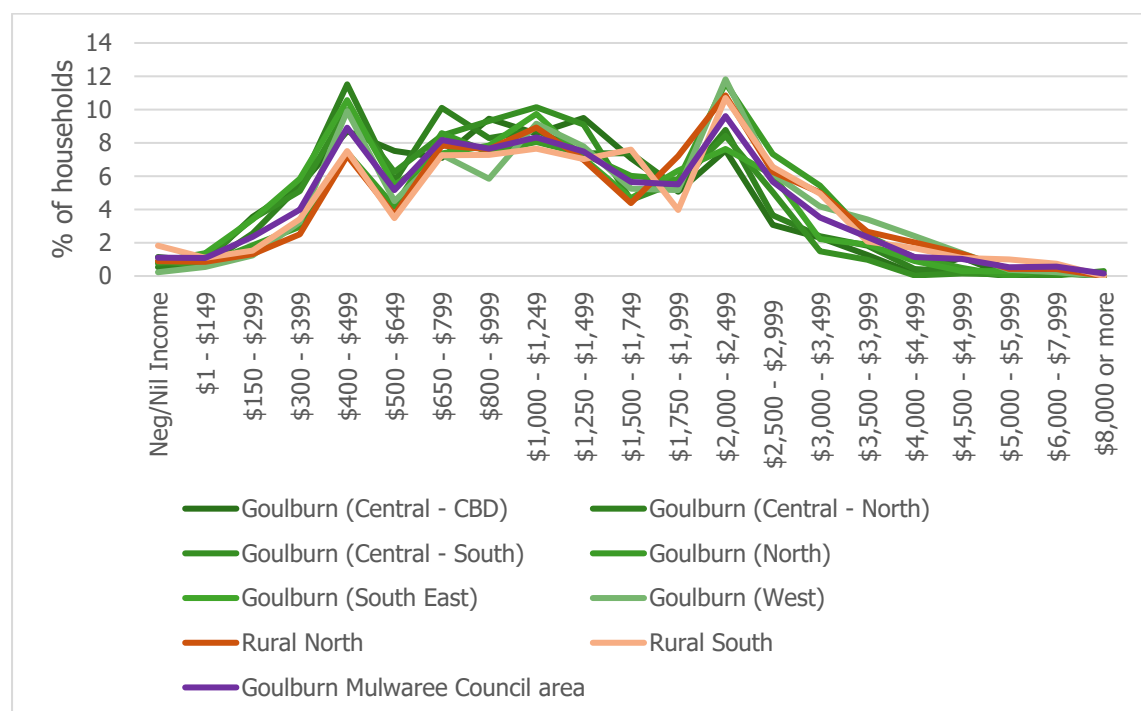
Number of Bedrooms	Goulburn	%	Marulan	%	NSW	%
None	28	0.3	3	1.2	17,157	0.7
1 bedroom	307	3.6	5	1.9	157,194	6.0
2 bedrooms	1,469	17.4	33	12.8	577,675	22.2
3 bedrooms	3,824	45.4	116	45.1	970,001	37.2
4 or more bedrooms	2,569	30.5	94	36.6	816,405	31.3
Not stated	231	2.7	6	2.3	65,888	2.5
Average No. per dwelling	3.1		3.2		3	
Average no. people per household	2.3		2.4		2.6	

Australian Bureau of Statistics, Census of Population and Housing 2016.

In terms of the dwelling structure, over 76 percent of dwellings in Goulburn and 82 percent in Marulan have 3 or more bedrooms.

2.1.5 Income and Relative Disadvantage

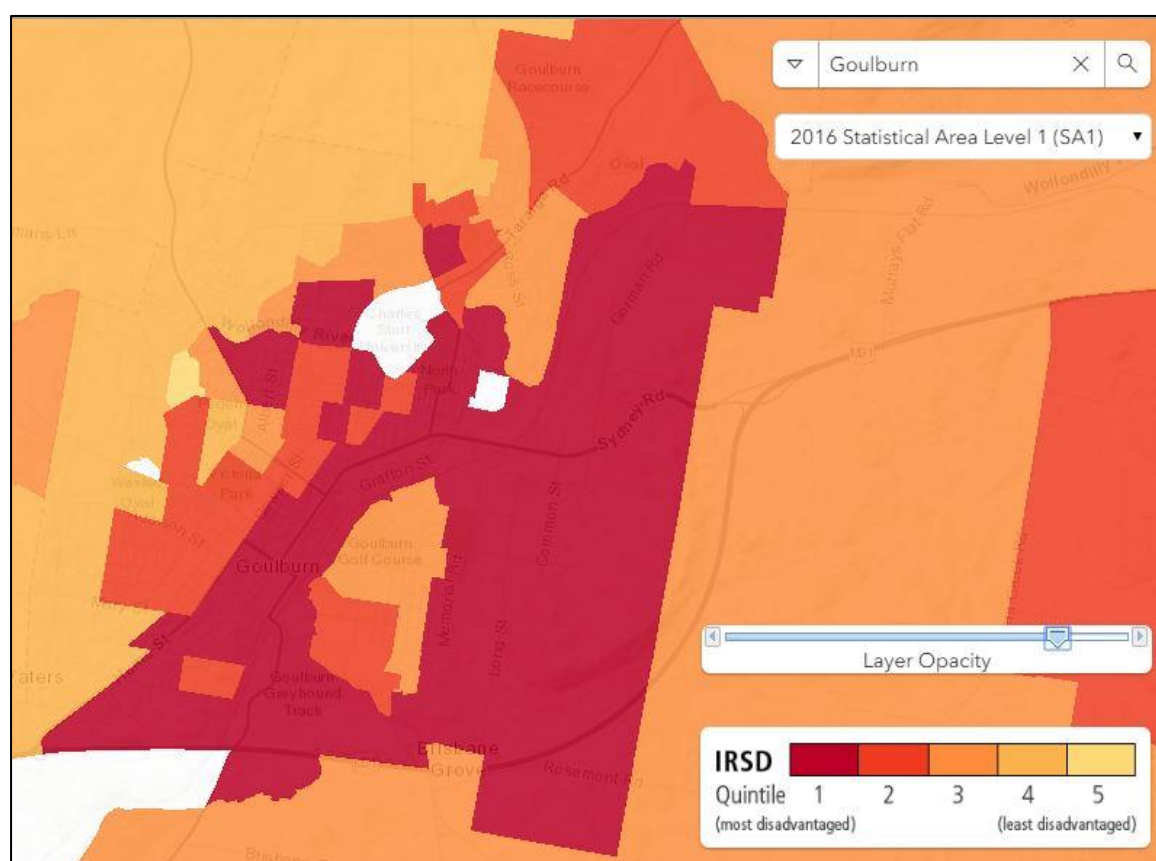
In the Goulburn Mulwaree LGA, the 'lowest' income quartile was the largest group in 2016, comprising 31 percent of households with income. The most significant change in Goulburn Mulwaree LGA between 2011 and 2016 was in the medium lowest quartile which showed an increase of 180 households.

Figure 14 Goulburn Mulwaree LGA Stated Household Income

Source: Australian Bureau of Statistics 2016, prepared by .id, the population experts

The Socio-Economic Indexes for Areas (SEIFA) ranks areas in Australia according to relative socio-economic advantage and disadvantage. A low score indicates relatively greater disadvantage and a lack of advantage in general. Goulburn (SA2) has a SEIFA Index of Relative Socio-economic Disadvantage (2016) score of 948 and Marulan (SSC) has a score of 946, both of which are relatively more disadvantaged compared to the Goulburn Mulwaree LGA (960) and Regional NSW (971)¹⁰. As shown in **Figures 15 & 16**, the level of relative disadvantage varies spatially across Goulburn. Marulan's urban area is identified as most disadvantaged while the fringe is moderately disadvantaged¹¹.

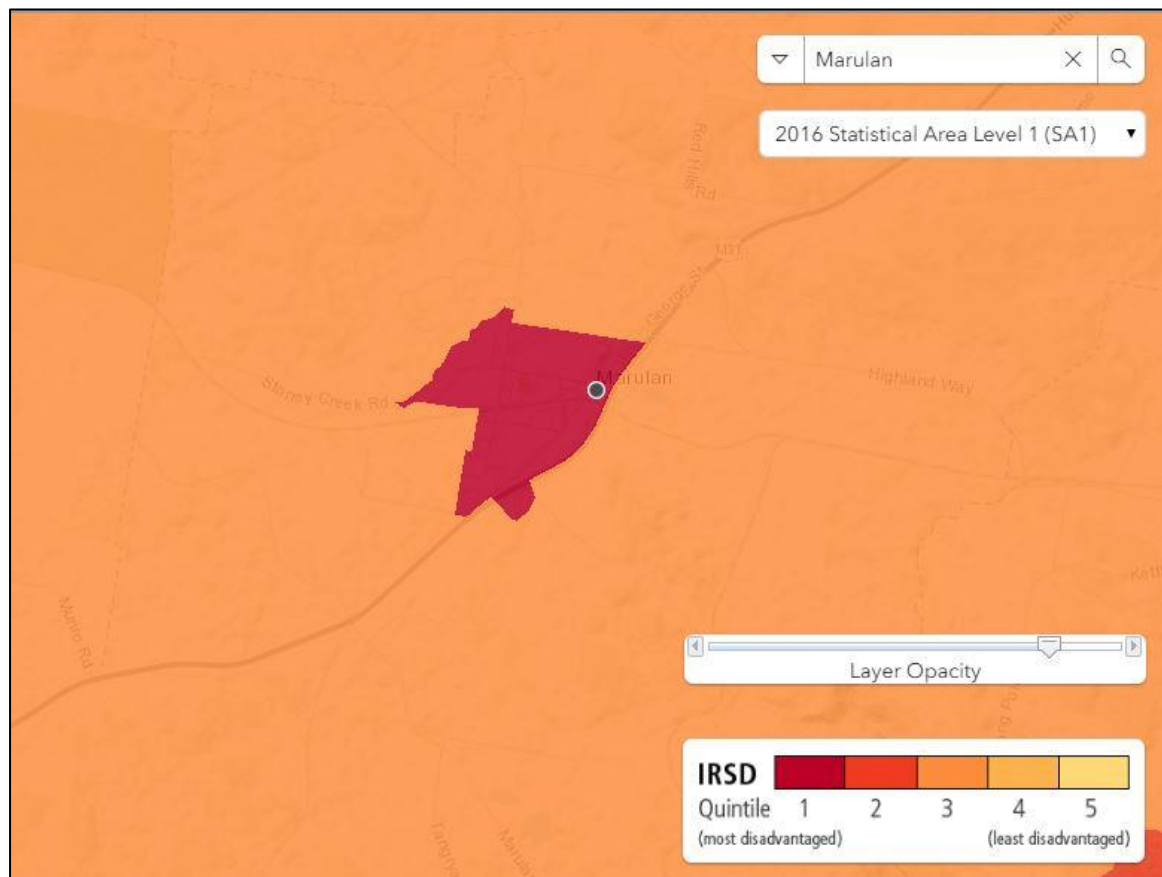
Figure 15 SEIFA Relative Disadvantage Goulburn



Source: Australian Bureau of Statistics, IRSD interactive map, powered by Esri.

¹⁰ Australian Bureau of Statistics, Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2016

¹¹ Australian Bureau of Statistics, IRSD interactive map, powered by Esri.

Figure 16 SEIFA Relative Disadvantage Marulan

Source: Australian Bureau of Statistics, IRSD interactive map, powered by Esri.

2.1.6 Employment

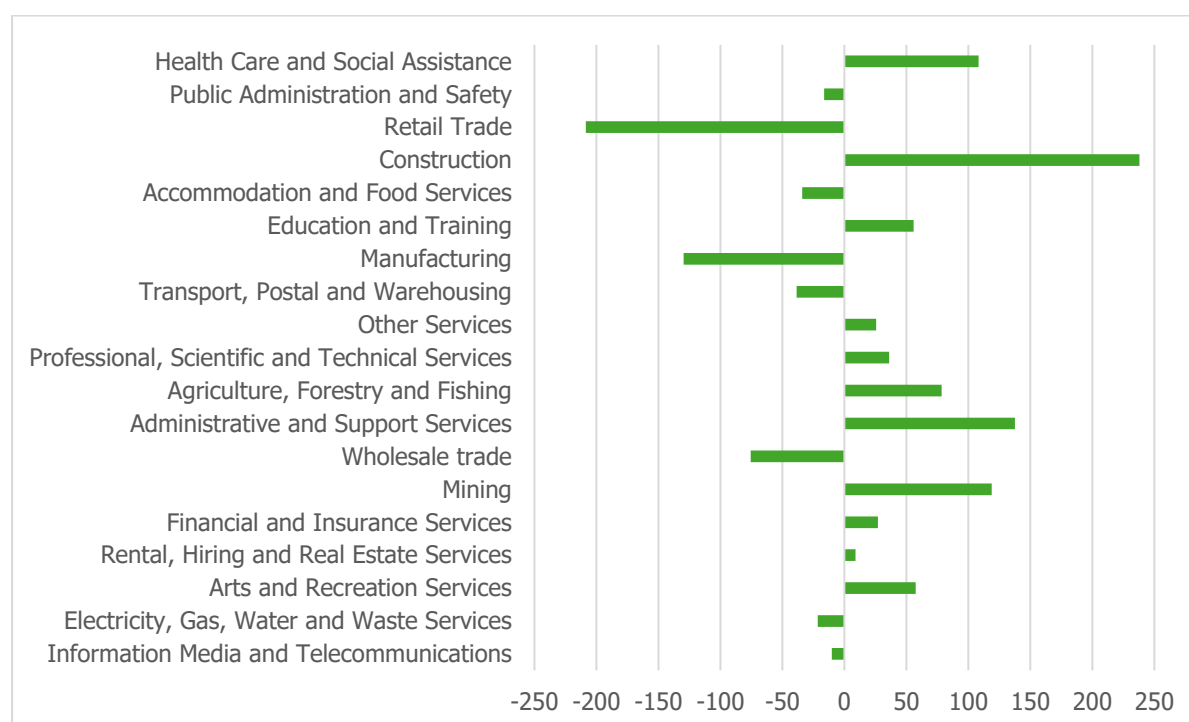
As of the 2016 Census, the largest employers within the Goulburn Mulwaree LGA were Health Care and Social Assistance (15 percent), Public Administration and Safety (10.9 percent) and Retail Trade (10.7 percent).

Table 14 Industry Sector of Employment

LGA	2011			2016			Change
Industry sector	Number	%	Regional NSW %	Number	%	Regional NSW %	2011 to 2016
Health Care and Social Assistance	1,799	14.9	13.0	1,908	15.0	14.4	+108
Public Administration and Safety	1,399	11.6	7.2	1,383	10.9	7.2	-16
Retail Trade	1,572	13.0	11.4	1,364	10.7	10.3	-209
Construction	933	7.7	7.9	1,171	9.2	8.7	+238
Accommodation and Food Services	1,024	8.5	7.7	990	7.8	7.9	-34
Education and Training	882	7.3	8.6	938	7.4	9.0	+56
Manufacturing	837	6.9	8.3	708	5.6	6.0	-130
Transport, Postal and Warehousing	679	5.6	4.2	641	5.0	4.0	-39
Other Services	507	4.2	3.9	533	4.2	3.9	+26
Professional, Scientific and Technical Services	465	3.8	4.6	502	4.0	4.5	+36
Inadequately described or not stated	256	2.1	2.1	496	3.9	3.8	+240
Agriculture, Forestry and Fishing	396	3.3	5.8	475	3.7	5.7	+78
Administrative and Support Services	255	2.1	2.8	393	3.1	3.3	+138
Wholesale Trade	302	2.5	2.8	227	1.8	2.0	-76
Mining	85	0.7	2.5	204	1.6	2.4	+119
Financial and Insurance Services	151	1.3	2.2	179	1.4	2.0	+27
Rental, Hiring and Real Estate Services	166	1.4	1.4	175	1.4	1.4	+9
Arts and Recreation Services	101	0.8	1.2	159	1.3	1.2	+57
Electricity, Gas, Water and Waste Services	174	1.4	1.5	153	1.2	1.3	-22
Information Media and Telecommunications	118	1.0	1.0	108	0.8	0.9	-10
Total	12,109	100.0	100.0	12,707	100.0	100.0	+598

Australian Bureau of Statistics, Census of Population and Housing, 2011 and 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts. Note: people employed aged 15+.

Between the years 2011/12 and 2016/17, the industries within the Goulburn Mulwaree LGA that experienced the largest change in employed persons were Health Care and Social Assistance (+439), Construction (+306), and Manufacturing (-123).

Figure 17 Change in Industry Sector of Employment, 2011 to 2016

Australian Bureau of Statistics, Census of Population and Housing, 2011 and 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.

As of the 2016 Census, 12,694 residents of the Goulburn Mulwaree LGA were employed. Of these employed residents, 77.5 percent (9,842) worked within the LGA, 22.5 percent (2,852) worked outside of the LGA and 4.5 percent (575) had no fixed place of work. Health Care and Social Assistance was the top employer by industry, followed by Construction.

2.1.7 Workforce Mobility

Understanding the mobility of the workforce provides insight into the habits of residents and allows for assumptions to be made as to the population demographics likely to be generating demand for housing in the region into the future. It is telling that over 22 percent of the working population travel outside of the LGA for employment. This supports the view that to at least some extent, proximity to Canberra may play a role in the choice to relocate to Goulburn.

Table 15 Goulburn Mulwaree LGA – Place of Work, 2016

Location	Number	%
Live and work in the area	9,842	77.5
Live in the area, but work outside	2,852	22.5
No fixed place of work	575	4.5
Total employed residents in the area	12,694	100.0

Australian Bureau of Statistics, Census of Population and Housing 2016. Compiled and presented in economy.id by .id, the population experts.

Of the 22.5 percent that work outside of the LGA, 6.9 percent work in the ACT. The remaining 15.6 percent of the workforce are employed in the surrounding region within a catchment of around one to one and a half hours commute.

Table 16 Goulburn Mulwaree LGA – Place of Work (Top 10) 2016

LGA	Number	Percentage
Goulburn Mulwaree (A)	9,842	77.5%
ACT	882	6.9%
No Fixed Address (NSW)	572	4.5%
Wingecarribee (A)	387	3.0%
Queanbeyan-Palerang Regional (A)	237	1.9%
Upper Lachlan Shire (A)	212	1.7%
Sydney (C)	59	0.5%
Yass Valley (A)	38	0.3%
Wollongong (C)	35	0.3%
Wollondilly (A)	28	0.2%
Liverpool (C)	22	0.2%

Australian Bureau of Statistics, Census of Population and Housing 2016. Compiled and presented in economy.id by .id, the population experts.

2.1.8 Key Findings

ABS Census data and associated projections provide a reasonable insight into the growth and associated demand for housing for Goulburn Mulwaree LGA and the implications for Goulburn and Marulan.

Growth across the LGA has been strong over the past decade increasing by 14 percent. In Marulan population growth has been significant with an increase in population between 2006 and 2016 of 27 percent.

With the Goulburn Mulwaree LGA expected to reach between 33,350 and 37,202 residents by 2036, approximately 5,000 to 7,000 additional residents are expected. Given the drivers of growth include proximity to economically viable regions and affordable housing, these growth rates may increase over time if prices in Sydney and the ACT continue to rise. Advances in technology and improvements in transport, for example higher speed rail, may further stimulate growth.

Of particular note, between 2016 and 2036, the 35 to 49 and 70 to 84 year old service age groups will be the largest growing groups within the Goulburn Mulwaree LGA. In addition, childless households will make up 59.1 percent of all households by the year 2036, which is likely to generate an increase in demand for smaller dwellings.

Families with children will continue to reside within the current development front in Goulburn's north as evidenced by the forecast occupancy ratio of 2.60 people per dwelling by the year 2036, the highest of all Goulburn areas.

To provide sufficient appropriate housing through to 2036, population growth, demographics and expected household sizes needs to be compared with current housing supply to determine the expected housing and residential needs of Goulburn and Marulan.

Further housing appropriate for families is required in the short to long term. Housing appropriate for the ageing population will be required to allow current residents to age in place. Additionally, housing appropriate for ageing populations can be appropriate for residents seeking affordable and efficient living options.

2.2 Housing Demand

To understand the demand factors for housing, the Strategy has considered two methods to estimate future dwelling demand: population projections and dwellings approvals. To date Goulburn Mulwaree LGA's housing supply is mainly provided in Goulburn and Marulan and this trend is expected to continue.

The majority of recent growth has been through residential subdivisions in Goulburn and Marulan. These new subdivisions have typically provided R2 Low Density Residential zoned land with a minimum lot size of 700sqm. The market responded well to these releases driving demand for additional land as the currently zoned land nears full utilisation.

Further to the demand for the typical 700sqm house block, there is an emerging trend for more compact living close to the urban core. Recent development activity and increasing supply in this form of higher density development indicate the acceptance of the market to sacrifice large block sizes for more compact living with improved proximity and access.

Goulburn and Marulan need to provide a variety of housing, however, there is a clear need for a continued supply of standard urban residential lots of 700sqm. Supply needs to be maintained to accommodate the general demand.

Appropriate housing also needs to be provided for the ageing population, smaller families and young professionals or first home buyers looking for an alternative to the standard 3 - 4 bedroom residential dwelling. It is recommended that this be accommodated primarily in the existing urban area of Goulburn City with access and proximity to health care, services and businesses.

Additional compact housing delivered throughout Goulburn will provide flexibility for a diversity of the population. Smaller dwellings will enable entry to the market for lower income groups and support smaller households and the retention of young people in the area as they transition from living at home.

Anecdotal evidence gained through the initial community and stakeholder engagement process indicated demand for large lot residential blocks (2ha). These products offer diversity in lifestyle choice. The relatively low subdivision costs associated with creating these lots has resulted in this form of development being the preference of proponents looking to rezone land. Given the current and expected demand for residential land in Goulburn and Marulan it would be anticipated that small volumes of large lot residential land will be absorbed by the market, however, the actual annual demand is difficult to determine.

Given that household sizes are expected to decline and population will continue to grow. It is estimated that an additional 3,359 dwellings will be required to meet demand to 2036. If a 10 percent surplus is maintained to provide a buffer to accommodate fluctuation in the market, this could be as high as 3,695 dwellings.

For the purposes of analysis, the housing demand has been assumed to be midway at **3,500 dwellings (195 dwellings per year assuming 18 years)**.

2.2.1 Dwelling Approvals

In the 10 years to 2017, Council and private certifiers issued approvals for 1,303 dwellings, which is an average of 130 residences per annum. The majority of approvals were for single detached dwellings (820), of which 105 were located in Marulan. Approvals for multi-dwelling housing accounted for 474 dwellings over the same period, all of which were in Goulburn.

During this 10 year period, Goulburn has experienced significant subdivision activity, particularly in the area around Marys Mount. A total of 1,279 lots have been approved under subdivision applications in Goulburn to 2017. Marulan has also experienced growth in the development of land for housing with an additional 82 lots approved to 2017. In the years between 2009 to 2017 (8 Years) 583 lots were approved in Marys Mount in Goulburn alone (72 lots per annum).

Dwelling Approvals – Infill

Analysis of development approvals for Goulburn over the financial years 2014/2015 to 2017/2018 shows that the rate of infill and intensification has been increasing per annum. The redevelopment of existing residential land has increased from 15 dwellings in 2014/2015 to 75 dwellings in 2017/2018. These redevelopments have typically been on underdeveloped large land holdings within the existing urban area. These have been approved for more compact dwellings or a subdivision with community titles to permit a multi-dwelling occupancy of new lots. The redevelopment of land generally correlates with the increasing growth within the Goulburn City.

Table 17 Dwelling Approvals 2007 to 2017

Dwelling Type	Total Number of Dwellings / Lots		
	Goulburn	Marulan	Total
Detached Dwelling*	715	105	820
Dual Occupancy	90	0	90
Secondary Dwelling	24	8	32
Multi-Dwelling Housing	474	0	474
Subdivision	1,279	82	1,361

Data sourced from Council. *Includes large lot residential approvals

Large Lot Residential Demand

Large lot residential lots (also referred to as rural residential) are those lots that are not connected to both reticulated water and sewer.

The overall dwelling approval data has not been sensitised for the split between approvals on 1-2ha large lot residential lots, compared to approvals for serviced residential lots. However, a review of Council data suggests that there is reasonable demand for rural residential development on the fringe of the study area. Within the LGA, rural residential development is typically located in areas zoned R5 Large Lot Residential, RU6 Transition and E4 Environmental Living and with

minimum lot sizes ranging from 2,000sqm to 10 hectares depending on zoning and minimum lot size.

For Goulburn, the majority of recent rural residential development has been on the western and south-western fringe. In the past decade, 290 lots have been created through subdivision of existing properties in this area. Of these, approximately 200 dwellings have been approved or had a development application lodged within two years of lot registration. This represents an approximate uptake of 70 percent and demonstrates a consistent demand for larger blocks on the urban fringe.

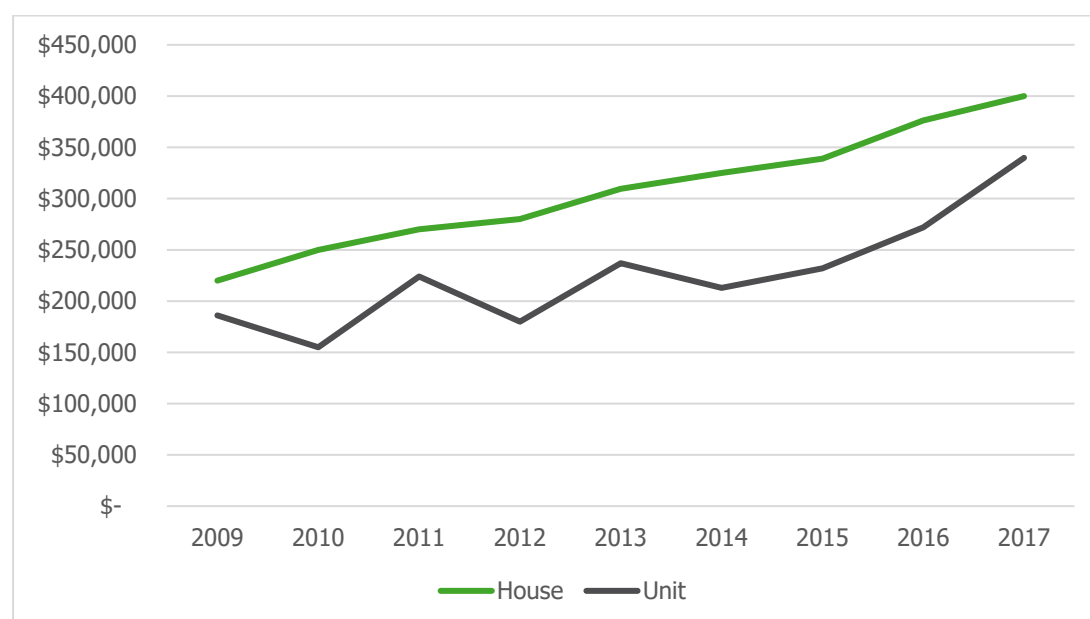
2.2.2 Rents and Property Sales Prices

As of 1 October 2018, the median house sale price for Goulburn NSW (2580) was \$425,000 and the median rental price was \$350 per week (Table 18). For units, the median sale price was \$335,000 and the median rental price was \$245 per week. The median house price has been steadily increasing over the past decade from 2009, doubling in value during this time, as shown in Figure 18. Unit prices have tended to fluctuate, but the overall trend is a similar increase in value, particularly in the past 5 years.

Table 18 Median Property Price of Goulburn

Buy			Rent		
House					
\$425,000			\$350 PW		
2 BR	3 BR	4 BR	2 BR	3 BR	4 BR
\$332,000	\$395,000	\$530,000	\$288 PW	\$350 PW	\$420 PW
Unit					
\$335,000			\$245 PW		
1 BR	2 BR	3 BR	1 BR	2 BR	3 BR
-	\$260,000	\$350,500	\$190 PW	\$240 PW	\$330 PW

Data supplied by RP Data Pty Ltd trading as CoreLogic, and realestate.com.au

Figure 18 Median Dwelling Price of Goulburn 2009 to 2017

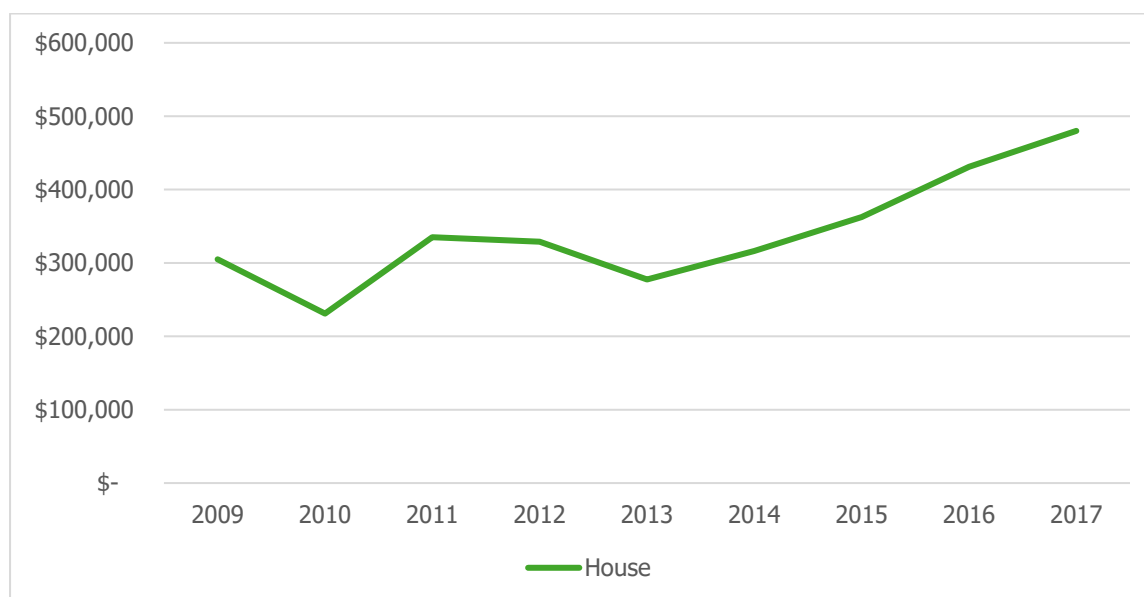
Data supplied by RP Data Pty Ltd trading as CoreLogic

There have been insufficient sales within the last 12 months (less than 10) in Marulan to determine the median property price for various dwelling types. Consultation with Council indicates there has been strong demand in the Marulan market. This is supported by the population increase of 27 percent between 2006 and 2016. Continuing to monitor the growth of Marulan will be key to ensuring that sufficient land remains available for urban expansion.

Table 19 Median Property Price of Marulan

Buy			Rent		
House					
\$460,000			\$390 PW		
2 BR	3 BR	4 BR	2 BR	3 BR	4 BR
-	-	-	-	\$385 PW	-

Data supplied by RP Data Pty Ltd trading as CoreLogic, and realestate.com.au

Figure 19 Median Dwelling Price of Marulan 2009 to 2017

Data supplied by RP Data Pty Ltd trading as CoreLogic for Marulan 2579.

2.2.3 Vacancy Rates

Goulburn and Marulan currently have relatively low vacancy rates. As of September 2018, Goulburn City had a vacancy rate of 1.1 percent. Marulan as of September 2018 had a vacancy rate of 1.6 percent.

The most significant spike in vacancy for Goulburn was in 2015 which corresponds with a spike in approvals. This spike saw vacancy of around 4 percent. Marulan has had a general vacancy of around 5 to 12 dwellings over the past four years.

2.2.4 Social Housing Waiting Times

As of the 30th of June 2017, NSW Family and Community Services reported the number of applicants for social housing to be 286 general and 9 priority in Goulburn.

Waiting times are significant. Of the various property types, studio and one-bedroom properties have the longest wait time of more than 10 years. Two and four plus bedrooms have wait times of between 5 and 10 years and three-bedroom properties have wait times of 2 to 5 years.

This indicates there is a significant lack of public housing in general, and particularly studio and one-bedroom dwellings available within Goulburn. Combined with the increasing number of lone person households, there is expected to be a higher demand for one-bedroom dwellings.

Table 20 Waiting Times for Public Housing in Goulburn

Expected waiting time for studio/1-bedroom property	10+ years
Expected waiting time for 2-bedroom property	5 to 10 years
Expected waiting time for 3-bedroom property	2 to 5 years
Expected waiting time for 4+ bedroom property	5 to 10 years

NSW Family & Community Services 2018

2.2.5 Housing for Particular Needs

In the 2016 Census, 1,545 people within the Goulburn City identified as requiring assistance. The largest cohort were elderly persons aged over 85 which made up 48 percent of the group.

Table 21 Goulburn City Need for Assistance by Age Group

Assistance needed by age group (years)	2011			2016			Change 2011 to 2016
	Number	% of total age group	Goulburn Mulwaree LGA %	Number	% of total age group	Goulburn Mulwaree LGA %	
0 to 4	25	1.8	1.8	3	0.2	1.1	-22
5 to 9	66	5.1	3.9	33	2.4	4	-33
10 to 19	68	2.5	2.2	45	1.8	3.4	-23
20 to 59	373	3.5	3.4	269	2.4	3.4	-104
60 to 64	126	10.3	8.4	73	5.8	7.5	-53
65 to 69	94	8.7	7.5	103	8.8	8.7	+9
70 to 74	91	10.8	10.4	122	11.8	12.4	+31
75 to 79	121	17.5	17.3	108	14.4	16.9	-13
80 to 84	167	27.4	26	154	26.6	25.3	-13
85 and over	262	52.3	50.8	252	48	48.7	-10
Total	1,393	6.6	6	1,545	6.9	6.4	+152

Australian Bureau of Statistics, Census of Population and Housing 2016. Compiled and presented in economy.id by .id, the population experts.

2.3 Housing Supply

Goulburn and Marulan have residentially zoned land available for immediate needs, however, Goulburn is set to exhaust the supply of greenfield residential land within the next 2-5 years if current development trends continue. Both settlements have been analysed for their supply in regard to the current demographic and market trends.

A common misconception is that if land is zoned, vacant and undeveloped, then it is available for immediate development. In practice, this may not be the case. In fact, there is often a 'disconnect' between the amount of zoned land and actual delivery of housing lots.

Land that is rezoned for residential development may not necessarily be delivered to the market. This could be due to a variety of reasons, including planning constraints (e.g. statutory requirements, difficulties with infrastructure provision, fragmentation of ownership, etc.), capacity constraints (e.g. bushfire, flooding, slope and landslip, etc.) and commercial pressures. Each has the potential to severely impede the supply response to demand pressures.

The adequacy of land release is therefore crucial for the supply of housing. From first principles the supply of housing directly impacts the price of housing. A constrained supply of land will drive up landowner expectations making site assembly a high risk and high resource activity for developers. This ultimately increases the cost of development.

Planning controls within the Goulburn Mulwaree Local Environmental Plan 2009 (GMLEP 2009) provide an opportunity for infill development for R1 General Residential and R2 Low Density Residential zoned land. Clause 4.1A allows an exception to the minimum lot size for the subdivision of land for a dwelling, either detached or semi-detached, to create a lot not less than 350sqm. The provision also allows subdivision to create five or more lots with an area of at least 300sqm. R1 and R2 land is the most common zoning of Goulburn, with a corresponding minimum lot size of 700sqm. While infill development is not expected to provide a substantial stream of future housing supply, it does present an opportunity to contain some growth within the existing urban footprint.

Large Lot Residential Supply

Based on the current data, 290 lots have been created in the R5 Large Lot Residential zone in the past ten years in Goulburn. Over this same period, approvals have been granted for 200 dwellings. This indicates that there are at least another 90 vacant lots in the R5 zone. Based on the historic conversion or take up rate (lots to approved dwellings) of 20 per annum, this would suggest around 4.5 years supply of large lots in Goulburn.

Marulan has a much more limited supply of R5 Large Lot Residential zoned land. Supply in Marulan has been driven by demand for standard, serviced residential land, rather than unserviced lots. The constraints to development in Marulan (discussed in more detail later in the Strategy) may contribute to the supply of this form of development.

2.3.1 Current and Planned Housing

As noted above, it is estimated that an additional 3,359 dwellings will be required to meet demand for housing based on anticipated population growth to 2036. If a 10 percent surplus is maintained to provide a buffer to accommodate fluctuation in the market, this could be as high as 3,695.

For the purposes of analysis, the housing demand has been assumed to be midway at 3,500 dwellings (195 dwellings per year assuming 18 years).

Based on the evidence, which includes stronger growth in Marulan than Goulburn and an assumption that at least a proportion of housing will be delivered in the form of large lot residential development on the urban fringe, the forecast demand scenario as to the distribution of the dwelling and land requirements is summarised in the following table.

Table 22 Dwelling Supply Assumptions

Area	No. Dwellings	% of total	Minimum Lot Size	Yield dwellings/ha	Land Requirement (ha)
Goulburn Infill	250	7%	-	12-20	-
Goulburn Serviced Residential	2,435	70%	700sqm	8.5	276
Goulburn Urban Fringe (large lot)	360	10%	1-2ha	0.35	1,029
Marulan*	355	10%	700sqm	8.5	53
Other Rural#	100	3%	-	-	-
Total	3,500	100%		-	1,358

*Marulan has experienced strong growth. There are a number of approvals in place that will yield up to 130 residential lots which is up to 6.5 years supply based on current trends.

#Assumption based on change over time.

Goulburn

Goulburn currently accommodates 13,739 dwellings.¹²

The majority of subdivision and development for housing in Goulburn is occurring on existing zoned land in Goulburn at Marys Mount. This area is currently zoned R2 Low Density Residential with a 700sqm minimum lot size. The zoned land has been largely developed with around 91ha remaining of undeveloped residential zoned land. Of this undeveloped land, approvals are in place for approximately 500 additional lots at Marys Mount. When developed for housing, this represents around two to five years of supply of dwellings.

At present, residentially zoned land is being developed at an average 8.5 dwellings per hectare. If this trend is continued Goulburn will require around 276 hectares of serviced residential land to meet the required demand by 2036.

Taking a conservative approach based on historic approvals data, coupled with the projected change in populations, the LGA will generate demand for an additional 170-195 dwellings per annum. Goulburn is likely to provide the majority of these, historically around 70 percent, with the balance being provided in Marulan with limited amounts provided elsewhere throughout the LGA.

If an assumed 2,435 of the required 3,500 dwellings are provided in Goulburn through greenfield development, around 276 hectares would be required. The higher growth forecast has been used to provide a surplus to ensure there is sufficient urban capable land at any time to provide flexibility to market demands. Sudden shortages can result in price fluctuations which may negatively impact growth. Monitoring of land release and dwelling supply will ensure a steady delivery of land to the market.

¹² ABS Community Profiles 2016.

An additional 250 dwellings could be provided through further urban infill and intensification. The existing urban areas within the existing Heritage Conservation Area and the land surrounding Hume Street should be prioritised for renewal and intensification. This urban land has been transitioning to a more intensive land use pattern and a number of existing opportunities remain. These areas provide high levels of access to amenities and support a walkable catchment to the CBD and services.

Feedback during consultation supported consideration of an increase in residential height controls. This can be undertaken either by strategically identifying key sites, or through broad zoning and height controls. Given the importance of the role heritage plays in establishing the character of Goulburn, and the impact that a higher built form will have on the surrounding development and the main street itself, a more specific urban design and precinct study should be undertaken to guide medium and higher density development in this area. In the interim, retention of the flexibility to integrate infill development through the GMLEP land use table and DCP, for example looking at car parking rates, private open space, orientation and solar access, could further incentivise the redevelopment of this area.

In addition to serviced residential land, Goulburn provides for housing on large lots that are not connected to reticulated water or sewer. It is difficult to determine the relationship between supply and demand for this form of development. Based on the projected changes in the demographic profile to an older population and smaller household sizes, coupled with an average weekly household income below \$80,000 and average house prices around \$460,000, the number of households who could reasonably afford property at the higher end of the market is a small percentage of the total population. However, if 10 percent of housing is to be provided in the form of these larger lots, consistent with historic trends, this would represent 20 lots per annum. Based on a minimum lot size of 2ha, this equates to the need for 1,029ha of land for up to 360 lots between now and 2036.

Marulan

It is expected that Marulan will continue to grow as projected. If an assumed 355 dwellings are required to meet the estimated demand, around 53 hectares of residential zoned land is required. Marulan currently has around 50 hectares of undeveloped residential land, although approximately 30 hectares of this land is constrained by the proximity to extractive and other industries.

Marulan will need to ensure that sufficient land is identified and preserved for future urban residential zoning. Given the constraints to development to the south and west and physical barrier created by the Hume Highway to the east, the land area to the north should be reserved for this purpose. Given positive growth experienced by the town over the past 10 years, it will be important to monitor the take-up of existing urban land. Should Marulan's growth accelerate the area in the north will provide sufficient land for future growth.

To support and encourage further population growth in Marulan a diversity of housing products should be supported. The high demand for large lot lifestyle lots could be provided for in the far north of Marulan. Immediately east of the Hume Highway extending towards Tallong is an area of land identified for large lot residential by Council Resolution 2020/224. Both of these areas would have a minimum lot size of 10 hectares.

2.4 Land Use Opportunities and Constraints

Goulburn and Marulan offer the most logical locations to supply the majority of the LGA's projected growth. These two settlements present a number of opportunities and challenges that need to be understood in order to determine the most suitable locations for future residential development.

As noted in Section 1 Introduction, the study areas have been divided into 24 precincts. This enables a more detailed analysis of the physical and environmental constraints to development as well as the opportunities for housing.

Environmental and physical constraints analysis was undertaken using GIS with data sourced from Council and NSW Government Departments to identify high level constraints in the context of the Strategy area. The constraints considered are listed in the following table and detailed in **Appendix D**. Key constraints have been outlined at a high level for both Goulburn and Marulan to provide an overview.

The constraints that may impact on the orderly release of land for urban development include the following:

Table 23 Key Constraints

Constraint	Application/comment
Topography	Sloping land can be a significant environmental constraint which impacts upon and influences soil erosion, drainage, water quality and bushfire hazard. Just as importantly, it has implications with respects to the provision and capital cost of infrastructure, roads and social services. Slope analysis was used as a mapping tool to identify topographic constraints and shows that the majority of the study boundary for Goulburn and Marulan is unaffected by slope greater than 18 percent. The eastern boundary of the Goulburn study area has the steepest slopes, as well as the northeast corner.
Flood Prone Land	<p>Flood prone land presents a significant constraint to development as it has implications with respect to safety, the capital cost and provision of infrastructure, roads and the location of highly sensitive land uses such as schools and aged care facilities (due to evacuation).</p> <p>The flood planning level has traditionally been the 1%AEP (a flood event with a 1 in 100 chance of occurring in any given year). Given the changing climate and potential impacts on catchment hydrology, it is prudent to consider the Probable Maximum Flood (PMF) when assessing the suitability of sites for different land uses. PMF is particularly relevant when considering sensitive uses. Risk factors such as evacuation routes are also important planning considerations, as an area of land may be isolated by floodwaters even though it is not inundated.</p> <p>The Goulburn flood map (within the LEP) is generally consistent with the <i>Wollondilly and Mulwaree Rivers Flood Study 2016</i>. This study provides a thorough explanation of flood planning considerations and has been used to determine the physical constraints for Goulburn in the 1%AEP flood event.</p>

Constraint	Application/comment
	<p>The flood maps and the <i>Wollondilly and Mulwaree Rivers Flood Study 2016</i> clearly articulate the flood impacts for Goulburn. Areas east of the rail station are the most effected. All land which interfaces with the main water bodies should be avoided or carefully considered if proposed for residential development.</p> <p>Council has engaged GRC Hydro to prepare a <i>Flood Plain Risk Management Plan for Goulburn</i> including overland flow flooding. The overland flow assessment was not available during the Housing Strategy preparation however, will be considered in subsequent stages of the development process.</p>
Watercourses	<p>Watercourses throughout the Goulburn and Marulan investigation areas have been mapped according to the Strahler System of ordering watercourses. Classification under this system determines the width of riparian buffer required, and is explained in the ELA report at Appendix E.</p> <p>Regardless of watercourse classification, a buffer of 100m is required from any on site effluent system to any watercourse within the Sydney drinking water catchment. This poses a constraint to large lot residential (un-serviced lots) land use in some fringe precincts, particularly South Marulan, Brisbane Grove and Mountain Ash (refer to individual precinct summaries).</p>
Sydney Drinking Water Catchment (SDWC)	<p>Almost all of Goulburn Mulwaree LGA is within a SDWC. A map of the SDWCs can be found at: https://www.waternsw.com.au/data/assets/pdf_file/0004/55975/Fact-sheet-and-map-Sydney-drinking-water-catchments.pdf</p> <p>Development must have a neutral or beneficial effect (NorBE) on water quality as per SEPP (Sydney Drinking Water Catchment) 2011.</p> <p>WaterNSW has developed strategic land and water capability assessments (SLWCA) for land in the catchment. Factors such as slope, soil erodibility, permeability and depth, distance to watercourse and vegetation cover are assessed to determine land and water capability for different land use types. Refer to Appendix D for further information on SLWCA mapping.</p> <p>Key constraints to residential land use are:</p> <ul style="list-style-type: none"> » Land management – including proper storage and disposal of chemicals and pesticides, control of weeds and pest animals, maintaining groundcover to prevent erosion, and protection and restoration of native vegetation. » Stormwater – including water sensitive design during and post construction to prevent sediment and other contaminants entering waterways. » Wastewater – including on-site treatment and disposal systems. These require a 100m buffer to watercourses.

Constraint	Application/comment
Biodiversity	<p>These constraints are particularly applicable to large lot residential land use. Poorly maintained 'rural-res' can also negatively affect adjoining farmland.</p> <p>The main objective of identifying sensitive biodiversity is to maintain terrestrial biodiversity by protecting native fauna and flora whilst encouraging the conservation of habitats. Biodiversity has already been recognised by Council as a significant constraint to development.</p> <p>The data used for biodiversity in the constraints mapping is in three forms:</p> <p>High Environmental Value (HEV) – this is the data provided by the Office of Environment and Heritage (OEH). HEV data has not been validated for all the precincts.</p> <p>Ecological Australia (ELA) Validated Vegetation - The accuracy of the HEV mapping was questioned during the first Public Exhibition. As a result, OEH and ELA undertook a targeted rapid visual validation in specific areas within the urban fringe observable from public roads.</p> <p>Threatened Ecological Communities (TEC) – ELA identified and validated a number of Endangered Ecological Communities (EEC) and have also mapped these areas.</p> <p>OEH have advised that biodiversity constraints for any greenfield release areas need to be validated, as further constraints that are not obvious without field validation may be present. Additional validation is required by the proponent to inform the preparation of a planning proposal.</p> <p>The work undertaken by ELA is included in Appendix E.</p>
Strategic Agricultural Land and Land and Soil Capability	<p>Agriculture is an important land use within the region contributing significantly to regional economic performance.</p> <p>The constraints mapping identified a parcel of Biophysical Strategic Agricultural Land (BSAL) identified under the <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>. The land affected runs from the Wollondilly River, north across Chinamans Lane to Crookwell Road.</p> <p>Advice from DPIE confirms that the BSAL mapping applies only to development considered under the SEPP.</p> <p>However, the BSAL is based on the underlying land classification mapping provided by the Office of Environment and Heritage and available for the whole of NSW. The specific land is Class 3 being in the highest category (classes 1-3) land capability mapping. Wherever possible this land should be retained for agriculture.</p>
Existing and Potential Mineral Resource Areas	<p>Extractive industries are an important land use within the region, particularly for Marulan.</p> <p><i>A Mineral Resource Audit of the LGA</i> (Geological Survey of NSW, 2015) identified three types of referral areas:</p> <ul style="list-style-type: none"> » Identified Resource Area (active resource extraction) » Potential Resource Area (potential future extraction)

Constraint	Application/comment
	<p>» Transition Area (adjacent to Identified Resource Area)</p> <p>The primary constraints to residential development are the Kingsdale Potential Resource Area (west and north of Goulburn) and the Lynwood Quarry and the associated Transition Area (immediately west of Marulan town).</p> <p>Development within these areas could adversely affect or be affected by current and/or future resource development operations. It is noted that mineral resource extraction at Kingsdale is unlikely to be supported by Council in close proximity to the Sooley Dam. Therefore, residential development at the eastern extent of this potential resource area may not be precluded by this constraint in the long term.</p> <p>The <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i> requires a compatibility test to be undertaken by Council planners when assessing any proposed development in the vicinity of existing mines, quarries and petroleum production facilities or resources identified as being of state or regional significance.</p> <p>Any proposed zoning changes or developments that may prohibit or restrict current and/or potential future operations in these areas should be referred to the Resources & Energy Division of NSW Trade & Investment.</p>
Bushfire	<p>In planning for the release of land for urban development purposes, it is important to take into account the potential threat from bushfire. Bushfire hazard can be a major constraint to future residential development given the likelihood for bushfire risks. The vegetation type, topography and overall slope of the land determines the level of bushfire hazard.</p> <p>The Rural Fire Service (RFS) has released updated bushfire mapping now included in Appendix D. It is noted that all of the land outside the urban areas is bushfire prone.</p>
Aboriginal Cultural Heritage	<p>All areas indicated for development should refer to the Goulburn Mulwaree LGA <i>Aboriginal Heritage Study 2012</i> to understand site specific heritage matters. As with other detailed assessment requirements, heritage assessments will need to be prepared prior to development of land.</p>
European Heritage	<p>Heritage is an important part of the urban fabric of Goulburn. In 2018 a review of the 1983 <i>Heritage Study</i> was completed. The GMLEP includes Heritage Conservation Areas (including in the Goulburn City Centre) and individual Heritage Items. Any development in the Conservation Areas or in the vicinity of a Heritage Item must consider the potential impact on heritage.</p>
Key Existing Land Use	<p>A number of key land uses and/or mineral resources have been identified as constraints to future urban development. These include:</p> <p>Goulburn Rifle Range</p>

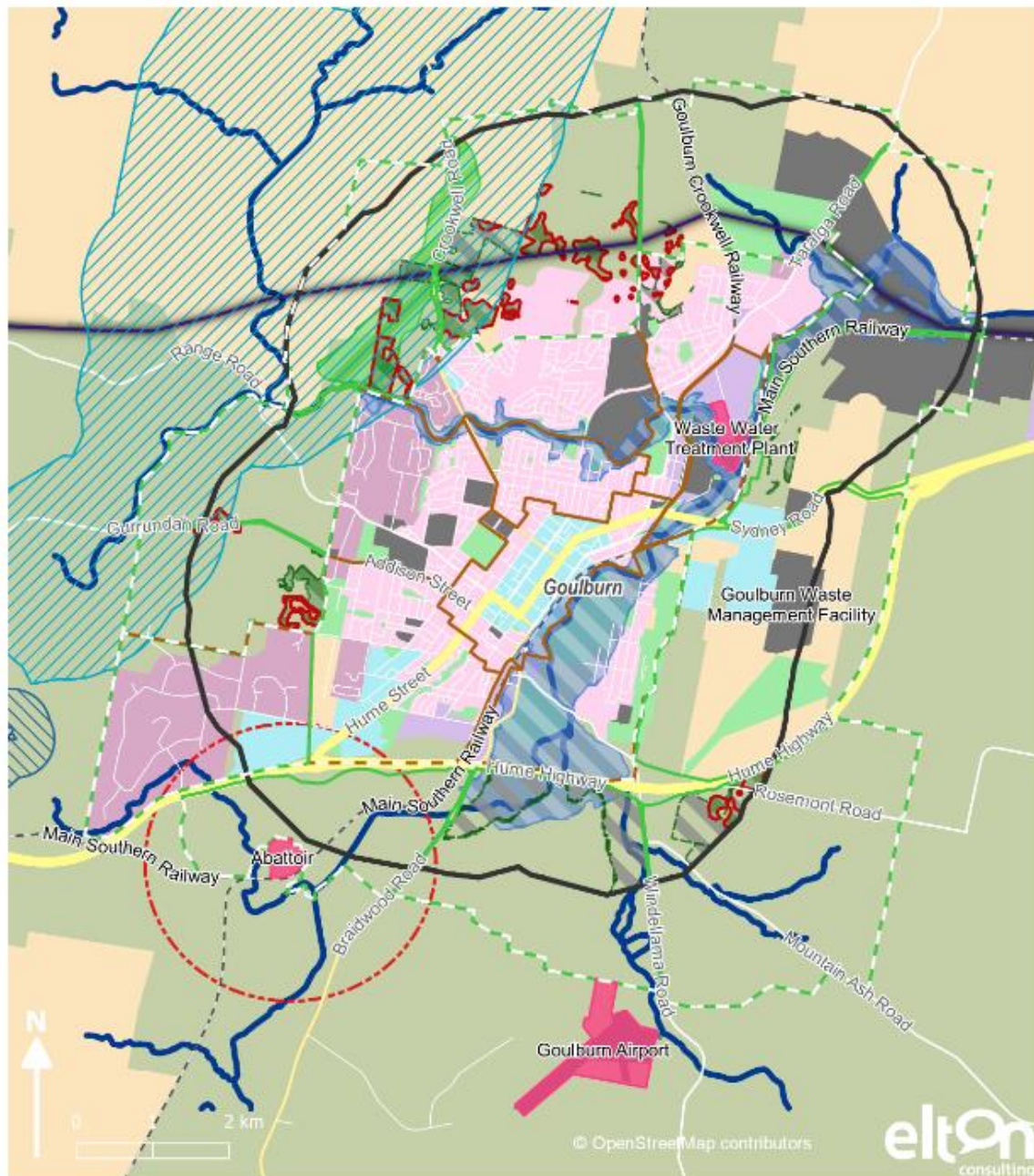
Constraint	Application/comment
	Wakefield Park Raceway
	Abattoir (Southern Meats Pty Ltd)
	Goulburn Airport
	Sewerage Treatment Plants at Goulburn and Marulan
	Waste Management Facilities at Goulburn and Marulan
	Intensive Agricultural Development at Marulan
	Gas Pipeline and High Voltage Transition lines
	Hume Highway
	Mineral Resources and Extractive Industries
	Haulage Routes for extractive development
	Police Driver Training Centre
	Goulburn Speedway and Motorcross
	In some instances, these constraints require a buffer, which would trigger an additional level of development assessment for certain development. There will be circumstance where the buffer will be an exclusion for certain uses.

The key constraints have been overlayed on the Goulburn and Marulan maps as shown in the following Figures.

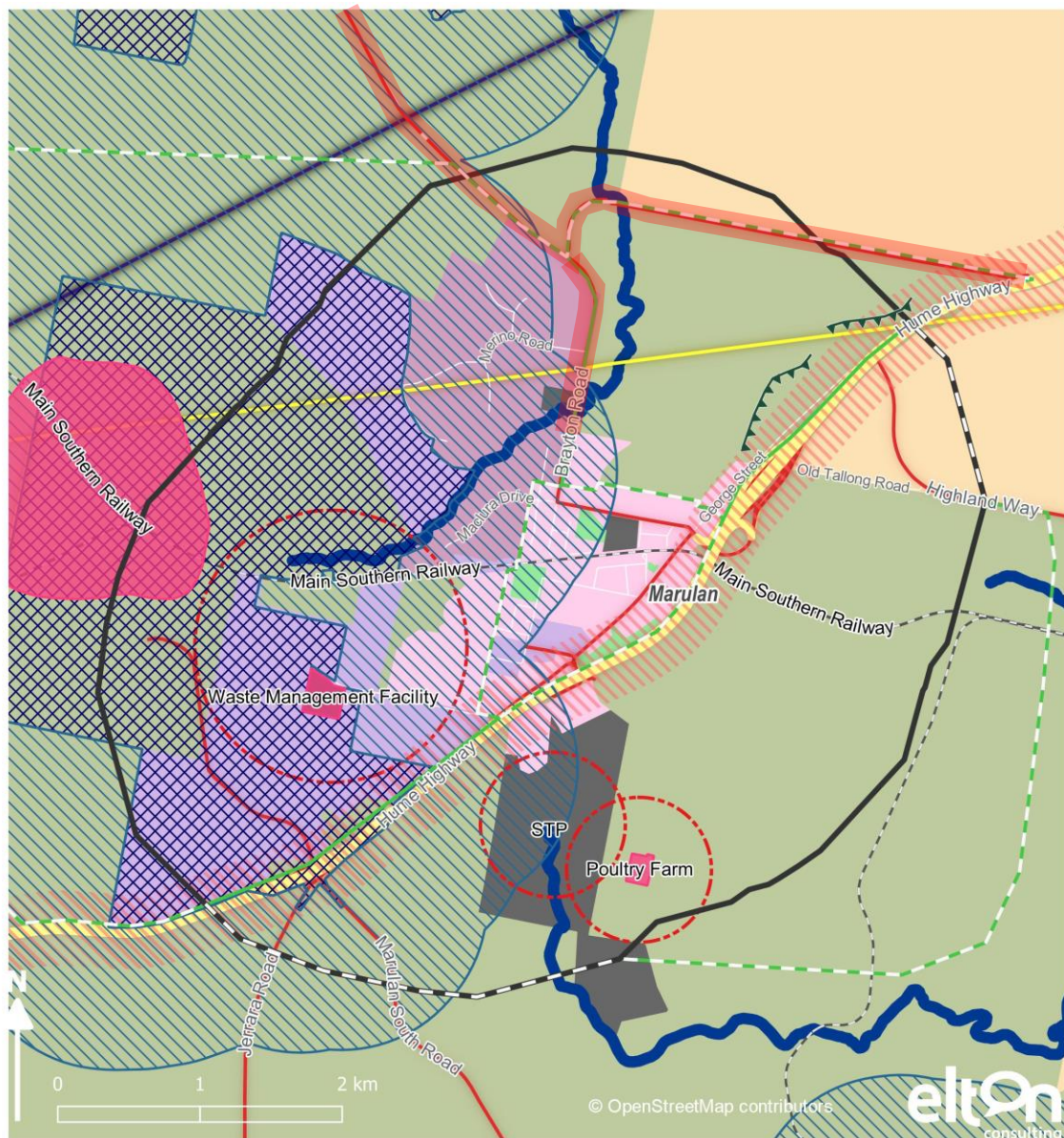
The draft Strategy included a section outlining the key constraints. This has been updated and can be found at **Appendix D**.

Constraint Maps

The key constraints for Goulburn and Marulan are identified in the following Figures.

Figure 20 Goulburn Constraints**Legend**

Land Zoning	Constraints buffers	ELA Vegetation
Urban area	Land use constraints	TEC
Business area	Flooding	Other Vegetation (ELA)
Non-urban environmental protection	Riparian buffers	Validated (ELA)
Non-urban environmental protection	4th order (40m)	Gas pipeline
Light Industrial	Strategic agricultural land	Mines and quarries
Rural residential		Transition Area
Infrastructure		
Rural area		
Infrastructure		

Figure 21 Marulan Constraints**Legend**

Land Zoning	Constraints buffers	Gas pipeline
Urban area	Land use constraints	Mines and quarries
Non-urban environmental protection	Riparian buffers	Transition Area
Urban area	4th order (40m)	Ridge line
Rural residential	250m from Hume Highway	Haulage route and 250m buffer
Public Recreation	Electricity transmission line	
Rural area		
Infrastructure		

2.4.1 Water and Sewerage Supply

The population and economy of Goulburn Mulwaree continues to grow placing increasing demands on water supplies. With the addition of the Highlands Source Pipeline to the existing Pejar Dam and Sooley Dam sources, a long term secure supply is available to accommodate the anticipated growth in Goulburn over the life of the Strategy. The water supply for Marulan is via extraction under licence from the Wollondilly River and is satisfactory to supply reticulated water as the town grows.

While there are no identified capacity constraints to the supply of water for development, the cost of servicing new release areas is dependent on the proximity to existing mains and the point at which the new infrastructure will connect to the mains network. Topography also impacts the water and sewer serviceability, particularly areas with steep terrain. Detailed infrastructure design and assessment will need to be undertaken to support the extension of either water or sewer services in Marulan and Goulburn.

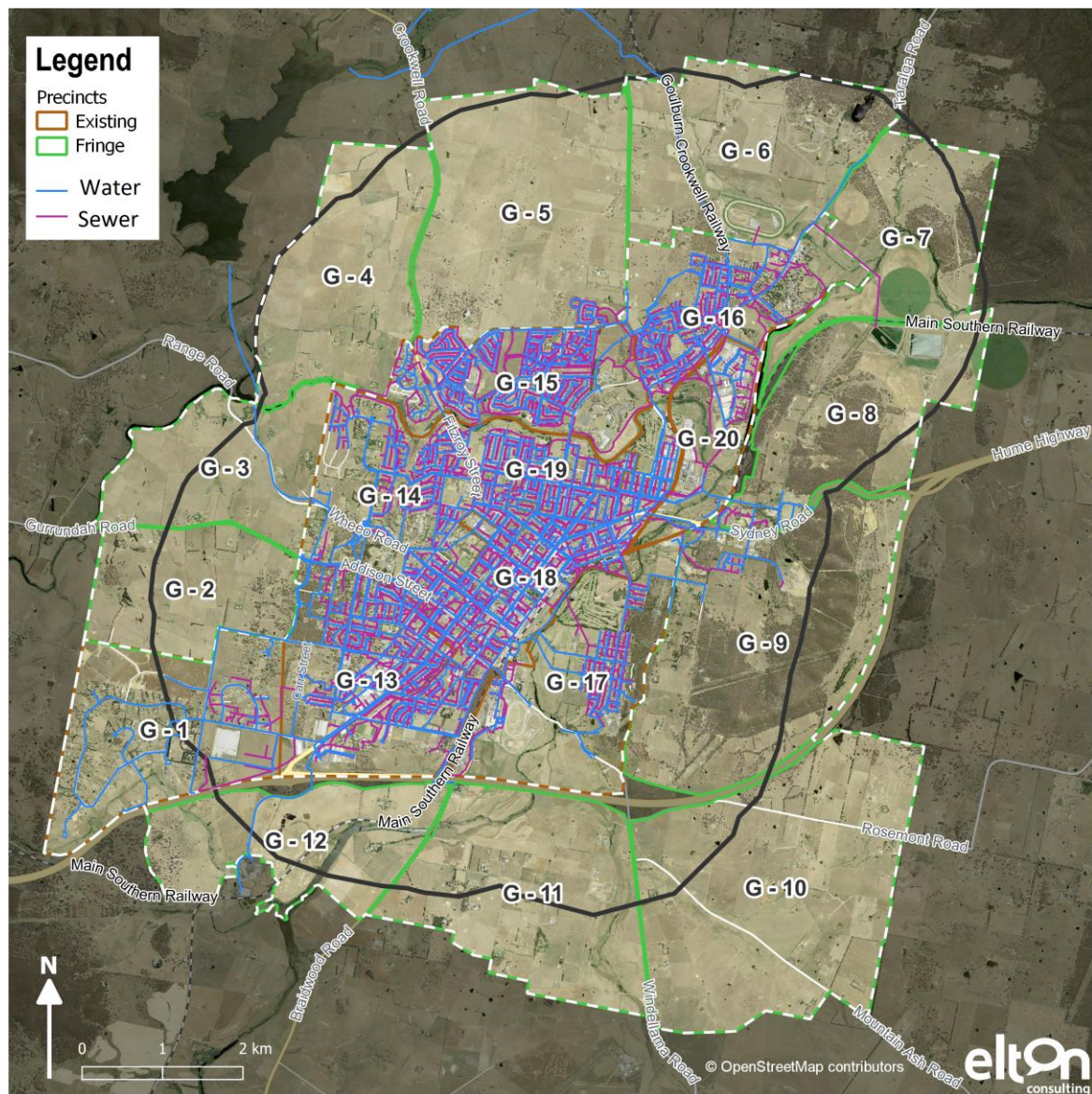
Council has recently upgraded the Goulburn Sewerage Treatment Plant to accommodate up to 30,000 equivalent persons (EP) with capacity to 40,000 EP with augmentation.

An upgrade concept plan for Marulan Sewerage Treatment Plant has recently been prepared with completion of the upgrade scheduled to occur within the next five years ensuring on-going capacity in the network to accommodate anticipated future growth in the town.

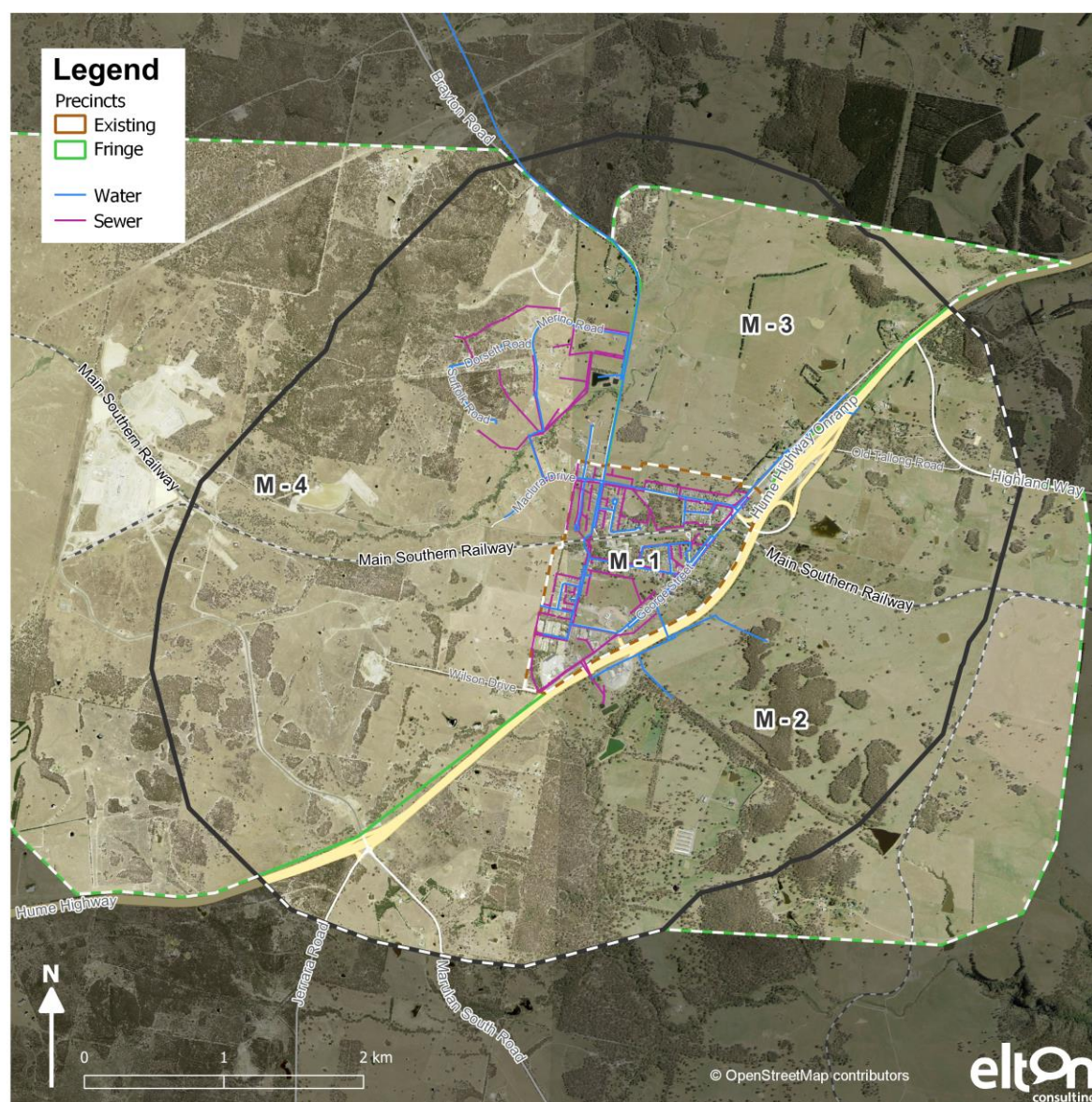
The capacity of the water and sewer infrastructure is considered in more detail at the precinct level based on information provided by Council engineers. Further network analysis is necessary to determine the relativity of servicing constraints, particularly between west Goulburn (simpler for water, more difficult for sewer), north Goulburn (more difficult for water, simpler for sewer) and South Goulburn (both water and sewer constraints).

The extent of the existing networks is illustrated in the following Figures.

Figure 22 Goulburn Water and Sewerage Network



Goulburn Mulwaree Council GIS data.

Figure 23 Marulan Water and Sewerage Network

Goulburn Mulwaree Council GIS data.

2.5 Application of the Evidence Base

The analysis and application of the evidence base has been undertaken at precinct level. As identified in Section 1 Introduction, the study area has been divided into a number of individual precincts. These are broadly grouped as being Goulburn Urban, Goulburn Fringe and Marulan.

The primary objective of the Strategy is to identify land that is both capable and suitable for the delivery of serviced residential land for housing.

The LGA is dominated by single detached dwellings, this is particularly the case in Marulan. The population and demographic data tends to indicate that there will likely be a need for a mix of dwelling typologies to be delivered over the next two decades. Goulburn is already seeing an increase in higher density development close to the City Centre. This form of infill development, close to services and transport should be encouraged. However, like all residential development, it is not without constraints, in particular the Heritage Conservation Area.

The initial round of consultation undertaken by Council and the subsequent public exhibition highlighted the desire within the community for a supply of large lot residential land for housing. The most inefficient form of residential development in terms of the demand on land resources, it is none the less part of the peri-urban character of Goulburn.

Land Capability

Land capability, for the purposes of this Strategy is that land that could accommodate some form of housing. This might be serviced residential land or it could be large lot residential.

Land Suitability

It does not follow that all land that is capable of being developed is also suitable for development. The constraints mapping discussed above allows for a particular area to be identified as suitable to meet the housing needs of the LGA.

Protection of Future Urban Land

One of the key issues arising from the evidence base is the limited availability of suitable areas for urban residential land release due to the existing constraints in both Goulburn and Marulan. Both settlements are highly constrained to the east and south and in the case of Marulan also the west.

The GMLEP already includes an RU6 Transition zone, the objective of this zone is to provide a transition between the urban and rural land uses. Much of this land has also been identified as some of the land less constrained and therefore better suited for urban development. In any interface between urban and rural land, managing land use conflict will be key.

2.5.1 Criteria for Identification of Greenfield Sites

The identification of greenfield sites for future development is key to the Strategy given that over 2,000 dwellings will need to be accommodated by 2036. In essence, the focus on land identification for serviced residential land was:

- » The ability to provide housing that meets the needs of the population
- » Focus on areas that have capacity in existing infrastructure and align with efficient and economical infrastructure delivery

In addition to constraints mapping, consideration has been given to objectives and principles consistent with the strategic and statutory context of each settlement including the proximity to the city or town centre, the rail station, the Hume Highway as a physical constraint, compatibility of surrounding zones and land uses (particularly in the southern areas around Goulburn). These criteria are outlined below and were used to inform the focus and consideration of land suitable for urban expansion as part of the Strategy.

Location

- » the site is within the area identified for urban expansion in the Housing Strategy adopted by Council
- » the site location supports a logical and contiguous development with the existing settlements of Goulburn and Marulan.
- » the site is within the urban fringe identified by the Housing Strategy
- » the site can be connected to water and sewer infrastructure
- » the site has minimal or limited impact on matters of biodiversity or heritage
- » the site will not result in the fragmentation of biodiversity corridors
- » the site is not identified as being subject to flooding
- » the proposal will preserve and enhance riparian corridors as open space networks and utilise for active travel connections. Development around riparian corridors is to be in accordance with the guidelines for waterfront land defined by the NSW Office of Water DPI
- » avoid residential development on the southern/eastern side of the Hume Highway
- » the proposal considers the requirements of Primary Production and Rural Development SEPP

Housing

- » housing contributes the required demand identified in the Housing Strategy for the Goulburn Mulwaree LGA
- » the proposal delivers appropriate housing to meet the demographic needs of the region
- » development reinforces and enhances any existing residential character
- » development will contribute housing affordability, choice and diversity appropriate for the anticipated demographic profile of the LGA

Use

- » development will not result in land use conflicts particularly with agriculture and primary industries
- » minimise disturbance or conflict with State Significant Quarry Areas and haulage routes.

2.5.2 Previously Identified Sites

As part of the development of the Strategy, consideration has been given to 38 individual requests for land to be rezoned since 2009. These included Planning Proposals that were considered and deferred by Council and representations in submissions and letters.

In the first instance the sites were mapped and a set of criteria were established to provide an assessment tool by which sites could be considered. Most of these sites occurred within or close to the urban fringes of Goulburn and Marulan, however, the majority were seeking a land use zone that would allow subdivision for lifestyle lots, un-serviced and having an area of 2ha or more. The criteria identified above were also included in the assessment of 38 sites previously identified.

Although the initial scope of the Strategy addressed urban land and the supply of additional land for residential purposes on the fringe of the urban areas of Marulan and Goulburn, it is evident that larger lots close to Goulburn provide an important element of housing diversity.

Proposals which fall outside this area were not considered for any form of residential development, however Council could consider additional criteria that would need to be addressed prior to Council considering a Planning Proposal.

Identification and assessment of each of these sites was undertaken as part of the Housing Strategy process. The original Site Assessment document forms part of the Consultation Report under separate cover. It should be noted that in some instances some of these sites have been reconsidered in individual precinct analysis. In circumstances where specific issues with the Key Sites were identified in submissions received during the public exhibition, these have also been addressed in the Consultation Report.

2.5.3 Framework for Considering Future Planning Proposals

The above criteria should also be adopted by Council to provide clear direction for determining whether a planning proposal for residential development may have merit. Specifying such criteria permits flexibility for Council to respond to unforeseen issues or opportunities over the life of the Strategy.

As Council monitor the delivery of housing to Goulburn and Marulan it may become evident there is a shortfall. Additionally, there may be significant unforeseen barriers to development that are beyond the scope of this Strategy.

Additional Criteria for R5 Large Lot Residential Development

In addition to addressing the Ministerial Directions and information required to be provided in a Planning Proposal as set out by the Department of Planning and Environment in the Guideline to Preparing Planning Proposals, the following criteria must be applied for identification of R5 Large Lot Residential Development.

- » The development is identified in the Strategy as an opportunity area for Large Lot Residential Development
- » The development will not undermine future residential land opportunities. It should be located on land that is not, or unlikely to be suitable for general residential land at some point in the future.
- » The development can be managed to avoid land use conflict. Large Lot development should have regard to the surrounding agricultural land use and must provide a buffer to agricultural land.
- » The site is unconstrained by flooding, as it is above the flood planning level of the 1 in 100 ARI. The area is not affected by flooding and has unconstrained flood free access out of the property and/or locality.
- » The lots can be connected to the existing road network by sealed road access. The area can be connected to the existing sealed road network by sealed road access and is fully serviced by a sealed road.
- » The resulting residential development will not adversely impact on the groundwater system. Any development, and in particular un-serviced development, needs to demonstrate that it will not adversely impact on the groundwater system.
- » The need for the additional lots can be justified in terms of supply and demand

- » The site be managed to reduce bushfire hazard and provides for evacuation in accordance with the NSW Planning for Bushfire Protection Guideline.
- » The development should avoid class I-III agricultural land and avoid Important Agricultural Land (subject to mapping being completed for the LGA)
- » The development will have access to a sustainable water supply. The proposed lot must demonstrate the provision of a sustainable water supply. A sustainable water supply can be achieved by various means including the provision of reticulated water, roof water catchment or accessing water from a river, lake or aquifer in accordance with the Water Management Act 2000. Department of Primary Industries – Water 'How much water do I need for my rural property' provides one methodology to calculate a required supply.

2.5.4 Housing Supply Gaps

The current housing stock is typically 3-4 bedroom single detached dwellings. This lack of diversity of housing typologies has already led to issues including:

- » choice and housing affordability
- » suitability of housing for older people to down size
- » limited opportunity to age in place, and
- » difficulties for first home buyers looking to enter the market at a lower entry point

The Strategy includes some priorities in relation to addressing these gaps in Section 4 and implementation in Section 5.

2.5.5 Building Typologies

Housing typology in the LGA lacks diversity, with single detached dwellings on larger lots being the dominant form of housing.

A range of housing types and sizes help to ensure people can more readily meet their housing needs throughout their lifecycle, remaining in the area where they have existing networks. This mix contributes to the social vibrancy and character of towns and cities.

To continue to meet the needs of the existing and future community, the Council will need to ensure a greater range of housing types in different built forms is encouraged and developed.

Through the constraints and opportunities analysis, including environmental constraints such as flooding, biodiversity, and proximity to the town or city centre make some areas more suitable than others.

For example, within identified and future Heritage Conservation Areas, the likely increase in residential options will predominantly come from sensitive alterations and additions; secondary dwellings; and potentially dual occupancies.

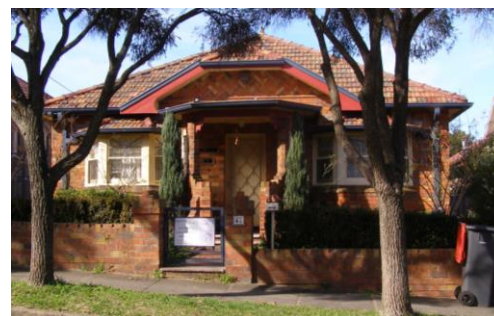
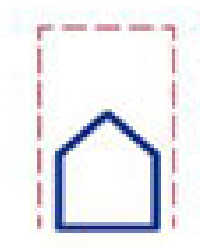
In and around the Goulburn City Centre higher density development is considered more suitable in the form of low rise residential flat buildings, shop top housing and mixed use developments, tapering down to manor houses, villas and townhouses, and single dwellings.

The number of laneways in the existing urban precincts in Goulburn presents an opportunity to support dwellings with access at the front and rear of these lots.

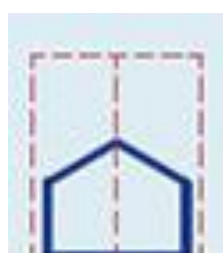
The following Table details examples of the low, medium and high density building typology options.

Table 24 Dwelling Typologies**Single dwellings**

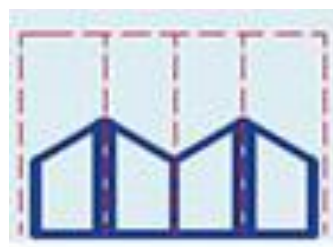
A detached building containing only one dwelling

**Two attached dwellings**

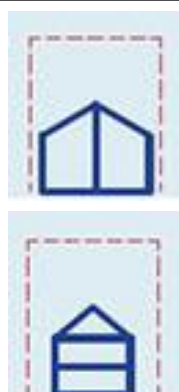
One building with two attached dwellings

**Terraces**

Three or more attached dwellings which have a frontage to the street

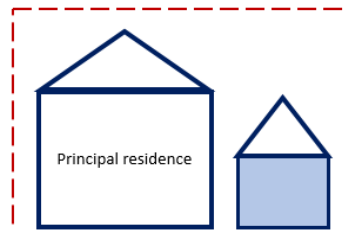
**Dual occupancy**

Two dwellings on one lot of land that are either attached to each other or detached, but does not include a secondary dwelling

**Secondary dwellings**

A self-contained dwelling that:

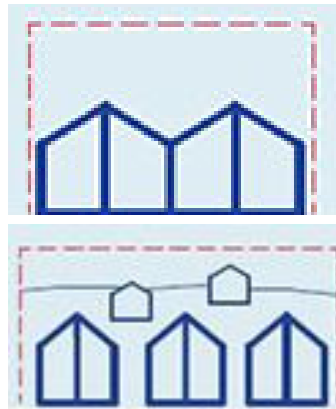
- (a) is established in conjunction with another dwelling (the principal dwelling), and
- (b) is on the same lot of land as the principal dwelling, and
- (c) is located within, or is attached to, or is separate from, the principal dwelling.



Multi-dwelling houses (terraces or townhouses and villas)

Three or more dwellings on one lot of land where:

- » each dwelling has access at ground level
- » no part of a dwelling is above any part of any other dwelling, and,
- » dwellings face and generally follow the alignment of one or more public roads.



Manor houses

A building containing 3 or 4 dwellings, where:

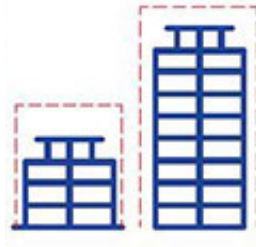
- » Each dwelling is attached to another dwelling by a common wall or floor, and
- » At least 1 dwelling is partially or wholly located above another dwelling, and



- » The building contains no more than 2 storeys (excluding any basement).

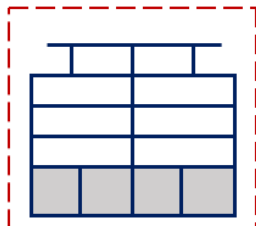
Residential flat buildings

A building containing 3 or more dwellings, but does not include an attached dwelling or multi-dwelling housing



Shop top housing

One or more dwellings located above ground floor retail premises or business premises



Source: Department of Planning and Environment, 2017 'The Low Rise Medium Density Design Guide'

The *Standard Instrument LEP 2018* (NSW) defines other important types of residential accommodation as follows:

Boarding houses

A building that:

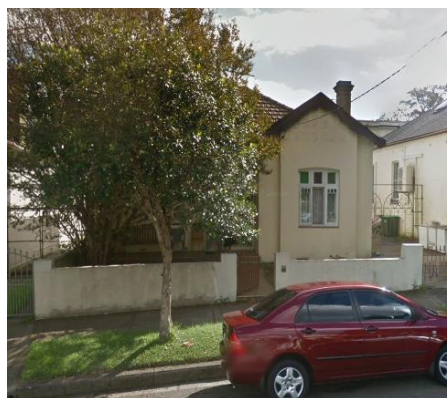
- (a) is wholly or partly let in lodgings, and
- (b) provides lodgers with a principal place of residence for 3 months or more, and
- (c) may have shared facilities, such as a communal living room, bathroom, kitchen or laundry, and
- (d) has rooms, some or all of which may have private kitchen and bathroom facilities, that accommodate one or more lodgers, but does not include backpackers' accommodation, a group home, hotel or motel accommodation, seniors housing or a serviced apartment.



Group home

Means a dwelling:

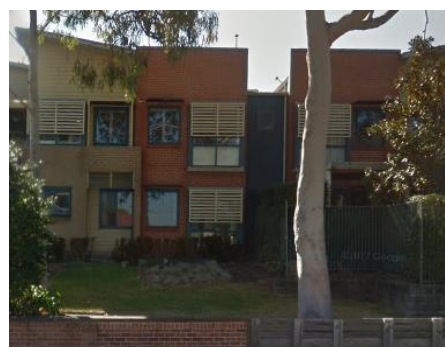
- (a) that is occupied by persons as a single household with or without paid supervision or care and whether or not those persons are related or payment for board and lodging is required, and
- (b) that is used to provide permanent household accommodation for people with a disability or people who are socially disadvantaged, but does not include development to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.



Seniors housing

A building or place that is:

- (a) a residential care facility, or
 - (b) a hostel within the meaning of clause 12 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, or
 - (c) a group of self-contained dwellings, or
 - (d) a combination of any of the buildings or places referred to in paragraphs (a)–(c),
- and that is, or is intended to be, used permanently for:
- (e) seniors or people who have a disability, or
 - (f) people who live in the same household with seniors or people who have a disability, or
 - (g) staff employed to assist in the administration of the building or place or in the provision of services to persons living in the building or place, but does not include a hospital.



Source: *Standard Instrument LEP 2018* (NSW)

2.5.6 Capacity of the Land Use Controls

The GMLEP includes two primary residential zones; R1 General Residential and R2 Low Density Residential. The GMLEP also includes an R5 Large Lot Residential zone which typically applies to rural residential and lifestyle lots with a range of lot sizes. In Goulburn, this land is to the west and in Marulan to the north. The GMLEP also includes minimum lot sizes for subdivision for the erection of a dwelling in these zones, both set at 700sqm. As highlighted earlier, the GMLEP also includes provisions to encourage diversity in residential accommodation through clause 4.1A.

The GMLEP also applies the RU6 Transition zone, this zone skirts the urban fringe areas of both Goulburn and Marulan and is provided to protect these areas from fragmentation and manage the interface between the urban and rural land uses. This land does not contribute to the current residential land supply.

Typically, a review of the capacity of the existing housing controls includes identifying the opportunity for infill development on vacant residential land and the potential for further subdivision on land zoned for residential development, in the case of Goulburn and Marulan R1 General Residential and R2 Low Density Residential.

As identified above, there is limited opportunity in Goulburn to deliver more than around **five years of supply on currently available zoned land**. Marulan, by contrast has a sufficient supply of land available for development in the short to medium term.

In terms of infill, the market does not act in the same manner in regional areas as is the case in the metropolitan centres where greenfield land resources are scarcer, highly constrained and costly to deliver. Infill development is driven by land value, access to transport and community infrastructure and the ability for significant uplift. Therefore, while there remains capacity in the planning controls to accommodate a significant amount of higher density infill development, making assumptions as to the take up of this is difficult.

Goulburn has seen a steady increase in multi-dwelling housing and in particular a number of developments in close proximity to the city centre. Such development is facilitated, to a significant degree, by the broad nature of the permissible uses allowed within the R1 General Residential zone and also clause 4.1A (refer **Appendix C**).

The objective of clause 4.1A is to encourage housing diversity without adversely impacting on residential amenity and targets attached and semi-detached housing on smaller lots. Despite the minimum lot size of 700sqm the clause allows subdivision to create lots to 300sqm.

While the provisions of clause 4.1A provide flexibility in the R1 General Residential zone, they apply equally to the R2 Low Density Residential zone. In fact, there is very little difference - aside from an objective in the R2 Low Density Residential and the addition of Retail Plant Nurseries and Residential Flat Buildings as permissible uses in the R1 zone and excluded in the R2 - the two zones are identical.

The R5 Large Lot Residential zone provides for larger dwellings on larger, typically un-serviced lots and range in size from 2,000sqm on the western fringe of Goulburn around Wheeo Road and increasing to 2 hectares in the area around Ducks Lane. In Marulan, the minimum lot size in the R2 land around Merino Road is 2,000sqm. This land is fully serviced and despite the minimum lot size, lots are typically 1-2 ha.

An overview of the residential zones and their corresponding objectives are highlighted below. A comparison of the land use tables between the three residential zones is provided in **Appendix C**. It is important to note that there is little that differentiates the R1 and R2 zones in terms of land use and minimum lot size. Rather, the zoning represents only the differentiation between the older part of the Goulburn urban area and the more recently developed land around Marys Mount.

Given the opportunities identified in terms of in-fill development closer to the centre of the city, coupled with greater opportunity for redevelopment of older housing stock, consideration should be given to providing greater definition between the zones through amendments to the GMLEP land use tables and local provisions.

R1 General Residential Zone

This zone is applied to the central and older parts of Goulburn with the Wollondilly River acting as the physical edge of the zone in the north. The residential area of Marulan is zoned R1 General Residential with R5 Large Lot Residential to the north.

The objectives of the zone include:

Objectives of Zone

- » to provide for the housing needs of the community
- » to provide for a variety of housing types and densities
- » to enable other land uses that provide facilities or services to meet the day to day needs of residents
- » to maintain the economic strength of commercial centres by limiting the retailing of food and clothing.

The minimum lot size for the erection of a dwelling in the R1 zone is 700sqm. Additional provisions apply that enable smaller lots to be created using dual occupancy, multi-dwelling housing and strata title controls as well as clause 4.1A of the GMLEP (Refer **Appendix C**).

R2 Low Density Residential Zone

As noted above, the Low Density Residential zone is almost identical in its objectives and land use table to that of the R1 General Residential zone.

Objectives of Zone

- » to provide for the housing needs of the community within a **low density residential environment**
- » to enable other land uses that provide facilities or services to meet the day to day needs of residents
- » to maintain the economic strength of commercial centres by limiting the retailing of food and clothing.

The minimum lot size for the erection of a dwelling in the R2 zone is 700sqm. Additional provisions apply that enable smaller lots to be created using dual occupancy, multi-dwelling housing and strata title controls as well as clause 4.1A of the GMLEP in the same manner as they apply to the R1 zone (Refer **Appendix C**).

R5 Large Lot Residential Zone

The Large Lot Residential zone, again, has a similar land use table to the other residential zones, although typically provides for larger dwellings on larger blocks of land.

Objectives of Zone

- » To provide residential housing in a rural setting while preserving environmentally sensitive locations and scenic quality.
- » To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.

- » To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- » To minimise conflict between land uses within this zone and land uses within adjoining zones.
- » To facilitate and promote an increased range of residential opportunities by providing for low intensity residential development compatible with the rural characteristics of the locality.
- » To encourage subdivision of land that is consistent with the constraints and opportunities of the land.

Despite being an inefficient land use, this form of development is not uncommon in regional areas. The Minimum Lot Size for land in the R5 zone ranges from 2,000sqm to 2ha.

Section 3 – Precincts

3 Precinct constraints and opportunities

As identified in Section 1, in order to enable the consideration of both Goulburn and Marulan in sufficient detail, the study area has been divided into precincts.

A snapshot has been prepared for each precinct and includes a description, key character and planning controls, constraints and opportunities and key recommendations.

Residential development opportunities have been identified in some precincts. Development opportunities include the area that is considered most suitable for either serviced residential development or large lot residential development.

Serviced residential development opportunities are identified by an orange and grey hatch. The boundaries are estimated based on the constraints mapping undertaken throughout the project at a strategic level (further detailed site investigations may be required at the planning proposal stage). Typically, serviced residential land will have a minimum lot size of 700 sqm. The development yield for these areas is an estimate. A conservative 8.5 lots per hectare has been applied. These areas will need to be rezoned prior to development. The mechanisms for delivering the land is identified in Section 4 and involves the preparation of a planning proposal to rezone land prior to any development occurring.

In addition to serviced residential land, there are some areas that have been identified as suitable for large lot residential development. These areas are marked yellow and are typically 2ha but could be considered as smaller lots if serviced (with reticulated town water and sewer services) down to 4,000 sqm.





Council Resolution 2020/224 identified a further two areas, with a 10ha MLS. These are also marked in yellow and appear on precinct 4 Sooley and M-2 – Marulan East. Council Resolution 2020/261 subsequently extended and refined the Sooley opportunity area. Additional commentary is provided in relation to these two sites immediately following the Marulan Precincts.









Areas identified as grey in the development opportunities precinct maps are areas considered as being potentially suitable for residential development post 2036 or at such a time when the supply of residential lots under the current provisions of this Strategy are exhausted.










The precinct snapshots are summaries and should be read with **Section 2.4 Land Use Opportunities and Constraints** and information in **Appendices E and F**.





The legend for the constraints is explained in the following table.





Constraints and Opportunities Mapping Legend

Legend	Description
Land use	
 Urban area	Residential land
 Non-urban environmental protection	E zones
 Rural residential	
 Recreation	Land zoned RE1 Public Recreation or RE2 Private Recreation

Legend	Description
 Infrastructure	Special purpose areas such as schools, sewerage treatment, correctional centre.
 Rural area	
 Light Industrial	
 Business area	Commercial land, B zones
Heritage	
 State heritage	Listed on the State Heritage Register. Can apply to a place, building, work, relic, moveable object, precinct, or land. Any of the following actions require appropriate prior approvals:(a) demolish the building or work,(b) damage or despoil the place, precinct or land, or any part of the place, precinct or land,(c) move, damage or destroy the relic or moveable object,(d) excavate any land for the purpose of exposing or moving the relic,(e) carry out any development in relation to the land on which the building, work or relic is situated, the land that comprises the place, or land within the precinct,(f) alter the building, work, relic or moveable object,(g) display any notice or advertisement on the place, building, work, relic, moveable object or land, or in the precinct,(h) damage or destroy any tree or other vegetation on or remove any tree or other vegetation from the place, precinct or land.
 Item - General	Areas subject to Heritage conservation as designated by the relevant NSW environmental planning instrument (EPI) under the Environmental Planning and Assessment Act 1979, in this case the Goulburn Mulwaree Local Environmental Plan 2009.
Constraints	
 Land use constraints	Includes noise and/or odour emitting uses e.g. sewerage treatment, airport, poultry farm.
 Constraints buffers	Residential land use exclusion area. The size of buffers relates to the type and extent of each specific land use constraint.

Legend	Description
 High erosion risk (gradient over 18%)	Unsuitable for clearing and/or residential use.
 Ridge line	Indicative of the topography in Marulan North which functions as a visual buffer to the Hume Highway and a natural limit to residential development.
 250m from Hume Highway	Buffer to the Hume Highway. No residential access directly to Highway. Dwellings set back to reduce noise impacts and protect rural vista of Highway between towns.
 Buffer to haulage route	250m buffer to the Gunlake Quarry haulage route comprising of Brayton Road to the Hume Highway including Red Hill and Ambrose Roads. Route built specifically to avoid residential interface through Marulan village. No new residential access to route, future access to opportunity areas from south only. Dwellings to be set back to reduce noise impacts.
 25/26m B-double Routes	Noise and traffic impacts to certain areas for consideration if increasing residential dwellings in the vicinity.
 19m B-double Routes	Noise and traffic impacts to certain areas for consideration if increasing residential dwellings in the vicinity.
 Electricity transmission line	Requires buffers to residential and sensitive uses.
 Gas pipeline	High pressure gas pipeline owned and managed by APA Group. Requires buffers to residential and sensitive uses. A Safety Management Study (SMS) in accordance with AS2885 is triggered by any proposed change in land use classification around the pipelines. The SMS is the responsibility of the proponent/agent of change. APA prefers the land within the buffer be used as a liner park. Limited periodic perpendicular crossings allowed.
Mines and Quarries	
 Potential Resource	Area identified in the 2015 Mineral Resource Audit – Goulburn Mulwaree LGA (Geological Survey of NSW) as containing potential mineral, petroleum and/or extractive resources. Development within these areas could

Legend	Description
	adversely affect or be affected by future resource development operations.
Environment / Vegetation	
 TEC	<p>ELA mapped the following three TECs during rapid visual field validation:</p> <ul style="list-style-type: none"> » White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Listed under the BCA and EPBC) » Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions (Listed under the BCA and EPBC) » Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT (Listed under EPBC)
 Other Vegetation (ELA)	Identified as significant in mapping data but validated on the ground as not TEC
 Validated (ELA)	ELA carried out rapid visual field validation over limited areas of the Goulburn Fringe in July 2019 to identify and update the existing mapped vegetation data with any gross inconsistencies. The validation was carried out from accessible public roads adjoining the areas (shown in Figures 1 and 10 of ELA's report in Appendix E of this Strategy).
 High Environmental Value (OEH)	HEV is an OEH state-wide dataset. Please note this often coincides with Bushfire prone vegetation category 1 on the maps which shows as a light brown colour.
 Strategic agricultural land	DPIE confirmed during the second exhibition of this document that BSAL only impacts on DAs for mining, petroleum and extractive industries.
Bushfire prone land	
 Vegetation Category 1	Vegetation Category 1 is considered to be the highest risk for bushfire. It is represented as red on the bush fire prone land map and will be given a 100m buffer. This vegetation category has the highest combustibility and

Legend	Description
	<p>likelihood of forming fully developed fires including heavy ember production. Vegetation Category 1 consists of: > Areas of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations.</p> <p>To aid legibility of constraints maps, Categories 2 and 3 are not shown in this Strategy. Consideration of all vegetation categories is required for in-depth site assessments.</p> <p>Please note Vegetation Category 1 often coincides with HEV vegetation and shows as a light brown colour on the Strategy's constraint maps.</p>
Riparian buffers and Flooding	
<p> 1st order (10m)</p> <p> 2nd order (20m)</p> <p> 3rd order (30m)</p> <p> 4th order (40m)</p>	<p>Watercourses are ordered according to the Strahler System and assigned a riparian corridor width. The width extends to each side of the watercourse in addition to the channel width. For example, a 3rd order watercourse buffer is 60m plus channel width.</p> <p>In addition to these buffers, an 100m buffer is required between on-site effluent systems and all watercourses within the SDWC. Development must have a NorBE on water quality.</p>
<p> Flooding (1 in 100yr)</p>	<p>This shows Mainstream type flooding for the 1% AEP and is only available for the area covered by the Goulburn Flood Study. Areas not mapped as 1 in 100 year flooding may also experience mainstream and/or overland flooding. The Goulburn Overland Flood Study is currently under preparation.</p>

Goulburn Overview

Who lives here?

The population of Goulburn (SA2) was 22,890 people in 2016, representing 77% of the residents of Goulburn Mulwaree LGA. These people are accommodated in 10,095 dwellings, the majority of which are 3-4 bedroom single detached dwellings.

Demographic trends to 2016

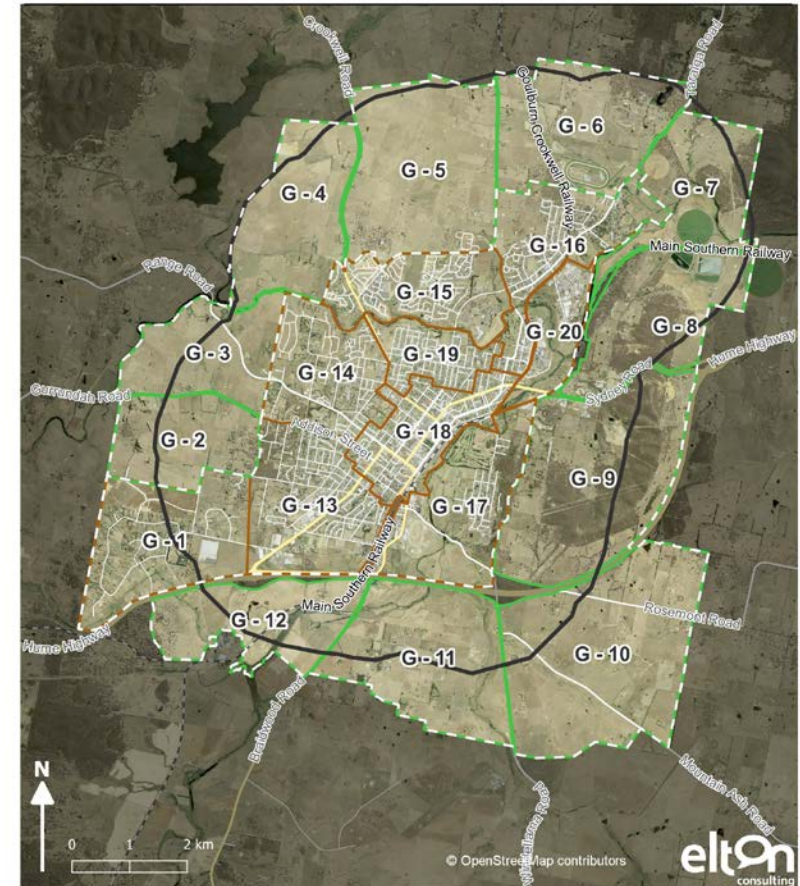
- Increase in single-person households
- Ageing population

Housing Demand

- Goulburn will need to provide an additional 3,045 of the 3,500 dwellings required between now and 2036
- Demographic analysis suggests adaptable housing to allow people to age in place
- Fewer bedrooms for the increase in single-person households
- Affordable homes for those entering the housing market and downsizing
- More social housing to address long wait times
- Some evidence suggesting a demand for large lot residential development

Key Issues

- Spatial distribution and equity of access to various infrastructure in Goulburn Urban and Fringe precincts
- Central areas have a higher concentration of recreational facilities and social infrastructure
- Planning controls to address provision of infrastructure and housing in fringe areas
- Managing access to employment, enabling growth of industry to provide jobs for the growing population and strategically locating residential to avoid land use conflict
- Provide affordable housing choices



Legend

Precincts
Urban
Fringe

G - 1 Run 'O' Waters (existing)	G - 9 Mt Gray	G - 17 Eastgrove
G - 2 Run 'O' Waters (rural north)	G - 10 Mountain Ash	G - 18 Central Goulburn
G - 3 Baw Baw	G - 11 Brisbane Grove	G - 19 Ifield
G - 4 Sooley	G - 12 Abattoir	G - 20 Correctional Centre
G - 5 Middle Arm West	G - 13 Garfield	
G - 6 Middle Arm East	G - 14 West Victoria Park	
G - 7 Kenmore	G - 15 Marys Mount	
G - 8 Gorman Rd	G - 16 Bradfordville	

Precinct 1 Run 'O' Waters (existing)

Locality Description

Run 'O' Waters has been included as a specific area due to the more recent development activity and dominance of Large Lot Residential Development. Located to the south west of Goulburn, it has a character typical of an urban transition area.

Lots are large, serviced with water, but not sewer.

The typical lot is between 1-2ha. Large houses are set back on larger lots. The typical density of the area is one dwelling per 1.78ha. While some properties include large sheds, there is little evidence of any other land use other than residential development.

The inefficient use of land is further compounded by the potential impact on surrounding areas of significant biodiversity.

This form of development, while providing diversity, does not make a significant contribution to the housing supply. The Constraints and Opportunities are illustrated on the Precinct Map which combines Precincts 1 and 2.

Character & Planning Controls

Key residential & tourist typologies	Rural residential The Ducks Lane/Lillkar Road B6 Enterprise Corridor area has vacant land and the Coles Goulburn Regional Distribution Centre.
Land use zoning	R5 Large Lot Residential B6 Enterprise Corridor RU6 Transition
Minimum lot size	2,000sqm and 2Ha (R5) E4 2,000sqm and 2Ha
Heritage	Aboriginal sites have been recorded within the northwest and southeast corners and along the eastern boundary of this precinct.

Land Use Opportunities and Constraints

Land has been fragmented by large lot residential subdivision. There are no parks (due to the large lot size) or other infrastructure in this precinct.

The one business in the Run 'O' Waters precinct Business zone, Coles DC is set to close within five years (announced late 2018). The closure and lack of other development in the precinct provides an opportunity for redevelopment.

The area is impacted by the buffer for the Abattoir south of the Hume Highway so would be unsuitable for residential use.

Road access - the precinct is not well connected to the rest of Goulburn.

An opportunity to link the existing area with the Run 'O' Waters (rural north fringe) precinct to provide services and links to Goulburn via Gurrundah road exists.

Analysis of Evidence Base

Run 'O' Waters (existing) has some additional residential capacity under the current LEP provisions – some existing lots are not yet developed. A comprehensive Aboriginal cultural heritage assessment will be required for these areas.

Ongoing viability of residential development in this precinct is restricted by the minimum lot size and lack of existing serviced lots.

Demographics – this precinct (SA1: 10105153901 & SA1: 10105153916) is one of the most relatively advantaged areas in Goulburn with SEIFA scores of 1072 & 1047.

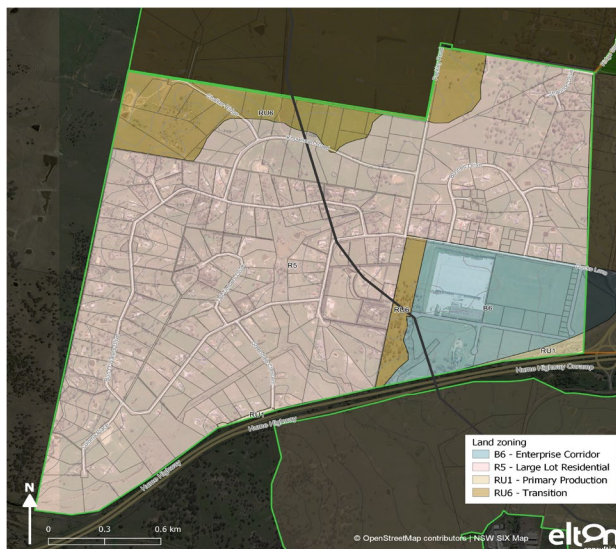
Housing Gaps

Current development trends likely to continue to deliver single housing typology for the precinct (single dwelling houses on large lots).

Lack of infrastructure (roads, utilities connections) and nearby services (shops, schools, community facilities) may prevent the precinct from delivering affordable or higher density residential development.

Recommendations

- Given the availability and capacity of reticulated water and the potential for sewer (subject to pumping stations and line upgrades) the RU6 Transition zone in the northern section of the precinct provides a key opportunity for R2 Low Density Residential Development with a minimum lot size of 700 sqm in the short term to medium term.
- An Urban Release Area provision in the LEP will assist in the staging of development through a DCP and Concept Plan
- Priority - High
(refer also Precinct 2)



Precinct 2 Run 'O' Waters (rural north)

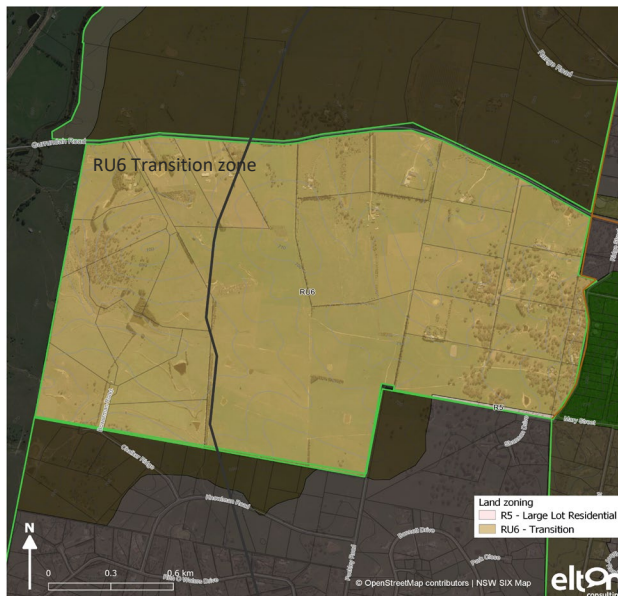
Locality Description

This precinct is a rural transition area located immediately north of Run 'O' Waters (existing). Road access is from Gurrundah Road and there is no physical road connection south into the existing Run 'O' Waters precinct. Some potential for connection to Pockley Road and Mary Street is also possible.

Lots within this precinct are typically 10 hectares, which is currently the minimum lot size. There is one larger holding in the centre of the precinct, with an area of approximately 100 hectares. Dwellings are typically serviced by on-site independent water and sewer infrastructure.

This precinct is undulating with steep slopes and a 3rd order waterway in the west and a 2nd order waterway in the north east.

The Constraints and Opportunities are illustrated on the Precinct Map which combines Precincts 1 and 2.



Character & Planning Controls

Key residential typologies	Detached dwellings on larger single lots.
Land use zoning	RU6 Rural Transition
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast Accommodation, Dwelling houses
Minimum lot size	10 hectare (western portion) 2 hectare (eastern portion)
Heritage	"Cole Park" Homestead 115 Gurrundah Road listed in GMLEP 2009. Aboriginal sites recorded within the southwestern area and just outside the eastern precinct boundary.

Housing Gaps

Current development trends likely to continue to deliver single housing typology for the precinct (single dwelling houses on large lots).

Lack of infrastructure (roads, utilities connections) and proximity to nearby services (shops, schools, community facilities) may prevent the precinct from delivering affordable or higher density residential development.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure, however:

- Water is available with limited constraints for proximity to connections, water pressure and capacity.
- Sewer is available with likely requirement for a localised pumping station (subject to network modelling).
- Upstream from Rossi Weir raw water supply requires appropriate stormwater management and discharge – moderate constraints.

Environmental Constraints

- Eastern portion of precinct around Ridge Street is heavily vegetated and includes an endangered ecological community (Tableland Grassy Box-Gum Woodland). Detailed ecological studies are required for all proposed development areas.
- Development potential of the precinct could be improved with a road connection between Run-O-Waters (existing) and Gurrundah Road.
- On-site sewer systems must be at least 100m clear of a watercourse.

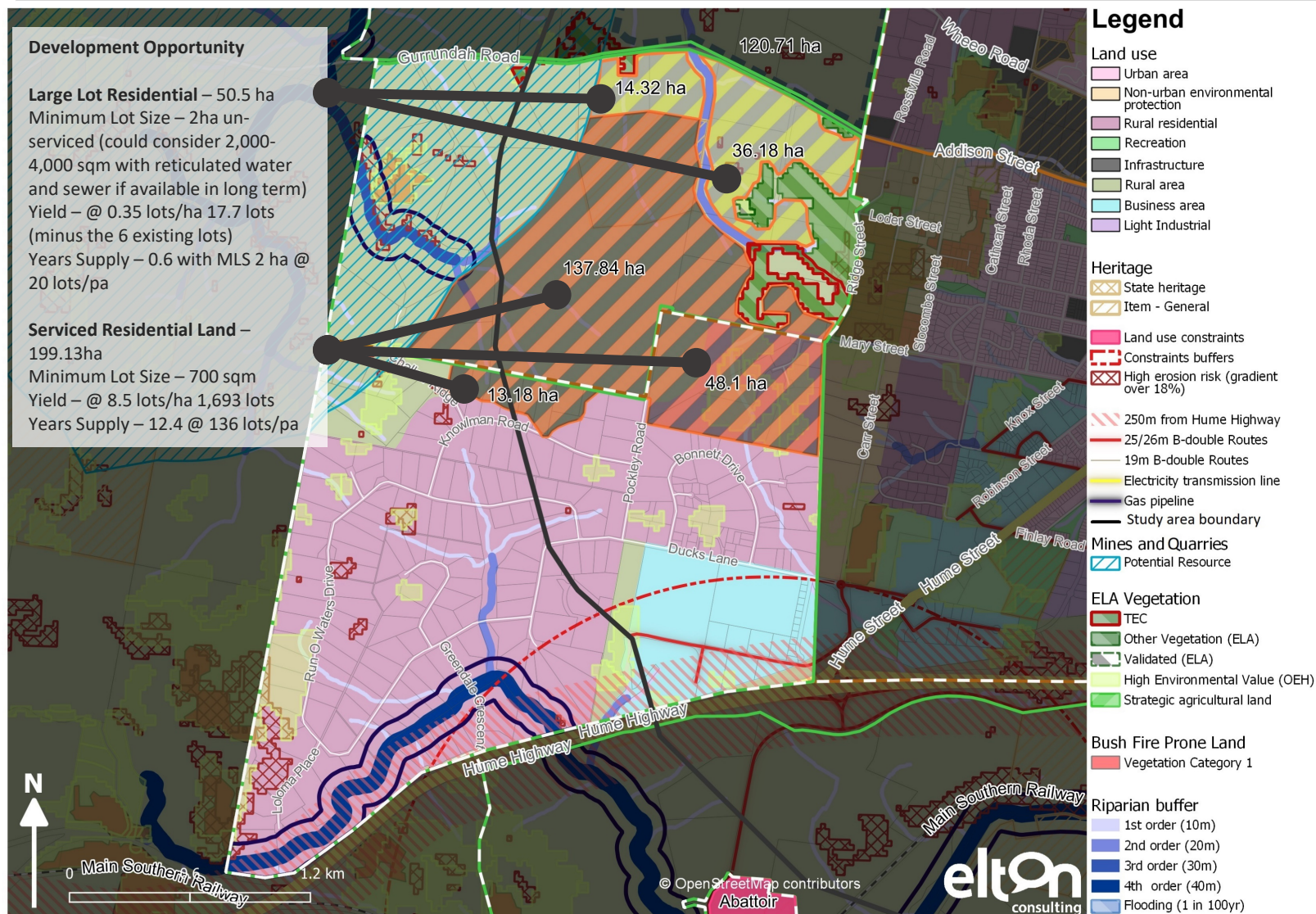
Analysis of Evidence Base

- The precinct appears generally unconstrained, however, a comprehensive Aboriginal cultural heritage assessment is required to confirm suitability of future residential use and management.
- Given the availability of reticulated services, Council should take the opportunity to seek maximum residential yields.
- The existing development in this precinct and the Run 'O' Waters (south) precinct is not supported by open space or social or community infrastructure.
- Run 'O' Waters (rural north) has residential capacity, as demonstrated by a recent development application with a 92 lot community title subdivision, with utilities connections. This density should be reconsidered to deliver more smaller lots to increase the efficiency of the infrastructure and better utilisation of land resources.

Recommendations

- Rezone to R2 Low Density Residential Development with a minimum lot size of 700 sqm in the short term as per opportunities map.
- An Urban Release Area provision in the LEP would assist in the staging of development through a DCP or Concept Plan.
- Rezone the land that is more constrained by topography and fragmentation to a Large Lot Residential zone. The majority of the 50.5 ha already enjoys a 2 ha MLS and could yield an additional 11 lots as per existing provisions. If services became available the minimum lot size could be reduced to 2,000-4,000 sqm to provide a transition between the smaller and larger lots and retain the character of the transition from rural to urban on the entrance to Goulburn from the west.
- Priority - high

1/2 - Run 'O' Waters constraints and opportunities



Precinct 3 Baw Baw

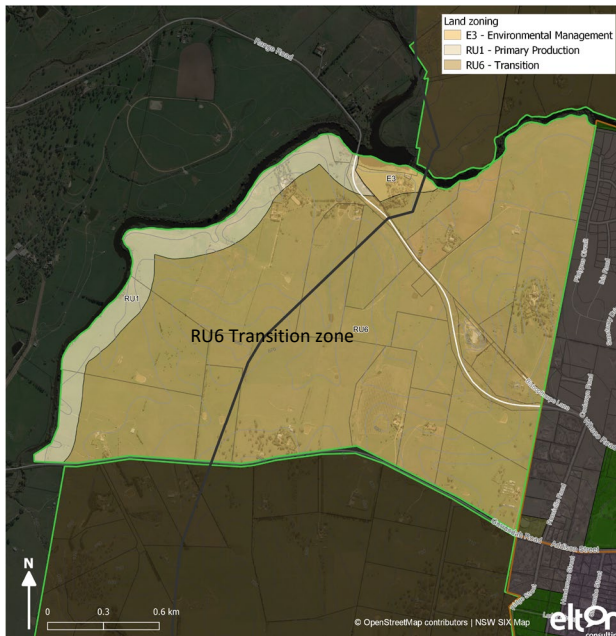
Locality Description

Baw Baw is an urban transition area on Goulburn's western fringe, located between Gurrundah Road and the Wollondilly River.

The western portion of the precinct is consistent with the rural transition character of Goulburn's fringe. Single dwelling houses are located on large lots of approximately 10 hectares.

The land is undulating to steep with slope greater than 18% illustrated on the Precinct Map.

The Constraints and Opportunities are illustrated on the Precinct Map.



Character & Planning Controls

Key residential typologies	Detached dwellings on larger single lots.
Land use zoning	RU6 Transition
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast Accommodation, Dwelling houses
Minimum lot size	20 hectares (western portion) 10 hectares (eastern portion)
Heritage	Road Reserve Range Rd (Rossi Bridge) and Lot 51 DP857094 (Bishopthorpe Manor) are listed in GMLEP2009. One recorded Aboriginal site within the northeast area of precinct. Potential for objects to occur along and close to Wollondilly River.

Housing Gaps

Current development trends likely to continue to deliver single housing typology for the precinct (single dwelling houses on large lots).

Lack of infrastructure (roads, utilities connections) and proximity to nearby services (shops, schools, community facilities) prevent the precinct from delivering affordable or higher density residential development.

Recommendations

- The precinct should be protected from further fragmentation from large lot residential development in the long term.
- No change is proposed for this precinct; consideration of urban expansion into this precinct to occur following the exhaustion of more suitable areas for urban development.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure.

- Water available with limited constraints for proximity to connections, water pressure and capacity.
- Sewer is available with likely requirement for a localised pumping station and some enlargement of downstream collection network may be necessary (subject to network modelling).
- Upstream from Rossi Weir raw water supply, requires appropriate stormwater management and discharge.

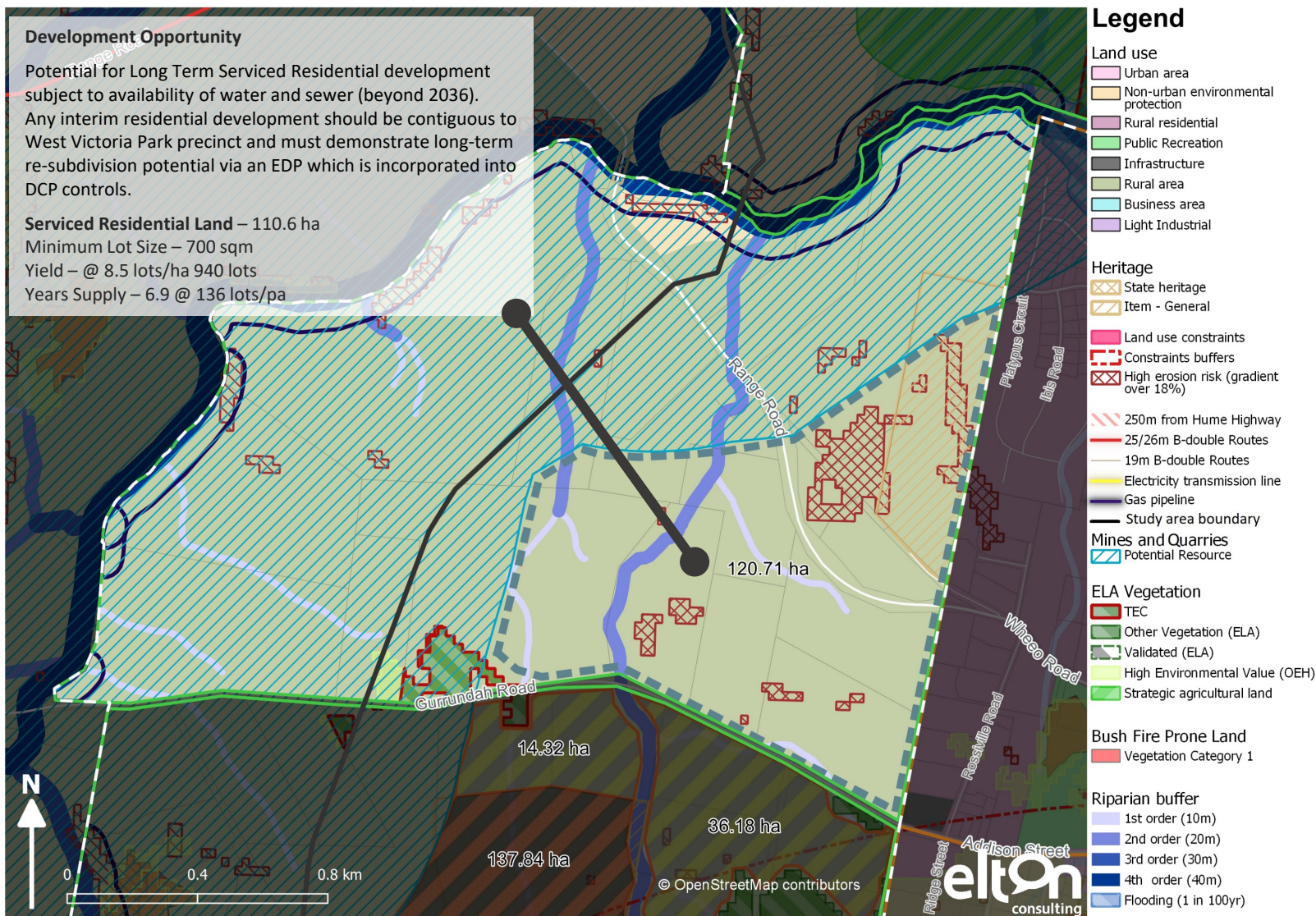
Environmental Constraints

- A second order stream bisects the precinct, running north-south connecting to the Wollondilly River. A 20m exclusion buffer applies to this area.
- Flooding.
- Riparian corridors are also considered to be High Environmental Value Areas.
- The precinct is also constrained by slope and the identification of potential mineral resources.

Analysis of Evidence

- The precinct is well supported with water infrastructure and provides for a future opportunity for serviced residential land.
- Large Lot residential is not supported given the long term capacity of the precinct beyond 2036.
- There are other precincts that are better placed for consideration of urban development up until 2036. Until such time that the potential has run out of other areas, the minimum allotment size within this precinct should be maintained at no less than 10ha so as to preserve its potential beyond the timeframe of this Strategy.
- Any future plans for development will require a comprehensive Aboriginal cultural heritage assessment.

3 - Baw Baw constraints and opportunities



Precinct 4 Sooley

Locality Description

The Sooley precinct is a rural precinct on Goulburn's northwest fringe, bounded by Crookwell Road and the Wollondilly River.

Lots to the south are smaller and reflect the rural transition zoning of the majority of Goulburn's fringe. Landholdings comprise single lots and are typically between 12-20 hectares.

Lots to the north have a typical rural character and are typically larger lots than the southern portion. These lots range in size from 10 to over 100 hectares and landholdings often include multiple lots.

The Constraints and Opportunities are illustrated on the Precinct Map.

Character & Planning Controls

Key residential typologies	Detached dwellings on large single lots (rural or transition)
Land use zoning	RU6 Transition E3 Environmental Management
Permitted residential typologies	Dwelling houses, Rural worker's dwellings, Secondary dwellings, Tourist and visitor accommodation
Minimum lot size	100 hectares (E3) 10 hectares (RU6)
Heritage	No recorded Aboriginal sites to date. Potential for Aboriginal objects to occur along and close to Wollondilly River.

Housing Supply Gaps

This is an agricultural precinct and does not currently contribute to the broader housing supply in the LGA

Recommendations

- Retain as RU6 Transition in the short term to prevent fragmentation.
- Any future plans for development will require a comprehensive Aboriginal cultural heritage assessment.
- R2 Low Density Residential in the south eastern area of the precinct.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure:

- Water available with limited constraints for proximity to connections, water pressure and capacity in the southern portion.
- Water pressure is a constraint towards the northern portion of the precinct (high elevation and remote to service). A designated service reservoir and delivery main would be required to service this area (including Middle Arm West).
- Sewer is available across the whole precinct with a requirement for a localised pumping station (subject to network modelling).

Environmental Constraints

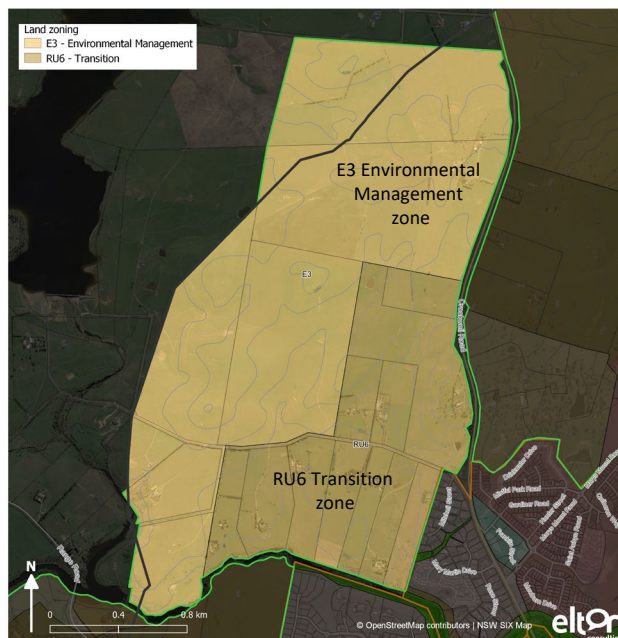
- The southeast corner of the precinct, immediately west of the existing urban footprint, contains an endangered ecological community (Natural temperate grassland)
- APA gas pipeline bisects the precinct in an east-west direction approximately 1km north of Chinamans Lane.
- An area of biophysical strategic agricultural land (BSAL) is identified within this precinct. The BSAL aligns with class 3 agricultural land
- Potential resource constraint will work alongside the BSAL triggered by the *Mining, Petroleum Production and Extractive Industries SEPP*.
- Flooding in vicinity of water courses.
- Water quality of Sooley Dam must be protected.

Analysis of Evidence

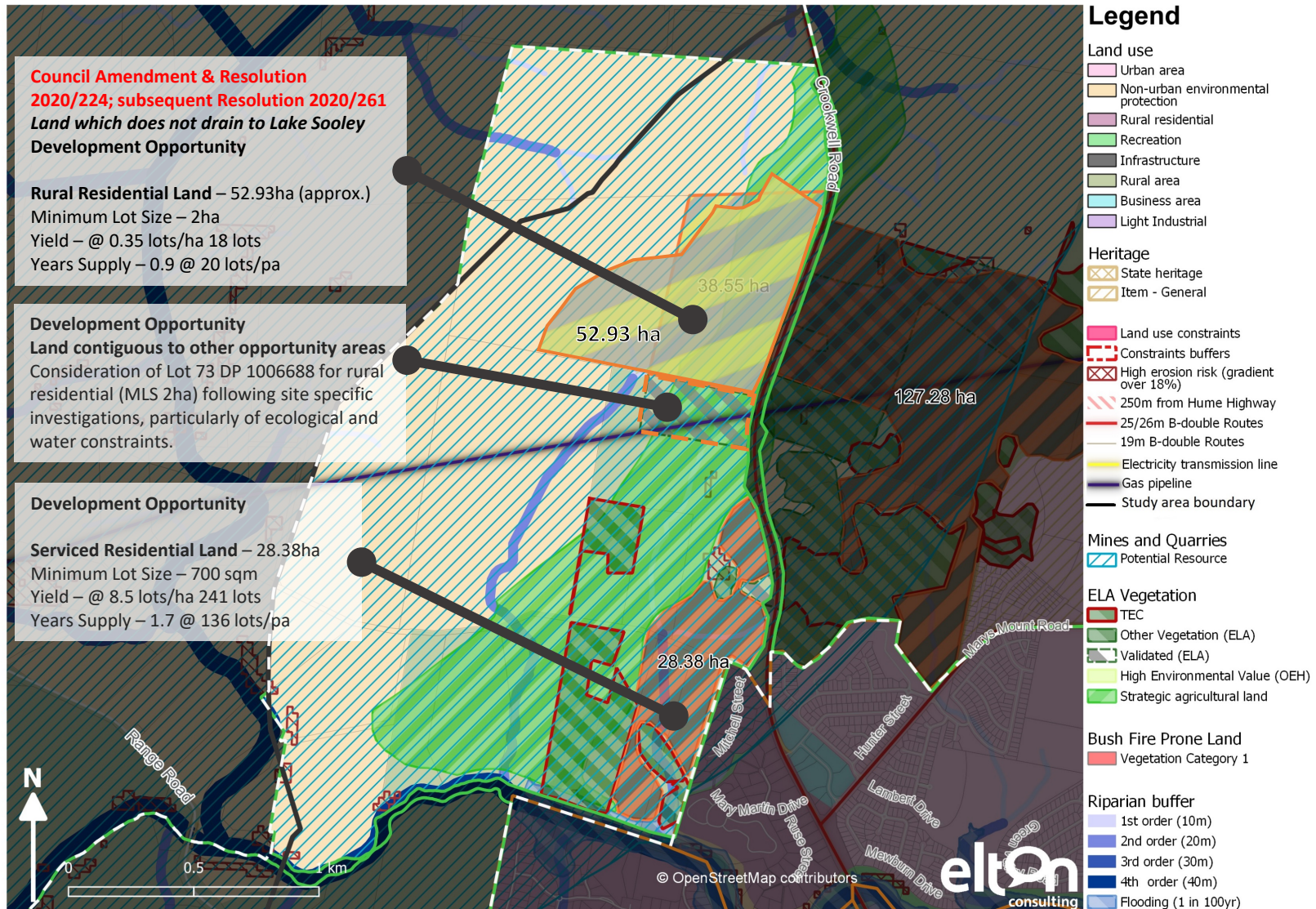
Several landowners within the precinct have indicated to Council their desire to subdivide into large lot residential lots. See Council Resolutions 2020/224 and 2020/261.

Large Lot residential is not supported given proximity to Sooley Dam and the identification of the area as high quality agricultural land (class 3). There is sufficient land identified for urban development without the including of otherwise constrained land. There may be an opportunity to re-develop the already fragmented 10ha lots closest to Crookwell Road and adjoin the existing urban area. However this would be for fully serviced residential lots with a 700 sqm MLS and yield 241 lots or 1.7 years supply.

For the balance of the precinct, at present there are other precincts that are better placed for consideration of urban development up until 2036. Until such time that the potential has run out of other areas, the minimum allotment size within this precinct should be maintained at no less than 10ha for the RU6 Transition zone and 100ha for the E3 Environmental Management zone so as to preserve its potential beyond the timeframe of this Strategy.



4 - Sooley constraints and opportunities



Precinct 5 Middle Arm West

Locality Description

Middle Arm West is a rural fringe precinct immediately north of Marys Mount. The majority of the land within it is zoned RU6 Transition. The land use is typically large rural landholdings with a single dwelling.

The land has largely been cleared for grazing and agricultural purposes.

The southern strip of land adjoining Marys Mount represents the current northern extent of greenfield development in Goulburn. It includes suburban residential subdivisions.

The Constraints and Opportunities are illustrated on the Precinct Map which combines Precincts 5 and 6.

Character & Planning Controls

Key residential typologies	Detached dwellings on large rural lots
Land use zoning	E3 Environmental Management RU6 Rural Transition R2 Low Density Residential
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation, Boarding houses, Dwelling houses, Group homes
Minimum lot size	100 hectares (E3) 20 hectares (RU6) 700m2 (R2)
Heritage	133 Marys Mount Rd (dwelling "Teneriffe") listed in GMLEP 2009. Aboriginal sites recorded within the south of precinct and as part of previous surveys for existing subdivisions to the south.

Housing Gaps

The majority of development that has occurred over the past decade has been in the north of Goulburn around Marys Mount without any development masterplan to guide development. Development within the urban release area has potential to provide for affordable housing due to lower minimum lot size.

Consideration of adequate open space and social infrastructure planning could be achieved by master planning the entire northern release area (Structure Plan/DCP). This would also assist in calculating water and sewerage servicing requirements.

Existing urban release land (R2 zoned) should be explored for diversity of dwelling typology. Clause 4.1A of the GMLEP 2009 permits subdivision below the minimum lot size for this zone.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure:

- Water infrastructure is available with areas constrained due to water pressure.
- A designated service reservoir and delivery main would be required to service this precinct.
- Sewer is available with likely requirement for a localised pumping station and some enlargement of downstream collection network is likely to be necessary (subject to network modelling).
- The area is constrained by the gas pipeline which significantly impacts development immediately adjacent.
- A high voltage transmission line also runs north south through the area.
- Area to the North East is zoned E3 and drains to Sooley Dam

Environmental Constraints

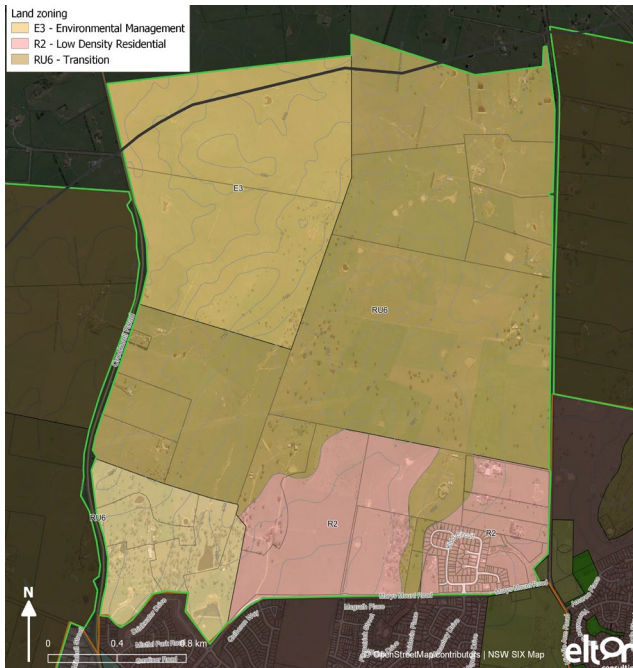
- The precinct contains an endangered ecological community (Yellow Box - Red Gum Woodland).
- The potential resource constraint also impacts the precinct as does the Strategic Agricultural Land.
- Watercourses are identified as constraints that need consideration in any master plan for the area.

Analysis of Evidence

- According to Council data, approximately 150 single dwelling lots have been delivered within the urban release area to date.
- Given the constraints, and existing development activity, there is an opportunity to continue to deliver housing in this area in the short term.

Recommendations

- Rezone land immediately adjoining the existing urban fringe in the short/medium term to urban residential.
- Long term development opportunity subject to a detailed masterplan and comprehensive Aboriginal cultural heritage assessment.
- Include Urban Release Area Provisions
- Priority – Medium/High



Precinct 6 Middle Arm East

Locality Description

The Middle Arm East precinct is the area bounded by Middle Arm Road and Taralga Road, generally surrounding the Goulburn Racecourse. It is located immediately north of the existing urban area of Bradfordville.

The precinct is largely RU6 transition land with large lots and single dwelling houses. The eastern portion is dominated by the Goulburn Racecourse and NSW Police Driver Training Course, and includes a small residential enclave of lifestyle lots with single dwellings.

Character & Planning Controls

Key residential typologies	Detached dwellings on single lots
Land use zoning	E3 Environmental Management RU6 Rural Transition RE1 Public Recreation RE2 Restricted Recreation R5 Large Lot Residential
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation, Boarding houses, Dwelling houses, Group homes
Minimum lot size	100 hectares (E3) 20 hectares (RU6) 2,000 m2 (R5)
Heritage	Aboriginal sites have been recorded in this precinct.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure, investigation by Council engineers regarding serviceability constraints of this precinct is required. Under the current infrastructure, water can only be delivered to the 690m contour and still maintain pressure.

Likely to be serviceable with a designated water service reservoir and delivery main, and localised sewer pumping station.

Environmental Constraints

- The north east corner of the precinct contains an endangered ecological community (Yellow Box - Red Gum Woodland).
- Kenmore Creek passes through the precinct and requires a riparian buffer.
- APA Group's high pressure gas pipeline bisects the precinct in an east-west direction immediately north of the racecourse and requires a hazard buffer.
- Goulburn Racecourse occupies the south eastern portion of the precinct.
- NSW Police Driver Training facility occupies the north eastern portion of the precinct with associated noise impacts.
- Potential contamination of sites subject to waste water irrigation from Council's STP

Analysis of Evidence

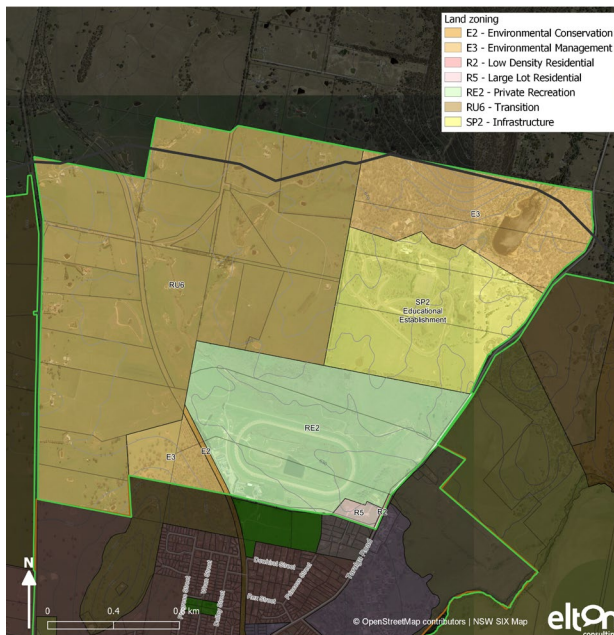
Recreational precinct opportunity with existing uses and potential to utilise the former Goulburn to Crookwell railway as a rail trail.

There may be potential for serviced (water and sewer) equine animal boarding and training establishments within the current RE2 zone. Appropriate lot size would be determined through a Planning Proposal process.

Residential opportunity in the long term for land west of the railway and north of the gas pipeline, recommend protection from fragmentation.

Recommendations

- Rezone land immediately adjoining the existing urban fringe and south of the gas pipeline in the short to medium term to urban residential, relating to the rezoning of land in Bradfordville (refer Precinct 16)
- Long term development opportunity north of pipeline and west of railway subject to a detailed masterplan and comprehensive Aboriginal cultural heritage assessment.
- Include Urban Release Area Provisions
- Priority – Medium/High



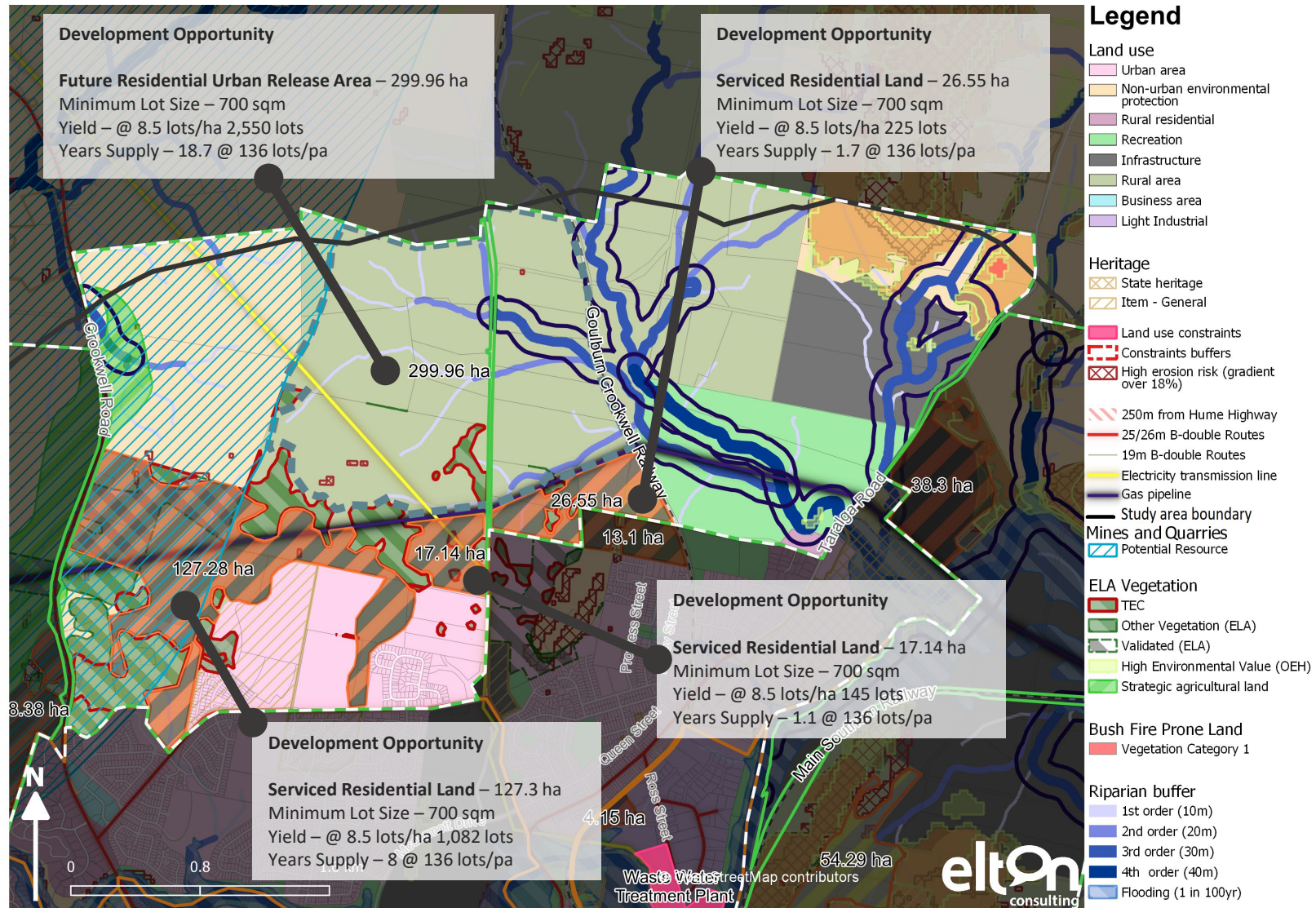
Housing Gaps

The majority of development that has occurred over the past decade has been in the north of Goulburn around Marys Mount without any development masterplan or site specific DCP to guide development. Development within the urban release area has potential to provide for affordable housing due to lower minimum lot size.

Consideration of adequate open space and social infrastructure planning could be achieved by master planning the entire northern release area (Structure Plan/DCP). This would also assist in calculating water and sewerage servicing requirements.

Existing urban release land (R2 zoned) should be explored for diversity of dwelling typology. Clause 4.1A of the GMLEP 2009 permits subdivision below the minimum lot size for this zone.

5/6 - Middle Arm constraints and opportunities

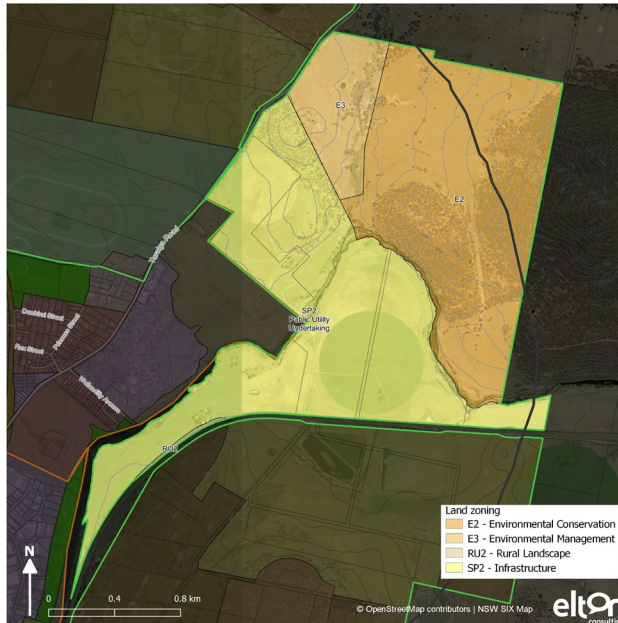


Precinct 7 Kenmore

Locality Description

The Kenmore precinct is the area bounded by Taralga Road and the railway line, spanning the Wollondilly River, excluding the historic Kenmore Hospital Complex.

Kenmore precinct contains a significant area of irrigation land area associated with the old Goulburn sewerage treatment plant (STP). This land use is redundant now that the new STP is operational. The precinct also contains significant amounts of environmental conservation, area subject to biodiversity offsets and environmental management land.



Character & Planning Controls

Key residential typologies	Detached dwellings on single lots A small number of rural-residential lots
Land use zoning	E2 Environmental Conservation E3 Environmental Management SP2 Infrastructure
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation
Minimum lot size	100 hectares
Heritage	Kenmore Hospital Cemetery (c 1895–1947) Lot 2, DP 1003261 Taralga Rd, listed in GMLEP 2009. Aboriginal sites recorded as part of the Goulburn STP survey in 2003. Potential for Aboriginal objects to occur along and close to the Wollondilly River.

Housing Gaps

Typically there is a lack of diversity of housing in the residential precincts immediately west.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure:

- Water infrastructure is available with limited constraints for proximity to connection, water pressure and capacity.
- Sewer is available with a likely requirement for a localised pumping station.

Environmental Constraints

- Land within the sewerage treatment irrigation area south of the Wollondilly River is subject to flooding
- Land in the north of the precinct is fairly steep and predominantly cleared of trees. Erosion along minor waterways is evident in aerial imagery
- The northeast corner of the precinct is steep terrain which is significantly vegetated and contains bushfire prone land (Vegetation Categories 1-3)
- Noise from the nearby NSW Police Driver Training Facility would also need to be considered prior to rezoning any of this precinct to residential.
- The Gas pipeline requires a buffer to residential and sensitive land uses.
- Potential contamination of sites subject to waste water irrigation from Council's STP

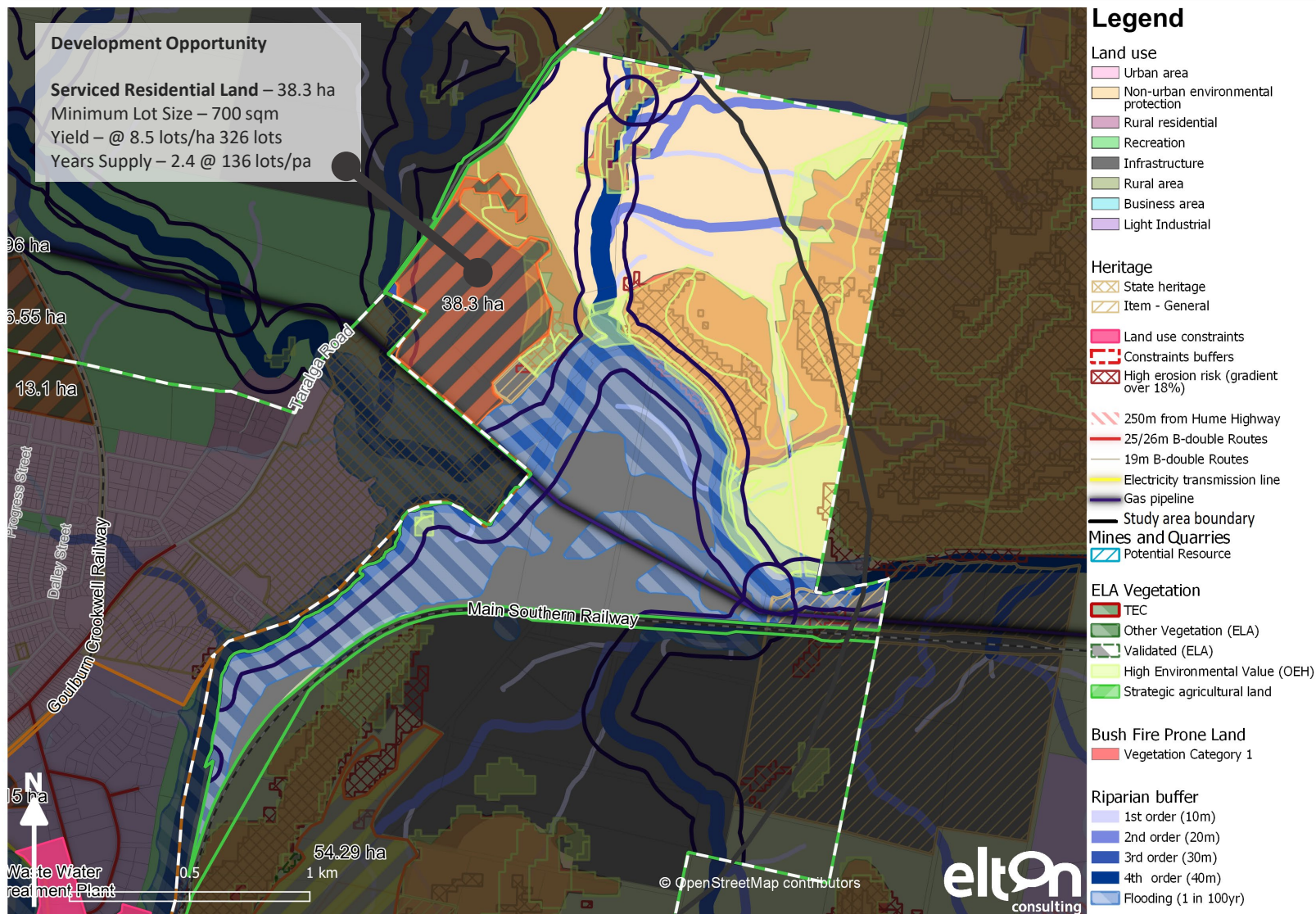
Analysis of Evidence

- A significant portion of land in the precinct is highly vegetated. Council has not been approached by landowners within this precinct raising interest in pursuing rural residential subdivision.
- Pending a contamination assessment, the sewerage treatment irrigation area north of the Wollondilly River may be suitable for urban residential use, accessed via Taralga Road.
- The existing environmental zoning and environmental constraints mean the precinct has limited capacity to provide residential development with significant density, aside from the area off Taralga Rd currently zoned SP2, between the flood prone area and Environmental zoned areas. This SP2 area is also well supported with existing water and sewerage infrastructure (minor constraints).

Recommendations

- Rezone land immediately adjoining the existing urban fringe in the short to medium term to urban residential.
- Include Urban Release Area (URA) Provisions.
- Comprehensive Aboriginal cultural heritage assessment required.
- Priority – Medium/High

7 - Kenmore constraints and opportunities



Precinct 8 Gorman Road

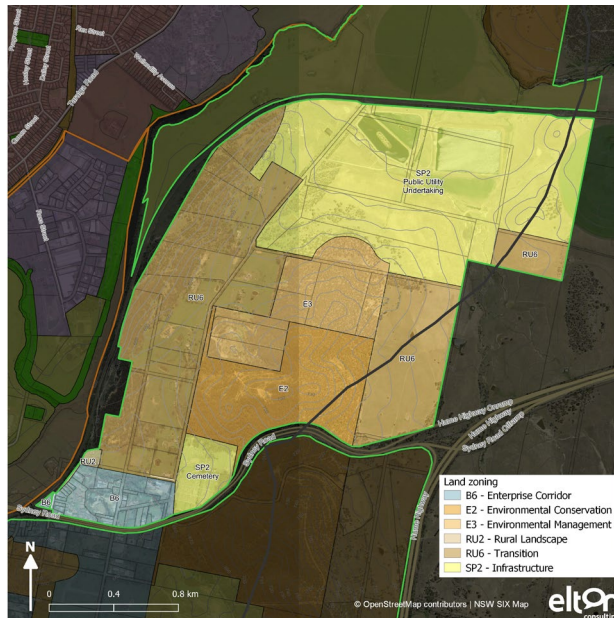
Locality Description

The hilly area is bounded by the Wollondilly River, Main Southern Railway line and Sydney Road. It is predominantly a rural transition area with a very low dwelling density. The majority of dwellings are centred on Gorman Road.

The north of the precinct is dedicated to the former Goulburn sewerage treatment plant, with ponds and an irrigation area. Although this land use is now redundant, ducks (including endangered Blue-billed and Freckled duck, Pink-eared duck, Pacific Black duck and Hardhead ducks) have been observed on the old sewerage ponds. This may prevent removal of the ponds and present an opportunity for conservation as a wildlife reserve.

The former irrigation and sewerage ponds area would require a contamination assessment prior to any redevelopment.

There is potential for Aboriginal objects to occur along and close to the Wollondilly River and requires a comprehensive ACH assessment.



Character & Planning Controls

Key residential typologies	Detached dwellings on single lots A small number of rural-residential lots
Land use zoning	E2 Environmental Conservation E3 Environmental Management RU6 Rural Transition B5 Enterprise Corridor
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation
Minimum lot size	100 hectares (western portion) 2ha hectares (eastern portion)
Heritage	Listed in GMLEP 2009: - Brick Works, Chimneys, Kilns, Dwelling, "The Potteries" (c 1985) - Lot 12, DP 861360; Lot 2, DP 740958 - Goulburn General Cemetery, Lot 7017, DP 94629 - House, Fruit Packing Shed (former, c 1900) Lot 12, DP 1044967 - Veterans Allotments, Lot 102, DP 791867. Aboriginal sites recorded along southern boundary and as part of Goulburn STP survey in 2003 in the north east.

Housing Gaps

The existing environmental zoning and environmental constraints mean the precinct has limited capacity to provide residential development with significant density, meaning insufficient lots to support the necessary sewer and water infrastructure.

There is potential for limited rural-residential-serviced development through the RU6 zoned area in the west, however the overall intent of Council is to maintain the rural transition character of the precinct.

Land Use Opportunities and Constraints

The precinct is not currently serviced by water and sewer.

In the north of the precinct:

- Water infrastructure is available with limited constraints for proximity to connection, water pressure and capacity.
- Sewer is available with a likely requirement for a localised pumping station.

In the western area of the precinct:

- Water is available with areas constrained due to water pressure. A designated service reservoir and delivery main would be required to service this area.
- Sewer is available with likely requirement for a localised pumping station.

Environmental Constraints

- The centre of the precinct is highly vegetated and is identified as bushfire prone land.
- The centre of the precinct is also steep terrain (gradient over 18%) which is considered high erosion risk, particularly if vegetation is removed.
- An area of vegetation north of the Cemetery was validated by EcoLogical Australia in July 2019 as Scribbly Gum/Red Stringybark Woodland (dry sclerophyll forest). EcoLogical observed that the remainder of the surrounding vegetation was "likely exotic, farming and housing".
- The southern portion of the precinct in proximity to Sydney Road as been zoned B6 Enterprise Corridor as recommended in the Employment Land Strategy.
- Goulburn General Cemetery is an active 11.95ha cemetery located directly north of the Sydney Road on the lower slopes of Governor's Hill.
- Noise from Speedway, Motor Cycle Club, Main Southern Rail Line and Hume Highway.
- On-site effluent management buffers – 100m to any watercourse.

Analysis of Evidence

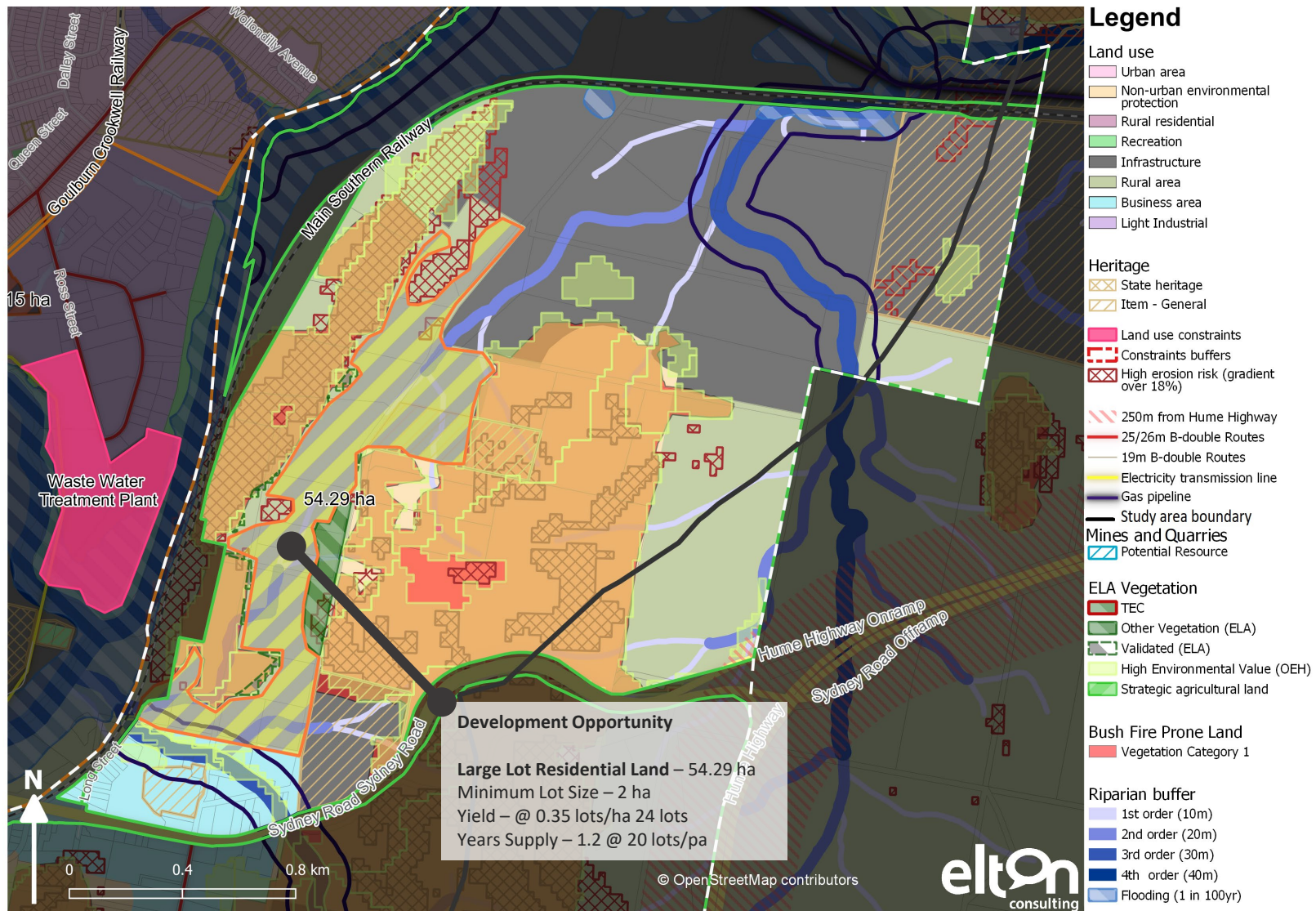
The Mt Gray - Governor's Hill range forms a natural boundary to the eastern extent of Goulburn city therefore the northern SP2 area and eastern RU6 Transition areas of this precinct should not be developed for urban or rural residential.

Part of the land zoned B6 Enterprise Corridor in the south is predominately residential and is being rezoned for that purpose.

Recommendations

- Rezone the RU6 land that is least constrained by topography and environmental constraints to a Large Lot Residential zone (MLS >2ha).
- The former irrigation and sewerage ponds area is surplus to Council requirements. A range of alternative land uses could be investigated pending contamination status and a comprehensive Aboriginal cultural heritage assessment.
- Priority – High

8 - Gorman Rd constraints and opportunities



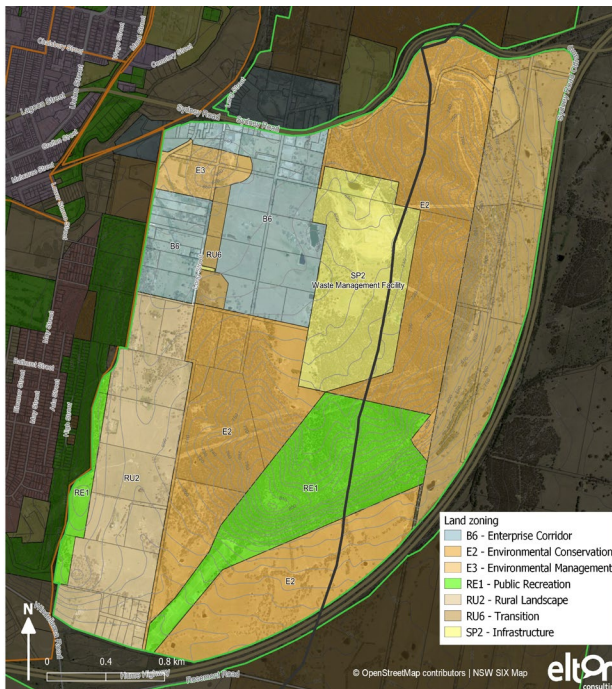
Precinct 9 Mt Gray East

Locality Description

The hilly area between the Hume Highway and Sydney Road, east of the ridgeline separating Eastgrove.

The precinct has a diversity of land uses and zoning including infrastructure zones for the Council Waste Management Facility and Landfill, enterprise lands, recreation land for the shooting range, rural, and rural transition lands also containing the Speedway and Motor Cycle Club and Rocky Hill War Memorial and Museum.

Significant Aboriginal sites exist within the Rocky Hill area.



Character & Planning Controls

Key residential typologies	Detached dwellings on single lots A small number of rural-residential lots
Land use zoning	E2 Environmental Conservation E3 Environmental Management RU6 Rural Transition B5 Enterprise Corridor
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation
Minimum lot size	100 hectares (western portion) 10 hectares (eastern portion)
Heritage	Jewish Cemetery, Foundations of Caretaker's Cottage, Chapel, Filled Well, Part Lot 24, DP 750050 listed in GMLEP2009. A large number of Aboriginal sites have been recorded within this precinct as part of the Rocky Hill Powerline and previous subdivisions. There is potential for Aboriginal objects to occur closer to the Mulwaree River.

Housing Gaps

The contribution of this precinct to the housing supply is currently limited.

Recommendations

- Generally maintain existing 2ha min lot sizes in the precinct.
- Rezone the land that is least constrained by topography and environmental constraints to a Large Lot Residential zone (MLS >2ha). Further large lot residential potential still remaining fronting western side of Long Street, south of Chiswick Street, through to Rifle Range Road to the south.
- Amend GMLEP to address anomalies in split zone created by Highway.
- Priority – High

Land Use Opportunities and Constraints

The precinct is not currently serviced by water and sewer infrastructure:

- Water infrastructure is available with limited constraints for proximity to connection, water pressure and capacity subject to network modelling.
- Sewer is available with likely requirement for a localised pumping station subject to network modelling.

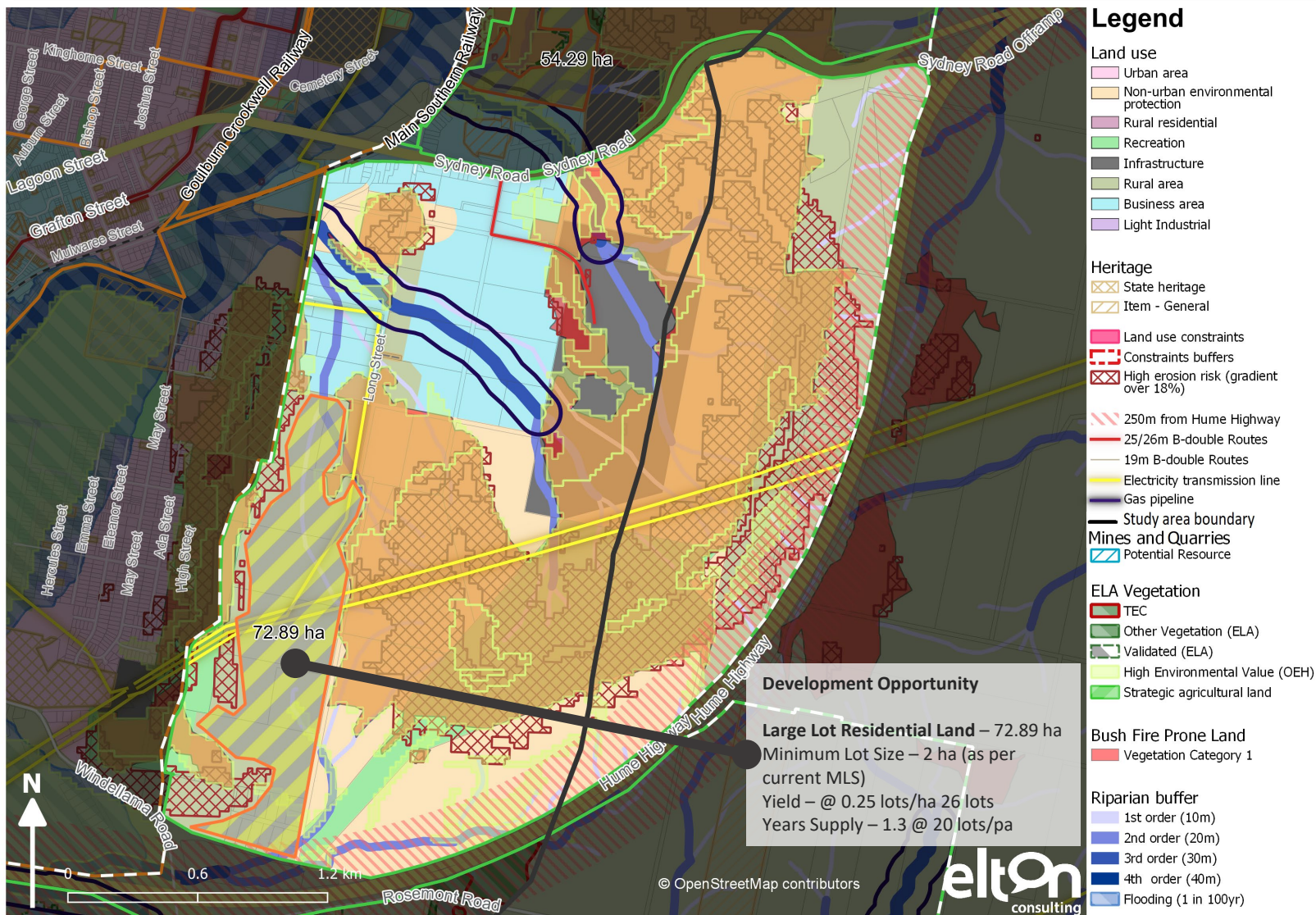
Environmental Constraints

- The majority of the precinct is hilly and therefore slope affected.
- This land is also significantly vegetated and is identified as bushfire prone land.
- The Employment Land Strategy has identified the northern portion of the precinct as a potential B6 Enterprise Corridor based in proximity to Sydney Road.
- Council has received an application for a poultry farm which may limit nearby residential development.
- Noise from Speedway and Motor Cycle Club.
- On-site sewer systems must be at least 100m clear of a watercourse.
- Areas planned for development will require a comprehensive ACH assessment.

Analysis of Evidence

- Opportunity to address zoning anomaly created by Highway between Environmental and RU6 zones between Mt Gray and Mountain Ash precincts.
- The existing environmental zoning and environmental constraints mean the precinct has limited capacity to provide residential development with significant density.
- Opportunity for Large Lot Residential on unconstrained land

9 - Mt Gray East constraints and opportunities



Precinct 10 Mountain Ash

Locality Description

A rural and rural residential transition area south of the Hume Highway, on both sides of Mountain Ash Road.

Residential development is typically rural with landholdings consisting of multiple lots.

Housing Gaps

Lack of infrastructure (roads, utilities connections) and distance to nearby services (shops, schools, community facilities) will prevent the precinct from delivering affordable or higher density residential development.

Character & Planning Controls

Key residential typologies	Detached dwellings on single lots A small number of rural-residential lots
Land use zoning	RU1 Primary Production RU6 Rural Transition
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation, dwelling house
Minimum lot size	100 hectares (RU1) 10-20 hectares (RU6)
Heritage	Listed in GMLEP 2009: <ul style="list-style-type: none"> - Dwelling, "Wyoming", Lot 1, DP 794750 - Dwelling, "Homeden", Lot 67, DP 126140 - "Nooga", Lot 98, DP 802308 - "Irriwilbin" Lot 2, DP 853498 Aboriginal sites have been recorded in the Rosemont Rd area. Potential for Aboriginal objects to occur along and close to the watercourses.

Recommendations

- Rezone the land that is least constrained by topography and environmental constraints to a Large Lot Residential zone.
- Amend GMLEP to address anomalies in split zone created by Highway.
- Priority – High

Land Use Opportunities and Constraints

Mountain Ash precinct is not currently serviced by water and sewer infrastructure:

- Water infrastructure is constrained due to water pressure and proximity to connection and would likely be linked to Brisbane Grove precinct.
- Sewer infrastructure is constrained due to proximity to connection and likely requirement for a localised pumping station, some enlargement of downstream collection network is also likely to be necessary (subject to network modelling).

Environmental Constraints

- The majority of vegetation in the precinct has been removed for agricultural purposes and is therefore significantly disturbed and represents low ecological value. However, rapid validation of precinct TEC by ELA found approximately 14.37ha of Box Gum woodland/Yellow Box – red gum woodland EEC.
- The precinct contains large areas of land identified as being bushfire prone.
- Proximity to Goulburn Airport could limit density of residential development.
- Proximity to Wakefield Park imposes a noise constraint on this precinct.
- Flooding near water courses and some local roads including Windellama Rd and the intersection with Mountain Ash Rd.
- On-site sewer systems cannot be within 100m of a water course of any classification in the Sydney Drinking Water Catchment (SDWC) which will limit the density of rural residential dwellings in this precinct. Any development within the SDWC must have a neutral or beneficial effect (NorBE) on water quality.

Analysis of Evidence

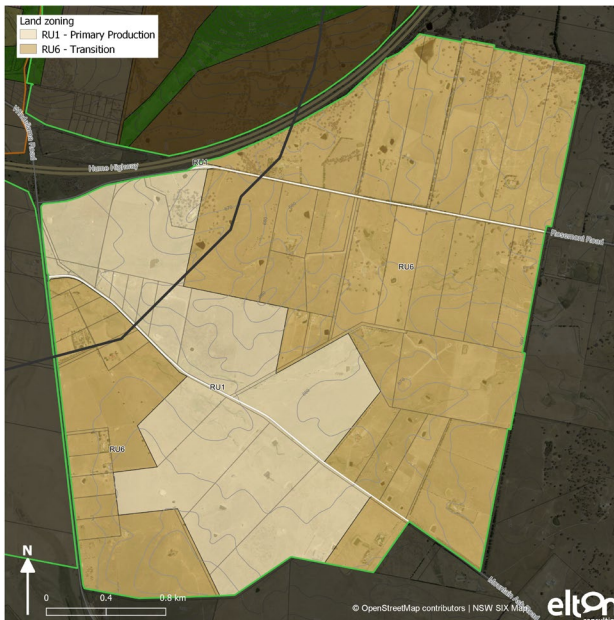
Opportunity to address zoning anomaly created by Highway between E and RU6 zones between Mt Gray and Mountain Ash precincts.

On-site sewer cannot be within 100m of a water course of any classification and development must have a NorBE on water quality.

Areas planned for development will require a comprehensive Aboriginal cultural heritage assessment.

Suited to Large Lot Residential development subject to the resolution of noise and other issues with Environmental zoning of flood affected areas.

Opportunities for Precincts 10 and 11 have been considered together.



Precinct 11 Brisbane Grove

Locality Description

A rural and rural transition area south of the Hume Highway, west of Mountain Ash Road. Residential development is typically rural with landholdings consisting of multiple lots.

Housing Gaps

Lack of infrastructure (roads, utilities connections) and distance to nearby services (shops, schools, community facilities) will prevent the precinct from delivering affordable or higher density residential development.



Character & Planning Controls

Key residential typologies	Detached dwellings on single lots A small number of rural-residential lots
Land use zoning	RU1 Primary Production RU6 Rural Transition
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation, dwelling house
Minimum lot size	100 hectares (RU1) 10-20 hectares (RU6)
Heritage	Listed in GMLEP 2009: <ul style="list-style-type: none"> I107 - "Garroorigang", Stables 209 Braidwood Rd I009 - Dwelling, "Allfarthing" 2 Brisbane Grove Rd I010 - Dwellings, "Brigadoon" and "Wyandra" 54 & 56 Brisbane Grove Rd I011 - Dwelling, "Sofala" 137 Brisbane Grove Rd I012 - Dwelling, "Weston" 242 Brisbane Grove Rd I013 - Dwelling, "Corrinyah", Corrinyah Rd I015 - Homestead, "Yattalunga" (1860), Johnson Ln Potential for Aboriginal objects to occur along and close to the Mulwaree River.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure:

- Water infrastructure is available with constraints due to water pressure, proximity to connection and capacity.
- Sewer infrastructure is constrained due to proximity to connection and likely requirement for a localised pumping station, some enlargement of downstream collection network likely to be necessary (subject to network modelling).

Environmental Constraints

- The majority of vegetation in the precinct has been removed for agricultural purposes and is therefore significantly disturbed and represents low ecological value.
- The precinct contains large areas of land identified as being bushfire prone.
- The precinct has a significant portion of land that is potentially flood affected, between Brisbane Grove Road and the Hume Highway; additional flood prone land may exist beyond current Flood Study and impact access.
- Proximity to Goulburn Airport could limit density of residential development.
- Proximity to Wakefield Park imposes a noise constraint on this precinct.
- On-site sewer cannot be within 100m of a water course of any classification in the Sydney Drinking Water Catchment (SDWC) which will limit the density of rural residential dwellings in this precinct. Any development within the SDWC must have a neutral or beneficial effect (NorBE) on water quality.

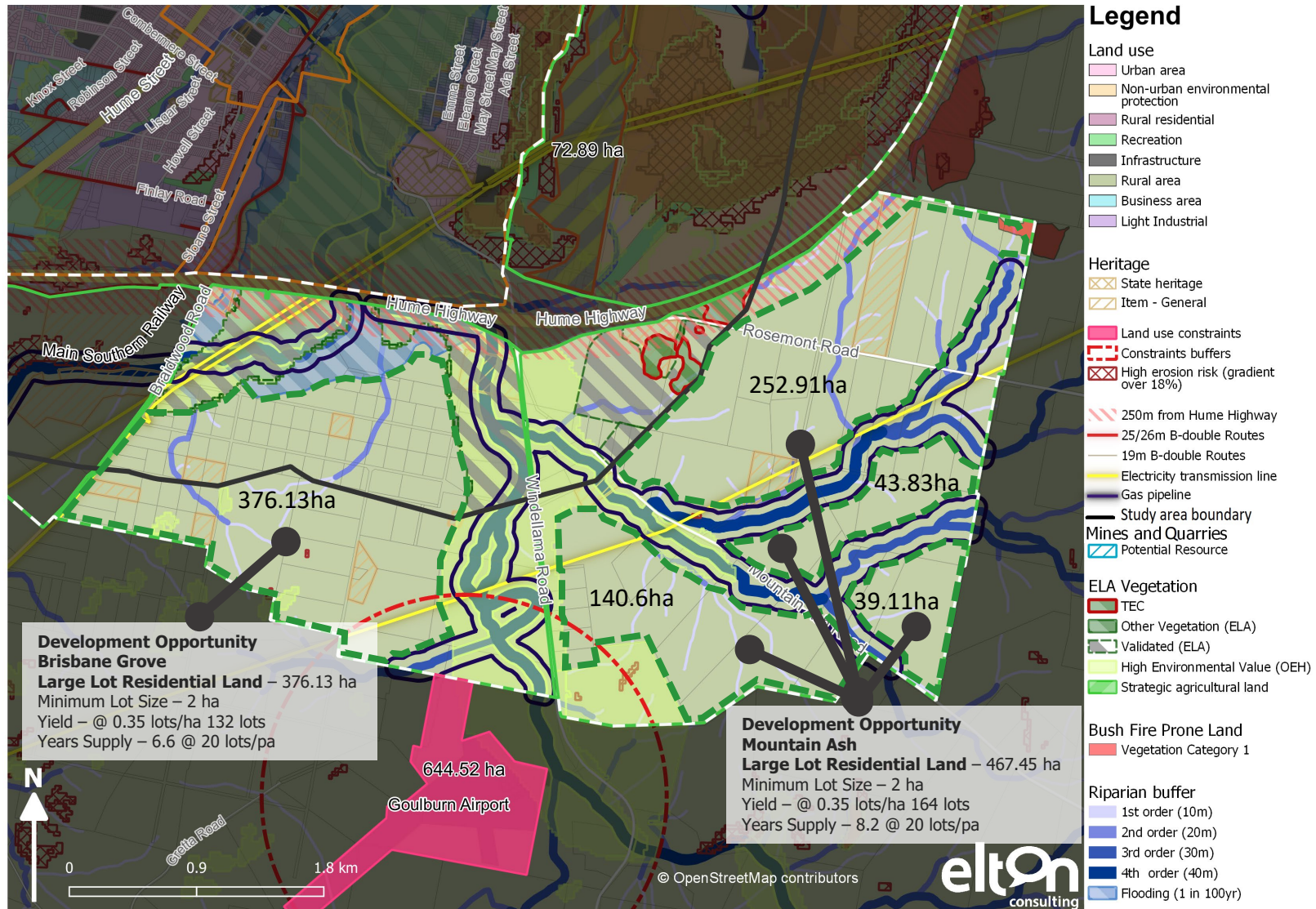
Analysis of Evidence

Suited to Large Lot Residential development subject to the resolution of noise and water quality issues. Although no Aboriginal sites have been recorded to date, sites have been recorded to the west and south of this precinct. A comprehensive Aboriginal cultural heritage assessment is required. Opportunities for Precincts 10 and 11 have been considered together.

Recommendation

- Rezone the land that is least constrained by topography and environmental constraints to a Large Lot Residential zone (un-serviced).
- Consider suitable Environmental zone for flood affected land
- Priority – High

10/11 - Brisbane Grove & Mountain Ash constraints and opportunities



Precinct 12 Abattoir

Locality Description

Area of rural lands south of the Hume Highway, surrounding the abattoir and the Mulwaree River.

Housing Gaps

Housing in association with rural land use.



Character & Planning Controls

Key residential typologies	Detached dwellings on single lots A small number of rural-residential lots
Land use zoning	RU1 Primary Production RU6 Rural Transition
Permitted residential typologies	Backpackers' accommodation, Bed and Breakfast accommodation, dwelling house
Minimum lot size	100 hectares (RU1) 10-20 hectares (RU6)
Heritage	Listed in GMLEP 2009: <ul style="list-style-type: none"> - 1008 – Dwelling, “The Towers” (c 1840), 5477 Braidwood Rd - 1275 – Thorne’s Bridge, Road Reserve, Mulwaree Ponds - 1211 – “Oliver Goldsmith Inn”, Hume St - 1171 – South Hill Complex, Early Homestead (c 1860), 3 Garroorigang Rd - 1243 – Barn (c 1870), 99–241 Mazamet Rd

A number of Aboriginal sites have been recorded in this precinct. There is potential for Aboriginal objects to occur along and close to the Mulwaree River and watercourses.

Land Use Opportunities and Constraints

Not currently serviced by water and sewer infrastructure:

- Water infrastructure is likely constrained due to water pressure and proximity to connection.
- Sewer infrastructure is likely constrained due to proximity to connection and likely requirement for a localised pumping station, some enlargement of downstream collection network likely to be necessary (subject to network modelling).

Environmental Constraints

- The majority of vegetation in the precinct has been removed for agricultural purposes and is therefore significantly disturbed and represents low ecological value.
- The precinct contains large areas of land identified as being bushfire prone.
- Proximity to Goulburn Airport and abattoir could limit density of residential development.
- Large area identified as being of heritage significance.
- Highway noise.
- Sections of slope over 18%.
- Water courses and potential flooding on the eastern side of the precinct.
- SLAWC assessments and SDWC requirement for development to have NorBE on water quality.

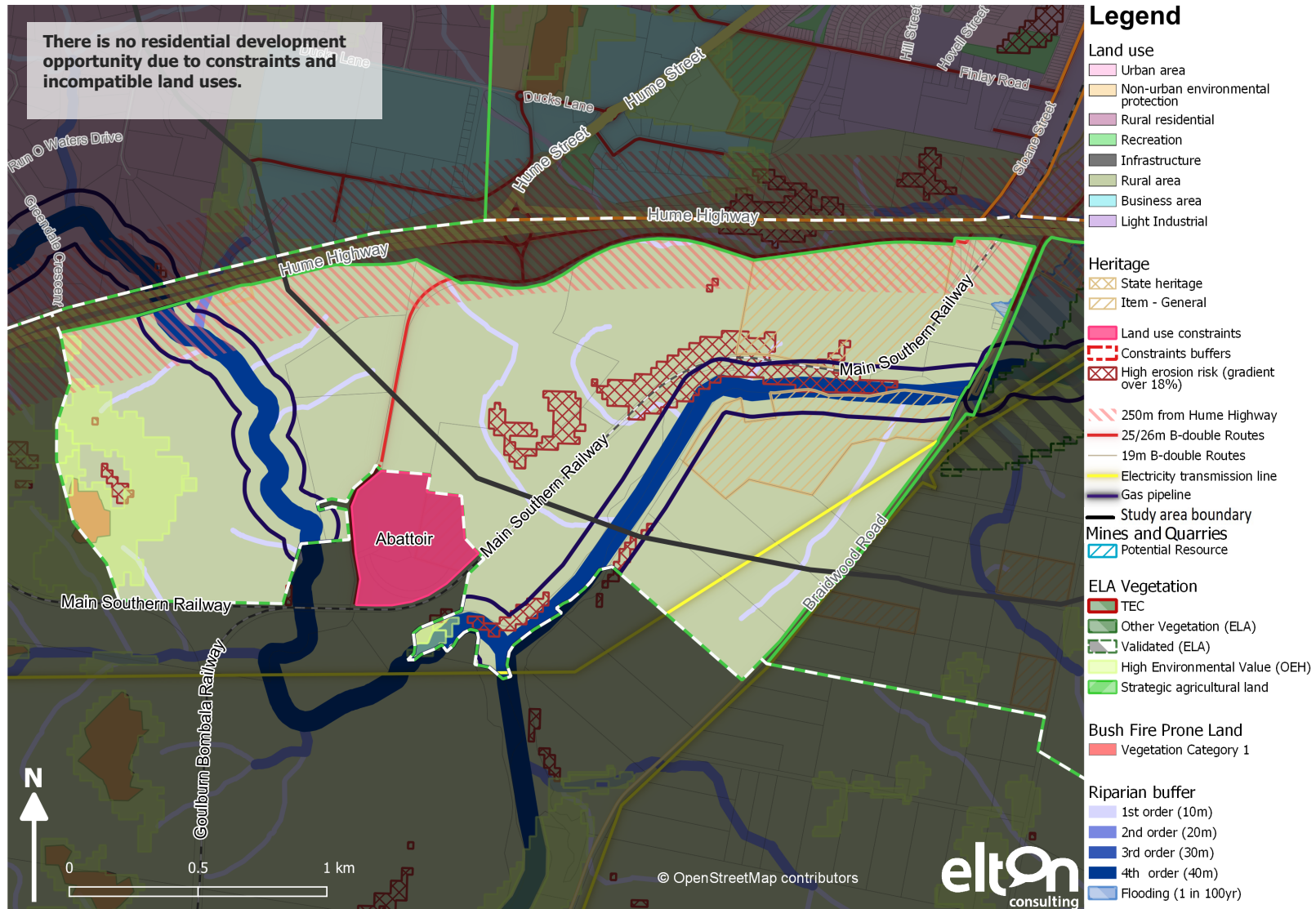
Analysis of Evidence

The presence of the abattoir in addition to other environmental constraints such as flooding on the eastern side of the precinct means this precinct is taken to be unsuitable for residential development.

Recommendation

- No change.

12 - Abattoir constraints and opportunities



Precinct 13 Garfield

Locality Description

The Garfield precinct is located on the 'other side' of the ridge, and approximately 3km from the city centre, bounded by the Hume Highway in the south, Main Southern Railway line in the east and Addison Street in the north. Garfield is the main entrance to Goulburn from the south along Hume Street (including the Big Merino landmark).

Most of the precinct has a strongly suburban character that is very different from Goulburn's other urban precincts in terms of building size (workers' housing), simplicity (little detailing) and modesty of materials (many timber dwellings and some fibro cement dwellings with metal roofs, with comparatively few in brick). The western fringe of the precinct follows a north-south ridgeline and transitions to a large-lot residential character.

There is a variety of architectural and period styles across the precinct, indicating a collection of individual dwellings built up over time. Infill development is introducing different size, form and materials in dwelling design to the Garfield precinct.

Character & Planning Controls

Key residential & business typologies	Smaller houses in a range of colours (mostly lighter colours) typically of simple 'box' or forward bay type. Front gardens set to lawn with smaller scale edge planting and no or low front fences. Small to medium street trees add amenity and appeal to streetscapes within the precinct. The B6 and IN1 zone built form is typically big box retail (e.g. BCF, Bunnings), car sales, very large sheds.
Land use zoning	B6 Enterprise Corridor R1 General Residential R5 Large Lot Residential RU2 Rural Landscape E4 Environmental Living RE1 Public Recreation RE2 Private Recreation IN1 General Industrial
Permitted residential typologies	Attached dwellings; Bed and Breakfast accommodations; Boarding houses; Dwelling houses; Group homes; Hostels; Multi-dwelling housing; Residential flat buildings; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Secondary dwellings
Minimum lot size	700sqm (R1) 2,000sqm (R5) 10,000sqm (E3) 8,000sqm and 2Ha (E4) 100Ha (RU2)
Heritage	Locally listed in GMLEP: <ul style="list-style-type: none"> Goulburn Workers Club Sports Arena Residences at 216 and 202 Addison St Christchurch 130 Addison St 47 Combermere St 10 Cowper St 20 Lisgar St <p>A number of Aboriginal sites have been recorded along the western and southern boundaries of this precinct.</p>



Land Use Opportunities and Constraints

The topography of the Garfield precinct is sloping, with a mix of street widths. Lots are generally narrow with a large open space to built area ratio that gives a feeling of openness to the streets. Some large vacant/undeveloped parcels enable views through blocks; where this occurs it further enhances the openness of the streetscape.

Garfield's character varies north and south of Hume Street. North has newer residential stock and easy access to Goulburn West Public School and St Peter & Paul's Primary School, while South is more business and industrial. Residents south of Hume street have a green corridor but need to travel for services.

Goulburn South Caravan Park offers affordable housing where permanent residents own their dwelling and lease the site (Community title development). The area containing the Caravan Park (SA1:10105153954) has a SEIFA score of 769, one of the lowest in Goulburn. This is potentially an emerging residential community and likely to be an older demographic.

Some heritage items which could be considered in any future redevelopment for retention (i.e. St Johns' Orphanage Site). Vacant and undeveloped areas planned for redevelopment will require a comprehensive Aboriginal cultural heritage assessment.

There is an opportunity to consider the application of the R3 Medium Density Residential zone close to the city centre.

Due to constraints including slope, proximity to Hume Highway and watercourses, the area of RU2 zoned land (Dossie Street area) is not considered suitable for urban use.

Housing Gaps

Affordable housing

Medium density infill housing is suitable for this precinct due to proximity to schools, parks and the city centre.

Recommendations

- Some large vacant/undeveloped parcels of land available for infill urban residential; also, depending on servicing, some lots could be rezoned and subdivided in future.
- Re-zone opportunity area which borders Central Goulburn to R3 Medium Density Residential.

Development Opportunity

Garfield
Urban infill opportunities – 5.84ha
Re-zone to R3 Medium Density Residential

Legend

Land use

- Urban area
- Non-urban environmental protection
- Rural residential
- Recreation
- Infrastructure
- Rural area
- Business area
- Light Industrial

Heritage

- State heritage
- Item - General
- Land use constraints
- Constraints buffers
- High erosion risk (gradient over 18%)
- 250m from Hume Highway
- 25/26m B-double Routes
- 19m B-double Routes
- Electricity transmission line
- Gas pipeline

Mines and Quarries

- Potential Resource

ELA Vegetation

- TEC
- Other Vegetation (ELA)
- Validated (ELA)
- High Environmental Value (OEH)
- Strategic agricultural land

Bush Fire Prone Land

- Vegetation Category 1

Riparian buffer

- 1st order (10m)
- 2nd order (20m)
- 3rd order (30m)
- 4th order (40m)
- Flooding (1 in 100yr)

Map contributors

elt on consulting

Precinct 14 West Victoria Park

Locality Description

Formerly known as 'Western', West Victoria Park starts at Deccan Street (including Victoria Park) in the east where the precinct joins Goulburn CBD and extends west to the Baw Baw fringe precinct, bounded by the Wollondilly River and Fitzroy Street in the north and east.

This precinct lies astride the hills overlooking Goulburn, with some panoramic views contributing to a strong sense of place. This precinct is generally characterised by curvilinear streets along the land contours, giving streetscapes where one side of the street is higher than the other. Setbacks vary but are typically more generous than in the rectilinear streets of the older subdivisions.

Facilities within the precinct are Victoria Park including the Aquatic Centre, Goulburn Highschool, Wollondilly Public School, The Crescent School (special education), Trinity Catholic College, TAFE, Historic Waterworks Museum and Marsden Weir Park and Simon Poidevin Oval.

Recommendations

- The north-western corner contains already-subdivided but yet to be developed residential lots. This area is zoned R5 with a MLS of 2,000sqm. Consider rezoning this area to accommodate a smaller minimum lot size and more efficient utilisation of water and sewer infrastructure.
- Areas planned for development such as vacant and undeveloped lands will require a comprehensive Aboriginal cultural heritage assessment.

Character & Planning Controls

Key residential typologies	Single storey detached dwellings.
Land use zoning	R1 General Residential R5 Large Lot Residential RE1 Public Recreation RE2 Private Recreation SP2 Infrastructure
Permitted residential typologies	Attached dwellings; Boarding houses; Dwelling houses; Group homes; Multi dwelling housing; Residential flat buildings; Semi-detached dwellings; Seniors housing; Serviced apartments
Minimum lot size	700sqm (R1) 2,000sqm (R5)
Heritage	<ul style="list-style-type: none"> State Significant and EPI Heritage area around Marsden Weir and Historic Waterworks impacts land on the southern bank of Wollondilly River (72 Fitzroy St) 221 Wheeo Rd (Historic water treatment pond) EPI Heritage 147 Addison Road (Trinity College) 24 Gilmore Street (historic residence) 2 View Street (TAFE) 134 Faithfull street (Aquatic Centre) 74, 78, 100 and 104 Deccan Street (historic residences) 8 Mount Street (historic residence) <p>A number of Aboriginal sites have been recorded along the northern boundary of this precinct. Potential for objects to occur along and close to the Wollondilly River.</p>

Housing Gaps

Affordable housing

Medium density infill housing is suitable for this precinct due to proximity to schools, parks and the city centre.

Land Use Opportunities and Constraints

Existing parks are distributed towards the east of the precinct, so land impacted by the riparian lands buffer in the west could be utilised as linear parks through newer residential area with reduced MLS.

Analysis of Evidence Base

This precinct contains the most relatively advantaged area (SA1:10105153955) in Goulburn, with a SEIFA score of 1,115. The newer area (mainly zoned R5) of SA1:1153922 is also one of the more relatively advantaged areas of Goulburn, with a score of 1,066. The most relatively disadvantaged area of the precinct is SA1:10105153917 (immediately adjacent to the Central Goulburn precinct) with a score of 908.



Development Opportunity

West Victoria Park
Urban infill opportunities –
Rezone R5 area and reduce MLS
to allow greater density.

Legend

Land use

- Urban area
- Non-urban environmental protection
- Rural residential
- Recreation
- Infrastructure
- Rural area
- Business area
- Light Industrial

Heritage

- State heritage
- Item - General

Land use constraints

- Constraints buffers
- High erosion risk (gradient over 18%)
- 250m from Hume Highway
- 25/26m B-double Routes
- 19m B-double Routes
- Electricity transmission line
- Gas pipeline

Mines and Quarries

- Potential Resource

ELA Vegetation

- TEC
- Other Vegetation (ELA)
- Validated (ELA)
- High Environmental Value (OEH)
- Strategic agricultural land

Bush Fire Prone Land

- Vegetation Category 1

Riparian buffer

- 1st order (10m)
- 2nd order (20m)
- 3rd order (30m)
- 4th order (40m)
- Flooding (1 in 100yr)

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Precinct 15 Marys Mount

Locality Description

Marys Mount has grown significantly in the past decade, expanding to accommodate almost the full extent of currently zoned Low Density Residential.

This precinct typically comprises curvilinear streets with culs de sac. Recent development within the precinct is also distinctive because of its relative isolation from the central Goulburn urban area.

The precinct is characterised by having little mature vegetation within private open space areas. Street trees are yet to establish and development has occurred in an ad hoc manner without the benefit of a neighbourhood structure plan to guide growth.

Marys Mount Road is characterised by gun barrel fencing as planning development controls fail to keep pace with and manage development outcomes.



Character & Planning Controls

Key residential typologies	Detached dwellings on single lots, generally single storey in height with rendered/face brock facades and tiled roofs
Land use zoning	R2 Low Density Residential R5 Large Lot Residential RE1 Public Open Space B1 Neighbourhood Centre
Permitted residential typologies	Boarding houses; Dwelling houses; Group homes; Shop top housing
Minimum lot size	700sqm and 2,000sqm
Heritage	Listed in GMLEP: 124 Marys Mount Road (Former Catholic Monastery) This building has been converted to 25 residential Strata Units of 1-2 bedrooms. A large number of Aboriginal sites have been recorded in this precinct as part of previous subdivisions. Potential for Aboriginal objects to occur along and close to the Wollondilly River.

Housing Gaps

Medium density and affordable housing is largely missing from this precinct as it is dominated by R2 Low Density Residential land, with housing typology largely single storey detached dwellings.

Land Use Opportunities and Constraints

Marys Mount contains a number of educational facilities including the Police College/Charles Sturt University Goulburn Campus, Lilac Early Learning Centre (daycare) and Mulwaree High School. Warrigal Aged Care Service is also located within the precinct.

Much of this precinct has already been developed at a fairly low density. An example of increasing housing diversity is the historic monastery which has been converted to one and two bedroom units.

The SP2 zone encompassing Mulwaree High School – approximately 35ha, also contains a Field Studies Centre for use by students from Mulwaree High School, as well as students at all district schools.

SEIFA scores for SA1 areas within Marys Mount vary between 696 (the most relatively disadvantaged area in Goulburn) adjacent to the Police College, and 1,033 in the newer area adjacent to Mistful Park neighbourhood centre.

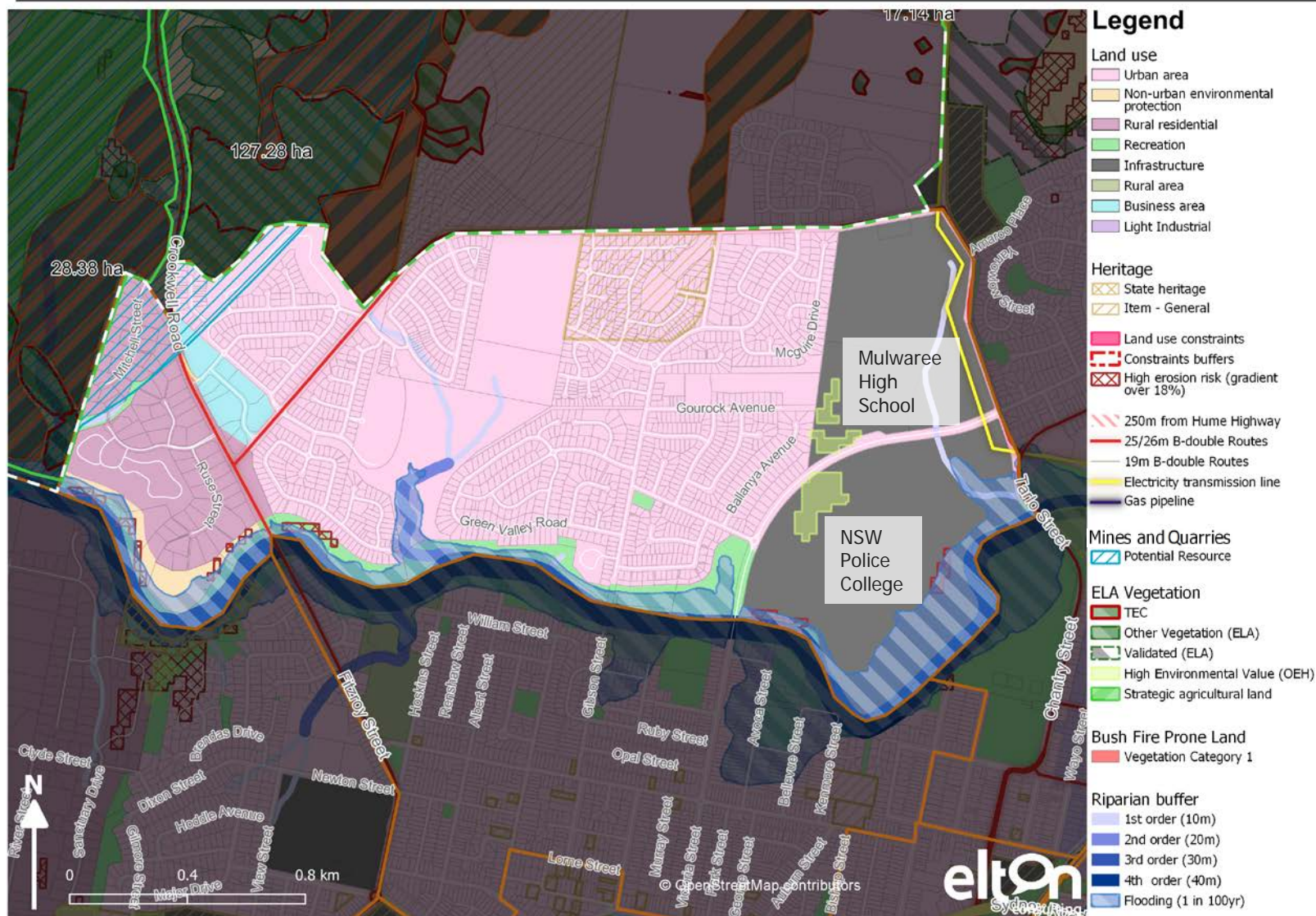
The Wollondilly Walking Track through the RE1 zoned land along the river serves to link existing open space in the precinct. There is an opportunity to improve the amenity of existing open space. Once completed, Riverside Park will become a regional park.



Recommendations

- Encourage infill development of residentially zoned land.

15 - Marys Mount constraints and opportunities



Precinct 16 Bradfordville

Locality Description

The topography of the Bradfordville precinct is generally flat. The precinct has a predominantly suburban character, consistently modest in bulk and scale though mixed in age, materials and colours. The Bradfordville precinct is part of the original character area 7 in the 1983 Heritage Study.

The north east of Bradfordville has a mixture of loose/distorted grid with some curvilinear streets and cul-de-sac. The northern portion of the precinct has a suburban fringe character, with houses backing on to fields, with wide vistas and scattered detached dwellings beyond.

Houses in this precinct are built in a mix of materials, including brick (red and blonde) with tiled roofs, and timber typically with iron roofs; generally inter-war period with some 1960s fibro, and recently constructed houses.

Dwellings comprise simple forms, either forward bay or 'box' cottages – generally single storey. New dwellings are interspersed across the precinct, but are generally built closer to side boundaries, some with attached garages.

There are some street trees in the precinct, ranging from small to medium in size. There are however some streets with no trees. Many streets do not include footpaths, creating a sense of the front garden flowing out to the street. Newer areas have roll kerbs.

Housing Gaps

Some recent infill does not allow for tree cover and will contribute to urban heat island effect. Additionally, standard housing design requires artificial heating and cooling, which can be unaffordable for low income households (typical of Bradfordville) and not resilient to Climate Change.



Character & Planning Controls

Key residential & tourist typologies	Typically detached dwellings on single lots, with large front setbacks and low or no front fences.
Land use zoning	R2 Low Density Residential R5 Large Lot Residential RE1 Public Recreation E2 Environmental Conservation E3 Environmental Management IN1 General Industrial IN2 Light Industrial RU2 Rural Landscape SP2 Infrastructure
Permitted residential typologies	Boarding houses; Dwelling houses; Group homes; Bed and Breakfast accommodation; Caravan parks; Secondary dwellings; Rural workers' dwellings.
Minimum lot size	700sqm (R2) 2,000sqm (R5) 100Ha (E3 and RU2)
Heritage	State and Locally listed Kenmore Asylum Heritage Conservation Area. Items I293, I304, I292, I291 in Schedule 5 of GMLEP are also within this precinct. Aboriginal sites have been recorded within the north eastern area of this precinct. Potential for Aboriginal objects to occur along and close to Wollondilly River.

Recommendations

- Encourage appropriate infill development of residentially zoned land.
- Areas planned for development must have a comprehensive Aboriginal cultural heritage assessment and ecological assessment.
- Priority – Medium/High

Land Use Opportunities and Constraints

Bradfordville has a Medical Centre, Public School and Christian school (One School Global). There is also a NDIS service provider and a TAB Tavern. Craig's Hill Crematorium Chapel is collocated with an active Cemetery in the north west of the precinct off Middle Arm Road.

Recreational opportunities include a Swim School, Cookbundoon Sporting Complex, an oval and smaller parks. There is a Golf Course and North Park in the southern area near Ifield. Additionally, the Goulburn-Crookwell Railway traverses the precinct and could be redeveloped as a rail trail/active travel link.

Bradfordville is a social housing area with SEIFA scores ranging between 769 and 957 across the precinct's SA1 areas, indicating high relative disadvantage.

There is a recent residential subdivision of the block containing historic Liminis House, adjacent to the Kenmore Asylum HCA.



Legend

Land use

- Urban area
- Non-urban environmental protection
- Rural residential
- Recreation
- Infrastructure
- Rural area
- Business area
- Light Industrial

Heritage

- State heritage
- Item - General

Land use constraints

- Constraints buffers
- High erosion risk (gradient over 18%)
- 250m from Hume Highway
- 25/26m B-double Routes
- 19m B-double Routes
- Electricity transmission line
- Gas pipeline

Mines and Quarries

- Potential Resource

ELA Vegetation

- TEC
- Other Vegetation (ELA)
- Validated (ELA)
- High Environmental Value (OEH)
- Strategic agricultural land

Bush Fire Prone Land

- Vegetation Category 1

Riparian buffer

- 1st order (10m)
- 2nd order (20m)
- 3rd order (30m)
- 4th order (40m)
- Flooding (1 in 100yr)

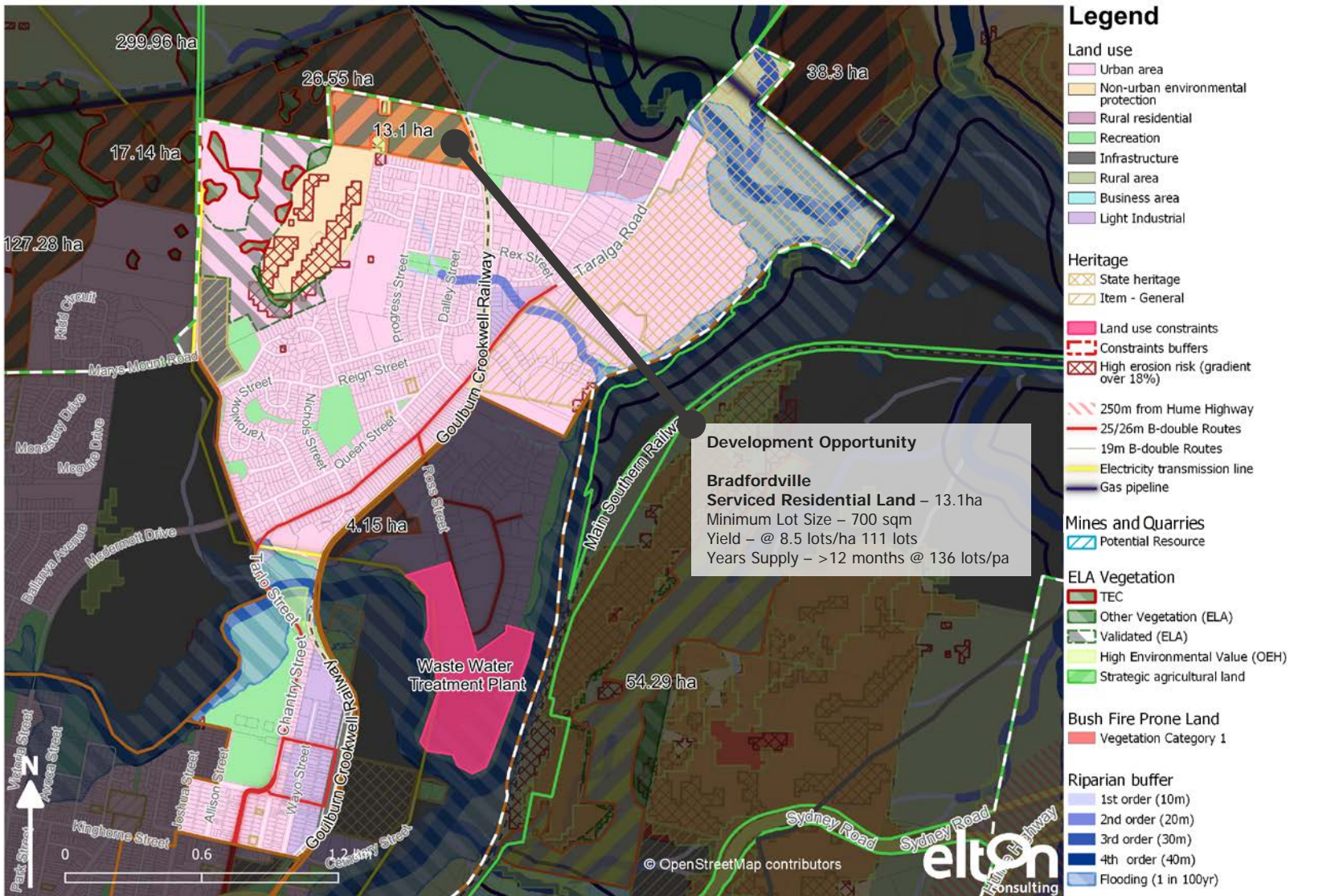
Development Opportunity

Bradfordville
Serviced Residential Land – 13.1ha
 Minimum Lot Size – 700 sqm
 Yield – @ 8.5 lots/ha 111 lots
 Years Supply – >12 months @ 136 lots/pa

Map labels include: 299.96 ha, 17.14 ha, 127.23 ha, 26.55 ha, 13.1 ha, 38.3 ha, 4.15 ha, 54.29 ha, Marys Mount Road, Main Southern Railway, Goulburn Crookwell Railway, Sydney Road, Hume Highway, Kingshore Street, Chantry Street, Wayo Street, Alison Street, Joshua Street, Modemott Drive, Ballynare Avenue, Monastery Drive, Meguire Drive, Mid Goulburn, Progress Street, Reign Street, Nicholas Street, Queen Street, Ross Street, Dalley Street, Rex Street, Taraiga Road, Waste Water Treatment Plant, and a scale bar from 0 to 0.6 km.

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Precinct 17 Eastgrove

Locality Description

Set apart from the town on the eastern side of the Mulwaree River, Eastgrove has a distinct physical and visual separation from the central Goulburn retail centre. The Eastgrove residential area lies mainly above the flood plain and against the backdrop of the War Memorial hills, with panoramic views back towards Goulburn along East West streets, from higher level homes, and between buildings.

The Eastgrove precinct is characterised by a regular grid laid over the west-facing slope with terminating North-South streets connected by two main East-West streets (Park Road and Glenelg Street). Terminating streets have a 'cul de sac' character that give a sense of privacy and seclusion and contribute to the 'separate' character of the precinct.

On the lower slopes there are a number of significant older buildings, often on large lots and/or with undeveloped land around them, which add a strong historical and semi-rural character to the Eastgrove precinct. On the higher slopes are newer dwellings, conventional in design, whose brick veneer, low-pitched tiled roofs and landscaping treatment contrast with the nature of the older parts of the neighbourhood.

Housing Gaps

Single detached dwellings dominate the precinct, however in this case this is the most appropriate typology.

Recommendations

- Due to the significant constraints, further residential development is not recommended in this precinct.
- No changes to zoning are recommended for this precinct.

Character & Planning Controls

Key residential typologies	Newer dwellings have a larger footprint and smaller rear yard.
Land use zoning	RU2 Low Density Residential R1 General Residential RE1 Public Recreation E2 Environmental Conservation E3 Environmental Management B6 Enterprise Corridor IN1 General Industrial
Permitted residential typologies	All residential typologies are permitted across the R1 and R2 zones

Minimum lot size	100Ha (RU2 and E2 and E3) 700sqm (R2 and R2)
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Heritage	Listed in GMLEP: <ul style="list-style-type: none"> - 12 Braidwood Rd (State Heritage & EPI) Goulburn Locomotive Roundhouse - 8 and 11 Cooma Ave, and 8 Ottiwell St – historic residences - 3-31 Bungonia Rd (SHR & EPI) and extending SHR curtilage east across the river – steam mill - 33 Bungonia Rd (SHR & EPI) – Lansdowne Park - Historic residences at 9, 15-17, and 24 Hercules St, 95 Park Rd, 29 Emma St, 56 May St - Sloane St (train station) State Heritage Register curtilage - Goulburn Wetlands heritage area - 141 May St (residence)
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A large number of Aboriginal sites are recorded within this precinct including significant sites within Rocky Hill and Lansdowne Park areas. Potential for Aboriginal objects to occur closer to the Mulwaree River.

Land Use Opportunities and Constraints

The Western and Southern portion of Eastgrove is highly flood prone and experiences upstream backwatering effects of the Mulwaree River's confluence with the Wollondilly River which can result in isolation from the town centre.

The northern extent of the General Industrial land along Braidwood Road is also subject to flooding (1%AEP). Eastgrove's northern portion contains the Rocky Hill War Memorial reserve which has steep slopes (gradient over 18%). Bushfire is a significant hazard along Rocky Hill which is mapped as category 1 vegetation.

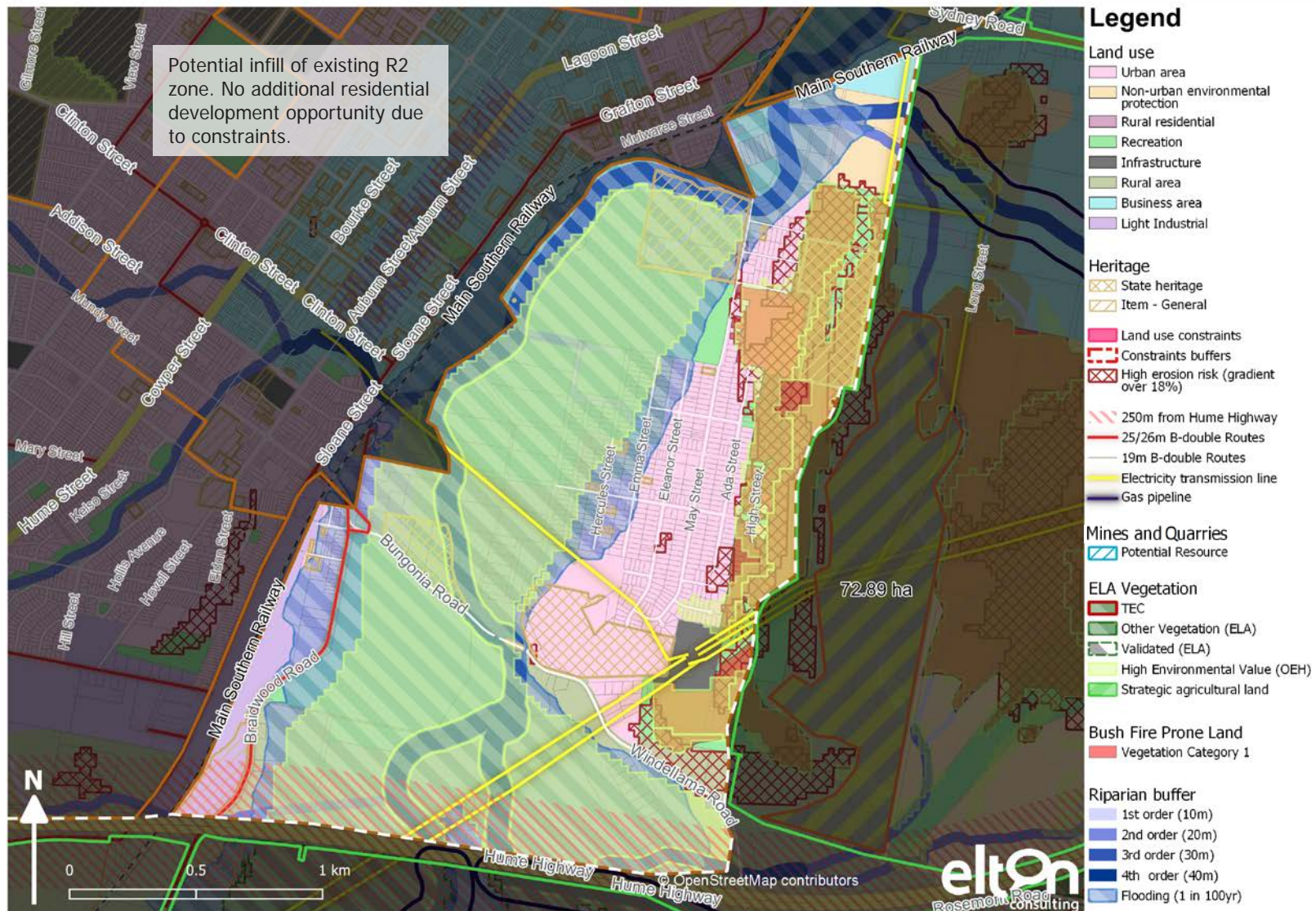
There are significant social infrastructure and recreational facilities within the precinct including:

Goulburn Brewery, Harness Racing Club, Goulburn Recreation Area, Goulburn Rail Heritage Centre, Goulburn Basketball Centre, Rocky Hill War Memorial and Museum, Goulburn Golf Club, Eastgrove Park, Goulburn East Public School, Bartlett Park, netball courts and Carr Confoy Oval, Goulburn Wetlands park & community garden, and Goulburn Academy of Early Learning (childcare).

Much of the flood prone area of Eastgrove is also mapped as HEV in recognition of the importance of riparian corridors as ecological habitat and water catchment quality.



17 - Eastgrove constraints and opportunities



Precinct 18 Central Goulburn

Locality Description

The CBD of Goulburn is bounded by the train line and Mulwaree River to the east, and Victoria Park to the west. The precinct includes Goulburn Hospital and Goulburn High School but not Victoria Park.

Goulburn Central is surrounded by the precincts of Eastgrove, Garfield, East Victoria Park and Ifield.

The concentration of individual heritage items and the blanket Heritage Conservation Area characterise this whole area.

The access to retail areas, facilities and services together with the formal grid pattern contribute to the desirability for increased densities. However, any redevelopment will need to consider the Heritage Conservation Area.



Character & Planning Controls

Key residential & tourist typologies	Detached dwellings on single lots, Retirement village, Hotel/pub accommodation, Motels, Train station, Belmore Park
Land use zoning	R1 General Residential B3 Commercial Core B4 Mixed Use RE1 Public Recreation SP2 Infrastructure IN1 General Industrial
Permitted residential typologies	Attached dwellings; Bed and Breakfast accommodation; Boarding houses; Dwelling houses; Group homes; Hostels; Multi-dwelling housing; Residential flat buildings; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing.
Minimum lot size	700sqm (R1), however many existing lots are smaller than this.
Heritage	A Heritage Conservation Area applies to the city centre. Potential for Aboriginal objects to occur along and close to Mulwaree River.

Housing Gaps

Medium density residential infill development is needed in the city centre to:

- Assist with the reinvigoration of the centre more generally, as it would serve to increase foot traffic and make business more viable without increasing road traffic,
- Better cater to the aging population of the LGA and increasing single person households,
- Increase housing choices and affordability in the city for example, Shop top housing and Apartments.

Land Use Opportunities and Constraints

The centre of Goulburn offers the opportunity to diversify the types of housing available in Goulburn. Convenient access to retail, health and other services makes it the most suitable area in Goulburn Mulwaree LGA for the provision of medium density and seniors housing.

Includes the Hospital and Goulburn High School.

The minimum lot size may act as a disincentive to development in general and medium density housing in particular.

Fragmented ownership of small lots makes it difficult for a developer to amalgamate enough land to deliver a medium or high density development.

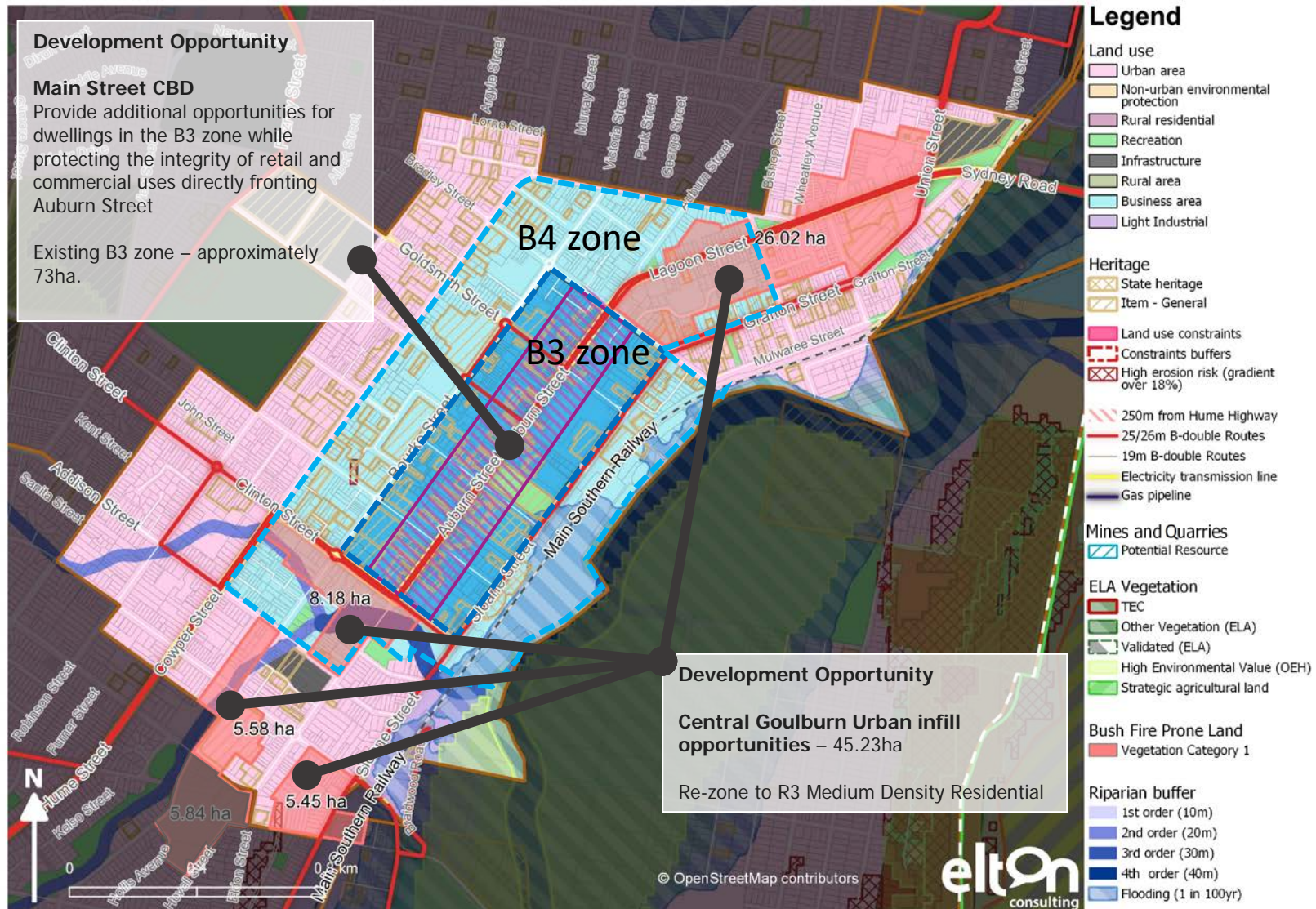
Heritage is a significant constraint to redevelopment, but also an important attractor to the city and defining characteristic.

No Aboriginal sites have been recorded in this precinct to date, however, potential for Aboriginal sites to occur should be considered during any proposed development within this precinct.

Recommendations

- There is an opportunity to encourage redevelopment within the Goulburn City Centre by rezoning certain land R3 Medium Density Residential. The distinctive zone would likely retain a similar land use table of permissible uses as the R1 General Residential zone, however, the objectives could be better expressed to recognise the intended outcome. Requirements such as carparking, floor space ratio, height and private open space could also be tailored. The separate zone allows for DCP controls specific to the R3 zone as distinct from the other residential zones, giving Council the flexibility to provide incentives for development closer to the centre of the city.

18 - Central Goulburn constraints and opportunities



Precinct 19 Ifield

Locality Description

This precinct is characterised by a regular grid pattern with rectangular blocks and narrower streets than the town centre. Within the precinct, Kinghorne Street acts as a distinctive character boundary.

South of Kinghorne Street, buildings tend to be older and larger; with a consistent streetscape of smaller front and side setbacks; rows of houses are built to a similar 'pattern' (reflecting subdivision/development by the same builder); slightly more complex building and (gable end) roof forms, particularly to Federation houses; and materials are predominantly brick and tile.

North of Kinghorne Street, towards the river, building forms are more simple and modest, somewhat more varied, and roofs tend to be hipped. The portion of the precinct between Chatsbury and Wilmot Streets is almost a sub-precinct. This portion of the precinct continues the grid and very wide streets of the town centre, which in combination with the modest housing stock creates an impression of great spaciousness. The lack of street trees in this area to break down the large scale of the streets exaggerates this effect. East of Kinghorne Street the grid is further broken down with the introduction of rear lanes.

Recommendations

- Encourage redevelopment of existing larger lots through existing GMLEP controls.

Character & Planning Controls

Key residential & tourist typologies	The architecture of detached houses within the precinct span Federation to post-war periods. Dwellings in this precinct tend to have low or no front fences, which are often brick with brick houses. The use of street trees varies. There are some mature street trees, with well landscaped and tended front gardens. Recent townhouse development in the precinct have tended to adopt a 'gunbarrel' lot layout and which has tended to be visually intrusive, have vast expanses of hard surfaces, minimal landscaping and high solid front fences.
Land use zoning	R1 General Residential RU2 Primary Production RE1 and RE2 Public and Private Recreation
Permitted residential typologies	All residential typologies are permitted across the R1 and R2 zones
Minimum lot size	700sqm 100Ha (RU2)
Heritage	A number of heritage items are listed in schedule 5 of the GMLEP. No Aboriginal sites have been recorded to date. Potential for Aboriginal objects to occur along and close to the Wollondilly River and should be considered during any proposed redevelopment.

Housing Gaps

Single detached dwellings dominate this precinct and there is lack of dwelling typology diversity.

Land Use Opportunities and Constraints

Proximity to CBD, predominantly R1 residential
Some Recreational areas including Wollondilly River corridor
Other key land uses include; PCYC Goulburn and a number of parks and recreation areas.

Flooding is the most significant constraint to redevelopment.

Analysis of Evidence Base

The RU2 zones are undersized at approximately 2ha and 7ha (MLS 100Ha).

Potential for infill in areas, for example:

- DP37418 (M) plus part of adjoining lot (vacant) totals 2,725sm so could yield around 5 lots at 400 to 450sqm. This would require a reduced MLS.
- Room for a terrace house development along Show Street using backyards of houses along Prell Street.
- Vacant blocks behind Goodstart Early Learning, access via Erith Street.



19 - I field constraints and opportunities



Precinct 20 Correctional Centre

Locality Description

River and rail corridors define this precinct, which contains the confluence of the Wollondilly and Mulwaree Rivers.

The Main Southern Railway borders the precinct in the south and east, while the disused Goulburn-Crookwell Railway forms the western border.

The Old Town of Goulburn was located at the rivers' confluence before being relocated to the current CBD location in the 1830s due to flooding.

Key Infrastructure uses within the precinct are the Goulburn Correctional Centre and Sewerage Treatment Plant, located on opposite banks of the Wollondilly River. The newly modernised sewerage treatment plant is located in the centre of the precinct. Odour is not considered to be a development constraint now that the new STP is operational.

Recommendations

- This precinct is largely unsuitable for residential development due to its land use and flood constraints.



Character & Planning Controls

Key residential typologies	Historic residence, Correctional Centre
Land use zoning	RU2 Primary Production R1 General Residential RE1 Public Recreation RE2 Private Recreation SP2 Infrastructure IN1 General Industrial B6 Enterprise Corridor
Permitted residential typologies	All residential typologies are permitted across the R1 and R2 zones
Minimum lot size	100Ha (RU2) 700sqm (R1)
Heritage	<ul style="list-style-type: none"> State heritage listed Goulburn Gaol, Victorian Classical Revival (c 1883) State heritage listed Dwelling, "Riversdale", Single Storey, Georgian (c 1840) Locally listed St Saviour's cemetery (GMLEP) Locally listed Mortis Street Cemetery (GMLEP) <p>Aboriginal sites have been recorded along the powerline easement.</p>

Housing Gaps

There is potential for 14 – 24 urban infill residential lots to be provided between Brewer and Ross Street pending a more detailed site suitability analysis. Including a B6 zone in this area of the precinct increases the opportunities to live and work in close proximity.

Land Use Opportunities and Constraints

This precinct experiences significant mainstream flooding from both the Wollondilly and Mulwaree Rivers. Major Overland Flow (MOF) flood mapping is being undertaken as part of the new floodplain risk management study and plan, but is not yet available. The industrial area in the north is unconstrained by mainstream flooding (1% AEP).

Heritage items are located on the western side of the rivers' confluence:

- 'Riversdale' is a state heritage listed farming and grazing homestead complex located at the Northern edge of the Old Town of Goulburn.
- Goulburn Correctional Centre complex, now a 'supermaximum' security prison for males, is listed on the New South Wales State Heritage Register as a site of State significance as one of two model prisons designed by the Colonial Architects Office in the late 1870s and early 1880s.
- St Saviour's cemetery was Goulburn's first cemetery, in use from c.1830 to 1937.
- Mortis Street cemetery was used from the 1840s until 1903 (Cemetery Plan of Management 2012, GMC). Both cemeteries are heritage listed in the GMLEP 2009.

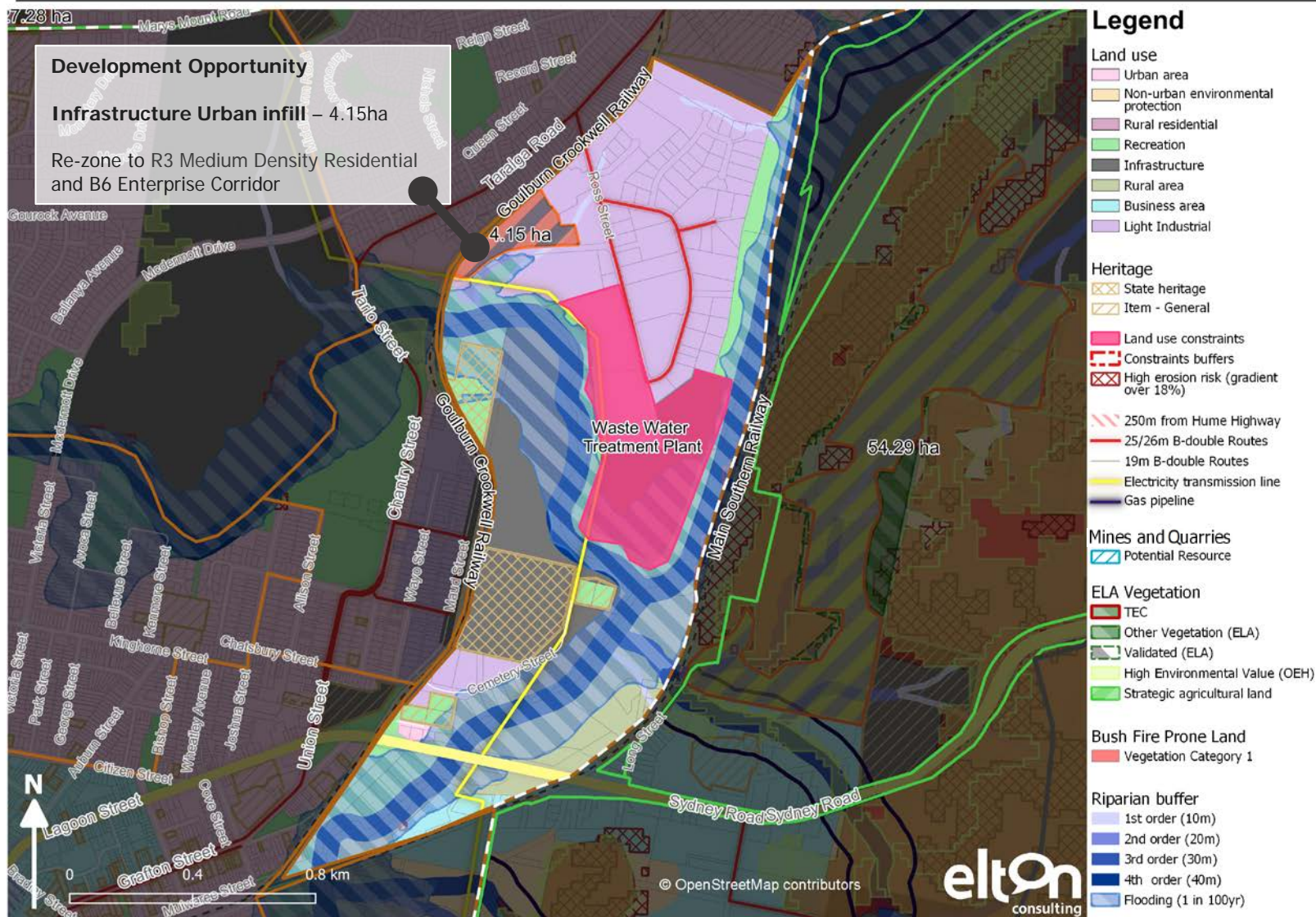
An area of land between Brewer and Ross Street is currently being considered by Council for a split zoning of B6 and R1 General Residential. This land is outside the 1% AEP mainstream flood area but is impacted by the PMF mainstream flood extent (2016 Flood Study). It is separated from the residential area of Bradfordville by the disused Goulburn-Crookwell Railway and would require an extension of Brewer street across this rail corridor for residential access. The future use of the Goulburn-Crookwell Railway should be determined prior to approving any roads crossing the rail corridor.

Potential for Aboriginal objects to occur along and close to the Mulwaree and Wollondilly Rivers. Any future plans for development will require a comprehensive Aboriginal cultural heritage assessment.

An electricity transmission line easement runs through the precinct and crosses the rail corridor at approximately the same point as the proposed road extension. The outcomes of the MOF flood mapping should also inform Council's consideration of this site's suitability for residential infill/B6 enterprise development.

A community solar farm is proposed for a 2.5 ha site off Bridge St, between Sydney Rd and the Main Southern Railway line by Community Energy 4 Goulburn (GE4G). The site is currently zoned B6 – Enterprise Corridor.

20 - Correctional Centre constraints and opportunities



Precinct 1 Marulan Town Centre

Locality Description

Marulan developed around providing goods and services as a highway town. The town centre was bypassed in 1985 and is located on the western side of the Hume Highway. Marulan provides roadside services to passing traffic on the Hume Highway. Marulan has a diversity of land uses, including residential, shops, hospitality, places of worship, health services, public education and recreation.

Marulan features a number of historically notable buildings, particularly along George Street, many of which are heritage listed. Residential lots are typically narrow and long with dwellings at the front and substantial rear yards. These lots are typically in the order of 1,500sqm. There are a number of undeveloped lots within the town centre precinct.

The *Draft Marulan Village Plan 2018* outlined a shared community vision:

"That Marulan be a diverse, vibrant, growing and attractive village that is successful and affordable to live, work and play with the infrastructure to accommodate."



Character & Planning Controls

Key residential and business typologies	Single detached residential dwellings. Single detached shops and businesses, primarily along George Street south of the railway line.
Land use zoning	B2 Local Centre B6 Enterprise Corridor R1 General Residential R2 Low Density Residential RE1 Public Recreation IN1 General Industrial IN2 Light Industrial SP2 Infrastructure
Permitted residential typologies	Attached dwellings; Bed and Breakfast accommodation; Boarding houses; Dwelling houses; Group homes; Hostels; Multi-dwelling housing; Residential flat buildings; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing.
Minimum lot size	700sqm (R1 and R2) 350sqm (areas of R1)
Heritage	A State Heritage Register Curtilage applies to the train station and there are many EPI heritage items along the main street.

Housing Gaps

There is an existing supply of around 40 vacant residential blocks under current zoning within this precinct.

Lack of housing diversity with a dominance of single detached dwellings.

Land Use Opportunities and Constraints

- Sewerage is a key short-term constraint to the expansion of residential use in Marulan, however, Council have upgrades planned so this will not be a constraint in the medium to long term. Reticulated water is supplied from the Wollondilly River.
- Heritage is both a constraint and an opportunity, providing character to the main street area and attracting tourists/future residents to the town.
- Flooding is an unquantified constraint in Marulan and it is recommended that a Flood Hazard Study which identifies mainstream and overland flows be completed as soon as practicable. Meanwhile, site specific flood analysis should be undertaken prior to residential development.
- The Hume Highway, Great Southern Railway and haulage routes are both a constraint (noise and physical barrier) and an opportunity (well connected and accessible by vehicle or train). Residential use should not be situated immediately adjacent to haulage routes and rail lines. Appropriate noise attenuation measures are recommended for residences in the vicinity.
- Marulan is highly constrained by bushfire risk and factors such as Asset Protection Zones, building materials and evacuation routes need to be carefully considered when extending the residential footprint.
- The recent Marulan Village Centre retail development (including IGA & Liquor) improves shopping options. Infill housing in B2 zone (behind heritage shopfronts) is an opportunity to increase population density within the existing village footprint and walking distance to shops and school.
- 'HASP' reserve (the proposed Marulan Heritage Park) is an opportunity for a district level destination park and liveability attractor for new residents.
- The 2016 Employment Land Strategy recommended to re-zone the area in the vicinity of Austin and Thoroughfare Streets from B6 to R1 to reflect the existing use.

Analysis of Evidence

- Marulan provides housing choice in terms of a lower entry point into the housing market compared to Goulburn.
- Recent growth has been strong with a 27% increase in population between 2006-2016. If this were to continue, Marulan will require 53 ha of land to provide 450 dwellings to 2036. There is already around 20ha of undeveloped residential land (excluding constrained land to the west).
- To accommodate development of a rate up to 25 dwellings per year, an additional 33 ha of land is required (Refer Precinct 3 Marulan North)

Recommendations

- Consider rezoning the industrial land currently occupied by the Truck Stop to urban residential. Structure plan development outcome with adjacent vacant residential land.
- Areas planned for development will require a comprehensive Aboriginal Cultural Heritage assessment.
- Encourage infill development and more efficient lot sizes.
- Higher density residential development could be accommodated in suitable locations within the B2 zone around the town centre of Marulan to encourage housing diversity.

1 - Marulan Town Centre constraints and opportunities



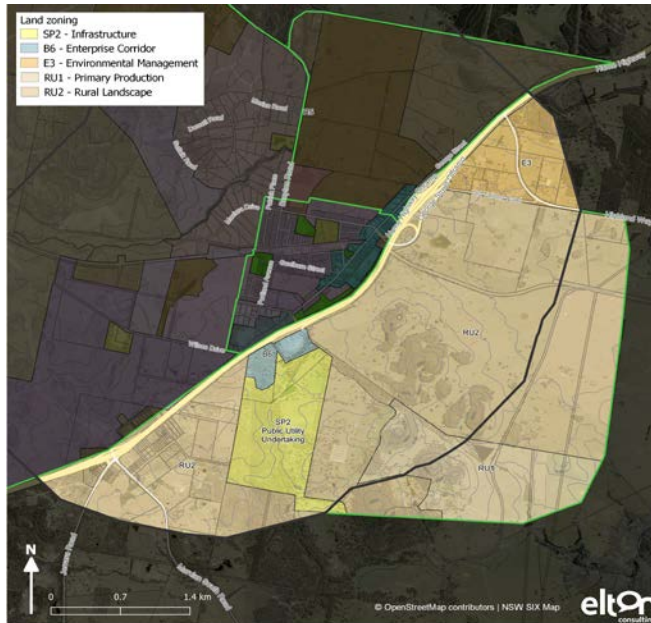
Precinct 2 Marulan East

Locality Description

This predominantly rural area is located to the east and south of the Hume Highway.

The area contains the Marulan Sewerage Treatment Plant and an intensive agricultural industry (Poultry).

Further south is the Boral Peppertree Quarry, and a private railway line runs through the precinct from the Quarry to the Main Southern Railway line.



Character & Planning Controls

Key residential typologies	A few isolated dwellings. B6 zone with highway stop services. Poultry farm sheds
Land use zoning	RU1 Primary Production RU2 Rural Landscape SP2 Infrastructure B6 Enterprise Corridor E3 Environmental Management
Permitted residential typologies	Dwelling houses; Rural workers' dwellings; Secondary dwellings; Tourist and visitor accommodation
Minimum lot size	100ha over most of precinct 40ha either side of Jerrara Rd and up to Marulan South Rd 5-20ha in the E3 zone
Heritage	A State and Locally listed Conservation Area – General including: <ul style="list-style-type: none"> - I311 – Old Marulan Anglican Cemetery, Jerrara Rd and Marulan South Rd - I313 – St Patrick's Catholic Cemetery, Hume Highway Also listed in GMLEP: <ul style="list-style-type: none"> - I314 – "Glenrock" Homestead, Outbuildings, 248 Highland Way Aboriginal sites have been recorded along the western precinct boundary and south eastern corner along Marulan Creek. Large numbers of Aboriginal sites have been recorded to the south east as part of quarry activities.

Land Use Opportunities and Constraints

- Hume Highway is a natural limit to urban residential growth.
- Industrial constraints – sewerage treatment, poultry farm both have buffers.
- East-west access south of the railway line is limited with no direct route back to Marulan town.
- No effluent management/ irrigation can occur within 100m of a watercourse in the Sydney Drinking Water Catchment (SDWC) which will limit rural residential dwellings in this precinct.
- Water NSW have identified that development of this area will result in a Moderate to Extreme Risk to water quality, with most of the land being in the Extreme risk category.

Analysis of Evidence

This area is not suitable for development based on the environmental and other physical constraints.

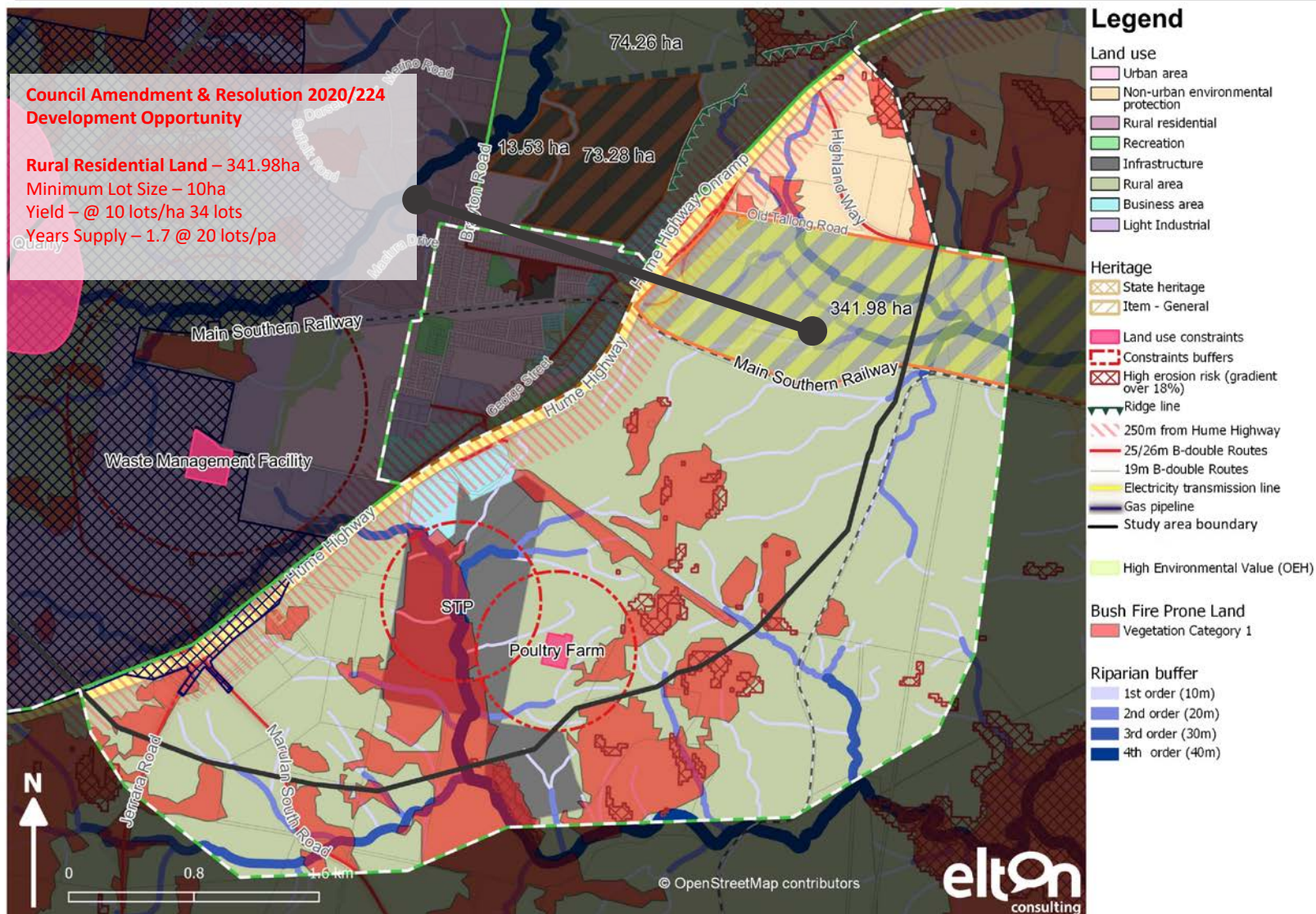
Recommendations

- No rezoning in this precinct
- A LGA-wide Villages Strategy Study is recommended to determine the desired character and degree of separation for each of the LGA's villages.
- Council Resolution 2020/224 identified an area of rural residential development opportunity with a 10ha MLS. Thorough investigation through a Planning Proposal process is required to ascertain the site's suitability.

Housing Gaps

This area does not contribute to the housing supply in Marulan.

2 - Marulan East constraints and opportunities



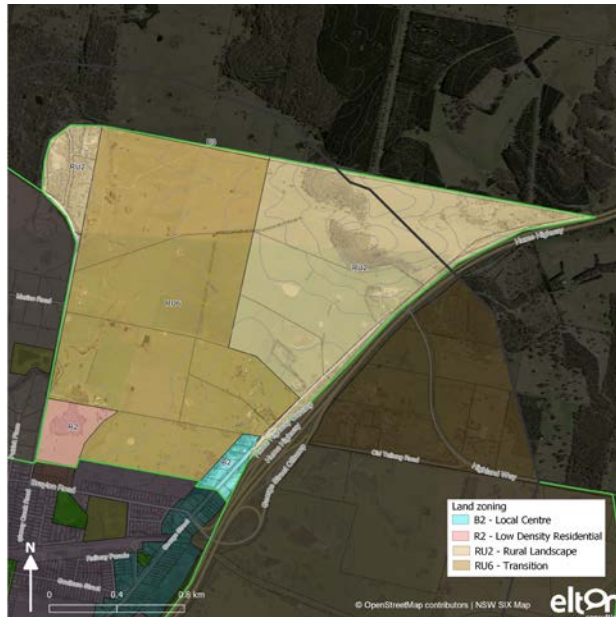
Precinct 3 Marulan North

Locality Description

Marulan North is located immediately north of the Town Centre, and bordered by the Hume Highway in the east, Ambrose Road-Red Hills Road to the north and Brayton Road to the west.

The land is predominantly grassed and used for grazing with numerous small dams present. Jaorimin Creek flows north along the west of the precinct into a dam near Gunlake Quarries before continuing north east to join the Wollondilly River. Marulan's water treatment plant is just west of Brayton Road in Marulan West precinct.

There is a steep hill in the north east where Ambrose Road becomes Red Hills Road which extends in a ridgeline south towards the Town Centre. This forms a topographical border to the Hume Highway.



Character & Planning Controls

Key residential typologies	Sparsely distributed farmhouses and ancillary buildings. New suburban urban residential in the south west corner of the precinct (R2).
Land use zoning	R2 Low Density Residential B2 Local Centre RU2 Rural Landscape RU6 Transition
Permitted residential typologies	Boarding houses; Dwelling houses; Group homes; Residential care facilities; Residential flat buildings; Rural workers' dwellings; Tourist and visitor accommodation; Shop top housing; Backpackers' accommodation; Bed and Breakfast accommodation; Farm stay accommodation.
Minimum lot size	100ha (RU2 & RU6) 700sqm (R2)
Heritage	Nil.

Housing Gaps

This area does not contribute to the housing supply in Marulan.

Key Issues and Opportunities

- Sewerage is a key short term constraint to the expansion of residential use in Marulan, however, Council have upgrades planned so this will not be a constraint in the medium to long term. Reticulated water is supplied from the Wollondilly River.
- Flooding is likely to be a constraint to land adjacent to Jaorimin Creek and the unnamed tributary flowing south to north from the Town Centre. This area is flat and swampy so both mainstream and overland flow impacts should be investigated prior to residential development. Flooding is already a consideration for the existing zoned land.
- The area near Red Hills Road is steep (slopes over 18 degrees) and highly vegetated. This area is not recommended to be cleared or developed.
- Marulan is highly constrained by bushfire risk and factors such as Asset Protection Zones, building materials and evacuation routes need to be carefully considered when extending the residential footprint.
- The Haulage route along Brayton Road – Ambrose Road – Red Hills Road – Hume Highway is heavily used by trucks servicing Gunlake Quarry. Due to the steep slope the trucks generate significant noise and require a 'run up' to reach the top of the hill near the Hume Highway. It is not recommended that local residential traffic use this route. Access to residential lots should be from the south, with no direct access to the Ambrose Road – Red Hills Road – Hume Highway route.
- Areas planned for development will require a comprehensive Aboriginal cultural heritage assessment. Large numbers of Aboriginal sites have been recorded in surrounding areas of Marulan as part of quarry activities and previous subdivisions.

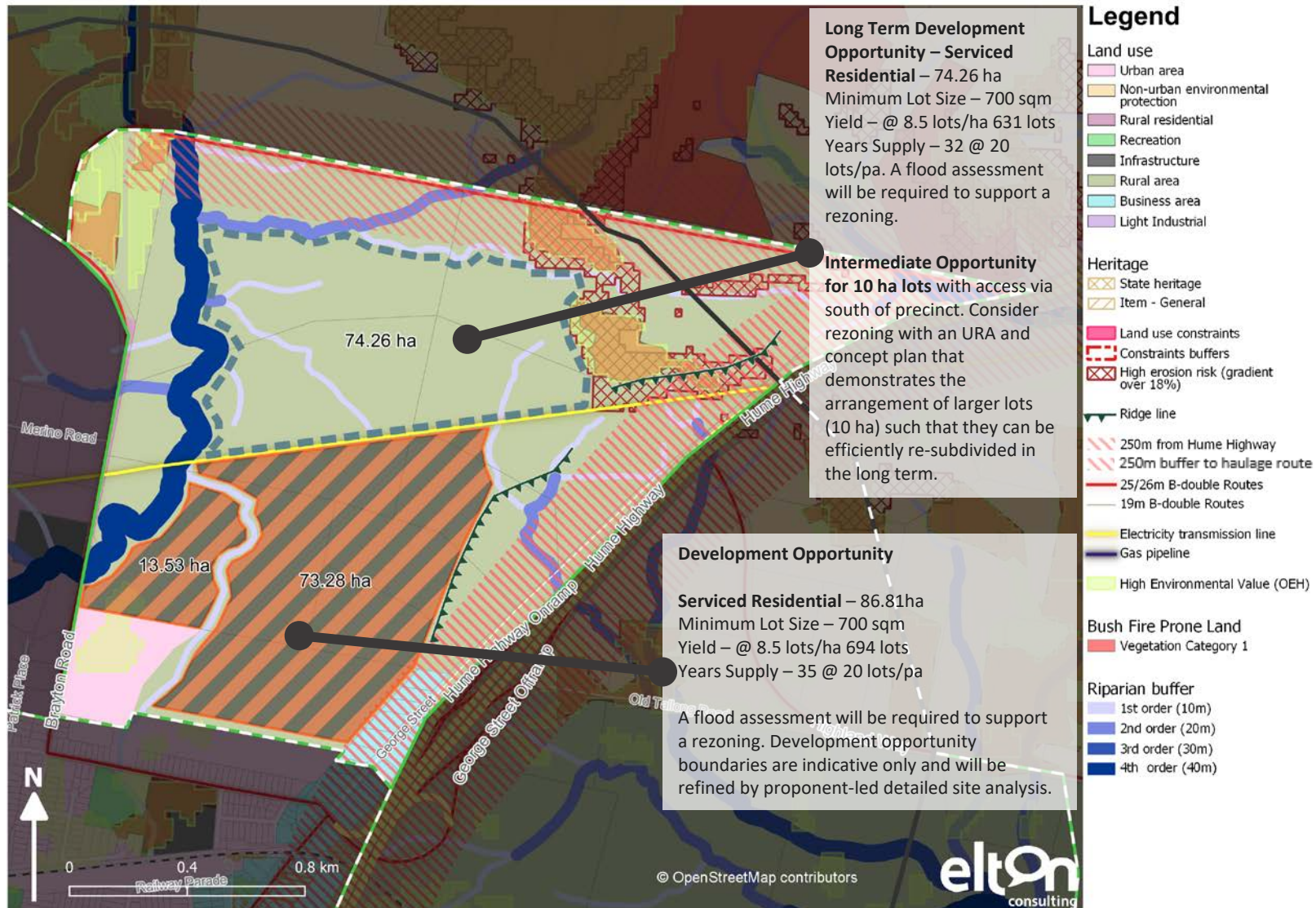
Analysis of Evidence

Marulan North is the only area of land identified in the constraint mapping as suitable for long term growth of the town. There may be opportunities to allow some subdivision to 2ha but only after a concept plan has been developed for the entire area. It remains critical that the area be retained for urban residential expansion.

Recommendations

- This precinct presents the greatest urban residential capacity for Marulan in the medium to long term and therefore should be protected from fragmentation.
- Rezoning of the Residential area identified in the medium term subject to a comprehensive flood assessment and the inclusion of an Urban Release Area provision and DCP controls.

3 - Marulan North constraints and opportunities

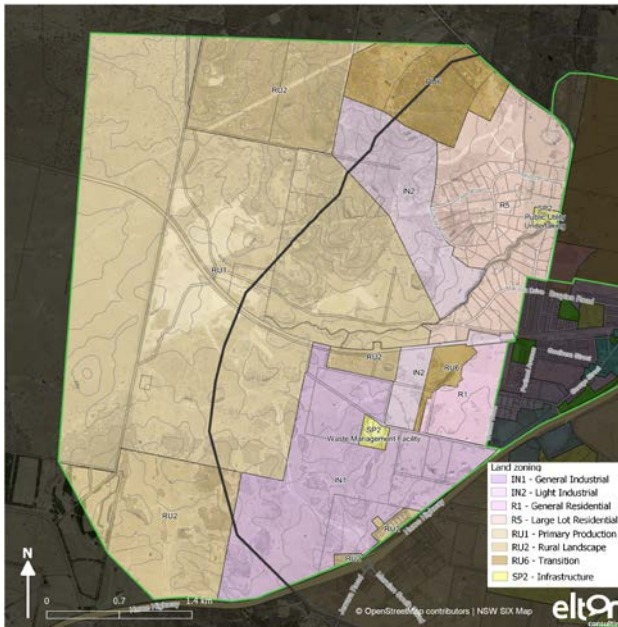


Precinct 4 Marulan West

Locality Description

This area is located to the west of the township of Marulan, west of Brayton Road and north of Jerrara Road. The Southern Highlands Railway Line bisects this precinct and the Holcim Lynwood Quarry which forms the western extent of the precinct.

Currently the area contains industrial and infrastructure uses in the south and western portions, forested area in the northern portion with an area of rural residential dwellings just west of Brayton Road.



Character & Planning Controls

Key residential typologies	Detached rural-residential (approximately 28 dwellings)
Land use zoning	R1 General Residential R5 Large Lot Residential IN1 General Industrial IN2 Light Industrial SP2 Infrastructure RU1 Primary Production RU2 Rural Landscape RU6 Transition
Permitted residential typologies	Attached dwellings; Bed and Breakfast accommodation; Boarding houses; Dwelling houses; Group homes; Home industries; Hostels; Multi dwelling housing; Residential flat buildings; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing;
Minimum lot size	350sqm & 700 sqm (R1) 2,000sqm (R5) 100Ha (RU6, RU1 & RU2)
Heritage	A large number of Aboriginal sites have been recorded in this precinct as part of Lynwood Quarry activities.

Housing Gaps

Housing in this precinct is typically large lot residential. Diversity of housing typology and opportunity to increase diversity is limited.

Land Use Opportunities and Constraints

- Mining operations and resource opportunity buffers cover most of this precinct.
- A key industry constraint on this precinct is the Hazardous Industry buffer & landfill site in the south west. This buffer impacts on a current DA for residential subdivision.
- Haulage routes with heavy traffic and trains carrying quarried materials and other freight mean that a buffer to residential use is advised to avoid negative impacts on residents. There are also limited access points across the Main Southern Line. Quality of existing local roads for access into the central precinct also poses difficulties.
- Flat areas of lower elevation in the vicinity of Jaorimin Creek may also experience flooding.
- Marulan's water filtration plant is located at the eastern boundary of this precinct, north of the Town Centre.
- Marulan is highly constrained by bushfire risk and factors such as Asset Protection Zones, building materials and evacuation routes need to be carefully considered when extending the residential footprint.
- There are also significant areas of High Environmental Value land through this precinct, as mapped by OEH.
- Opportunity to create the edge of village – some 'transition' housing already with the R5 area – develop up to buffer boundary with a row of larger lot – grazing/hobby farm could extend into the buffer zone.

Analysis of Evidence

Marulan West is highly constrained by existing industry and associated buffers.

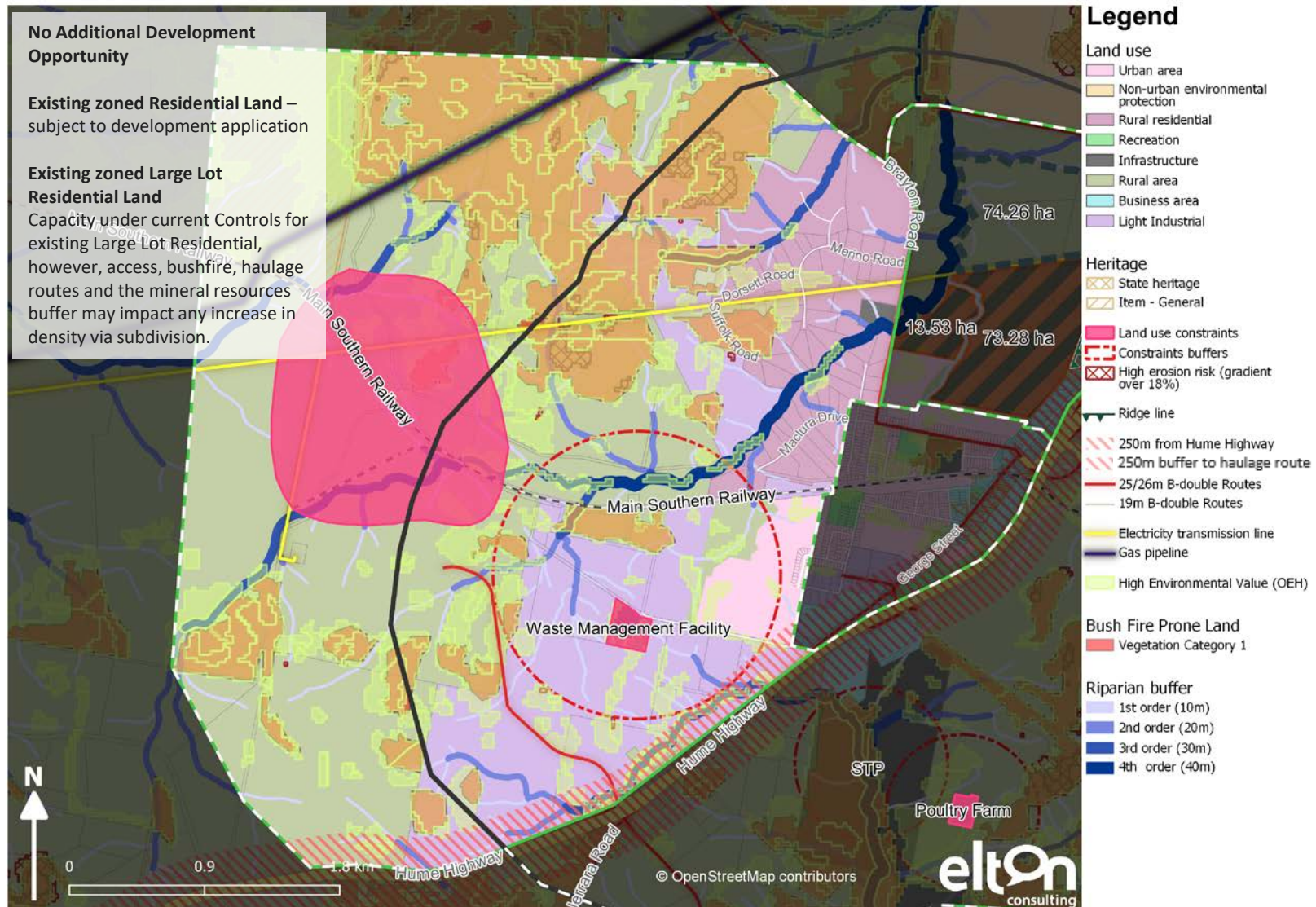
There is some opportunity for additional residential development (DA currently under assessment by Council).

There are a number of rural residential dwellings already present in this precinct. There is a sufficient area available for housing on larger lots in Marulan generally, however, the densities that have been developed are significantly less than the current minimum lot size allows.

Recommendations

- There is no additional development capacity in West Marulan due to significant constraints including incompatible land uses.
- Housing in this precinct would sterilize potential resource area/quarry expansion.

4 - Marulan West constraints and opportunities



Council Amendment and Resolution 2020/224 – Large Lot Residential

On 16 June 2020 Council resolved that:

The Draft Urban and Fringe Housing Strategy be amended to identify a corridor to the east of the ridge line parallel to Crookwell Road, zoned E3 Environmental Management between Chinamans Lane and Onslow Road following Crookwell Road, as a rural residential opportunity area for lots with a minimum allotment size of 10ha (reduced from 100ha). A 10ha lot size being identified in consideration of potential water quality impacts.

The Draft Urban and Fringe Housing Strategy be amended to identify the area zoned RU2 Rural Landscape and E3 Environmental Management located on the eastern side of the Hume Highway, Highland Way through to Barber's Creek Road (north of the railway line) as a rural residential opportunity area for lots with a potential for 10ha minimum allotment size (reduced from 100ha), the 10ha lot size being identified in consideration of potential water quality impacts.

Precinct 4 – Sooley

The Sooley precinct is a rural precinct on Goulburn's northwest fringe, bounded by Crookwell Road and the Wollondilly River. It is not currently serviced by water and sewer infrastructure.

With the exception of the south east corner contiguous with Marys Mount, the precinct was not identified for serviced residential or large lot residential development in the Draft Strategy. This is due to the identification of the area as high quality agricultural land (class 3 agricultural land and Biophysical Strategic Agricultural Land [BSAL]). On that basis there are other precincts that are better placed for consideration of urban (or large lot residential) development.

The precinct is unsuitable for unsewered residential development due to the proximity to Sooley Dam drinking water supply.

Precinct M-2 – Marulan East

This predominantly rural area is located to the east and south of the Hume Highway. It is constrained by drainage and is not currently serviced by sewer infrastructure.

The area identified in resolution 2020/224 was not recommended for development in the Draft Strategy. Reasons included location, water quality risk from unsewered lots and potential land use conflict with rural and extractive industries. Part of the identified area is located beyond the scope of the Urban and Fringe Housing Strategy study area provided by Council. Inclusion of this area prompts other landowners outside the fringe to also seek redevelopment opportunities.

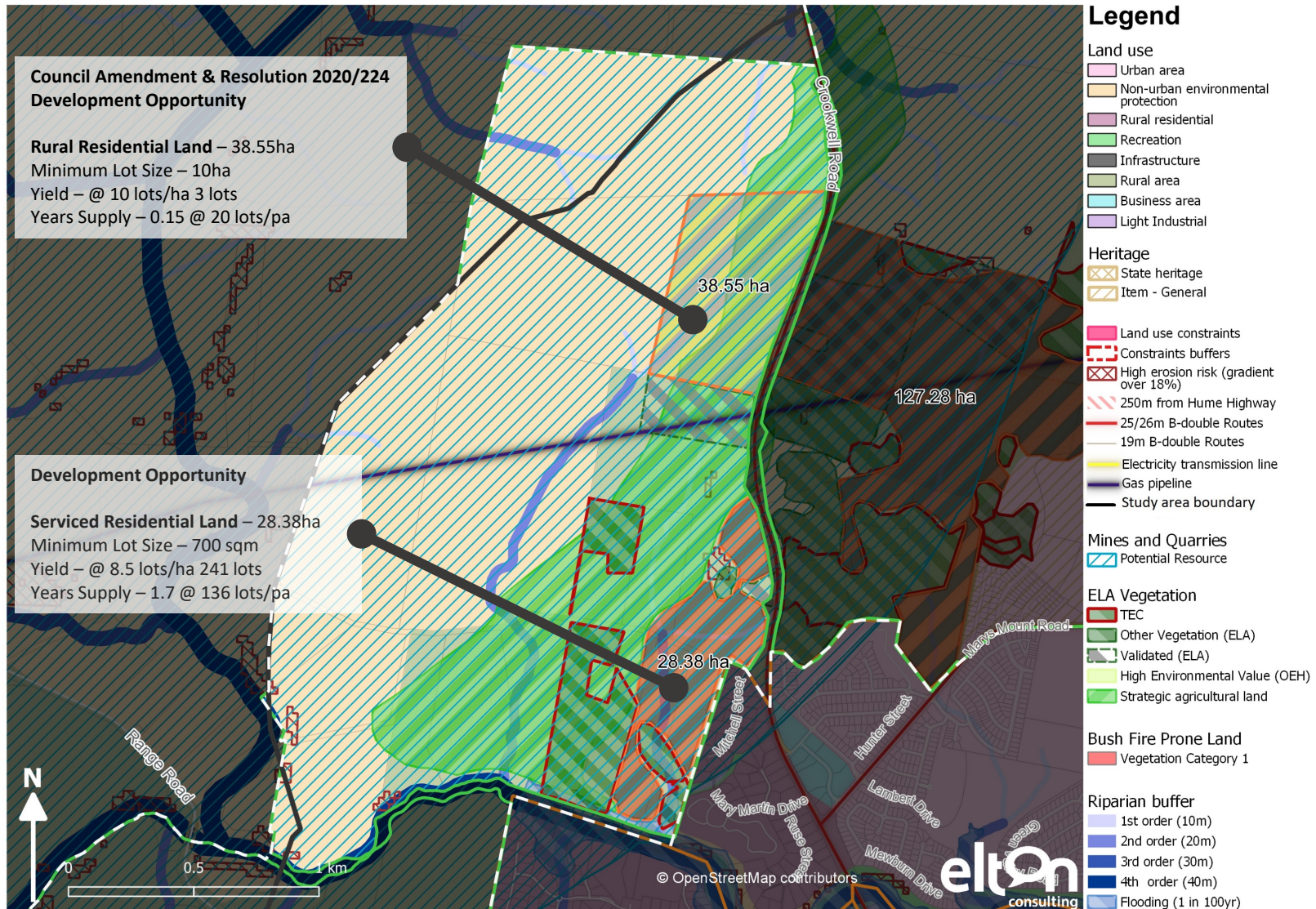
The Draft Strategy recommended consideration of the area as part of an LGA-wide Villages Strategy Study. This would allow thorough consideration and community consultation of the desirability of ribbon development between Marulan and Tallong.

Framework for Considering Future Planning Proposals: Additional Criteria for Large Lot Residential

- The development is identified in the Strategy as an opportunity area for Large Lot Residential Development
- The development will not undermine future residential land opportunities. It should be located on land that is not, or unlikely to be suitable for general residential land at some point in the future.
- The development can be managed to avoid land use conflict. Large Lot development should have regard to the surrounding agricultural land use and must provide a buffer to agricultural land.
- The site is unconstrained by flooding, as it is above the flood planning level of the 1 in 100 ARI. The area is not affected by flooding and has unconstrained flood free access out of the property and/or locality.
- The lots can be connected to the existing road network by sealed road access. The area can be connected to the existing sealed road network by sealed road access and is fully serviced by a sealed road.
- The resulting residential development will not adversely impact on the groundwater system. Any development, and in particular un-serviced development, needs to demonstrate that it will not adversely impact on the groundwater system.
- The need for the additional lots can be justified in terms of supply and demand.
- The site be managed to reduce bushfire hazard and provides for evacuation in accordance with the NSW Planning for Bushfire Protection Guideline.
- The development should avoid class I-III agricultural land and avoid Important Agricultural Land (subject to mapping being completed for the LGA).
- The development will have access to a sustainable water supply. The proposed lot must demonstrate the provision of a sustainable water supply. A sustainable water supply can be achieved by various means including the provision of reticulated water, roof water catchment or accessing water from a river, lake or aquifer in accordance with the Water Management Act 2000. Department of Primary Industries – Water 'How much water do I need for my rural property' provides one methodology to calculate a required supply.

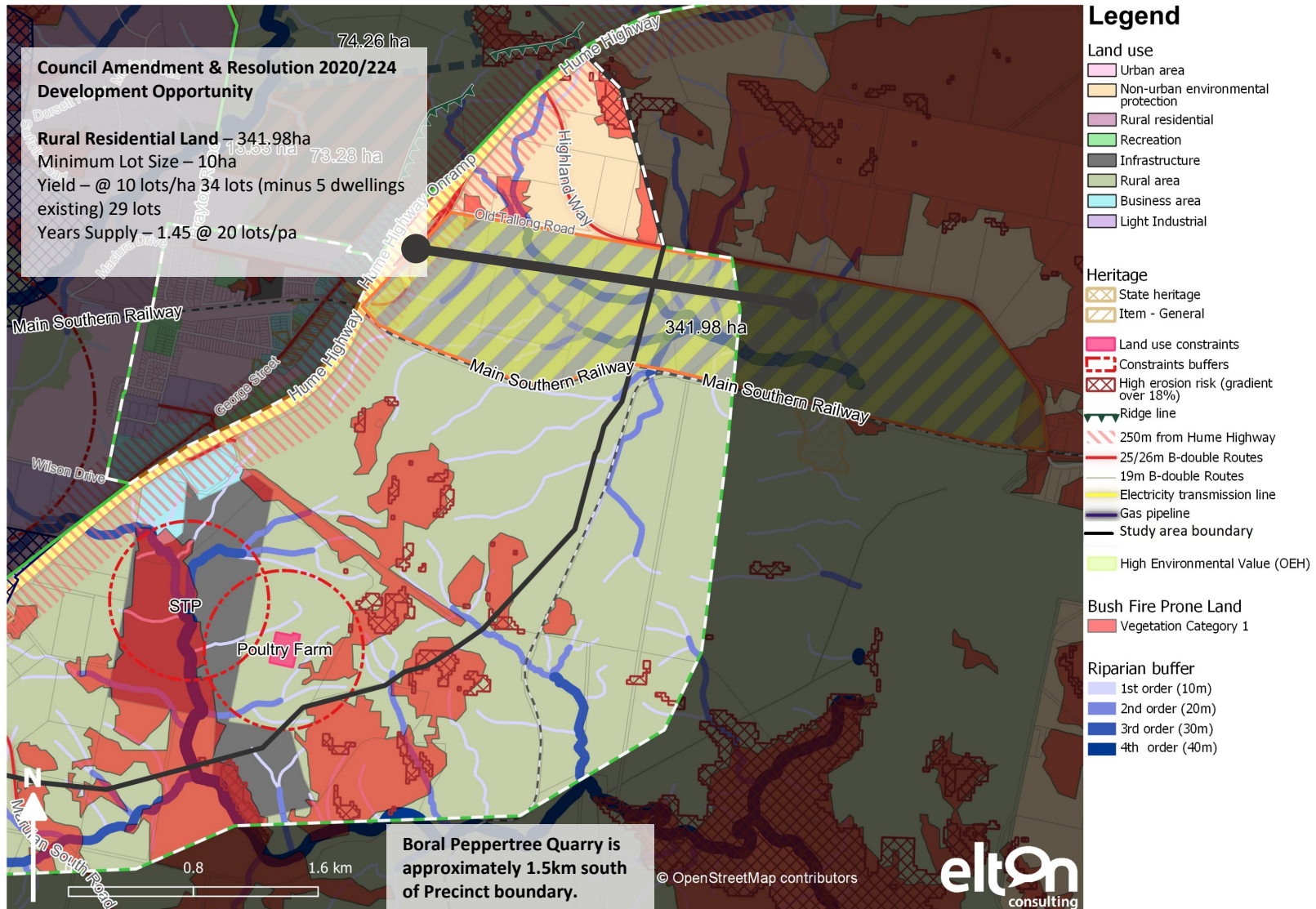
4 - Sooley constraints and opportunities

Council Amendment and Resolution 2020/224



2 - Marulan East constraints and opportunities

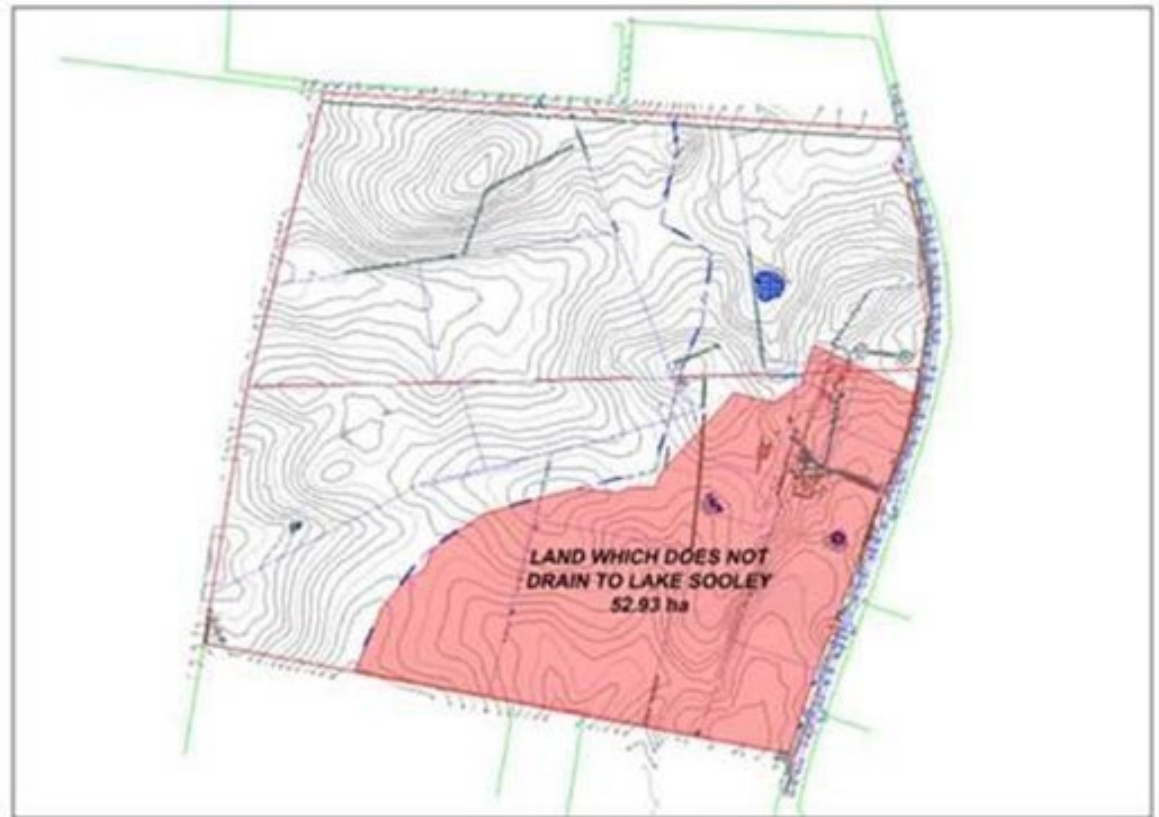
Council Amendment and Resolution 2020/224



Council Adoption and Resolution 2020/261 – Changes to Sooley Precinct

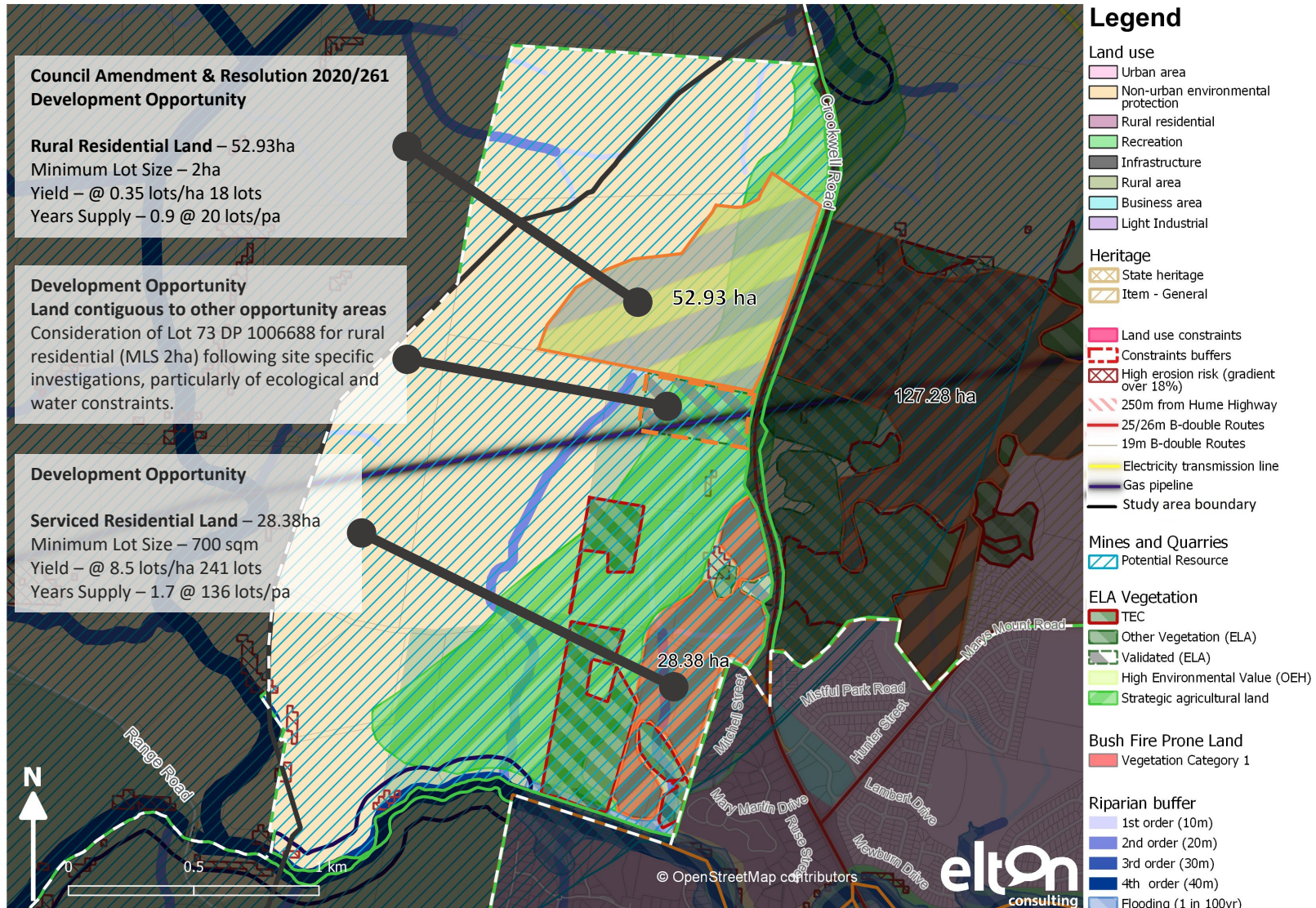
On 21 July 2020 Council resolved that:

1. The report from the Director Planning & Environment be received.
2. Council adopt Urban and Fringe Housing Strategy subject to the following amendments:
 - a) Crookwell Road - an area of approximately 52.93 hectares be included, relating to a portion of 515 Crookwell Rd and east of the ridgeline that does not drain to the Sooley Dam Catchment as identified in the map below, for consideration of 2 hectare lots.
 - b) The reference to the Brayton Road haulage route at Marulan be amended to read the Gunlake Quarry haulage route comprising of Brayton Road to the Hume Highway including Red Hill and Ambrose Roads.
3. Council refer the adopted Urban and Fringe Housing Strategy to the Department of Planning, Industry and Environment for endorsement.



4 - Sooley constraints and opportunities

Council Adoption and Resolution 2020/261



Section 4 – The Priorities

4 The Priorities

This section brings together the research and assessment undertaken during the study to provide a set of guiding objectives to inform planning decisions around the delivery of housing in Goulburn and Marulan over the next 18 years and beyond.

4.1 Local Housing Strategy Objectives

The objectives have been formed by the comprehensive analysis of the review of the strategic policy context, demographic analysis, community and stakeholder engagement and analysis of the character, opportunities and challenges for Marulan and Goulburn.

Local Housing Strategy Objectives

- » ensure the timely delivery of suitable residential zoned land to meet the current and future needs of the Goulburn Mulwaree LGA to 2036
- » provide a diversity of choice in residential land and dwelling types in a range of appropriate locations responsive to the demographic needs of the Goulburn Mulwaree LGA
- » provide flexibility in zoning and Development Control Plans for high quality urban design outcomes
- » ensure growth occurs in a contiguous and logical manner concentrating on the central areas of settlements for medium density and on the fringe of settlements (within the investigation areas) for rural lifestyle lots
- » future development should strengthen the efficient use of existing infrastructure, services and transport networks and not seek to create unrequired demand for significant new infrastructure
- » require future development, particularly at the residential/agricultural and the residential/industrial interfaces to demonstrate that conflict between land uses can be avoided
- » provide for development that will complement and reinforce existing and future settlement structure, character and uses and allow for the creation of legible and integrated growth
- » provide and support opportunities for urban intensification through infill and adaptive reuse in the core of Goulburn
- » encourage large lot residential development where opportunity areas are identified in the Goulburn and Marulan Precinct Maps
- » ensure sufficient and appropriate employment land is retained in Goulburn and Marulan. Redevelopment should provide for and support commercial enterprise, service provision and employment as the population increases, and reduce escape expenditure
- » residential development should avoid areas of environmental significance, significant natural and/or economic resources, potential hazards, high landscape or cultural heritage value, or potential increased risk associated with impacts of climate change
- » establish clear and logical physical boundaries for the containment of urban development of Goulburn and Marulan, allowing transitional land uses and subdivision patterns which protect highly productive agricultural landscape and areas of significant biodiversity

These objectives provide a clear position for the evaluation and recommendation of growth in the Goulburn Mulwaree LGA that will deliver sustainable economic, social and environmental outcomes for the community in the supply of housing.

The analysis by precinct in Section 2 highlights the constraints and opportunities for development across the varying character areas in Goulburn and Marulan.

4.2 Land Use Planning Approach

This Strategy adopts an approach to land use planning (below) that is designed to support the delivery of a diverse range of housing in the right locations and to enhance people's ability to access jobs and services, compatible with key identified values that contribute to the character of an area.

It predominantly:

- » concentrates development within the urban fringe that can be readily serviced
- » encourages some local infill through reviewing planning controls
- » includes opportunities for large lot residential development

Finalise and endorse the Urban and Fringe Housing Strategy

Planning Proposal

Analysis of planning controls to support the delivery of the Strategy through Planning Proposal/s to deliver Short and Medium Term Development Opportunities. Planning Proposal/s may be Council led or proponent led in consultation with Council depending on the circumstances.

Local Strategic Planning Statement

Overview of land use, direction and character of the LGA to inform LEP and DCP amendments, give weight to the District Plan and Council's Community Strategic Plan.

LEP Amendment, DCP Amendment and Urban Release Area Investigations

- » LEP – areas are identified for potential amendments, informed by principles and constraints analysis development in the Strategy to:
 - > Harmonise controls to form a revised LEP including overall aims of the LEP and zone objectives
 - > Review residential and non-residential controls in the Goulburn City Centre; controls to activate appropriate housing fronting laneways; encourage shop top housing in the City Centre and review FSR and height controls in the City Centre
- » DCP – the DCP provides further guidance for development, and for particular inclusion are character statements; landscaping and design guidance updates. Site specific DCPs should also be prepared to support Urban Release Areas. Once identified as URAs in the LEP these areas should be identified as excluded areas in the current DCP until site specific chapters are added to address Part 6 of the LEP. Site specific DCP chapters are to be supported by a master plan based on technical reports and infrastructure/staging plans.

Local Contributions review to include urban fringe

Based on projected dwellings and population to ensure local infrastructure can occur as and when needed. Align Local Contribution Plans with Urban Release Areas.

Ongoing Monitoring

4.3 Key Recommendations

The key recommendations for additional land identified in the Strategy are summarised in the following tables.

4.3.1 Goulburn

Goulburn is expected to provide 2,795 dwellings or 80 percent of the new housing to 2036. This will be in the form of both serviced residential land and large lot residential development.

In addition, it has been assumed that 7 percent of new dwellings will be in the existing urban area as infill. The recommendation to include a new R3 Medium Density Residential zone may provide additional stimulation for redevelopment in the Goulburn City Centre.

Serviced Residential

Precinct 1 & 2 Run 'O' Waters

The land immediately west of Goulburn has been identified as one of the growth fronts for Goulburn. This area is generally unconstrained and can be readily serviced with minimal upgrades to infrastructure. The existing fragmentation means that the suitability for sustainable agriculture is limited. To realise efficiencies in infrastructure for Council, the proposed minimum lot size is 700sqm. It is acknowledged that biodiversity constraints and topography may result in a density of less than 8.5 lots per hectare despite the minimum lot size.

Precinct 5 & 6 Middle Arm West and East

Predominantly zoned RU6 Transition, this area remains key to the immediate and long-term urban growth of Goulburn. Initial opportunities are for land south of the gas pipeline. Longer term the land north of the pipeline and identified biodiversity constraints has been identified. It remains critical that, despite pressure for large lot residential development throughout this area, it is retained for urban purposes.

The long-term Urban Release Area will need a comprehensive structure plan to ensure that water, sewerage, drainage as well as open space and community infrastructure can be accommodated and delivered in an orderly and coordinated manner.

Precincts 4 Sooley, 7 Kenmore and 16 Bradfordville

Opportunities for serviced residential land have also been identified in the south east corner of Sooley Precinct (RU6 Transition), the west of Kenmore Precinct (SP2 Infrastructure) fronting Taralga Road on the urban fringe, and north west of Bradfordville Precinct (RU6 Transition) adjacent to the existing urban area. The proposed minimum lot size for these areas is 700sqm.

Table 25 Dwelling Opportunities – Serviced Goulburn

Precinct	Area Identified (ha)	No. Dwellings /lots*	% total new dwellings	Years Supply
Serviced Residential Land				
1/2 Run 'O' Waters	199.13	1,693	44	12.4
4 Sooley	28.38	241	6	1.7
5 Middle Arm West	144.22	1,228	32	9
6 Middle Arm East	26.55	225	6	1.7
16 Bradfordville	13.1	111	3	0.8
7 Kenmore	38.3	326	9	2.4
Sub-Total	456.51	3,824	100	27.9
Urban Release Areas Long Term (beyond 2036)				
3 Baw Baw	110.6	940	27	6.9
5/6 Middle Arm	299.96	2,550	73	18.7
Sub-Total	410.46	3,490	100	25.6
Total	869.97	7,368	-	53.7

*Based on single detached dwelling typology

Large Lot Residential

Precincts 2 Run 'O' Waters, 8 Gorman Rd, 9 Mt Gray, 10 Mountain Ash and 11 Brisbane Grove

Run 'O' Waters has been flagged for serviced residential, however, there is a small area, currently with a 2ha minimum lot size that could be rezoned to stimulate more efficient use of the land, albeit retaining the 2ha lot size. In the longer term, should services become available this area may be able to support 2,000-4,000sqm lots.

While there are pockets of land that are suitable for large lot residential development throughout the urban fringe, the key areas identified for this form of development are to the east of Goulburn around Gorman Rd and Mt Gray, and South of the Hume Highway.

In the case of Gorman Rd, the topography and limited potential for high yield, coupled with the distance from reticulated water and sewerage infrastructure impacts the suitability of this area for serviced residential land.

The Mountain Ash and Brisbane Grove precincts are separated from the urban area of Goulburn by both flooding and the Hume Highway. This will impact any contiguous urban expansion and therefore these areas are not identified as suitable for serviced urban development.

Precinct 4 Sooley

Council Resolution 2020/224 identified “a corridor to the east of the ridge line parallel to Crookwell Road, zoned E3 Environmental Management between Chinaman’s Lane and Onslow Road following Crookwell Road, as a rural residential opportunity area for lots with a minimum allotment size of 10ha”. This includes an area of biophysical strategic agricultural land (BSAL) and is within a SDWC. The identified area east of the ridgeline generally drains to the Wollondilly river, however, the northern end towards Onslow Road drains to the Sooley Dam Goulburn drinking water supply. The area identified was 38.55ha with a potential yield of 3 dwellings/lots. This represented 0.8 percent of Goulburn’s total new large lot dwellings, and 0.6 years supply.

This opportunity area was extended and refined by Council Resolution 2020/261, to exclude any land draining to Sooley Dam. Council also reduced the potential MLS to 2ha. The revised area is approximately 52.93ha with a potential yield of 18 dwellings/lots. This represents 4.9 percent of Goulburn’s total new large lot dwellings, and 0.9 years supply.

Table 26 Dwelling Opportunities Large Lot Residential Goulburn

Precinct	Area Identified (ha)	No. Dwellings /lots^	% total new dwellings	Years Supply
Large Lot Residential				
2 Run ‘O’ Waters	50.5	11		0.6
4 Sooley*	52.93	18	4.9	0.9
8 Gorman Rd	86.84	30	8.1	1.5
9 Mt Gray	72.89	26	7.0	1.3
10 Mountain Ash	467.45	164	44.3	8.2
11 Brisbane Grove	376.13	132	35.7	6.6
Total	1,056.24	370	100	18.5

^based on MLS of 2ha. Lots may be larger which will impact yields.

*for consideration of 2ha lots as per Council Resolution 2020/261, 21 July. Lots may be larger which will impact yields.

Goulburn Infill

Broad planning controls will continue to provide a range of development opportunities. There are, however, specific areas identified in the centre of Goulburn that could be accommodated in a new R2 Medium Density Residential zone. This would allow a more targeted approach to development for high density housing and could be strengthened through a DCP.

The area proximate (1km) to the CBD of Goulburn offers the most suitable location for renewal and intensification. There is already growing demand in this area for more compact and affordable housing as indicated by the growing approvals.

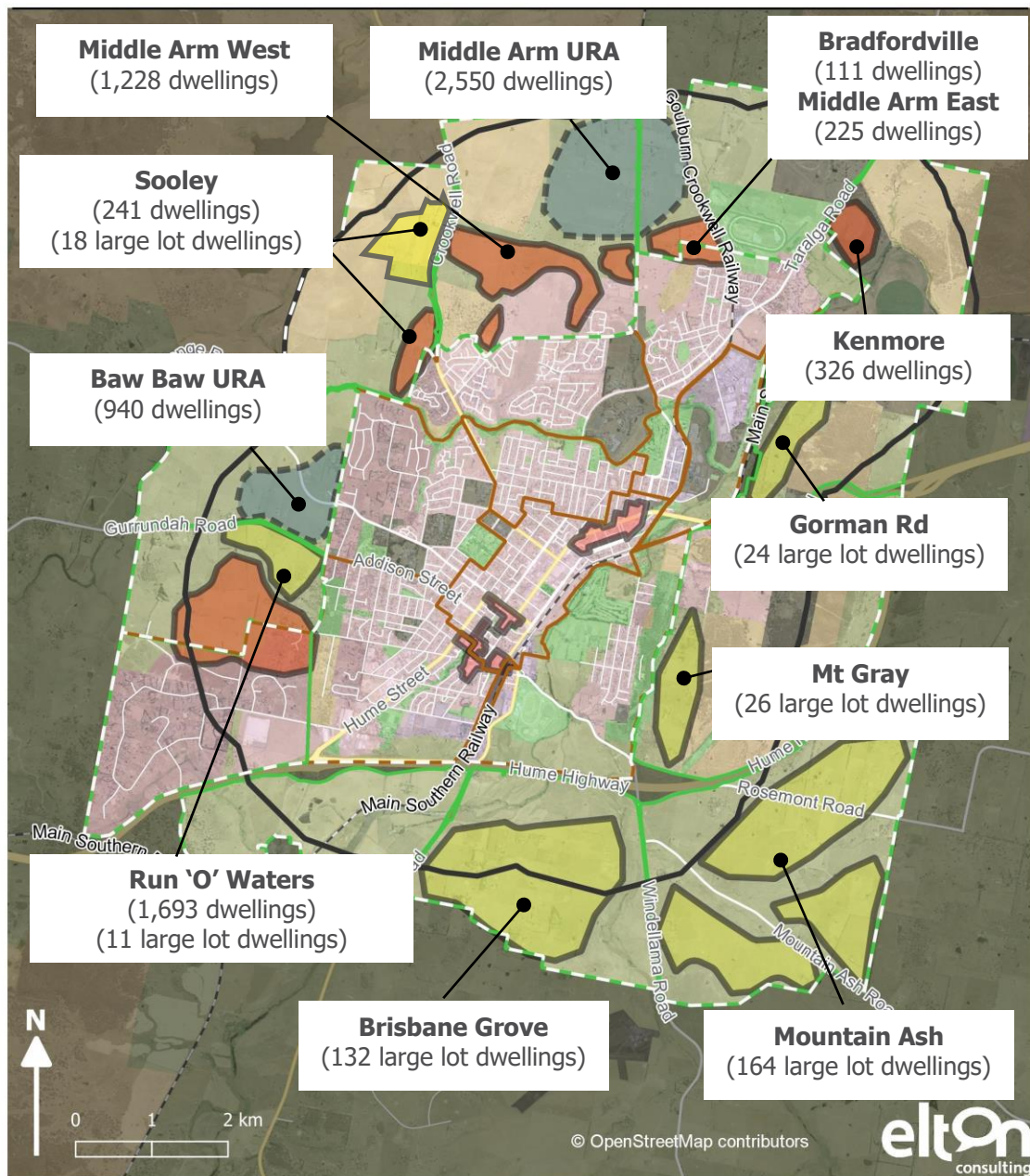
Analysis of the demographics and housing suggests there is a need for a diversity of housing choices. The area indicated would utilise existing infrastructure, support existing commercial activities and create a walkable and active City Centre.

The opportunities for this site are discussed above but will enable specific planning controls and incentives to be adopted to encourage the increase in densities.

Identifying the precinct also provides a starting point for an urban design study to look at the opportunity for increased height in the area, and the development of a set of design guidelines would support this while retaining the integrity of the Heritage Conservation Area and Town Centre.

In the absence of urban design guidelines or the identification of specific Key Sites, Council could consider individual proposals on a site-by-site basis where the proposal is accompanied by a development concept plan and fully considers the impact of the proposal on both the Heritage Conservation Area and the ongoing viability of the Goulburn City Centre.

Figure 24 Goulburn Development Opportunities



Legend

Precincts	G - 1	Run 'O' Waters (existing)	G - 9	Mt Gray	G - 17	Eastgrove
 Urban	G - 2	Run 'O' Waters (rural north)	G - 10	Mountain Ash	G - 18	Central Goulburn
 Fringe	G - 3	Baw Baw	G - 11	Brisbane Grove	G - 19	Ifield
Opportunity area	G - 4	Sooley	G - 12	Abattoir	G - 20	Correctional Centre
 Serviced Urban Residential	G - 5	Middle Arm West	G - 13	Garfield		
 Large Lot Residential	G - 6	Middle Arm East	G - 14	West Victoria Park		
 Urban Release Area Long Term	G - 7	Kenmore	G - 15	Marys Mount		
 Existing Residential Zone	G - 8	Gorman Rd	G - 16	Bradfordville		

4.3.2 Marulan

Serviced Residential

There are constraints in every direction but north, which limit the capacity for growth in Marulan. Like Goulburn, it is imperative that land that is suitable for serviced residential development is preserved for that purpose. In the interim, subdivision in the RU6 Transition zone should be limited to a minimum lot size of 10ha in the northern precinct (M 3) until potentially required for urban residential development. This area has been identified for rezoning in the medium term.

Large Lot Residential

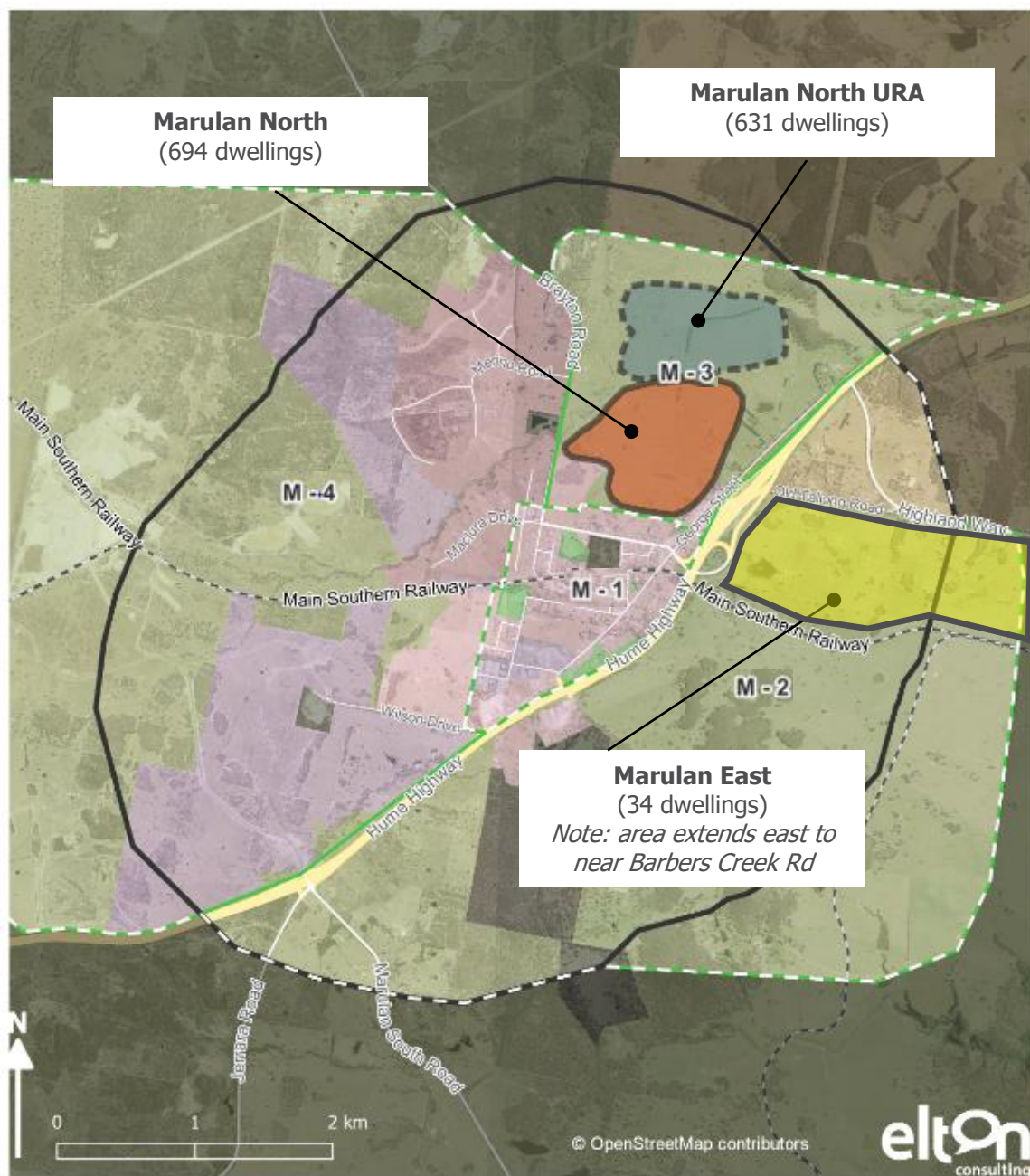
Constraints once again result in difficulties in identifying land for large lot residential that retains continuity with the existing town. Marulan East (Marulan South during the second exhibition) was no longer identified for large lot residential development due to constraints and concerns raised in the submissions. Council Resolution 2020/224 identified an area of rural residential land extending beyond the Marulan East precinct towards Tallong. This area is 341.98ha and there area already 5 dwellings in the area. Based on a minimum lot size of 10 ha and taking into account the existing development, there is the potential for up to 29 new dwelling in this area. This represents 4.7 percent of Marulan's total new dwellings and a 1.45-year supply of large lot residential.

Table 27 Additional Land Requirements Marulan

Marulan	Area Identified (ha)	No. Dwellings /lots*	% total new dwellings	Years Supply
Serviced Residential				
3 Marulan North	86.81	694	96	35
Consider staged approach, rezone with an Urban Release Area and Concept Plan to deliver 2ha lots in the short term and re-subdivide in the future				
Large Lot Residential				
2 Marulan East~	341.98	29	4	1.45
Sub-Total	428.79	723	100	36.45
Urban Release Areas Long Term (beyond 2036)				
3 Marulan North	74.26	631	100	32

*For the purpose of years of supply, it is assumed to be included in the overall 25 lots per annum, no distinction between residential and large lot residential

~Dwelling yield for MLS of 10ha. Lots may be larger which would reduce yield.

Figure 25 Marulan Development Opportunities**Legend**

Opportunity area

Serviced Urban Residential

Urban Release Area Long Term

Large Lot Residential

M - 1 Marulan Town Centre

M - 2 Marulan East

M - 3 Marulan North

M - 4 Marulan West

4.4 Mechanisms to Deliver the Options

In Goulburn, the priority is to secure the next release of greenfield land for residential development whilst ensuring that local planning controls and development opportunities are sufficiently flexible to ensure the ongoing delivery of a diverse range of dwelling typologies to provide for growth.

The opportunity to introduce changes to the application of certain land use zones and permissible uses in the GMLEP are also available.

Planning Proposal

The key actions for land use zoning as identified in the Strategy will require changes to be made to the GMLEP. The mechanism for amending the GMLEP is through a Planning Proposal. A Planning Proposal is the document that explains the intended effect of a Local Environmental Plan and sets out the justification for making the plan.

A Planning Proposal is prepared by either a proponent or Council to affect changes in the control in the Local Environmental Plan. The GMLEP can only be amended by a Planning Proposal.

DPE have prepared guidelines under section 3.33 of the EP&A Act to assist in the preparation of Planning Proposals.

4.4.1 Local Environmental Plan

Local Environmental Plans guide planning decisions for local government areas. They do this through zoning and development controls, which provide a framework for the way land can be used. LEPs are the main planning tool to shape the future of communities and also ensure local development is done appropriately.

There are a number of local provisions that can be applied through the GMLEP to achieve the intended outcomes of the Strategy. These include specifying minimum lot sizes for particular zones and in certain areas, land use tables that provide a clear indication of the permissible and prohibited land uses, essential services and other local provisions.

The GMLEP already includes provisions in Part 6 for urban release areas. The objective of the urban release area (URA) part of the GMLEP is to ensure that the development of land occurs in a logical and cost-effective manner and in accordance with a staging plan and DCP. The URA applies to land that is "up-zoned" as part of an LEP review process. The continued operation of these provisions is essential for the orderly development of land identified under the Strategy.

Planning Proposal

The Strategy will require changes to the GMLEP and DCP in order that it be implemented to the extent that land is rezoned to accommodate additional residential growth in the short to medium term. Land identified under the Strategy for future urban purposes will need to go through this process.

In most instances, the Planning Proposal will be put forward by a landowner or proponent and may require additional technical investigations at a site-specific level to support the anticipated outcome. While the Planning Proposal will be initiated by the landowner, where the proposal is consistent with the Strategy and supported by Council, Council will commit to working with the landowners to facilitate the rezoning through the process.

Alternatively, there may be circumstances where Council takes the lead on the Planning Proposal and a landowner, or group of landowners, contribute to the funding for individual technical

studies that may be required under a Gateway Determination once the proposal has the support of DPIE.

Planning Proposals will consolidate the constraints analysis and further refine the indicative opportunity areas to identify land suitable and endorsed for development. Planning Proposals will need to provide a detailed infrastructure and servicing assessment based on estimated yields and relative to specific areas which will be used to inform a master plan and site-specific development control plan (DCP) provisions. Traffic and access will also be key considerations.

Land that is up-zoned to residential development falls within the Urban Release Area provisions of the Standard Instrument LEP and a DCP is required to be prepared prior to the subdivision of land in an Urban Release Area. The provisions have been put in place to ensure the orderly development of land as follows (extract from GMLEP).

6.2A Development control plan

(1) The objective of this clause is to ensure that development on land in an urban release area occurs in a logical and cost-effective manner, in accordance with a staging plan and only after a development control plan that includes specific controls has been prepared for the land

(2) Development consent must not be granted for development on land in an urban release area unless a development control plan that provides for the matters specified in subclause (3) has been prepared for the land

(3) The development control plan must provide for all of the following:

(a) a staging plan for the timely and efficient release of urban land, making provision for necessary infrastructure and sequencing,

(b) an overall transport movement hierarchy showing the major circulation routes and connections to achieve a simple and safe movement system for private vehicles, public transport, pedestrians and cyclists,

(c) an overall landscaping strategy for the protection and enhancement of riparian areas and remnant vegetation, including visually prominent locations, and detailed landscaping requirements for both the public and private domain,

(d) a network of active and passive recreation areas,

(e) stormwater and water quality management controls,

(f) amelioration of natural and environmental hazards, including bush fire, flooding and site contamination and, in relation to natural hazards, the safe occupation of, and the evacuation from, any land so affected,

(g) detailed urban design controls for significant development sites,

(h) measures to encourage higher density living around transport, open space and service nodes,

(i) measures to accommodate and control appropriate neighbourhood commercial and retail uses,

(j) suitably located public facilities and services, including provision for appropriate traffic management facilities and parking.

Further details as to the requirements for the Planning Proposal will need to be discussed with DPIE and relevant State agencies, however, given the investment in infrastructure required, Planning Proposals will generally be supported to re-zone sufficient land for a minimum of 10 years supply.

Process for Rezoning

A Planning Proposal could be prepared on a site-by-site basis, or a number of landowners may get together to prepare a proposal for a consolidated site. The process itself is outlined in the *Guideline for the Preparation of Planning Proposals* published by the NSW Government. The process involves:

Preparation of a Planning Proposal consistent with the Guideline and the recommendations of the Strategy

Assessment of the initial proposal by Council Staff

Report to Council. If Council support the proposal it is forwarded to the Department of DPIE for their assessment.

Gateway Determination. If supported by DPIE a Gateway Determination is issued. This generally includes conditions and may require the preparation of additional technical information, requirements for consultation with State Government agencies and Public Exhibition requirements.

Public Exhibition of the Planning Proposal can commence only after any Gateway conditions have been met and will generally be a minimum of 28 days.

Following the exhibition period, submissions are reviewed and, in some circumstances, changes may be made to the proposal.

Once finalised, the Planning Proposal is reported to Council for finalisation. Following endorsement from Council, the proposal is then submitted to the Minister (or delegate) to be made. The rezoning becomes effective once the amendment to the GMLEP has been published on the legislation website.

Concept Development Applications

A concept development application allows for the development of a high level concept plan for a large site and then for the individual, more detailed subdivision applications for the release of land, to be delivered in Stages. A concept development application is a useful mechanism for the delivery of land in circumstances where a full detailed development control plan (DCP) has not been prepared or a landowner is seeking certainty in terms of a longer term development project.

4.4.2 Development Control Plan

In addition to an amendment to the GMLEP, Council can consider a range of other mechanisms to enhance, encourage and promote the objective of the Strategy and the delivery of a range of housing, including a Development Control Plan (DCP).

Whilst land is under the provisions of Part 6-URA controls of the LEP, the current DCP may require amendment to exclude these areas until a site-specific chapter with structure plan, and developer contribution plan are developed to facilitate orderly release.

Urban Release Areas will require site specific DCP provisions based upon a Council endorsed Master Plan and Infrastructure/Staging Plan prepared to satisfy the requirements of Clause 6.2A of GMLEP 2009. The Master Plan and Infrastructure/Staging Plan is to be informed by:

- Site constraints and opportunities;
- Site specific technical investigations;
- Consultation with Council's staff and State agencies where appropriate; and
- The availability of hard infrastructure (roads, reticulated water and sewer services) so as to maximise on the extent and location.

Master plans are to include details such as infrastructure, indicative roads, residential areas, open space, reservations of biodiversity significant land/natural areas, flood affected areas, etc as applicable to the site.

4.4.3 Adaptable Housing Policy

One of the key findings in terms of existing housing is the lack of diversity in terms of typology. Coupled with an ageing population and change to household structure, 3-4 bedroom single detached dwellings are unlikely to be the most suitable option. In response to the changing demographic and principle of ageing in place, Council could consider the introduction of adaptable residential accommodation guidelines in the DCP or local policy.

Adaptable accommodation is a dwelling that is able to respond effectively to these needs without requiring costly and energy intensive alterations. Council could work with local developers and builders to address elements like bathroom size, corridor width and the general accessibility of the products currently being delivered. Development controls such as minimum targets for adaptable housing in multi-dwelling housing development could be introduced. This could encourage older people to relocate to smaller dwellings and age in place.

Seniors Housing and Housing for People with a Disability

The Seniors Housing SEPP does not apply to the Sydney Drinking Water Catchment; however, Council could consider whether elements of the policy could be adopted in the DCP.

Seniors housing is residential accommodation that is, or is intended to be, used permanently for seniors or people with a disability consisting of:

- (a) a residential care facility, or
- (b) a hostel, or
- (c) a group of self-contained dwellings, or
- (d) a combination of these,

but does not include a hospital.

The application of specific provisions in the DCP could be a starting point for Council as a mechanism to deliver a housing product that is better suited to older people.

Affordable Housing

Affordable Housing Policies are a mechanism for the delivery of smaller lot housing in particular areas or circumstances.

The evidence suggests there are a number of areas of disadvantage. Considering the development of a local housing affordability policy should provide the starting point for addressing affordability.

4.5 Monitoring and Review

Council will continue to monitor the release of land and dwelling approvals to track the actual delivery of housing against the projected demand.

The following monitoring and review schedule will be adopted:

- » annual review against the anticipated demand with particular focus on number and location of higher density housing and the implementation of outcomes identified above

- » five yearly reviews of the evidence base, demographic profiles and housing stock against the broader aims of the Regional Plan
- » a ten year review to ensure that the vision, evidence base and strategic planning context are aligned with the goals of the community, Regional Plan and implementation outcomes.

Section 5 - Actions

5 Actions

Notes: The Overarching Policy Directions correspond to the relevant Directions of the South East and Tablelands Regional Plan (eg. SETRP Direction 24) and the reference is made after the Direction is cited. This has been done to provide direct correlation between the SETRP and the Strategy.

The **Strategy** is overarching and it has a corresponding **Action** or series of Actions.

Implementation Outcomes provide a simple measure of the success in delivery of the Action.

Timeframe is in Short term 12 months, Medium 5 -10 years, Long 10 years plus. Timeframes may vary as priorities change in response to growth.

Responsibility, predominately Council but some Actions require collaboration.

Direction A Deliver greater housing supply and choice (SETRP Direction 24)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
A1 Housing Strategy is prepared having regard to the Draft guideline for the preparation of housing strategies and the Settlement Planning Principles	A1-1 Complete and endorse the Local Housing Strategy	Strategy adopted	Short	Council/DPIE
A2 Provide for a range of housing typologies to suit the demands of the changing demographic of the current population and the incoming population.	A2-1 Review the GMLEP Land use tables for the R1 General Residential and R2 Low Density Residential zones to reflect the expectation of residents and different zone objectives.	Strategy Adopted by Council and DPIE Planning controls provide for housing choice. Community have more certainty as to the likelihood of the type of development in their street Amendment to the GMLEP made	Short Medium	Council/DPIE
A3 Ensure that planning controls provide opportunity for housing for older people.	A3-1 Amend the DCP to include controls for adaptable housing in the R1, R2 and R3 zones.	DCP revised and commenced	Medium	Council

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
A4 Provide opportunities for increase in densities closer to the town centre of Goulburn	A4-1 Consider an amendment to the GMLEP to provide for additional R3 Medium Density zone in the Central Goulburn Character Area	An increase in the number of infill development, including multi-dwelling housing within 400m of the City Centre	Medium	Council
	A4-2 Review local provisions to encourage multi-dwelling housing closer to the Goulburn CBD (refer also B6)		Short	Landowner/ Council

Direction B Focus housing growth in locations that maximise infrastructure and services (SETRP Direction 25)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
B1 Provide suitable Urban Release Areas that can be readily serviced and infrastructure accommodated into a local contributions plan as part of the planning process for the Structure Plan	<p>B 1-1 Strategy identifies areas that are suitable for rezoning for residential development</p> <p>B1-2 Recognises the need to extend the urban footprint into areas that are readily accessible and can be connected to existing infrastructure</p>	A development footprint that demonstrates sequential release of land	Short	Council/ Community/ Landowners
B2 Ensure Social and Community Infrastructure is available to meet the needs of the incoming population	<p>B2-1 Review Community and Recreation Plans and Strategies to support the delivery of infrastructure to new development</p> <p>B2-2 Review the Local Contributions Plan</p>	<p>Local Infrastructure delivered by the developer and apportioned to new development with no cost to the community.</p> <p>Plan complete and updated</p>	Short	Council
B3 Maximise the utilisation of hard Infrastructure (water and sewer)	<p>B3-1 Ensure that DSPs are up to date</p> <p>B3-2 Provide flexibility in the planning controls to encourage infill development in suitable locations</p> <p>B3-3 Review Council's planning resources and update/create information sheets or online resources to assist mum and dad developers understand the controls</p>	<p>Up to date DSPs</p> <p>Increase in infill development</p> <p>Local Contribution Plan reflects additional demand and local infrastructure delivery</p>	Medium	Council
B4 Encourage residential development around Marulan to promote growth	B4-1 Prepare a Planning Proposal to provide additional opportunities for low density residential development at Marulan consistent with the Strategy	Structure planning of opportunity areas to facilitate sequential residential development in the medium term	Medium	Council/ Landowners

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
B5 Avoid and Manage Land Use Conflict	<p>B5-1 Consider adjoining land uses, including agricultural land as part of the assessment criteria for urban expansion.</p> <p>B5-2 Adopt the development principles that can be applied to future unsolicited Planning Proposals as part of the adoption of the strategy</p>	Rezoning occurs only where consistent with planning principles	Ongoing	Council/ Landowners
B6 Support additional residential opportunities in the Goulburn CBD	<p>B5-1 Consider rezoning land and/or reviewing land use tables to encourage residential development in the City Centre</p> <p>B5-2 Include controls in the DCP that continue to preserve commercial and retail land uses and activation at ground floor level along Auburn Street</p> <p>B5-3 Review controls in the DCP to provide incentives for certain residential uses, for example reduction in car parking in certain circumstances or locations.</p>	Additional housing opportunities and density in the CBD	Short	Council

Direction C: Deliver more opportunities for affordable housing SETRP Direction 27)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
C1 Facilitate affordable housing	C1-1 Retain planning controls in the LEP that allow a range of residential accommodation across some residential zones. C1-2 Prepare an affordable housing strategy C1-3 Investigate the incorporation of affordable housing targets in new release areas C1-4 Ensure development is readily able to be connected to services and devoid of high value biodiversity thereby reducing the cost of development. C1-5 Retain planning controls that encourage the delivery of one and two bedroom dwellings	Ready supply of land to the market to meet demand. A range of housing types available. Reduction in wait times for rental accommodation.	Medium	Council

Direction D: Build socially inclusive, safe and healthy communities (SETRP Direction 22)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
D1 Deliver well planned suburbs and communities	D1-1 Include Neighbourhood Planning Principles in the consideration of the future development of Urban Release Areas under the Planning Proposal D1-2 Consider connectivity in preparing Neighbourhood Structure Plans/Master Plans and development concept plans for Urban Release Areas	Urban Release Areas identified with corresponding guidelines to facilitate development in the short term.	Ongoing	Council/ Developer/ Landowner
D2 Support adaptable housing	D2-1 Include Liveable Housing controls into DCPs that support Urban Release Areas D2-2 Amend the DCP to include adaptable and liveable housing	DCP amended to reflect adaptable and liveable housing	Medium	Council
D3 Promote Sustainable Communities	D3-1 Support sustainability principles in the DCP D3-2 Include energy efficiency and sustainable design principles into DCPs	DCP amended to reflect sustainability principles	Medium	Council

Direction E: Manage rural lifestyles (SETRP Direction 28)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
E1 Support the strategic location of lifestyle development	E1-1 Development of criteria for rezoning applications including a set of development principles that can be applied to future unsolicited Planning Proposals.	Criteria adopted and being applied	Short	Council

Direction F: Protect important agricultural land (SETRP Direction 8)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
F1 Support Important Agricultural Land Mapping	F1-1 Work with Department of Primary Industry to support the preparation of important agricultural land mapping for the South East and Tablelands Regional Plan area.	Future urban land excludes, where practical, important agricultural land The Planning Proposal for urban land considers important agricultural land mapping	Medium	Council/DPI Ag
F2 Manage incompatible land use activities on the urban fringe	F1-1 Consider the implementation of buffers; natural and built to protect productive agricultural land from the impact of urban development F-2 Reduce fragmentation for rural land by retaining suitable MLS and the Transition Zone	Potential revision of DCP controls for buffers to certain development from/to residential development. Criteria adopted in Strategy to avoid identifying residential in proximity to avoid interface areas. No planning proposals reducing MLS outside opportunity area identified in the Strategy.	Ongoing	Council/ Landowners/ Developers

Direction G Manage the ongoing use of mineral resources (SETRP Direction 13)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
G1 Protect valuable mineral resources	G1-1 Consultation with NSW Division of Resources and Geosciences during exhibition of Strategy G1-2 Manage land use conflict around Marulan by reducing the number of residential lots that potentially encroach on extractive operations	Consultation completed. Future urban land does not encroach on existing mineral resources. Site specific DCP provisions to be prepared to avoid conflict between residential development and extractive industries.	Short and ongoing	Council/Dept. Industry
G2 Avoid identification of additional urban land adjacent to extractive industries around Marulan	G2-1 Identify extractive industries in planning documentation and ensure that urban expansion into these areas is minimised	Important mineral resources protected	Ongoing	Council/Dept Industry

Direction H: Protect important environmental assets and Enhance biodiversity connections (SETRP Directions 14 & 15)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
H1 Protect Biodiversity	H1-2 Identification of land with high biodiversity value in the Strategy study area verified by EcoLogical for the Planning Proposal. Where such land cannot be avoided, development will be minimised and or offset. H1-1 Urban development will avoid identified biodiversity corridors	Future urban land excludes land with high environmental value. Biodiversity corridors avoided	Short	Council/LLS/OEH

Direction I: Secure water resources (SETRP Direction 18)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
I1 Protect the Sydney Drinking Water Catchment	I1-1 Consider the impact of urban development on the Sydney Drinking Water Catchment in the Planning Proposal. I1-2 Review water cycle management strategies to include the additional urban areas identified in the Strategy as part of the Planning Proposal process. Include WSUD in corresponding Development Control Plans for Urban Release Areas	No adverse impact on the water catchment. All development in the SDWC must have a neutral or beneficial effect on water quality Water cycle management strategies are up to date WSUD principles applied to all new development	Ongoing	Council/Water NSW

Direction J: Protect the Region's Heritage (SETRP Direction 23)

Strategy	Action	Implementation Outcome	Timeframe	Responsibility
J1 Undertake and implement heritage studies to inform local strategies.	J1-1 Consult with Aboriginal people during the exhibition of the Strategy J1-1 Undertake detailed Aboriginal Cultural Heritage Assessment to inform the Planning Proposal prior to public exhibition.	Sites identified/impact mitigated	Short	Council/ developers/ Aboriginal Groups
J2 Protect and Conserve Significant European Heritage	J2-1 Consider the opportunities for adaptive re-use of Heritage Buildings, particularly in relation to providing incentives for redevelopment within the Goulburn Town Centre for higher density development	Increase the number of adaptations of heritage items leading the restoration and use.	Ongoing	Council/ Landowners

5.1 Monitoring and Review

Council will continue to monitor the release of land and dwelling approvals to track the actual delivery of housing against the projected demand.

The following monitoring and review schedule will be adopted:

- » annual review against the anticipated demand with particular focus on number and location of higher density housing and the implementation outcomes identified above
- » five yearly reviews of the evidence base, demographic profiles and housing stock against the broader aims of the Regional Plan
- » a ten year review to ensure that the vision, evidence base and strategic planning context are aligned with the goals of the community, Regional Plan and implementation outcomes.

Appendices

A Ministerial Directions

B Regional Plan

C **LEP Provisions**

D Constraints and Land Suitability

E Biodiversity Constraints (ELA)

Appendices

A Ministerial Directions

1 Ministerial Directions

Section 9.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) provides that any direction of the Minister is to be taken into account in the preparation of a Planning Proposal (PP). As the Strategy will make recommendations to inform a PP to rezone land for urban development, the Strategy has been prepared having regard to the relevant Directions.

Employment and resources

Direction 1.1 Business and Industrial Zones

The objectives of this direction are to:

- » encourage employment growth in suitable locations,
- » protect employment land in business and industrial zones, and
- » support the viability of identified centres.

This direction applies when a relevant planning authority prepares a PP that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).

Rezoning of employment land will need to be justified by a strategy that considers the objectives of the direction.

Direction 1.2 Rural zones

The objective of the direction is to protect the agricultural production value of rural land. It applies when a planning authority prepares a PP that will affect land within an existing or proposed rural zone.

The direction requires the planning authority to:

- » not rezone land from a rural zone to a residential, business, industrial, village or tourist zone

A PP may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the PP that are inconsistent are:

- a. justified by a strategy which:
 - i. gives consideration to the objectives of this direction,
 - ii. identifies the land which is the subject of the PP (if the PP relates to a particular site or sites), and
 - iii. is approved by the Director-General of the Department of Planning, or
- b. justified by a study prepared in support of the PP which gives consideration to the objectives of this direction, or
- c. in accordance with the relevant Regional Strategy, Regional Plan or Sub-Regional Strategy prepared by the Department of Planning which gives consideration to the objective of this direction, or
- d. is of minor significance.

Direction 1.3 Mining, petroleum production and extractive industries

The objective of this direction is to ensure that the future extraction of State or regionally significant reserves of coal, other minerals, petroleum and extractive materials are not compromised by inappropriate development.

This direction applies to all relevant planning authorities.

This direction applies when a relevant planning authority prepares a PP that would have the effect of:

- » prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials
- » restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.

Direction 1.5 Rural lands

The objectives of this direction are to protect the agricultural production value of rural land and facilitate the orderly and economic development of rural lands for rural and related purposes.

It applies when a planning authority prepares a PP that will affect land within an existing or proposed rural or environment protection zone or that changes the minimum lot size on land within a rural or environment protection zone.

This direction requires the PP to consider a range of factors including the key environmental constraints, support investment in agriculture and farmers' right to farm, prioritise efforts and consider measures to minimise the fragmentation of rural land and reduce the risk of land use conflict, particularly between residential land uses and other rural land uses.

Environment and heritage

Direction 2.3 Heritage conservation

The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance.

It applies when a planning authority prepares a PP which must contain provisions that facilitate the conservation of:

- » Items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area
- » Aboriginal objects or Aboriginal places that are protected under the *National Parks and Wildlife Act 1974*
- » Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people.

Housing, infrastructure and urban development

Direction 3.1 Residential zones

The objectives of this direction are:

- » to encourage a variety and choice of housing types to provide for existing and future housing needs
- » to make efficient use of existing infrastructure and services and ensure that new housing has appropriate access to infrastructure and services
- » to minimise the impact of residential development on the environment and resource lands.

It applies when a planning authority prepares a PP that will affect land within an existing or proposed residential zone or any other zone in which significant residential development is permitted or proposed to be permitted.

This direction requires the PP to:

- » include provisions that encourage the provision of housing that will:
 - > broaden the choice of building types and locations available in the housing market
 - > make more efficient use of existing infrastructure and services
 - > reduce the consumption of land for housing and associated urban development on the urban fringe
 - > be of good design.
- » in relation to land to which this direction applies:
 - > contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it)
 - > not contain provisions which will reduce the permissible residential density of land.

Direction 3.4 Integrating Land Use and Transport

This direction applies when a relevant planning authority prepares a PP that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.

Direction 3.6 Shooting Ranges

This direction applies when a relevant planning authority prepares a PP that will affect, create, alter or remove a zone or a provision relating to land adjacent to and/or adjoining an existing shooting range.

Hazard and risk

Direction 4.3 Flood prone land

The objectives of this direction are:

- » to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005
- » to ensure that the provisions of an LEP on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land.

This direction applies to all relevant planning authorities that are responsible for flood prone land within their Shire. This direction applies when a relevant planning authority prepares a PP that creates, removes or alters a zone or a provision that affects flood prone land.

Direction 4.4 Planning for bushfire protection

The objectives of this direction are:

- » to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas
- » to encourage sound management of bush fire prone areas.

This direction applies to all Shires in which the responsible Council is required to prepare a bush fire prone land map, or, until such a map has been certified by the Commissioner of the NSW Rural Fire Service, a map referred to in Schedule 6 of that Act.

This direction applies when a relevant planning authority prepares a PP that will affect, or is in proximity to land mapped as bushfire prone land.

Regional Planning

Direction 5.1 Implementation of Regional Strategies

Amended in May 2017 to include former Direction 5.6 Sydney to Canberra Corridor (Revoked 10 July 2008). This direction applies to land to which the following regional strategies apply: (a) South Coast Regional Strategy (excluding land in the Shoalhaven LGA) and (b) Sydney–Canberra Corridor Regional Strategy.

PPs must be consistent with the Regional Strategy unless the relevant planning authority can satisfy DPE that the extent of inconsistency: is of minor significance, and the PP achieves the overall intent of the regional strategy and does not undermine the achievement of its vision, land use strategy, policies, outcomes or actions.

Direction 5.2 Sydney Drinking Water Catchments

The objective of this Direction is to protect water quality in the Sydney drinking water catchment. This Direction relates to SEPP (SDWC) 2011 and applies when a relevant planning authority prepares a PP that applies to land within the Sydney drinking water catchment. Any PP must also be consistent with SEPP (SDWC) 2011.

Specific principles of Direction 5.2 are:

- a. new development within the Sydney drinking water catchment must have a neutral or beneficial effect on water quality, and
- b. future land use in the Sydney drinking water catchment should be matched to land and water capability, and
- c. the ecological values of land within a Special Area that is:
 - i. reserved as national park, nature reserve or state conservation area under the National Parks and Wildlife Act 1974, or
 - ii. declared as a wilderness area under the Wilderness Act 1987, or
 - iii. owned or under the care control and management of the Sydney Catchment Authority, should be maintained

Direction 5.10 Implementation of Regional Plans

The objective of this direction is to give legal effect to the vision, land use strategy, goals, directions and actions contained in Regional Plans. It applies when a planning authority prepares a PP, which must be consistent with the Regional Plan – in this case, the South East and Tablelands Regional Plan.

2 State Environmental Planning Policies

A number of State Environmental Planning Policies (SEPPs) need to be considered in the context of delivering housing. Generally, these policies will form part of the statutory consideration of specific development applications.

Exempt and Complying Development Codes SEPP

The State Policy for exempt and complying development is contained within the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (the State Policy). Exempt development means low impact works not requiring a full merit assessment by council. Complying development is development that meets all of the relevant development standards in the Code.

Of particular note is the State Environmental Planning Policy (Exempt and Complying Development Codes) (Codes SEPP), including the Greenfield Housing Code Amendment and the recently published State Environmental Planning Policy (Exempt and Complying Development Codes) Amendment (Inland Code) 2018 (Inland Code).

Inland Code

Released by the Department of Planning and Environment in September 2018, the Inland Code will simplify the planning process for home owners in regional NSW.

The new Code applies to development for the purposes of new dwellings and renovations. It brings together and simplifies the planning rules for fast-track complying development approvals previously dealt with under the Exempt and Complying Development Codes SEPP.

The new Code and farm building standards will be included in the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* (Codes SEPP) and aim to:

- » make it easy for new one and two storey homes and home renovations to be approved in rural and residential zones in 20 days or less
- » simplify and tailor development standards to suit development in rural and regional inland NSW
- » increase the use of complying development in inland NSW to help achieve faster housing approvals
- » allow rural landholders to construct a greater range of farm buildings without approval and obtain faster approvals for large farm buildings to support the agricultural use of their land.

New one and two storey homes and home renovations can be undertaken as complying development in inland NSW where the proposal meets all of the relevant development standards in the new Code. These standards have been developed following consultation with the community, councils and industry.

Greenfield Housing Code

Introduced in 2018 as an amendment to the Codes SEPP, the new [Greenfield Housing Code](#) (the Code) will speed up the delivery of new homes in greenfield areas (new release areas) across NSW to meet the needs of the State's growing population and improve housing affordability.

The new Code aims to:

- » simplify the standards in the State Policy for greenfield areas
- » tailor development standards to suit market demand, housing types and lot sizes typically delivered in greenfield areas; and
- » increase the take up of complying development to help achieve faster housing approvals.

The Greenfield Housing Code has been simplified by:

- » presenting the Code in plain English and including tables and diagrams to clearly explain the planning rules (similar to the Housing Code);
- » reducing and simplifying development standards; and
- » simplifying and aligning certain standards so they match the standards under the Growth Centres DCPs.

In Goulburn, the Code applies to land that is also identified as an Urban Release Area (URA) and will allow 1 – 2 storey homes, alterations and additions to be carried out under the fast-track complying development approval pathway.

The Code requires a tree to be planted in the front and rear yard of each new home approved under complying development. The landscaping requirements in the new Code will ensure new release areas are leafier and more sustainable.

Although applicable to the URAs, the Code in itself does not replace the need for a Development Control Plan under clause 6.2A of the Local Environmental Plan.

The Low Rise Medium Density Housing Code

This Code was inserted into the SEPP (Exempt and Complying Development Codes) 2008 in an amendment and commenced on 6 July 2018.

The Low Rise Medium Density Housing Code allows one and two storey dual occupancies, manor houses and terraces to be carried out under a fast-track complying development approval. A complying development approval can be issued within 20 days if the proposal complies with all the relevant requirements in the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (the State Policy).

Low rise medium density housing helps housing affordability by providing smaller homes on smaller lots that still provide all the amenities of a single dwelling and can accommodate a wide variety of lifestyles and needs, including growing families or empty nesters.

Low rise medium density housing as complying development is only allowed in R1, R2, R3, and RU5 zones, where medium density housing is already permitted under a Council's Local Environmental Plan (LEP). The medium density complying development proposal must meet all of the development standards in the State Policy and the Design Criteria contained in the supporting Low Rise Medium Density Design Guide for complying development.

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011

The State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 applies to all land occurring in the Sydney Drinking Water Catchment (SDWC) and needs to be considered when any land within the SDWC is proposed for development.

This SEPP has three primary aims being:

- » To provide for healthy water catchments that will deliver high quality water and permit development that is compatible with that goal

- » To ensure that consent authorities only allow proposed developments that have a neutral or beneficial effect on water quality (NorBE)
- » To support water quality objectives in the Sydney drinking water catchment.

This SEPP gives effect to Water NSW's current recommended practices and standards, including the practice of referring development applications (and PPs) to Water NSW for concurrence where so required. The SEPP represents a key environmental constraint to the expansion of land for residential development where the site would be reliant on on-site waste treatment. This SEPP relates to Direction 5.2 Sydney Drinking Water Catchment.

Other Applicable SEPPs

A number of other State Environmental Planning Policies are particularly relevant to the delivery of housing, including:

SEPP 70 Affordable Housing

In February 2019, SEPP 70 was expanded to include all councils across NSW.

The next step in the process will be for councils to prepare affordable housing contribution schemes and amend their local environmental plans to reference the schemes. It is optional for a council to develop an affordable housing contribution scheme.

For this SEPP 'affordable housing' means *very low income households, low income households and moderate income households are those whose gross incomes fall within the following ranges of percentages of the median household income for the time being for the Greater Sydney (Greater Capital City Statistical Area) or the Rest of NSW (Greater Capital City Statistical Area) according to the Australian Bureau of Statistics:*

- » Very low income household
 - > less than 50%
- » Low income household
 - > 50% or more but less than 80%
- » Moderate income household
 - > 80-120%

Affordable Rental Housing SEPP

SEPP Affordable Rental Housing 2009 – The SEPP was introduced on 31 July 2009. The policy's intent is to increase the supply and diversity of affordable rental and social housing in the State.

The SEPP covers housing types including villas, townhouses and apartments that contain an affordable rental housing component, along with secondary dwellings (granny flats), new generation boarding houses, group homes, social housing and supportive accommodation.

The SEPP provides controls for infill affordable housing that is dual occupancies and multi-dwelling housing in the R2 zone and dual occupancies, multi-dwelling housing and residential flat buildings in the R1 zone and dual occupancies in the R5 zone.

Housing for Seniors SEPP

SEPP Housing for Seniors or People with a Disability 2004 does not apply to land within the Sydney Drinking Water Catchment.

Since 1982, the NSW Government has met the ongoing challenge of providing sufficient housing for seniors and people with a disability. State Environmental Planning Policy (SEPP 5) was introduced to deal with housing for older people and people with a disability.

In March 2004, the Department replaced SEPP 5 with a new policy focused on balancing growing demand for accommodation with maintaining the character and feel of local neighbourhoods - State Environmental Planning Policy (Seniors Living) 2004.

In September 2007, Amendment No 2 changed the name of the SEPP to State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004. It also introduced site compatibility certificates for seniors housing.

In October 2018, an amendment was made to change some rules for site compatibility certificates and to make the relevant planning panel the determining authority for site compatibility certificates issued under the Seniors SEPP.

State Environmental Planning Policy (Primary Production and Rural Development) 2019

The PPRD SEPP 2019 came into force on 28 February 2019. The SEPP repeals State Environmental Planning Policy No 30—Intensive Agriculture, State Environmental Planning Policy No 52—Farm Dams and Other Works in Land and Water Management Plan Areas, State Environmental Planning Policy No 62—Sustainable Aquaculture and State Environmental Planning Policy (Rural Lands) 2008.

The aims of this Policy are as follows:

- (a) to facilitate the **orderly economic use and development of lands for primary production**,
- (b) to **reduce land use conflict and sterilisation of rural land** by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources,
- (c) to **identify State significant agricultural land** for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,
- (d) to simplify the regulatory process for smaller-scale low risk artificial waterbodies, and routine maintenance of artificial water supply or drainage, in irrigation areas and districts, and for routine and emergency work in irrigation areas and districts (not applicable in Hilltops)
- (e) to **encourage sustainable agriculture**, including sustainable aquaculture,
- (f) to require consideration of the effects of all proposed development in the State on oyster aquaculture,
- (g) to identify aquaculture that is to be treated as designated development using a well-defined and concise development assessment regime based on environment risks associated with site and operational factors.

B Regional Plan

Consistency with South East and Tablelands Regional Plan

There are a number of directions and actions in the Regional Plan that have been considered in the development of the Strategy. Note that only those that specifically relate to housing or land that is within the urban and fringe study area have been included in the following table.

South East and Tablelands Regional Plan		Urban and Fringe Housing Strategy
Goal 1: A connected and prosperous economy		
Direction/Action	Action	Implementation outcome
Direction 8: Protect important agricultural land		
8.1 Map important agricultural land to better inform strategic and local planning processes.	Work with Department of Primary Industry to support the preparation of important agricultural land mapping for the South East and Tablelands Regional Plan area. The Planning Proposal for urban land considers important agricultural land mapping	Future urban land excludes, where practical, important agricultural land
8.2 Protect identified important agricultural land from land use conflict and fragmentation and manage the interface between important agricultural land and other land uses through local environmental plans.	Consider the implementation of buffers; natural and built to protect productive agricultural land from the impact of urban development	
Direction 13 Manage the ongoing use of mineral resources.		
13.1 Consult with the NSW Division of Resources and Geosciences when assessing applications for land use changes (strategic land use planning, rezoning and planning proposals) and new developments or expansions.	Consultation with NSW Division of Resources and Geosciences during exhibition of Strategy Avoid identification of additional urban land adjacent to extractive industries around Marulan	Future urban land does not encroach on existing mineral resources.
13.2 Protect areas of mineral and energy resources potential through local strategies and local environmental plans.		

South East and Tablelands Regional Plan		Urban and Fringe Housing Strategy
Goal 2: A diverse environment interconnected by biodiversity corridors		
Direction/Action	Action	Implementation outcome
Direction 14: Protect important environmental assets		
14.2 Protect the validated high environmental value lands in local environmental plans.	Identification of land with high biodiversity value in the Strategy study area verified by EcoLogical for the Planning Proposal. Where such land cannot be avoided, development will be minimised and or offset.	Future urban land excludes land with high environmental value.
14.3 Minimise potential impacts arising from development on areas of high environmental value, including groundwater-dependent ecosystems and aquatic habitats, and implement the 'avoid, minimise and offset' hierarchy.	Provide water, sewer and drainage infrastructure to support urban development.	
Direction 15: Enhance biodiversity connections		
15.1 Protect and enhance the function and resilience of biodiversity corridors in local strategies.	Urban development will avoid identified biodiversity corridors	Biodiversity corridors avoided.
Direction 18: Secure water resources		
18.1 Locate, design, construct and manage new developments to minimise impacts on water catchments, including downstream impacts and groundwater sources.	Consider the impact of urban development on the Sydney Drinking Water Catchment.	No adverse impact on the water catchment
18.3 Prepare or review integrated water cycle management strategies to ascertain long-term infrastructure needs to accommodate population growth.	Review water cycle management strategies to include the additional urban areas identified in the Strategy as part of the Planning Proposal process.	Water cycle management strategies area up to date
18.4 Incorporate water sensitive urban design into development that is likely to impact water catchments, water quality and flows.	Urban Release Area identified in the Strategy should include WSUD in corresponding Development Controls Plans.	WSUD principles applied to all new development
Goal 3: Healthy and connected communities		
Direction 22: Build socially inclusive, safe and healthy communities		
22.1 Develop best-practice guidelines for planning, designing and developing healthy built environments and use the Neighbourhood Planning Principles (Appendix A) in local environmental plans, development control plans and local strategies in the interim.	Include Neighbourhood Planning Principles in the consideration of the future development of Urban Release Areas under the Planning Proposal	Urban Release Areas identified with corresponding guidelines to facilitate development in the short term.
22.2 Adopt elements of Liveable Housing Australia's Liveable Housing Design Guidelines in development controls for housing, where possible.	Include Liveable Housing controls into DCPs that support Urban Release Areas	

South East and Tablelands Regional Plan	Urban and Fringe Housing Strategy	
22.3 Integrate walking and cycling networks into the design of new communities to encourage physical activity.	Consider connectivity in preparing Neighbourhood Structure Plans and development concept plans for Urban Release Areas	
22.4 Promote energy efficiency in new development proposals.	Include energy efficiency and sustainable design principles into DCPs	
Goal 3: Healthy and connected communities		
Direction/Action	Action	Implementation outcome
Direction 23: Protect the region's heritage		
23.1 Undertake and implement heritage studies, including regional Aboriginal cultural heritage studies, to inform local strategies.	Consult with Aboriginal people during the exhibition of the Strategy	Urban Release areas avoid or minimise harm to environmental heritage
23.2 Consult with Aboriginal people and the broader community to identify heritage values at the strategic planning stage.	Undertake detailed Aboriginal Cultural Heritage Assessment to inform the Planning Proposal prior to public exhibition.	
23.3 Conserve heritage assets during local strategic planning and development	Consider the opportunities for adaptive re-use of Heritage Buildings, particularly in relation to providing incentives for redevelopment within the Goulburn Town Centre for higher density development	Heritage Items area preserved through adaptive re-use.
Goal 4: Environmentally sustainable housing choices		
Direction 24: Deliver greater housing supply and choice.		
24.1 Prepare guidelines for local housing strategies.	The Strategy has been prepared having regard to the Draft guideline for the preparation of housing strategies and the Settlement Planning Principles	Strategy Adopted by Council and DPE
24.2 Prepare local housing strategies consistent with the Settlement Planning Principles to provide a surplus supply of residential land to meet projected housing needs.		
24.3 Promote increased housing choice including townhouses, villas and apartments in strategic centres and locations close to existing services and jobs.	Provide for a range of housing typologies to suit the demands of the changing demographic of the current population and the incoming population.	Planning controls provide for housing choice.
24.4 Promote opportunities for retirement villages, nursing homes and similar housing for seniors in local housing strategies.	Ensure that planning controls provide opportunity for housing for older people.	
Direction 25: Focus housing growth in locations that maximise infrastructure and services		
25.1 Focus future settlement to locations that: • maximise existing infrastructure and services and minimise the need for new services; • prioritise increased densities within existing urban areas; and	Identifies areas that are in sequence. Recognises the need to extend the urban footprint into areas that are readily accessible and can be connected to existing infrastructure	A development footprint that demonstrated sequential release of land

South East and Tablelands Regional Plan	Urban and Fringe Housing Strategy	
<ul style="list-style-type: none">• prioritise new release areas that are an extension of existing strategic and local centres.	Provides opportunities for increase in densities closer to the town centre of Goulburn	
25.2 Plan for and prioritise services and infrastructure investment to maximise cost efficiencies, coordinate the delivery of different infrastructure assets, and achieve equitable sharing of responsibility, including funding, procurement and ongoing maintenance.	Considers an Urban Release Area that can be readily serviced and infrastructure accommodated into a local contributions plan as part of the planning process for the Neighbourhood Structure Plan.	Local Infrastructure delivered by the developer and apportioned to new development with no cost to the community.
Goal 4: Environmentally sustainable housing choices		
Direction/Action	Action	Implementation outcome
Direction 27: Deliver more opportunities for affordable housing		
27.1 Deliver greater housing affordability by incorporating policies and tools into local housing strategies and local planning controls that will enable a greater variety of housing types and incentivise private investment in affordable housing.	Provide a range of housing typologies. Retain planning controls in the LEP that allow a range of residential accommodation across the residential zones.	Ready supply of land to the market to meet demand. A range of housing types available.
27.2 Facilitate greater housing diversity, including studios and one- and two-bedroom dwellings, to match forecast changes in household sizes.	Ensure development is readily able to be connected to services and devoid of high value biodiversity thereby reducing the cost of development.	Reduction in wait times for rental accommodation.
Direction 28: Manage rural lifestyles		
28.1 Enable new rural residential development only where it has been identified in a local housing strategy prepared by council and approved by the Department of Planning and Environment.	Adoption of the Strategy by Council and DPE	Strategy adopted.
28.2 Locate new rural residential areas: <ul style="list-style-type: none">• close to existing urban settlements to maximise the efficient use of existing infrastructure and services, including roads, water, sewer and waste services, and social and community infrastructure;• to avoid and minimise the potential for land use conflicts with productive, zoned agricultural land and natural resources; and• to avoid areas of high environmental, cultural and heritage significance, important agricultural land and areas affected by natural hazards.	Consider a defined urban fringe for the Strategy. Include a set of development principles that can be applied to future unsolicited Planning Proposals. Consider adjoining land uses, including agricultural land as part of the assessment criteria for urban expansion.	Rezoning of land is controlled by planning principles
28.3 Manage land use conflict that can result from cumulative impacts of successive development decisions.		

C LEP Provisions

Land Use Tables

Orange differences

Red permissible in R2 with Consent

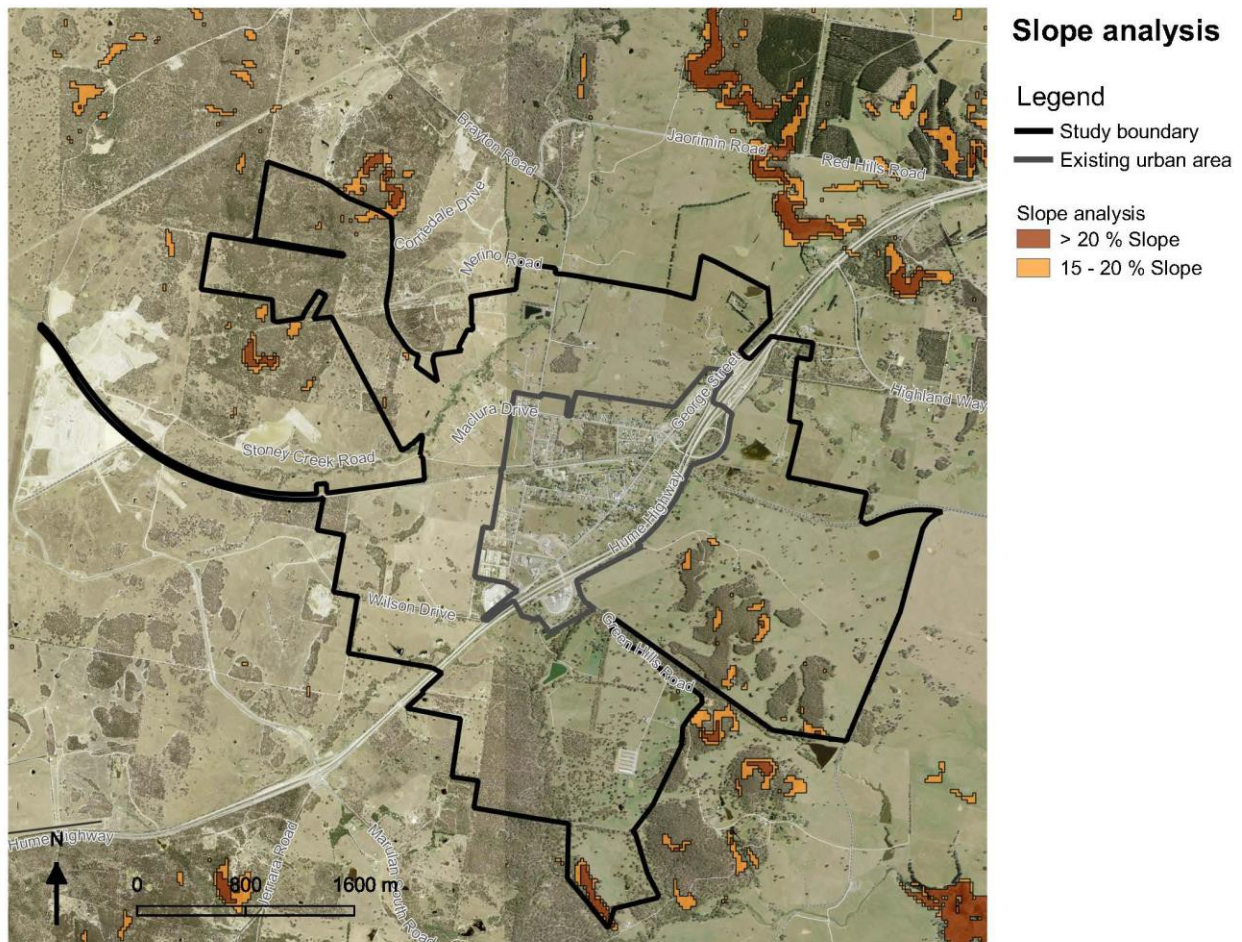
Green SI LEP

Zone R1 General Residential	Zone R2 Low Density Residential	Zone R5 Large Lot Residential
<p>1 Objectives of zone</p> <ul style="list-style-type: none"> To provide for the housing needs of the community. To provide for a variety of housing types and densities. To enable other land uses that provide facilities or services to meet the day to day needs of residents. To maintain the economic strength of commercial centres by limiting the retailing of food and clothing. 	<p>1 Objectives of zone</p> <ul style="list-style-type: none"> To provide for the housing needs of the community within a low density residential environment. To enable other land uses that provide facilities or services to meet the day to day needs of residents. To maintain the economic strength of commercial centres by limiting the retailing of food and clothing. 	<p>1 Objectives of zone</p> <ul style="list-style-type: none"> To provide residential housing in a rural setting while preserving environmentally sensitive locations and scenic quality. To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future. To ensure that development in the area does not unreasonably increase the demand for public services or public facilities. To minimise conflict between land uses within this zone and land uses within adjoining zones. To facilitate and promote an increased range of residential opportunities by providing for low intensity residential development compatible with the rural characteristics of the locality. To encourage subdivision of land that is consistent with the constraints and opportunities of the land.
<p>2 Permitted without consent</p> <p>Home occupations; Roads</p>	<p>2 Permitted without consent</p> <p>Home occupations; Roads</p>	<p>2 Permitted without consent</p> <p>Home occupations; Roads</p>
<p>3 Permitted with consent</p> <p>Attached dwellings; Bed and breakfast accommodation; Boarding houses; Centre-based child care facilities; Community facilities; Dwelling houses; Food and drink premises; Group homes; Home industries; Hostels; Multi-dwelling housing; Neighbourhood shops; Places of public worship; Plant nurseries; Residential flat buildings; Respite day care centres; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Any other development not specified in item 2 or 4</p>	<p>3 Permitted with consent</p> <p>Attached dwellings; Bed and breakfast accommodation; Boarding houses; Centre-based child care facilities; Community facilities; Dwelling houses; Food and drink premises; Group homes; Home industries; Hostels; Multi-dwelling housing; Neighbourhood shops; Places of public worship; Respite day care centres; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Any other development not specified in item 2 or 4</p>	<p>3 Permitted with consent Red and</p> <p>breakfast accommodation; ; Boarding houses; Centre-based child care facilities; Community facilities</p> <p>Building identification signs; Dwelling houses; Group homes; Hostels; Home industries; Plant nurseries; Neighbourhood shops; Places of public worship; Respite day care centres; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Any other development not specified in item 2 or 4</p>

D Constraints and Land Suitability

Marulan is located on the Meridian line and its surrounding hills are mined for hardrock aggregate and limestone.

Figure 2 Marulan Slope Analysis



Goulburn Mulwaree Council GIS data

Flood Prone Land

Flood prone land presents a significant constraint to development as it has implications with respect to the capital cost and provision of infrastructure, roads and the location of highly sensitive land uses such as schools and aged care facilities. All land which interfaces with the main water bodies should be avoided or carefully considered if proposed for residential development. When considering the suitability of land for residential use it is important to consider whether road access will be cut off during a flood event as well as whether the land itself is subject to flooding.

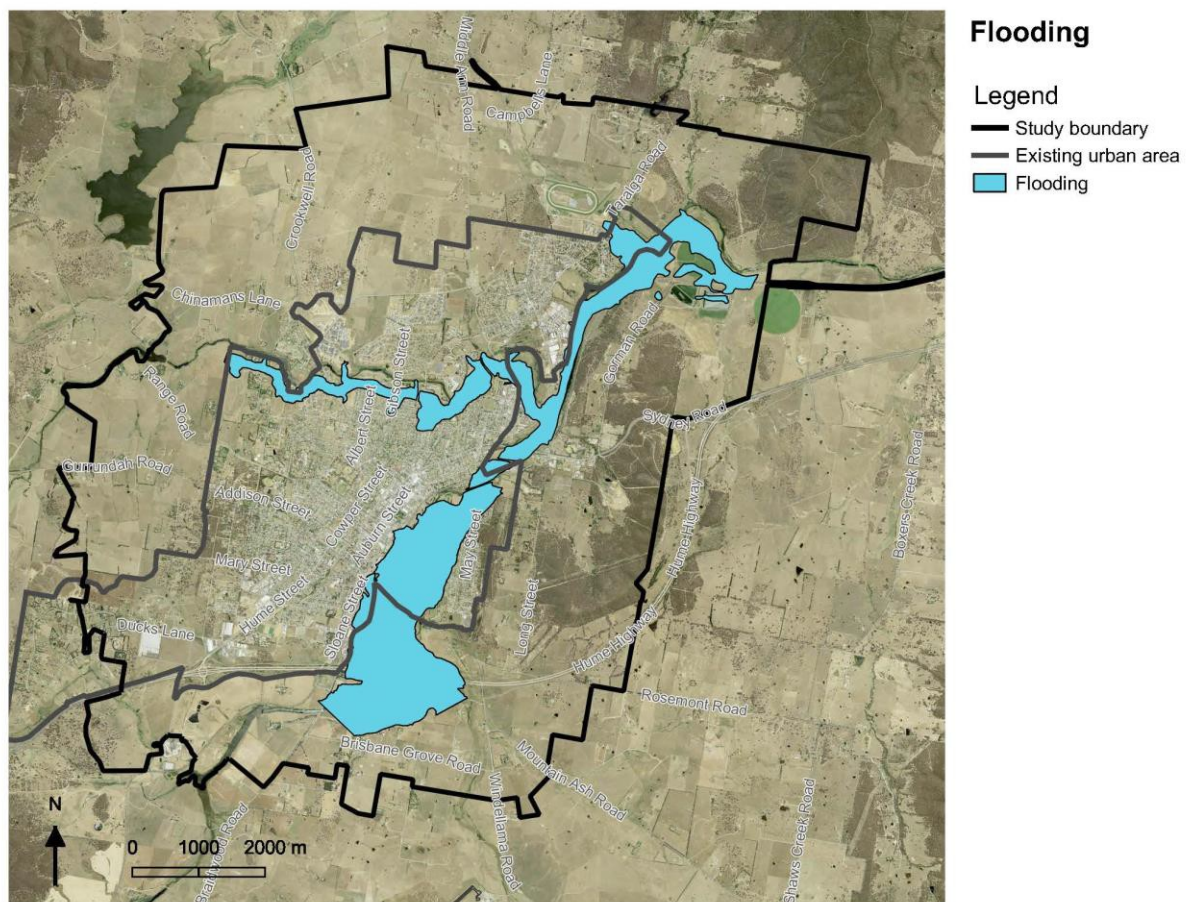
The Goulburn Mulwaree LEP 2009 flood map is based on the 2003 *Wollondilly River and Mulwaree Chain-of-Ponds Floodplain Risk Management Study and Plan*, and is generally consistent with the flood prone land identified in the *Wollondilly and Mulwaree Rivers Flood Study 2016* (2016 Flood Study). Both the LEP flood map and the 2016 Flood Study clearly articulate the flood impacts for Goulburn.

The 2003 Wollondilly River and Mulwaree Chain-of-Ponds Floodplain Risk Management Study and Plan remains current for the purposes of flood planning while Council prepares a new flood plain risk management study and plan that will supersede this by 2021. The new study will also assess risks posed by Major Overland Flow (MOF) type flooding.

The 2016 Flood Study identified the potential for heavier rainfall in both the Mulwaree and Wollondilly catchments as a direct impact of climate change. The Study found that the system is highly sensitive to increases in rainfall intensity in part because the Wollondilly is constricted

downstream of its confluence with the Mulwaree causing flood water to 'back up' resulting in a large increase in peak flood levels.

Figure 3 Goulburn Flooding



Source: Goulburn Mulwaree LEP 2009 Flood Planning Map

A flood study for Marulan has been recommended as there is no land currently mapped as flood prone in Marulan. There are two major creeks in Marulan.

- » Jaorimin Creek flows north past Holcim Quarry in the west of the village through the Marulan North precinct to join the Wollondilly River.
- » Barbers Creek flows west from near Tallong to the Marulan East precinct where it is joined by Woolshed Creek and Marulan Creek, then continues south to join the Shoalhaven River.

A desktop analysis of Marulan's waterways and topography indicates that parts of Marulan may experience some flooding, particularly the area north of the Marulan Town Centre and adjacent to Brayton Road. Site-specific flood studies should be undertaken when considering land in and around Marulan for residential use.

Sydney Drinking Water Catchment

Almost the entire Goulburn Mulwaree LGA falls into the SDWC. Watercourses in the LGA are part of either the Warragamba Catchment or Shoalhaven Catchment, with Marulan positioned on the watershed between the two.

WaterNSW protects the health of the Sydney catchment area to ensure reliable, quality drinking water. Management of the SDWC is based on the best science and technical information, best management practices, and the experience of landowners and other catchment stakeholders.

Development in the catchment must have a neutral or beneficial effect (NorBE) on water quality. A wide range of land uses can affect water quality including by-products of catchment activities such as sewerage system discharges, run-off from agricultural land and urban developments. When considering whether a development will meet the NorBE test, possible impacts on both surface and groundwater are considered.

WaterNSW has developed strategic land and water capability assessments (SLWCA) for land in the catchment. The following information has been provided by NSW Water.

NSW Water land use planning and zoning

Local councils are responsible for land use zoning in the catchment. To protect water quality, it is important to ensure zoning decisions are consistent with the physical capability of land.

The SLWCA assists councils to prepare and review their local environmental plans (LEPs) and decide on land use zoning and other provisions that are appropriate to protect water quality. WaterNSW has provided councils with SLWCA data, maps, guidelines and training to help prepare their LEPs. These inputs included:

- » *Slope*
- » *Soil erodibility*
- » *Soil permeability*
- » *Soil depth*
- » *Distance to watercourses*
- » *Vegetation cover.*

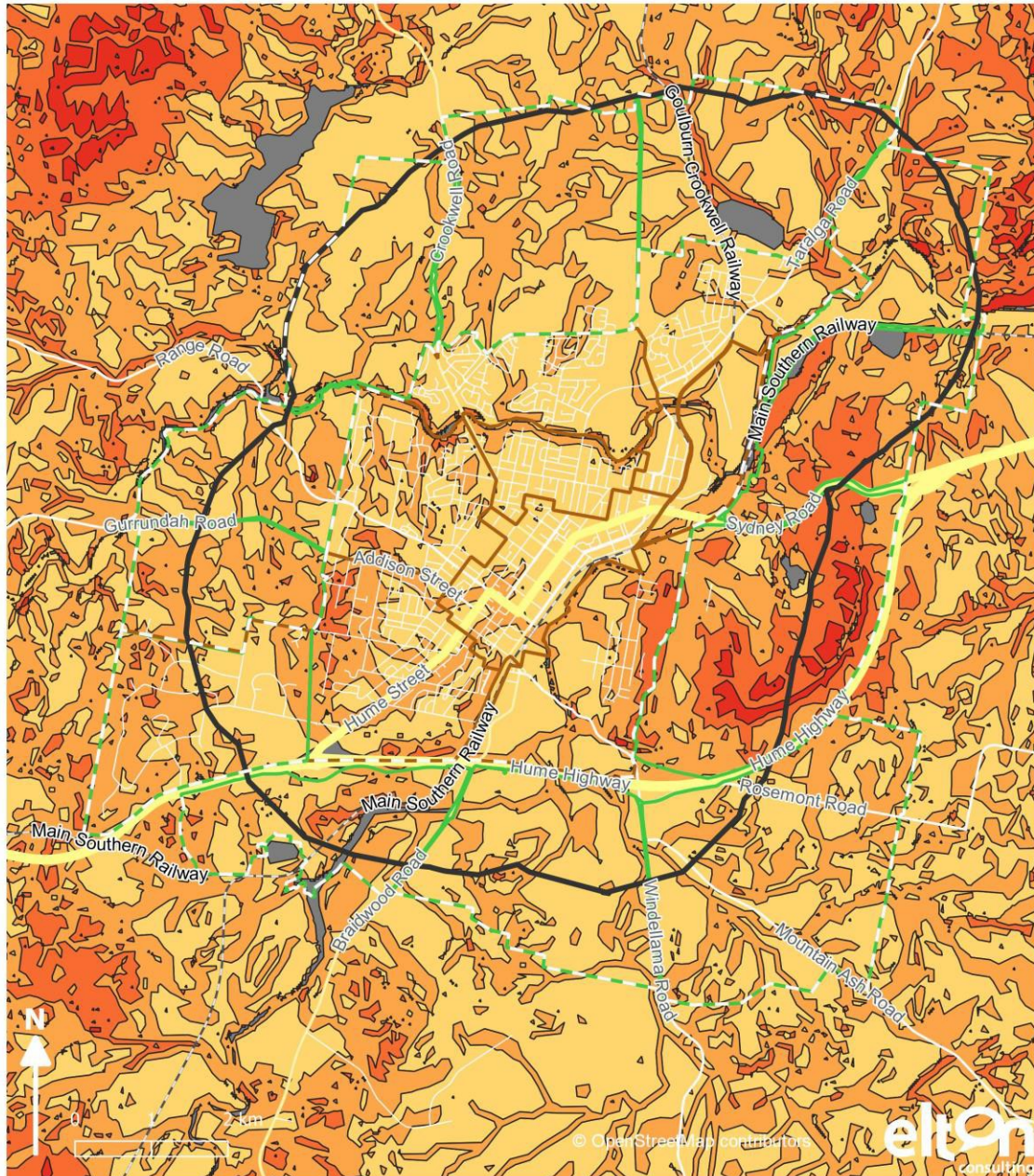
Stage two of the SLWCA involved modelling of land and water capability for 10 land use types:

- » *Intensive livestock agriculture*
- » *Intensive plant agriculture*
- » *Extensive agriculture*
- » *Forestry*
- » *Residential unsewered lots 2,000 - 4,000 square metres*
- » *Residential unsewered lots 4,000 square metres - 2 hectares*
- » *Residential sewerer lots*
- » *Retail/Commercial*
- » *Light Industrial*
- » *Hazardous/Heavy Industrial.*

SLWCA maps for the entire drinking water catchment are available to the public for each of the land use types listed above.

The SLWCA maps show land use capability, based on risk to water quality as Land Use Capability High, Moderate, Low and Very Low and risk to water quality as Low, Moderate, High and Extreme. These categories as they apply to Goulburn and Marulan are shown on the following maps.

Figure 4 Residential sewered land risk to water quality - Goulburn

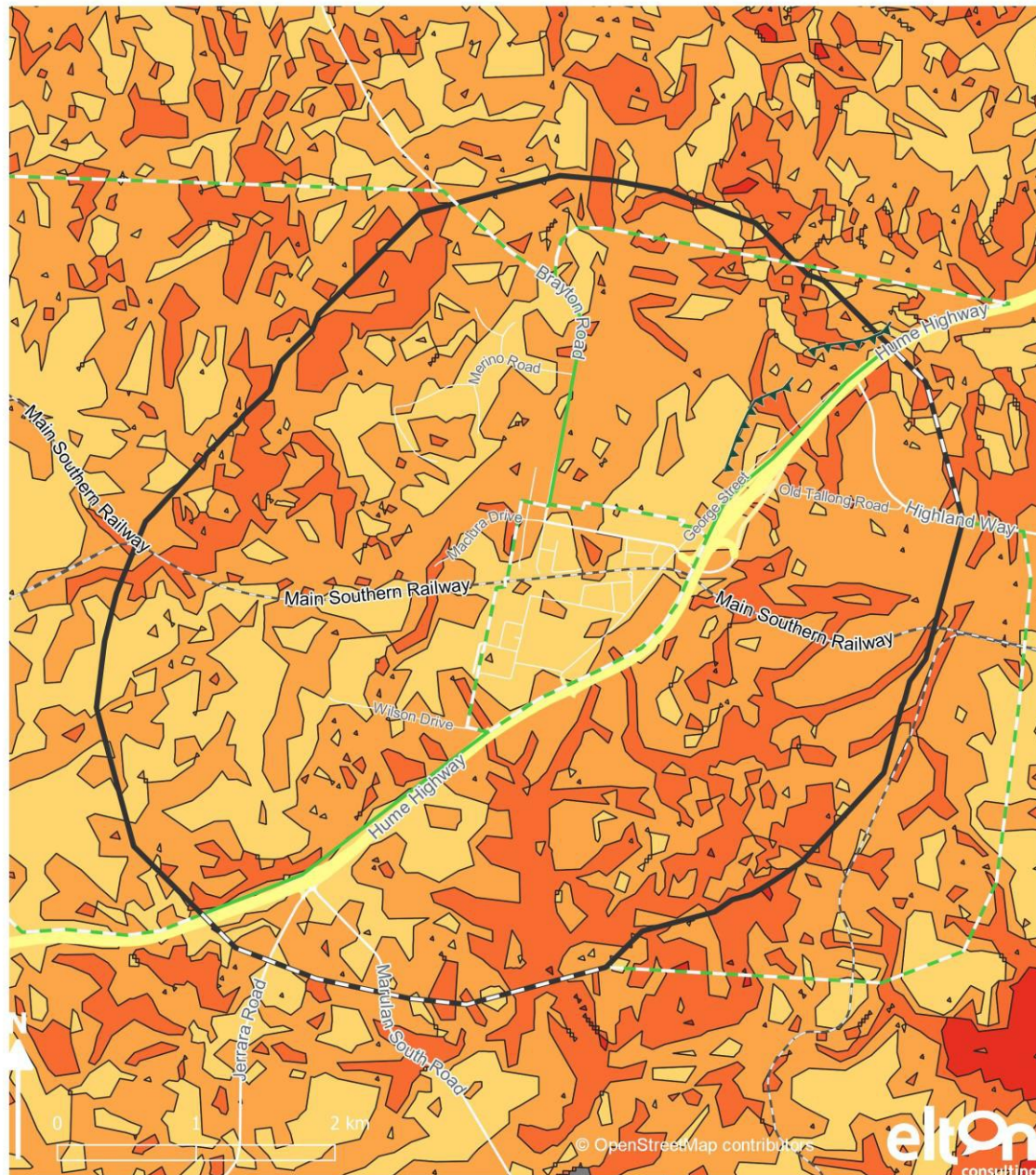


Legend

Residential sewered risk to water quality

- Low
- Moderate
- High
- Extreme
- Waterbody

Figure 5 Residential sewered land risk to water quality - Marulan

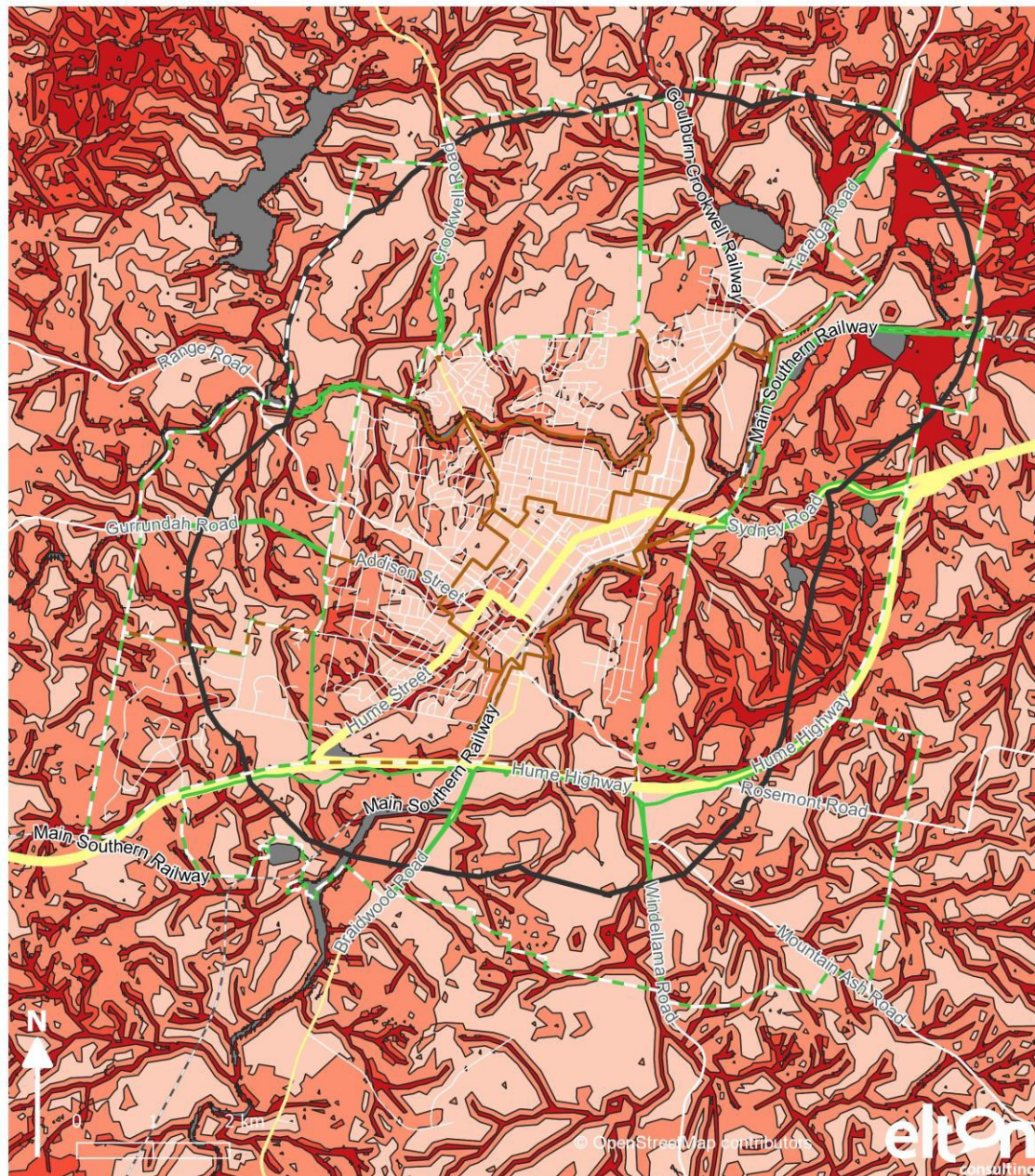


Legend

Residential sewered risk to water quality

- Low
- Moderate
- High
- Extreme
- Waterbody

Figure 6 Unsewered lots 4,000sqm to 2ha – Goulburn

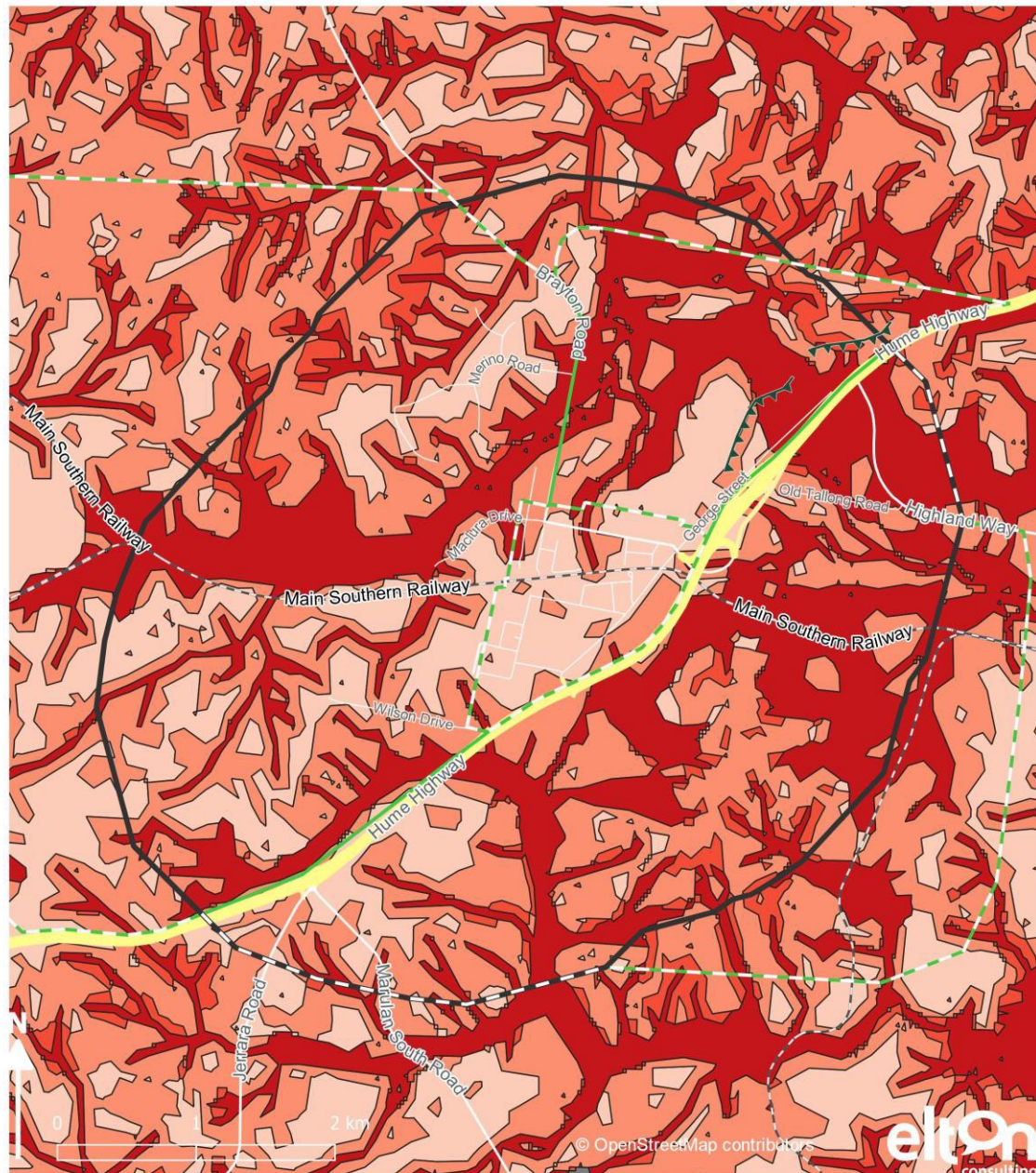


Legend

Residential unsewered lots 4,000sqm to 2ha

- Low
- Moderate
- High
- Extreme
- Waterbody

Figure 7 Unsewered lots 4,000sqm – 2ha – Marulan



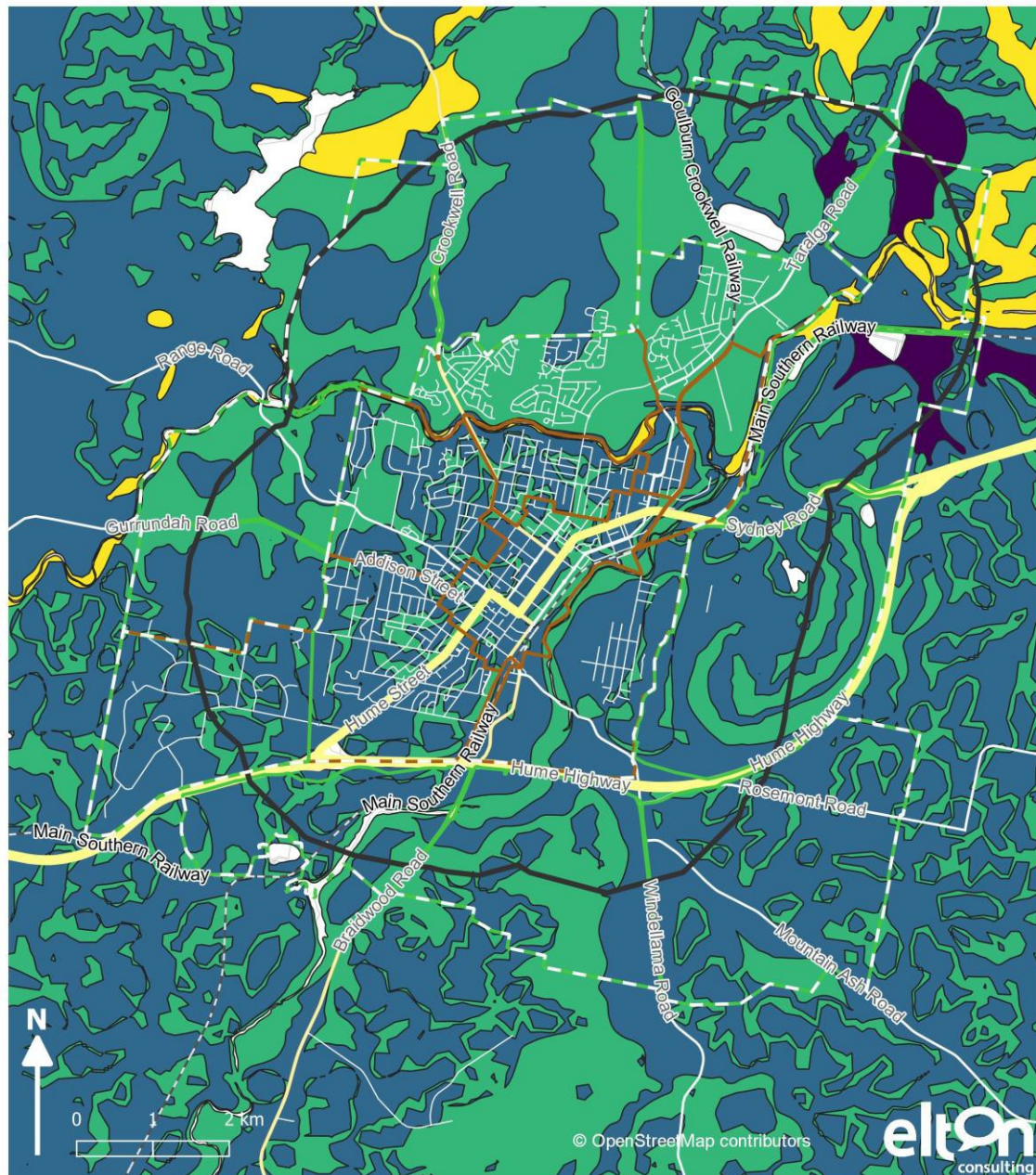
Legend

Residential unsewered lots 4,000sqm to 2ha

- Low
- Moderate
- High
- Extreme
- Waterbody

The capability mapping has also been undertaken for Goulburn in relation to soil erodibility and depth and slope and vegetation. All of these factors will be important in determining the suitability of land for residential development, particularly unserviced development.

Figure 8 Erodibility – Goulburn

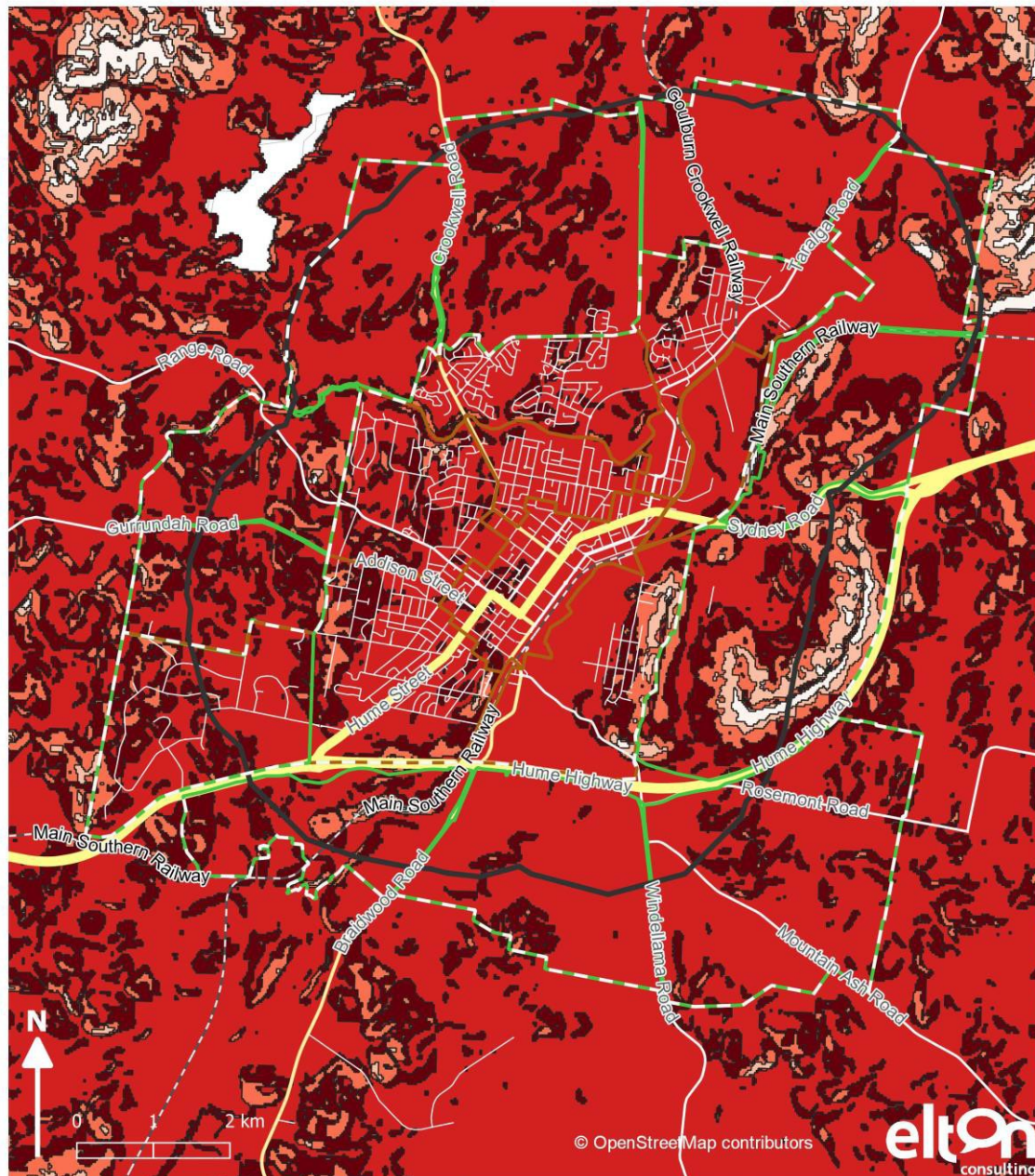


Legend

Erodibility

- Very low capability, limiting factor
- Low capability
- Moderate capability
- Very high capability

Figure 9 Slope – Goulburn

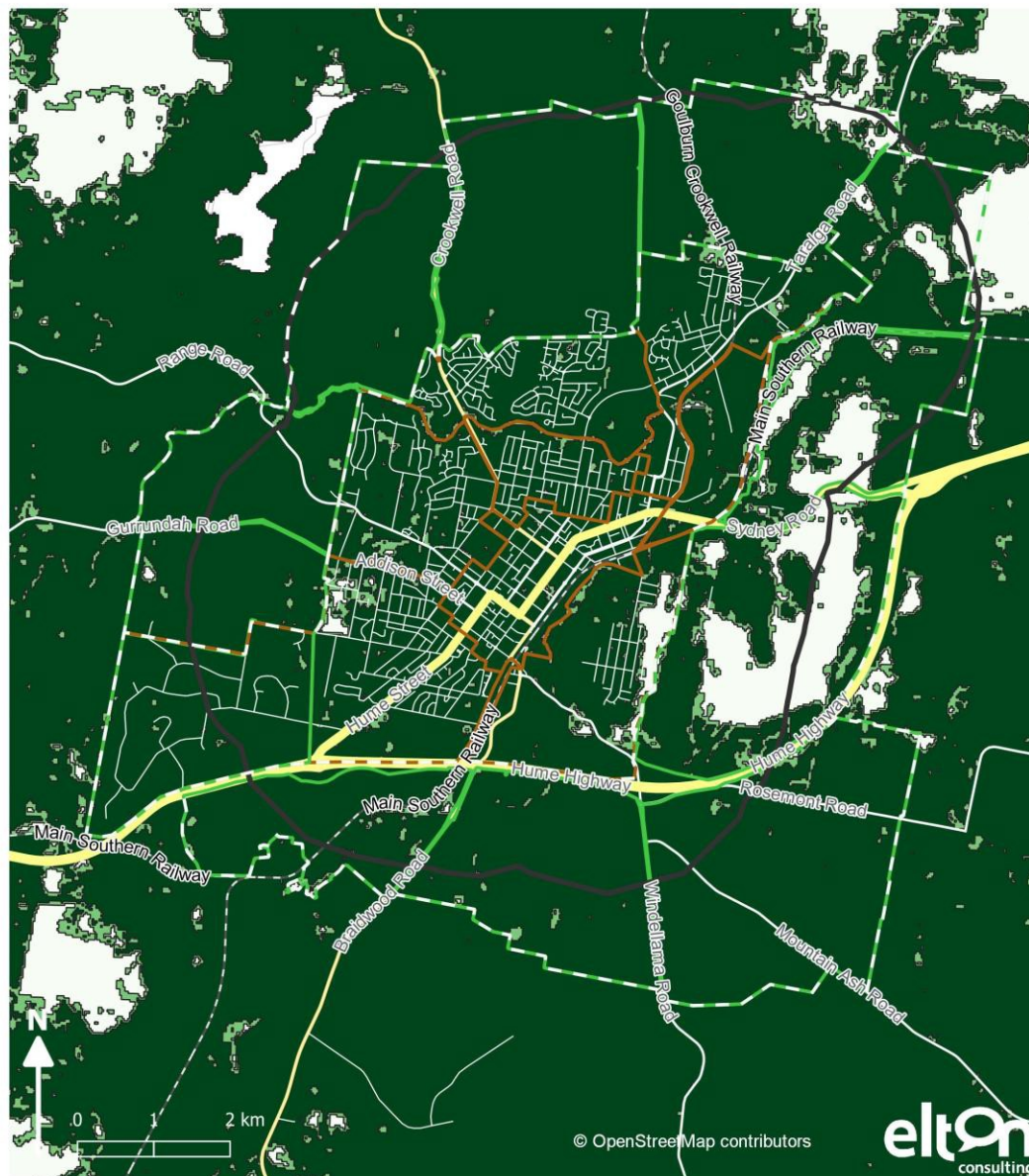


Legend

Slope

- Very low capability, limiting factor
- Low capability
- Moderate capability
- Very high capability
- High capability

Figure 10 Vegetation – Goulburn



Legend

- Vegetation
- Low capability
 - Moderate capability
 - High capability

SLWCA can be used by councils, other planning authorities, and WaterNSW to help determine the potential impact of future land use changes on water quality. Planning authorities can use information from the SLWCA with other environmental constraints mapping and data, and social and economic information, to help develop their planning proposals. Incorporating capability information at an early stage will help planning authorities to decide land use zones and accompanying land uses that are most likely to have a neutral or beneficial effect on water quality.

Biodiversity and Drainage

The main objective of identifying sensitive biodiversity is to maintain terrestrial biodiversity by protecting native fauna and flora whilst encouraging the conservation of habitats. Biodiversity has already been recognised by Council as a significant constraint to development.

The Terrestrial Biodiversity Map adopted in the GMLEP provided a starting point for the assessment by EcoLogical Australia (ELA). The GMLEP mapping was undertaken using a combination of spatial modelling, aerial photography and limited field validation. It is a tool, rather than definitive data, and was introduced into the GMLEP to provide a guide for Council to determine whether a particular development application is likely to require further investigation into the potential impacts on biodiversity.

In 2014, Council and the Office of Environment and Heritage (OEH) undertook a project to map and describe in more detail vegetation within a 10km radius of Goulburn township. Two priority areas were identified north and south including the area adjacent to Marys Mount.¹ The outcome of the mapping project was the identification of vegetation communities and habitats in two particular areas as illustrated in Figure 11 and 12 below.

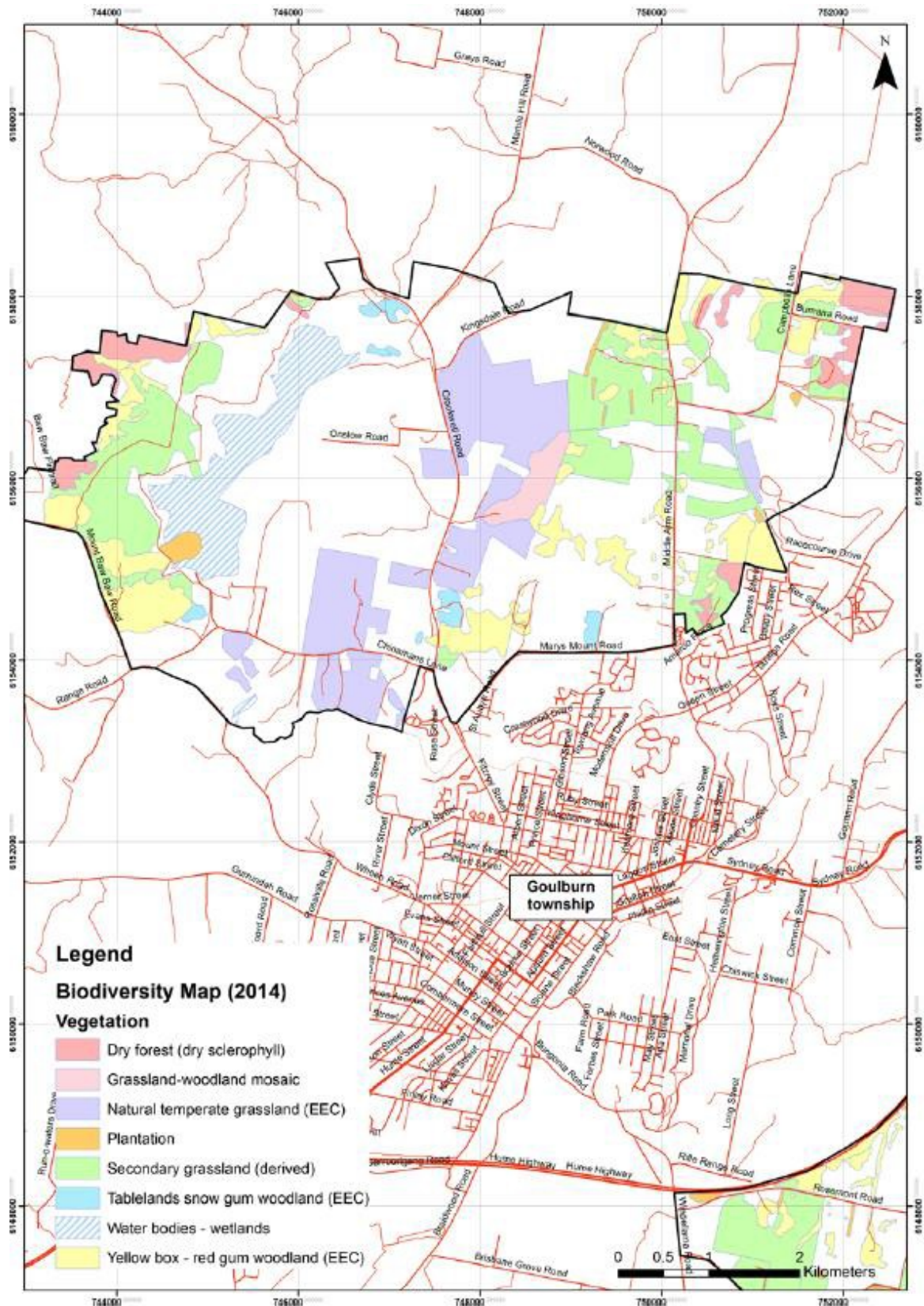
During the Public Exhibition of the Urban and Fringe Housing Strategy for Goulburn and Marulan, a number of submissions highlighted inconsistencies between the GMLEP and 2014 biodiversity mapping, and what is currently present on the ground. In response, a more recent data set provided by OEH² mapping areas of 'High Environmental Value' (HEV) was applied across all fringe precincts. In addition, ELA have undertaken drive-by observations for particular areas within precincts where discrepancies were reported. The updated ELA report is included at **Appendix F**.

This data provides a much more definitive indication of the likely impact of development. It still does not eliminate the need for site-specific investigation, however, this can, as a result be more targeted.

¹ Goulburn Mulwaree Local Environmental Plan, Biodiversity map validation project, 2014.

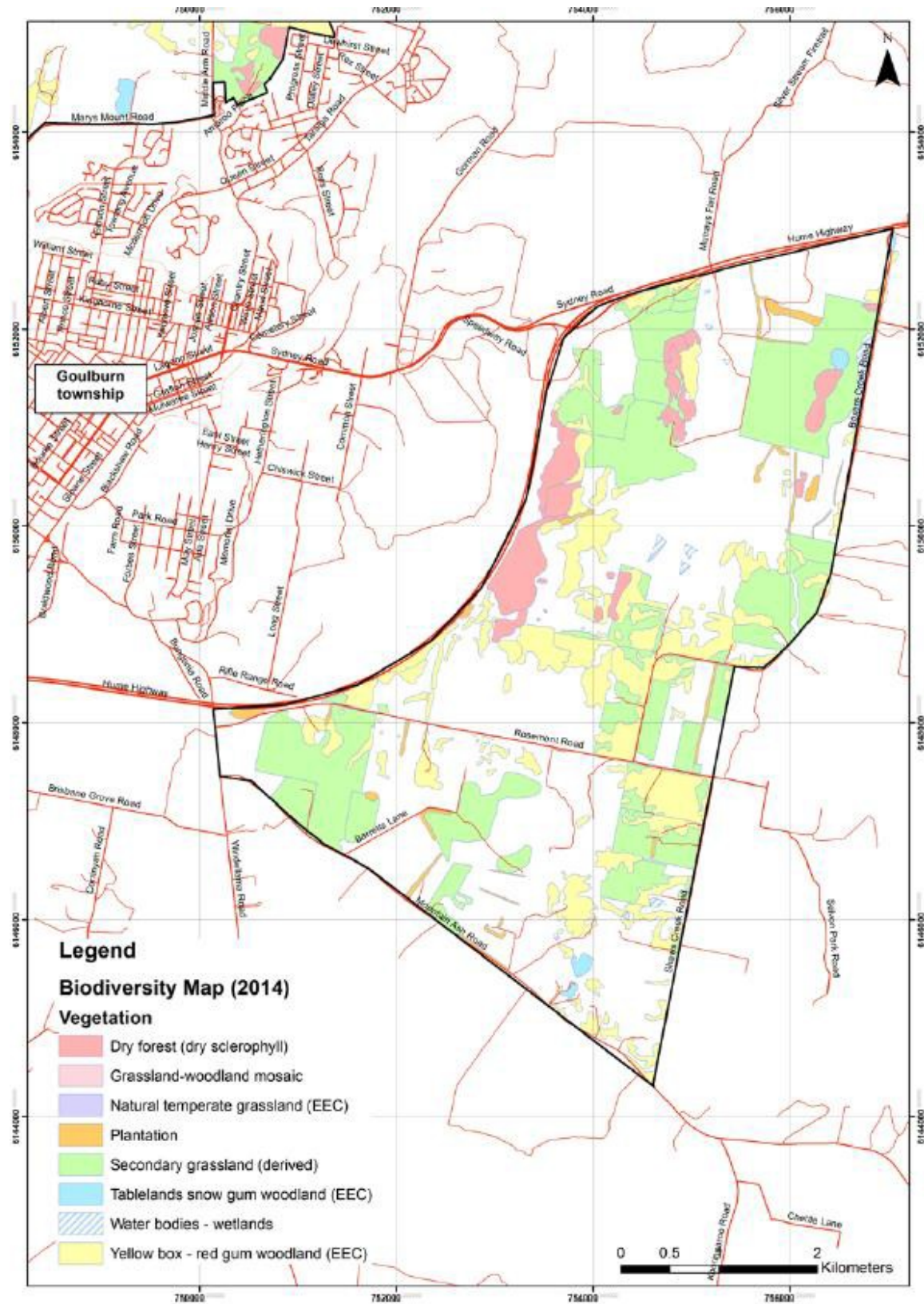
² The functions of OEH were assumed by the Department of Planning, Industry and Environment (DPIE) effective 1 July 2019

Figure 11 2014 Goulburn Biodiversity Map (north)



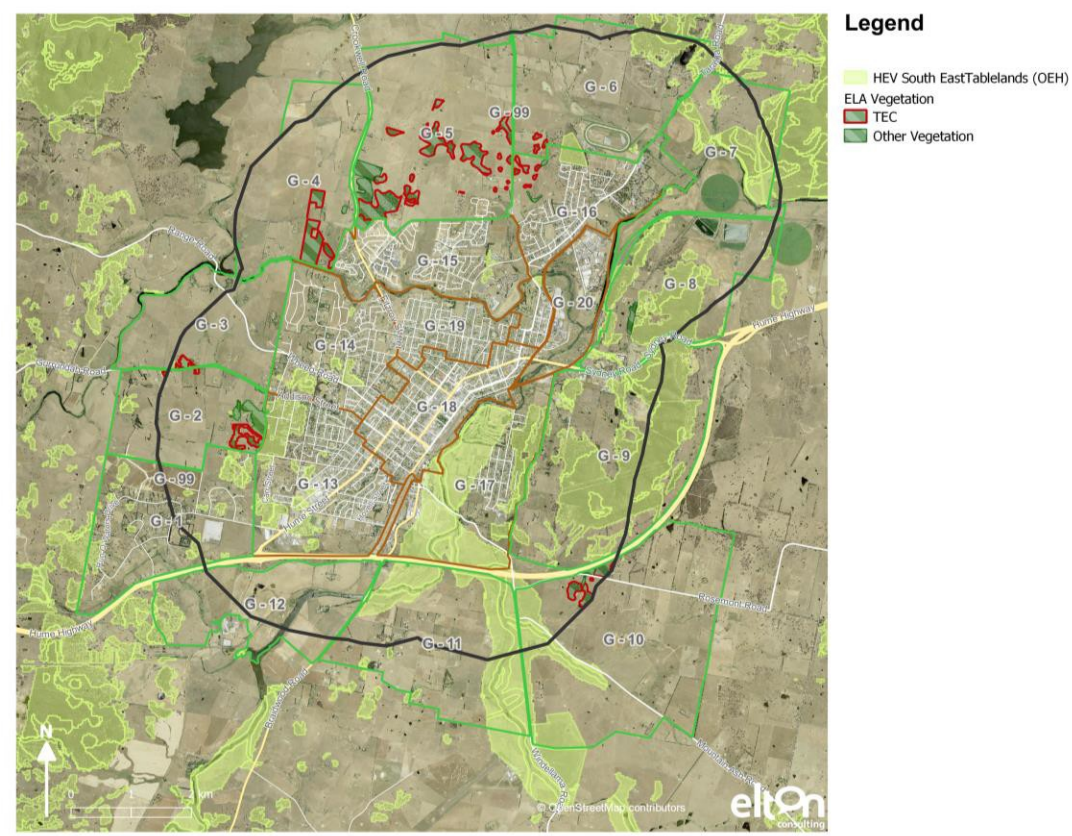
Source: Goulburn Mulwaree Local Environmental Plan, Biodiversity map validation project, 2014.

Figure 12 2014 Goulburn Biodiversity Map (south)



Source: Goulburn Mulwaree Local Environmental Plan, Biodiversity map validation project, 2014.

Figure 13 Goulburn High Environmental Value mapping



Source: OEH and EcoLogical Australia, 2019.

Figure 14 Marulan High Environmental Value mapping

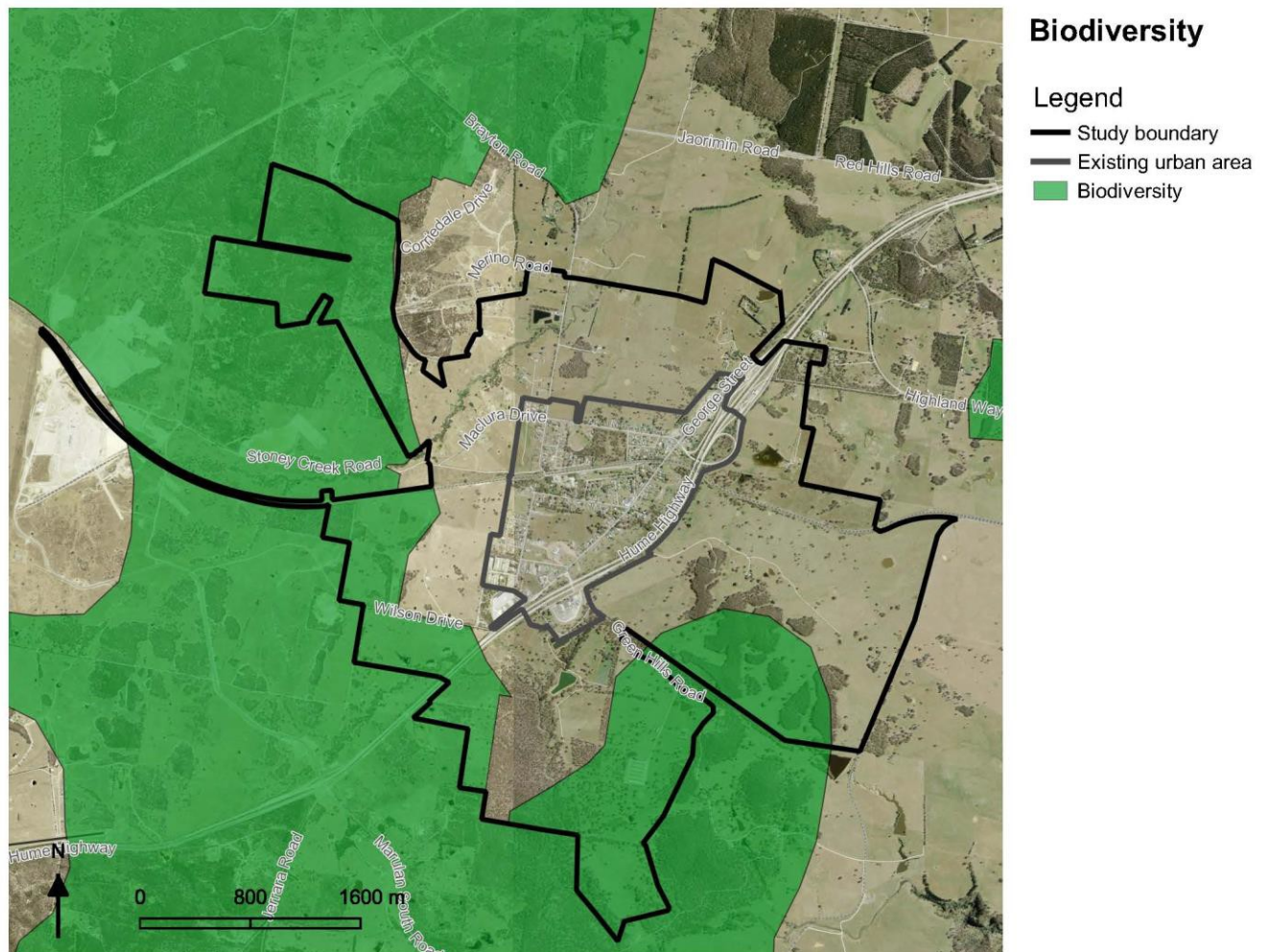


OEH and EcoLogical Australia, 2019.

Source:

In Marulan, Terrestrial Biodiversity Mapping has been updated from the original published GMLEP Terrestrial Biodiversity Map (below) to the OEH High Environmental Value mapping as shown above.

Figure 15 GMLEP 2009 Marulan Biodiversity



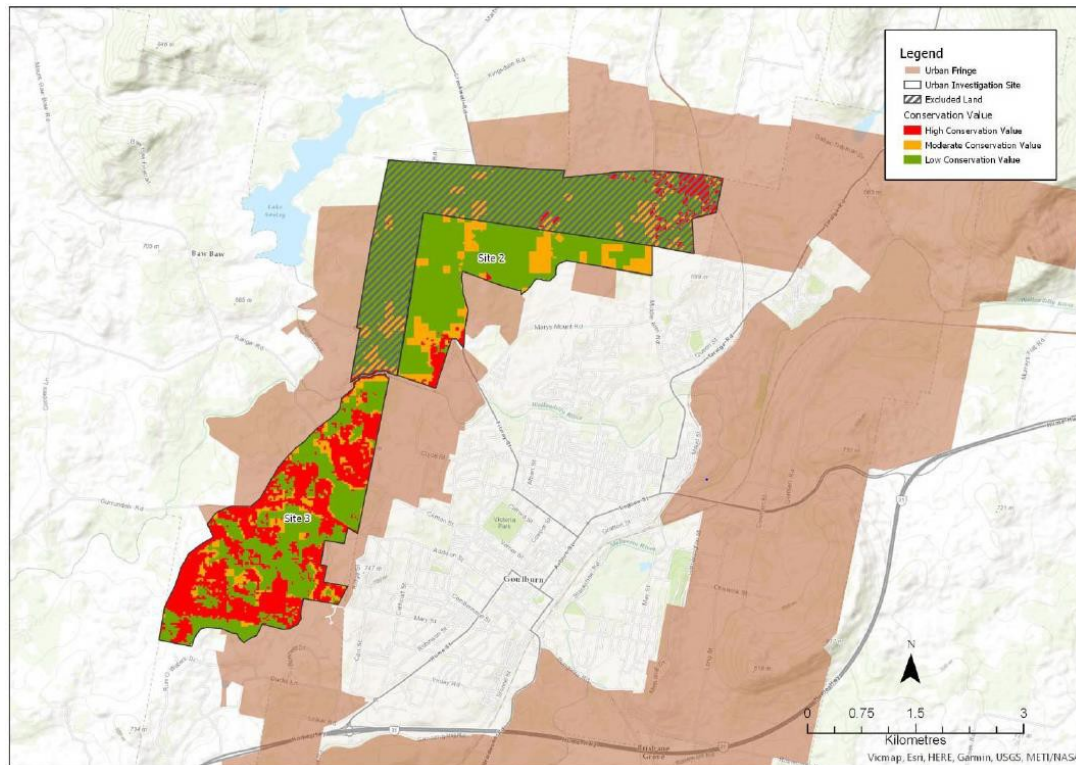
Source: Goulburn Mulwaree Council LEP 2009 Terrestrial Biodiversity Map. Refer also EcoLogical Report.

Additional Assessment of key sites by EcoLogical Australia

In addition to the mapping undertaken in the Biodiversity Map Validation Project, EcoLogical Australia (ELA) were engaged to review the urban fringe and sites initially identified as otherwise generally suitable for urban development.

The work undertaken by ELA focused on the sites initially identified as having some potential for urban development. It is noted that the initial site assessment identified two areas for urban growth; land immediately contiguous with the urban zones to the north of Marys Mount and land to the west of Goulburn bounded by the river. The former was considered the most suitable area for the expansion of R2 Low Density residential development. The latter was being considered for a mix of R2 Low Density residential and larger lots 2,000m²-2ha providing a buffer to the watercourse and agricultural land beyond. However, as can be seen in the Figure below, the western area is significantly constrained and as a result no longer considered suitable for any form of residential intensification.

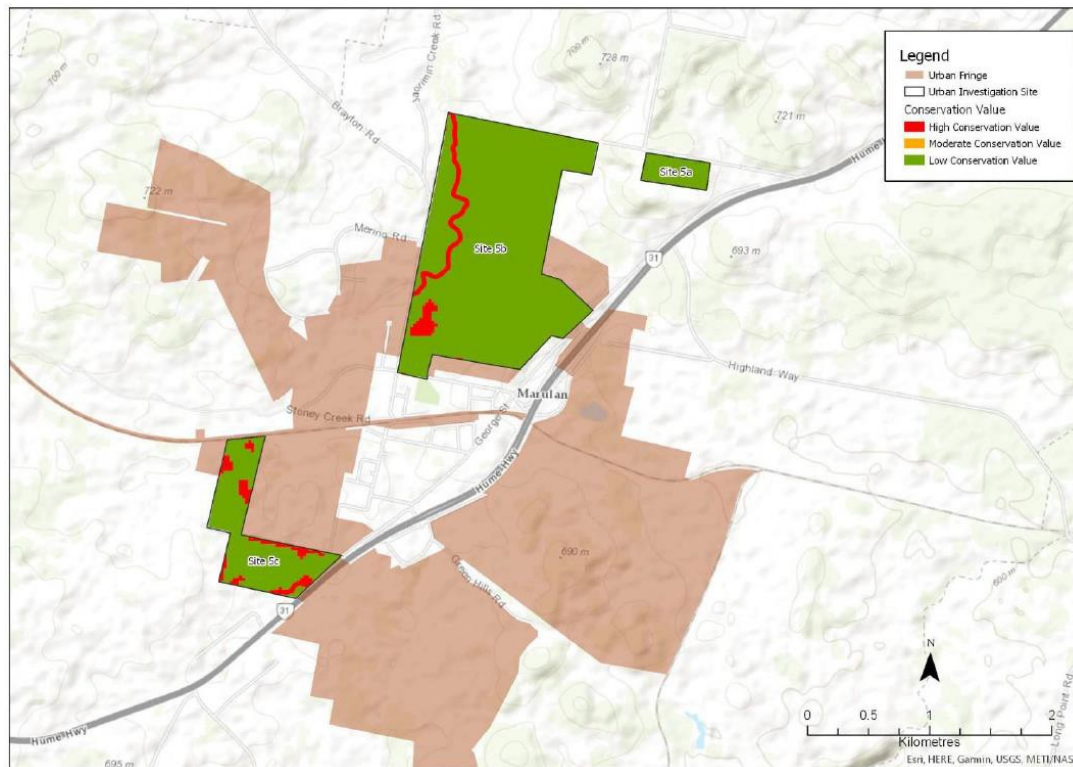
Figure 16 Target Areas Conservation Value Goulburn



Source: EcoLogical Australia 2018 (refer also **Appendix E**)

A similar result was found in Marulan where the Terrestrial Biodiversity Mapping proved an unreliable source for the identification of land with a high conservation value, and the development footprint identified for Marulan following the initial assessment also needed further refinement.

Figure 17 Target Areas Conservation Value Marulan

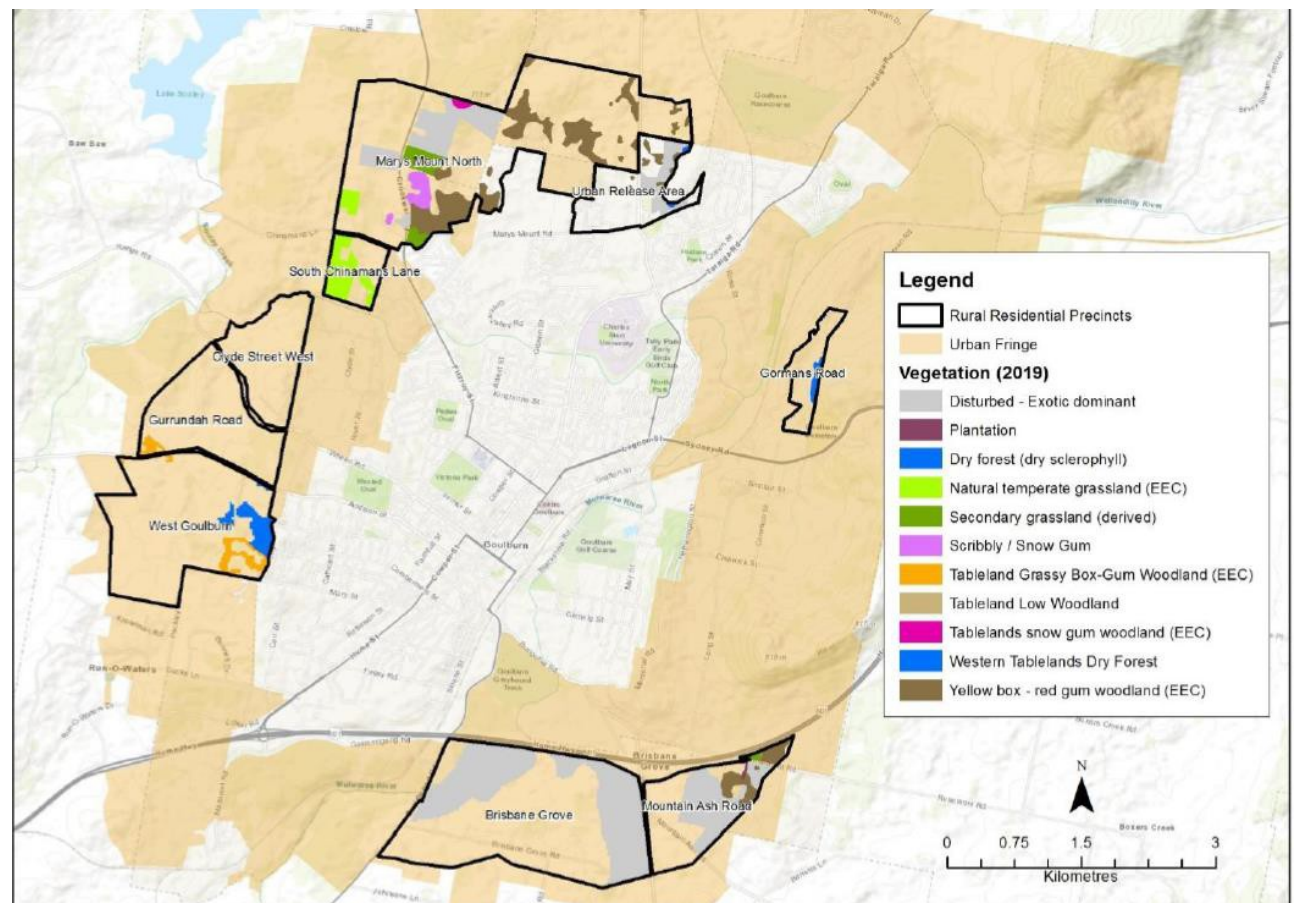


Source: EcoLogical Australia 2018 (refer also Appendix G).

Mapped and validated HEV and EECs show the areas of vegetation in the Goulburn Fringewhich have high conservation values and should not be developed for residential use.

The 2019 verified vegetation types identified by ELA and mapped below are conservation value areas (excluding areas mapped as 'disturbed – exotic dominant' and 'plantation'). The area labelled South Chinaman's Lane requires further investigation as to the current quality of grassland vegetation.

Figure 18 Updated target conservation areas - Goulburn



Source: EcoLogical Australia 2019 Figure 9: Vegetation type – study area Precincts

Riparian corridors are also considered as areas of conservation value. The NSW DPI Office of Water outlined that “the protection, restoration or rehabilitation of vegetated riparian corridors is important for maintaining or improving the shape, stability (or geomorphic form) and ecological functions of a watercourse³”.

The Office of Water⁴ lists the following important environmental functions performed by vegetated buffers to riparian corridors:

- » providing bed and bank stability and reducing bank and channel erosion
- » protecting water quality by trapping sediment, nutrients and other contaminants
- » providing diversity of habitat for terrestrial, riparian and aquatic plants (flora) and animals (fauna)
- » providing connectivity between wildlife habitats
- » conveying flood flows and controlling the direction of flood flows

³ NSW Government DPI Office of Water ‘Guidelines for riparian corridors on waterfront land’ July 2012

http://www.water.nsw.gov.au/_data/assets/pdf_file/0004/547222/licensing_approvals_controlled_activities_riparian_corridors.pdf accessed July 2019

⁴ NSW Government DPI Office of Water ‘Guidelines for riparian corridors on waterfront land’ July 2012

http://www.water.nsw.gov.au/_data/assets/pdf_file/0004/547222/licensing_approvals_controlled_activities_riparian_corridors.pdf accessed July 2019

- » providing an interface or buffer between developments and waterways
- » providing passive recreational uses

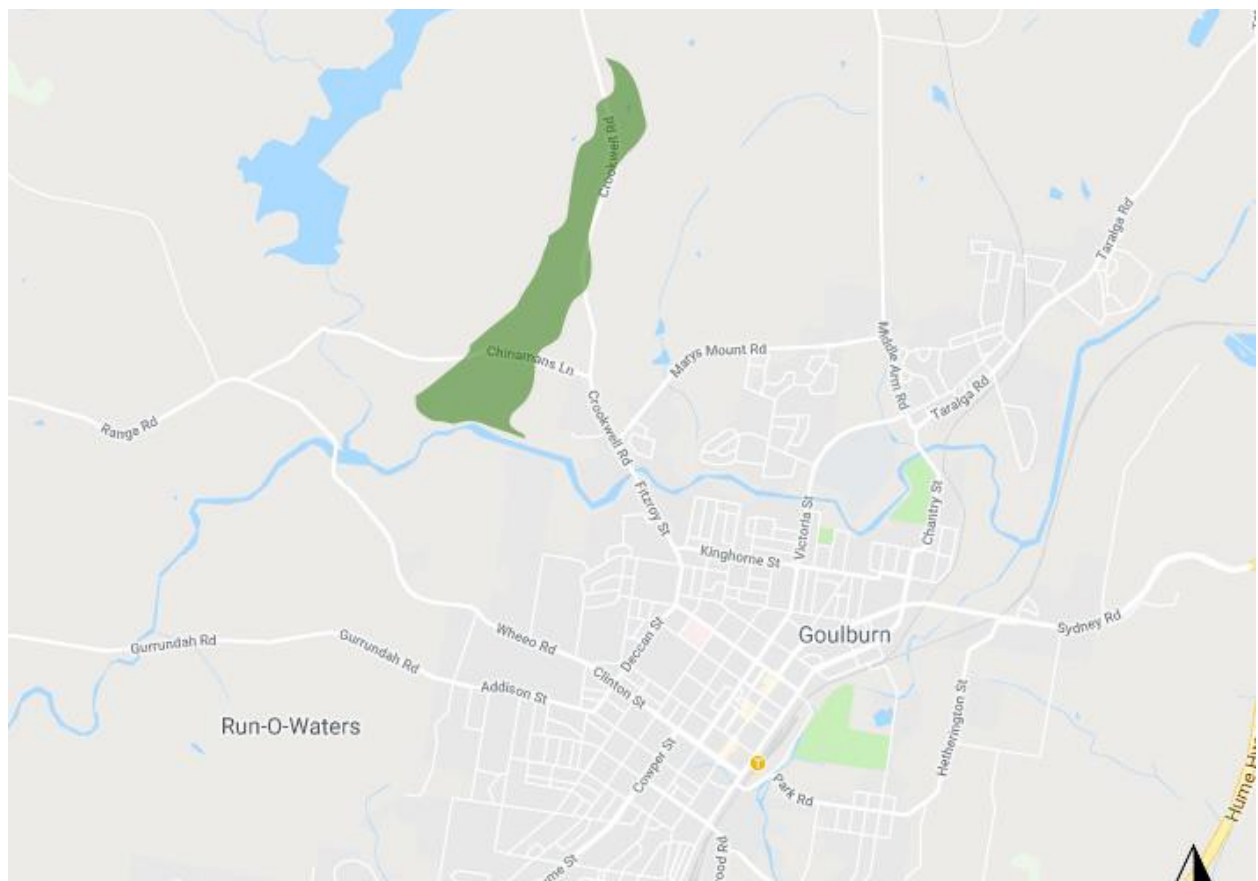
The location of riparian corridor buffers in Goulburn and Marulan are now identified on the updated constraints mapping in the Strategy.

Biophysical Strategic Agricultural Land

Agriculture is an important land use within the region contributing significantly to regional economic performance. Protection of agricultural land is, in part, governed by the Rural Lands SEPP and the subdivision principles therein.

The constraints mapping identified a parcel of Biophysical Strategic Agricultural Land (BSAL) identified under the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007. The land affected runs from the Wollondilly River, north across Chinamans Lane to Crookwell Road and was initially almost wholly within the area identified under the preliminary assessment as otherwise suitable for urban development. This area will require further assessment prior to any development.

Figure 19 Biophysical Strategic Agricultural Land



Source: <https://www.planningportal.nsw.gov.au/>.

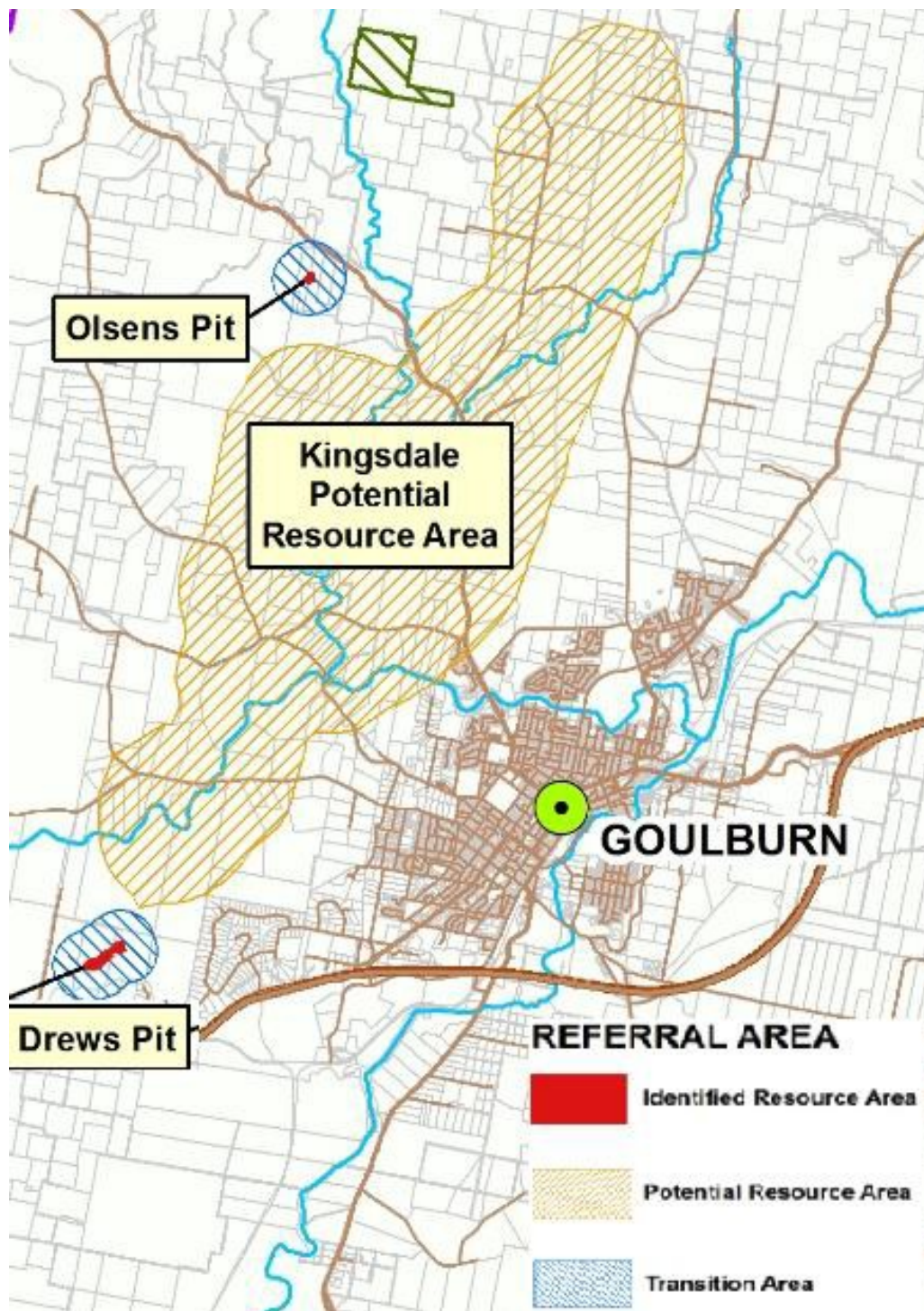
Mineral Resource Land

NSW Government Trade & Investment and the Geological Survey of NSW undertook a mineral resource audit of the Goulburn Mulwaree LGA in 2015 to provide advice on the location and significance of mineral and extractive resources within the LGA to assist in land use planning.

This relates to *Direction 1.3 – Mining, Petroleum Production and Extractive Industries* and *SEPP Mining, Petroleum Production and Extractive Industries (2007)*, which aims to provide for the proper management and development of resources and to facilitate the orderly economic use and development of land containing mineral, petroleum and extractive resources.

The Goulburn Mulwaree LGA is an important source of construction materials with the most notable hard rock aggregate and limestone operations being located in the Marulan area.

Figure 20 Goulburn Mulwaree Resource Audit Plan Extract - Goulburn



Source: NSW Government Trade & Investment and Geological Survey of NSW, 2015

As shown in Figures 20 and 21, the mineral resource audit identified three types of referral area as follows:

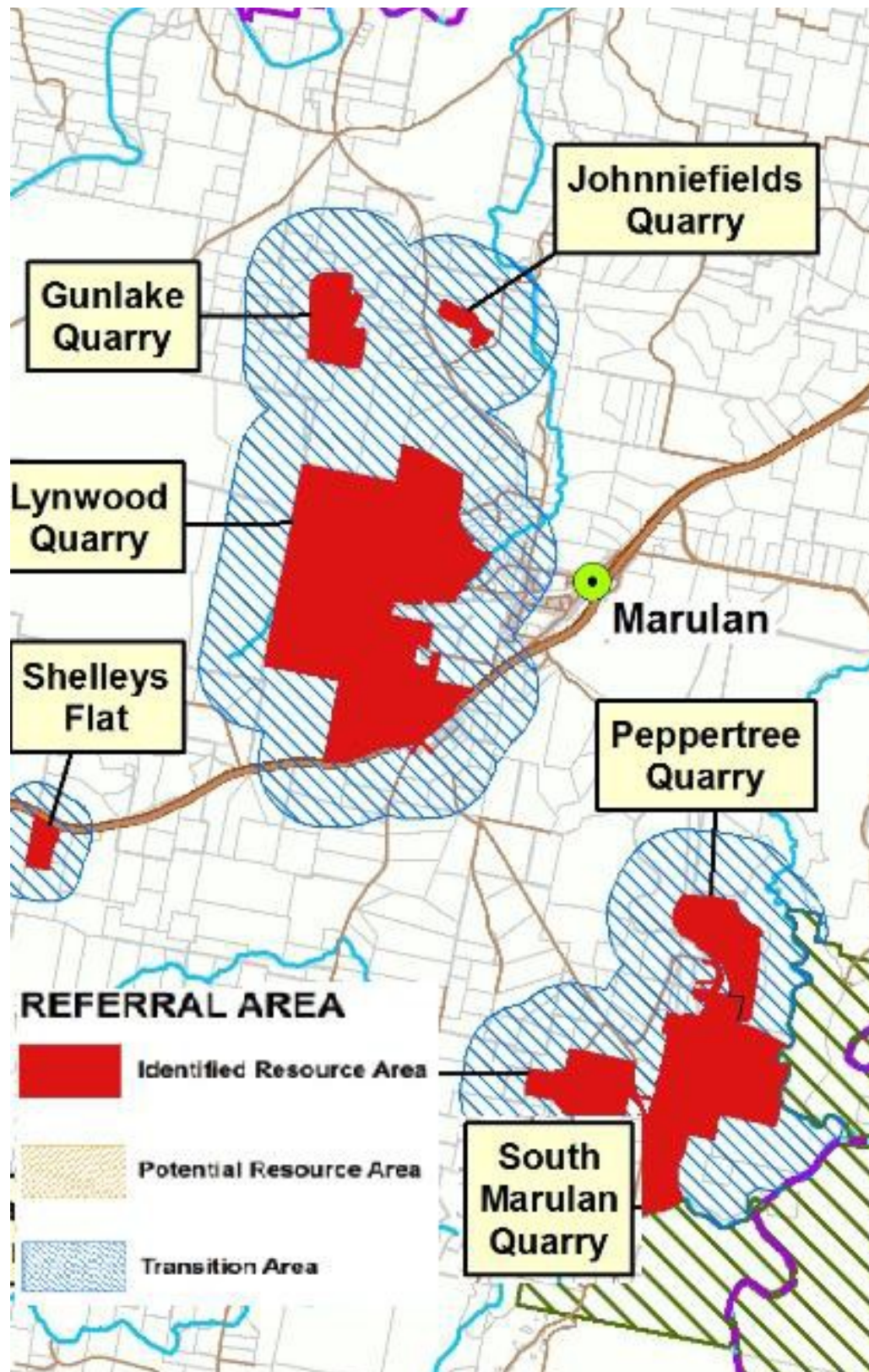
Identified Resource Area – containing active mineral, petroleum and/or extractive operations and/or identified resources.

Potential Resource Area – containing potential mineral, petroleum and/or extractive resources.

Transition Area – areas adjacent to identified resource areas.

Development within these areas could adversely affect or be affected by current and/or future resource development operations. Any proposed zoning changes or developments that may prohibit or restrict current or potential future operations in these referral areas should be referred to the Resources & Energy Division of NSW Trade & Investment.

Figure 21: Goulburn Mulwaree Resource Audit Plan Extract - Marulan



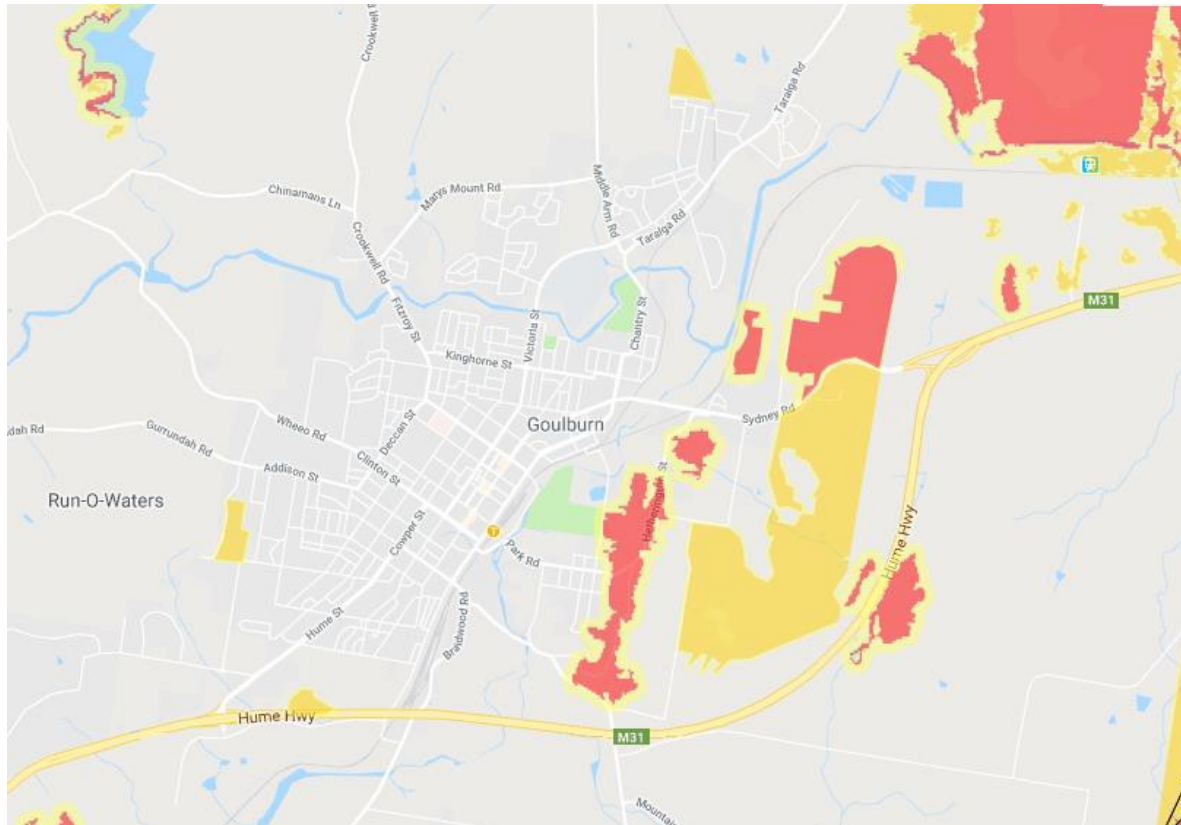
Source: NSW Government Trade & Investment and Geological Survey of NSW, 2015

Residential land use in the west of Marulan is highly constrained by the identified resource area and transition area associated with Lynwood Quarry.

Bushfire Hazard

In planning for the release of land for urban development purposes, it is important to take into account the potential threat from bushfire. Bushfire hazard can be a major constraint to future residential development given the likelihood for bushfire risks. The topography and overall slope of the land contributes to the level of bushfire hazard.

Figure 22 Bushfire Hazard Goulburn



Source: <https://www.planningportal.nsw.gov.au/> 2018

In this dataset, the bushfire hazard is limited to the vegetated areas to the south and east of Goulburn. These areas have been avoided in the Draft Housing Strategy. However, since the Draft Strategy was placed on public exhibition, the bushfire hazard mapping has been updated. It now essentially covers all land aside from urban areas.

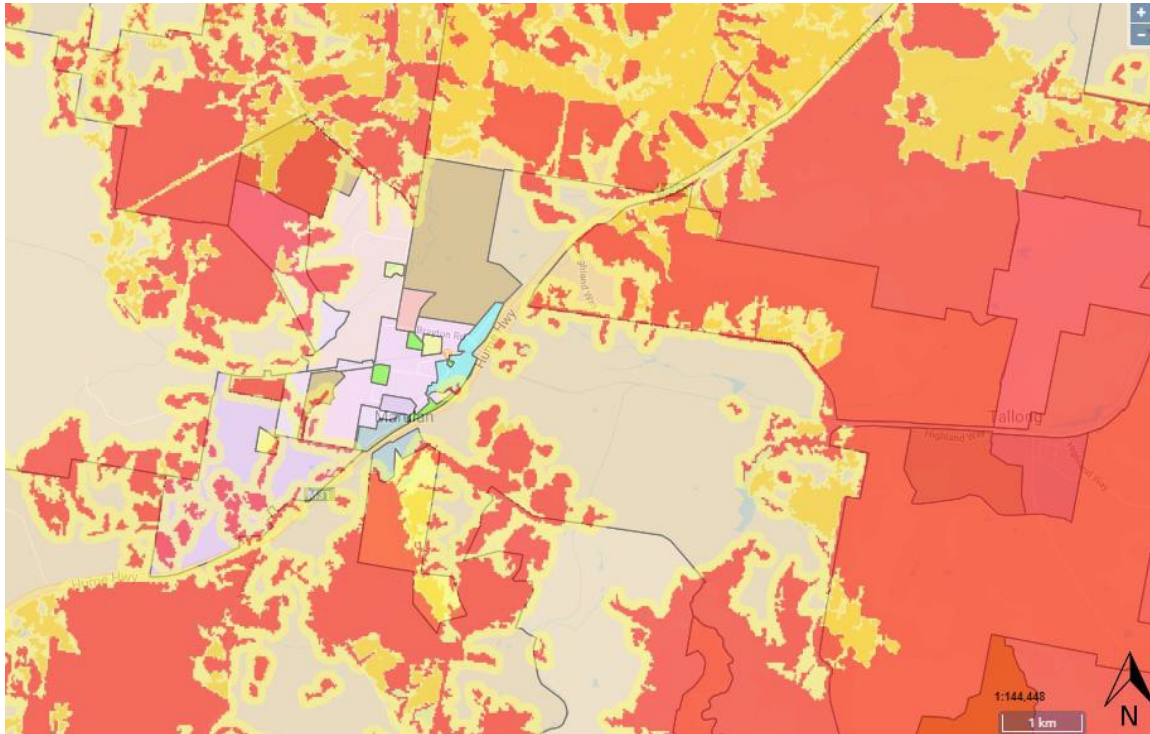
Figure 23: Updated Bushfire Prone Land Goulburn



Source: NSW Planning Portal, Spatial Viewer. Hazard – Bushfire Prone Land, 2019

In Marulan, however, the urban area is surrounded on all fronts by high bushfire hazard. Both bushfire mapping datasets show that the development areas proposed in Marulan will need to provide a more thorough assessment of the hazard with the provision of asset protection zones and measures to mitigate the risk.

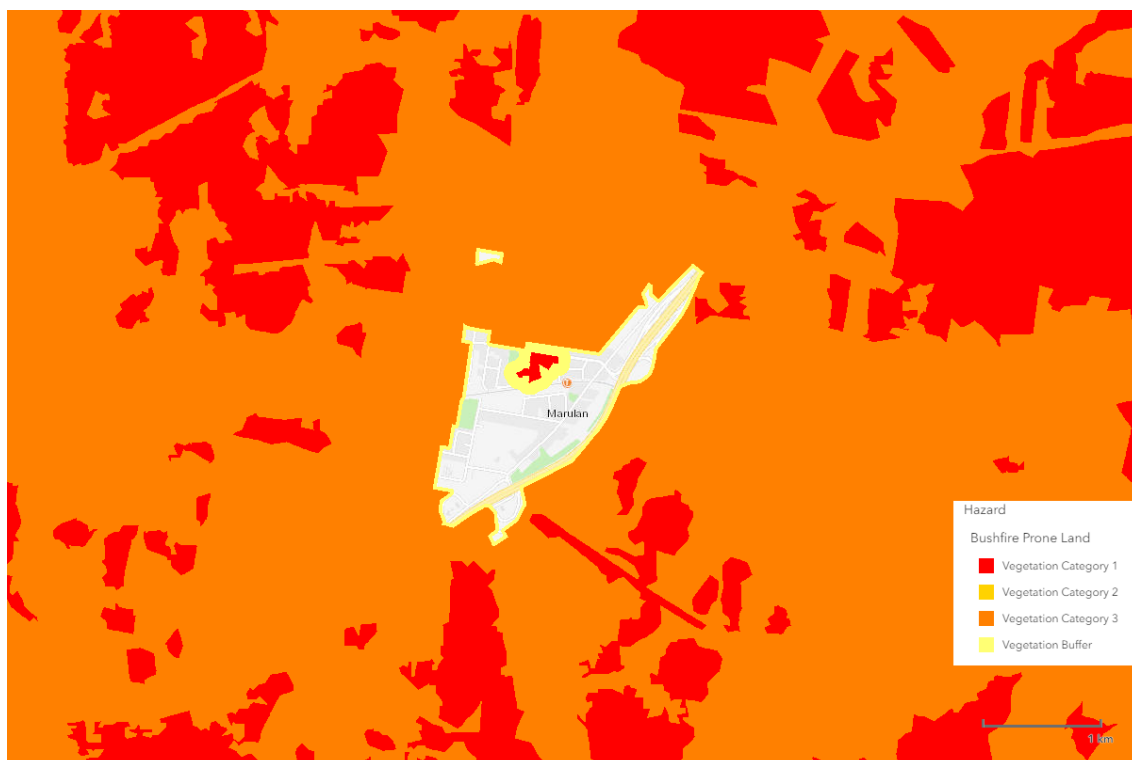
Figure 24 Bushfire Hazard Marulan



Source: <https://www.planningportal.nsw.gov.au/> 2018

The updated mapping for Marulan shows slight adjustments in the areas of high bushfire hazard (Vegetation Category 1, shown in red) with the rural grassed areas mapped orange as Vegetation Category 3.

Figure 25: Updated Bushfire Prone Land Marulan



Source: NSW Planning Portal, Spatial Viewer. Hazard – Bushfire Prone Land, 2019

Environmental Heritage Considerations

Goulburn is recognised as an important meeting place that was inhabited, at first contact with Europeans, by the Gandangara and Ngunnawal language groups. Within these larger groups, several distinct smaller communities existed⁵.

All areas indicated as having development potential should refer to the Goulburn Mulwaree LGA Aboriginal Heritage Study 2012 to understand site-specific heritage matters. As with other detailed assessment requirements, site-specific heritage assessments will need to be prepared prior to development of land.

Places of Aboriginal Significance are shown generally in Figure 26 below.

Whether heritage is a constraint or opportunity depends on attitude⁶. In the Housing Strategy context this is particularly relevant to urban infill and redevelopment within Goulburn City Centre and Marulan Town Centre. As the first Inland City in Australia, Goulburn is known for its historic buildings which are seen as a point of difference and a tourist attraction. Many of these buildings are listed in Schedule 5 Environmental Heritage of the GM LEP 2009. Heritage Conservation Areas (HCA) also apply to various areas including the Goulburn City Centre (refer Figure 27), to protect whole areas from inappropriate development which would impact the heritage elements such as architectural style of streetscapes and buildings, fences, trees and gardens. Heritage listed items and HCAs are noted in the individual precinct constraints analyses of this Housing Strategy.

The 1983 Heritage Study by Lester & Firth contains detailed mapping and precinct analysis which goes beyond the identification of individual items, detailing where contributory and non-contributory buildings are located. Given the lack of significant change in Goulburn since 1983 this provides a good overview as to the capacity of the various precincts for providing areas that can be modified.

In 2016 Council engaged heritage consultants Barker Ryan Stewart to undertake a comprehensive review and consolidation of Council's numerous existing heritage studies and bring the entire LGA under the auspices of one document⁷. This Draft Heritage Study Review was on public exhibition from 13 July to 8 September 2017. Recommendations from the review will inform amendments to Council's Local Environmental Plan (LEP) and Development Control Plan (DCP).

Goulburn Mulwaree Council provides an explanatory section on Heritage considerations on the website⁸ which should be referred to for guidance when considering development of or near heritage listed places.

⁵ Goulburn Mulwaree Heritage Strategy 2015-18, GMC

⁶ Barker Ryan Stewart and Sue Rosen and Associates, 2017, ' Attitudinal Influences – Heritage Study Review' <https://yoursay.goulburn.nsw.gov.au/25206/documents/59038>

⁷ Barker Ryan Stewart and Sue Rosen and Associates, 2017, ' Objectives of Study Review – Heritage Study Review' <https://yoursay.goulburn.nsw.gov.au/25206/documents/59038>

⁸ GMC website, Heritage <https://www.goulburn.nsw.gov.au/Development/Heritage>

Figure 26 Places of Aboriginal Significance

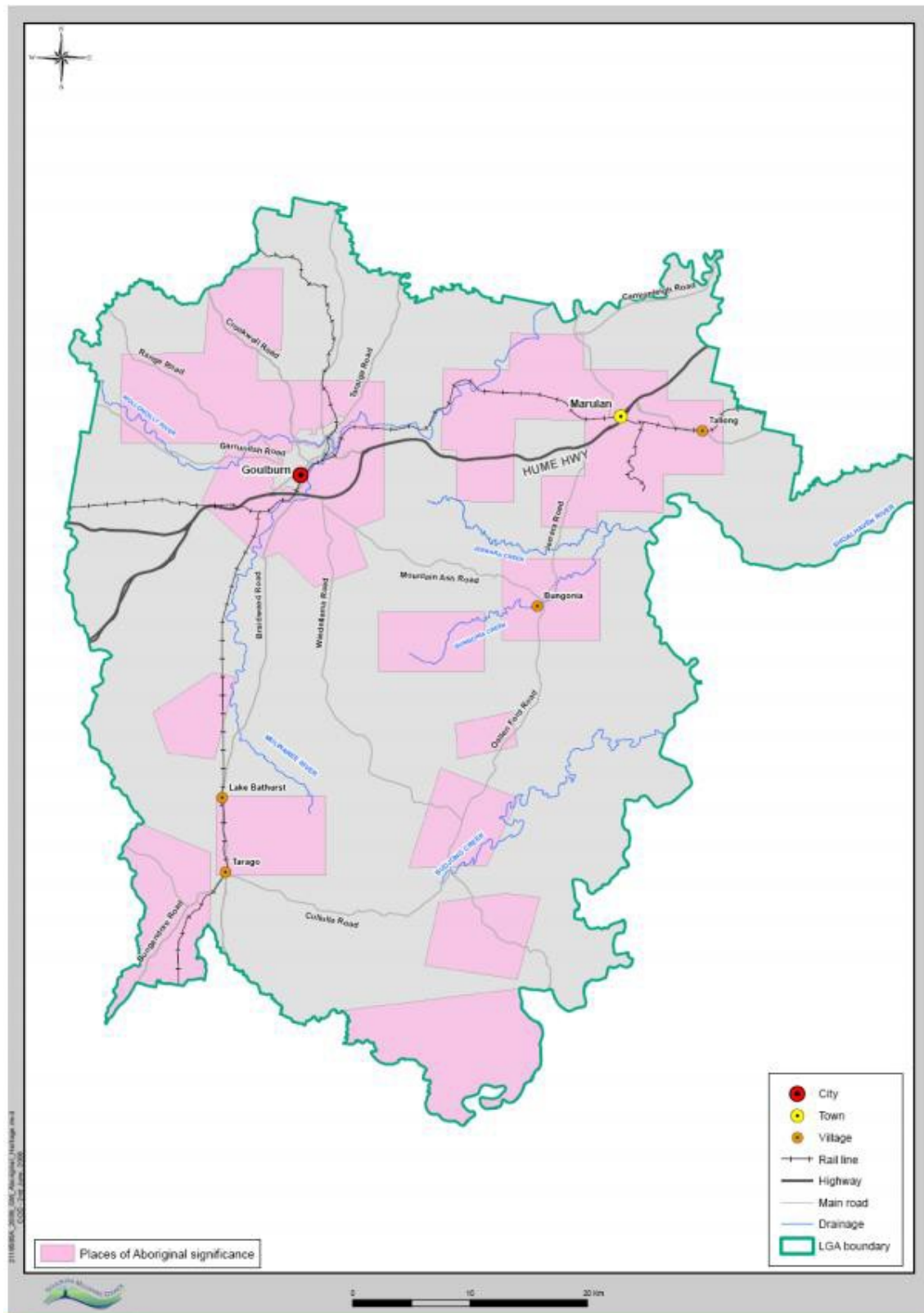
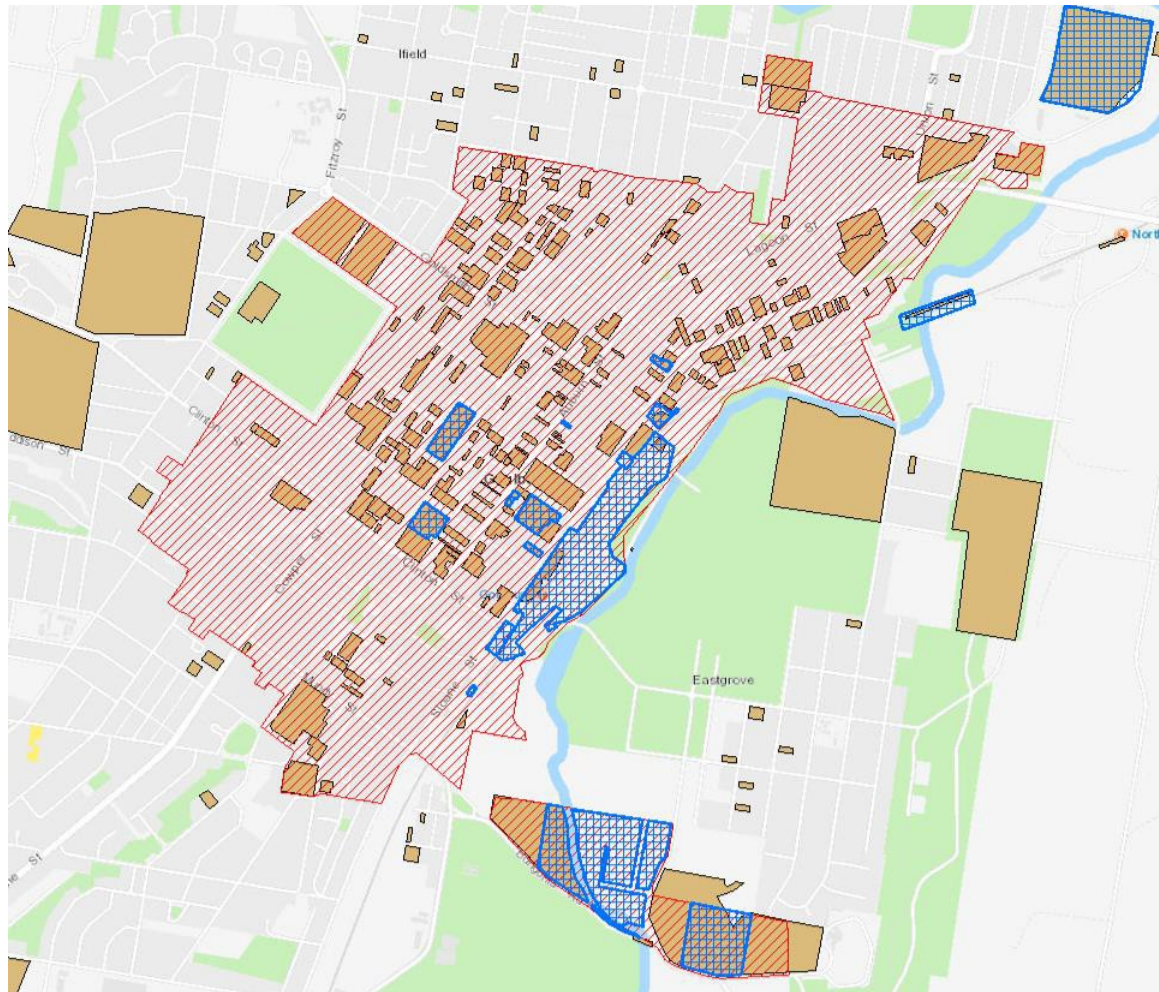


Figure 27 Heritage Conservation Area



Source: <https://www.planningportal.nsw.gov.au/spatialviewer>

Industry, Infrastructure and Recreational Constraints

Various existing industry, infrastructure and recreational uses impose constraints to residential development throughout the Goulburn and Marulan areas.

Goulburn Rifle Range

The rifle range is located on the southern fringe of Goulburn in the Mt Gray East precinct, on Rifle Range Road. The range is home to four clubs, being The Goulburn Rifle Club, The Goulburn Clay Pigeon Club, The Goulburn Pistol Club and the Sporting Shooters Association of Australia Branch (SSAA). The range is also used by the Police, Corrective Services and Customs.

Land use conflict was experienced in 2018 when Council proposed landfill operations which fell within the northern extremity of the rifle range's 1832 metre danger area⁹. Residential development in the vicinity of the Rifle Range is not recommended.

⁹ Goulburn Post <https://www.goulburnpost.com.au/story/5704199/shooters-up-in-arms-over-rifle-range-closure/> and <https://www.goulburnpost.com.au/story/5709233/shooting-range-talks-partially-hit-the-mark/>

Southern Meats Pty Ltd is a privately-owned export abattoir located at Mazamet Road, Goulburn. It produces halal killed, chilled and frozen Lamb and Mutton cuts, sheepskins, tallow, meat and bone meal and blood meal.

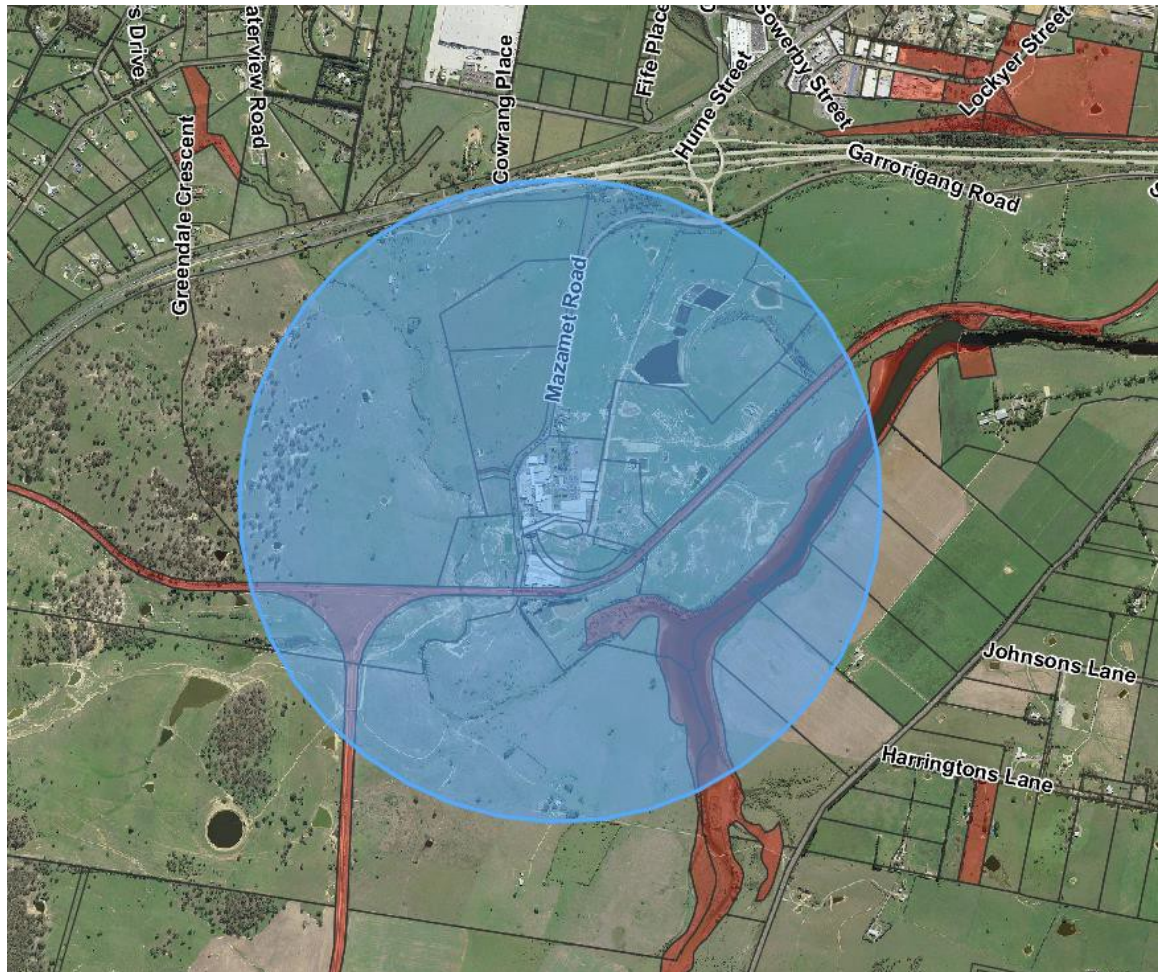
Council's *Employment Lands Strategy* 2016, identifies rural industries in Section 5.2.6 and Meat Processing in Section 5.2.7 as being a significant sector to the economy of NSW particularly in relation to wool and livestock for slaughter. The Strategy states:

The current meat processing industry in the LGA is focused on cattle and sheep (providing 60% of the NSW supply), however as identified in a State Significant Development (SSD) application for a proposed poultry processing plant (near Common St/Sinclair Road), there is a growing demand outside of Sydney for poultry processing also. As also stated in the Strategy (p.46) there is an increasing demand from China for protein. This is positive for the potential for increasing meat processing in the LGA.

[illegible]

If a 1,000m buffer is applied to the main abattoir area, the area affected is still contained within the 100ha minimum lot size area as shown in Figure 29.

Figure 29 1,000m Abattoir buffer as per DCP



This suggests that the area south of the Hume Highway and to the west of Braidwood Road (Abattoir Precinct) should remain as currently zoned and with the same minimum allotment size, as it is unsuitable for increased residential density whether for urban or rural residential. This would allow some growth of the abattoir without increasing the impact on residential land use.

Goulburn Airport

The operation of Goulburn Airport south of the Hume Highway is a constraint due to its potential for expansion of air services and/or development of a related business park. A pre-feasibility study (KPMG, 2019) into NSW regional airports undertaken for TfNSW did not identify Goulburn Airport for expansion.

The Australian Noise Exposure Concept (ANEC) and ANEF contours are unknown. State strategic documents advise against sterilising transport routes and infrastructure. It is recommended that any residential development in this area (Mountain Ash and Brisbane Grove precincts) consider the potential impact of the Airport.

Wakefield Park

The Wakefield Park Raceway is located at a relatively low elevation in Tirrannaville. A combination of geography and atmospheric conditions creates an inversion layer during certain conditions which allows sound to carry long distances. This means gear changes can sometimes be clearly heard within Goulburn CBD.

Council is engaged in negotiations with the operators of Wakefield Park around possible noise mitigation measures, however, even if controls such as use of mufflers are introduced, the raceway is likely to continue to generate significant noise into the future. This imposes a

constraint on residential land use in the precincts south of the Hume Highway as any expansion would introduce land use conflict.

NSW Police Driver Training

Located at Dallas Tidyman Drive, Goulburn (Middle Arm East precinct) this facility has the potential for land use conflicts related to noise if residential dwellings were located nearby. An assessment of noise levels from the training facility on the former sewerage irrigation site at Taralga Road (Kenmore precinct) would need to be undertaken when assessing the site's suitability for residential use.

Goulburn Speedway and Motor Cycle Club (Motorcross)

Goulburn Speedway is a clay racetrack located on the eastern side of Mt Gray in the Mt Gray East precinct. Goulburn Motor Cycle Club is a motorcross/dirtbike club and racetrack just south of the speedway. Both facilities are accessed via Speedway Road. Residential land use is not recommended in the vicinity of these facilities due to land use conflict related to noise. Additionally, the Hume Highway approach to Goulburn from the north is of rural character which should be preserved. No changes to the current zoning east of Mt Gray or the Hume Highway are proposed.

Sewerage Treatment Plant – Goulburn

Council have recently completed an upgrade to the Goulburn sewerage treatment plant (STP). The new system will provide recycled water for maintaining Goulburn's green spaces and no longer requires the maturation ponds and irrigation areas at Murray's Flat, Gorman Road and Kenmore.

Council's STP licence is conditioned that no odour is to extend beyond the property boundary, however, it is recognised that there is the potential for periodic upsets in the process that could result in odour generated in the vicinity of the STP. Council advised that since the STP has become fully operational no odour complaints have been made.

When considering the potential for additional development in the Gorman Road area, odour issues from the new STP are unlikely to pose a substantial constraint if only periodic odour incidents occur.

An aerial photograph of a residential and commercial area. A large, irregularly shaped parcel in the center is highlighted with a thick blue border. This parcel contains several smaller lots, some of which are also labeled with numbers. Surrounding this central area are numerous other lots, many of which are also labeled with numbers. The labels appear to be a combination of letters and numbers, possibly representing lot identifiers or addresses. The terrain shows a mix of green spaces, roads, and built-up structures.

High Pressure Gas Pipeline

Planning Circular PS 18-010¹⁰ provides advice regarding development in the vicinity of high pressure gas pipelines to ensure that risks to people, property and the pipelines are within acceptable levels.

¹⁰ NSW Government Planning Circular 18-010 <https://www.planning.nsw.gov.au/-/media/Files/DPE/Circulars/planning-circular-18-010-act-and-regulation-changes-2018-10-26.pdf?la=en> accessed July 2019

Safety and Risk Assessment

While a serious failure of a pipeline is very unlikely, the consequence of such a failure could have serious implications for life, property, the environment and the State's economy.

High pressure pipelines are designed, constructed, tested, operated and maintained in accordance with Australian Standard AS 2885 and licensed under the Pipelines Act 1967. The Pipelines Regulation 2013 also ensures that licensed pipelines are designed, constructed, maintained and operated in a safe and reliable manner. Under this Regulation, all pipeline operators must develop and implement a Pipeline Management Plan, which is used to monitor the ongoing performance of the pipeline operator.

A risk assessment for any proposed sensitive use near the pipeline is to be performed by a suitably qualified professional. A risk assessment must demonstrate that the development will comply with the risk criteria for land use safety planning published in *Hazardous Industry Planning Advisory Paper (HIPAP) No. 4 – Risk Criteria for Land Use Safety Planning*. This assessment is the responsibility of the applicant and must be undertaken in consultation with the pipeline operator and submitted with the development application.

In assessing the tolerability of risk from high pressure pipelines, both qualitative and quantitative aspects need to be considered. Any quantitative (numeric) risk assessment should be consistent with the principles published in *Hazardous Industry Planning Advisory Paper No. 6 – Hazard Analysis*.

Source: Planning Circular 18-010, NSW Government

The presence of the gas pipeline is not a prohibition on low density residential development; however, it is understood that a 675m buffer (on either side of the pipeline easement) is calculated based on the Australian Standard (AS) which excludes certain sensitive uses (for evacuation reasons). Under Clause 66 of the Infrastructure SEPP, such uses include high density residential, commercial or sensitive uses such as hospitals, schools, child care and aged care facilities. Consent authorities should consider these development applications more carefully as they may introduce a higher or more vulnerable population near the pipelines¹¹. The Infrastructure SEPP also includes notification requirements and requirements to consider potential safety risks related to development near high pressure pipelines. These provisions were recently expanded in amendments made to the SEPP on 31 August 2018¹².

It is proposed that the buffer area has potential for use as a linear park with a shared walking and cycling path linking the Wollondilly River path and potentially the Goulburn-Crookwell rail corridor (rail trail) to form an active travel network as Goulburn expands into the northern fringe. A road link parallel to the pipeline could also potentially be located within the buffer corridor.

The pipeline poses a significant development constraint to the Sooley, Middle Arm West and Middle Arm East precincts with limited perpendicular crossings and no big trees allowed in the vicinity of the pipeline. Furthermore, APA Group will not allow the use of the easement for a linear east-west road link across the northern urban expansion area (proposed in the Draft Housing Strategy). It is therefore proposed that urban development in these precincts be limited to the areas south of the pipeline in the short and medium term. Although the pipeline also

¹¹ NSW Government Planning Circular 18-010 <https://www.planning.nsw.gov.au/-/media/Files/DPE/Circulars/planning-circular-18-010-act-and-regulation-changes-2018-10-26.pdf?la=en> accessed July 2019

¹² Ibid.

bisects the Kenmore precinct, the areas impacted are also flood constrained and considered unsuitable for urban development.

Main Electricity Easements

Restrictions on what activities are allowed within an electricity easement or near electricity infrastructure apply.¹³ Generally, agriculture, recreation activities, gardening, vehicle parking, storage and minor structures are permissible, provided that activities do not exceed height limits.

Developments such as the construction of pergolas and verandas, outbuildings, sporting facilities, fencing and yards, swimming pools, irrigation equipment, utilities and excavation are generally controlled in electricity easements or near electricity infrastructure. Controlled activities may be permitted with written approval.

Typically, prohibited activities include:

- » The construction of houses, buildings, or other substantial structures
- » The installation of fixed plant or equipment
- » The storage of flammable materials or explosives
- » The storage of garbage materials or fallen timber
- » Planting of any vegetation which exceeds 4.0 metres in height
- » Any obstructions placed within 5.0 metres of any part of a powerline, pole or supporting guy or 10.0 metres of a steel structure
- » Flying of kites or model aircraft.

Main Electricity transmission lines are noted on the constraints maps for each precinct.

Quarrying and Hazardous Industry

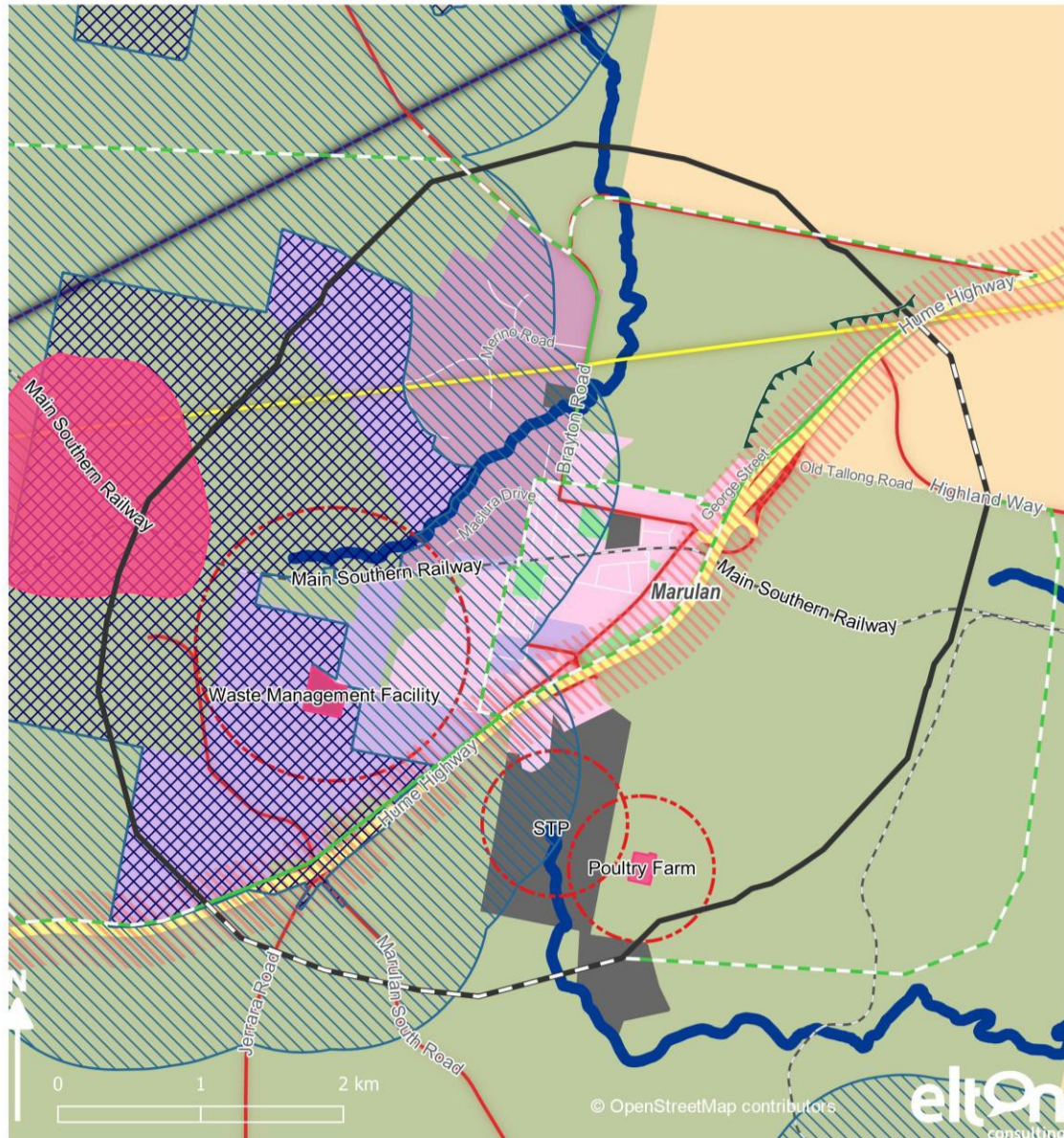
Major quarries, hazardous industry and offensive industry/infrastructure operate in close proximity to the township of Marulan and pose significant constraints to residential expansion. Land use constraint buffers are shown on the Marulan Constraints Map below and primarily impact the Marulan West and south west of the Marulan East precinct analyses. Land within land use constraint buffer zones is not suitable for residential dwellings.

¹³ Essential Energy 'Living with Electricity Easements and Infrastructure'
<https://www.essentialenergy.com.au/-/media/Project/EssentialEnergy/Website/Files/Our-Network/LivingWithEasements.pdf?la=en&hash=F547F35E5DCA13F30AC7552B9969029BEF3C72A4> accessed July 2019

Constraints Maps

Combined Constraints Maps have been prepared for both Marulan and Goulburn and have been used as the basis for determining land suitability. These Maps are illustrated in Figures 31 and 32 below.

Figure 31 Marulan Constraints Map



Legend

Land Zoning

- Urban area
- Non-urban environmental protection
- Urban area
- Rural residential
- Public Recreation
- Rural area
- Infrastructure

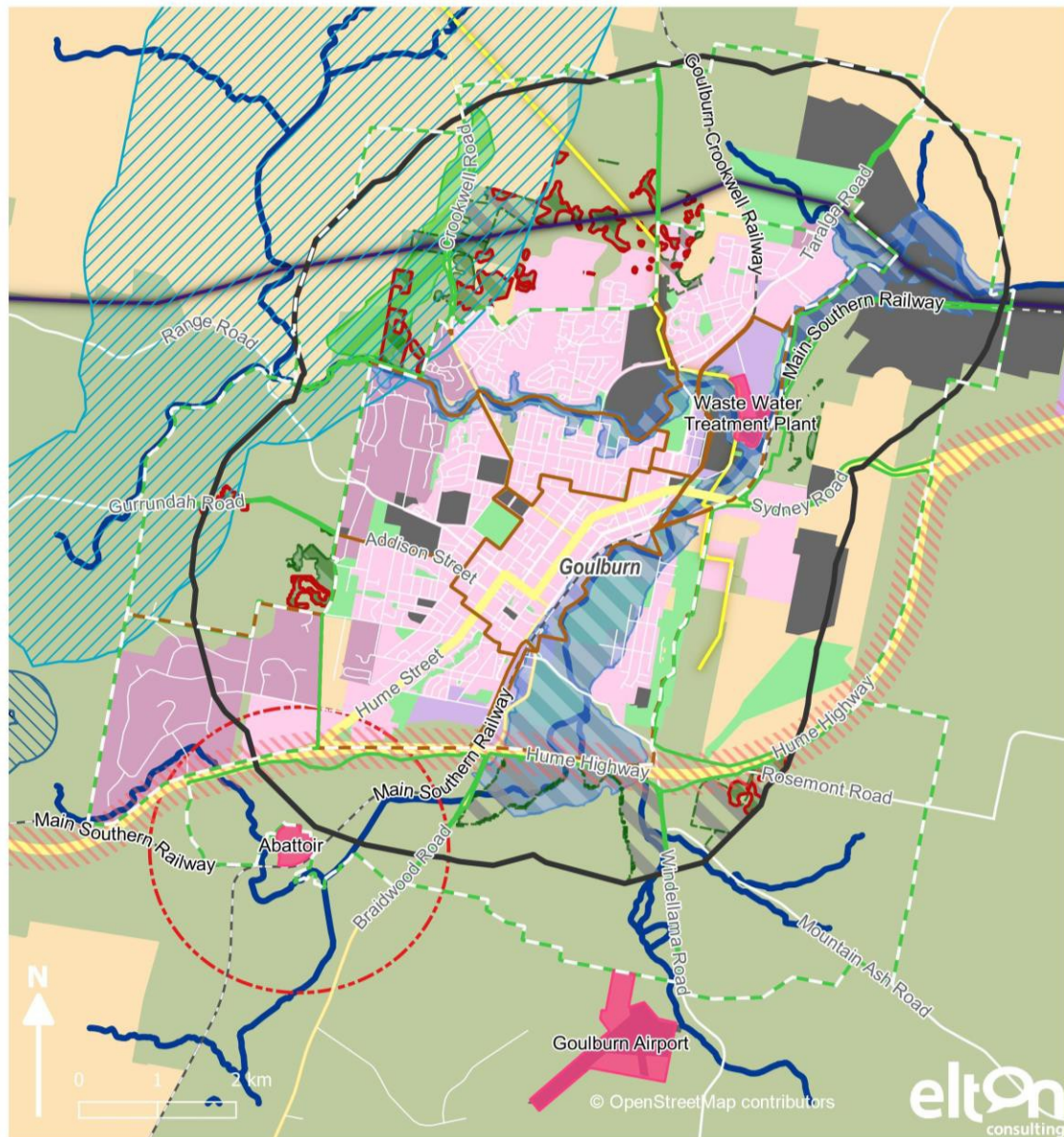
Constraints buffers

- Land use constraints
- Riparian buffers
- 4th order (40m)
- 250m from Hume Highway
- Electricity transmission line

Gas pipeline

- Mines and quarries
- Transition Area
- Ridge line

Figure 32 Goulburn Constraints



Legend

Land Zoning

- Urban area
- Non-urban environmental protection
- Urban area
- Rural residential
- Public Recreation
- Rural area
- Infrastructure

Constraints buffers

- Land use constraints
- Flooding
- Riparian buffers
- 4th order (40m)
- Strategic agricultural land

ELA Vegetation

- TEC
- Other Vegetation (ELA)
- Validated (ELA)
- 250m from Hume Highway
- Electricity transmission line
- Gas pipeline

Mines and quarries

- Transition Area

E Biodiversity Constraints (ELA)

Goulburn Mulwaree Urban Fringe Housing Strategy – Constraints Analysis (Revised Sites)

Area of interest

The area of interest consists of the lands within a 5km radius of Goulburn and Marulan. A number of sites were identified and provided associated the urban fringe as lands with potential for development (Figures 1 and 2). Each site was referred to with a unique site identifier.

Desktop constraints based on the available data were assessed for each of these sites.

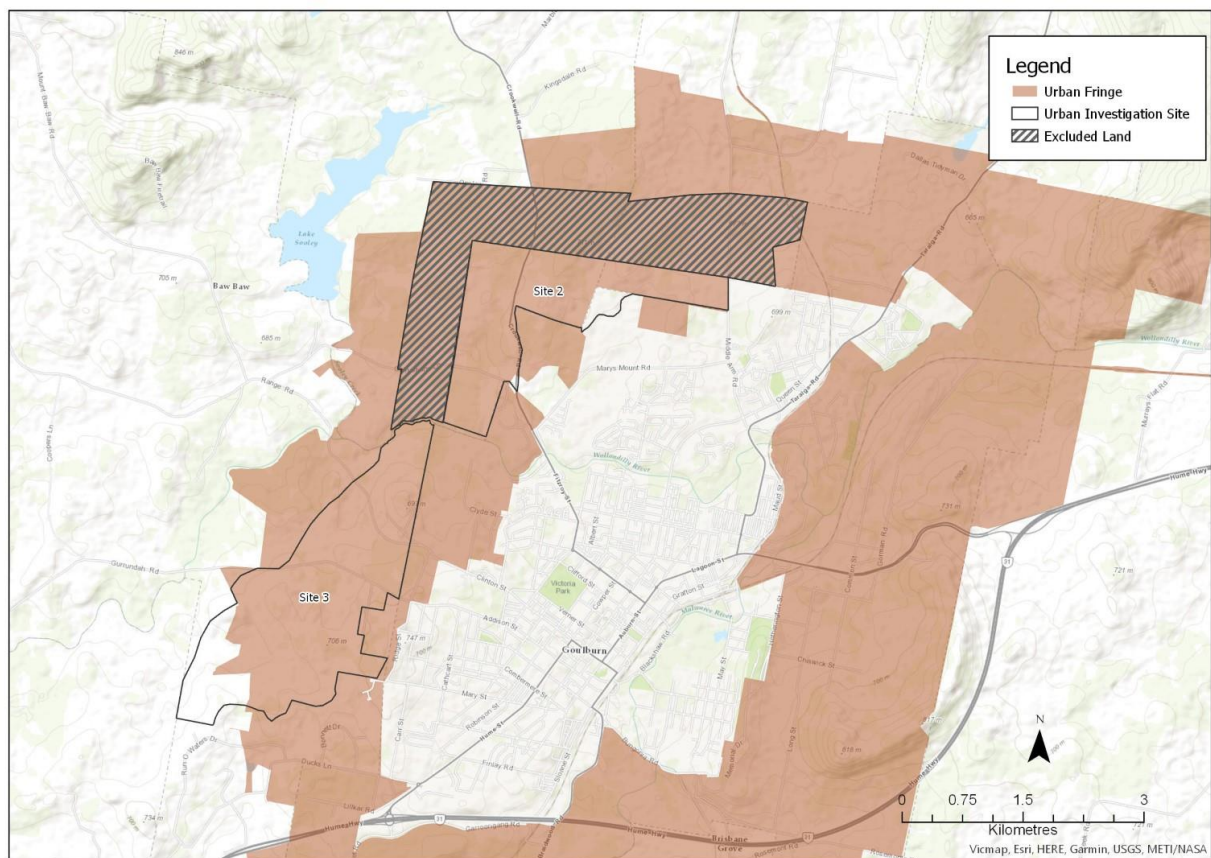


Figure 1: Goulburn study area sites

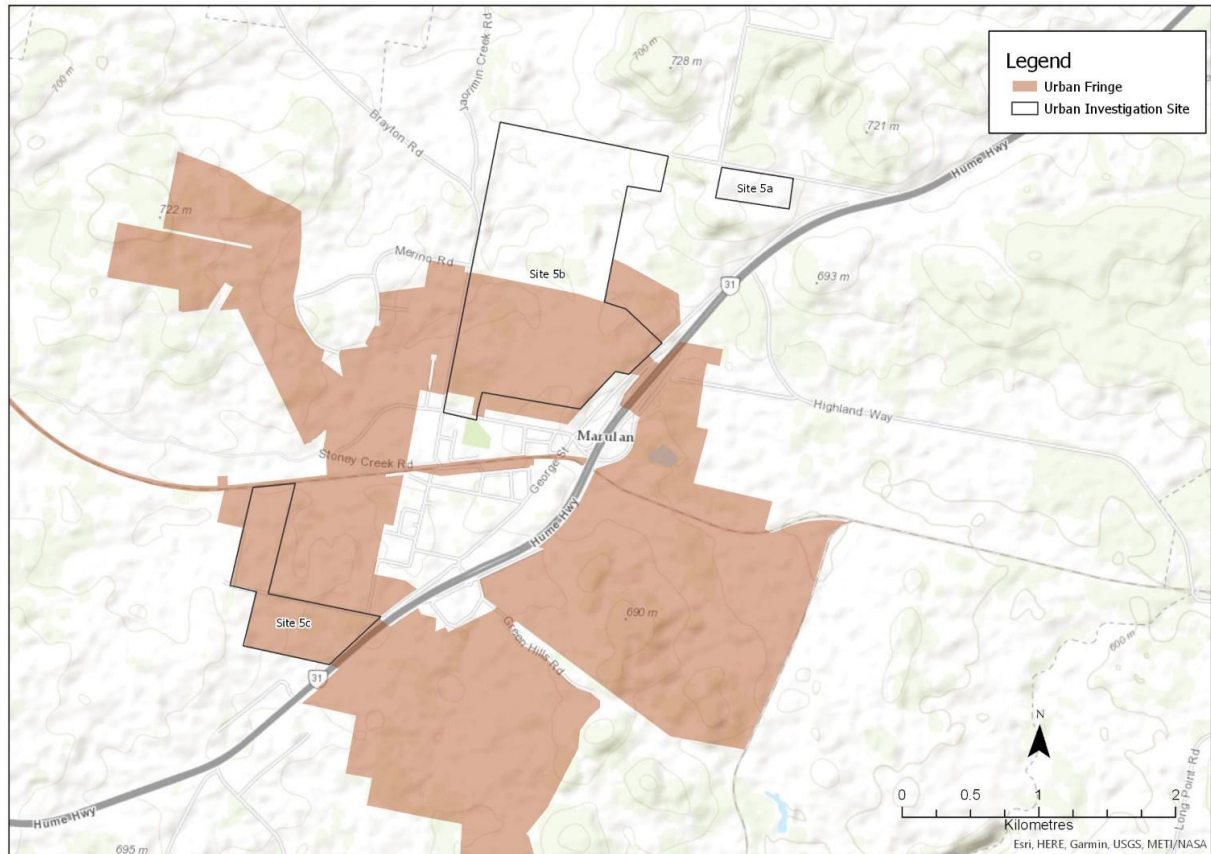


Figure 2: Marulan study area sites

Data

A number of key data sets were identified to assist and support analysis for the Strategy. Data sets included:

Theme	Data	Source	Usage
Biodiversity	Threatened species locations (State/Commonwealth)	Atlas of NSW Wildlife/BioNet (OEH) EPBC Protected matters search (DEE)	Identified recorded threatened species within 5km of study area sites Protected matters search tool for matters of National Environmental Significance within a 5km radius of Goulburn and Marulan
Biodiversity	Vegetation type mapping Threatened ecological communities (State/Commonwealth)	Elton / SELLS	Identified candidate TECs across study area sites
Biodiversity	Conservation Significance Assessment (CSA) mapping	Elton	Identified areas of High / Moderate / Low conservation value by site
Bushfire	Bushfire Prone Land Mapping	RFS / Council	not available
Riparian	Drainage	Strahler classified drainage (LPI)	Buffered stream order according to Office of Water

Theme	Data	Source	Usage
	Strahler stream order classification		DPI riparian corridor widths for Riparian buffers
Conservation	Reserves (State and Council lands) Open Space and conservation / environmental land	NPWS Estate (OEH) LEP land zoning (DPE)	
Conservation	High Environmental Value (HEV) lands	OEH	Identified areas of HEV by site
Conservation	State and Regional Biodiversity Corridors (South East Tablelands)	OEH	
Vulnerable lands	Steep slopes or highly erodible	State-wide dataset (OEH)	Land with slope > 18 degrees identified within the study area as high erosion risk
Flood Risk	Flood prone lands	Council	Land prone to flooding within the study area as high risk
Agricultural	Land classification Land use	Land and soil capability (OEH) Land use mapping (DoAWR)	
Sites	Investigation Areas	Elton	Study area to base constraints assessment

Biodiversity Values

Threatened Ecological Communities (TECs)

Two TECs are mapped within the study area sites, they are:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Listed under the BCA and EPBC) – 20 ha
- Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT (Listed under EPBC) – 19 ha

The breakdown of the amount of TECs across the study sites is shown in Tables 1 and 2 and mapped in Figures 3 and 4.

More detailed vegetation type mapping and an area breakdown for each of the study area sites is provided in Appendix A.

Table 1: Area of TECs within the study area sites – Goulburn

Study site ID	Vegetation (ha)			Site (ha)	% TEC of Site	% TEC of Vegetation
	TEC	Other Vegetation	Total Vegetation			
Excluded	8.84	103.08	111.92	527.84	2%	8%
Site 2	5.64	82.50	88.13	313.66	2%	6%
Site 3	12.62	241.02	253.63	530.23	2%	5%
Total	27.09	426.59	453.68	1371.73		6%

Table 2: Area of TECs within the study area sites – Marulan

Study site ID	Vegetation (ha)			Site (ha)	% TEC of Site	% TEC of Vegetation
	TEC	Other Vegetation	Total Vegetation			
Site 5a	-	-	-	12.18	-	-
Site 5b	4.05	0.11	4.16	226.34	2%	97%
Site 5c	7.85	0.16	8.00	55.39	14%	98%
Total	11.90	0.27	12.17	293.91		98%

TECs exist in both of the sites identified for investigation in Goulburn's urban fringe. For all sites, TECs cover approximately 2% of each site. The Site with the greatest amount of TEC is Site 3, approximately twice the amount of Site 2. Nearly 9ha of TEC also exists in part of Site 2 that is excluded from investigation.

Two of the three sites in the Marulan urban fringe contain vegetation, the majority (98%) of which is classed as TEC. Approximately 14% of Site 5c is made up of TECs, with a smaller proportion (2%) of TECs on Site 5b.

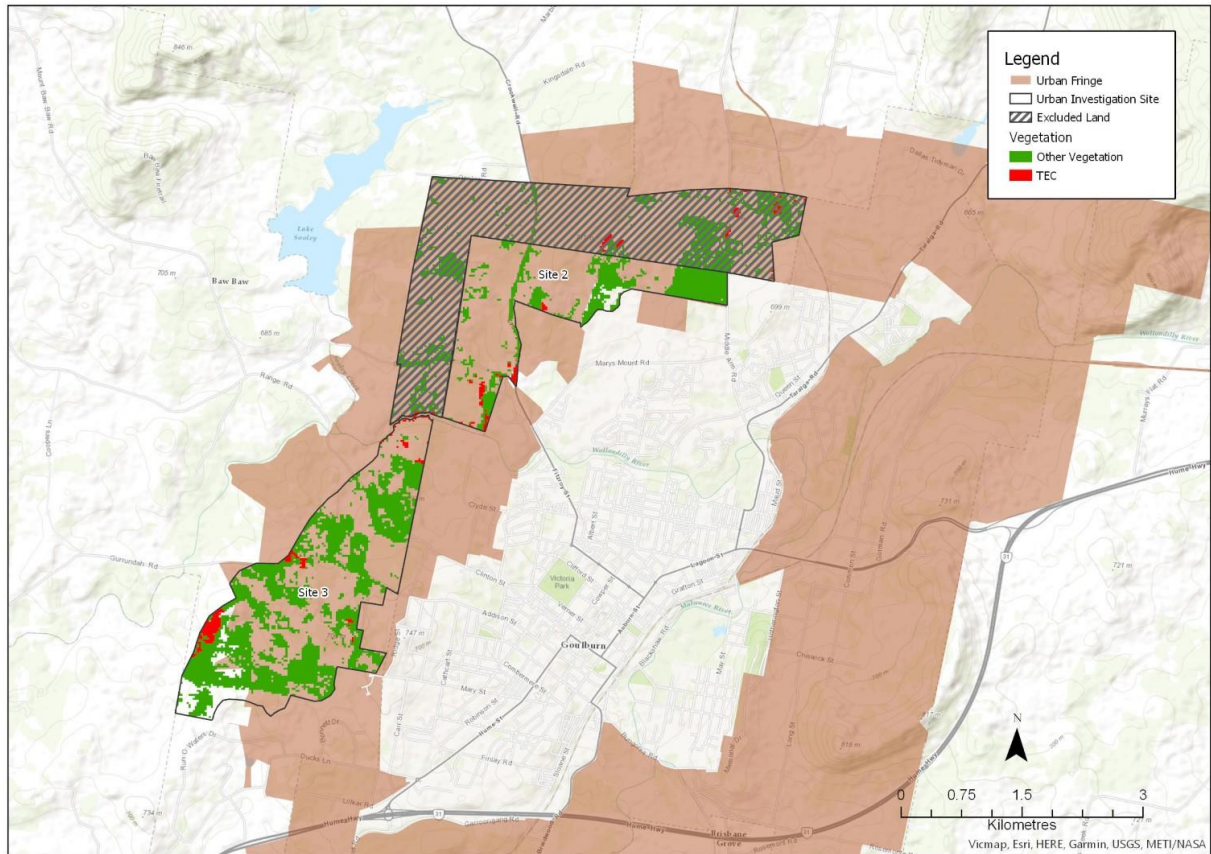


Figure 3: Goulburn TECs

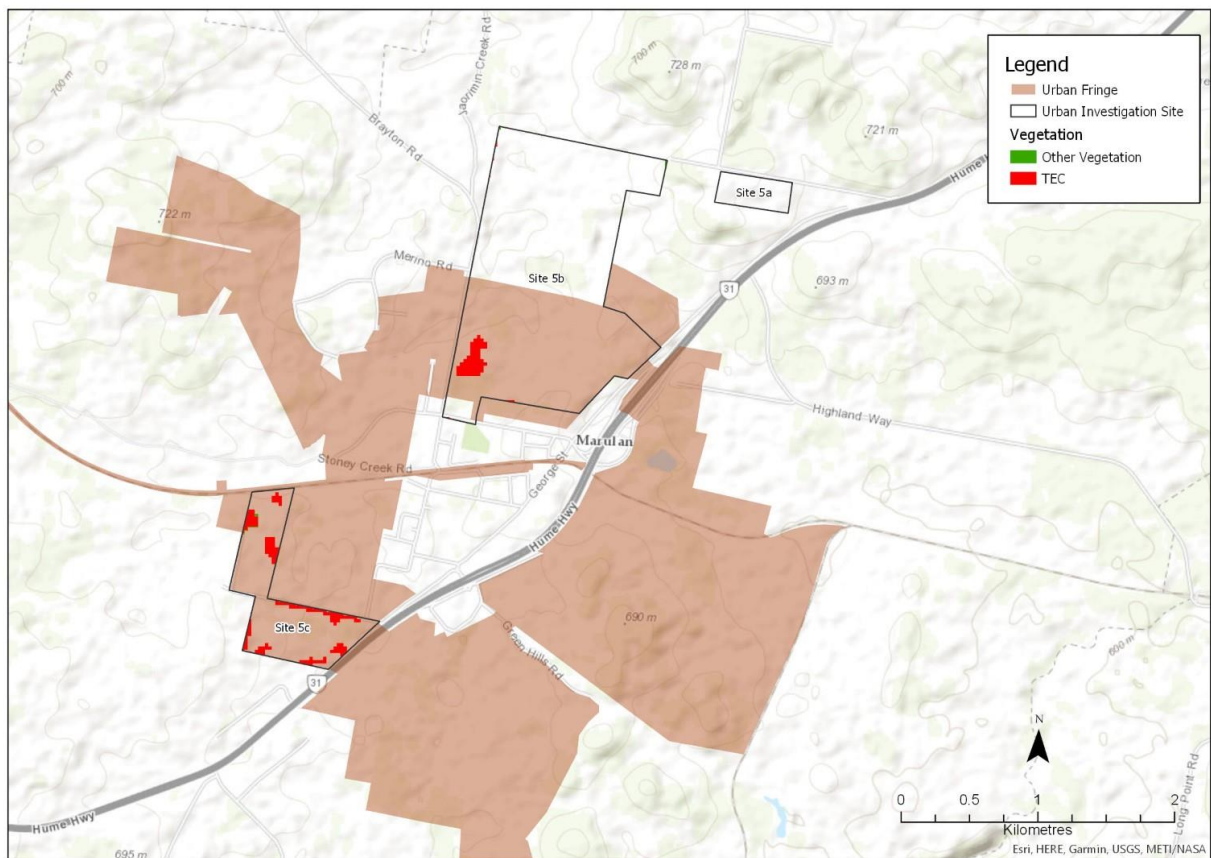


Figure 4: Marulan TECs

Threatened Species

A search of the Atlas of NSW Wildlife (BioNet) was carried out in October 2018 to identify records of threatened flora and fauna within 5km of the study area sites.

Threatened fauna

A total of 25 fauna species listed under the BC Act, including 4 species listed under the EPBC Act, were identified within 5km of the study sites (Table 3).

While no threatened species were recorded within the Goulburn study area Sites, one threatened fauna species (Gang-gang Cockatoo) was recorded immediately adjacent to the excluded area of Site 2 in the Goulburn urban fringe (Figure 5).

8 fauna species (6 birds and 2 mammals) have been recorded at the north western edge of Site 5b, in the Marulan urban fringe (Figure 6).

Threatened species recorded within Site 5b were:

- Little Eagle
- Little Lorikeet
- Speckled Warbler
- Varied Sittella
- Dusky Woodswallow
- Scarlet Robin
- Eastern False Pipistrelle
- Eastern Bentwing-bat

Table 3: Recorded threatened fauna species recorded within 5km of study area sites

Class	Scientific name	Common Name	BC Act	EPBC Act	Recorded number of individuals*
Aves	<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	20
Aves	<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V	-	14
Aves	<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	-	7
Aves	<i>Chthonicola sagittata</i>	Speckled Warbler	V	-	7
Aves	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V	-	1
Aves	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	2
Aves	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E	-	1
Aves	<i>Falco subniger</i>	Black Falcon	V	-	0
Aves	<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	11
Aves	<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	2
Aves	<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	0

Class	Scientific name	Common Name	BC Act	EPBC Act	Recorded number of individuals*
Aves	<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern form)	V	-	0
Aves	<i>Ninox strenua</i>	Powerful Owl	V	-	1
Aves	<i>Petroica boodang</i>	Scarlet Robin	V	-	1
Aves	<i>Petroica phoenicea</i>	Flame Robin	V	-	0
Aves	<i>Stagonopleura guttata</i>	Diamond Firetail	V	-	2
Mammalia	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	1
Mammalia	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	0
Mammalia	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	0
Mammalia	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	-	4
Mammalia	<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V	-	0
Mammalia	<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-	2
Mammalia	<i>Phascolarctos cinereus</i>	Koala	V	V	1
Mammalia	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	10
Mammalia	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	V	-	1

E – Endangered, V - Vulnerable

*A value of 0 denotes that while the species has been recorded, numbers of individuals were not noted

Threatened flora

A total of 6 flora species listed under the BC Act, including 4 species listed under the EPBC Act were identified within 5km of the study area sites (Table 4).

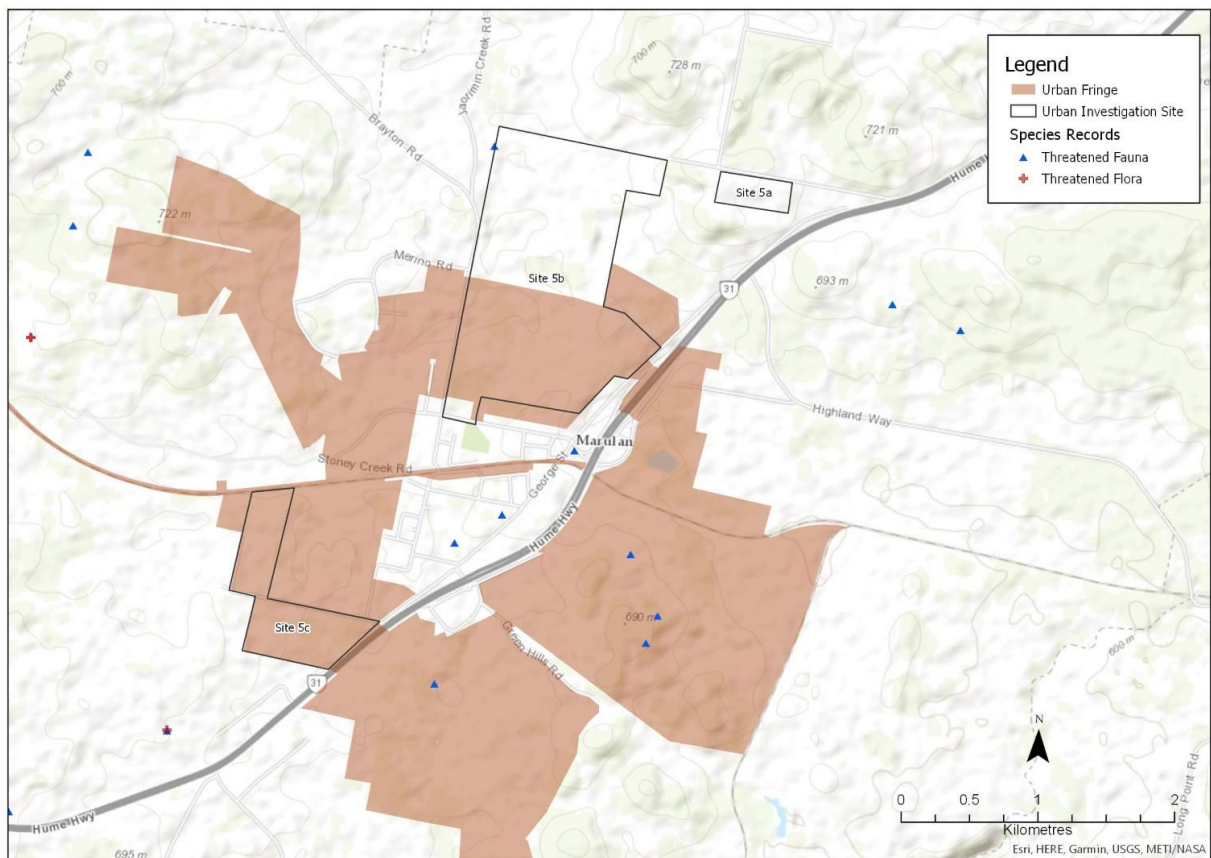
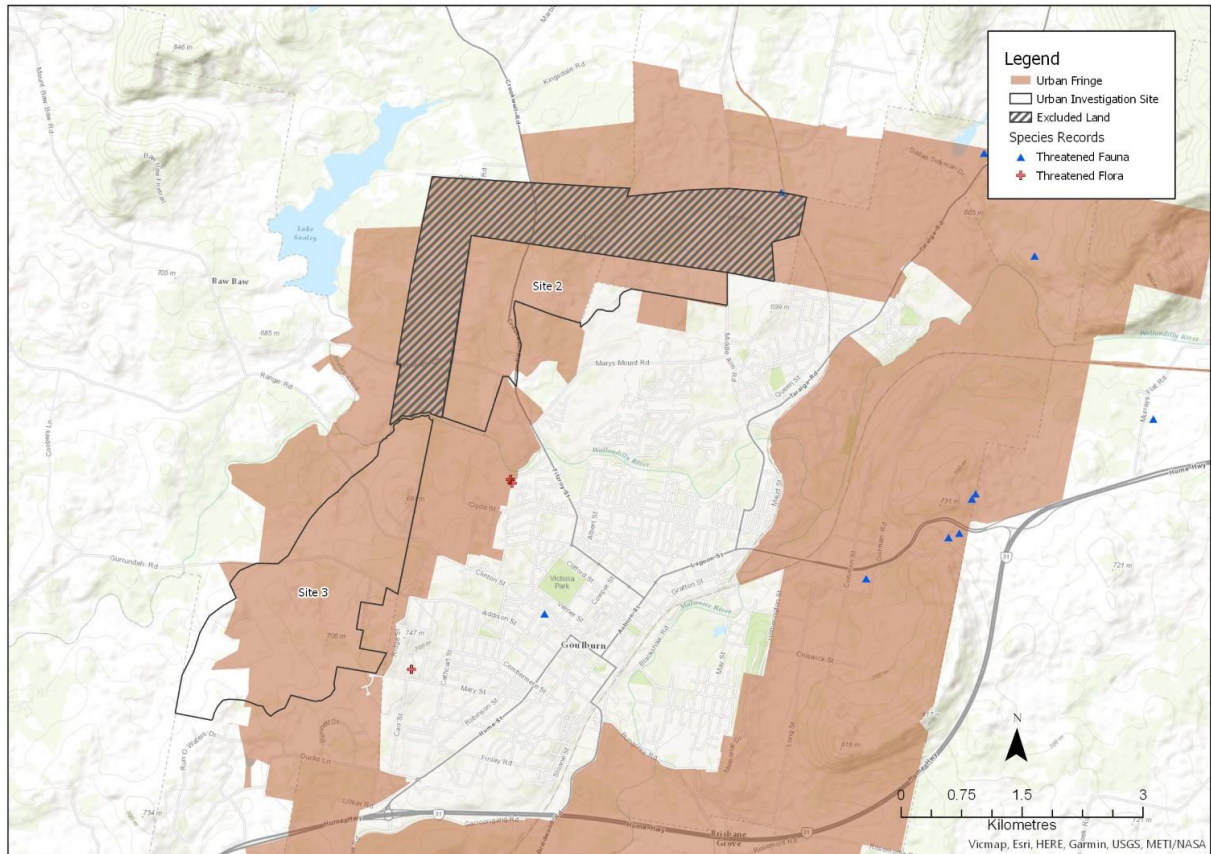
No threatened flora species have been recorded within the study area sites.

Table 4: Recorded threatened flora species within 5km of the study area sites

Scientific name	Common Name	BC Act	EPBC Act	Recorded number of individuals*
<i>Diuris aequalis</i>	Buttercup Doubletail	E	V	0
<i>Eucalyptus aggregata</i>	Black Gum	V	V	0
<i>Eucalyptus macarthurii</i>	Paddys River Box, Camden Woollybutt	E	E	0
<i>Pultenaea pedunculata</i>	Matted Bush-pea	E	-	0
<i>Rutidosis leptorrhynchoides</i>	Button Wrinklewort	E	E	0
<i>Solanum celatum</i>		E	-	6

E – Endangered, V – Vulnerable

*A value of 0 denotes that while the species has been recorded, numbers of individuals have not been recorded



Matters of National Environmental Significance (MNES)

An EPBC Act Protected Matters Report (DEE 2018) was generated on 8 November 2018 based on a 5 km buffer around the town centres of Goulburn and Marulan.

The following matters have been identified as being likely to occur or known to occur in the proximity of the study area sites:

- 3 listed threatened ecological communities (TECs) (2 known to occur)
- 22 listed threatened fauna species (4 known to occur)
- 14 listed threatened flora species (4 known to occur)
- 13 listed migratory species

Separate protected matters reports including the details of all identified MNES for Goulburn and Marulan were prepared.

Conservation values

Conservation value information was summarised by each study area site. Conservation values have been broken down into High, Moderate and Low. Areas of High or Moderate conservation value generally include the greatest constraints to development, making up areas of core or support for core habitat. Mapping has been prepared by Council and was obtained via Elton.

A breakdown of the proportion of conservation value by study area site has been summarised in Table 5 and Figure 7 for the Goulburn urban fringe; and Table 6 and Figure 8 for the Marulan urban fringe.

Table 5: Goulburn study area sites conservation values

Study Site ID	Conservation Value (ha)				% of Site with Higher Constraints*
	High	Moderate	Low	Total	
Excluded	38.38	69.47	419.99	527.84	20%
Site 2	12.94	70.82	229.90	313.66	27%
Site 3	255.46	54.59	220.19	530.23	58%
Total	306.77	194.87	870.09	1,371.73	

* Higher constraints = High + Moderate conservation values

Approximately 58% of Site 3 in the Goulburn urban fringe, is mapped with higher constraints (mostly High conservation values), across the site. Site 2 includes higher constraints over 27% of the site, however, this is mostly made up of Moderate conservation values scattered in patches across the Site (Figure 7).

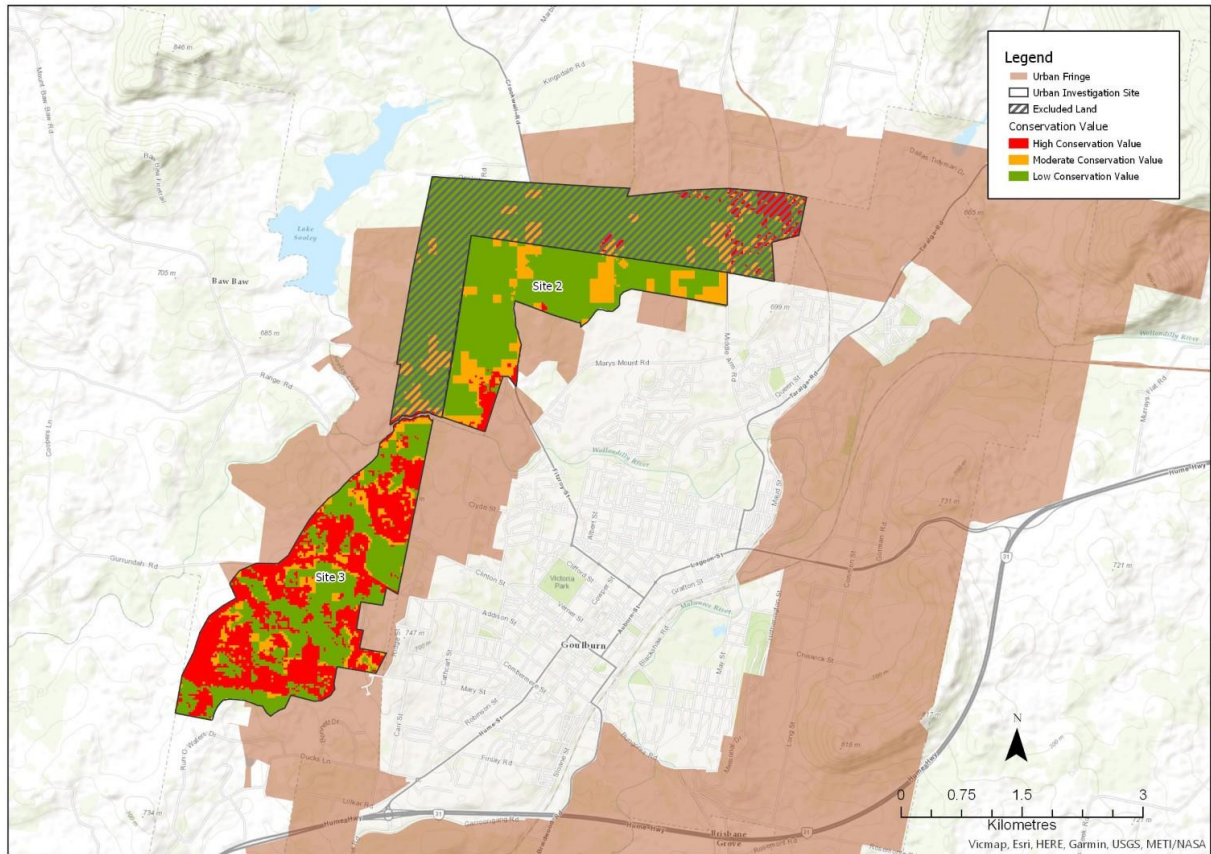


Figure 7: Goulburn conservation values

Table 6: Marulan study area sites conservation values

Study Site ID	Conservation Value (ha)				% of Site with Higher Constraints*
	High	Moderate	Low	Total	
Site 5a	-	-	12.18	12.18	-
Site 5b	11.89	-	214.45	226.34	5%
Site 5c	8.34	0.02	47.03	55.39	15%
Total	20.23	0.02	273.66	293.91	

* Higher constraints = High + Moderate conservation values

Two of the three sites in the Marulan urban fringe include mapped higher constraints (Figure 8). All mapped higher constraints consist of High conservation values.

The constraints within Site 5b are made up of a riparian corridor as well as an area of threatened vegetation, both making up approximately 5% of the site. The higher constraint on Site 5c is entirely made up of threatened vegetation and occurs over about 15% of the site.

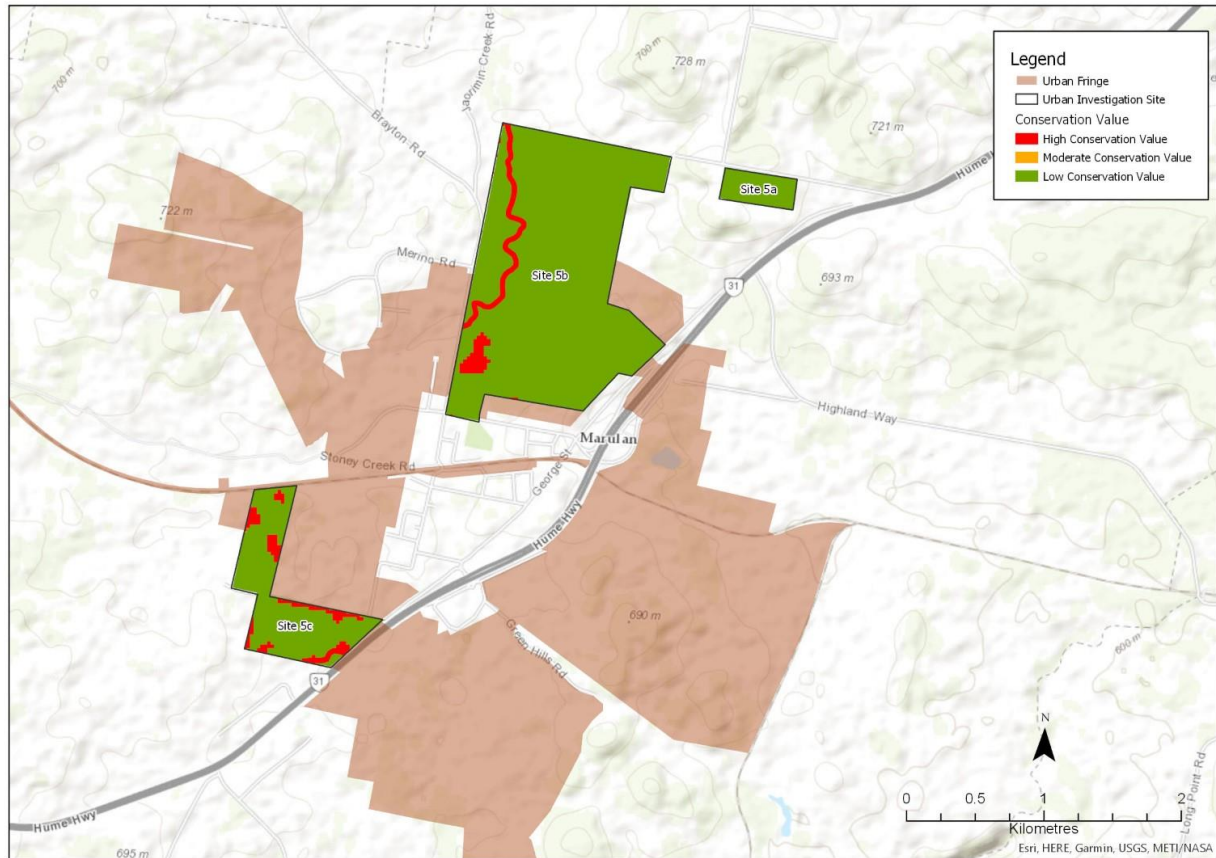


Figure 8: Marulan conservation values

High Environmental Value (HEV) Land

High environmental value land mapping aims to provide a regional overview for strategic planning purposes.

The criteria for mapping lands with high environmental value include:

- Existing conservation areas including national parks, crown and State Forest reserves
- Threatened ecological communities and key habitats and important vegetation areas
- Important wetlands, coastal lakes and estuaries; and
- Sites of geological significance.

A breakdown of the proportion of HEV land by study area site has been summarised in Table 7 and Figure 9 for the Goulburn urban fringe; and Table 8 and Figure 10 for the Marulan urban fringe.

Table 7: Goulburn study area sites HEV

Study Site ID	HEV (ha)	Site (ha)	% of site with HEV
Excluded	-	527.84	-
Site 2	-	313.66	-
Site 3	18.41	530.23	3%
Total	18.41	1371.73	

There are a number of small parts of Site 3 (3%) which are mapped as HEV. These areas are primarily made up of land with high conservation values including threatened ecological communities.

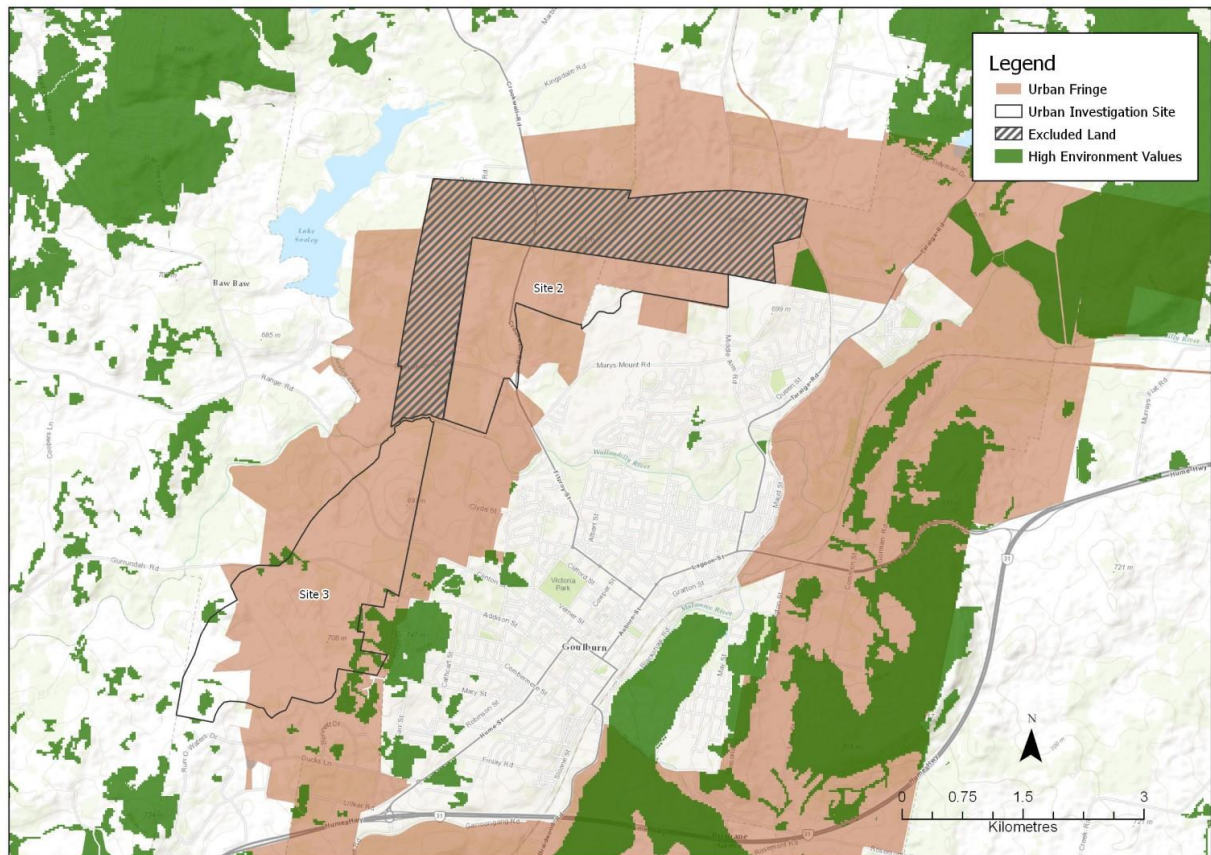


Figure 9: Goulburn HEV lands

Table 8: Marulan study area sites HEV lands

Study Site ID	HEV (ha)	Site (ha)	% of site with HEV
Site 5a	-	12.18	-
Site 5b	4.08	226.34	2%
Site 5c	7.96	55.39	14%
Total	12.05	293.91	

Two of the three sites in the Marulan urban fringe include mapped HEV (Figure 10). They both entirely consist of mapped threatened ecological communities.

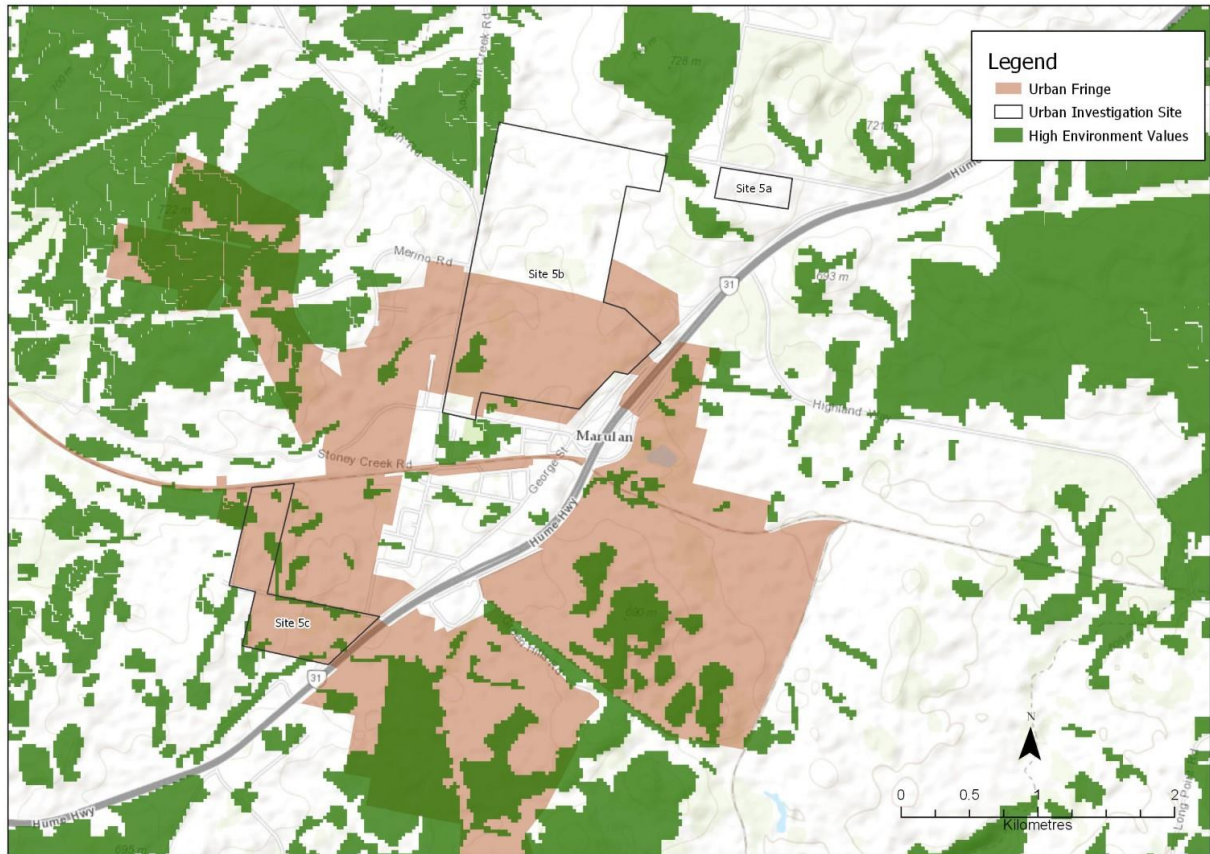


Figure 10: Marulan HEV lands

State and Regional Biodiversity Corridors

There are a number of State and Regional biodiversity corridors within the broader region, providing linkages between significant areas of biodiversity (Figure 11). The study areas do not fall within the mapped corridors.

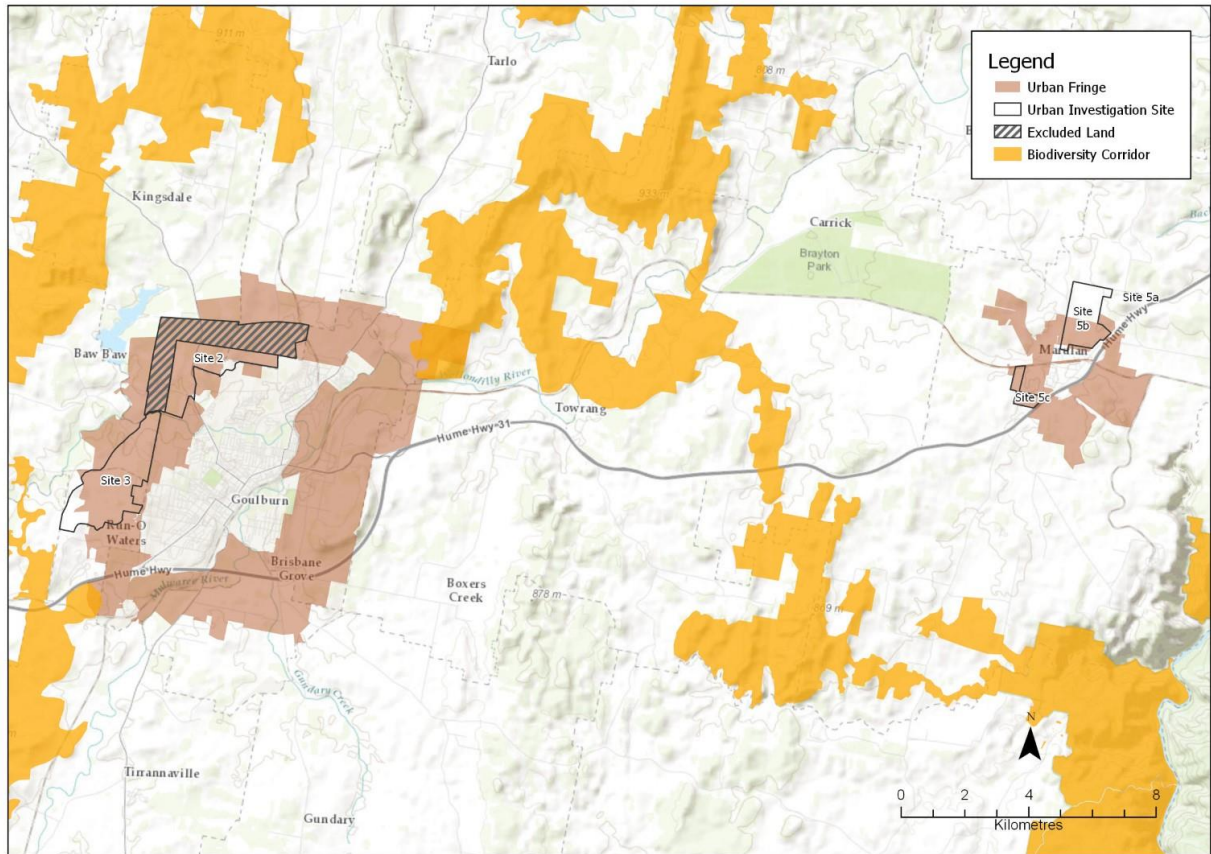


Figure 11: State and Regional Biodiversity Corridors

Land Use

Riparian Corridors

Vegetated riparian zone corridor width guidelines for waterfront land are defined by the NSW Office of Water DPI. These apply to controlled activities that are regulated under the Water Management Act, such as urban development. The following extract from the guidelines was used to assess the area of riparian corridor likely to be required with each of the study area sites.

Riparian corridor widths

The Officer of Water recommends a VRZ width based on watercourse order as classified under the Strahler System of ordering watercourses and using current 1:25 000 topographic maps (see Figure 2 and Table 1). The width of the VRZ should be measured from the top of the highest bank on both sides of the watercourse.

Figure 2. The Strahler System

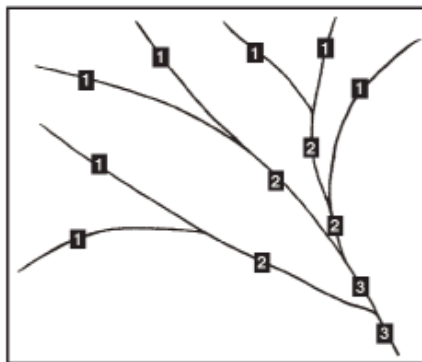


Table 1. Recommended riparian corridor (RC) widths

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1 st order	10 metres	20 m + channel width
2 nd order	20 metres	40 m + channel width
3 rd order	30 metres	60 m + channel width
4 th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 metres	80 m + channel width

Note: where a watercourse does not exhibit the features of a defined channel with bed and banks, the Office of Water may determine that the watercourse is not waterfront land for the purposes of the WM Act

All of the study area sites within the Goulburn urban fringe include mapped drainage lines which make up either 4% (Site 2) or 6% (Site 3) of the sites. A breakdown of the area of riparian buffer required by each site is summarised in Table 9 and shown in Figure 12.

Table 9: Goulburn riparian buffer requirements

Study Site ID	Stream Order (ha)				Total	Site (ha)	% Riparian buffer of site
	1st (10m buffer)	2nd (20m buffer)	3rd (30m buffer)	4th or greater (40m buffer)			
Excluded	12.56	15.23	2.87	2.47	33.13	527.84	6%
Site 2	8.23	4.28			12.51	313.66	4%
Site 3	14.23	12.80	3.12	1.50	31.65	530.23	6%
Total	35.02	32.31	6.00	3.97	77.30	1,371.73	

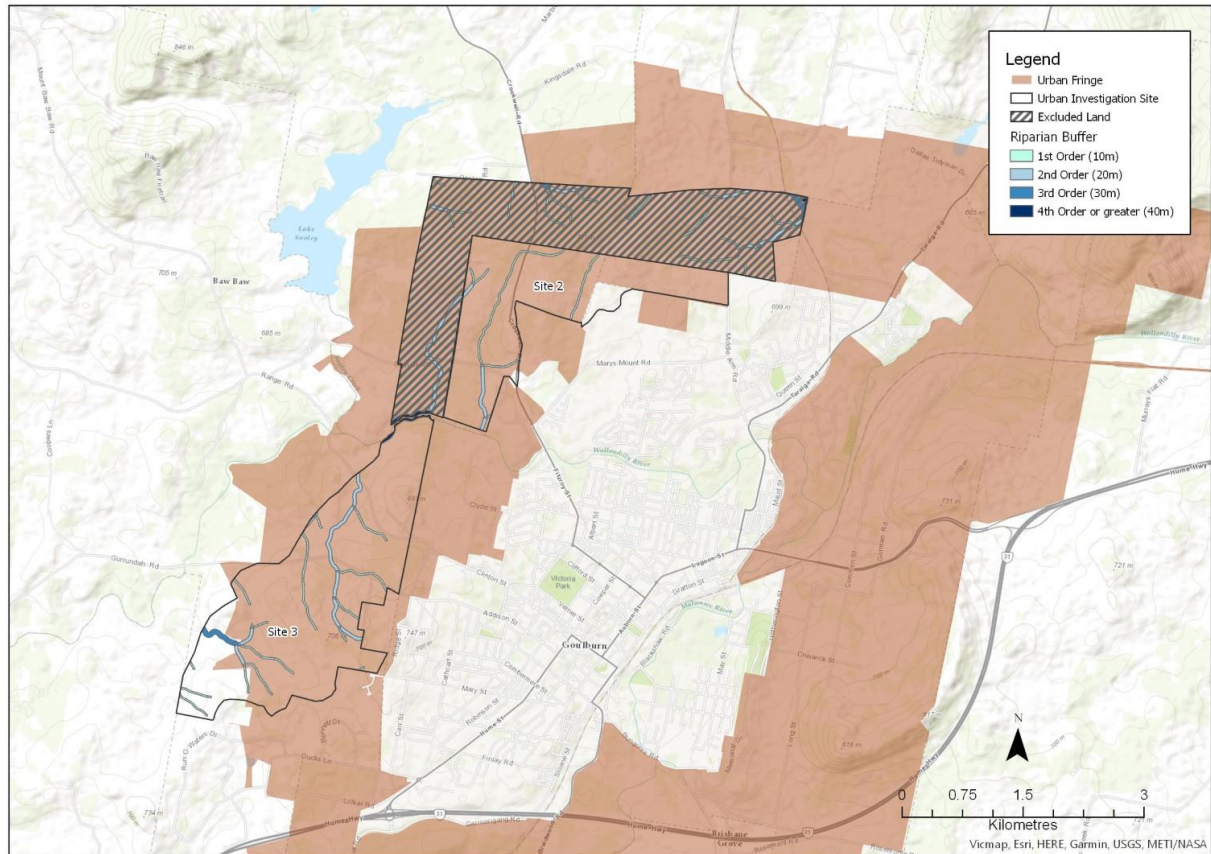


Figure 12: Goulburn riparian buffers

All of the study area sites within the Marulan urban fringe include a mapped drainage line which make up 7% (Site 5a), 13% (Site 5b) or 11% (Site 5c) of the sites. Site 5b requires a major riparian buffer (80m total) along a 4th order drainage line. A breakdown of the area of riparian buffer required by each site is summarised in Table 10 and shown in Figure 13.

Table 10: Marulan riparian buffer requirements

Study Site ID	Stream Order (ha)				Total	Site (ha)	% Riparian buffer of site
	1st (10m buffer)	2nd (20m buffer)	3rd (30m buffer)	4th or greater (40m buffer)			
Site 5a	0.87				0.87	12.18	7%
Site 5b	8.15	5.59		15.87	29.61	226.34	13%
Site 5c	2.03	2.01	2.00		6.04	55.39	11%
Total	11.05	7.60	2.00	15.87	36.52	293.91	

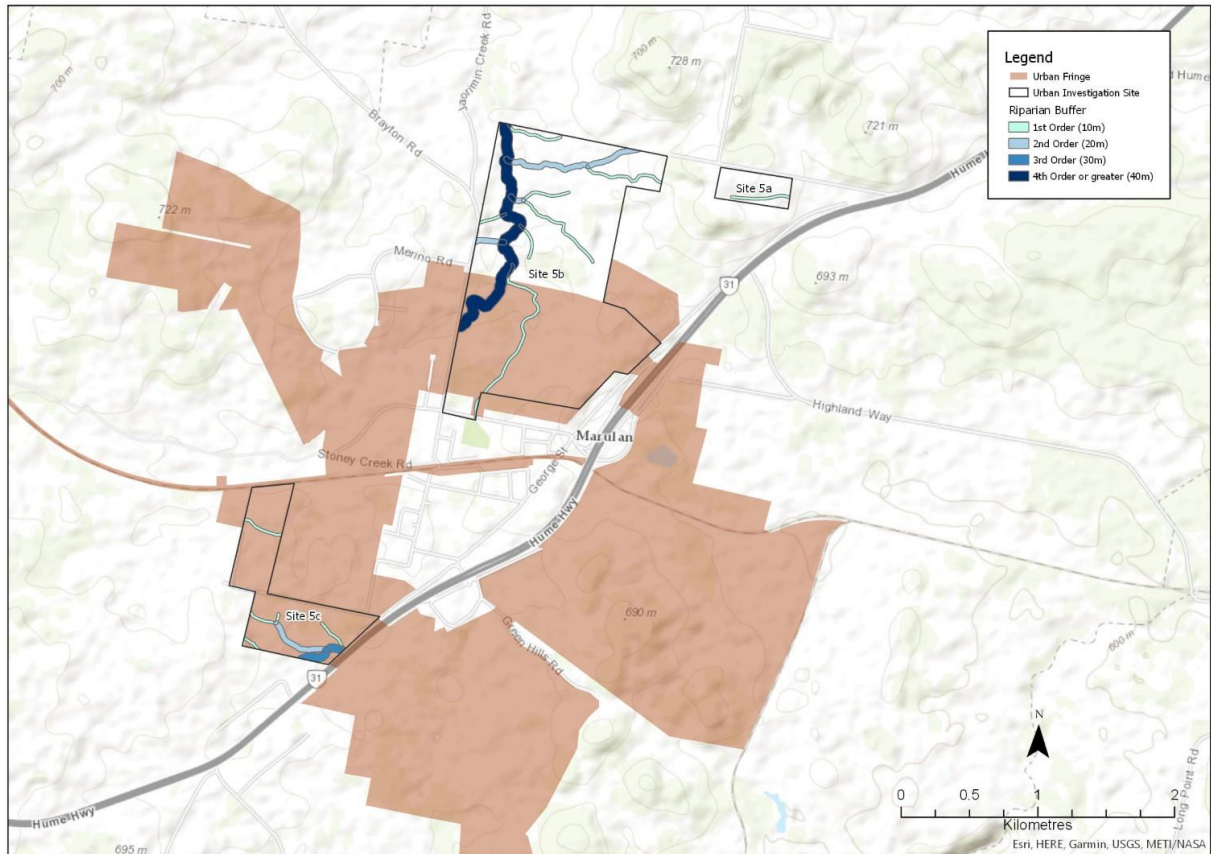


Figure 13: Marulan riparian buffers

Risk

Flood prone land

There are lands within the Goulburn area that have been identified as having potential flood risk. This includes land that is immediately adjacent to Site 3, however, no study area sites fall within the mapped potential flood risk area (Figure 14).

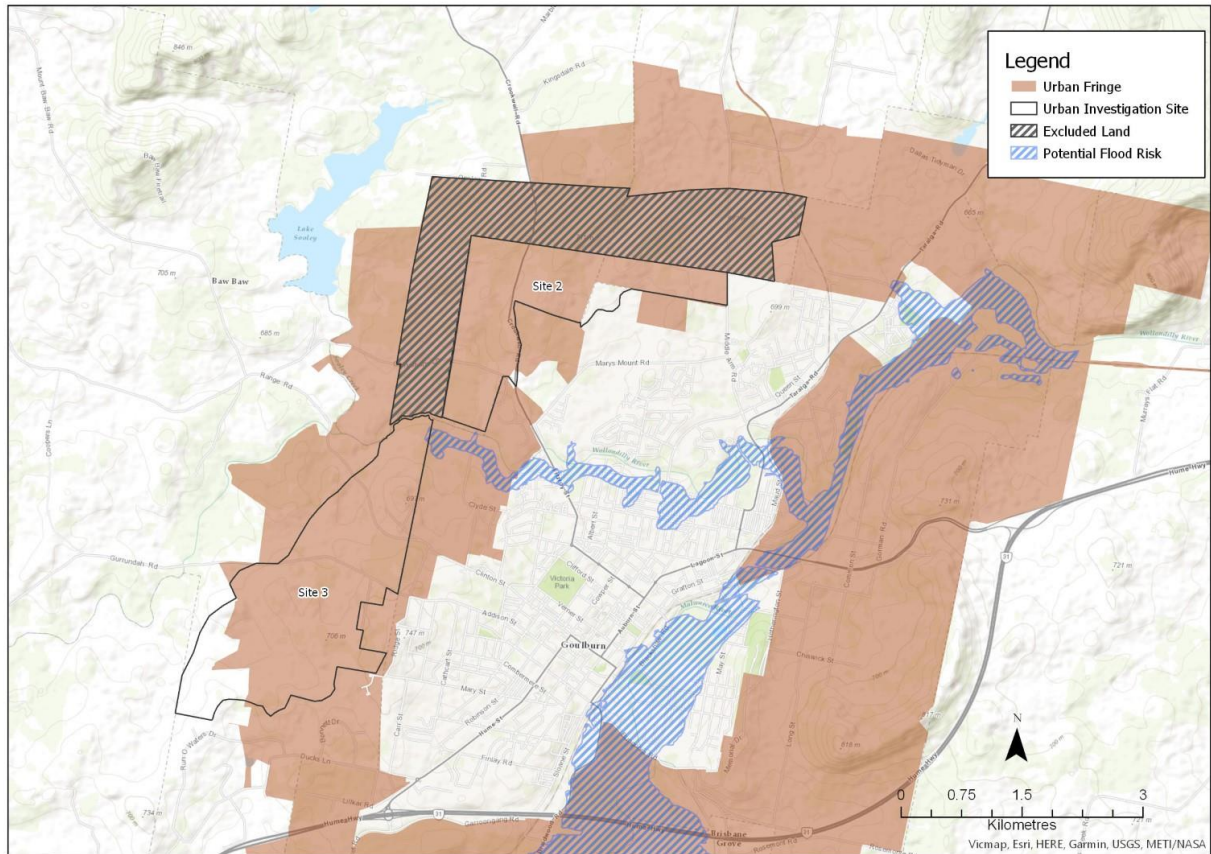


Figure 14: Potential flood risk

Steep Lands – Slope

Lands around the Goulburn and Marulan region have been identified as steep and highly erodible with slopes of 18° or greater (OEH 2011). A small area of approximately 0.8ha has been mapped as steep land, having slopes greater than 18° in Site 3 within the Goulburn urban fringe (Figure 15).

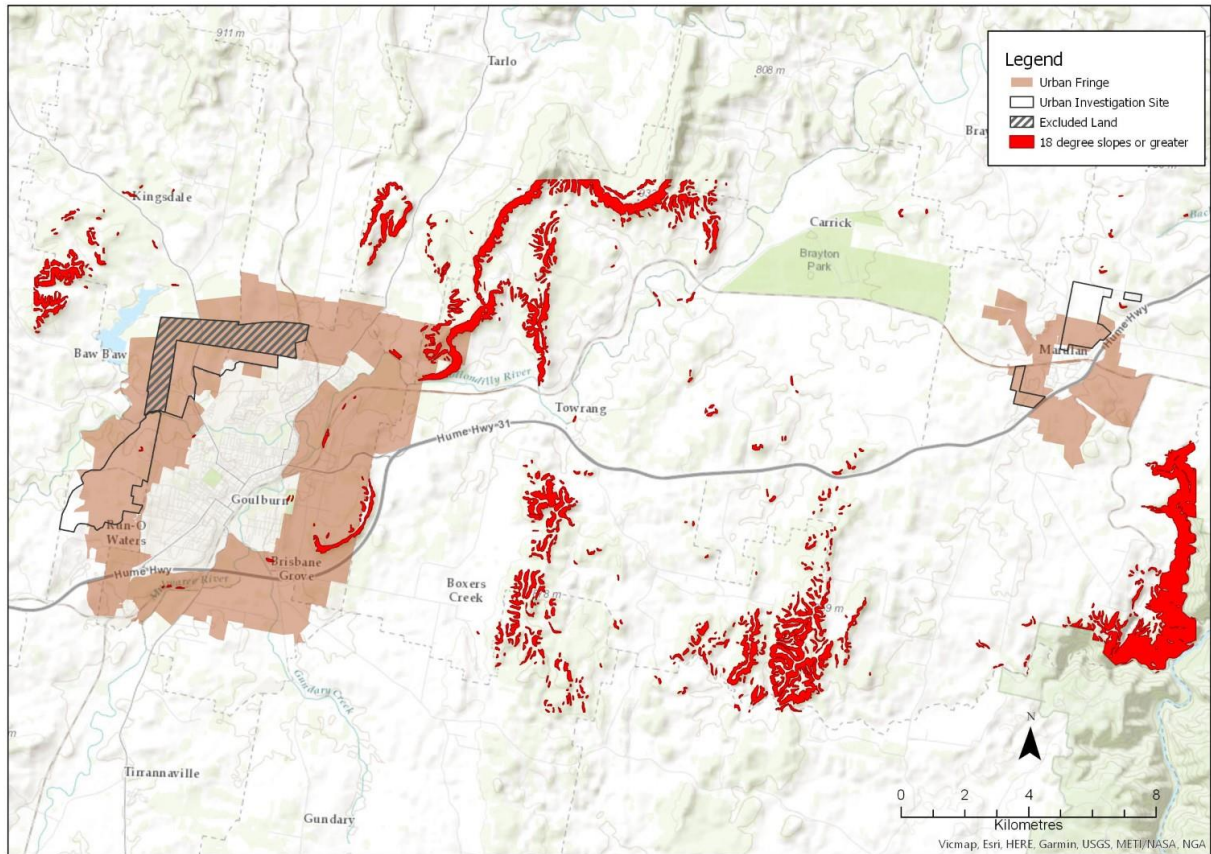


Figure 15: Steep slopes - greater than or equal to 18 degrees

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Appendix A - Vegetation breakdown by Site

Goulburn

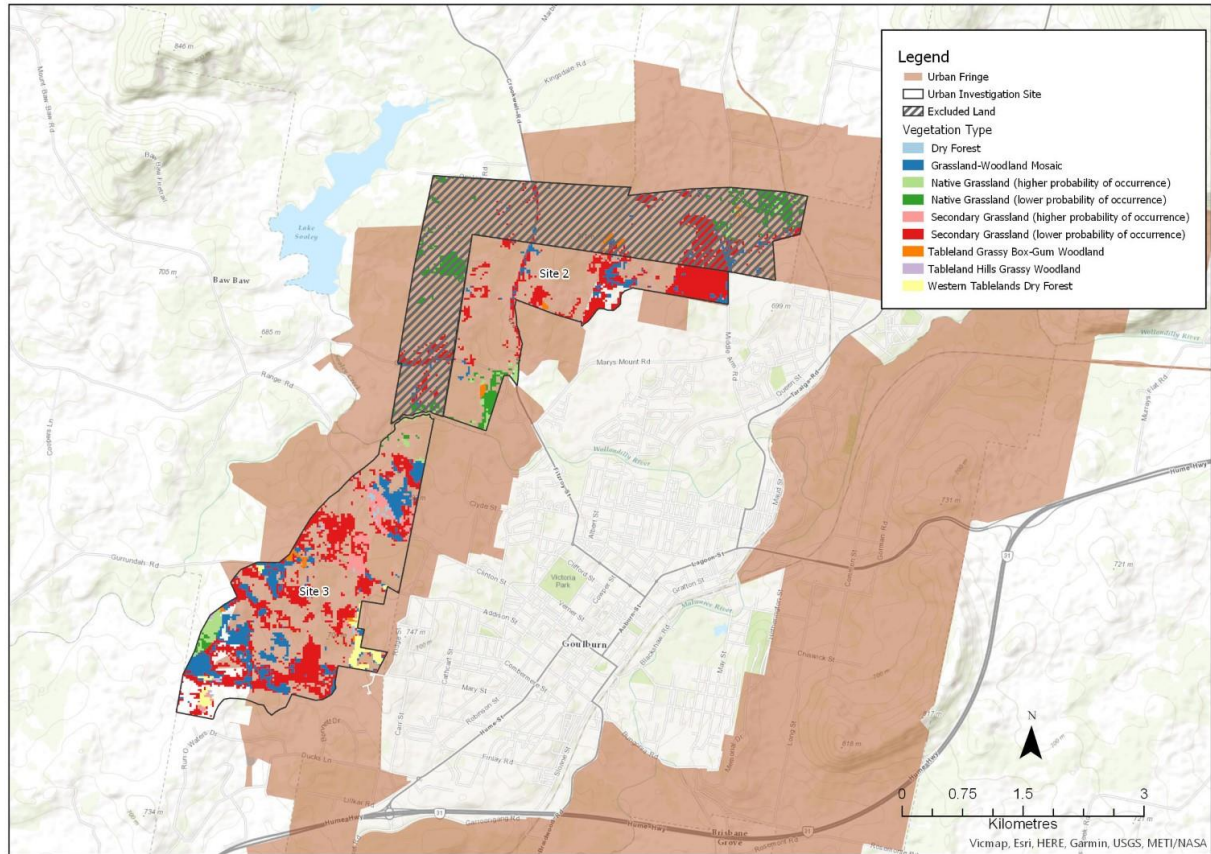


Figure 16: Vegetation type - Goulburn study area sites

Table 11: Vegetation type - Site 2

Vegetation Type	Area (ha)
Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT*	3.95
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*	1.69
Grassland-Woodland Mosaic	11.43
Native Grassland (lower probability of occurrence)	8.62
Secondary Grassland (higher probability of occurrence)	1.04
Secondary Grassland (lower probability of occurrence)	61.40
Total	88.13

Table 12: Vegetation type - Site 3

Vegetation Type	Area (ha)
Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT*	9.49
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*	3.12
Dry Forest	2.98
Grassland-Woodland Mosaic	68.66
Native Grassland (lower probability of occurrence)	2.99
Secondary Grassland (higher probability of occurrence)	19.65
Secondary Grassland (lower probability of occurrence)	133.55
Tableland Hills Grassy Woodland	1.18
Western Tablelands Dry Forest	12.01
Total	253.63

Table 13: Vegetation type - excluded lands

Vegetation Type	Area (ha)
Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT*	5.51
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*	3.34
Grassland-Woodland Mosaic	9.10
Native Grassland (lower probability of occurrence)	39.96
Secondary Grassland (lower probability of occurrence)	54.02
Total	111.92

Marulan

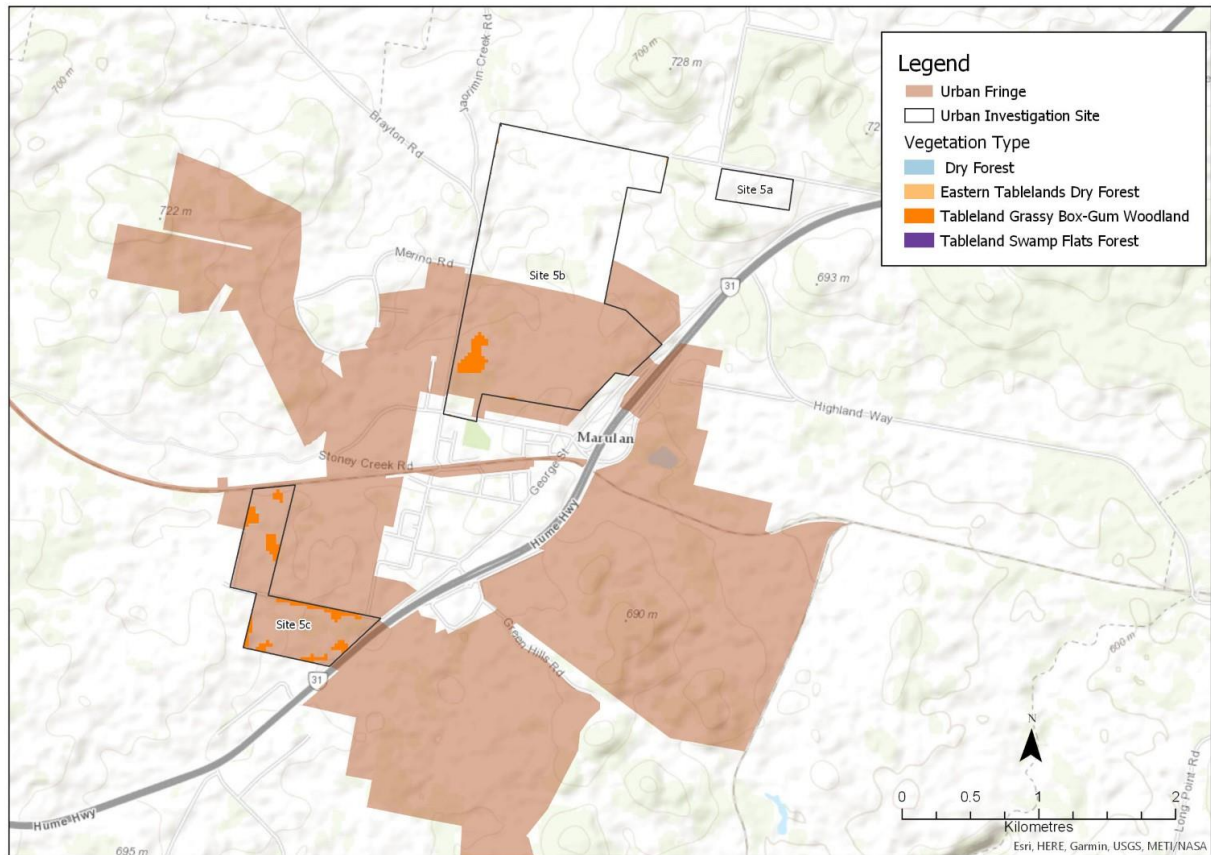


Figure 17: Vegetation type - Marulan study area sites

Table 14: Vegetation type - Site 5b

Vegetation Type	Area (ha)
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*	4.05
Eastern Tablelands Dry Forest	0.08
Tableland Swamp Flats Forest	0.03
Total	4.16

Table 15: Vegetation type - Site 5c

Vegetation Type	Area (ha)
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*	7.85
Dry Forest	0.16
Total	8.00

Goulburn Urban Fringe Housing Strategy – Constraints Analysis (Potential Large Lot Residential Precincts)

Area of interest

The area of interest consists of the lands within a 5km radius of Goulburn. A number of Precincts were identified and provided, associated the urban fringe as lands with potential for large lot rural residential development (Figure 1). Each area was referred to with a provided Precinct name (Table 1).

Table 1: Potential large lot rural residential precincts (sites)

Precincts	Area (ha)
Brisbane Grove	342.11
Clyde Street West	90.80
Gormans Road	38.56
Gurrundah Road	132.55
Marys Mount North	478.63
Mountain Ash Road	116.24
South Chinamans Lane	43.87
Urban Release Area	83.91
West Goulburn	244.06
Total	1,570.74

Desktop constraints based on available data and rapid visual validation were noted for each of these Precincts.

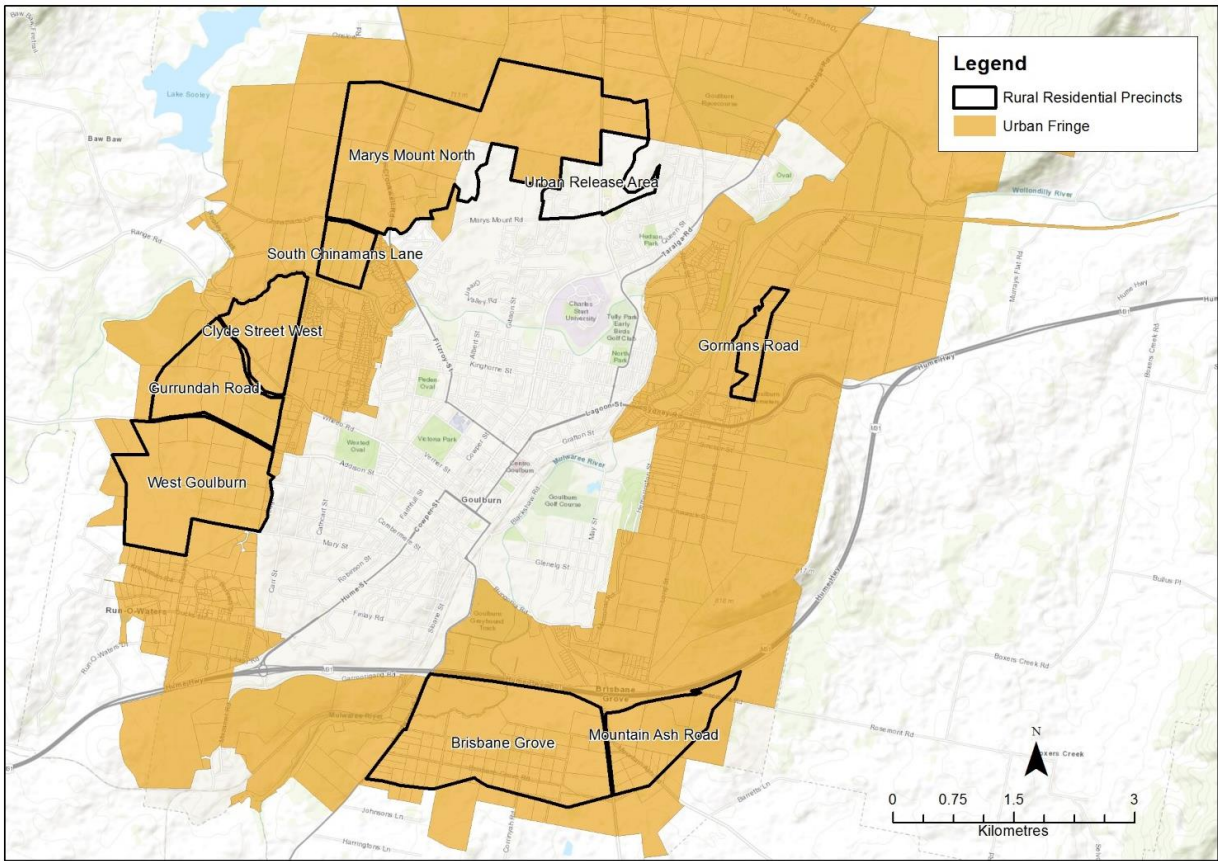


Figure 1: Goulburn study area sites

Data

A number of key data sets were identified to assist and support analysis for the Strategy. Data sets included:

Theme	Data	Source	Usage
Biodiversity	Threatened species locations (State/Commonwealth)	Atlas of NSW Wildlife/BioNet (OEH 2018)	Identified recorded threatened species within 5km of study area Precincts
		EPBC Protected matters search (DEE 2018)	Protected matters search tool for matters of National Environmental Significance within a 5km radius of Goulburn
Biodiversity	Vegetation type mapping Threatened ecological communities (State/Commonwealth)	SELLS (OEH 2014)	Identified potential candidate TECs across study area Precincts
Biodiversity	Vegetation mapping Potential threatened ecological communities July 2014	Council / OEH	Identified potential candidate TECs across some study area Precincts

Theme	Data	Source	Usage
Riparian	Drainage Strahler stream order classification	Strahler classified drainage (LPI)	Buffered stream order according to Office of Water DPI riparian corridor widths for Riparian buffers
Conservation	High Environmental Value (HEV) lands	OEH (2016)	Identified areas of HEV by Precinct
Conservation	State and Regional Biodiversity Corridors (South East Tablelands)	OEH (2018)	Context – no corridors identified in or around study areas
Vulnerable lands	Steep slopes or highly erodible	State-wide dataset (OEH 2011)	Land with slope > 18 degrees identified within the study area as high erosion risk
Flood Risk	Flood prone lands	Council	Land prone to flooding within the study area as high risk
Precincts	Investigation Planning precinct areas for potential rural residential	Council	Study area to base constraints assessment

Rapid Validation

A rapid visual field validation over the Precincts was carried out on Monday 8th July 2019 of the existing vegetation mapping. The validation was carried out from accessible public roads adjoining the identified Precincts. The purpose of the validation was to visually identify and update the existing mapped vegetation data with any gross inconsistencies. No detailed survey was carried out over the Precincts.

Rapid validation outcomes were incorporated into the assessment of:

- Threatened Ecological Communities;
- High Environmental Value Land; and
- Precinct vegetation breakdown.

Further details regarding the rapid validation is provided in Appendix B.

Biodiversity Values

Threatened Ecological Communities (TECs)

Three TECs are mapped within the study area Precincts. They are:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Listed under the BCA and EPBC) – 98 ha
- Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions (Listed under the BCA and EPBC) – 2 ha
- Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT (Listed under EPBC) – 27 ha

The breakdown of the amount of TECs following rapid validation across the study Precincts is shown in Table 2 and mapped in Figure 2.

More detailed vegetation type mapping and an area breakdown for each of the study area Precincts is provided in Appendix A.

Table 2: Area of TECs within the study area Precincts

Precincts	Vegetation (ha)			Precinct area (ha)	% TEC of Precinct	% TEC of vegetation
	TEC	Other vegetation	Total Vegetation			
Brisbane Grove	-	-	-	342.11	-	-
Clyde Street West	-	-	-	90.8	-	-
Gormans Road	-	5.27	5.27	38.56	-	-
Gurrundah Road	3.43	-	3.43	132.55	3%	100%
Marys Mount North	72.48	23.01	95.49	478.63	15%	76%
Mountain Ash Road	14.37	1.99	16.36	116.24	12%	88%
South Chinamans Lane	21.69	-	21.69	43.87	49%	100%
Urban Release Area	4.75	1.41	6.17	83.91	6%	77%
West Goulburn	10.44	15.82	26.26	244.06	4%	40%
Total	127.16	47.51	174.67	1,479.94	9%	73%

TECs exist in the majority of the Precincts identified for rural residential investigation in the north west and western parts of Goulburn's urban fringe and they cover about 9% of the total area of the study area Precincts. The Precinct with the greatest amount of TEC is Marys Mount North (72ha), making up about 15% of the area of the Precinct. Other precincts that include larger areas of TECs are South Chinamans Lane (22ha and about half of the Precinct), Mountain Ash Road (14ha, making up 12% of the Precinct) and West Goulburn (10ha, making up 4% of the Precinct).

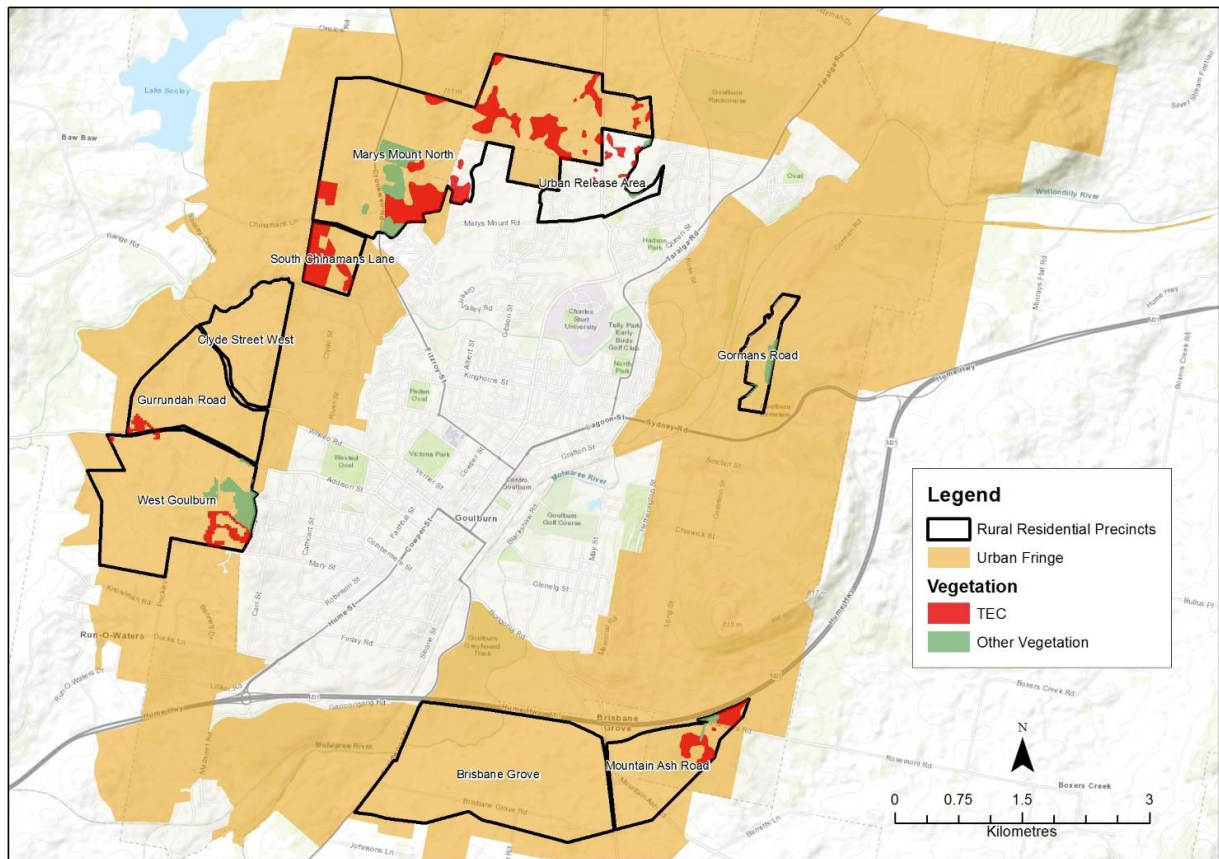


Figure 2: TECs

Threatened Species

A search of the Atlas of NSW Wildlife (BioNet) was carried out in October 2018 to identify records of threatened flora and fauna within 5km of the study area Precincts.

Threatened fauna

A total of 14 fauna species listed under the BC Act, including 3 species listed under the EPBC Act, were identified within 5km of the study area Precincts (Table 3).

No threatened species were recorded within the study area Precincts (Figure 3).

Table 3: Threatened fauna species recorded within 5km of study area Precincts

Class	Scientific name	Common Name	BC Act	EPBC Act	Recorded number of individuals*
Aves	<i>Anthochaera phrygia</i>	Regent Honeyeater	E	CE	2
Aves	<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	0
Aves	<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V	-	1
Aves	<i>Chthonicola sagittata</i>	Speckled Warbler	V	-	0
Aves	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	0
Aves	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E	-	1
Aves	<i>Falco subniger</i>	Black Falcon	V	-	0
Aves	<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	0

Class	Scientific name	Common Name	BC Act	EPBC Act	Recorded number of individuals*
Aves	<i>Petroica boodang</i>	Scarlet Robin	V	-	0
Mammalia	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	0
Mammalia	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	-	0
Mammalia	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	10
Mammalia	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	V	-	0
Reptilia	<i>Delma impar</i>	Striped Legless Lizard	V	V	1

CE – Critically Endangered, E – Endangered, V – Vulnerable

*A value of 0 denotes that while the species has been recorded, numbers of individuals were not noted

Threatened flora

Two flora species listed under the BC Act and the EPBC Act were identified within 5km of the study area Precincts (Table 4).

No threatened flora species have been recorded within the study area Precincts (Figure 3).

Table 4: Recorded threatened flora species within 5km of the study area Precincts

Scientific name	Common Name	BC Act	EPBC Act	Recorded number of individuals*
<i>Diuris aequalis</i>	Buttercup Doubletail	E	V	0
<i>Rutidosia leptorrhynchoidea</i>	Button Wrinklewort	E	E	0

E – Endangered, V – Vulnerable

*A value of 0 denotes that while the species has been recorded, numbers of individuals have not been recorded

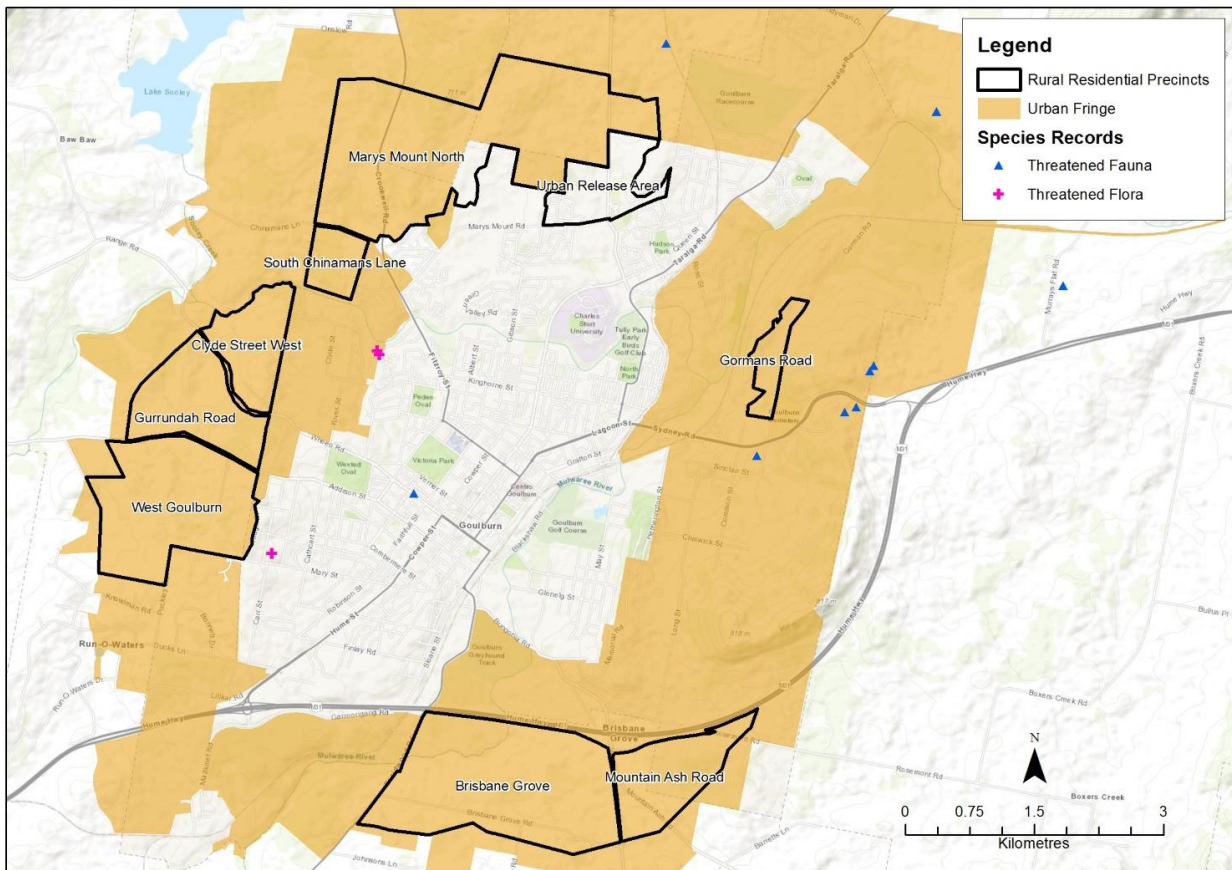


Figure 3: Recorded threatened species (Atlas of NSW Wildlife October 2018)

Matters of National Environmental Significance (MNES)

An EPBC Act Protected Matters Report (DEE 2018) was generated on 2 November 2018 based on a 5 km buffer around the town centre of Goulburn.

The following matters have been identified as being likely to occur or known to occur in the proximity of Goulburn:

- 2 listed threatened ecological communities (TECs) (known to occur)
- 22 listed threatened fauna species (3 known to occur)
- 14 listed threatened flora species (1 known to occur)
- 12 listed migratory species

A protected matters report including the details of all identified MNES for Goulburn was prepared.

High Environmental Value (HEV) Land

High environmental value land mapping aims to provide a regional overview for strategic planning purposes.

The criteria for mapping lands with high environmental value include:

- Existing conservation areas including national parks, crown and State Forest reserves
- Threatened ecological communities and key habitats and important vegetation areas

- Important wetlands, coastal lakes and estuaries; and
- Sites of geological significance.

A breakdown of the proportion of HEV land by study area Precinct has been summarised in Table 5 and Figure 4 within the Goulburn urban fringe.

Table 5: Study area Precincts HEV

Precincts	HEV (ha)	Precinct (ha)	% of Precinct with HEV
Brisbane Grove	30.69	342.11	9%
Clyde Street West	-	90.8	-
Gormans Road	1.26	38.56	3%
Gurrundah Road	3.43	132.55	3%
Marys Mount North	-	478.63	-
Mountain Ash Road	5.20	116.24	4%
South Chinamans Lane	-	43.87	-
Urban Release Area	-	83.91	-
West Goulburn	26.26	244.06	11%
Total	66.83	873.53	8%

Mapped and validated HEV across the Precincts is primarily associated with land that includes high conservation values. For the Precincts located to the west of Goulburn (West Goulburn) the key values are related to ecological communities and key habitats (11% of the Precinct), whereas to the south of Goulburn (Brisbane Grove & Mountain Ash Road), values are primarily based on riparian areas (9% and 4% respectively).

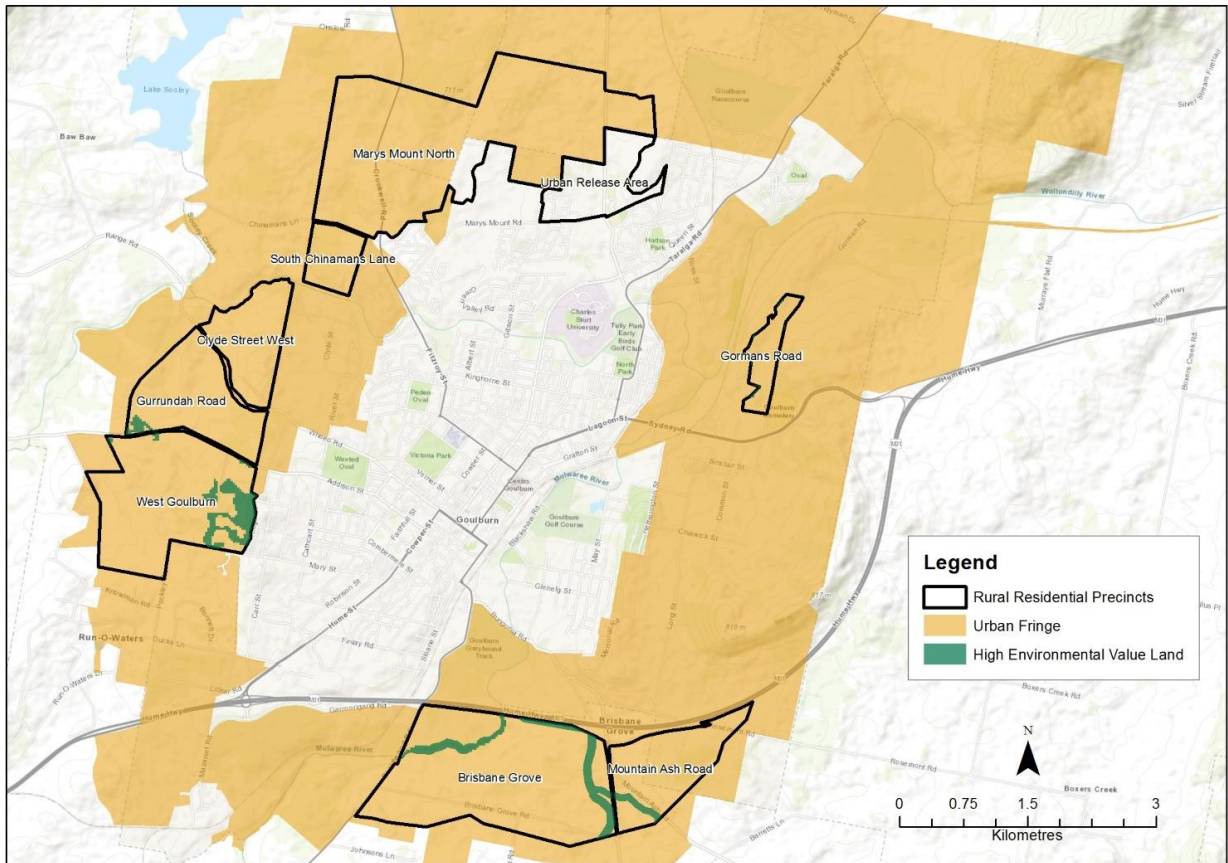


Figure 4: Precinct HEV lands

State and Regional Biodiversity Corridors

There are a number of State and Regional biodiversity corridors within the broader region, providing linkages between significant areas of biodiversity (Figure 5). The study area Precincts do not fall within the mapped corridors.

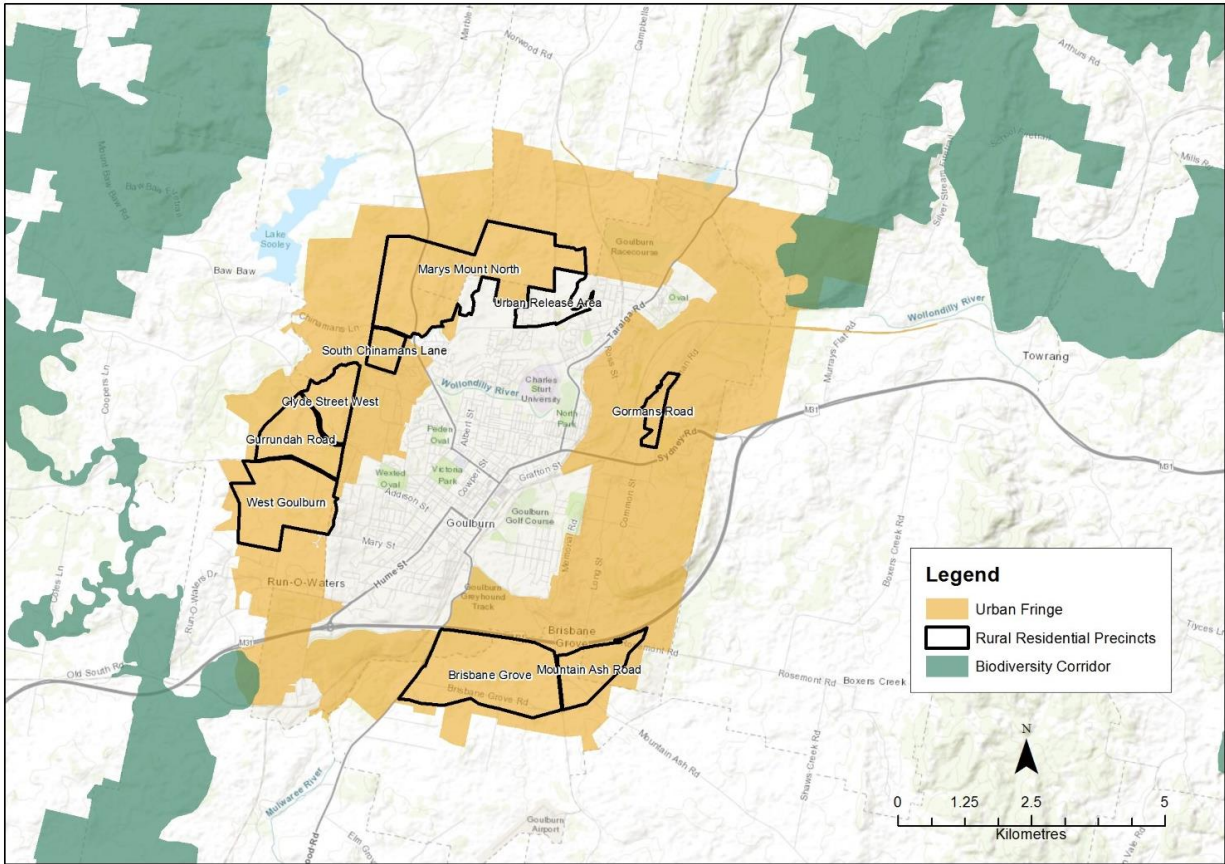


Figure 5: State and Regional Biodiversity Corridors

Riparian Corridors

Vegetated riparian zone corridor width guidelines for waterfront land are defined by the NSW Office of Water DPI (2012). These apply to controlled activities that are regulated under the Water Management Act, such as urban development. The following extract from the guidelines was used to assess the area of riparian corridor likely to be required within each of the study area Precincts.

Riparian corridor widths

The Officer of Water recommends a VRZ width based on watercourse order as classified under the Strahler System of ordering watercourses and using current 1:25 000 topographic maps (see Figure 2 and Table 1). The width of the VRZ should be measured from the top of the highest bank on both sides of the watercourse.

Figure 2. The Strahler System

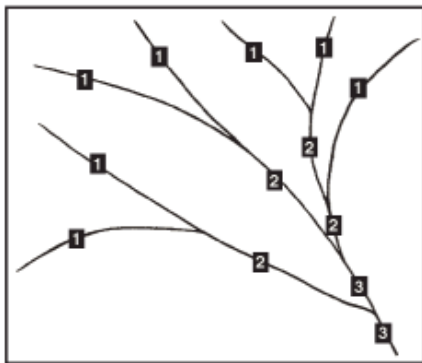


Table 1. Recommended riparian corridor (RC) widths

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1 st order	10 metres	20 m + channel width
2 nd order	20 metres	40 m + channel width
3 rd order	30 metres	60 m + channel width
4 th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 metres	80 m + channel width

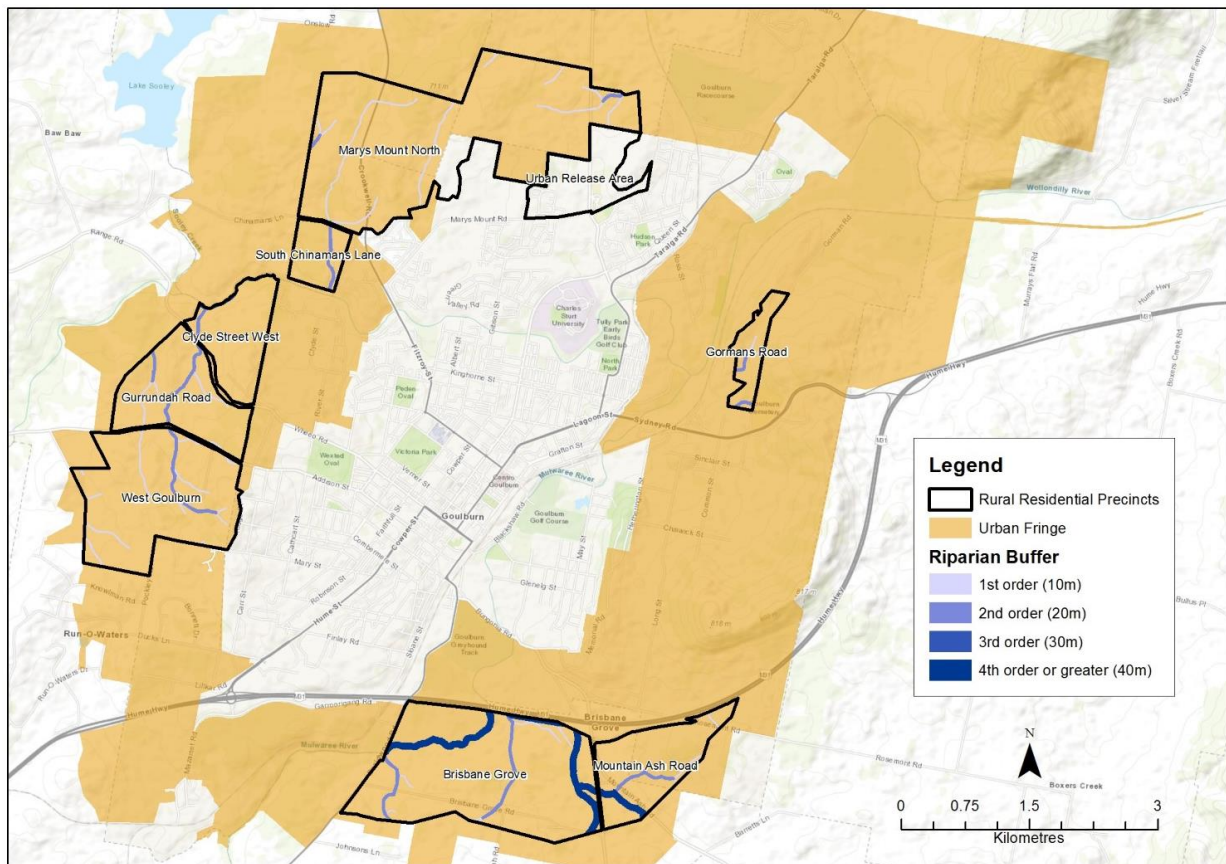
Note: where a watercourse does not exhibit the features of a defined channel with bed and banks, the Office of Water may determine that the watercourse is not waterfront land for the purposes of the WM Act

(from DPI 2012)

All of the study area Precincts within the urban fringe include mapped drainage lines. The required riparian buffers for these drainage lines total to approximately 6% of all precincts; with the greatest proportion of required riparian buffer occurring in Brisbane Grove (12%) and Mountain Ash Road (9%) Precincts to the south. A breakdown of the area of riparian buffer zone required by each Precinct is summarised in Table 6 and shown in Figure 6.

Table 6: Riparian buffer requirements

Precincts	Stream Order				Total	Precinct (ha)	% Riparian buffer of precinct
	1st (10m buffer)	2nd (20m buffer)	3rd (30m buffer)	4th or greater (40m buffer)			
Brisbane Grove	3.27	9.37	0.19	28.51	41.35	342.11	12%
Clyde Street West		1.68	-	2.25	3.94	90.80	4%
Gormans Road	1.10	2.08	-	-	3.18	38.56	8%
Gurrundah Road	3.35	6.04	-	-	9.38	132.55	7%
Marys Mount North	13.85	2.09	-	-	15.94	478.63	3%
Mountain Ash Road	1.53	3.50	-	5.20	10.23	116.24	9%
South Chinamans Lane	0.15	3.21	-	-	3.36	43.87	8%
Urban Release Area	0.07		-	-	0.07	83.91	0%
West Goulburn	8.07	5.83	-	-	13.91	244.06	6%
Total	31.40	33.81	0.19	35.97	101.36	1,570.74	6%


Figure 6: Riparian buffers within Precincts

Risk

Flood prone land

There are lands within the Goulburn area that have been identified as having potential flood risk. This includes land that is immediately adjacent / bordering the Clyde Street West precinct; as well as a large proportion (38%) of the Brisbane Grove Precinct, which covers about 130 ha in area (Figure 7).

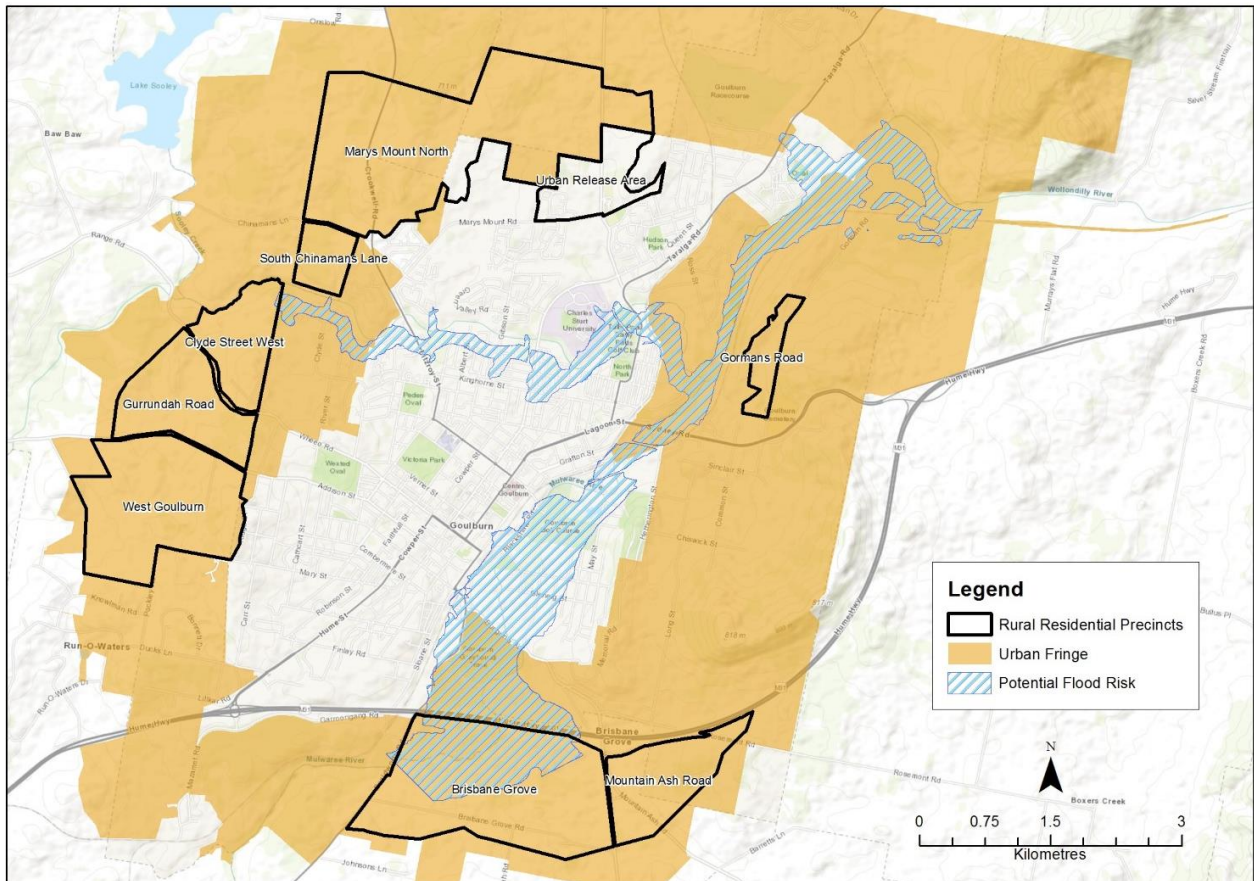


Figure 7: Potential flood risk

Steep Lands – Slope

Some lands around the Goulburn region have been identified as steep and highly erodible with slopes of 18° or greater (OEH 2011). A small area of approximately 0.8ha has been mapped as steep land, having slopes greater than 18° within the Clyde Street West Precinct of the urban fringe (Figure 8).

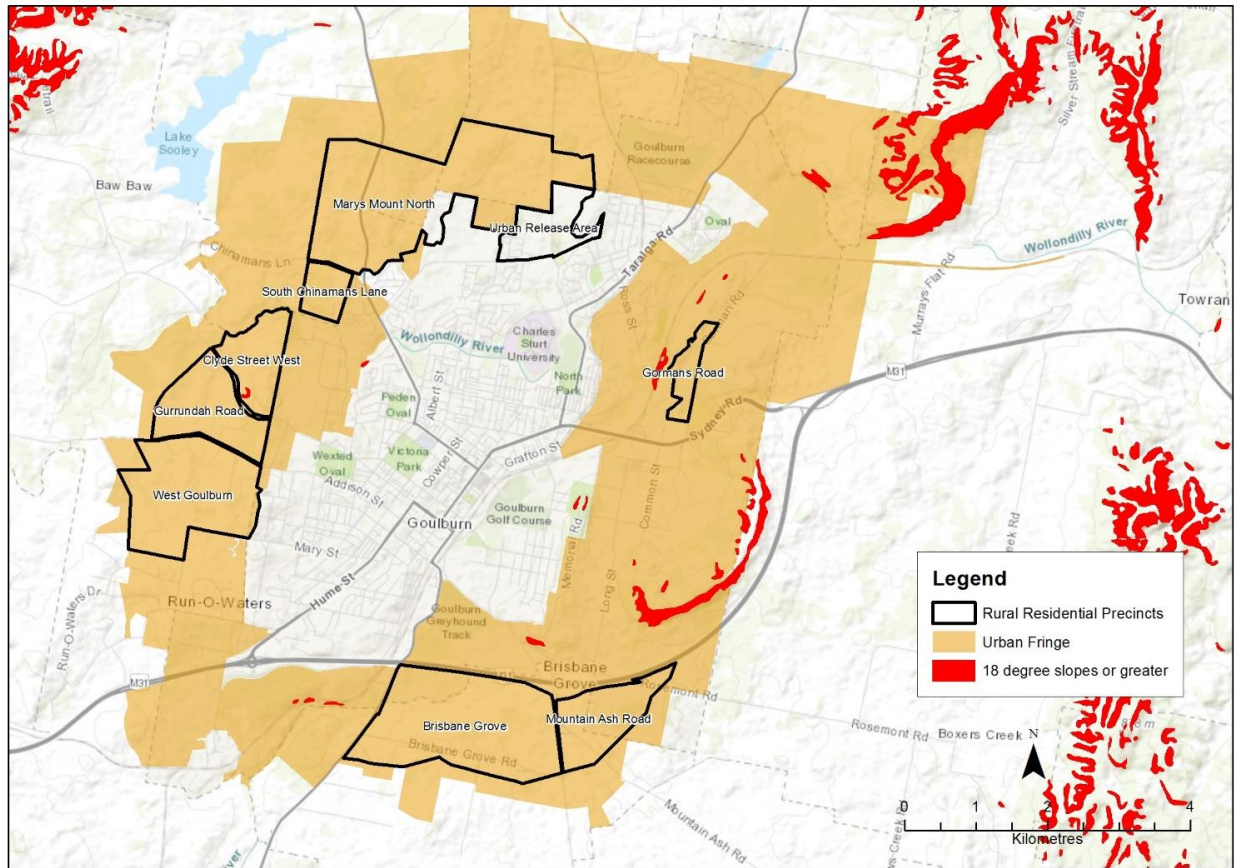


Figure 8: Steep slopes - greater than or equal to 18 degrees

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Appendix A - Vegetation breakdown by Precinct

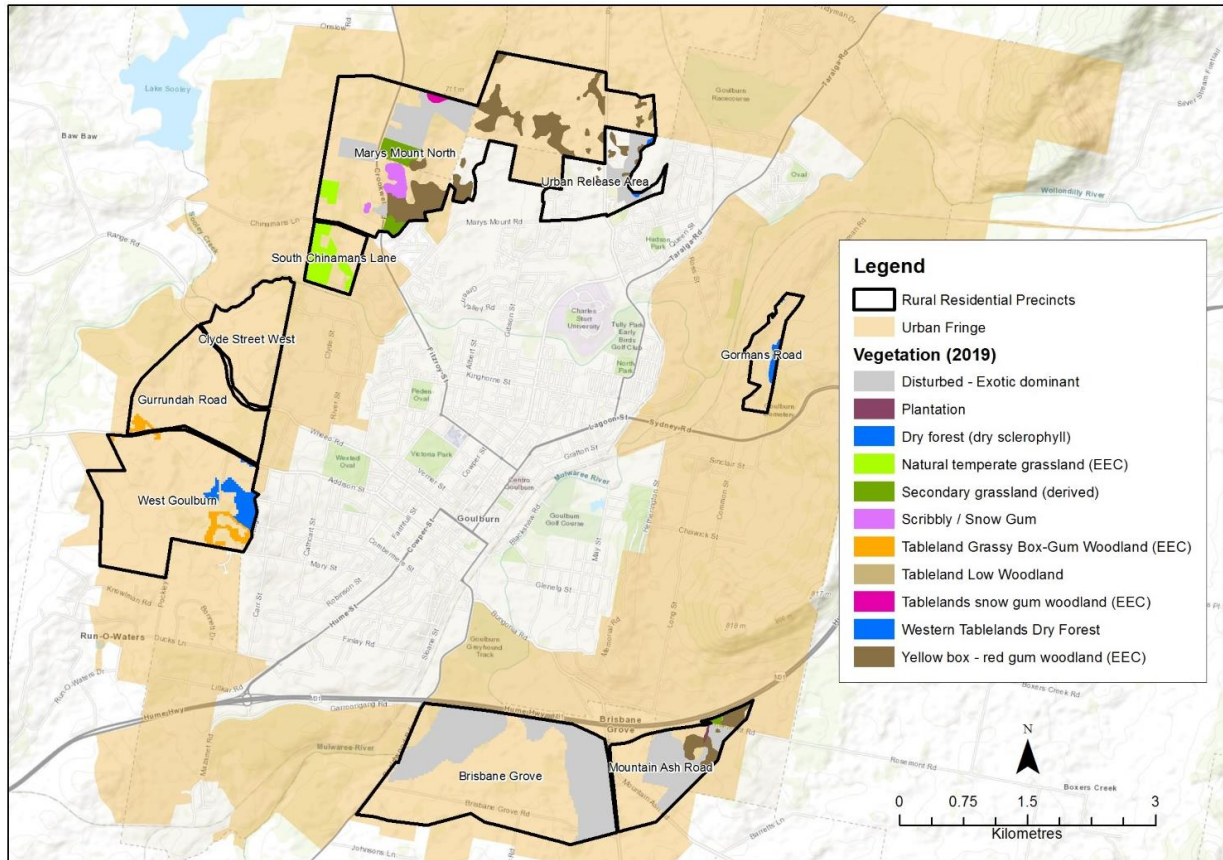


Figure 9: Vegetation type - study area Precincts

Table 7: Vegetation type – Study area Precincts

Mapped Vegetation Type	Area (ha)
Brisbane Grove	
Disturbed - Exotic dominant	130.02
Total	130.02
Gormans Road	
Tableland Low Woodland	0.56
Western Tablelands Dry Forest	4.71
Total	5.27
Gurrundah Road	
Tableland Grassy Box-Gum Woodland*	3.43
Total	3.43

Mapped Vegetation Type	Area (ha)
Marys Mount North	
Disturbed - Exotic dominant	45.12
Natural temperate grassland*	5.40
Scribbly / Snow Gum	9.28
Secondary grassland (derived)	13.74
Tablelands snow gum woodland*	2.15
Yellow box - red gum woodland*	64.93
Total	140.61
Mountain Ash Road	
Disturbed - Exotic dominant	43.69
Plantation	0.67
Secondary grassland (derived)	1.32
Yellow box - red gum woodland*	14.37
Total	60.06
South Chinamans Lane	
Natural temperate grassland*	21.69
Total	21.69
Urban Release Area	
Disturbed - Exotic dominant	17.99
Dry forest (dry sclerophyll)	1.41
Yellow box - red gum woodland*	4.75
Total	24.16
West Goulburn	
Tableland Grassy Box-Gum Woodland*	10.44
Western Tablelands Dry Forest	15.82
Total	26.26
Grand Total	411.49

* Threatened Ecological Community

Appendix B - Rapid Validation

A rapid visual validation exercise was carried out on Monday 8th July 2019 to assess existing vegetation mapping. The locations of areas of mapped vegetation that were validated are shown in Figure 10. Observed changes to mapped areas of vegetation are shown in Table 8; and notes relating to observations made at identified points to support the vegetation mapping update are provided in Table 9 below.

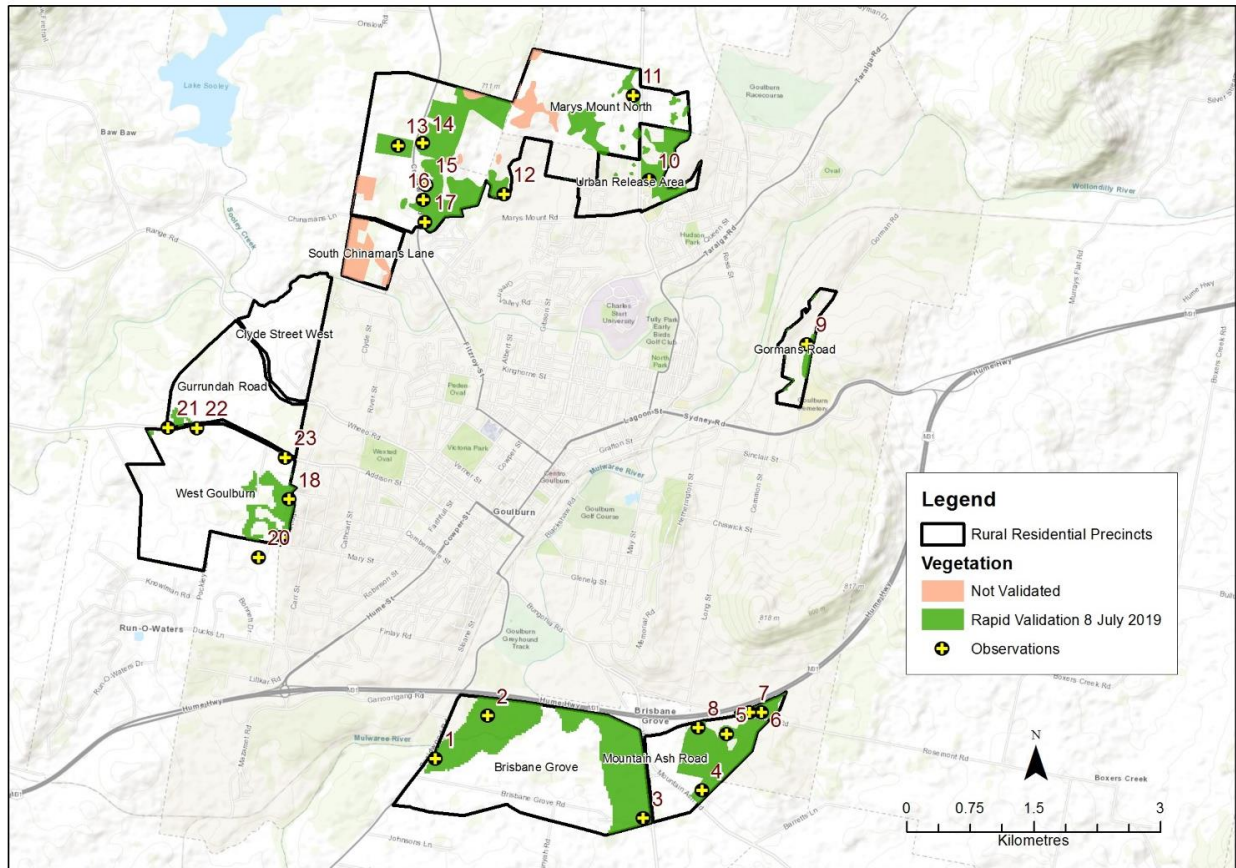


Figure 10: Rapid vegetation validation

Table 8: Vegetation changes from rapid visual validation

Vegetation Type	Mapped Area (ha)	Updated Area (ha)	Vegetation Change (ha)
Dry forest (dry sclerophyll)	1.84	1.41	0.42
Natural temperate grassland*	80.31	27.08	53.23
Plantation	0.67	0.67	0.00
Scribbly / Snow Gum	-	9.28	-9.28
Secondary grassland (derived)	66.87	15.05	51.82
Tableland Flats Grassland	125.50	-	125.50
Tableland Grassy Box-Gum Woodland*	6.85	13.87	-7.02

Vegetation Type	Mapped Area (ha)	Updated Area (ha)	Vegetation Change (ha)
Tableland Hills Grassy Woodland	0.06	-	0.06
Tableland Low Woodland	0.56	0.56	0.00
Tableland Swamp Flats Forest	2.52	-	2.52
Tablelands snow gum woodland*	11.43	2.15	9.28
Western Tablelands Dry Forest	25.47	20.53	4.94
Yellow box - red gum woodland*	85.39	84.06	1.34
Unmapped^	4.02	-	4.02
Disturbed - Exotic dominant	-	236.83	-236.83
Grand Total	411.49	411.49	0.00

* Threatened Ecological Community; ^Additional vegetation identified through validation

Table 9: Rapid validation observations

Observation ID	Observation notes
1	Exotic pasture dominated by African Love Grass. Grazing occurrence is high with no native tussock grasses observed. Possibly some natives near dam/drainage.
2	Exotic Pasture
3	Exotic pasture. High grazing occurrence - horses. <i>Cynodon dactylon</i> present and exotic grasses.
4	Not secondary grassland. Cropping within the area
5	Box Gum Woodland. Likely exotic understorey, but heavily grazed.
6	Box Gum Woodland. Native understorey. Possibly moderate forbs. Weeds are likely limited to road edge. Some grazing of cows.
7	Box Gum Woodland – Derived Native Grassland
8	Unlikely secondary grassland. Observed high occurrence of dried weeds. Moderately grazed.
9	Scribbly Gum / Red Stringybark Woodland. Remainder of the Precinct is likely exotic, farming and housing.
10	Mixed grassland with some natives (<i>Rytidosperma sp. Austrostipa</i>), and exotics. Most likely exotic with moderate grazing - cows.
11	Scattered trees are of Box Gum Woodland overstorey and exotic understorey.
12	Box Gum Woodland with a likely exotic understorey. Observed lots of weed species. Mostly moderate grazing
13	Exotic Pasture - heavily grazed.
14	Secondary Grassland. Mostly native grasses, with some exotics. Very low grazing in paddock. Heaving sheep grazing throughout.
15	Scribbly Gum / Snow Gum Woodland (not a TEC)
16	Box Gum Woodland with a likely exotic understorey. Moderate to heavy grazing
17	Exotic Pasture of exotic grasses and weeds
18	Scribbly Gum / Stringybark Woodland. High Environmental Value.
19	Box Gum Woodland on lower / flatter slopes in the corner of the Precinct.

Observation ID	Observation notes
20	Mapped High Environmental Value Box Gum Woodland of scattered trees amongst houses.
21	Mapped High Environmental Value area is Box Gum Woodland. Mostly exotic understorey, but likely some small patches of native understorey, such as near road verge
22	Box Gum Woodland - some planted and probably part of a regeneration project.
23	Small patch of Box Gum Woodland with exotic understorey.

