Liverpool Plains Shire Council

LPSC - Addendum to Growth Management Strategy

June 2021

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Abbreviations

Term	Definition
BSAL	Biophysical Strategic Agricultural Land
Council	Liverpool Plans Shire Council
LPDCP 2012	Liverpool Plains Development Control Plan
DPIE	NSW Department of Planning, Industry & Environment
Dwelling Entitlement	A non-technical term used to identify the right of a landowner to lodge a development application for construction of a dwelling. It does not infer that a dwelling can be constructed
EoI	Expression of Interest
GMS 2009	Liverpool Plains Growth Management Strategy 2009
LGA	Local Government Area
LPLEP 2011	Liverpool Plains Local Environmental Plan 2011
LPSC	Liverpool Plains Shire Council
LSPS	Local Strategic Planning Statement
MLS	Minimum Lot Size as defined in Liverpool Plains LEP 2011
NENWRP 2036	New England North West Regional Plan 2036
NSW RFS	NSW Rural Fire Service
RLS	Rural Lands Strategy
SEPP	State Environmental Planning Policy

Zoning objectives

Zone - LPLEP 2011	Objectives LPLEP 2011
RU1 Primary Production	• To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. • To encourage diversity in primary industry enterprises and systems appropriate for the area. • To minimise the fragmentation and alienation of resource lands. • To minimise conflict between land uses within this zone and land uses within adjoining zones.
RU5 Village	• To provide for a range of land uses, services and facilities that are associated with a rural village. • To enable development on a scale compatible with the general residential character of village areas and that will not prejudice the viability of established shopping and commercial centres.
R5 Large Lot Residential	• To provide residential housing in a rural setting while preserving, and minimising impacts on, 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.
SP1 Infrastructure	• To provide for special land uses that are not provided for in other zones. • To provide for sites with special natural characteristics that are not provided for in other zones. • To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.

1. Introduction

This report is known as the Addendum to the 2009 Growth Management Strategy (GMS 2009) and has been prepared to guide decisions on the future development of rural residential land within the village of Currabubula. The report is the result of collaboration between GHD Pty Ltd and Liverpool Plains Shire Council and supports the objectives and information presented in the GMS 2009.

1.1 Overview of study area

The Liverpool Plains Local Government Area (LGA) covers over 5,000 km^2 of land in the North West Slopes of NSW. The village of Currabubula is a small country settlement located within the north east of the LGA surrounded by highly productive agricultural lands used for cropping and grazing (refer Figure 1-1).

Currabubula is located adjacent to the Tamworth LGA boundary, with residents able to reside in the village and commute to Tamworth or Quirindi for employment, services and facilities. The village supports a local shop/service station, hotel, school, recreational ground, community hall and church.

Retention of the existing population and provision for future population growth in Currabubula is a priority for Council as highlighted in the Liverpool Plains Local Strategic Planning Statement (LSPS) – Planning Priority 8: Sustainable and Growing Settlements. Future population growth will contribute toward supporting local services and facilities, in addition to building a sense of place and community.

Some small scale or hobby style agriculture may take place on the land; however, it is likely to be used primarily for 'lifestyle' reasons and is unlikely to provide a significant source of household income. Rural residential development usually does not have Council services such as reticulated water, sewerage or stormwater infrastructure.

Due to its primarily residential function, rural residential development still requires reasonable access to most of the normal services and infrastructure provided in urban settlements such as roads, electricity, telecommunications, schools, healthcare, employment, and shops.

Key attractors offered by large lot residential development are based around amenity values, privacy, space, access to services and lifestyle. The demand for lifestyle opportunities provided with large lot residential development is also high when there is the ability to live within a reasonable commute to a major city or employment centre.

1.1.1 Local economic context

Agriculture, forestry and fishing is the largest employer of residents of Currabubula, with 41.7% working in this industry during the 2016 Census. The second largest industry was construction, employing 12.5% of residents. Manufacturing and retail and trade both employed 5.6% of residents.

The industries of employment in Currabubula are similar to those of Liverpool Plains LGA as a whole, where 32.0% of residents worked in the Agriculture, Forestry and Fishing industry, 10.8% worked in Transport, Postal and Warehousing, 10.0% worked in construction and 5.5% worked in Mining. Mining is an important industry in the Liverpool Plains LGA due to its location at the southern end of the Gunnedah Coal Basin.

Surrounding the Currabubula village, the main land use is extensive agriculture including grazing, with some cropping on flatter country. An intensive poultry farm is located to the east of the village on Sutton's Road.

1.1.2 Demographic and housing profile

The following demographic and housing profile of Currabubula provides an analysis of the population, where they live and current employment trends. Demographic and housing trends are a key consideration in determining demand and land suitability for rural residential development. The following statistics reflect the findings of the 2016 Census prepared by the Australian Bureau of Statistics (ABS).

During the 2016 Census, 332 people reported living in Currabubula. This represents 4.3% of the population of the Liverpool Plains LGA (ABS, 2016). Of the 332 people, 48.4% were male and 51.6% were female. Aboriginal and/or Torres Strait Islander people made up 2.7% of the population.

The median age of people in Currabubula was 45 years. Children aged 0 - 14 years made up 22.2% of the population and people aged 65 years and over made up 17.5% of the population.

Of the households in the village, 88 (70.4%) were family households, 33 (26.4%) were lone households and 4 (3.2%) were group households.

The 86 families recorded in the village, there were 34 (39.5%) were couples with children, 42 (48.8%) were couples without children and 11 (12.8%) were single parent families. Currabubula contains a relatively lower proportion of couples with children.

Currabubula contains 153 dwellings, of which 122 (87.8%) were occupied and 17 (12.2%) were unoccupied. Of the occupied dwellings, 117 were separate houses and 3 were unspecified other dwellings. All private dwellings located in Currabubula that are detached houses. The village does not support any other housing typologies such as flats, apartments or multi dwelling development.

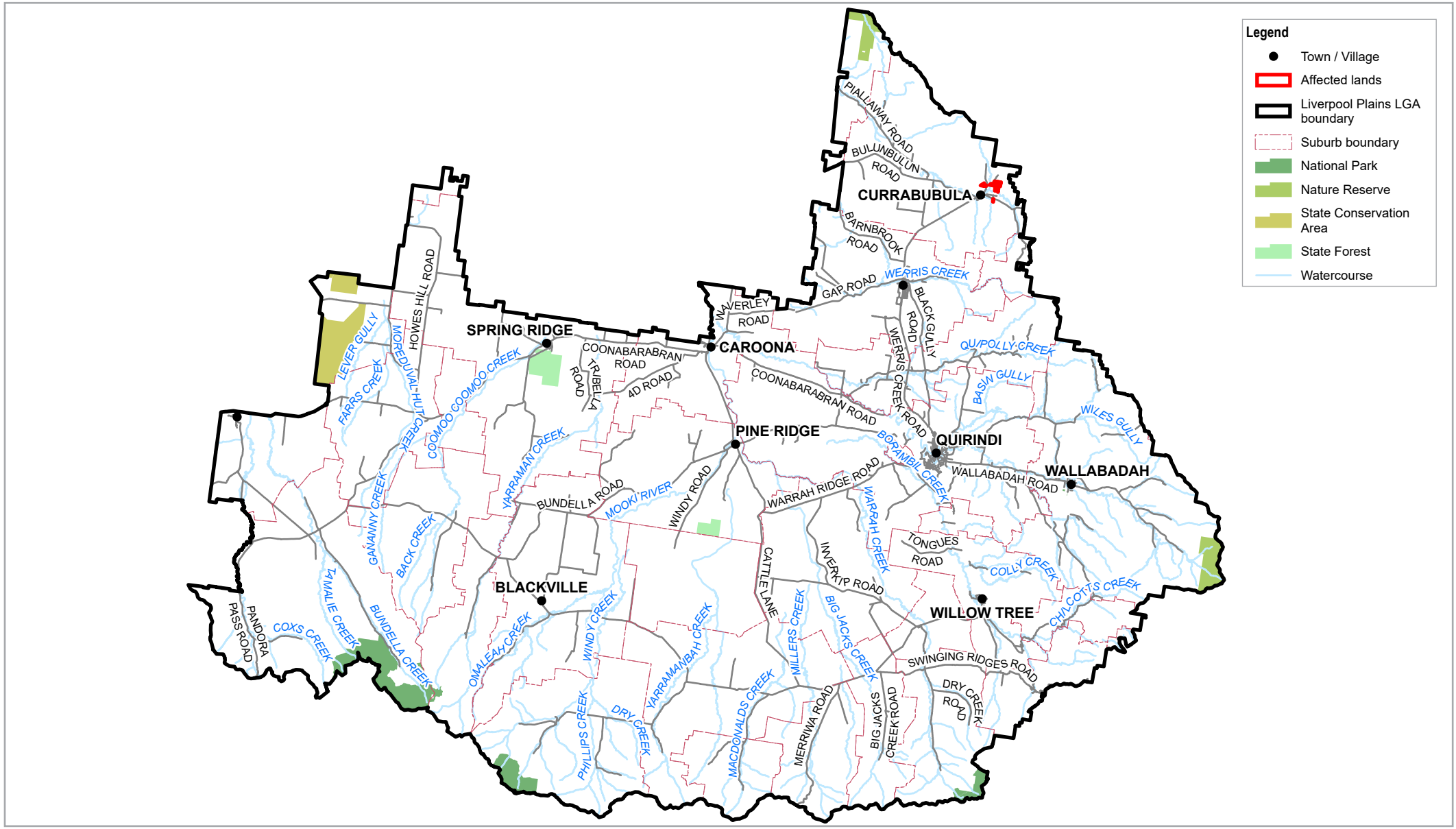
Of those occupied private dwellings in Currabubula, 35.9% were owned outright, 40.2% were owned with a mortgage and 19.7% were rented.

1.2 Purpose of this report

The aim of the report is to establish a set of clear criteria to determine the constraints and opportunities applicable to the rural residential development of ten (10) sites following expressions of interest from landowners to rezone the sites. The following has been undertaken to determine the suitability of each site.

- Review of the current planning context and framework
- Development of criteria to determine the suitability of the sites for rural residential use
- Analysis of opportunities and constraints affecting the proposed land use
- Provide justification and recommendations based on the findings to support or not support the proposed land use

Settlement principles applicable to rural residential development provide a guide and framework to assist with the determination of future housing on the subject sites.



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Grid: GDA 1994 MGA Zone 56

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Liverpool Plains Shire Council
Addendum to Growth Management Strategy

Project No. **12539873**
Revision No. **0**
Date **23/06/2021**

Liverpool Plains LGA

Figure 1-1

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Data source: LPI: DTDB / DCDB, 2017; . Created by: fmackay

1.3 What is rural residential development?

Rural residential development is unique from other types of housing in towns or villages as they allow residential development in a rural setting. These areas commonly involve larger sized lots that are not typically associated with agriculture. Some agriculture may take place on the land; however, it is likely to be used primarily for 'lifestyle' reasons and is unlikely to provide a significant source of household income.

Rural residential development usually does not have Council services such as stormwater, reticulated water, or sewerage infrastructure. Due to its primarily residential function, rural residential development still requires reasonable access to most of the normal services and infrastructure provided in urban settlements such as roads, electricity, telecommunications, schools, healthcare, employment, and shops.

1.4 Planning principles for the development of rural residential land

The following planning principles will guide the constraints analysis to determine if the investigation sites are suable for rural residential development. The principles have been quoted from the NENW Regional Plan 2036, *Direction 21 Deliver well planned rural residential development.* (Refer to Table 1-1).

Table 1-1 Principles 1-5 of the Interim Settlement Planning Principle

	Principles
1	New land release areas are to be located adjacent to existing urban settlements to maximise the efficient use of existing infrastructure and services, including water, sewer, road and waste services. Where new development is proposed away from existing settlements, the provision of essential infrastructure must have no cost to government. The location, structure and layout of rural residential release areas should promote clustering to encourage a sense of community and facilitate the long-term expansion of existing centres and residential areas.
2	Direct new land release areas to unconstrained land by avoiding areas of high environmental value, cultural, and heritage significance and/or areas affected by natural hazards such as flooding or bushfire.
3	New land release areas should avoid and manage the potential for land use conflicts with existing and likely future adjoining uses and infrastructure, including important agricultural land, and productive resource lands.
4	Require new land release areas to provide links to adjoining areas to ensure new areas are well integrated and maximise efficiency and shared use of services and facilities.
5	Recognise, protect and be compatible with any unique topographic, natural or built cultural features essential to the visual setting, character, identity, or heritage significance of the area.

1.5 Background

1.5.1 Community consultation

In 2017 the Liverpool Plains Shire Council called for Expressions of Interest (EoI) from the community interested in changing the planning provisions applying to their lands. Council received submissions for 10 properties near Currabubula, with property owners requesting rezoning from RU1 Primary Production to R5 Large Lot Residential and a reduction in the Minimum Lot Size (MLS). The reduction in MLS would result in a dwelling entitlement for 8 of the sites. In addition, the requested changes would allow for a reduction in Council rates due to the reclassification of rural land to rural residential land.

1.5.2 Overview of LEP Amendment

Liverpool Plains Local Environmental Plan 2011 (LPLEP 2011) was gazetted on 9 December 2011 and follows the format of the Standard Instrument Order, 2006. Since the gazettal of the original LPLEP, there have been eight (8) amendments made to the Plan.

The purpose of the amendment (No. 9) to the LEP was to give effect to a housekeeping review that was carried out by Council and to implement changes that were requested by the community through the submission of an Expression of Interest. The changes sought via the Planning Proposal involved rezoning 10 lots in Currabubula from RU1 Primary Production to RU5 Large Lot Residential and reducing the minimum lot size to 5 ha.

Amendment No. 9 was adopted by Council in 2019 but was subsequently rejected by the NSW Department of Planning, Industry & Environment (DPIE) as Council's adopted Growth Management Strategy (GMS) 2009 did not address the strategic need for the rezoning of land at Currabubula for the purpose of rural residential development. The proposal was considered contrary to the GMS and as such inconsistent with the New England North West Regional Plan (NENWRP) 2036. DPIE stated that any changes to existing planning provisions, whether they be zoning, minimum lot size or dwelling opportunities are required to be supported by a strategy.

1.6 Scope and limitations

This report has been prepared by GHD for Liverpool Plains Shire Council and may only be used and relied on by Liverpool Plains Shire Council for the purpose agreed between GHD and the Liverpool Plains Shire Council as set out in Section 1 of this report.

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

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

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

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer Section 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

1.7 Assumptions

This report was prepared based on information obtained from the Liverpool Plains 2009 Growth Management Strategy and data from Liverpool Plains Shire Council.

2. Planning context

2.1 Planning framework

Changes to planning provisions of any lands are required to align with the planning hierarchy of the New South Wales legislation. The planning hierarchy of legislation (described in more detail in Appendix A), statutory planning instruments and policies affecting rural residential development in the Liverpool Plains LGA include the following:

- Environmental Planning and Assessment Act, 1979 (EP&A Act)
- Biodiversity Conservation Act 2016
- Rural Fires Act 1997
- Water Management Act 2000

State Environmental Planning Policies (SEPPs) including:

- State Environmental Planning Policy (Koala Habitat Protection) 2020
- State Environmental Planning Policy (Vegetation in Non- Rural Areas 2017) 2017
- State Environmental Planning Policy (Primary Production and Rural Development) 2019
- State Environmental Planning Policy (Infrastructure) 2007
- State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

Local policy:

- Liverpool Plains Local Environmental Plan 2011
- Liverpool Plains Development Control Plan
- Section 9.1 directions from the Minister for Planning

The strategic planning framework affecting rural residential development in Liverpool Plains LGA includes:

- New England North West Regional Plan 2036 (DPIE)
- Growth Management Strategy (Liverpool Plains shire Council 2009)
- Liverpool Plains Local Strategic Planning Statement
- NSW Right to Farm Policy (2015)
- Department of Primary Industries – Buffer Zones to Reduce Land Use Conflict with Agriculture – An Interim Guideline (2018)

2.2 Liverpool Plains Shire Growth Management Study and Strategy 2009

The Liverpool Plains Shire Growth Management Study and Strategy (GMS) 2009 provides a description of the physical, social and economic environment of the LGA as well as the planning framework to manage future development on rural lands. The Strategy provides a vision, development principles, objectives, strategies and policy actions to be implemented relating to providing a sustainable future for the Shire. The GMS 2009 principles and actions have been referenced during the preparation of the addendum report.

There are a number of chapters within the Strategy relating to future development on rural residential lands and outlines planning principles and criteria to best place this housing typology.

Chapter 7: Development and planning issues

Chapter 7 of the GMS 2009 discusses development and planning issues in the LGA. The following issues are relevant to the proposed changes to the lands:

- Rural residential development has both positive and negative impacts. This type of housing development provides a choice of housing and should be located in appropriate areas which do not take away good quality and productive farmland as well as areas of high biodiversity value.

Section 7.3.4: Rural residential development

The GMS 2009 lists several issues regarding rural residential development:

- Higher costs of providing infrastructure services compared to more compact settlement patterns
- Soil erosion and land degradation during construction of houses
- Impacts from onsite effluent disposal systems on native vegetation, weeds and groundwater contamination
- Development of housing can detract from the landscape quality of an area, particularly in hilly areas

Section 8.3.2 Settlement Sustainability

The GMS lists exclusionary and management criteria for rural residential development:

Liverpool Plains Growth Management Strategy 2009
Exclusionary and management criteria for rural residential development
Slope of land – greater than 20%. Land with steep slopes is not considered appropriate for rural residential development because of erosion potential and scenic impact on the landscape. This includes land that has to access over 20 % slope. *Flooding and Drainage*. Land that is flood prone, poorly drained or close to a drainage line or creek is not considered appropriate because of potential flooding. Land that has its access over flood prone land or a stream that is susceptible to flooding should also be excluded. *Native Vegetation*. Native vegetation provides a biodiversity and habitat resource and areas that are heavily vegetated should not be developed because of the potential impact on the biodiversity and habitat from the clearing of that land. *Proximity to towns*. The proximity to services is a key consideration for rural residential development. Land should be adjoining the urban area and have good road access to the town, particularly the commercial centre. *Utility servicing*. This includes water, sewer, electricity and telephone. Water and sewerage services are provided on site. *Road surface*. All roads to be accessed by rural fringe development should be sealed. This includes all roads between the subdivision and the urban areas. Management Criteria and the matters that have to be addressed are as follows: *Domestic Effluent Disposal*. The method of domestic effluent disposal has a major bearing on the size of the lot to be subdivided. A soil and water test will be necessary to ascertain the minimum area for effluent disposal which in turn will impact on the size of the lot. For lots less than 1 ha, reticulated sewerage will be required. *Road Alignment and access.* The road alignment and access should have adequate sight lines so that any potential impact with other vehicles travelling on the road are minimised.

9.3: Conservation and Development Principles

Section 9.3 of the GMS 2009 contains principles for conservation and development, which are intended to be used by Council when considering development applications and proposals for the rezoning of land. (Refer to Table 2-1).

Table 2-1 Conservation and development principles

9.3 Conservation and development principles	
Growth Management	• Embody the concepts of Ecologically Sustainable Development • Provide a choice of living opportunities and types of settlement • Establish and adhere to a settlement hierarchy • Avoid development in areas of conservation significance
Land Use Planning	• Ensure that current and future agriculture is not compromised by fragmentation of rural land • Ensure that there are sufficient land stocks to meet the residential needs of the community
Infrastructure	• Ensure that there is appropriate infrastructure provided to the towns and villages as outlined in the settlement hierarchy • Plan for population growth to minimise the impact of development on the road system
Water Catchments	• Where possible, improve the water quality of rivers, creeks and other water bodies • Protect the quality and quantity of the underground water resources of the Namoi Valley
Ecological Management and Biodiversity	• Enhance and maintain the ecological integrity of the Shire • Protect and conserve the biodiversity of the region • Ensure that habitat of flora and fauna is conserved
Scenic Landscapes	• Protect the integrity of both working and natural landscapes • Ensure that development has regard to the natural values and features
Heritage	• Identify, preserve the heritage and culture of Liverpool Plains Shire
Natural Hazards	• Recognise the impact of natural hazards on the future settlement pattern and rural land uses

Sections 9.5 and 9.6: Implementation Strategy and Policy Actions

Sections 9.5 and 9.6 of the GMS contain Implementation Strategies and Policy Actions. Policy actions relating to rural residential growth are listed in Table 2-2.

Table 2-2 Policy actions relating to rural residential development

Implementation Strategy	Policy Action
9.5.1 Growth Management	
3. Prepare a hierarchy of settlements	3.2 Allow for the growth and future development of the towns and villages. 3.3 Provide for rural residential development in areas that have adequate access to services and facilities. 3.4 Provide a mix of housing opportunities which includes urban, rural residential and farm housing.
9.5.5 Infrastructure Requirements	
2. Provide development only in areas that have adequate access	2.1 Prepare a plan to ensure that there are adequate levels of access to each of the villages in the settlement hierarchy.
9.6.1 Water Catchments	
4. Ensure new development is located so it does not have a detrimental impact on nearby watercourses.	44.2 All development to be located an appropriate distance from waterways and develop means of protecting riparian zones.
6. Ensure development does not increase the sedimentation load in surrounding water bodies.	6.1 All development is to utilise best management practices for soil and water management on the site.
7. Ensure new development is located so it does not have a detrimental impact on nearby watercourses.	7.1 All development to be located an appropriate distance from waterways and develop means of protecting riparian zones.
8. Ensure Domestic and other forms of Effluent Disposal does not have a detrimental impact on water quality.	8.1 On-site effluent disposal is to be in accordance with a DCP dealing with On-site Sewage Management and the NSW Environment and Health Protection Guidelines for On-site Sewage Management for Single Households.
9.6.5 Natural Hazards	
2. Ensure bush fire risk is considered in all future settlement areas.	2.1 Ensure that all future rezoning of land adheres to the principles of Planning for Bushfire Protection 2006. 2.2 Provide information on the Bushfire regulations covering Liverpool Plains Shire. 2.3 Provide information on the Emergency Services Disaster Management and Response Plan.
3. Ensure that land degradation minimised.	3.1 Do not allow development to occur on land where vegetation clearing will result in unacceptable levels of erosion.

3. Supply and demand analysis

It is important for Council to provide for and manage growth and development, coordinate the provision of land and infrastructure services that will match present and predictable future needs for rural residential housing.

A supply and demand analysis aims to provide an understanding of development trends within the Liverpool Plains LGA over an established period. The analysis will:

- Establish existing land supply by area
- Provide quantified supply data
- Determine future demand using development scenarios and established demand

3.1 Supply analysis of rural residential lands

To determine the current rural residential land supply within the LGA, an analysis of the undeveloped land within the R5 zones located in the south west and to the north of the village was conducted in accordance with the LPLEP 2011 maps, aerial imagery and recent development approvals data.

A desktop analysis of the vacant R5 zoned lands has been undertaken to provide an indication of the number of dwellings that could potentially be developed on the lots with the current minimum lot size (refer to Table 3-1).

Table 3-1 Vacant R5 Large Lot Residential Lands

Location	MLS	Area (ha)	Potential Dwellings
R5 lands to the north adjacent to railway corridor	5,000 m²	4.68	9.3
R5 lands to the south adjacent to railway corridor	2.5 ha	5.70	2.2
R5 lands to north west	1.5 ha	2.12	1.4
R5 lands to north east	2 ha	6.49	3.2
Total		**18.99**	**16.1**

The rural residential land supply analysis for Currabubula indicates there is a small proportion of rural residential lots readily available. As the village is located in the northern corner of the LGA and has minimal services, evidence has suggested it is not desirable compared to other locations within the LGA.

The location of Currabubula and its proximity to Werris Creek, Quirindi and Tamworth in the neighbouring LGA coupled with market trends, may potentially see a demand for housing in this area. Council will need to closely monitor future land uptake in this area over the next five years and consider the application of appropriate zonings that is reflective of existing development and market driven demand.

3.2 Demand analysis of rural residential lands

Population growth is the principal driver of rural residential land demand. However, demand can also be driven by housing market factors such as price and lifestyle preference.

To project demand for rural residential land up to 2041, the following methods have been used:

1. Analysis of DPIE population and housing projections
2. Dwellings and lot approvals within the village
3. Land demand per capita

3.3 DPIE population projections

The NSW DPIE provides population and household projections to help plan for service and infrastructure delivery for the community. The projections also provide a framework for assessing future needs for residential and commercial land, housing and public utilities.

The NSW DPIE acknowledge that the data has limitations, and the projections are not precise predictions of the demographic future given they are based on assumptions around future trends in births, deaths and migration. The projections are open to change as future demographic behaviour can be impacted by government policies, changing economic and social circumstances or other factors.

The projections are based on the Liverpool Plains LGA and do not drill down into small village localities like Currabubula. DPIE predict that the population of Liverpool Plains LGA will decrease from 7,850 in 2016 to 6,700 in 2041, a reduction of 1,150 residents or 14.5%. This equates to an annual population loss rate of 0.58% per year (NSW DPIE, 2019). (Refer to Table 3-2).

With the decline in population, the number of households in the Liverpool Plains LGA is projected to decrease from 3,350 in 2016 to 3,100 in 2041, a reduction of 250 households. In that time frame the number of dwellings is projected to decrease from 3,900 to 3,600, a reduction of approximately 300 dwellings. (Refer to Table 3-2).

Table 3-2 DPIE - Liverpool Plains population projections 2016-2041

	2016	2021	2026	2031	2036	2041	Total Change
Total population	7,850	7,650	7,450	7,250	7,036	6,700	-1,150
Total households	3,350	3,300	3,300	3,250	3,200	3,100	250
Household size	2.32	2.29	2.23	2.19	2.14	2.12	0.20
Implied dwellings	3,900	3,900	3,850	3,800	3,700	3,600	300

By 2041 Liverpool Plains LGA is expected to have less children and working age people and more retired and elderly people. The proportion of residents aged over 65 expected to increase from 21.2% in 2016 to 29.2% in 2041. The proportion of the population aged under 15 years of age is projected to decrease from 19.7% in 2016 to 15.3% in 2041.

In 2041 the LGA will have a lower proportion of working aged people, with 55.6% of the population aged between 15 and 65 in 2041, compared to 59.2% in 2016.

Due to the ageing of the population, the average household size is projected to decrease from 2.33 persons in 2016 to 2.13 persons in 2041. The proportion of couple-only households is projected to increase from 28.5% to 30.6%, and the proportion of lone households is projected to increase from 31.0% to 33.5% (NSW DPIE, 2019). (Refer to Table 3-3).

Table 3-3 DPIE Projected change of population and households in Liverpool Plains LGA for 2016-2041

	2016-2021	2021-2026	2026-2031	2031-2036	2036-2041	2016-2041 (25 year change)
Total population change	-200	-200	-200	-250	-300	-1,150
Average annual population change	-0.5	-0.5%	-0.5%	-0.7%	-0.9%	-0.6%

An assumption has been made to forecast demand for R5 lands in Currabubula detailed in Table 3-5.

3.4 Building approval and subdivision approval data

Demand for rural residential land up to 2041 can be determined by the amount of development currently being undertaken including the development of dwellings and subdivision approvals.

A range of development applications have been approved in Currabubula over the past five (5) years. Table 3-4 indicates the number and types of development that have occurred in the village. It is evident new housing development is minimal with only six (6) dwellings being constructed from 2015 to 2020. A majority of development has been agricultural ancillary buildings and additions and alterations to existing dwellings.

Table 3-4 Approved DAs in Currabubula 2015-2020

Year	Types of development	Number of DA's
2015	Animal boarding and training establishment	1
2016	Storage sheds, farm buildings, hay sheds	5
	Building envelope	4
	New dwelling	1
	Additions and alterations, carports	2
2017	Storage sheds, farm buildings, hay sheds	1
	New dwelling	3
	Additions and alterations, carports	2
	Other - Recycled concrete for product blend	1
2018	Storage sheds, farm buildings, hay sheds	2
	Swimming pool	1
	Other - Recycled concrete for product blend	1
2019	Storage sheds, farm buildings	2
	New dwelling	2
	Additions and alterations, carports	1
2020	Storage sheds, farm buildings, hay sheds	1
	Earthworks	1
	Rural workers dwelling	1
	Change of use for visitor accommodation	1
	Temporary use for functions and events	1
	Total	**34**

Council have indicated there has been no master planning or new release areas identified for Currabubula over the past five years nor has there been any new subdivisions proposed for the locality.

Over the past five years, there has only been four applications for building entitlements and six development applications for new dwellings within the village as a result of the 34 development applications.

3.5 Key assumptions

- *Demand for rural residential living:* Due to the attractive rural quality of the Liverpool Plains LGA there is a demand for rural residential land. Rural residential living opportunities will provide for increased housing choice and diversity and assist in attracting and retaining new residents to the region.

- *Population projection to 2041:* The demand has been established based on a projected 2041 population of 6,700.
- *Occupancy rate* to 2041 at 2.2 persons. A rural residential dwelling occupancy rate of 2.2 per household.
- *Demand percentage* has been established at 4% of households to live in rural residential dwellings. This is lower than 10% generally applied to similar locations with existing rural residential development and growing populations. Given the Liverpool Plains LGA is experiencing a stable population, 4% of households is a reasonable assumption in this instance.
- *Economic conditions*: It is assumed that in recognition of long term climate cycles, agricultural conditions in the LGA will improve and will continue a trend providing employment opportunities, in migration as well as the family multiplier effect. The ageing population will affect the agricultural sector and provide a new downsizing opportunity for farmers during pre-retirement and retirement and potentially reduce overall population decline.
- *Future minimum lot sizes:* The MLS of *7* hectares for future rural residential development has been applied being the largest MLS for R5 lands under the LPLEP 2011 and average size of the ten investigation sites subject to this report.

Table 3-5 Estimated rural residential land demand for Liverpool Plains LGA

2041 Population (NSW DPIE Projection)	No. of households (assuming average 2.2 persons/ household)	Rural residential demand (households)	Land area required to 2041	Average annual land requirement 2021-2041	Average annual lot demand
6,700	3,045	122	854	42 hectares	6 lots

The average annual lot demand for rural residential lots within the LGA is 6 lots having a minimum lot size of 7 ha. There are a number of locations within the LGA with a supply of R5 lands where future rural residential development could occur.

There are currently vacant R5 lands within Currabubula for future rural residential development. Once these lands have been developed and should demand increase for this type of lifestyle housing, identification of additional lands will be required and rezoned appropriately.

3.5.1 Rural Residential growth opportunities

Council is actively pursuing strategies to drive population growth, including attracting families to increase the number of young and working age persons to the LGA to ensure the ongoing viability of local schools, community, health, medical and retail and banking services.

In addition, several infrastructure projects are currently being planned for the LGA, which will improve liveability and assist in attracting new residents to the area. These include an upgrade of the Quirindi Sport and Recreation Precinct, Regional Library and other community facilities.

Liverpool Plains LGA is also influenced by broader population trends due to cross border linkages and common housing markets which are not accounted for in the DPIE projections. For example, the village of Currabubula is located on the border of the Tamworth LGA, which is projected to grow by 12% between 2016 and 2041 (NSW DPIE, 2019).

Currabubula is experiencing a trend for rural living, where lifestyle and residential amenity is a key driver of housing choice. Given this demand, there is pressure for additional rural lifestyle living within the locality.

There is currently very limited supply for rural residential living opportunities within Currabubula, in particular to the north of the village.

The community consultation process Council had previously undertaken including an expression of interest process have reinforced the demand for lifestyle lots on lands to the north of the village.

Changes to the zoning and reduction in MLS of these lots will permit the construction of a dwelling while supporting future development and population growth within the village.

4. Investigation sites

Ten (10) sites have been identified to be investigated for large lot residential purposes and are located to the north and south of Currabubula> All are in private ownership. The attributes of the investigation sites are shown in Table 4-1. The location of the investigation sites are shown in Figure 4-1.

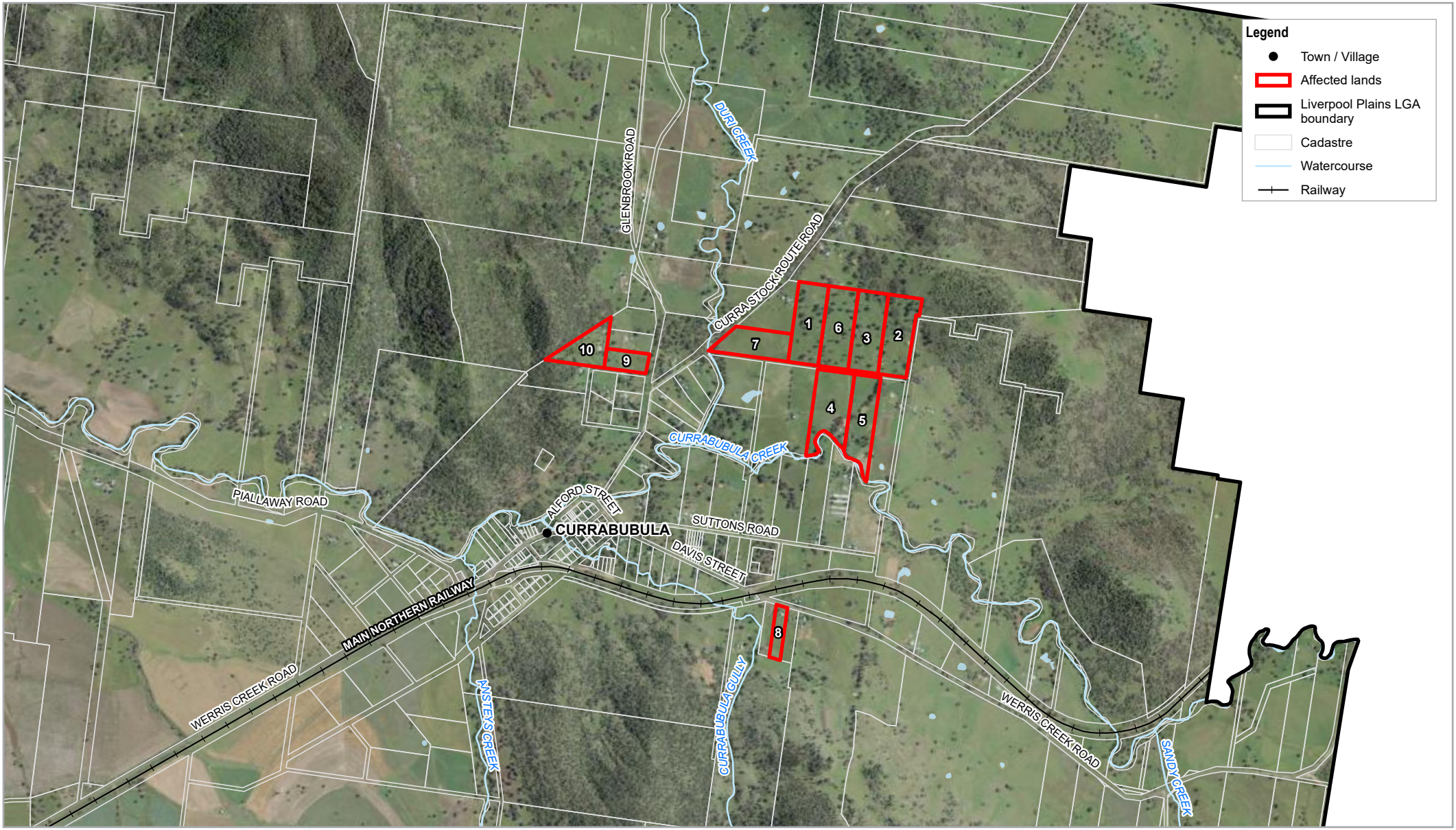
Table 4-1 Attributes of the investigation sites

Map Ref #	Lot/Sec/DP	Address	Land area (Ha)	Existing dwelling	Current Zone	Current MLS (Ha)
1	Lot 331 DP 751011	57 Mt Cobla Road, Currabubula	8.094	0	RU1	200
2	Lots 328 DP 751011	69 Mt Cobla Road, Currabubula	8.094	0		
3	Lot 329 DP 751011	65 Mt Cobla Road, Currabubula	8.094	0		
4	Lot 288 DP 751011	86 Mt Cobla Road, Currabubula	9.105	1		
5	Lot 289 DP 751011	86 Mt Cobla Road, Currabubula	8.094	0		
6	Lot 330 DP 751011	61 Mt Cobla Road Currabubula	8.094	0		
7	Lot 333 DP 751011	94 Curra Stock Route Road, Currabubula	6.370	0	RU1	200
8	Lot 2 DP 833653	3468 Werris Creek Road, Currabubula	2.013	1	RU1	200
9	Lot 369 DP 751011	28 Angwins Lane, Currabubula	2.790	0	RU1	200
10	Lot 370 DP 751011	28 Angwins Lane, Currabubula	5.140	1	RU1	200

Note: The land areas provided by Council have been referenced for the purposes of this report

The investigation sites are grouped into three separate locations around Currabubula:

- Sites 1-7 are positioned north west of the village along Mt Cobla Road
- Sites 9-10 are positioned to the north west on sloping lands with frontage to Angwins Lane
- Site 8 is isolated to the south east with frontage to Werris Creek Road



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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Aerial image of investigation sites

Figure 4-1

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5. Constraints and opportunities analysis

5.1 Objectives of constraints analysis

A development constraints analysis allows an assessment of the suitability of land for rural residential development based on set criteria. The analysis mapping and numeric data has provided a summary of findings to be used to guide land use planning and decision-making.

5.1.1 Methodology

The methodology aims to identify and evaluate a range of constraints, which will impact upon the ability to accommodate rural residential development at the investigation sites. The methodology for determining if the sites area suitable focuses on constraints including natural features which will define the environmental limitations. Mapping has been undertaken of vegetation/biodiversity, slope, waterways, land capability and bushfire prone lands.

Some of the constraints listed below may prohibit future development on the site where others may require further investigation or mitigation measures that may influence the location and type of development. Rural residential lands have a range of economic and social requirements which include the location of the site, its size, price, commercial attractiveness, accessibility, and the availability of infrastructure and services.

Table 5-1 identifies which constraints are limiting and those that may be overcome through mitigation measures and management.

Table 5-1 Constraints ranking system

Rank	Key	Explanation
1.	Most suitable	Most suitable for development (relatively unconstrained).
2.	Suitable	Suitable for development with some controls and only minor constraints present.
3.	Highly Constrained	Constrained area may only be partly suitable for development – may require further site specific investigation and/or specific engineering solution or exclusion of certain areas.
4.	Very Highly Constrained	Limited or no development – will require further site specific assessment and changes.
5.	Highly Unsuitable	Not suitable for development.

Table 5-2 lists suitability and capability criteria each investigation site will be evaluated against and ranked accordingly to determine the constraints that apply to the land and potentially restrict rural residential development.

The NENWRP 2036 principles 1-5 Interim Settlement Planning Principles and the GMS 2009 exclusionary and management criteria for rural residential development has been considered during the preparation of Table 5-2.

Table 5-2 Suitability and capability criteria

Constraints	Reason for Unsuitability	Ranking
Planning Provisions		
Zone (existing and proposed)	The exiting RU1 zone applies a high MLS which prohibits the development of a dwelling. A change to the existing zone may impact upon the surrounding land uses and cause conflict with existing agricultural operations.	4
Minimum lot size (MLS)	A change to the current minimum lot size may increase density within the locality. This may result in increased pressure on local services and infrastructure such as road networks.	4

Constraints	Reason for Unsuitability	Ranking
Dwelling Entitlement	A dwelling entitlement applies to certain lands that may have resulted from a legacy planning provision attached to the lot. This may have occurred from a previous planning instrument resulting in a smaller lot size that would support a dwelling.	4
Environmental heritage (Non Aboriginal heritage Aboriginal archaeological areas)	The objectives for the conservation of environmental heritage are outlined in Clause 5.10 of the LPLEP 2011 with significant heritage items listed in Schedule 5. Local heritage may constrain future development. Aboriginal heritage is an important consideration for land use planning. New residential development should not be located in areas known or reasonably suspected of being of significance to local Aboriginal cultural heritage.	4
Local Settlement		
Proximity to existing settlement	New rural residential development should be located a short travelling distance from an urban centre and close to services, infrastructure and facilities. In the case of Currabubula schools, shops and local community services.	3
Interface with adjoining non-residential zones	Consideration is required when new residential development is located adjacent to agricultural lands where conflicts may occur.	3
Infrastructure constraints		
Utility servicing	There is an expectation new residential development will be serviced by water, sewer, stormwater and roads. On site servicing will be required with consideration regarding groundwater impacts. Currabubula does not provide infrastructure to support reticulated water and sewer services. The village's residential lots are serviced by onsite water and sewer including water tanks and onsite waste management systems.	3
Road network connectivity	Road networks and connectivity to existing and new development is crucial. Roads accessing new residential development should be of a standard to accommodate an increase in vehicle movements.	2
Land use		
Existing use - Intensive livestock industry	Land that is located within 500 m – 1 km of an intensive livestock industry will be ranked as a 5. Intensive industries traditionally have noise, odour and traffic issues that cause land use conflict with rural residential development. It is for this reason it would not be appropriate to place rural residential dwellings in close proximity to intensive livestock uses. Further investigation may be required in this instance.	5
Land and soil capability	Land capability for agricultural production is a function of a range of natural resource conditions including geomorphology, topography, vegetation and soils. Those lands with the capability of supporting primary production Class 1 to Class 3 should not be developed for future residential development.	4
Biophysical Strategic Agricultural Land (BSAL)	The criteria for BSAL land relate to levels of soil fertility, land and soil capability classes and access to reliable water and rainfall levels. If the subjected lands are affected by BSAL solutions may be sought to mitigate the constraining.	4

Constraints	Reason for Unsuitability	Ranking
Physical constraints		
Topography/slope	Slope of land – greater than 20%. Land with steep slopes is not considered appropriate for rural residential development because of erosion potential and scenic impact on the landscape. This includes land that has to access over 20 % slope.	Over 15° = 5 10° to 15° = 3 Less than 10° = 1
Scenic protection/amenity	Currabubula is surrounded by prominent elevated sites and visual amenity. New residential development can potentially impact upon the scenic character of a location and encroach onto important agricultural lands.	3
Environmental constraints		
Native vegetation and ecological impacts	Native species in NSW are protected from development by the Biodiversity Conservation Act 2016, Environmental Planning & Assessment Act 1979, State Environmental Planning Policy (Koala Habitat Protection) 2020, State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 and the Environment Protection and Biodiversity Conservation Act 1999. Development that involves clearing of native vegetation, or that impacts upon native flora and fauna may be refused development consent under one of these acts.	5
Bushfire	Land that is identified as bushfire prone lands need to meet the requirements of the NSW Rural Fire Service 'Planning for Bushfire Protection 2016' as amended. The Rural Fires Act 1997 requires the identification of bushfire-prone land areas based on bushfire hazard mapping and the provision of Asset Protection Zones. Bushfire hazard can be a major development constraint. Slope, aspect and the vegetation types determine the level of bushfire hazard. Opportunities exist to manage the interface between new development and surrounding vegetation, including perimeter roads, fuel reduction and building design.	Category 1 = 4 Category 2 = 3
Flooding and drainage	Land that is flood prone, poorly drained or close to a drainage line or creek is not considered appropriate because of potential flooding. Land that has its access over flood prone land or a stream that is susceptible to flooding should also be excluded.	3
Riparian corridors	Waterfront land is controlled by the Water Management Act and administered through WaterNSW. When a development is adjacent to waterfront land, setbacks known as Riparian Zones are required to protect this land. Development in these zones should be prohibited.	3

5.1.2 Limitations

While the constraints analysis technique is a tool for screening the investigation sites, it must be noted that there are a number of limitations including:

- Inability to represent all of the critical aspects that determine suitability for development in a geographic format
- Accuracy and currency of some data
- Absence of data for some locations
- Constraints have been mapped and included in the body of the document

6. Review of suitability criteria

6.1 Planning provisions

6.1.1 Zoning and minimum lot size

The village of Currabubula is zoned RU5 Village with the R5 Large Lot Residential zone located on the western edge of the settlement and to the north where there is a large area of fragmented lands. Surrounding the village is the RU1 Primary Production zone.

The zones and minimum lot sizes that apply to Currabubula and the surrounding area are listed in Table 6-1 and indicated in Figure 6-1.

Table 6-1 Zones and MLS applying to Currabubula

Zone	Minimum lot size
RU1 Primary Production	200 ha
RU5 Village	1000 m^2
R5 Large Lot Residential	5000 m^2, 1.5 ha, 2 ha, 2.5 ha
SP1 Infrastructure	A minimum lot size does not apply to the Special Purpose Zone

Controls for the erection of dwelling houses on large lot residential lots are provided under *Clause 4.2A - Erection of a dwelling in certain rural, residential and environmental protection zones* of LPLEP 2011. Development consent for a dwelling must meet the minimum lot size specified on the Lot Size Map, or was a lot created before LPLEP 2011 commenced where a dwelling was permissible, a lot created from a subdivision where consent was granted prior to the commencement of the plan and a dwelling could be constructed on the lot, or a lot identified on the Dwelling Opportunity Map.

6.1.2 Minimum lot size analysis

A MLS of 200 ha has been applied to the RU1 Primary Production zone surrounding Currabubula to protect and preserve agricultural lands surrounding the village. The larger MLS aims to restrict inappropriate subdivision and fragmentation of high value agricultural lands and uses that may have an adverse impact on the surrounding rural activities.

There is currently minimal subdivision potential for lands surrounding Currabubula to support additional residential or rural residential development on the fringes of the village due to the RU1 MLS of 200 ha. There are also minimal vacant lots available within the village.

Figure 6-2 shows that the R5 zoned lands on the western fringe of Currabubula have minimum lot sizes between 5000 m² and 2.5 ha. The R5 zoned lands located to the north of the village and adjacent to the investigation sites have minimum lot sizes of 1.5 ha and 2 ha.

The Liverpool Plains LGA contains several areas of land zoned R5 with a range of MLS apply (refer to Table 6-2).

Table 6-2 R5 zones and MLS for localities in Liverpool Plains LGA

R5 Area	Minimum Lot Size
Currabubula	5000 m^2, 1.5 ha, 2 ha, 2.5 ha
Quirindi	8000 m^2 1 ha, 1.5 ha, 2 ha, 5 ha, 7 ha, 10 ha, 40 ha
Werris Creek	4000 m^2
Willow Tree	1 ha, 40 ha
Wallabadah	1 ha

6.1.3 R5 Large Lot Residential zone

The investigation sites are located within close proximity to the village of Currabubula and are surrounded by fragmented lots with many being legacy parish portions.

Currabubula supports two areas of R5 Large Lot Residential zoned land, one on the south western entrance of the village and one to the north of the village. There are a large number of land uses prohibited within the R5 zone. New development is focused on the provision of dwellings, agriculture and associated ancillary buildings with the aim of minimising environmental impacts and limiting incompatible development that would conflict with the surrounding rural landscape and uses.

The objectives and permitted development in the R5 Large Lot Residential zone pursuant to LPLEP 2011 are listed in Table 6-3.

Table 6-3 R5 zone provisions under LPLEP 2011

Objectives of the zone
To provide residential housing in a rural setting while preserving, and minimising impacts on, 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.*
Permitted with consent
Building identification signs; Environmental protection works; Home-based child care; Home occupations; Roads; Water reticulation systems
Permitted without consent
Backpackers' accommodation; Bed and breakfast accommodation; Dwelling houses; Extensive agriculture; Farm buildings; Home industries; Oyster aquaculture; Pond-based aquaculture; Sewage reticulation systems; Tank-based aquaculture; Any other development not specified in item 2 or 4
Prohibited
Advertising structures; Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Boarding houses; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Car parks; Caravan parks; Cemeteries; Centre-based child care facilities; Charter and tourism facilities; Commercial premises; Community facilities; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Emergency services facilities; Entertainment facilities; Environmental facilities; Exhibition homes; Exhibition villages; Forestry; Freight transport facilities; Function centres; Heavy industrial storage establishments; Helipads; Highway service centres; Home occupations (sex services); Hostels; Industrial retail outlets; Industrial training facilities; Industries; Information and education facilities; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Research stations; Residential flat buildings; Resource recovery facilities; Respite day care centres; Restricted premises; Rural industries; Rural workers' dwellings; Service stations; Sewerage systems; Sex services premises; Shop top housing; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres; Waste disposal facilities; Water recreation structures; Water storage facilities; Wharf or boating facilities; Wholesale supplies

The R5 zone aims to support new residential development on large lifestyle lots while mitigating density and minimising impacts on the surrounding environment. As the zone is identified as a residential use, the objectives aim to manage the demand for unnecessary infrastructure and services within a rural setting.

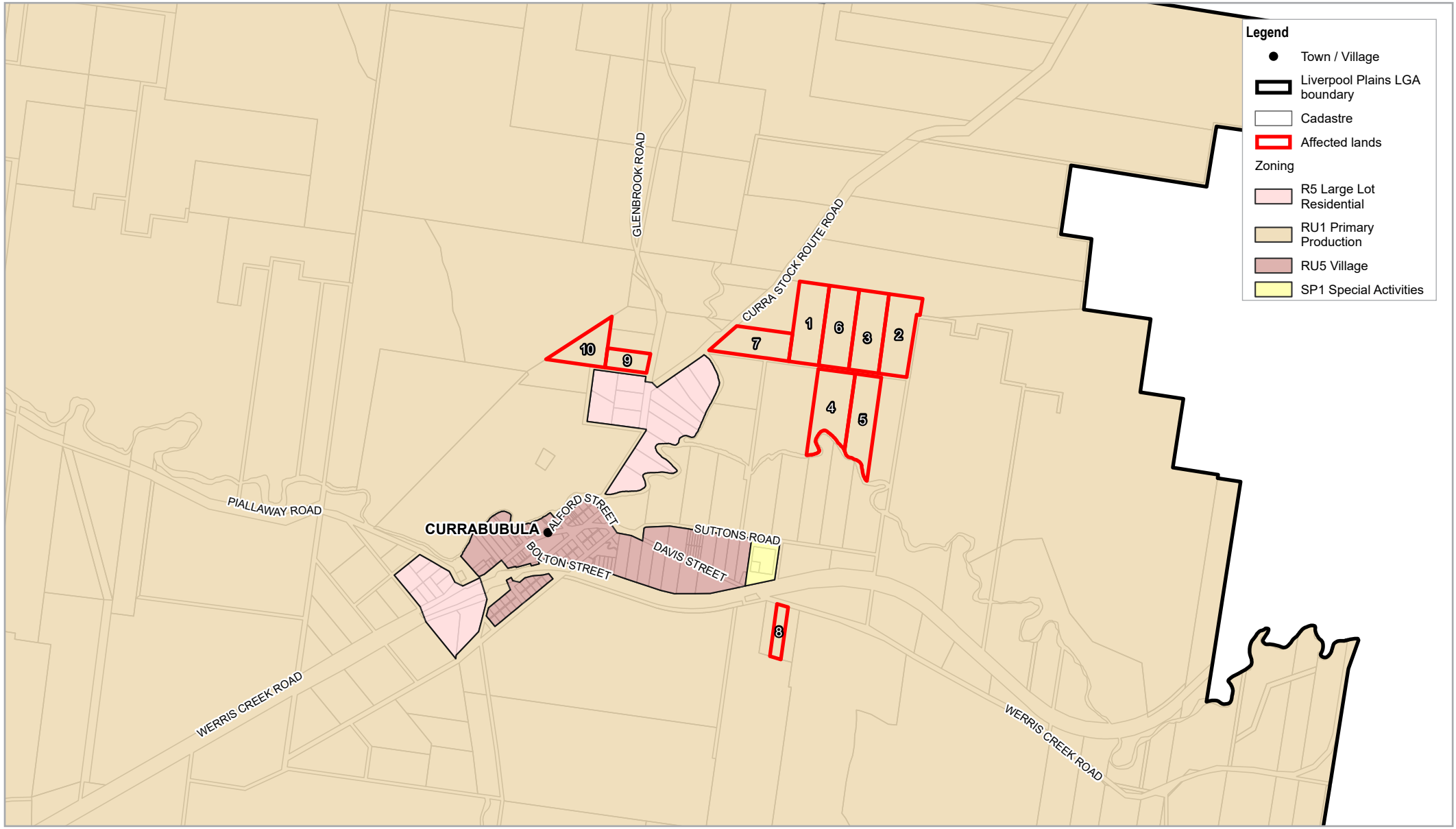
6.1.4 Environmental heritage

Aboriginal heritage is an important consideration for land use planning. As well as being historically important, Aboriginal heritage is to be protected for future generations to maintain continuous links with the people and the land. A range of laws are in place to protect Aboriginal heritage, including the EPBC Act, the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and the *Protection of Movable Cultural Heritage Act 1986*. Under the EPBC Act, there are penalties for anyone who takes an action that has or will have a significant impact on the national heritage values of a place. It is for this reason that new rural residential development should not be located in areas known or reasonably suspected of being of significance to local Aboriginal cultural heritage.

Under Clause 5.10 of LPLEP 2011, the objectives of Heritage Conservation are:

- To conserve the environmental heritage of Liverpool Plains
- To conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views
- To conserve archaeological sites
- To conserve places of Aboriginal heritage significance

Council had previously undertaken a search of the Aboriginal Heritage Information Management System (AHIMS) and as a result found there are no Aboriginal places or Aboriginal objects identified on the investigation sites. It was also established there are no items of State or local heritage significance prescribed under Schedule 5 of LPLEP 2011 located on the investigation sites.



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Grid: GDA 1994 MGA Zone 56

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Land zoning map

Figure 6-1

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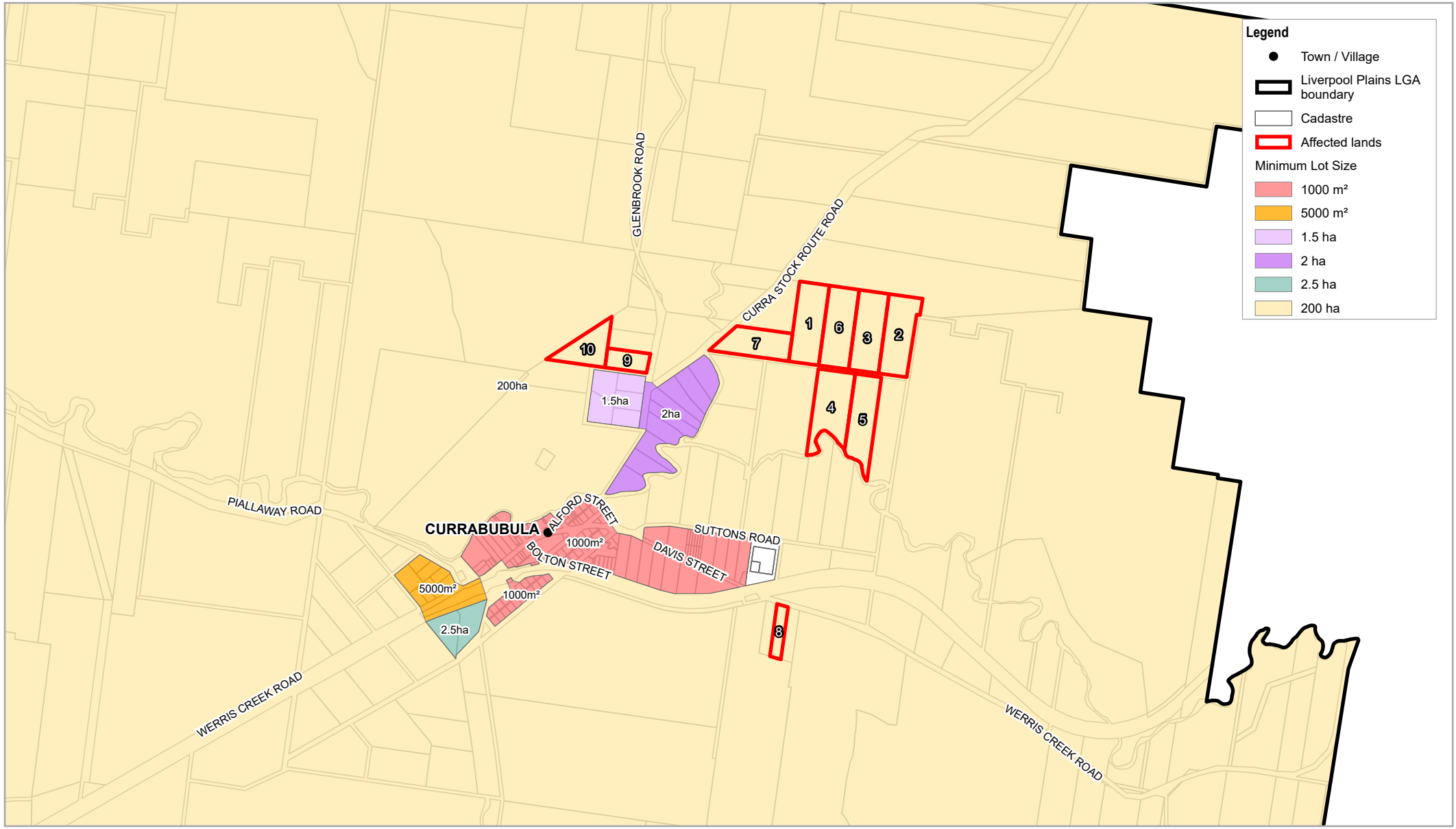
Data source: DPE: Land Zoning, 2019; LPI: DTDB / DCDB, 2017; . Created by: fmackay



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Minimum lot size map

Figure 6-2

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Data source: DPE: Lot Size, 2019; LPI: DTDB / DCDB, 2017; . Created by: fmackay

6.2 Local settlement

6.2.1 Existing settlement pattern

The village supports several established dwellings located closer to what was the commercial core of the locality, with more recently constructed dwellings situated on the outskirts of Currabubula.

A desktop analysis of the existing settlement pattern indicates that sites 4, 8 and 10 have a dwelling located on the lot as indicated in Figure 6-3. The remaining sites do not contain a dwelling, indicating that a dwelling entitlement does exist for the allotment.

The investigation sites range in size from 2.0 to 8.8 ha. The 21 lots adjacent to the investigation sites range in size from 2 to 15 ha, with the average size of the lots being 6.4 ha. This data indicates the area north of the village is highly fragmented with many lots being historical parish portions. Subdivision has been limited due to lots having minimal subdivision capacity and large MLS applying to rural lands surrounding the village.

Figure 6-3 indicates the number dwellings located to the north of the village and provides an indication of the distances between existing dwellings and the poultry farm located on Suttons Road.

6.2.2 Ability to servicing

Rural residential development requires enough land for the disposal of onsite water and waste management systems. Most rural residential development throughout the LGA relies on onsite water catchment and effluent disposal.

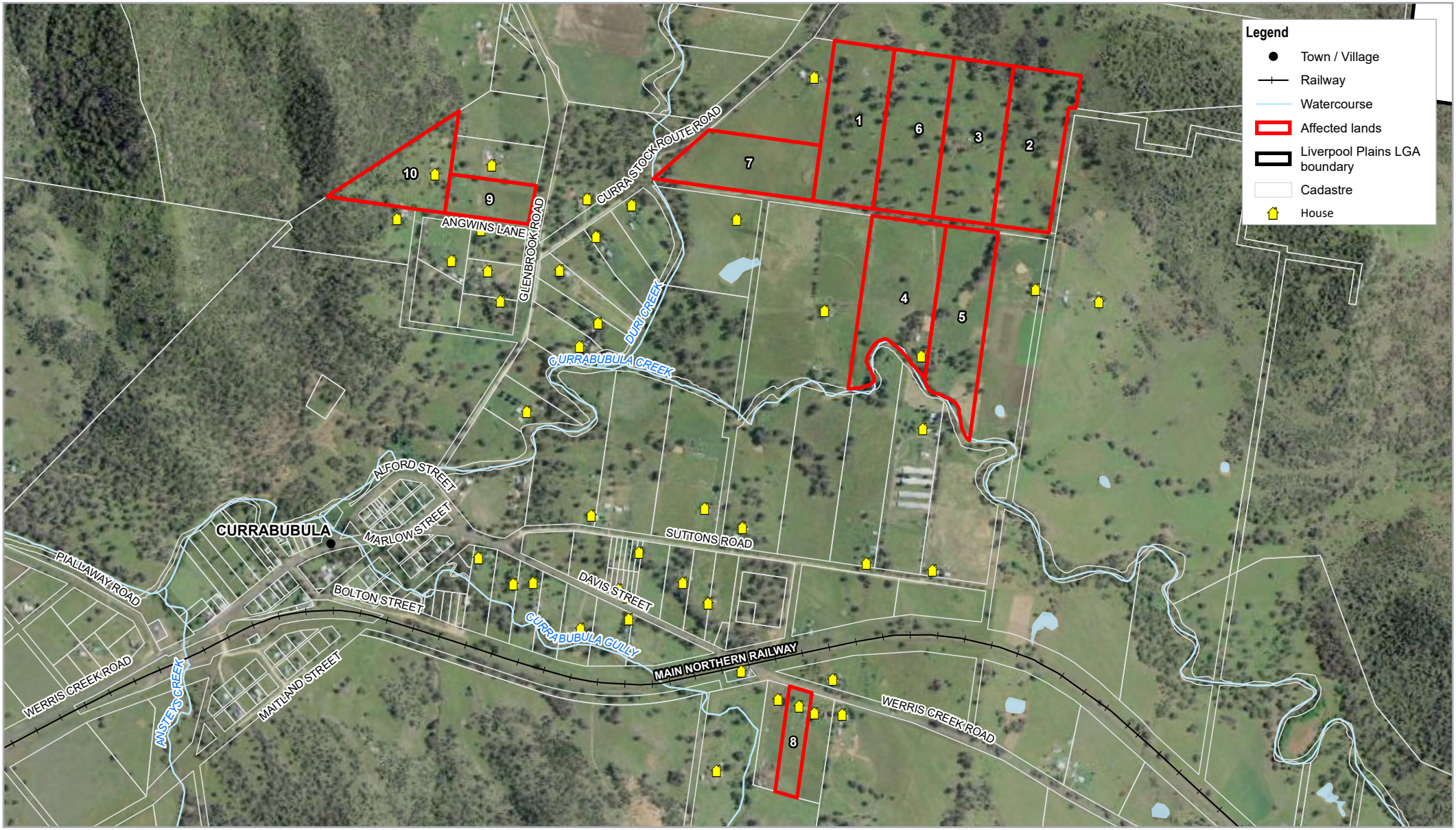
Currabubula does not provide infrastructure to support reticulated water and sewer services. The village's residential lots are serviced by onsite water and sewer including water tanks and onsite waste management systems. Any future residential development should ensure the lot has capacity to install these facilities on site and do not impact upon ground water systems or flood events. Both onsite water and sewer systems are regulated under the LPDCP 2012 for new rural residential housing and annually inspected once installed.

6.2.3 Transport/infrastructure

Ideally, roads connecting rural residential development to an existing urbans settlement should be sealed to provide efficiency and safe links to the local services and facilities.

Sites 1-7 are located along Mt Cobla Road which is an unsealed road. Sites 9 and 10 are located along Angwins Lane which is also an unsealed road. Site 8 is located on the Werris Creek Road which is local sealed road. Mt Cobla Road and Angwins Lane are local roads that are not proposed to be upgraded to support any future development within the area that requires improvement to the current road network. As the proposed changes to the planning provisions do not involve the subdivisions of lands and required road network standards, and a large MLS is proposed to be applied, the existing road infrastructure may not be required to be upgraded in this instance.

The Main Northern Railway line travels through the village of Currabubula from Werris Creek to Tamworth. Rail noise could potentially impact on sensitive land uses including residential development. Noise buffers may not be required due to the distance and topography between the railway line and the investigation sites.



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Settlement pattern map

Figure 6-3

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6.3 Land use

6.3.1 Surrounding land uses

Amenity is a major consideration for residents in rural areas. Rural activities such as intensive plant and livestock agriculture and rural industries have the potential to have a major impact on the amenity and environment.

Around Currabubula village the main land use is extensive agriculture, with some cropping but mostly grazing on undulating land. Intensive livestock agriculture is permitted in the RU1 Primary Production zone of LPLEP 2011. Such a use involves concentrated resources in the production of livestock. There are potential impacts on the rural environment involving odour, noise, and effluent impacts. It also involves intensive input of resources such as water and feed.

A poultry farm is currently operating at 117 Sutton's Road near the investigation sites. The existing breeder farm produces fertile eggs, which are then grown into broiler birds. The birds are transported to the site at an age of approximately 18-22 weeks and kept on site for 40 weeks until the end of their laying cycle. The fertile eggs produced at the farm are taken to a hatchery where meat chickens are hatched.

The original sheds were constructed in 1987 with extensions and additions being undertaken to the sheds in 1997. An extension to the amenities building and office was recently undertaken in 2019.

The breeder farm supports the following infrastructure:

- 4 poultry breeder sheds with a total population of 30,000 birds (i.e. 7,500 birds per shed)
- Caretakers residence and other associated outbuildings
- Conveyer belt system collecting eggs from the poultry sheds for transport to the packing room
- Ancillary supporting infrastructure

The intensive livestock development is not classified as designated development pursuant to the EP & Act Regulations 2000 as it is under the threshold of 250,000 bird and is not within 500 m of a residential zone.

Separation distances between dwellings and intensive livestock development varies depending on a range a factors including the location of receptors. The Environmental Impact Statement (EIS) as part of DA 8/1997 stated the breeder rearing farm contains 30,000 birds, which is less than the prescribed threshold under Clause 22 of the *Protection of the Environment Operations Act 1997* (POEO Act) as it does not meet the threshold for this scheduled activity.

Buffer zones for new development

Table 6-4 indicates the distances from the existing poultry farm to the investigation sites. The approximate distance was measured based on the following methodology:

- Vacant land: distance measured from the centre of the lot to the centre of the four poultry sheds
- Lands with a dwelling: distance measured from the existing dwelling to the centre of the four poultry sheds

Table 6-4 Distances from investigation sites and poultry farm

Site No.	Address	Land use	Approximate distance from poultry farm
1	Lot 331 DP 751011	Vacant land	1.02 km
2	Lots 328 DP 751011	Vacant land	0.99 km
3	Lot 329 DP 751011	Vacant land	1.0 km
4	Lot 288 DP 751011	Dwelling	0.47 km
5	Lot 289 DP 751011	Vacant land	0.53 km
6	Lot 330 DP 751011	Vacant land	1.02 km
7	Lot 333 DP 751011	Vacant land	1.04 km
8	Lot 2 DP 833653	Dwelling	710 m
9	Lot 369 DP 751011	Vacant land	1.48 m
10	Lot 370 DP 751011	Dwelling	1.64 km

The LPDCP 2012 outlines specifications in relation to land use buffers and promote them as an important tool to reduce land use conflicts where competing uses are proposed.

The Department of Primary Industries – *Buffer Zones to Reduce Land Use Conflict with Agriculture – An Interim Guideline (2018)* recommends a buffer of 1 km between poultry farms and sensitive receptors such as housing, or 500 m for farms housing less than 1000 birds. The Guideline states that this recommendation is based on the Living and Working in Rural Areas Handbook (2007) and Level 1 Odour Modelling case study:

- The Living and Working in Rural Areas Handbook (2007) was produced by NSW Department of Primary Industries. The handbook discusses buffer distances and contains a recommendation for a 1 km buffer distance between poultry farms and residential development and 500 m between poultry farms and rural dwellings.
- The “Level 1 Odour Modelling case study” is detailed in the guideline. The case study is of a proposed broiler hen farm. Standard EPA level 1 odour modelling methodology was undertaken for a 6 shed farm containing 35,000 birds per shed, in line with the Best Practice Management for Meat Chicken Production in NSW – NSW DPI (2012). The modelling showed a range of recommended distances to sensitive receptors from 4333 m to 453 m, with 1,079 m being recommended.

There is currently no standard buffer distance that must be maintained between dwellings and poultry farms as separation distances can vary depending on site specific factors. Odour assessments that have been undertaken for the poultry farm as part of the development application may assist to determine an appropriate buffer distance.

The farm at 117 Suttons Road contains over 1000 birds and is located within 1 km of investigation sites 1, 2, 3, 4, 5, 6 and 7. There are a number of existing dwellings and occupants within the vicinity of the poultry farm and within closer proximity than those sites being investigated.

A building envelope may need to be applied to those investigation sites that are currently vacant to ensure the new residential development is within a suitable distance from the poultry farm to mitigate impacts that may occur including odour and noise.

6.3.2 Land and soil capability

Land capability for agricultural production is a function of a range of natural resource conditions including geomorphology, topography, vegetation and soils. Land in NSW is commonly classified according to the capability of land to remain stable under particular land uses.

Class 1 to Class 3 lands are considered to be capable of being regularly cultivated while the remaining classes are not capable of being cultivated for agricultural purposes and are mainly suitable for grazing. It should be noted, however, that the adoption of nil-till or minimum till cropping technology can extend the capability of Class 4 as lands suitable for cultivation (NSW Office of Environment and Heritage, 2012).

Figure 6-4 indicates the areas of land and soil capability in the investigation area. The land is classified as Class 4 - moderate to severe limitations, Class 5 – severe limitations and Class 7 – extremely severe limitations. The capability classes are described in Table 6-5. Higher quality agricultural land is located to the south-west of Currabubula and has a capability Class of 3 – moderate limitations.

Sites 1 and 3 to 7 are located on lands which have moderate to serve limitations. The land is currently used for grazing while supporting lifestyle lots accommodating ancillary structures including sheds. Site 2 is classified as having extremely severe limitations as it is located on a slope that is heavily vegetated. The land is incapable of supporting any agricultural activities or operations.

Site 9 is classified as having severe limitations with Site 10 having both severe and extremely severe limitations. Both lots are located on a slope with Site 10 adjoins a heavily vegetated area and is also incapable of supporting any agricultural uses.

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Kilometres

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Land and soil capability map

Figure 6-4

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Data source: OEH: Land and soil capability map, 2016; LPI: DTDB / DCDB, 2017; . Created by: fmackay

Table 6-5 Land and soil capability definitions

Broad category	LSC Class	General definition
Land capable of being regularly cultivated and used for a wide variety of land uses (cropping, grazing, horticulture, forestry, nature conservation) (Slope < 10%)	1	**Very slight to negligible limitations:** Land has no limitations. No special land management practices required. Land capable of all rural land uses and land management practices.
	2	**Slight but significant limitations:** Land has slight limitations. These can be managed by readily available, easily implemented management practices. Land is capable of most land uses and land management practices, including intensive cropping with cultivation.
	3	**Moderate limitations:** Land has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitations is required for cropping and intensive grazing to avoid land and environmental degradation.
Land capable of a variety of land uses (cropping with restricted cultivation, pasture cropping, grazing, some horticulture, forestry, nature conservation) (Slope 10% - 25%)	4	**Moderate to severe limitations:** Land has moderate to high limitations for high-impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology.
	5	**Severe limitations:** Land has high limitations for high-impact land uses. Will largely restrict land use to grazing, some horticulture (orchards), forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation.
Land capable for a limited set of land uses (grazing, forestry and nature conservation, some horticulture) (Slope > 25%)	6	**Very severe limitations:** Land has very high limitations for high-impact land uses. Land use restricted to low-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation.
Land generally incapable of agricultural land use (selective forestry and nature conservation)	7	**Extremely severe limitations:** Land has severe limitations that restrict most land uses and generally cannot be overcome. On-site and off-site impacts of land management practices can be extremely severe if limitations not managed. There should be minimal disturbance of native vegetation.
	8	**Extreme limitations:** Limitations are so severe that the land is incapable of sustaining any land use apart from nature conservation. There should be no disturbance of native vegetation.

Source: (NSW Office of Environment and Heritage, 2012)

6.3.3 Proximity to Biophysical Strategic Agricultural Land

Biophysical Strategic Agricultural Land (BSAL) is defined as land at the regional scale with high quality soil and water resources capable of sustaining high levels of productivity. The criteria for BSAL land relate to levels of soil fertility, land and soil capability classes and access to reliable water and rainfall levels. It is the inherent values of the land itself, rather than the agricultural activity it supports, which determine the BSAL classification (NSW DPIE, 2020a).

A total of 2.8 million hectares of BSAL have been identified and mapped at a regional scale across NSW. Figure 6-5 indicates the areas identified as BSAL near Currabubula. BSAL mapping takes account of land and soil capability, soil fertility and access to a reliable water supply. The areas mapped near Currabubula generally represent land and soil capability class 3 (refer to Figure 6-5).

While BSAL is a good indicator of the ability of the land to accommodate different agricultural enterprises and land uses, market forces, buffer constraints and other limitations will primarily dictate the suitability of land for agricultural activities.

All of the investigation sites have been determined as not being impacted by BSAL.

6.4 Physical constraints

6.4.1 Topography and slope

Slope is a significant factor influencing soil erosion, drainage and bushfire hazard. Slopes greater than 15 degrees are likely to have geological constraints and are susceptible to mass movement and high to very high erosion hazard.

Within rural residential precincts slopes greater than 15 degrees present a high bush fire danger for dwellings, footings require a great deal of cut and fill, and it can cause installation and management problems for sewerage and water systems.

Access is also difficult, and they present a greater erosion hazard. In areas that have these grades, development is more difficult. Therefore, lands with a slope over 15 degrees have a low probability of being suitable for further development.

Despite this, with specific engineering solutions, rural residential development is possible. Relatively flat grades (less than 10 degrees) significantly reduce costs associated with the installation of infrastructure to service proposed development.

LPDCP specifies the following requirements for housing development on R5 zoned lands:

- Development on slopes >20% is not permitted
- Development on slopes >15% requires detailed geotechnical investigation (including slope stability analysis) and design to demonstrate good hillside development practice
- Cut/fill is limited to 1 metre
- Details of sub-surface drainage is to be provided with no discharge to slopes

The slope of the investigation sites is detailed on the waterways map (refer Figure 6-9).

Sites 9 and 10 are located on a hillside between Duri Creek and a ridge, sloping down towards the south-east. Site 10 has a steep slope, with a change in elevation of approximately 60 m across the site, a grade of approximately 17%. A dwelling is currently located on Site 10. Site 9 has a gentler slope, with a change of approximately 10 m.

Investigation sites 4 and 5 have frontage to Currabubula Creek and have a gentle slope, with elevation changing by approximately 10 m across the site.

Sites 1, 2, 3, 6 and 7 are located contiguously on a hillside with Duri Creek to the east, Currabubula Creek to the south and a ridgeline to the north-east. The slope increases from Site 7 to Site 2, with site 7 having a change in elevation of less than 10 m across the site, and Site 2 having a change of elevation of approximately 50 m.

Site 8 is located near the bank of Currabubula Gully and is relatively flat, with a change in elevation of less than 10 m across the site.

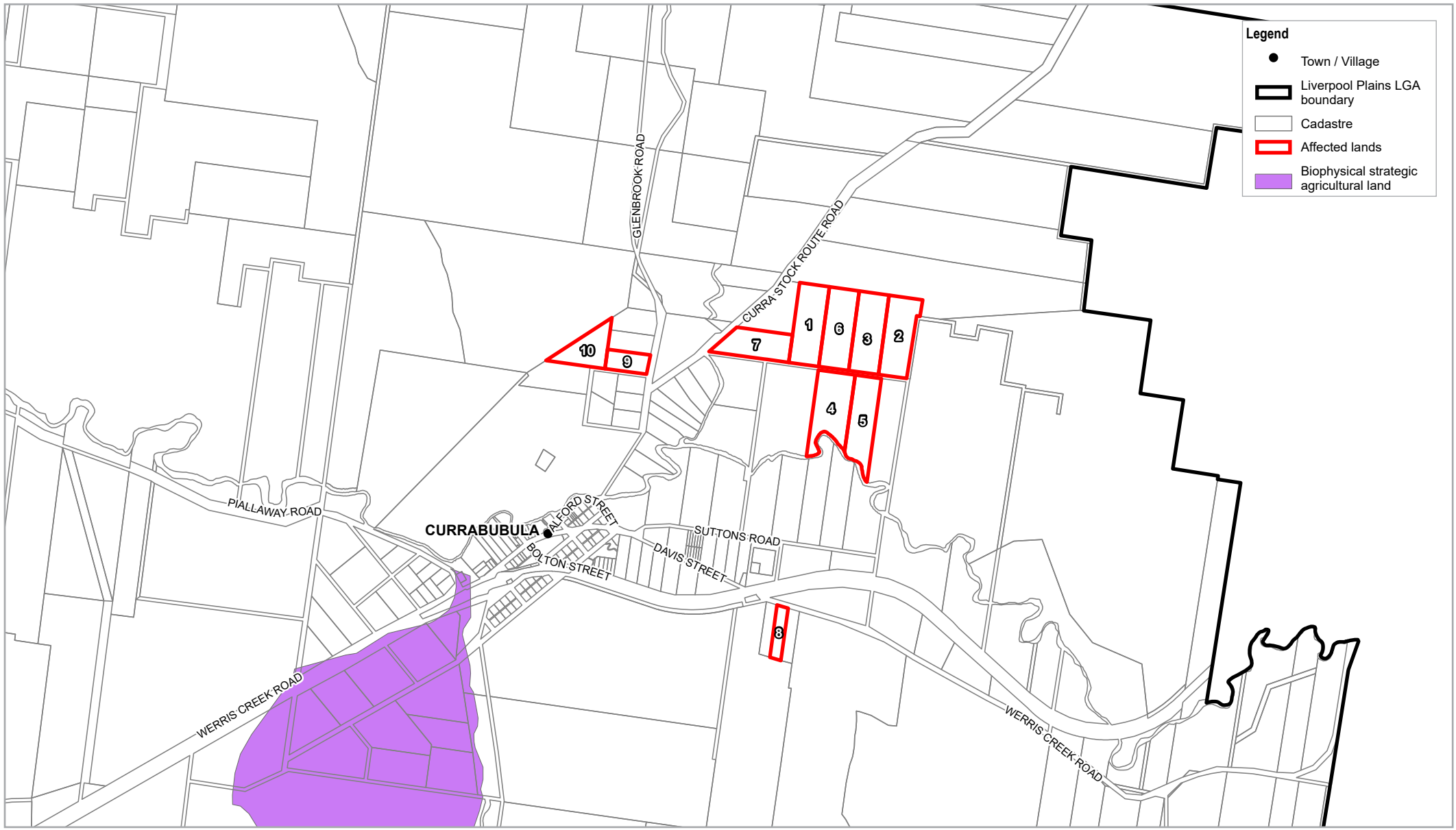
6.4.2 Scenic amenity

The village of Currabubula has an attractive scenic rural landscape that is highly valued by the local community and is major drawcard for residents. This includes surrounding agricultural lands, rolling hills, waterway system, rural outlooks, and topographic features.

The scenic character is generally defined in the valleys by broad scenic vistas of agricultural areas used for grazing and cropping, combined with vegetated mountain backdrops and rolling hills. The rural landscape is managed by the 200 ha MLS which applies to the surrounding RU1 zone.

The LPDCP specifies that a roofline of a dwelling on R5 zoned lands should not project above the ridgeline where visible from any public road or place. Consideration may be needed regarding placement of housing on the investigation sites to minimise impact. Materials and scale will also require consideration.

This rural landscape is a unique valuable asset to the settlement, and it is important this character is maintained in order to preserve the scenic rural charm of the area. Future development will need to be sympathetic so as not to compromise the current scenic amenity.



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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Biophysical Strategic Agricultural Land under *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*

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Figure 6-5

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Print date: 23 Jun 2021 - 15:14

Data source: OEH: SEPP Biophysical Strategic Agricultural Land, 2016; LPI: DTDB / DCDB, 2017; . Created by: fmackay

6.5 Environmental constraints

6.5.1 Biodiversity

Biodiversity assessment methodology

The terrestrial biodiversity assessment comprised of a desktop review of available documents and government databases including:

- NSW Biodiversity Conservation Division (BCD) BioNet Atlas for records of threatened biota previously recorded in the locality (OEH, 2020a)
- NSW BCD Threatened biodiversity profile search (OEH, 2020b)
- Department of Agriculture, Water and the Environment (DAWE) Protected Matters Search Tool (PMST) for biota listed under the EPBC Act that are known or predicted to occur in the locality (DAWE, 2020a)
- DAWE online species profiles and threats database (SPRAT) (DAWE, 2020b)
- BCD Vegetation Classification Database (OEH, 2020c)
- Regional vegetation mapping of the Liverpool Plains (OEH, 2015)
- Key fish habitat maps for the Liverpool Plains (DPI, 2007)
- Freshwater threatened species distribution maps (DPI, 2020)

Other ecological resources reviewed included:

- NSW Sharing and Enabling Environmental Data (SEED) Portal (NSW Government, 2020)
- Groundwater Dependent Ecosystems Atlas (BOM, 2020b)
- Aerial photographs and satellite imagery of the locality

Searches were generally undertaken for the investigation sites with a 10 km buffer, referred to as the locality. The Bionet Atlas search was extended to a 20 km buffer, due to the low number of records within the 10 km buffer and limited survey effort within the locality.

The investigation sites are constrained by biodiversity, bushfire risk, drainage, and slope. Existing dwellings have onsite services. A poultry farm is located along Suttons Road and will require consideration when justifying rezoning for dwelling entitlements.

Vegetation and flora species

Vegetation within the investigation sites appear to be limited to scattered remnant paddock trees and previously cleared paddocks comprised of native grassland. It appears that vegetation within the investigation sites includes a corridor of moderately fragmented vegetation, primarily within Sites 4 and 5 (refer Figure 6-6). This vegetated corridor and remnant paddock trees would allow for connectivity for mobile-ground fauna to move across the investigation sites in a north-south and east-west direction by providing foraging, sheltering and potentially breeding habitat. Sites 4, 5 and 7 also border waterways with riparian vegetation, which would also provide connectivity throughout the wider locality.

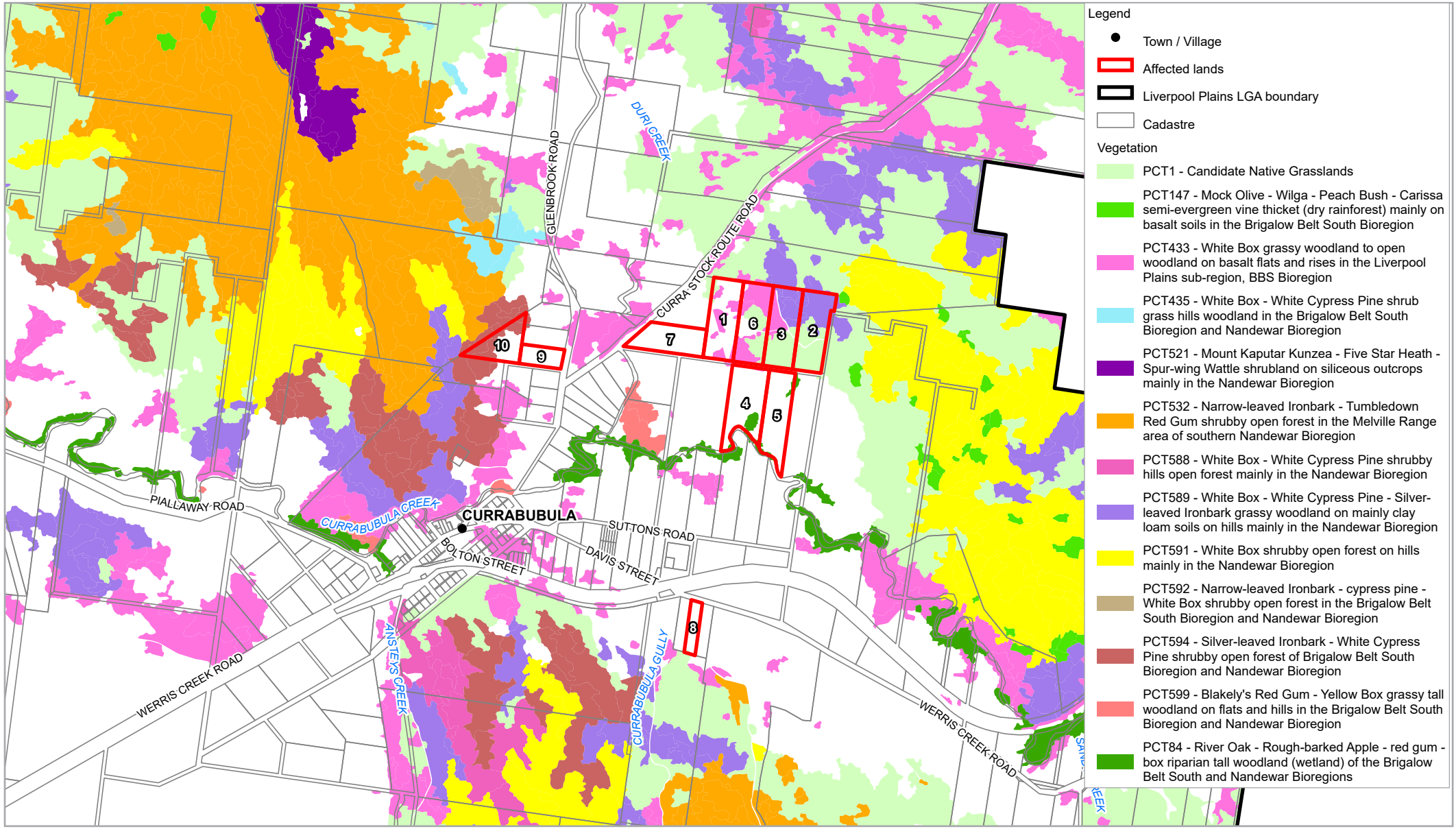
Five plant community types (PCTs) have been mapped as occurring within the investigation sites. A list of these PCTs and their potential BC Act and EPBC Act listings are described in Table 6-6. A review of aerial imagery indicates however that many areas of remnant vegetation have not been mapped. In addition to lack of consistent data, ground-truthing of this vegetation mapping is required to confirm the vegetation types that occur within the investigation sites and whether they conform to any BC Act and EPBC Act threatened ecological community listings and/or meet condition thresholds for these listings.

The native vegetation within the investigation sites may be suitable to a large number of flora species. Three threatened flora species have previously been recorded within 20 kilometres of the investigation sites (Appendix C). Two of these species are recorded greater than 13 kilometres from the investigation sites whilst the other species is less than 200 metres away. *Dichanthium setosum* (Bluegrass) which is listed as vulnerable under the BC Act and EPBC Act, has previously been recorded south of the investigation sites. Assessment of the location of these records, regional vegetation mapping and aerial imagery suggests that potential habitat for this species may occur within the investigation sites . Despite being recorded greater than 13 kilometres from the investigation sites potential habitat for *Digitaria porrecta* (Finger Panic Grass) and *Polygala linariifolia* (Native Milkwort) may also occur; both of which are listed as endangered under the BC Act. Due to the mapped native vegetation within the investigation sites, potential habitat may also be present for an additional six species listed under the EPBC Act, identified as having potential to occur by the Commonwealth Protected Matters Search Tool ((DAWE, 2020a); Appendix B).

Table 6-6 PCTs previously mapped within the investigation sites

PCT ID	PCT name	BC Act status and name	EPBC Act status and name
1	Candidate native grasslands	Potential to be listed as derived native grassland - CEEC	Potential to be listed as derived native grassland - CEEC
594	Silver-leaved Ironbark - White Cypress Pine shrubby open forest of Brigalow Belt South Bioregion and Nandewar Bioregion	Not listed	Not listed
84	River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) of the Brigalow Belt South and Nandewar Bioregions	Not listed	Not listed
433	White Box grassy woodland to open woodland on basalt flats and rises in the Liverpool Plains sub-region, BBS Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions - CEEC	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland - CEEC
589	White Box - White Cypress Pine – Silverleaved Ironbark grassy woodland on mainly clay loam soils on hills mainly in the Nandewar Bioregion	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions - CEEC	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland - CEEC

* Not all listed BC Act TECs may occur within the investigation sites or correspond to the EPBC Act listed equivalent due to condition thresholds of the ecological community.



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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Plant Community Types in the investigation sites

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Figure 6-6

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Data source: OEH: Vegetation, 2015; LPI: DTDB / DCDB, 2017; . Created by: fmackay

Fauna species and habitat

The investigation sites are mostly cleared with the predominant vegetation type being grassland. However, the sites are still likely to retain vegetation containing significant habitat values and would provide some connectivity between vegetated areas to the east and west of the investigation sites .

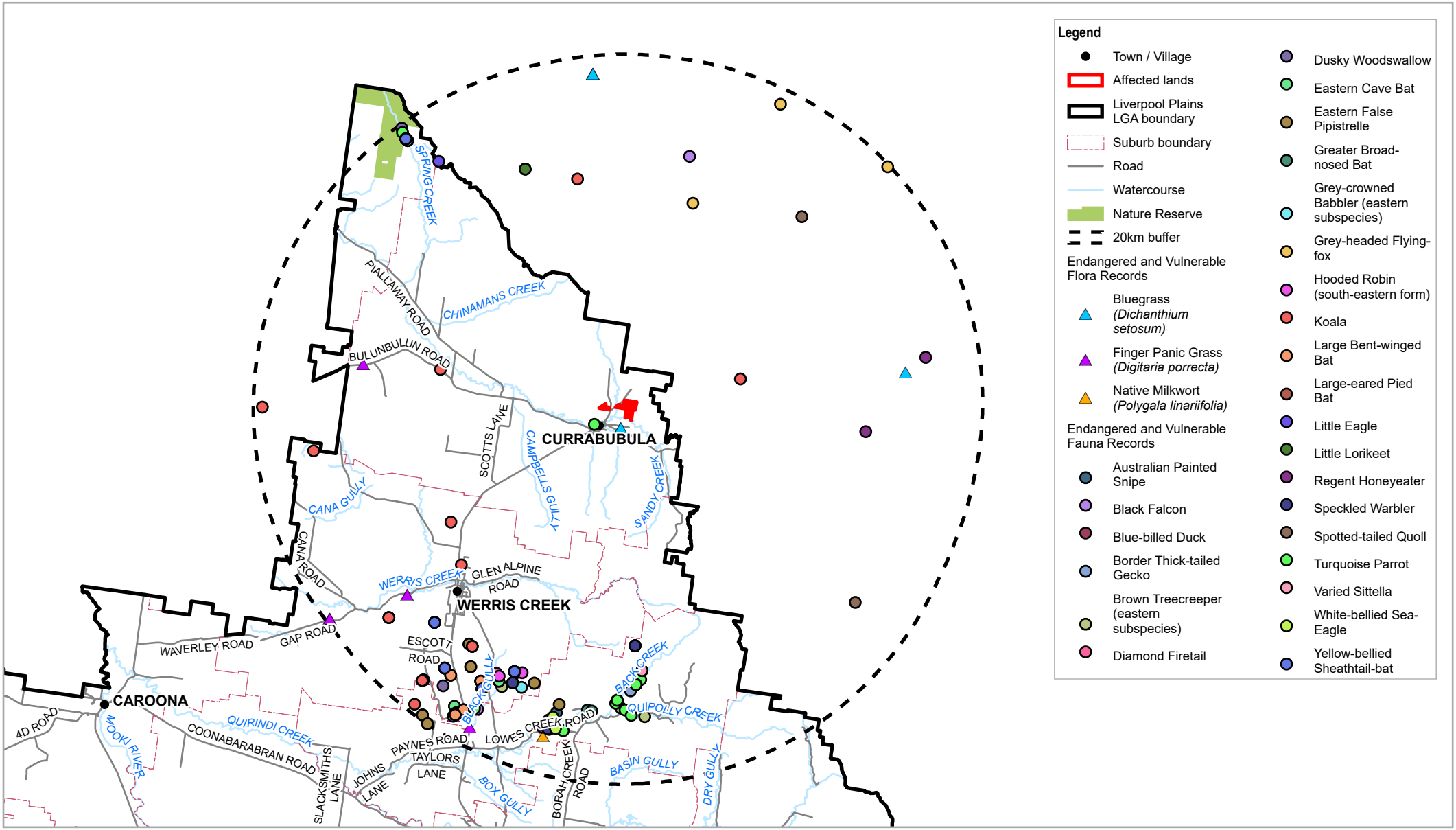
During the database searches, 25 threatened fauna species have previously been recorded within 20 kilometres of the investigation sites (OEH, 2020a). The recorded locations of these species are mapped in Figure 6-7. Most of these threatened fauna species have previously been recorded greater than 11 kilometres from the investigation sites . An additional 23 threatened fauna species listed under the EPBC Act have been identified as having potential to occur (DAWE, 2020a).

Those threatened fauna species that have been recorded in substantial numbers within 11 kilometres of the investigation sites include the Turquoise Parrot (*Neophema pulchella*) and Koala (*Phascolarctos cinereus*) (refer to Appendix C). These species are both listed as vulnerable under the BC Act, whilst the Koala is also listed as a vulnerable species under the EPBC Act. The Turquoise Parrot (*Neophema pulchella*) has previously been recorded one kilometre from the investigation sites within PCT 433, which has also been mapped within the site (Table 6-6). This species may utilise the native vegetation within the investigation sites to forage, particularly on the edges of the remnant vegetation within the native grassland.

The number of previous records within the locality for the Koala also indicate that this species may utilise the investigation sites as habitat. The Koala Habitat Protection SEPP applies to the Liverpool Plains LGA and lists feed tree species which may occur within the investigation sites. Vegetation mapping suggests that four of the five mapped PCTs within the site may provide habitat for Koalas (excluding PCT 1 due to apparent lack of canopy species). Potential habitat for the Koala within the investigation sites would need to be further assessed.

The remnant trees within the investigation sites may also provide foraging, roosting and breeding habitat for hollow-bearing fauna species such as bats, birds and arboreal mammals previously recorded within the locality (OEH. 2020a) (Appendix C). Additional habitat types may also be present within the investigation sites and may include woody debris, dams, log and rock piles and leaf litter. These habitat features may allow for common and threatened fauna species to occur. A detailed site assessment would need to be completed to assess for habitat availability for these species.

Aquatic habitat is located on the boundaries of the investigation sites , primarily adjacent to Sites 4, 5 and 7. Currabubula Creek runs south of Sites 4 and 5 in an east-west direction, whilst tributaries are located within the locality of the investigation sites. Tributaries include Sandy Creek, Currabubula Gully, Ansteys Creek and Duri Creek, which runs in a north-south direction adjacent to Site 7. These waterways are identified as key fish habitat for aquatic species (DPI, 2007) and are mapped within the distribution of the Eeltailed Catfish (*Tandanus tandanus)* and the Southern Purple Spotted Gudgeon (*Mogurnda adspersa*) which are both listed as threatened species under the *Fisheries Management Act 1994* (DPI, 2020).



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Threatened species map

Figure 6-7

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Data source: OEH: Threatened Species Records, 2020; LPI: DTDB / DCDB, 2017; . Created by: fmackay

Groundwater dependent ecosystems

Three terrestrial groundwater dependant ecosystems (GDE's) were identified within the investigation sites. These GDE's are summarised in Appendix C. The presence of these GDE's would need to be confirmed with additional field investigations.

Constraints summary

Key potential biodiversity constraints are summarised in Table 6-7. It is noted that these constraints are based on desktop assessment only including available vegetation mapping from 2015 (OEH, 2015) and has not been ground-truthed. As such, potential constraints and impacts are indicative only.

Table 6-7 Potential biodiversity constraints

Constraint	Summary
Potential removal of native vegetation	Loss of areas of native vegetation due to the clearing for construction of residential dwellings. This will reduce the extent of these vegetation communities within the locality and potentially decrease the extent of habitat for threatened biota listed under the BC and/or EPBC Acts.
Potential loss of TECs via clearing or inundation	TECs may be directly impacted by clearing for construction of residential dwellings.
Impact to threatened flora, with 9 species recorded within 20 km of the site and/or predicted to occur (Section 6.5.1))	Potential for direct impact to threatened flora from clearing for construction activities. In particular, there are records of *Dichanthium setosum* (Bluegrass) within close proximity to the investigation sites.
Impact to threatened fauna, with 48 species recorded within 20 km of the site and/or predicted to occur (Section 6.5.1)	Threatened fauna species may be directly impacted through loss of breeding and roosting habitat and severing of connectivity as a result of clearing for construction. Also, they can be indirectly impacted by the processes described within this table (restricted habitat connectivity, displacement, weed species, vegetation loss). Impact to these species may depend on habitat requirements, mobility and likely home ranges.
Spread of weeds	Construction of residential dwellings has the potential to increase the spread of priority and environmental weeds. This may occur from the introduction of weed species from plant and material from construction.
Fauna displacement	Fauna that utilise the investigation sites as habitat may be permanently displaced as a result of construction of residential dwellings. These may be common or threatened fauna species. Fauna which may utilise land adjacent to the investigation sites may be indirectly impacted once the residential dwellings are constructed, due to the increased impacts of urbanisations such as light and noise pollution, introduction of pets, such as dogs and cats which may prey on native fauna and increased pollution.
Potential requirement for biodiversity offsetting	The potential impacts on TECs and threatened species are likely to trigger a requirement for biodiversity offsets under the NSW Biodiversity Offsets Scheme and/or EPBC Act.
Potential requirement for EPBC Referral	Impacts on threatened species and TECs that are listed under the Commonwealth EPBC Act may require an EPBC referral.

6.5.2 Bushfire risk

The *Rural Fires Act 1997* requires the identification of all bushfire-prone land based on hazard mapping and the provision of Asset Protection Zones (APZ's). Land that is affected by high bushfire hazard must meet the requirements of NSWRFS 'Planning for Bushfire Protection 2006" (as amended). This publication also requires development to meet the requirements of Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas.

Bushfire hazard can be a major development constraint. The slope of the land, aspect and the vegetation types present, determines the level of bushfire hazard. Opportunities exist to manage the interface between new development and surrounding vegetation, including perimeter roads, fuel reduction and building design.

More detailed site based assessment of bushfire hazard will need to be undertaken during any future development on the lands to ensure it is located and designed having regard to the degree of bushfire hazard. Where adequate fire protection measures cannot be established, development should be prohibited.

A property is bush fire prone if it is wholly or partly located in the red, orange or yellow area on the Liverpool Plains Bushfire Prone Land Map. Areas categorised as bushfire prone are generally consistent with areas of remnant native vegetation. Bushfire prone lands are classified as follows:

- Vegetation Category 1 (red): Land considered to be the highest risk for bushfire and surrounded by a 100 m buffer (buffer is yellow).
- Vegetation Category 3 (dark orange): Land is considered to be a medium bush fire risk surrounded by a 30 m buffer (buffer is yellow).

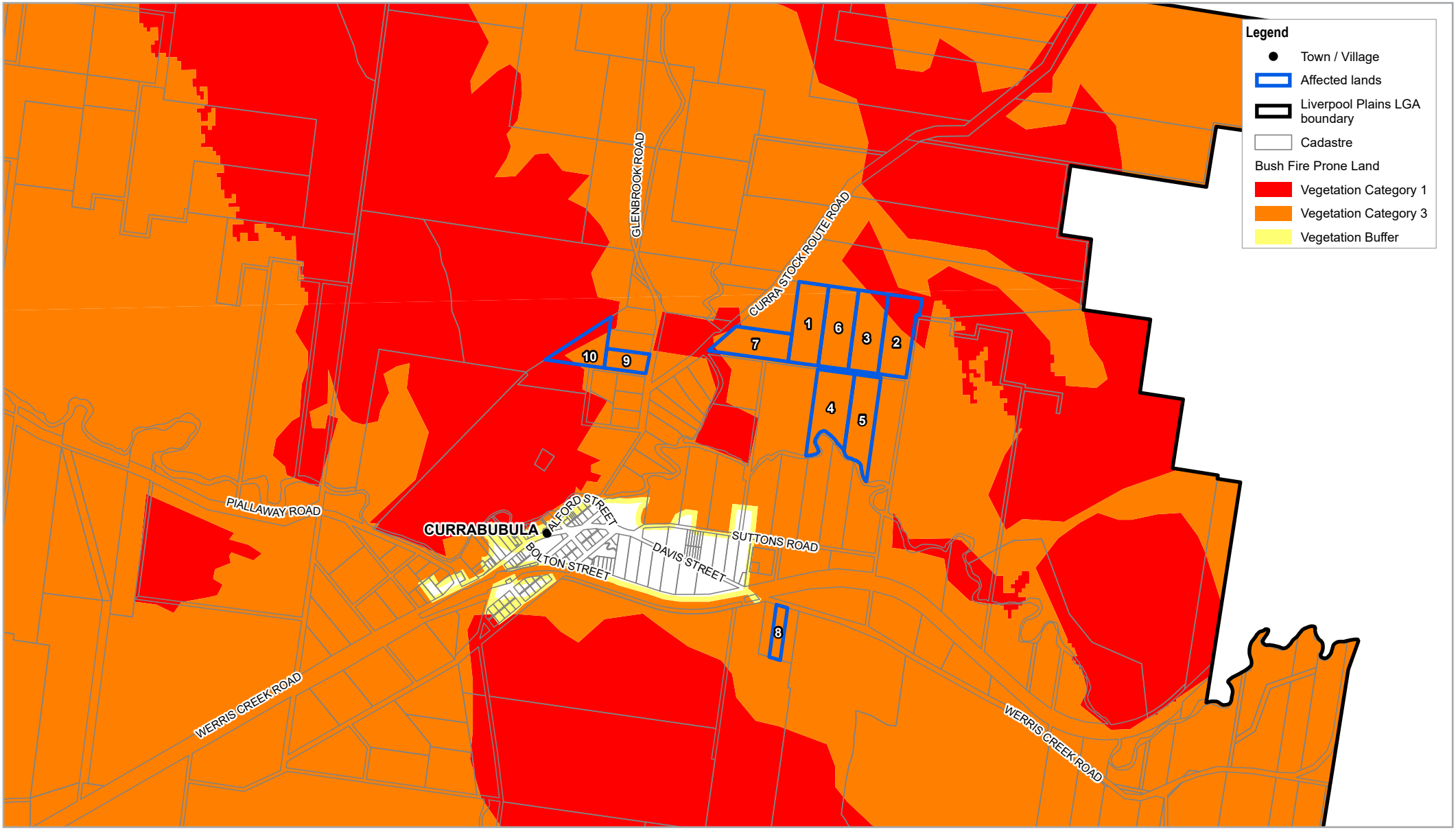
The investigation sites fall within either a red or orange vegetation category as indicated in Figure 6-8.

Any property located within a red, orange or yellow area on the bushfire prone land map are required to comply with bushfire protection measures when designing the proposed development. Council will also take into account the bushfire risk in the assessment of a development application or bushfire certificate application for the land.

Special building setbacks, landscaping and construction requirements may apply. This will depend on the type of development, the degree of bush fire hazard and the distance from the hazard.

Appropriate bushfire protection measures will be required for the development of a dwelling on the investigation sites, including:

- Asset Protection Zones (fuel reduced areas)
- Building construction standards and design (using Australian Standard AS3959)
- Access arrangements for residents, fire fighters, emergency service workers and those involved in evacuation
- Water supply and utilities
- Emergency management arrangements
- Suitable landscaping to limit fire spreading



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Map Projection: Transverse Mercator
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Grid: GDA 1994 MGA Zone 56

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Bushfire prone land map

Figure 6-8

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Data source: RFS: Bushfire prone land, 2019; LPI: DTDB / DCDB, 2017; . Created by: fmackay

6.5.3 Water resources

Local groundwater occurs in an alluvial aquifer, the Currabubula Alluvial Groundwater Source, and the underlying fractured rock aquifer, the Peel Fractured Rock Water Source. Water management is legislated under the *Water Management Act, 2020* (WM Act) and specific restrictions on resource use are outlined in the:

- *Water Sharing Plan for the Namoi Alluvial Groundwater Sources Order 2020*; and
- *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources Order 2020*

Both plans came into effect for a 10-year period as of 1 July 2020.

A search of Water NSW online real-time data records indicates 134 water bores within a 5 km radius of the site. Installation dates range from 1911 through 2019. Bore depths range 2.7 m below surface to 200 m below surface accessing both alluvial and fractured rock aquifers. No water use of water level data is included in the records.

Currabubula Alluvial Groundwater Source

The Currabubula Alluvial Groundwater Source is relied on for domestic and stock water purposes with water rights estimated to total 18 ML year [1]. There are no harvestable rights in the groundwater source. Under the WM Act, basic landholder rights authorise the take of groundwater without the need for an access licence or water use approval, although a water supply work approval is still required to construct a water bore.

Water under access licence provisions are accounted as the total volumes or unit shares in the share components of access licences. The actual volume of water available from year to year will depend on climate, access licence priority and the provisions in the Plan. Share components of aquifer access licences are estimated at 327-unit shares. No share components apply to domestic and stock, local water utility or general security access licences. Four water access licences are listed in Water NSW records.

The long-term annual extraction limit for the aquifer is 60 ML year^{-1}.

Peel Fractured Rock Water Source

The Peel Fractured Rock Water Source is also relied on for domestic and stock water purposes with water rights estimated to total 4,052 ML year^{-1}. Domestic and stock rights are set out in section 52 the WM Act and must be exercised in accordance with any mandatory guidelines established under the Act for the taking and use of water for domestic consumption or stock watering.

Share components of domestic and stock access licences are 448 year^{-1}. Share components of local water utility access licences are 100 year^{-1}. Share components of aquifer access licences are estimated at 11,008-unit shares. Water access pertain to 227 licences as listed in Water NSW records.

The long-term annual extraction limit for the aquifer is 15,874 ML year^{-1}.

R5 water access considerations

Rezoning from RU1 to R5 is likely to result in an increase in water access requests with property owners likely to seek access to groundwater via private bores. This may result in increased demand in volume to support private gardens, hobby farms and other non-potable uses. Based on the data obtained in the desktop review outlined above, both the alluvial and fractured rock aquifers have capacity to support additional access licences (18 ML vs 60 ML and 4,052 ML vs 15,874 ML). The installation of rainwater capture systems is recommended to supplement groundwater sources and increase sustainable use practices.

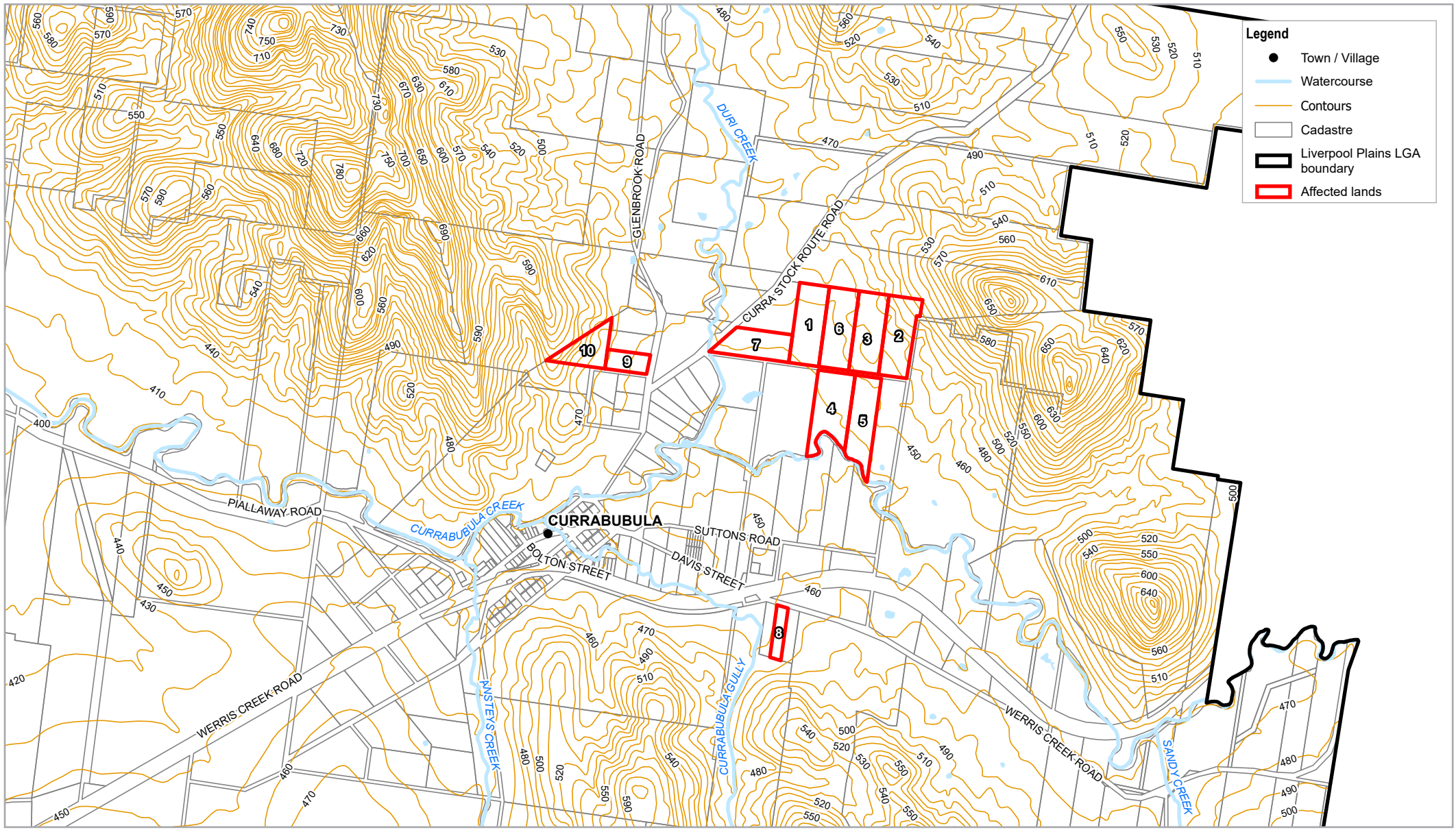
In the absence of sewerage systems, septic tanks will be relied on for sewage disposal. Septic tanks present potential pathways for contamination of groundwater and may leach elevated nutrients, metals and pathogens through the sub-surface. Given the limited area proposed for re-zoning and the size of the lots (5 to 8 ha), the density of septic systems is considered low and the potential for wide-scale groundwater contamination to occur equally low. Septic systems should be adequately maintained and their location in relation to water source points considered appropriately (i.e. water draw to occur up-hydraulic gradient of disposal systems).

6.5.4 Waterways and flood risk

The investigation sites are not identified as flood prone land under LPLEP 2011 and Flood Planning Map. There are a number of waterways within the vicinity of 3 sites that may impact upon drainage during high rainfall events and which may place any future development at risk.

Those waterways that flow through Currabubula, include Currabubula Creek, Anstey's Creek, Currabubula Gully, Sandy Creek and Duri Creek (refer Figure 6-9). Sites 4 and 5 are located on the banks of Currabubula Creek, whilst Site 7 is located on the banks of Duri Creek.

Although Sites 4,5 and 7 are located adjacent to a waterway, risk to future development may be mitigated through the application of a building envelope. The envelope could be located a certain distance from the waterway to mitigate any risk that may result from intense stormwater events and increased volumes and flows from the local catchment.



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Local waterways map

Figure 6-9

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Print date: 23 Jun 2021 - 15:14

Data source: LPI: DTDB / DCDB, 2017; . Created by: fmackay

7. Summary of findings

A summary of the report findings for the investigation sites is provided in Table 7-1.

Each of the investigation sites have been individually evaluated and assessed against the suitability and capability criteria. The evaluation for each investigation site can be found in Appendix C.

Table 7-1 Summary of findings

Report Findings		
SUITABILITY & CAPABILITY CRITERIA		COMMENT
Planning provisions	Zone	The 10 investigation sites are currently zoned RU1 Primary Production. The change from a rural to a rural residential land use will require a reduction in the MLS and identification of a dwelling entitlement.
	MLS	The MLS is currently 200 ha which is the size applied to RU1 Primary Production zone with the aim of protecting high value agricultural lands. The MLS also prohibits a dwelling entitlement on Sites 1-3, 5-7 and 9. The investigation sites are located within a fragmented allotment pattern. The investigation sites range in size from approximately 2 ha to 9 ha. A minimum MLS pursuant to the LPLEP 2011 could be applied to correspond with the MLS of the lot to allow for a dwelling entitlement while limiting any further future development in accordance with the R5 zone.
	Dwelling Entitlement	Sites 4,8 and 10 support a single dwelling and ancillary development. Changing the zone from a rural to a residential use will allow for a smaller MLS to support a dwelling entitlement.
Heritage	Non Aboriginal Aboriginal heritage	Council has previously undertaken investigations to determine if there is the presence of Aboriginal and non Aboriginal heritage. It was previously determined by Council, no items or places of Aboriginal or non-Aboriginal heritage are allocated on any of the investigation sites.
Local Settlement	Proximity to existing settlement	All 10 sites are located within close proximity to village of Currabubula.
	Interface with adjoining non-residential zones	Site 1-7 adjoins agricultural land to the north. Site 8 adjoins agricultural land to the south. Sites 9 adjoins agricultural land to the north. Site 10 is located on a slope and adjoins vegetation to the west.
Infrastructure	Utility servicing	The village is not serviced by reticulated water and sewer services. Onsite water and sewer services will be required for any new development providing there are no impacts to groundwater resources.

Report Findings		
	Road network connectivity	All of the investigation sites can be accessed via Glenbrook Road, a sealed road branching from the Werris Creek Road. This road then becomes an unsealed road on the northern side of the concrete bridge. Sites 1-7 are accessed off Mount Cobla Road(unsealed) with connection off Curra Stock Route Road (unsealed) and Glenbrook Road (sealed/unsealed). Site 8 is accessed off the Werris Creek Road (sealed). Sites 9 and 10 are accessed by Angwins Lane (unsealed) with connection off Glenbrook Road (sealed/unsealed).
Land use	Existing use - Intensive livestock industry	A poultry farm located at 117 Suttons Road is located within 500 m of some of the investigation sites. Further investigations regarding impacts on receptors within close proximity may be required to determine buffers between new dwellings and the poultry farm. Identification of building envelopes may assist in ensuring dwellings are located a maximum distance from the poultry operations.
	Land and soil capability	Highly productive agricultural land should be protected from fragmentation and maintained for primary production. None of the investigation sites are classified as high-quality agricultural land, with the highest land and soil capability on any of the sites being Class 4 – Moderate to severe limitations. The land and soil capability analysis suggests that Sites 2, 9, 8 and 10 are incapable of supporting agricultural activities due to slope and vegetation. Although Sites 1, 3- 7 are classified as having moderate to serve limitations due to the slope. Grazing on certain lots is being practiced on a minimal scale.
	BSAL	None of the investigation sites are identified as BSAL. Development is therefore not limited by the provisions applying to BSAL.
Physical constraints	Topography/ slope	Land with a slope over 15 degrees has a low probability of being suitable for further development, particularly Sites 2,9 and 10. A dwelling is currently located on Site 10. Although both Sites 2 and 9 are affected by steep slope, there is opportunity to locate a dwelling in a location on each lot where it will not be affected by steep gradient.
	Scenic protection and amenity	The village of Currabubula has an attractive scenic rural landscape that is highly valued by the local community. Future development will be guided by LPLEP 2011 regarding development on ridgelines or where it is visible from any road or place.
Environment	Native vegetation/ecology	Vegetation within the study area appears to be limited to scattered remnant paddock trees and previously cleared paddocks comprised of native grassland. It appears that each investigation site contains a large enough area of cleared land to facilitate the development of a dwelling without impacting any high-value habitat that may be present on the site. There are no mapped EECs on any of the investigation sites.

Report Findings		
	Bushfire	The investigation sites are identified as being bushfire prone land. As the investigation sites are mostly cleared, adequate Asset Protection Zones can be implemented for any proposed dwellings without needing to clear native vegetation. The requirements for Asset Protection Zones are detailed in Planning for Bushfire Protection 2019.
	Flooding and drainage	None of the investigation sites are identified as flood prone. Sites 2, 4 and 9 have the potential to be affected by flooded local waterways, however they are not identified as flood prone land in LPLEP 2011. Sites 4,5 and 7 are located adjacent to a waterway and some flood risk may exist. A building envelope located a certain distance from the waterways may be required to mitigate any risk that could result from flood events and increased volumes and flows from the local catchment.
	Water Resources (groundwater)	Both the alluvial and fractured rock aquifers under the investigation sites have capacity to support additional access licences (18 ML vs 60 ML and 4,052 ML vs 15,874 ML). The installation of rainwater capture systems is recommended to supplement groundwater sources and increase sustainable use practices.

8. Recommendations

8.1 Evaluation results for the investigation sites

The outcomes from the evaluation of the 10 investigation sites has revealed that those particular sites that do not currently contain a dwelling may require further environmental assessment and consultation to change the zone and MLS for rural residential development. The evaluation of the suitability and capability criteria is contained in Appendix C.

Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.

8.1.1 Liverpool Plains Local Environmental Plan

Zoning and minimum lot size

The 10 investigation sites are located within a cluster of existing larger lots adjacent to rural residential development that includes existing dwellings. Sites 9 and 10 are located adjacent to an existing R5 zone with an MLS of 1.5 ha. Sites 1 to 7, 9 and 10 are located within an area that is already fragmented and located within a cluster of larger lots apart from Site number 8 which is located on the southern fringe of the village.

The lots located on either side of Site 8 have the potential to also be rezoned to a large lot residential zone and corresponding MLS to provide a consistent approach to the residential land uses on the eastern side of the village.

To enable a dwelling entitlement on those lots that currently do not support a dwelling, the zoning could change from a rural use to a residential use with an MLS that is currently being applied under the LPLEP 2011 for other R5 lands within the LGA. The permitted uses within the R5 zones are restrictive only allowing single dwellings and ancillary buildings with the aim of protecting the rural character while providing a residential lifestyle.

The proposed MLS for each investigation site is indicated in Table 8-1 and aligns with the MLS for R5 lands utilised in other locations within the LGA.

Table 8-1 Proposed zoning and MLS for each investigation site

Site (Map Ref #)	Lot/Sec/DP	Existing Dwelling	Land Area (Ha)	Proposed MLS (Ha)
1	Lot 331 DP 751011	0	8.155	7
2	Lots 328 DP 751011	0	8.103	
3	Lot 329 DP 751011	0	8.058	
4	Lot 288 DP 751011	1	8.096	
5	Lot 289 DP 751011	0	8.883	
6	Lot 330 DP 751011	0	7.800	
7	Lot 333 DP 751011	0	2.026	2.5
8	Lot 2 DP 833653	1	2.795	2.5
9	Lot 369 DP 751011	0	5.132	7
10	Lot 370 DP 751011	1	6.367	7

8.1.2 Liverpool Plains Development Controls Plan 2012

The LPDCP 2012 guides development for zoned land under the LPLEP 2011, however there are no specific controls relating to rural residential development under the DCP. The inclusion of additional general controls relating to rural residential development may assist with the management of conflicts and constraints that may occur with the future demand for larger lifestyle lots in remote localities such as Currabubula.

8.2 Further environmental assessments

Prior to any rezoning of the investigation sites, the following assessments should be undertaken to further determine suitability of those sites that do not currently support a dwelling.

8.2.1 Existing land use – Poultry farm located on Sutton Road

Additional investigation may be required regarding appropriate setbacks for new dwellings on those lots that currently don't have a dwelling entitlement to mitigate impact such as odour. Buffers and building envelopes may need to be established to manage placement of new housing to maximise distance from the poultry farm to the receptor.

8.2.2 Slope and scenic amenity

Further investigation in relation to gradient to determine the appropriate location for a dwelling. Slope over 15° will have an impact on drainage and bushfire compliance.

8.2.3 Biodiversity field surveys and specialist assessments

Further assessment of the investigation sites would need to be conducted to better understand the constraints associated with re-zoning the investigation sites to allow for residential dwellings. These assessments may include:

Terrestrial ecology survey – within the investigation sites to ground truth available mapping and data. The terrestrial survey should include:

- Detailed flora survey, including targeted searches in potential habitat for threatened flora species, and systematic floristic plot survey.
- Vegetation mapping, noting the presence of any EECs.
- Fauna habitat resource mapping including Koala habitat.
- General baseline fauna surveys such as deployment of microbat echolocation recording units, bird census, spotlighting and habitat searches.
- Potential targeted fauna surveys for those fauna species identified as having suitable habitat within the investigation sites.
- Surveys are required to confirm if any of the native vegetation existing on the properties contains BC Act and EPBC Act threatened ecological community listings.

Any site which contains EEC, threatened species or other identified constraints would need to be developed in such a way as to minimise the impact on and as a result of these constraints.

8.2.4 Development on bushfire prone lands

All of the 10 investigation sites are located on bushfire prone land. As a result, new residential development will require compliance with the provisions of the NSW RFS document "Planning for Bushfire Protection 2019." Bushfire hazard assessments are required for any development to ensure adequate asset protection zones, water supply, access by emergency vehicles.

8.2.5 Local waterways and flooding

Detailed consideration of riparian management will be required for those lots that adjoining drainage areas including Currabubula and Duri Creeks. This should include matters such as appropriate setbacks, biodiversity and flooding.

It has been determined the 10 investigation sites are not identified as flood prone land on the LPLEP 2011 flood planning map. As Sites 4 and 5 are located adjacent to Currabubula Creek, and Site 7 located on the corner of Currabubula and Duri Creek, further assessment of any flood risk would assist in determining the appropriate location for dwellings on each site. This would include mapping the extent, depth, peak velocity, hydraulic hazard and hazard vulnerability of 1% and 5% AEP flood events.

8.2.6 Water resources

Bore water is available on all 10 of the investigation sites, however the installation of rainwater capture systems is recommended to supplement groundwater sources and increase sustainable use practices.

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Appendices

Appendix A – Relationship with state, regional and local land use planning frameworks

State legislation and polices

Environmental Planning and Assessment Act 1979 and Regulations

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides the statutory basis for planning and environmental assessment in NSW. All development is assessed in accordance with the provisions of the EP&A Act and the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation). The EP&A Act institutes a system for environmental planning and assessment, including approvals and environmental impact assessment for proposed developments. The Act also provides the legislative framework for strategic planning including making and amendment of local environmental plans in order to rezone property. Development in the Liverpool Plains LGA is assessed under the provisions of the Act.

State Environmental Planning Policy (Koala Habitat Protection) 2020

The objective of *State Environmental Planning Policy (Koala Habitat Protection) 2020* (Koala SEPP) is to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free living population over their present range and reverse the current trend of koala population decline.

Liverpool Plains Shire Council is located within the local government areas identified under the SEPP. The Koala SEPP lists feed tree species which constitute potential koala habitat. Development applications on land over 1 hectare in size or together with adjoining land in the same ownership has an area over 1 hectare, must take into consideration the provisions of the SEPP. Provisions include determining whether or not the land is core koala habitat and/or the preparation of a plan of management.

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

The *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017* (Vegetation SEPP) was part of a suite of Land Management and Biodiversity Conservation reforms that commenced in New South Wales on 25 August 2017. The Vegetation SEPP works together with the *Biodiversity Conservation Act 2016* and the *Local Land Services Amendment Act 2016* to create a framework for the regulation of clearing of native vegetation in NSW.

The SEPP does not apply to the RU1 Primary Production zone but does apply to the R5 Large Lot Residential zone.

The purpose of the Vegetation SEPP is to ensure that a biodiversity offset will apply to all clearing of native vegetation that exceeds the offset thresholds in urban areas and environmental conservation zones that does not require development consent. The Vegetation SEPP applies to clearing of:

- Native vegetation above the Biodiversity Offset Scheme (BOS) threshold where a proponent will require an approval from the Native Vegetation Panel established under the *Local Land Services Amendment Act 2016.*
- Vegetation below the BOS threshold where a proponent will require a permit from Council if that vegetation is identified in Council's development control plan (DCP).

The Liverpool Plains DCP 2012 contains controls on clearing of vegetation in Section 3.4.18, which states that subdivision design shall accommodate the retention of any significant trees and vegetation. Controls on vegetation clearing are also included in Section 4.3 for Quirindi North Residential Area.

Ministerial Planning Directions

Section 9.1 (previously Section 117) of the *EP&A Act* provides directions of the Minister that are to be taken into account by councils in the preparation of a local environmental plan. The key Local Planning Directions relating to the proposed rezonings are:

- 1.2 Rural Zones
- 1.5 Rural Lands
- 4.4 Planning for Bushfire Protection

Biodiversity Conservation Act 2016

The Biodiversity Conservation Act 2016 (BC Act) deals with matters relating to the listing of threatened species, threatened ecological communities, key threatening processes, biodiversity impact assessment, offsetting and related offences.

The Act requires proposed development to be rigorously assessed in relation to potential impacts on biodiversity. Part 6 of the Act sets out requirements for a Biodiversity Offset Scheme, which is intended to maintain sustainable levels of flora and fauna by calculating the impact of a development and requiring the developer to either establish and maintain an area of land as an offset or pay a one-off fee.

When a development exceeds the threshold, the need for a biodiversity assessment is triggered. The biodiversity assessment determines the level of impact of a development, and the required offset are or fee to be paid.

Rural Fires Act 1997

The *Rural Fires Act 1997 (*RF Act) aims to, among other things, prevent, mitigate and suppress bush fires in local government areas and the State. To achieve bushfire protection in local government areas, it is necessary to consider at the preparation stage of LEPs and DCPs. This would include provisions to consider bushfire management in land use zoning, setbacks, access and subdivision.

Section 63 of the RF Act provides that it is the duty of public authorities, owners or occupiers of land to prevent the occurrence of bush fires on, and to minimise the danger of the spread of a bush fire on any land vested on or under its control or management. Bushfire constraints would be considered for the supply of additional rural residential land.

Water Management Act 2000

The objects of the *Water Management Act 2000* (WM Act) are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. In particular the WM Act aims to:

- *Apply the principles of ecologically sustainable development*
- *Protect, enhance and restore water sources, their associated ecosystems, ecological*
- *Processes and biological diversity and their water quality*
- *Recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water*

- *Recognise the role of the community*
- *Provide for the orderly, efficient and equitable sharing of water from water sources*
- *Integrate the management of water sources with the management of other aspects of the environment*
- *Encourage the sharing of responsibility for the sustainable and efficient use of water between the Government and water users*
- *Encourage best practice in the management and use of water*

Any new rural residential land would need to consider the protection of water sources; the need to obtain water management licences and approvals and the aims of the WM Act as listed above.

NSW Right to Farm Policy (2015)

The NSW Department of Primary Industries launched the NSW Right to Farm Policy in 2015. The policy is a comprehensive, state-wide approach that aims to address some of the land use conflicts arising from lawful agricultural practices that are part of running a productive farm.

The policy aims to bring together a suite of responses 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

The impact of the policy on rural residential land is that occupiers have limited legal rights regarding amenity impacts from farming, such as dust, noise and light. This should be taken into consideration when planning for rural residential development.

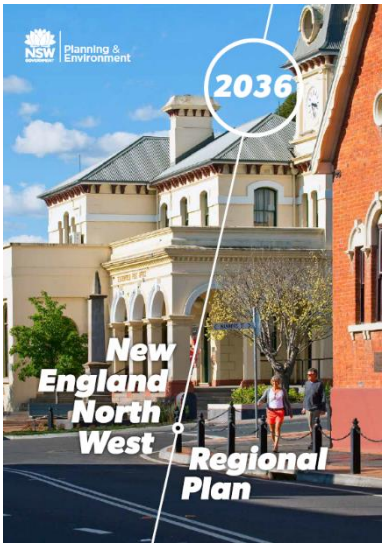
The Policy is currently being reviewed along with the NSW's land use planning framework including the mapping of Important Agricultural Lands (IAL).

Department of Primary Industries – Buffer Zones to Reduce Land Use Conflict with Agriculture – An Interim Guideline (2018)

The Guideline provides buffer zone advice to agricultural industries, development proponents and consent authorities to reduce land use conflict between agriculture and other land uses. Such conflict is becoming increasingly common as residential development encroaches towards agriculture, much of which has been in operation for many decades.

Regional planning framework

New England North West Regional Plan 2036 (2017)



The New England North West Regional Plan will guide the NSW Government's land use planning priorities and decisions to 2036. It provides an overarching framework to guide subsequent and more detailed land use plans, development proposals and infrastructure funding decisions. The Implementation Plan that accompanies the Plan includes Priority actions as well as medium and longer-term actions to coincide with population and economic change. Priorities for each council are set out in Local Government Narratives, which will guide further investigations and implementation.

The Local Government Narrative for Liverpool Plains LGA contains 7 priorities, one of which is to:

Deliver a variety of housing options in Quirindi and Werris Creek and promote development that contributes to the unique character of Willow Tree, Wallabadah, Caroona, Walhallow, Currabubula, Premer and Spring Ridge.

The plan contains several Directions and Actions relating to rezoning of the investigation sites.

Actions relating to rezoning of the investigation sites

Direction	Action
Direction 3: Protect and enhance productive agricultural lands	3.2 Limit urban and rural residential development on important agricultural land, including mapped Biophysical Strategic Agricultural Land. 3.3 Manage the interface between important agricultural lands and other land uses by incorporating controls in local plans that manage compatibility between land uses and undertaking land use conflict risk assessments where potential conflicts are identified through rezoning processes. 3.4 Secure the ongoing agricultural viability of rural land holdings by: • incorporating appropriate minimum subdivision standards and local planning provisions for rural dwellings in local plans to manage potential conflicts with agricultural activities; and • monitoring annual changes in landholding sizes for each local government area.
Direction 11: Protect areas of potential high environmental value	11.1 Focus development to areas of least biodiversity sensitivity and implement the 'avoid, minimise, offset' hierarchy to biodiversity and areas of high environmental value. 11.2 Ensure local plans consider areas of high environmental value to avoid potential development impacts.
Direction 12: Adapt to natural hazards and climate change	12.1 Minimise the risk from natural hazards and the projected effects of climate change by identifying hazards, managing risks and avoiding vulnerable areas, particularly when considering new urban release areas.

Direction	Action
Direction 16: Coordinate infrastructure delivery	16.1 Undertake detailed infrastructure service planning to establish that land can be feasibly and economically serviced prior to rezoning. 16.2 Maximise the cost-effective and efficient use of infrastructure by focusing development on existing infrastructure or promoting co-location of new infrastructure.
Direction 18: Provide great places to live	18.1 Identify future areas of urban expansion or intensification in local growth management strategies that are consistent with the Interim Settlement Planning Principles, (Appendix A) or comprehensive settlement planning guidelines once released. 18.2 Secure an appropriate supply of residential land to meet projected housing needs within local growth management strategies endorsed by the Department of Planning and Environment.
Direction 21: Deliver well planned rural residential housing	21.1 Enable new rural residential development where identified in a local growth management strategy prepared by council and endorsed by the Department of Planning and Environment. 21.2 Deliver rural residential development consistent with Principles 1-5 of the Interim Settlement Planning Principles (Appendix A) or comprehensive framework once released.

The following directions relates to rural residential development:

Direction 21: Deliver well planned rural residential housing.

- *21.1 - Enable new rural residential development where identified in a local growth management strategy prepared by council and endorsed by the Department of Planning and Environment.*
- *21.2 - Deliver rural residential development consistent with Principles 1-5 of the Interim Settlement Planning Principles (Appendix A) or comprehensive framework once released*

Principles 1-5 of the Interim Settlement Planning Principle

	Principles
1	New land release areas are to be located adjacent to existing urban settlements to maximise the efficient use of existing infrastructure and services, including water, sewer, road and waste services. Where new development is proposed away from existing settlements, the provision of essential infrastructure must have no cost to government. The location, structure and layout of rural residential release areas should promote clustering to encourage a sense of community and facilitate the long-term expansion of existing centres and residential areas.
2	Direct new land release areas to unconstrained land by avoiding areas of high environmental value, cultural, and heritage significance and/or areas affected by natural hazards such as flooding or bushfire.
3	New land release areas should avoid and manage the potential for land use conflicts with existing and likely future adjoining uses and infrastructure, including important agricultural land, and productive resource lands.
4	Require new land release areas to provide links to adjoining areas to ensure new areas are well integrated and maximise efficiency and shared use of services and facilities.

	Principles
5	Recognise, protect and be compatible with any unique topographic, natural or built cultural features essential to the visual setting, character, identity, or heritage significance of the area.

Local planning framework

Liverpool Plains Shire Council Local Strategic Planning Statement 2020

The Liverpool Plains Shire Council Local Strategic Planning Statement (LSPS) identifies Council's economic, social and environmental land use needs and visions for the next 20 years. It addresses the planning and development issues of strategic significance for the Shire through the identification of planning priorities and actions, spatial land use direction, and guidance.

The LSPS gives effect to the New England North West Regional Plan 2036 (Regional Plan) by implementing key directions and actions at a local level. Priorities and Actions of the plan relating to the proposed rezoning of the subject lands are listed in Table A-1.

Table A-1 LSPS Planning Priorities and Actions relating to the proposed rezonings

Planning Priority	Action
Planning Priority 1 – Manage natural hazards and climate change risks	Consider the regional systems transition model as outlined in the Western Enabling Regional Adaptation New England North West region report when developing operational policy, undertaking strategic planning, delivering Council programs and assessing future infrastructure needs – Ongoing
Planning Priority 2 – Protect and enhance areas of environmental value	Focus development to areas of least biodiversity sensitivity and implement the 'avoid, minimize, offset' hierarchy to biodiversity and areas of High Environmental Value – Ongoing
Planning Priority 8 – Sustainable & Growing Settlements	Investigate potential for land use and lot size changes that have negligible environmental impacts and provide a point of difference from current supply to encourage economic investment – Short term
Planning Priority 9 – Protect and celebrate our unique sense of place	Ensure proposed land use changes are informed by an Aboriginal cultural heritage assessment undertaken in consultation with the local Aboriginal community to identify and protect areas of important Aboriginal cultural heritage value – Ongoing

Liverpool Plains Local Environmental Plan 2011

The LPLEP 2011 regulates land uses within the Liverpool Plains LGA. There are several clauses in the LPLEP 2011 that require consideration when developing lands in rural and rural residential zones and include:

- Clause 4.1 Minimum subdivision lot size
- Clause 4.2A Erection of dwelling houses on land in certain rural, residential and environmental protection zones

- Clause 5.11 Bush fire hazard reduction
- Clause 5.16 Subdivision of, or dwellings on, land in certain rural, residential or environment protection zones

Liverpool Plains Development Control Plan 2012

The Liverpool Plains Development Control Plan 2012 (LPDCP 2012) contains several controls relating to rural residential development under the following categories:

- Residential development
- Residential dual occupancy
- Subdivision

These controls provide guidance on aspects of development such as setbacks, building heights, solar access, car parking and access.

Appendix B – Biodiversity database searches

Searches were generally undertaken for the investigation sites with a 10 km buffer, referred to as the locality. The Bionet Atlas search was extended to a 20 km buffer, due to the low number of records within the 10 km buffer and limited survey effort within the area.

Table B-1 Threatened species previously recorded in the 20 km locality (OEH, 2020a)

Kingdom	Class	Scientific name	Common name	BC Act status	EPBC Act status	Number of records	Distance from site (km)	Most recent record
Fauna	Aves	*Anthochaera phrygia*	Regent Honeyeater	CE	CE	4	13.4	2003
Fauna	Aves	*Artamus cyanopterus*	Dusky Woodswallow	V	-	6	14.2	2019
Fauna	Aves	*Chthonicola sagittata*	Speckled Warbler	V	-	9	12.0	2018
Fauna	Aves	*Climacteris picumnus victoriae*	Brown Treecreeper (eastern subspecies)	V	-	13	12.0	2019
Fauna	Aves	*Daphoenositta chrysoptera*	Varied Sittella	V	-	3	13.5	2003
Fauna	Aves	*Falco subniger*	Black Falcon	V	-	3	14.5	2018
Fauna	Aves	*Glossopsitta pusilla*	Little Lorikeet	V	-	1	14.3	2001
Fauna	Aves	*Haliaeetus leucogaster*	White-bellied Sea-Eagle	V	-	2	16.6	2009
Fauna	Aves	*Hieraaetus morphnoides*	Little Eagle	V	-	2	15.2	2009
Fauna	Aves	*Melanodryas cucullata*	Hooded Robin (south-eastern form)	V	-	2	14.7	2019
Fauna	Aves	*Neophema pulchella*	Turquoise Parrot	V	-	14	1.0	2009
Fauna	Aves	*Oxyura australis*	Blue-billed Duck	V	-	1	18.7	2011
Fauna	Aves	*Pomatostomus temporalis*	Grey-crowned Babbler (eastern subspecies)	V	-	3	14.9	2018
Fauna	Aves	*Rostratula australis*	Australian Painted Snipe	E	E	1	16.3	2009
Fauna	Aves	*Stagonopleura guttata*	Diamond Firetail	V	-	5	15.3	2013
Fauna	Mammalia	*Chalinolobus dwyeri*	Large-eared Pied Bat	V	V	2	12.0	2003
Fauna	Mammalia	*Dasyurus maculatus*	Spotted-tailed Quoll	V	E	2	14.3	2006
Fauna	Mammalia	*Falsistrellus tasmaniensis*	Eastern False Pipistrelle	V	-	11	14.8	2012
Fauna	Mammalia	*Miniopterus orianae oceanensis*	Large Bent-winged Bat	V	-	6	16.2	2012
Fauna	Mammalia	*Phascolarctos cinereus*	Koala	V	V	11	6.1	2019
Fauna	Mammalia	*Pteropus poliocephalus*	Grey-headed Flying-fox	V	V	4	11.9	2016
Fauna	Mammalia	*Saccolaimus flaviventris*	Yellow-bellied Sheathtail-bat	V	-	7	14.9	2012
Fauna	Mammalia	*Scoteanax rueppellii*	Greater Broad-nosed Bat	V	-	2	15.8	2009

Kingdom	Class	Scientific name	Common name	BC Act status	EPBC Act status	Number of records	Distance from site (km)	Most recent record
Fauna	Mammalia	*Vespadelus troughtoni*	Eastern Cave Bat	V	-	17	14.8	2012
Fauna	Reptilia	*Uvidicolus sphyrurus*	Border Thick-tailed Gecko	V	V	1	14.6	2003
Flora	Flora	*Dichanthium setosum*	Bluegrass	V	V	6	0.2	2001
Flora	Flora	*Digitaria porrecta*	Finger Panic Grass	E	-	7	13.9	2020
Flora	Flora	*Polygala linariifolia*	Native Milkwort	E	-	1	17.8	2014

*V – Vulnerable, E – Endangered, CE – Critically Endangered

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

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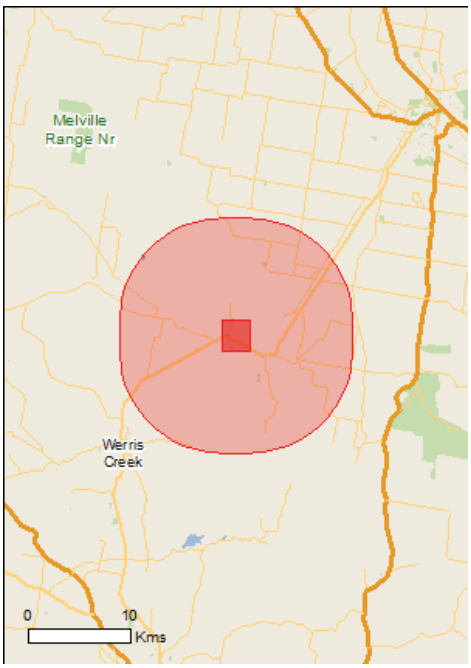

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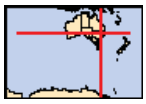

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	27
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	17
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	29
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Banrock station wetland complex	1000 - 1100km
Riverland	900 - 1000km upstream
The coorong, and lakes alexandrina and albert wetland	1100 - 1200km

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community likely to occur within area
New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands	Critically Endangered	Community may occur within area
Weeping Myall Woodlands	Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur

Name	Status	Type of Presence within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Frogs		
Litoria booroolongensis Booroolong Frog [1844]	Endangered	Species or species habitat likely to occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Cadellia pentastylis Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
Callistemon pungens [55581]	Vulnerable	Species or species habitat may occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat known to occur within area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area
Tylophora linearis [55231]	Endangered	Species or species habitat may occur within area
Reptiles		
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat may occur within area
Uvidicolus sphyrurus Border Thick-tailed Gecko, Granite Belt Thick-tailed Gecko [84578]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Telstra Corporation Limited

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat may occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Cylindropuntia spp. Prickly Pears [85131]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Nassella neesiana Chilean Needle grass [67699]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-31.24932 150.73487,-31.24932 150.75976,-31.27185 150.75976,-31.27185 150.73487,-31.24932 150.73487

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Table B-2 Potential GDEs within the investigation sites (BOM, 2020)

GDE name	Potential	IDE likelihood
White Box grassy woodland to open woodland on basalt flats and rises in the Liverpool Plains sub-region	Moderate - High	5-9
River Oak- Rough-barked Apple- Red Gum- Box riparian tall woodland (wetland) of the Brigalow Belt	High	5-8
Queensland Bluegrass- Redleg Grass- Rats Tail Grass- Spear Grass- Panic grass derived grassland	Low	5

Appendix C – Suitability and capability criteria evaluation tables

Investigation Site 1			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Vacant land – no dwelling entitlement	1
Heritage	Non Aboriginal	No non-Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the north	2
Infrastructure	Utility servicing	No utility infrastructure. Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connects to Curra Stock Route Road(unsealed), then connects to Mount Cobla Road (unsealed)	2
Land use	Existing use - Intensive livestock industry	Within 1.02 km of poultry farm on Sutton Road	3
	Land and soil capability	Class 4 -Moderate to severe limitations	3
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat (<10% slope) and suitable for building.	4
	Scenic protection/amenity	Site slopes to the south with scattered vegetation Future development to be positioned to minimise impacts on scenic amenity	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values	3
	Bushfire	Vegetation Category 3 - Land is considered to be a medium bush fire risk.	3
	Flooding and drainage	No flooding or drainage constraints	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		58
General comments	The site has a total area of 8.094 ha		

Investigation Site 2			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Vacant land – no dwelling entitlement	1
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	Non Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the north and east	2
Infrastructure	Utility servicing	No utility infrastructure. Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connects to Curra Stock Route Road(unsealed) then connects to Mount Cobla Road (unsealed)	2
Land use	Existing use - Intensive livestock industry	Within 0.99 km of poultry farm on Sutton Road	2
	Land and soil capability	Class 4 -Moderate to severe limitations & Class 7 – Extremely severe limitations	4
	BSAL	Land not affected	5
Physical constraints	Topography/slope	More than >10% slope may be suitable for building.	3
	Scenic protection/amenity	Site slopes to the south west with scattered vegetation in the south with more intense vegetation at rear of lot. Future development to be positioned to minimise impacts on scenic amenity	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values	2
	Bushfire	Vegetation Category 3 - Land is considered to be a medium bush fire risk. Vegetation Category 1- Land considered to be the highest risk for bushfire (northern portion of site)	2
	Flooding and drainage	No flooding or drainage constraints	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		55
General comments	The site has a total area of 8.094 ha		

Investigation Site 3			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Vacant land – no dwelling entitlement	1
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the north	2
Infrastructure	Utility servicing	No utility infrastructure. Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connects to, Curra Stock Route Road(unsealed) then connects to Mount Cobla Road (unsealed)	2
Land use	Existing use - Intensive livestock industry	Within 1.0 km of poultry farm on Sutton Road	3
	Land and soil capability	Class 4 -Moderate to severe limitations	3
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat (<10% slope) and suitable for building.	4
	Scenic protection/amenity	Site slopes to the south west with scattered vegetation in the south with more intense vegetation at rear of lot. Future development to be positioned to minimise impacts on scenic amenity	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's May contain significant habitat values	2
	Bushfire	Vegetation Category 3- Land considered to be medium risk for bushfire Vegetation Category 1- Land considered to be the highest risk for bushfire (northern portion of site) (northern portion of site)	2
	Flooding and drainage	No flooding or drainage constraints	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		56
General comments	The site has a total area of 8.094 ha		

Investigation Site 4			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Existing dwelling located on lot	5
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the south. Currabubula Creek is natural boundary to the south	3
Infrastructure	Utility servicing	No utility infrastructure Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connects to Curra Stock Route Road(unsealed) then connects to Mount Cobla Road (unsealed)	2
Land use	Existing use - Intensive livestock industry	Within 0.47 km of poultry farm on Sutton Road	1
	Land and soil capability	Class 4 -Moderate to severe limitations	3
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat (<10% slope) and suitable for building.	4
	Scenic protection/amenity	A dwelling is current located on the south eastern corner of the site and surrounded by vegetation n Scenic amenity is not compromised in this instance	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values. Vegetation corridor of moderately fragmented vegetation Aquatic habitat (Currabubula Creek) located on southern boundary of lot	1
	Bushfire	Vegetation Category 3 - Land is considered to be a medium bush fire risk.	3
	Flooding and drainage	Located adjacent to Currabubula Creek. Minor flooding may occur on southern portion of lot	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		59
General comments	The site has a total area of 9.10 ha		

Investigation Site 5			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Vacant land – no dwelling entitlement	1
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the south. Currabubula Creek is natural boundary to the south	3
Infrastructure	Utility servicing	No utility infrastructure. Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connects to Curra Stock Route Road(unsealed) then connects to Mount Cobla Road (unsealed)	2
Land use	Existing use - Intensive livestock industry	Within 0.53 km of poultry farm on Sutton Road	1
	Land and soil capability	Class 4 -Moderate to severe limitations	3
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat (<10% slope) and suitable for building.	4
	Scenic protection/amenity	Site slopes gently to the south toward Currabubla Creek. A vegetation corridor traverses the lot. Future development to be positioned to minimise impacts on scenic amenity and avoid vegetation corridor	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values Vegetation corridor of moderately fragmented vegetation. Aquatic habitat (Currabubula Creek) located on southern boundary of lot	2
	Bushfire	Vegetation Category 3 - Land is considered to be a medium bush fire risk.	3
	Flooding and drainage	Located adjacent to Currabubula Creek. Minor flooding may occur on the southern portion of the site.	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		56
General comments	The site has a total area of 8.094 ha		

Investigation Site 6			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Vacant land – no dwelling entitlement	1
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the north	2
Infrastructure	Utility servicing	No utility infrastructure Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connects to Curra Stock Route Road(unsealed) then connects to Mount Cobla Road (unsealed)	2
Land use	Existing use - Intensive livestock industry	Within 1.02 km of poultry farm on Sutton Road	3
	Land and soil capability	Class 4 -Moderate to severe limitations	3
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat (<10% slope) and suitable for building.	4
	Scenic protection/amenity	Site slopes to the south with scattered vegetation Future development to be positioned to minimise impacts on scenic amenity	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's May contain significant habitat values	3
	Bushfire	Vegetation Category 3 - Land is considered to be a medium bush fire risk.	3
	Flooding and drainage	No flooding or drainage constraints	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		58
General comments	The site has a total area of 8.094 ha		

Investigation Site 7			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Vacant land – no dwelling entitlement	1
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the north	2
Infrastructure	Utility servicing	No utility infrastructure. Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connects to Curra Stock Route Road(unsealed) the connects to Mount Cobla Road (unsealed)	2
Land use	Existing use - Intensive livestock industry	Within 1.04 km of poultry farm on Sutton	2
	Land and soil capability	Class 4 -Moderate to severe limitations	2
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat (<10% slope) and suitable for building.	4
	Scenic protection/amenity	Site is located on corner of Curra Stock Rout Road and Mount Cobla Road. Site is relatively flat with minimal established vegetation Future development to be positioned to minimise impacts on scenic amenity	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values Aquatic habitat (Duri Creek) located on southern boundary of lot	2
	Bushfire	Vegetation Category 3- Land considered to be medium risk for bushfire Vegetation Category 1- Land considered to be the highest risk for bushfire (small portion in western corner of site)	2
	Flooding and drainage	Located on the corner of Currabubula Creek and Duri Creek. Flooding may occur on western portion of the lot.	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		54
General comments	The site has a total area of 6.37 ha		

Investigation Site 8			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 2 ha	1
	Dwelling Entitlement	Existing dwelling	5
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the south	3
Infrastructure	Utility servicing	No utility infrastructure Site to be serviced by onsite sewer and water	4
	Road network connectivity	Services by Werris Creek Road (sealed)	4
Land use	Existing use - Intensive livestock industry	Within 0.71 km of poultry farm on Sutton Road	2
	Land and soil capability	Class 5 – Severe limitations	2
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat (<10% slope) and suitable for building.	4
	Scenic protection/amenity	A dwelling is located on the site with frontage to Werris Creek Road. Dwellings are located either side of the lot zoned RU1.	4
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values	3
	Bushfire	Vegetation Category 3 - Land is considered to be a medium bush fire risk.	3
	Flooding and drainage	No flooding or drainage constraints	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		64
General comments	The site has a total area of 2.01 ha		

Investigation Site 9			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 2 ha	1
	Dwelling Entitlement	Vacant land – no dwelling entitlement	1
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	4
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	5
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the north	2
Infrastructure	Utility servicing	No utility infrastructure. Site to be serviced by onsite sewer and water	4
	Road network connectivity	Services by Glenbrook Road (sealed/unsealed) connects with Angwins Lane	4
Land use	Existing use - Intensive livestock industry	Within 1.48 km of poultry farm on Sutton Road	4
	Land and soil capability	Class 5 – Severe limitations	2
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Relatively flat on eastern side with >10% slope on western side of lot.	4
	Scenic protection/amenity	Site is located on corner of Angwins Lane and Glenbrook Road at base of slope Future development to be positioned to minimise impacts on scenic amenity	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values	3
	Bushfire	Vegetation Category 3 - Land is considered to be a medium bush fire risk.	3
	Flooding and drainage	No flooding or drainage constraints	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		60
General comments	The site has a total area of 2.79 ha		

Investigation Site 10			
SUITABILITY & CAPABILITY CRITERIA		COMMENT	SCORE
Planning provisions	Zone	Currently zoned RU1 Primary Production Change to R5 Large Lot Residential zone	1
	MLS	Currently zoned 200 ha Change to 7 ha	1
	Dwelling Entitlement	Existing dwelling	5
Heritage	Non Aboriginal	No Non Aboriginal heritage items located on site	4
	Aboriginal heritage	No Aboriginal heritage recorded on site	5
Local Settlement	Proximity to existing settlement	Site located within proximity to village of Currabubula	4
	Interface with adjoining non-residential zones	Site adjoins agricultural lands to the north and west	4
Infrastructure	Utility servicing	No utility infrastructure. Site to be serviced by onsite sewer and water	4
	Road network connectivity	Serviced by Glenbrook Road (sealed/unsealed) connect to Angwins Lane	4
Land use	Existing use - Intensive livestock industry	Within 1.64 km of poultry farm on Sutton Road	4
	Land and soil capability	Class 7- Extremely Severe Limitations & Class 5 -Severe limitations	4
	BSAL	Land not affected	5
Physical constraints	Topography/slope	Sloping land with more than 15% slope. Dwelling located in centre of lot.	2
	Scenic protection/amenity	Site is located on eastern slope of a hill and contains a dwelling surrounded by vegetation. Scenic amenity is not compromised in this instance	3
Environment	Native vegetation/ecology	Scattered remnant vegetation and grasslands, no mapped EEC's. May contain significant habitat values	2
	Bushfire	Vegetation Category 1- Land considered to be the highest risk for bushfire Vegetation Category 1- Land considered to be the highest risk for bushfire (north western portion of site)	1
	Flooding and drainage	No drainage or flooding constraints	5
	Water resources (ground water)	Site has capacity to support additional water licences via a bore system. Rainwater tanks are recommended to supplement groundwater sources	5
Total	*Each constraint has been scored on scale of 1 (high constraint) to 5 (minimal constraint). A higher total score indicates that a particular site is expected to be less constrained for rural residential use compared to another site with a lower score.*		63
General comments	The site has a total area of 5.14ha		

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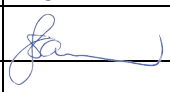
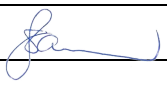
Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	M Purkiss	S Lawer		S Lawer		23/06/2021

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