PATCH

PLANNING & DEVELOPMENT

Statement of Environmental Effects

51, 136, and 146 Station Lane, Lochinvar

Prepared on behalf of McCloy Project Management Group

May 2022

PATCH

PLANNING & DEVELOPMENT

ADDRESS

51, 134 and 146 Station Lane, Lochinvar

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Contents

1 Introduction

This Statement of Environmental Effects (SEE) has been prepared to support a Development Application (DA) for the staged residential subdivision of land known as 51, 134 and Part 146 Station Lane, Lochinvar (the site). The proposal is referred to as the Kaludah Estate.

The Kaludah Estate realises the Council's vision for the Lochinvar Release Area (LRA) for a new residential community. The proposal generally includes the following works:

- Earthworks, tree removal, demolition and dam-dewatering to make the site suitable for subdivision;
- Staged Torrens title subdivision for undertaken over 10 stages including:
    - 353 residential lots;
    - 5 lots for a public purpose comprising 3 lots for basins and 2 lots for parks;
    - 1 residue lot;
- Staged civil works including dedicated stormwater infrastructure:
- Staged civil works including the construction of a new local road network:
    - One sub-arterial road (Terrriere Drive);
    - Fourteen local streets (Roads 2-13 & 19-21);
    - Six laneways;
    - One through site link;
- Construction of a local park;
- Staged landscaping works including street tree planting.

The cost of the development is $24,373,962 (incl. GST) as outlined in the detailed cost estimate report.

The development constitutes "Integrated Development" with a bushfire safety approval and controlled activity approval required under the *Rural Fires Act 1997* and the *Water Management Act 2000* respectively.

This SEE includes a detailed description of the site and an assessment of the proposed works in terms of the matters for consideration as listed under Section 4.15 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It should be read in conjunction with the following:

- Appendix 1 - Pre-DA Minutes Response
- Appendix 2 - LEP Compliance Assessment
- Appendix 3 - DCP Compliance Assessment
- Appendix 4 - Subdivision Plan
- Appendix 5 - Urban Design Report
- Appendix 6 - Landscape Plans

- Appendix 7 – Key Infrastructure Letter
- Appendix 8 – Civil Engineering Plans
- Appendix 9 – Civil Engineering Report
- Appendix 10 - Contamination Report
- Appendix 11 - Geotechnical Report
- Appendix 12 - Traffic Impact Assessment Report
- Appendix 13 - Biodiversity Development Assessment Report
- Appendix 14 - Bushfire Report
- Appendix 15 - Aboriginal Cultural Heritage Assessment
- Appendix 16 – Hunter Water Stamped Plans
- Appendix 17 – Hunter Water Correspondence
- Appendix 18 – Concept Intersection Design (New England Highway)
- Appendix 19 – Construction Waste Management Plan
- Appendix 20 – Arborist Report
- Appendix 21 – Vegetation Management Plan

1.1 Background and Previous DA

The lodgement of the subject application follows the determination of a previous DA seeking to undertake a residential subdivision of the site, which was refused by the Hunter and Central Coast Regional Planning Panel in November 2021.

The previous DA (DA/2020/1388) was lodged on 16 December 2020 and proposed a concept subdivision of the site for staged delivery of 812 Torrens title lots, as well as detailed approval for Stage 1 of the concept plan which included 203 Torrens title lots and 1 residue lot.

The reasons of refusal and the concerns of both Council and the panel have been comprehensively considered in the preparation of the proposal. Furthermore, the subject SEE and accompanying reports aim to comprehensively address previous concerns raised.

1.2 Pre-DA Consultation with Council

A Pre-DA meeting was held on 3 February 2022 with Maitland Council to discuss the proposed subdivision. Appendix 1 contains a detailed response to the matters raised in the Pre-DA meeting and how they have been addressed throughout the SEE.

2 The Site

2.1 Strategic Context

The site is situated south of the town of Lochinvar, within the Maitland local government area (LGA) and is part of the "Lochinvar Urban Release Area" (URA). The Maitland LGA is part of the Hunter Region and Greater Newcastle Metropolitan Area. Strategic planning in the Hunter Region and Newcastle Metropolitan Area is guided by the Hunter Regional Plan 2036 (Regional Plan) and the Greater Newcastle Metropolitan Plan 2036 (Metropolitan Plan).

Both plans identify Lochinvar as an area of emerging employment and residential opportunities. The Metropolitan Plan States that *"a significant proportion of Greater Newcastle's greenfield development will continue to occur in Maitland, focused on the two priority housing release areas of Thornton-Lochinvar and Maitland-Kurri Kurri "*.

An extract of the site's strategic context is provided in Figure 1.

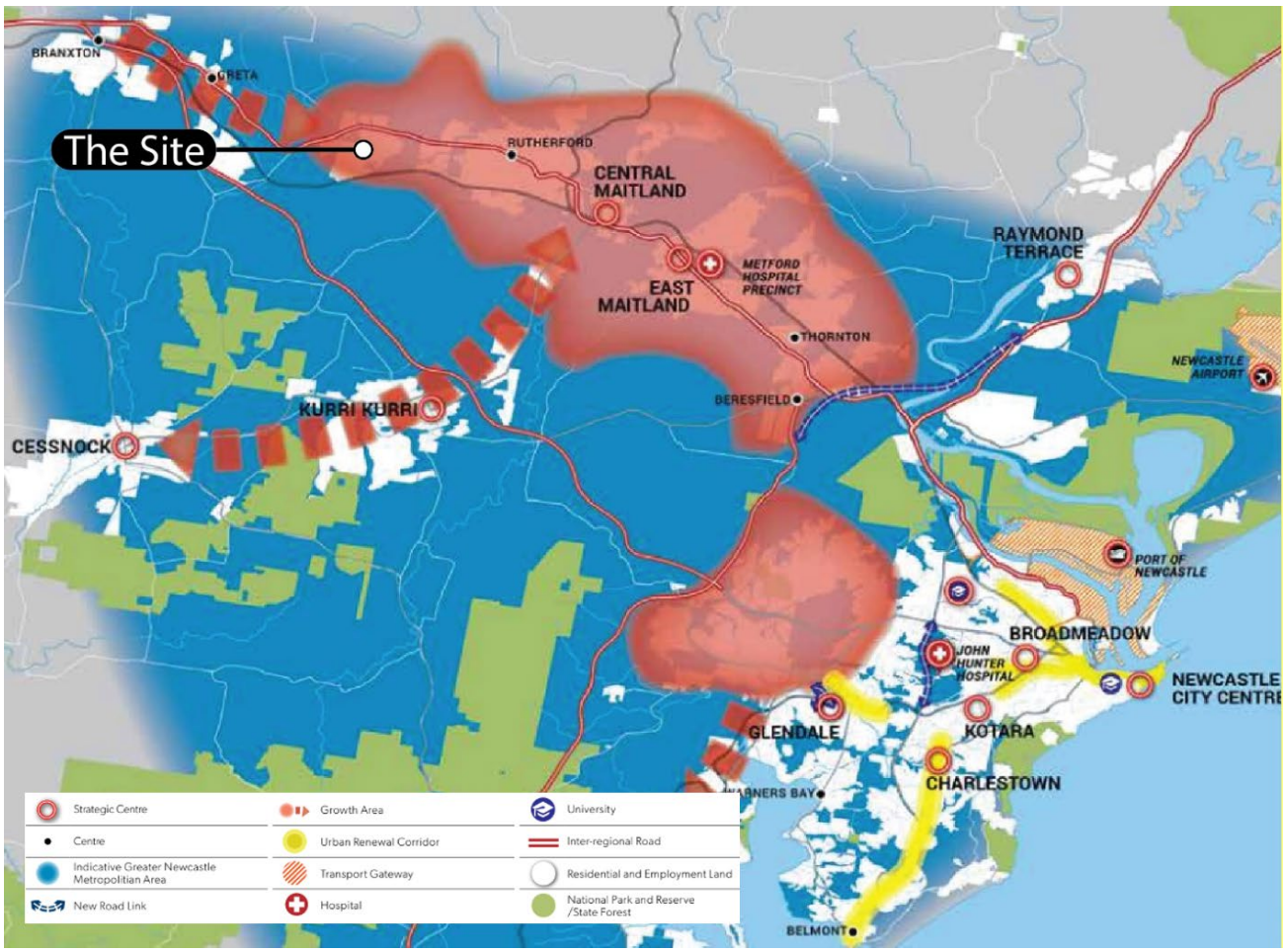

Figure 1: Strategic Location with Greater Hunter Region

Source: Hunter Regional Plan 2036, modified by Patch

2.2 Local Context

The Lochinvar URA is located just south of the Lochinvar Village, and north of the Lochinvar Train Station. It is approximately 9km west of Maitland, 16km north of Cessnock, and 38km north west of Newcastle.

The Lochinvar URA is an emerging release area that has been developing over the past decade since its rezoning by Maitland Council in 2010. Ultimately the Lochinvar urban structure plan seeks to develop a walkable, mixed use town with capacity for up to 5,000 dwellings.

The character of the surrounding area is defined by a former rural environment transitioning to urban development. Subdivision schemes to the east and west of the site are currently under construction for the purposes of low rise residential dwellings. Immediately north of the site is the town of Lochinvar, with large lot residential dwellings fronting the site.

Two riparian corridors bound the site to the east and west, with a zoned conservation area running along the western boundary. To the south of the site is rezoned residential land that has yet to be developed, and is currently used for rural purposes.

The site's immediate context is shown in the figure below.

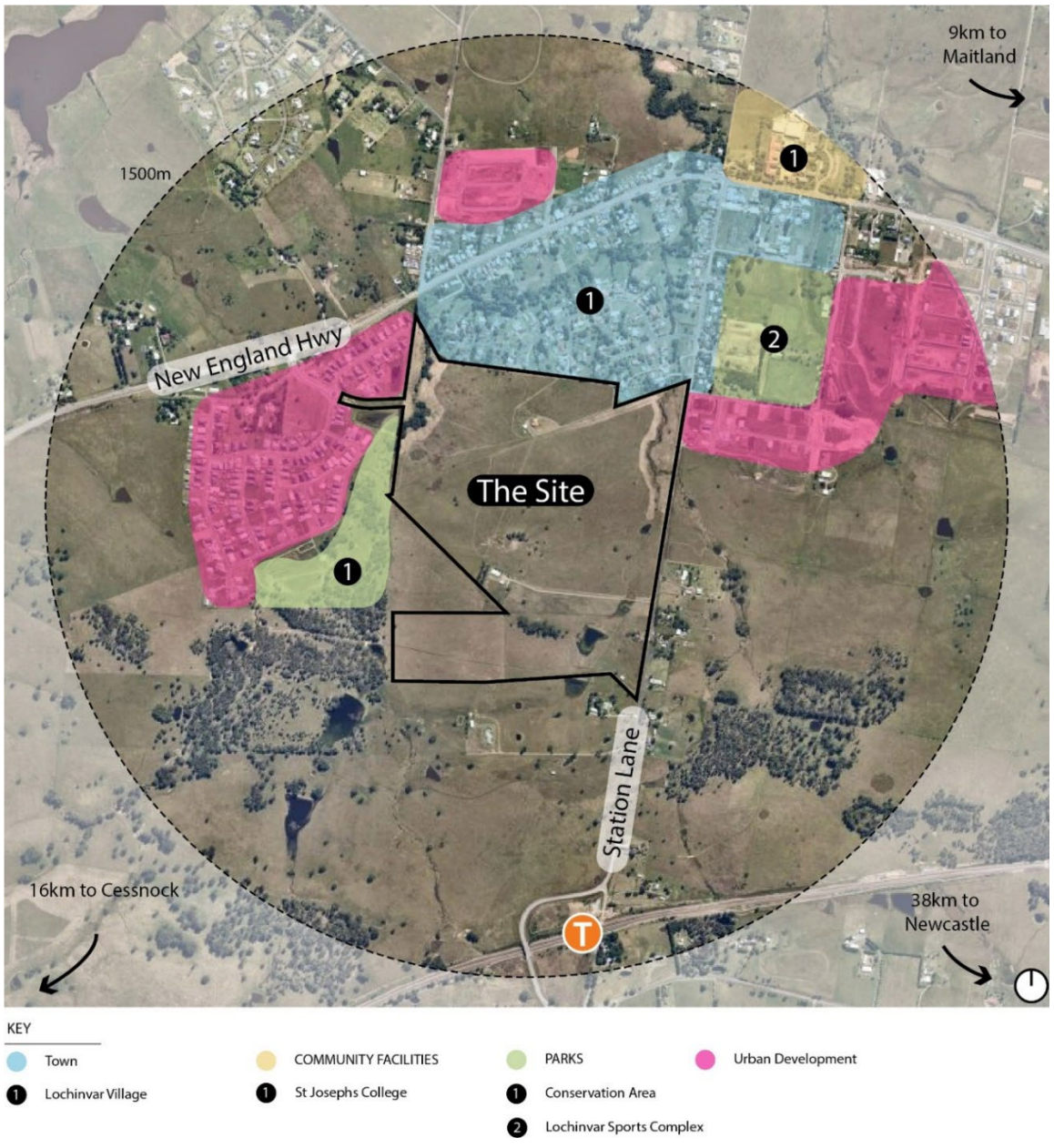

Figure 2: Context Map
Source: Nearmap, modified by Patch

2.3 Site Description

The subject site is located at 51, 134 and 146 Station Lane, Lochinvar, and consists of four lots being legally described as Lot 3 and 4 in DP564631, Lot 550 in DP1275684 and a portion of Lot 2 in DP634523.

The site has an area of approximately 108ha with a frontage to Station Lane of 1km. It is bounded by subdivided residential development to the north and west, rural/undeveloped land to the south, and Station Lane to the east. The proposed residential development area is located upon the northern part of the site, and represents an area of approximately 36.5ha.

The site is largely cleared of vegetation, with only small pockets of remnant vegetation scattered across the site. Built features of the site include rural dwellings and associated structures, access driveways to Lochinvar Road, a private road at the north. Three easements traverse the site, for the purposes of electricity transmission lines in the south, water pipelines adjoining the northern site boundary, and drainage at the north-western corner of the site into the existing waterway.

Both Lot 4 DP634523 and Lot 2 DP634523 contain dams, which will be de-watered as part of the proposal.

Figure 3 provides an aerial of the site, whilst photographs of the site and nearby surrounds are provided in Figure 4 - Figure 7.

Figure 3: Aerial Map

Source: Nearmap, modified by Patch

Figure 4: Image of existing dwelling along Station Lane, looking northwest
Source: McCloy Group

Figure 5: Aerial image of site, looking northwest
Source: McCloy Group

Figure 6: Aerial image of site, looking west
Source: McCloy Group

Figure 7: Aerial image of vegetation at Lochinvar Creek, looking west
Source: McCloy Group

3 The Proposal

3.1 Project Overview

The proposed staged subdivision, referred to as the Kaludah Estate, will create up to 353 residential lots, 1 residue lot and 5 public lots for ancillary services including parks, roads, pathways, and basins. The subdivision will be constructed across 10 stages.

Works required to be undertaken to support the proposal include demolition and earthworks, dewatering of existing dams, staged Torrens title residential subdivision and staged civil, stormwater infrastructure and landscaping works.

An extract of the proposed masterplan is provided below:

Figure 8: Proposed masterplan

Source: Peter Andrews and Associates Pty Ltd

Detailed subdivision plans have been prepared by ACOR and are provided as Appendix 4 of the SEE.

3.2 Development Summary

A summary of the proposal is provided in Table 1 below.

Table 1: Development Summary

Component	Proposed	
Earthworks, demolition and tree removal	• Demolition of existing buildings on site • Earthworks to make site good for subdivision • Removal of existing trees • Dewatering of two existing dams on site	
Staged torrens title residential subdivision	Staged torrens title subdivision of 352 residential lots and 1 residue lot across the following stages:	
	Stage 1	40 lots
	Stage 2	45 lots
	Stage 3	27 lots
	Stage 4	34 lots
	Stage 5	38 lots
	Stage 6	31 lots
	Stage 7	34 lots
	Stage 8	36 lots
	Stage 9	29 lots
	Stage 10	39 lots
	Total	**353 lots**
Staged stormwater civil works	Dedicated civil stormwater works including: • One regional detention basin • Three stormwater basins	
Staged road civil works	Construction of local road network including: • One collector road (Terrriere Drive) • Fourteen local streets (Roads 2,4-13 & 19-21) • Six laneways • One through site link	
Open Space	Staged construction and dedication to Council of five public open space reserves, including a public park.	

Table 1: Development Summary	
Component	Proposed
Landscaping	Staged landscaping works including street tree planting and buffer planting to the north

3.3 Earthworks, tree removal and demolition

Demolition of the dwelling at the north, tree clearing, bulk earthworks and dewatering of the two existing farm dams are required to enable the development of the site.

The proposed earthworks across the site will include site regrading to obtain suitable levels and benching for the proposal and result in the following:

- 189,960m3 of cut; and
- 223,195m3 of fill

Civil engineering drawings provided in Appendix 8 of the SEE provide full details of the extent of earthworks required across the site to facilitate the proposal. In addition, the extent of cut and fill required across the site is depicted in the figure below.

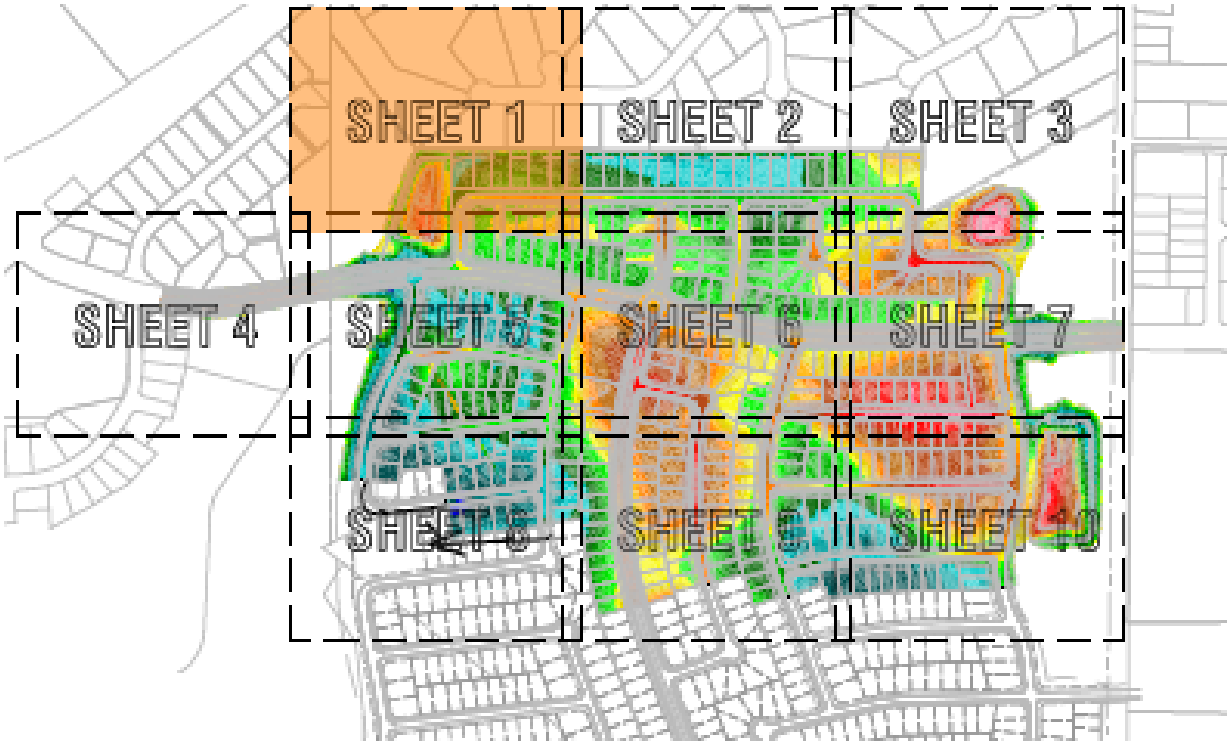

Figure 9: Extract from Isopach Plan depicting cut and fill required to facilitate the development

Source: Acor

Trees required to be removed across the entirety of the site is in Figure 10. This identifies that the largest cluster of trees to be removed is generally in the central and southern parts of the site.

A total of 172 trees are to be removed from the site across the current and future stages of the development, however the subject application seeks tree removal only from the development footprint generally in the north of the site which is a total of 16 trees. The

Arboricultural Impact Assessment accompanying this application suggests that 171 of these 172 trees should be considered for removal due to declining health, structural issues or unsuitability to the site.

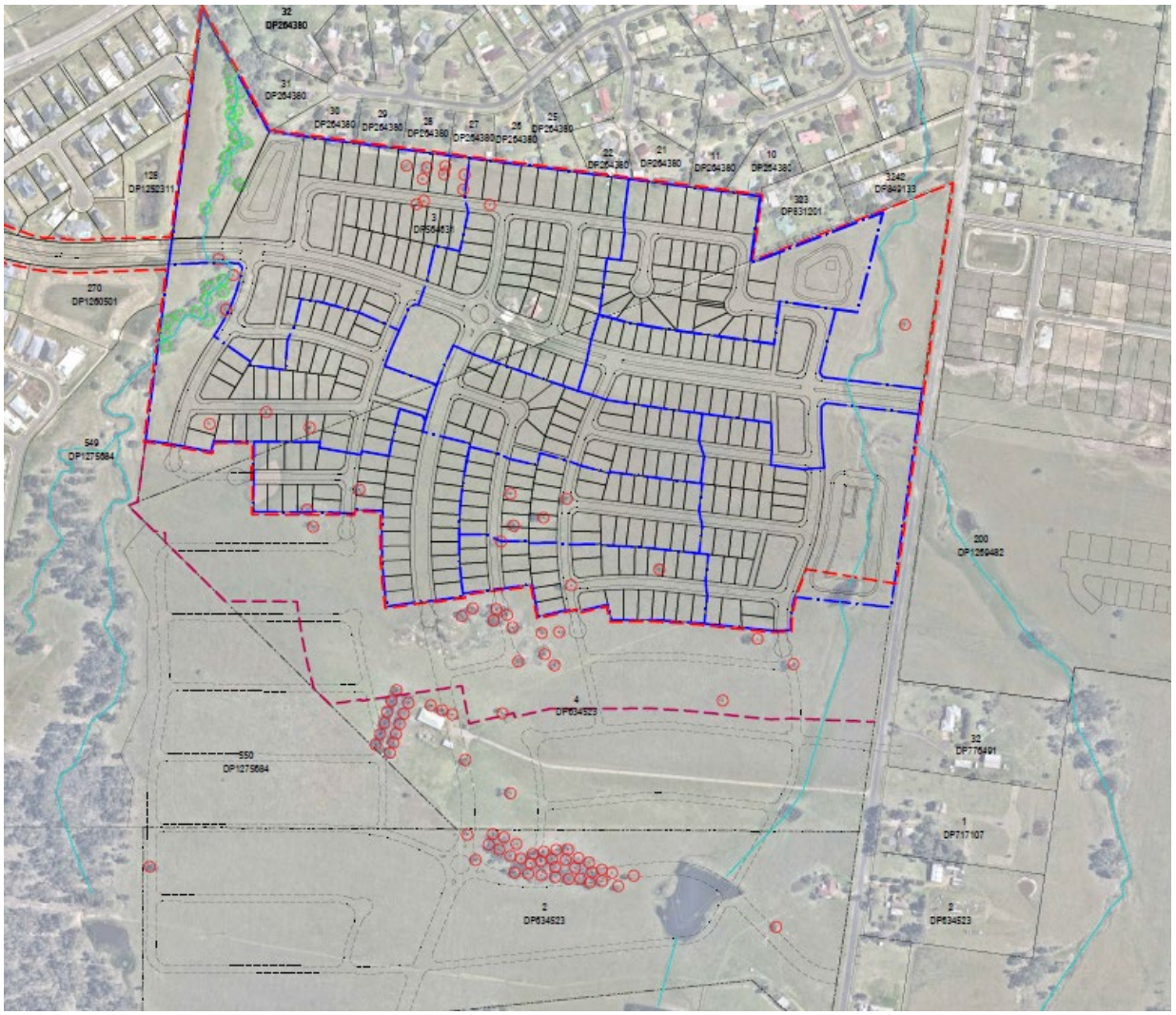

Figure 10: Tree Removal Plan

Source: Acor

3.4 Development Staging

The proposal will create 353 lots (352 Torrens Title and 1 residue lot) across ten stages as depicted in the figure below.

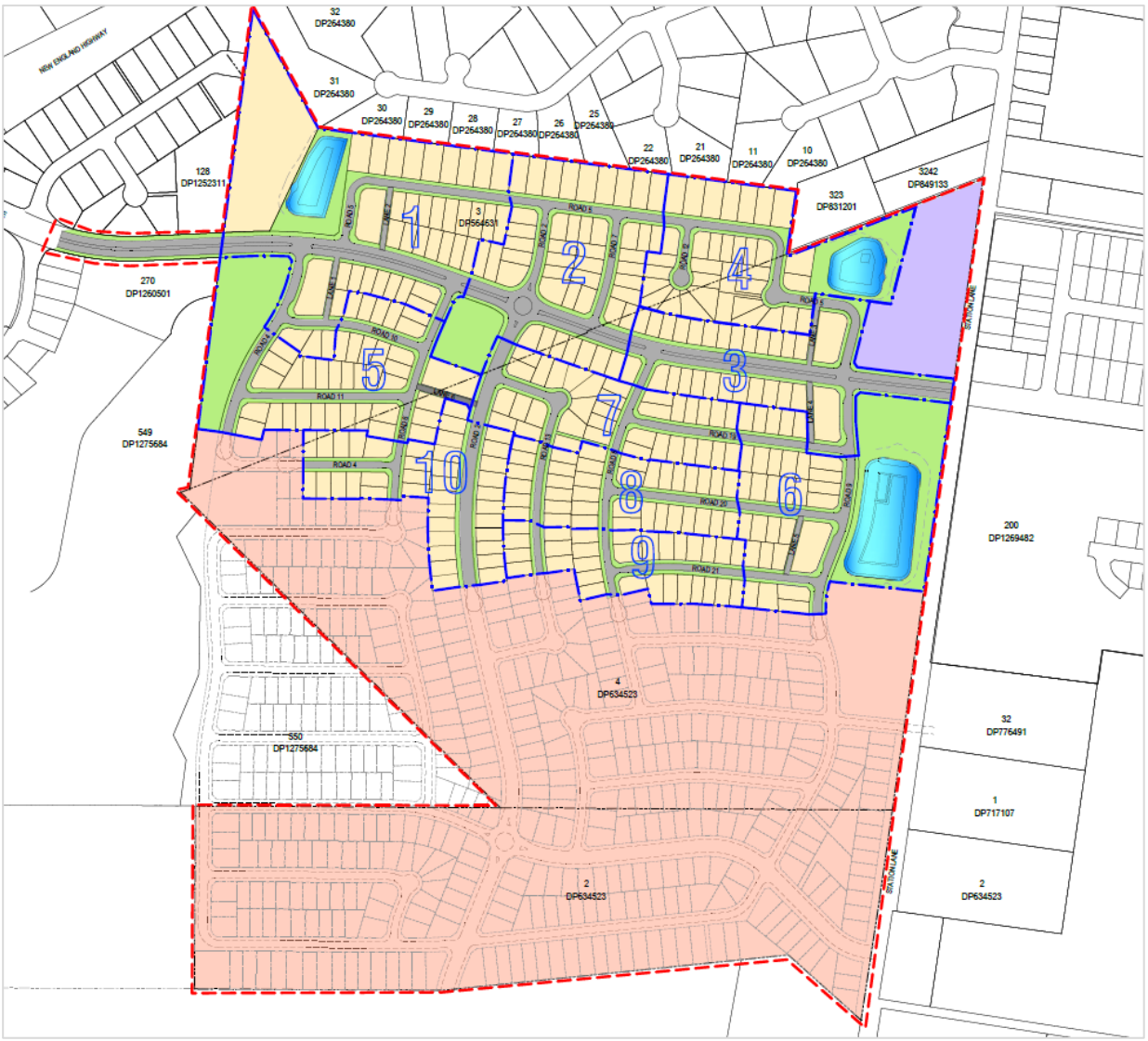

Figure 11: Overall masterplan with relevant stages identified.

Source: Acor

Staging of the proposal is further outlined in Table 2 below.

Table 2: Staging Plan

Stage	Lots	Roads	Infrastructure
1	40 lots	Part Terriere Dr, part road 4, 5, 10 and lane 1 and 2	Basin
2	45 lots	Part Terriere Dr, part road 2 and 5 and entire road 7	Park
3	27 lots	Part Terriere Dr, part roads 5, 8 and 9 and lane 3 and 4	-
4	34 lots	Part road 5 and entire road 12	Basin
5	38 lots	Part road 4, 6, 10 & 11, part lane 6	-

Table 2: Staging Plan			
Stage	Lots	Roads	Infrastructure
6	31 lots	Part road 9, 19, 20 and 21 and lane 5	Basin
7	34 lots	Part road 2, 8, 13, 19 and through site link	-
8	36 lots	Part road 8, 13 and 20	-
9	29 lots	Part road 8, 13 and 21	-
10	39 lots	Part road 2, 4 and 6	-

The application contains several superlots which are to be subdivided under a separate future application(s). These lots will provide for additional small-lot housing outcomes which will further contribute towards housing diversity within the Lochinvar URA. The superlots are situated in areas within the estate with the highest amenity, overlooking open space areas.

The following superlots (proposed) are intended for further subdivision under future applications:

- Proposed Lot 119 (Stage 1);
- Proposed Lot 35 (Stage 1);
- Proposed Lot 314 (Stage 3);
- Proposed Lot 315 (Stage 3);
- Proposed Lot 507 (Stage 5); and
- Proposed Lot 624 (Stage 6).

3.5 Lot Diversity

The proposal provides a range of lot sizes which cater for the diverse housing needs of the community. This includes small, medium, and larger lot sizes which range from 450sqm to over 1,000sqm. A breakdown of the proposed lot size ranges is provided in Table 3 on the following page.

Table 3: Lot Size Ranges	
Lot Size Range	Number of lots
450sqm-549sqm	171 (48%)
550sqm-649sqm	124 (35%)
650sqm-749sqm	16 (4.5%)
750sqm-849sqm	7 (1%)
850sqm-949sqm	18 (5%)
950sqm-1999sqm	14 (4%)
1999sqm-4999sqm	2 (0.5%)
5000sqm>	1 (0.3%)
Public Reserve	5

3.6 Civil and stormwater design

Supporting civil and stormwater plans are provided in support of the application and provided in Appendix 8 of the SEE. In addition, an overview of the stormwater management approach is provided within the Civil Engineering Report at Appendix 9.

3.6.1 Stormwater Drainage

The proposed development will include the provision of new stormwater drainage infrastructure which will cater for both stormwater quantity and quality outcomes. This includes the provision of stormwater pits and pipes to drain the proposed residential properties, which has been designed to convey peak flows from a 10% AEP storm event, with the road carriageway and footpath designed to convey peak flows from a 1% AEP storm event via overland flow. The proposal also includes the construction of three stormwater basins.

3.6.2 Road Construction

The proposal will deliver a local road network in accordance with the Lochinvar URA to service the development and broader release area. This includes the provision of the continuation of Terriere Drive as a sub-arterial divided carriageway through to Station Lane, as well as the initial stages of a north-south road which will be a primary distributor road.

A roundabout is proposed to be provided at the intersection of these two roads as a works-in-kind agreement.

The subdivision is otherwise supported by a series of local roads, laneways, and pedestrian through-links to allow for vehicular, cyclist, and pedestrian circulation which will be constructed in accordance with relevant Council standards.

3.7 Landscaping and Public Open Space

3.7.1 Landscaping

Street tree planting and broader public domain works will be undertaken as part of the subdivision of the site, in accordance with the supporting landscape plans, provided as Appendix 6 of the SEE.

The landscape plan provides for a variety of street trees which have been selected due to their hardy nature and reputation as known performers. Each street will be lined with a single tree species to create a sense of place and character within the Kaludah Estate. Deciduous tree species have been chosen to line East-West orientated streets for seasonal variation and to permit solar access for residences, while mixed evergreen species have been selected to line North-South oriented streets.

A raised 7.5m buffer zone is proposed to be provided to the rural residential lots along the boundary of existing allotments to the north of the site. This includes a raised 7.5m landscape buffer zone which will include vegetation and canopy trees ranging between 15m and 20m in height, as well as medium sized trees, groundcovers and grasses.

Figure 12: Proposed landscape plan

Source: Green Space Planning

3.7.2 Public Open Space

High quality areas of open space, including park and riparian zones have been incorporated into the proposal in order to create an environment which fosters an attractive, safe, vibrant and liveable environment.

A public park is intended to be delivered as a part of the proposal within the second stage of the subdivision. A concept park design is provided in the supporting landscape plans, provided as Appendix 6 of the SEE and depicted below.

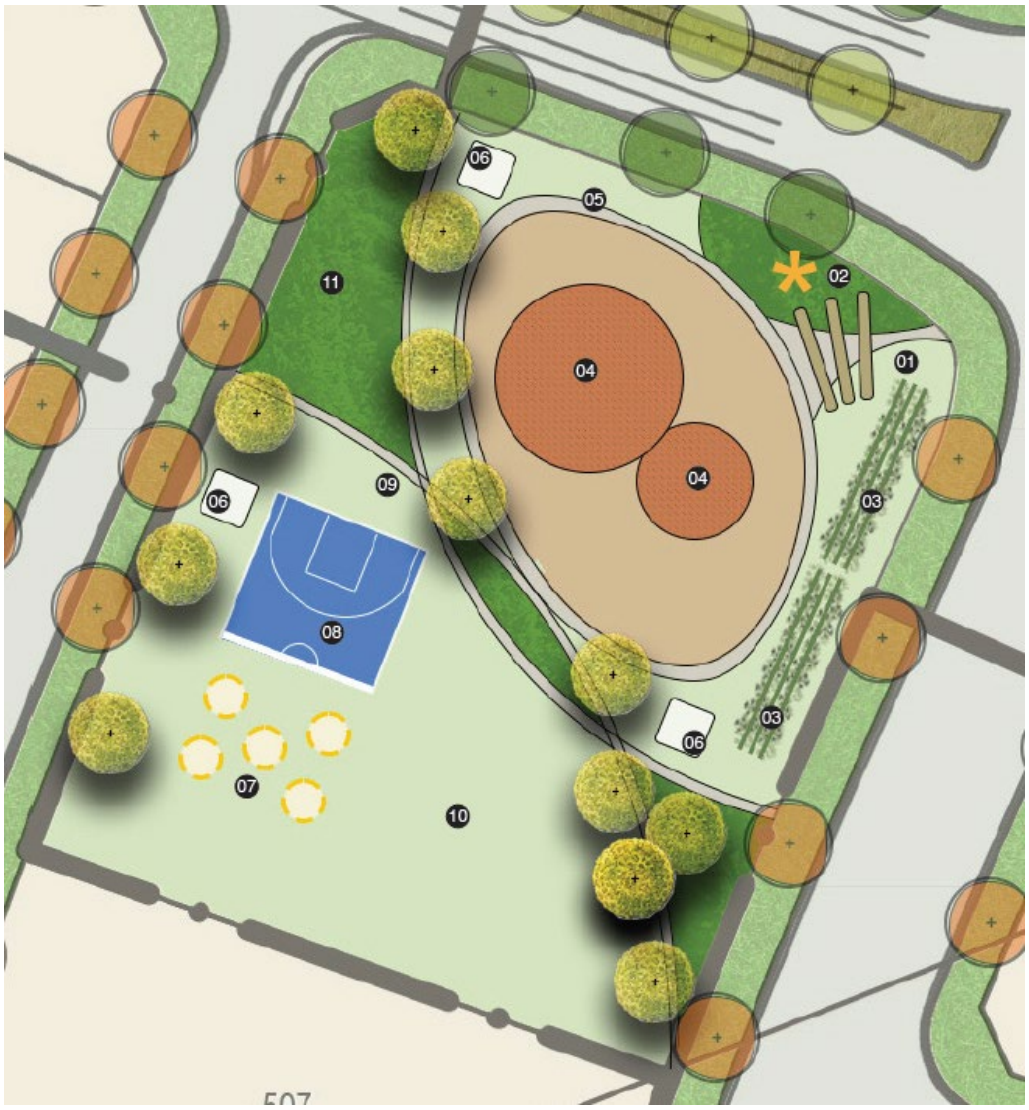

Figure 13: Indicative Park Design
Source: Green Space Planning

4 Statutory Assessment

This section of the report provides an assessment of the proposal against the key planning provisions applicable to the proposal under the relevant environmental planning instruments and development control plan.

4.1 Environmental Planning and Assessment Act 1979

4.1.1 Integrated Development

Pursuant to 4.46 of the EP&A Act, "Integrated Development" is development (not being State significant development or complying development) that, in order for it to be carried out, requires development consent and one or more additional approvals.

The proposal is nominated Integrated Development as a bushfire safety authority is required under Section 100B of the *Rural Fires Act 1997* and a controlled activity approval is required under the *Water Management Act 2000*.

It is expected that Council will refer the application to the NSW Rural Fire Services and NSW Natural Resource Access Regulator (NRAR) for comment.

4.1.2 Section 7.11 Contributions Plans

The site is subject to the Section 7.11 contributions pursuant to the *Lochinvar Section 94 Contributions Plan 2014* (the Contributions Plan).

The Contributions Plan identifies a number of items to be funded through contributions upon the site, relating to recreation and open space, road and traffic, and stormwater basins and culvert upgrades.

These items will be necessary to facilitate the development, and as such the developer proposes to enter into a Works in Kind Agreement (WIKA) of a number of Section 7.11 items. These are listed in Table 4.

Table 4: Proposed Works in Kind

CP Item	Description
L33	Road Connection
L20	Median Construction
L17	Local Playground
L29	Roundabout
L24	Traffic Controls
L38	Regional Basin
L31	Drainage Culvert
L21	Median Construction

4.2 Biodiversity Conservation Act 2016

A Biodiversity Development Assessment Report (BDAR) has been prepared by AEP and is provided in Appendix 13 of the SEE as required under Part 7 of the Biodiversity Conservation Act 2016 (BC Act 2016).

The report has been prepared to meet the requirements of the Biodiversity Assessment Method (BAM) under Section 6.7 of the BC Act 2016 and utilises methods to identify biodiversity values within the site.

Credit requirements have been calculated within the BAM Calculator to offset the residual impacts of vegetation removal and achieve a no net loss standard.

The findings of the BDAR are discussed in greater detail in Section 5.12 of this SEE.

4.3 State Environmental Planning Policies

4.3.1 SEPP (Resilience and Hazards) 2021

Chapter 4 of the State Environmental Planning Policy (Resilience and Hazards) 2021 (R&H SEPP) aims to provide a State-wide planning approach to the remediation of contaminated lands. It aims to promote the remediation of contaminated land for the purposes of reducing the risk of harm to human health or any other aspect of the environment by:

> *(a) by specifying when consent is required, and when it is not required, for a remediation work, and*
>
> *(b) by specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular, and*
>
> *(c) by requiring that a remediation work meet certain standards and notification requirements*

The DCA provided as Appendix 10 of the SEE concludes the site can be made suitable for the proposed residential development, with the incorporation of recommendations providing the recommendations of the report are adopted accordingly.

In addition mandatory considerations under Chapter 4 of the R&H SEPP are addressed below.

Table 5: Resilience and Hazards SEPP assessment

Clause	Assessment
Clause 4.6 Contamination and remediation to be considered in determining development application	
(1) A consent authority must not consent to the carrying out of any development on land unless: (a) it has considered whether the land is contaminated, and (b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose	**Complies.** A DCA has been prepared for the site which has found provides that while some contamination has been identified at the site, the land can be made suitable for the proposal through adoption of the

Table 5: Resilience and Hazards SEPP assessment	
Clause	Assessment
for which the development is proposed to be carried out, and (c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.	recommendations contained within the report. As such, through the implementation of appropriate conditions of consent, Council can be satisfied that the land is able to be made suitable for the purposes of the residential development proposed.
(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in sub clause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.	**Complies.**
(3) The applicant for development consent must carry out the investigation required by sub clause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.	**Complies.**

4.3.2 SEPP (Transport and Infrastructure) 2021

The Transport and Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across NSW and allows for a range of development to be permitted with and without consent. It also contains planning provisions relating to development near or adjacent to major infrastructure like roads and electricity.

An assessment against the applicable provisions for the SEPP is provided in Table 6 below.

Table 6: Transport and Infrastructure SEPP assessment	
Clause	Assessment
Clause 2.121 Traffic generating development	
(1) This section applies to development specified in Column 1 of the Table to Schedule 3 that involves— (a) new premises of the relevant size or capacity, or (b) an enlargement or extension of existing premises,	**Noted.** The subdivision proposes 351 lots and includes the opening of several public roads. The

Table 6: Transport and Infrastructure SEPP assessment	
Clause	Assessment
being an alteration or addition of the relevant size or capacity. <u>Schedule 3:</u> Subdivision of land: 200 or more allotments where the subdivision includes the opening of a public road	proposal is therefore classified as traffic generating development in accordance with Schedule 3 and subject to the provisions of Clause 2.121 of the T&I SEPP.
(4) Before determining a development application for development to which this section applies, the consent authority must— (a) give written notice of the application to TfNSW within 7 days after the application is made, and (b) take into consideration— (i) any submission that RMS provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, TfNSW advises that it will not be making a submission), and (ii) the accessibility of the site concerned, including— (A) the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and (B) the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and (iii) any potential traffic safety, road congestion or parking implications of the development.	**Able to Comply.** The application will be referred to TfNSW following lodgment with Council. The Traffic Impact Assessment submitted alongside the application at Appendix 12 demonstrates that access to the site can be provided via the extension of Terriere Drive. At a minimum, the first three stages (approx. 112 lots) can be accessed via Terriere Drive with no impact on the intersection with the New England Highway, or the operations of the New England Highway itself. After the release of the first three stages, it is expected that additional access will be provided via a new intersection to the east, along Station Lane, providing relief to the Terriere Drive and New England Highway route.
2.48 Determination of development applications – other development	
1) This section applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following— (a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower, (b) development carried out—	**Not Applicable.** An easement burdens the southern portion of the site for the purposes of overhead power lines. However, the works pertaining to the subject application are not within proximity to the easement or

Table 6: Transport and Infrastructure SEPP assessment	
Clause	Assessment
(i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or (ii) immediately adjacent to an electricity substation, or (iii) within 5m of an exposed overhead electricity power line,	electricity line. Hence, Clause 2.48 is not triggered by the application. It is nevertheless understood that Council may refer the application to Ausgrid for comments on the subject application.

4.3.3 SEPP (Biodiversity and Conservation) 2021

Chapter 3 – Koala Habitat Protection (2020)

Chapter 3 of the Biodiversity and Conservation SEPP applies to land in the Maitland LGA which is zoned RU1 – Primary Production, RU2 – Rural Landscape, and RU3 – Forestry. Clause 3.5 of the Chapter states:

> *This Part applies to land—*
>
> *(a) that is land to which this Chapter applies, and*
>
> *(b) that is land in relation to which a development application has been made, and*
>
> *(c) that, whether or not the development application applies to the whole, or only part, of the land—*
>
> *(i) has an area of more than 1 hectare, or*
>
> *(ii) has, together with adjoining land in the same ownership, an area of more than 1 hectare.*

No physical works are proposed on land zoned RU2 – Rural Landscape, with the development footprint restricted to land zoned R1 – General Residential, in the northern part of the site.

As such, Chapter 3 does not apply to the subject development.

Chapter 4 – Koala Habitat Protection (2021)

Chapter 4 of the Biodiversity and Conservation SEPP applies to the Maitland LGA and identifies the LGA as being within the Central Coast Koala Management Area. The aim of this Chapter is to encourage the conservation and management of natural vegetation that provides habitat for koalas, which it does so by providing specific development controls.

The Central Coast Koala Management Area currently does not have an approved KPOM and as such an assessment process under Clause 4.9 applies, which is responded to below.

The response to the clause below is informed by the BDAR in Appendix 13 of the SEE.

Table 7: Assessment against Clause 4.9 (Koala Habitat Protection 2021)	
Clause	Assessment
(1) This section applies to land to which this Chapter applies if the land— (a) has an area of at least 1 hectare (including adjoining land within the same ownership), and (b) does not have an approved koala plan of management applying to the land.	**Noted.** The section applies to the subject development, as it is more than 1ha in size and has no approved KPOM.
(2) Before a council may grant consent to a development application for consent to carry out development on the land, the council must assess whether the development is likely to have any impact on koalas or koala habitat.	**Noted.**
(3) If the council is satisfied that the development is likely to have low or no impact on koalas or koala habitat, the council may grant consent to the development application.	**Complies.** The BDAR prepared by AEP indicates that although the site contains potential koala habitat, the results of a targeted survey mean it is unlikely that koalas are present within the subject site. A desktop search in the NSW BioNet Atlas of threatened species also revealed no records of koala within a 10km x 10km area around the site within the last 18 years. AEP conclude that the site does not qualify as Core Koala Habitat.
(4) If the council is satisfied that the development is likely to have a higher level of impact on koalas or koala habitat, the council must, in deciding whether to grant consent to the development application, take into account a koala assessment report for the development.	**Not Applicable.** As outlined in (3) above, the site is not considered core koala habitat nor have any koalas been identified on site.

Table 7: Assessment against Clause 4.9 (Koala Habitat Protection 2021)	
Clause	Assessment
(5) However, despite subsections (3) and (4), the council may grant development consent if the applicant provides to the council— (a) information, prepared by a suitably qualified and experienced person, the council is satisfied demonstrates that the land subject of the development application— (i) does not include any trees belonging to the koala use tree species listed in Schedule 3 for the relevant koala management area, or (ii) is not core koala habitat, or (b) information the council is satisfied demonstrates that the land subject of the development application— (i) does not include any trees with a diameter at breast height over bark of more than 10 centimetres, or (ii) includes only horticultural or agricultural plantations.	**Complies.** The BDAR prepared by AEP concludes that the site does not qualify as core koala habitat. Council may therefore grant development consent pursuant to (a)(ii).

4.4 Maitland Local Environmental Plan 2011

The *Maitland Local Environmental Plan 2011* (MLEP 2011) is the primary local planning instrument which applies to the site.

Key zoning, development standards and provisions contained within the MLEP 2011 of relevance to the proposal are considered in detailed in the subsections which follow below. In addition, the MLEP 2011 is also further considered in the LEP compliance table provided as Appendix 2 o the SEE.

Based on the assessment undertaken by Patch, it is considered that the proposal is wholly consistent with relevant zoning, development standards and provisions of relevance to the subject site.

4.4.1 Zoning

Under MLEP 2011, the site is zoned R1 – General Residential as shown in Figure 14 below. Development for the purposes of residential subdivision, is permitted in this zone.

The objectives of the R1 zone include:

- *To provide for the housing needs of the community.*
- *To provide for a variety of housing types and densities.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

The proposed subdivision aligns with the objectives of the R1 zone as it will provide for a new residential subdivision which will facilitate new housing opportunities within the Maitland LGA to meet the needs of the community. Furthermore, the proposal will provide for a

diversity of lot types, potentially catering for a variety of housing typologies and densities.

The increased population within the Lochinvar URA will support existing businesses and enable further commercial development to service the needs of the population.

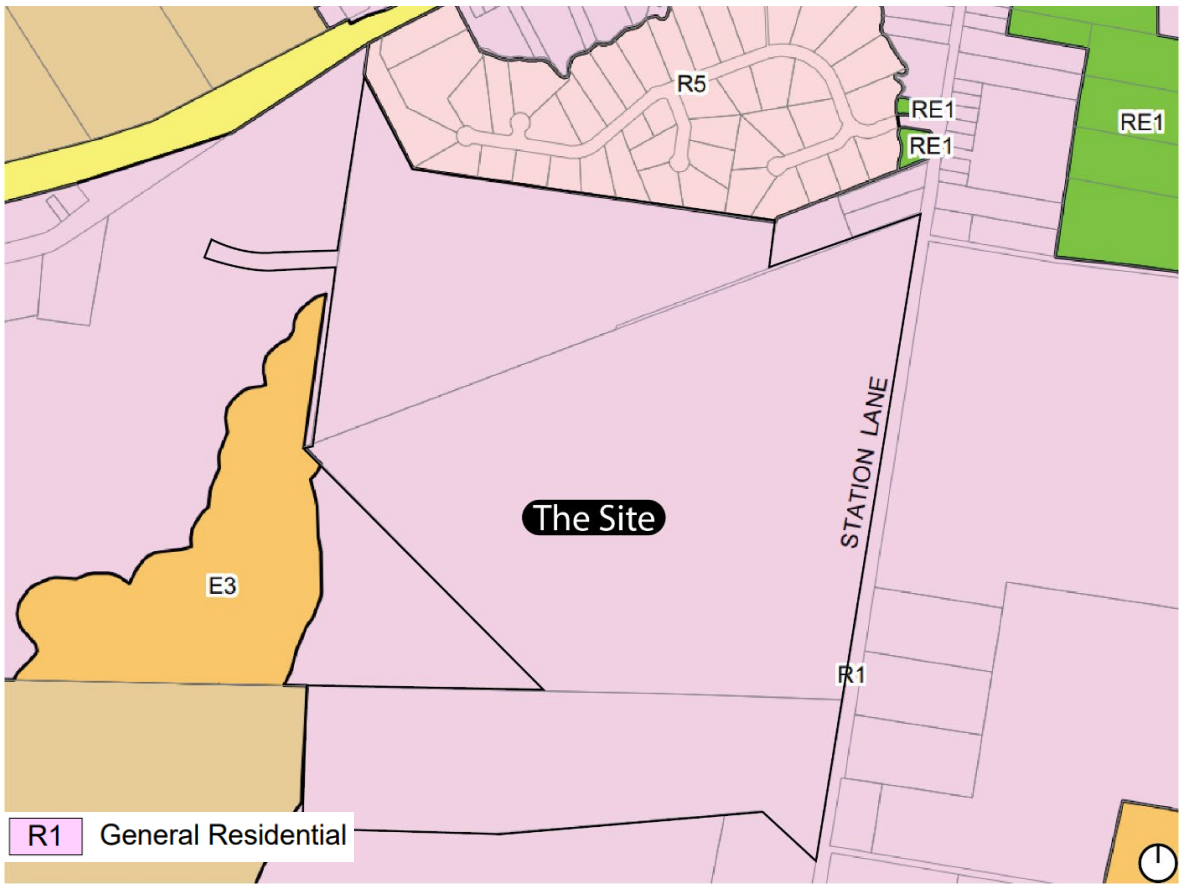

Figure 14: Zoning Map

Source: Maitland LEP

4.4.2 Minimum Lot Size

In accordance with clause 4.1 of the MLEP 2011, the minimum lot size which applies to the land the subject of this application is 450sqm as shown in Figure 16 below.

The objectives of clause 4.1 are as follows:

> *(a) to ensure that lot sizes are able to accommodate development that is suitable for its purpose and consistent with relevant development controls,*
>
> *(b) to prevent the fragmentation of rural land.*
>
> *(2) This clause applies to a subdivision of any land shown on the Lot Size Map that requires development consent and that is carried out after the commencement of this Plan.*

All lots proposed to be created exceed the 450sqm minimum lot size control. Furthermore, the proposal will result in a development outcome which is consistent with the above objectives as it will result in the provision of lots which are able to facilitate development consistent with relevant development controls and will not result in the fragmentation of rural land.

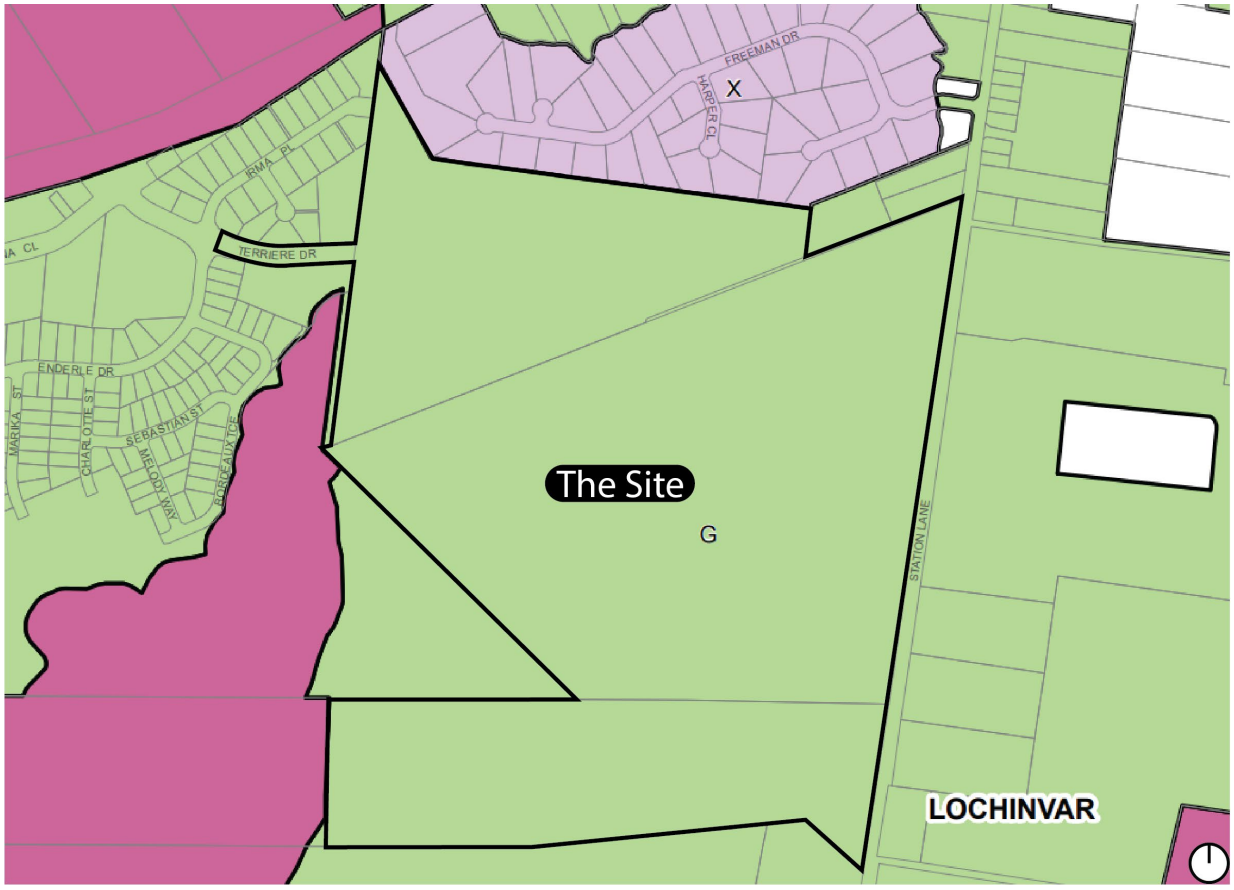

Figure 15: Minimum lot size map

Source: Maitland LEP

4.4.3 Arrangements for designated State public infrastructure

The Applicant will make an offer to enter into a State VPA via the Planning Portal, once the Development Application is lodged with Council. An offer is unable to be made until this occurs.

As advised in the 'State voluntary planning agreements process guide', the SVPA will only progress to finalisation once the DA has progressed to finalisation stage or the number of new dwellings/net developable area has been resolved. The progression for the SPVA will occur concurrently with the DA, and is likely to be finalised prior to approval. The SVPA will ensure that satisfactory arrangements have been made for State public infrastructure.

4.4.4 Public Utility Infrastructure

Provisions contained within 6.2 of the MLEP 2011 require that development consent must not be granted for development on land in an urban release area unless the Council is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.

As provided in Appendix 7 of the SEE, adequate arrangements have been made for public utility infrastructure to be provided to the site which will support the proposal. This is also further discussed in 5.3 of the SEE.

4.4.5 Earthworks

Clause 7.2 of MLEP 2011 aims to ensure that earthworks related to development will not have a detrimental impact on environmental functions and processes, neighbouring uses, or cultural or heritage items.

As outlined in the Civil Engineering Report at Appendix 9, the development results in an estimated 153,900m^3 of cut and 237,200m^3 of fill. There is expected to be a requirement to import a small amount of fill material, which could also be achieved by borrowing from the residue of the site.

The earthworks are necessary to make the site viable for residential development and as a whole are considered to comply with the matters for consideration outlined in the MLEP 2011. There will be no detrimental effect on drainage patterns of the site or neighbouring properties, and sediment erosion control measures will be implemented during construction as detailed within the accompanying civil plans. As outlined within the development's accompanying Aboriginal Cultural Heritage Assessment, the works are not expected to impact upon any item of Aboriginal significance (see Section 5.8 of this SEE). The source and quality of fill to be brought to the site will be determined at the construction phase.

4.4.6 Riparian Corridors

The provisions of Clause 7.4 relate to riparian land and corridors and aim to protect the environment of such land. A response to the items that Council must consider under this clause is provided below, and demonstrate the proposal's compliance with its requirements.

> *(3) Before determining a development application to carry out development on land to which this clause applies, the consent authority must consider whether or not the development—*
>
> *(a) is likely to have any adverse impact on the following—*
>
> *(i) the water quality and flows within the watercourse,*
>
> **Response:** The accompanying civil drawings, and stormwater management plans and reports, provide for soil and erosion management control during construction and ongoing water quality measures.
>
> *(ii) aquatic and riparian species, habitats and ecosystems of the watercourse,*
>
> **Response:** The subdivision of the site is unlikely to have any detrimental impact on species, habitats or ecosystems of watercourses on or near the site. Rehabilitation of watercourse areas is proposed which will improve the opportunity for biodiversity around these areas.
>
> *(iii) the stability of the bed, shore and banks of the watercourse,*
>
> **Response:** A buffer area is to be maintained around watercourses which will ensure ongoing stability of the bed, shore and banks.
>
> *(iv) the free passage of fish and other aquatic organisms within or along the watercourse,*
>
> **Response:** The works will not impact upon passage within or along the watercourse.
>
> *(v) any future rehabilitation of the watercourse and its riparian areas, and*
>
> **Response:** As outlined in Section 5.13, rehabilitation of the watercourses is proposed

as a part of the works and will be managed through an ongoing Vegetation Management Plan.

(b) is likely to increase water extraction from the watercourse.

Response: The proposal will not increase water extraction from watercourses.

4.5 Maitland Development Control Plan 2011

The DCP Compliance Table provided as Appendix 3 of the SEE provides an assessment of the proposal against the relevant applicable controls under the Maitland Development Control Plan (MDCP 2011), while key matters are discussed further in the subsections below.

The assessment demonstrates the residential subdivision proposal is largely compliant with the objectives and provisions of the MDCP 2011. Where departures from relevant controls occur, it is considered that reasonable alternative solutions that continue to achieve the objectives of the DCP are proposed and therefore should be considered acceptable by Council.

4.5.1 Consistency with Lochinvar URA Area Plan

As identified within Part F.9 of the MDCP 2011, the Lochinvar Urban Release Area (URA) comprises a total of 650 hectares of land, with an approximate residential yield of 5,000 lots. The Lower Hunter Regional Strategy identified the Lochinvar URA as a regionally significant development area and as a key site to achieve the dwelling targets for population growth in the Lower Hunter.

The Lochinvar URA Structure Plan is shown in Figure 16. It identifies the site as being located within a 'Residential' component of the URA and affected by a proposed road network which includes east-west and north-south roads.

The proposed subdivision is entirely consistent with the Structure Plan for the Lochinvar URA, proposing a residential outcome which incorporates the proposed road layout.

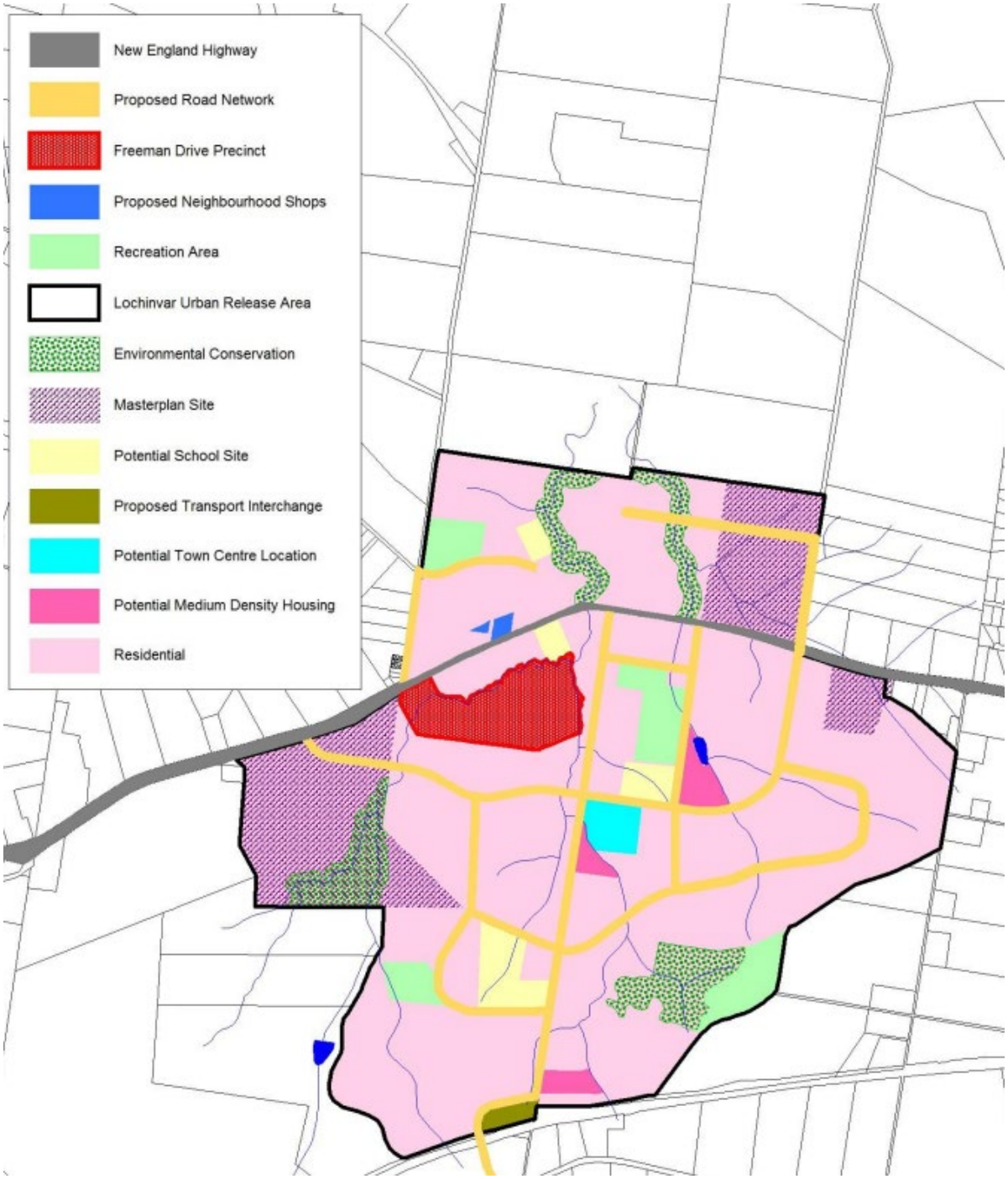

Figure 16: Lochinvar URA
Source: Maitland Council

4.5.2 Staging Plan

Part F Section 1.1 of the MDCP 2011 requires the staging of the Lochinvar URA to be generally in accordance with the proposed staging plan, shown in Figure 17. The objectives of the controls under Section 1.1 are:

1. To provide for the timely and efficient release of urban land making provision for necessary infrastructure and sequencing.
2. To provide for the logical development of the URA based on the cost effective provision and availability of infrastructure and servicing arrangements.

The development footprint is located within land designated as "Stage 2" in the Lochinvar URA. Land immediately west of the site, as well as land east of Station Lane, are identified as Stage 1.

It is firstly noted that a significant extent of land within Stage 1 of the URA has already been developed, is approved for subdivision with works underway, or is proposed to be subdivided under current applications. This includes the St Helena Estate immediately to the west of the subject site, the site across Station Lane immediately to the east of the site, and land to the west of the site along the New England Highway in the vicinity of Wyndella Road. Further, Council has approved the subdivision of land in Stage 2 of the URA at 26 Windermere Road.

The release of land at the subject site is considered an acceptable and reasonable variation to the Lochinvar URA staging plan as it can be demonstrated that the development remains consistent with the objectives of the controls under MDCP 2011. This is considered to be achieved by the subject proposal in the following regard:

- The proposed subdivision is considered to represent a timely and efficient release of urban land, which will respond to market demand for housing in Lochinvar and assist the Maitland LGA achieve the 12,600 dwellings required to meet population growth to 2040 as outlined in its Local Strategic Planning Statement (86% of which is expected to be detached housing).
- Whilst not strictly in order, in the sense that some Stage 1 land remains undeveloped, the release of land on the site generally follows the release of many sites within Stage 1 of the Lochinvar URA, and will be subsequent to other land in Stage 2 which has already been approved for subdivision.
- The necessary infrastructure can be made available for the development as outlined within McCloy Group's Key Infrastructure Letter at Appendix 7. The early release of the site will not place an undue impact on government or surrounding communities with respect to infrastructure provision and servicing.
- The subdivision of the site will still ensure the cost effective provision and availability of infrastructure and servicing. From a transport perspective, the earliest lots released within the development are able to utilise Terriere Drive and the New England Highway, with later stages relying on the upgrade to Station Lane when complete. Discussions have also begun with Hunter Water related to the provision of water to the site. Hunter Water have stated there is no objection to the Lochinvar staging plan being revised.

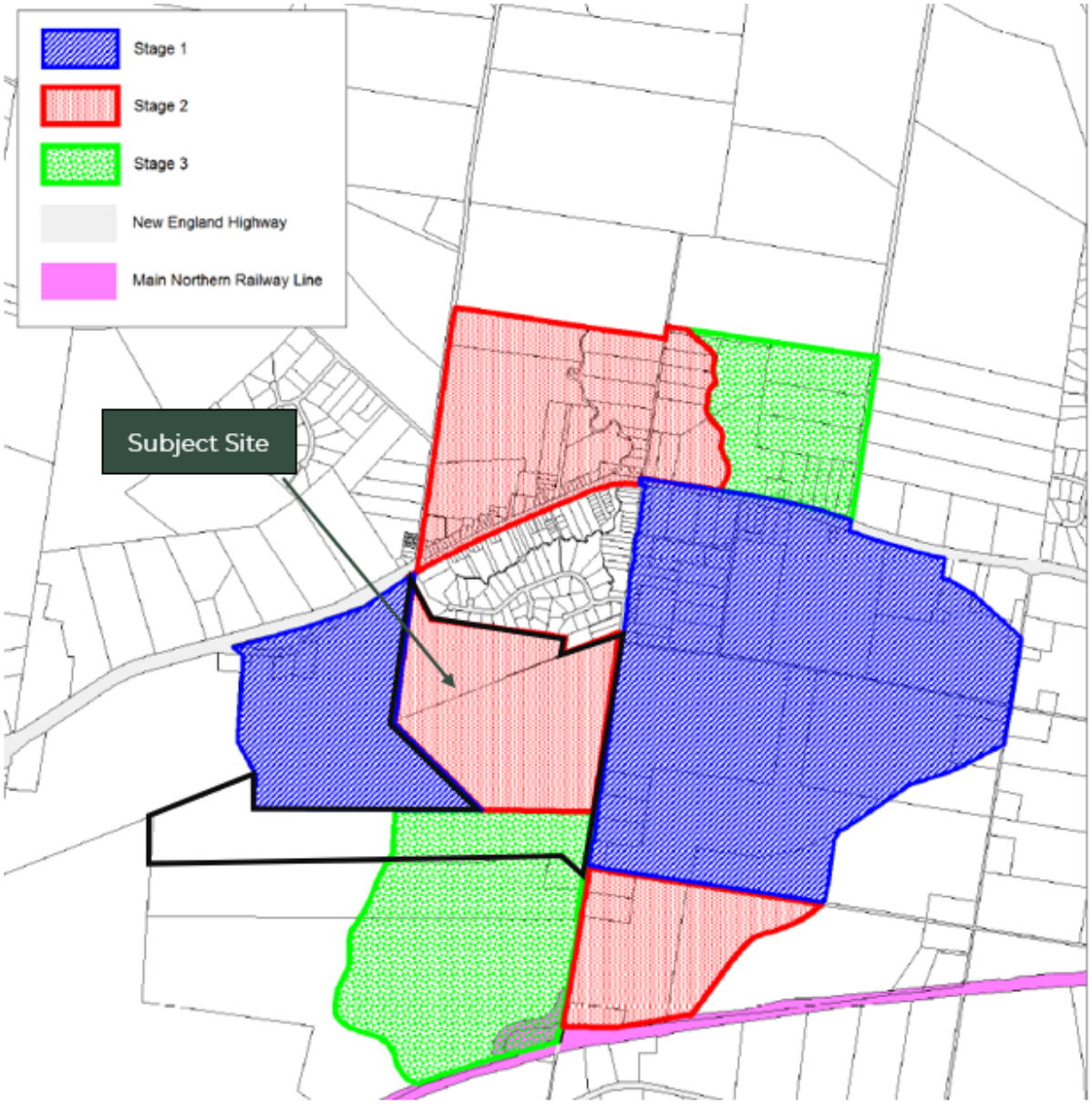

Figure 17: Lochinvar URA Staging Plan
Source: MDCP 2011

4.5.3 Buffer to Rural-Residential Land

1.3(4) of Part F of MDCP 2011 requires that a 15m landscaping buffer be provided adjoining the southern extent of the large lots in the Freeman Drive subdivision to the north in order to provide for screening and visual amenity. This area is shown on an extract of the subdivision plan in Figure 18, being the northern sections of Stages 1, 2 and 4.

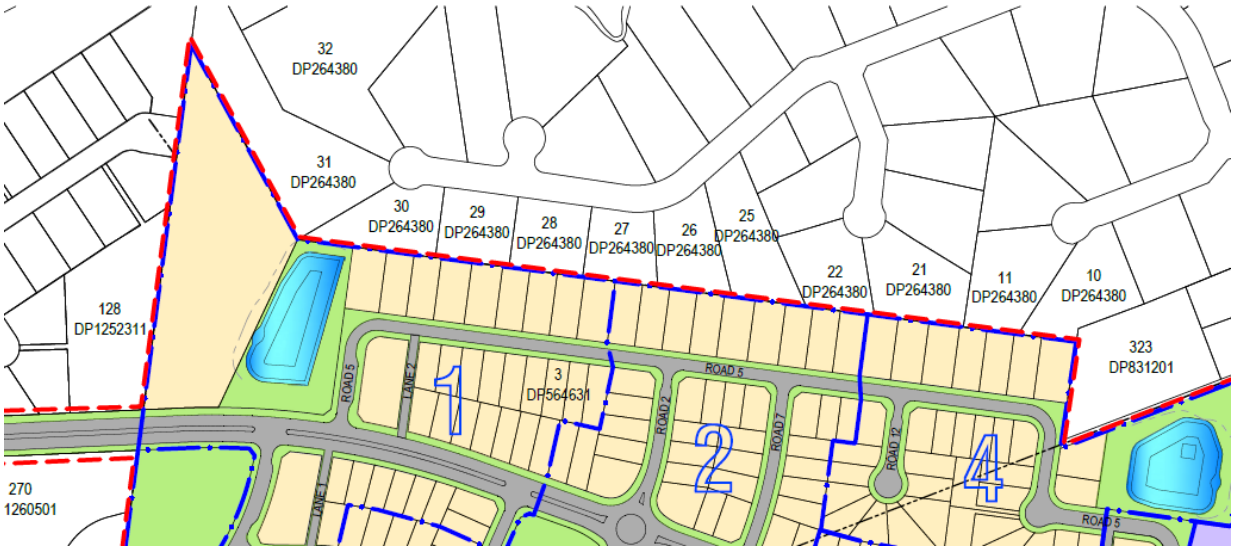

Figure 18: Area of proposal adjoining large lot residential sites to the north

Source: Acor

A Landscape Plan has been prepared by Green Space Planning which provides an alternative solution to what is proposed in the MDCP 2011. This includes a raised 7.5m landscape buffer zone which will include vegetation and canopy trees ranging between 15m and 20m in height, as well as medium sized trees, groundcovers and grasses. An indicative elevation and plan of the landscape concept is shown in Figure 19 and Figure 20.

It is considered that the proposed 7.5m buffer zone and planting proposed will provide for effective and appropriate visual screening of the proposed residential subdivision from adjoining lots to the north and contribute to emerging local character of the area. Furthermore, it will facilitate the establishment of a suitable vegetated backdrop for development.

In the absence of any additional benefit being achieved for adjoining lots from providing a 15m vegetation buffer, the reduced 7.5m buffer proposed is considered acceptable in the circumstances given it will continue to provide an outcome consistent with the relevant objectives of the MDCP 2011.

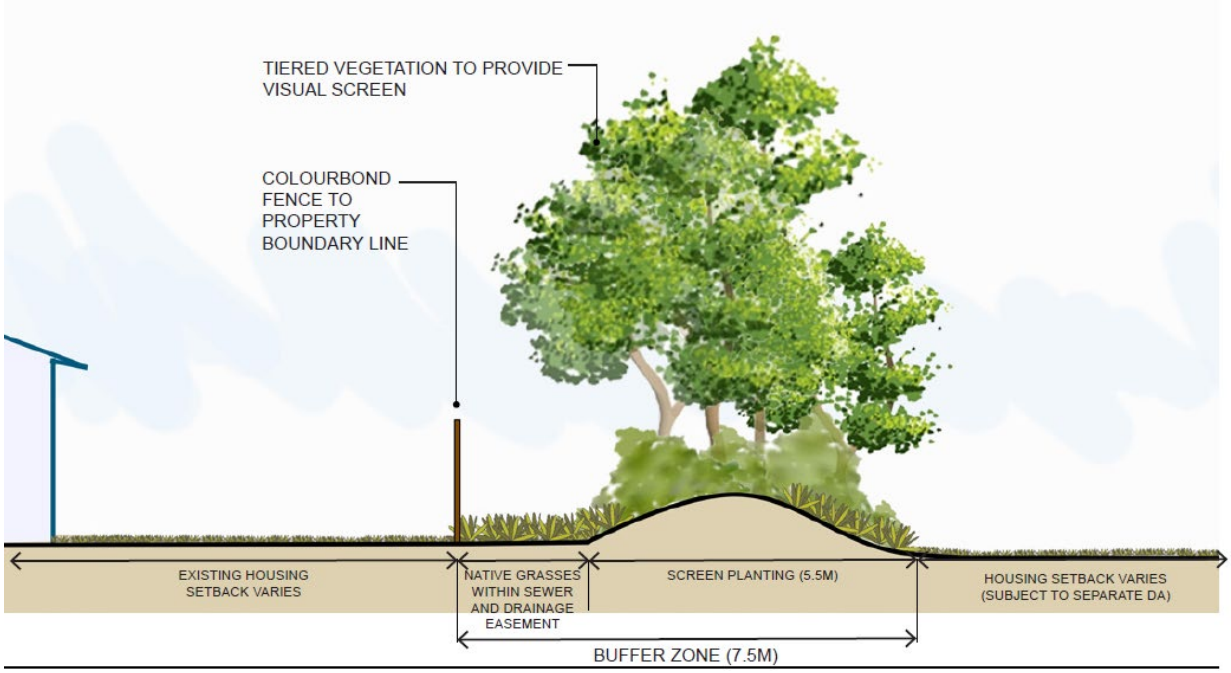

Figure 19: Indicative Elevation – Proposed 7.5m Buffer

Source: Green Space Planning

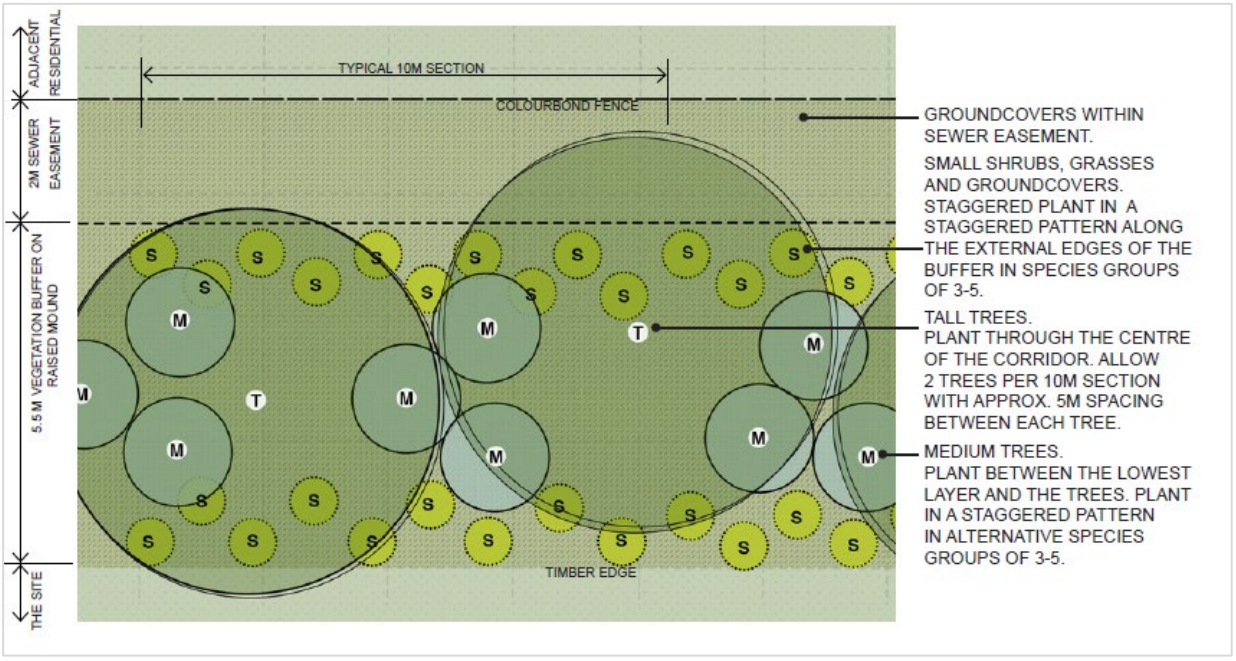

Figure 20: Indicative Plan – Proposed 7.5m Buffer

Source: Green Space Planning

5 Environmental Assessment

5.1 Urban Design

An Urban Design Report has been prepared by Peter Andrews and Associates and is provided as Appendix 5 of the SEE.

The report prepared considers the constraints and opportunities of the site and provides an analysis of the proposed masterplan against identified urban design principles including urban structure, movement and connection, natural systems, public space and built form.

The report finds that the masterplan has been designed to fulfil Council's vision for the Lochinvar URA, providing road links, riparian corridors and servicing infrastructure. Important attributes informing the design of the masterplan and location of open space, water quality basins and lot orientation include the central north-south ridgeline, the two north-south creek corridors and surrounding rural views.

Based on these site attributes and vision set by the Lochinvar URA, the following vision for the site was established:

> *"Kaludah at Lochinvar is a well-connected, master planned, community that responds to its location. It is designed to promote mental and physical health for future residents, with easy access to a range of existing and future services and facilities, and with attractive landscaped streets and public open spaces. It recognises Lochinvar's unique rural setting and its former history as an important wine growing area dating back to the 1870s, by adopting this theme to create a unique sense of place."*

To achieve this vision, the proposal includes the east-west extension of Terriere Drive, construction of a local park, north-south collector road, landscaped network of pathways, cycleways and landscaped riparian corridors connecting to adjoining riparian lands.

Public open space includes pedestrian networks along the two riparian corridors that frame the site to the east and west, whilst a local park is located atop the site ridge line to provide a centralised outdoor place for activity that provides district views over Lambs Valley.

The proposed block pattern has been optimised to promote legibility and walkability, respond to the topography of the site, maximise solar access and provide regional east west road connections and future southern connector linking the New England Highway, Lochinvar Railway station and Lochinvar town centre.

The masterplan for the site has been developed following detailed site analysis being undertaken and will deliver on established urban design principles and satisfy the objectives of the Lochinvar URA.

5.2 Landscaping and the Public Domain

As described in 3.7 of the SEE, landscaping, open space and broader public domain works will be undertaken as part of the residential subdivision of the site, in accordance with the supporting landscape plans provided as Appendix 6 of the SEE.

The landscape design has been curated to create a sense of place and identity recognising the historical importance of Kaludah to the wine producing history of the Lochinvar area dating back to the 1870s, while public spaces and parks have been sited to be centrally located for future residents.

It is considered that the provision of landscaping and public open space proposed will provide for attractive landscaped streets and public open spaces which will be able to be enjoyed by the future occupants and visitors alike.

5.3 Essential Services and Infrastructure Provisions

The necessary infrastructure can be made available for the development as outlined within McCloy Group's Key Infrastructure Letter in Appendix 7 of the SEE and detailed below.

5.3.1 Water

The Lochinvar Urban Release Area is included in a broader regional water servicing and capital works program being delivered by the Hunter Water Corporation.

A DN375mm regional trunk watermain runs through the site along the northern boundary. It was constructed by Hunter Water in 2016 with the primary aims of servicing the Lochinvar Urban Release Area and supplying water to the suction side of a new regional water pumping station at Saint Helena Close.

Previous servicing investigations suggest the existing DN375 watermain is capable of supplying water pressures within Hunter Water's normal operating range (200-600kPA) for any lots located in the elevation range of 18m and 56m AHD (approximately). Final servicing elevations will be subject to detailed modelling of the proposed local watermains and associated head losses within the development site.

Considering local head losses in watermains it is possible that a local water pumping station will be required to service lots at the highest elevations. This will be assessed in conjunction with the water servicing strategy for Hunter Water approval.

5.3.2 Sewer

The site is located within the Lochinvar 1 Wastewater Pumping Station gravity sewerage catchment. Lochinvar 1 WWPS is located on the northern side of the New England Highway and was recently upgraded by Hunter Water and partially financed by the Housing Affordability Fund.

New major trunk gravity sewerage lines are currently being delivered from Lochinvar WWPS, along part of Station Lane and heading due south-east to service various proposed and future developments. These are being delivered by developers, but are Hunter Water funded.

Another trunk sewer line is planned along Station Lane to service this development and others along Station Lane. It will also be delivered by the private sector developers.

It is possible that some pumped sewer solutions may be required for part of the site which cannot drain under gravity into the new trunk sewer scheme. This will be resolved as part of Hunter Water's sewer servicing strategy process.

5.3.3 Electricity, Telecommunications and Gas

The proposed development will be serviced by electricity, telecommunications, and gas. Installation and augmentation of these services to each lot will be undertaken as part of the development works. Should any upgrades be required to service the lots, these will be undertaken in accordance with Ausgrid, NBN, and Jemena requirements. Evidence of supply of these services will be provided to Council prior to the issue of a Subdivision Certificate.

5.3.4 Transport

A transport movement network and hierarchy has been informed by approved and future subdivision layouts on adjoining land. The development proposes to connect to Terriere Drive in the first stage until the east-west collector road connects to Station Lane in the third stage.

This proposed transport solution is detailed in the Traffic Impact Assessment that accompanies the Development Application and has been the subject of consultation with Transport for NSW (TfNSW) in the preparation of this DA.

The development will be referred to Transport for NSW as Traffic Generating Development under the State Environmental Planning Policy (Transport and Infrastructure) 2021, Schedule 3 – Traffic-generating development to be referred to Transport for NSW.

5.3.5 State Infrastructure Requirements

The applicant has commenced discussions with the NSW Department of Planning and Environment (DPE) to enter into a State VPA to provide contributions towards State infrastructure.

Upon lodgement of this application and receipt of a DA number, a formal offer to enter into a VPA will be submitted to DPE allowing for the exhibition and execution of the agreement to occur. It is understood that development consent will not be issued for the subject DA until this process has been completed.

5.4 Bulk Earthworks

The proposed earthworks across the site will include site regrading to obtain suitable levels and benching for the proposal and result in the following:

- 189,960m3 of cut; and
- 223,195m3 of fill

Earthworks proposed across the site is proposed to the extent required to establish the Kaludah Estate and will not have a detrimental impact on environmental functions and processes (drainage, flooding).

During construction, erosion and sediment control measures will be implemented to manage the impact of bulk earthworks. This will include the installation of sediment fences, a constructed sediment basin, gully pit sediment barriers, and permanent rock outlet scour protection.

5.5 Bushfire

In order to understand the level of bushfire risk associated with the development, a Bushfire Assessment Report was prepared by Bushfire Planning Australia. The subject report is provided as Appendix 14 of the SEE.

The report finds that the site is currently exposed to a low to medium bushfire hazard contained to the existing riparian corridor straddling the western boundary of the site. The primary hazard compromises a corridor of vegetation within the riparian corridor.

In response to the level of bushfire risk identified at the subject site, the report provides the

following recommendations:

1. All land within the site zoned R1 Residential; excluding the riparian corridors shall be managed as an Inner Protection Area (IPA) as outlined within Appendix 4 of PBP 2019 and the RFS document Standards for asset protection zones;
2. Asset Protection Zones shall be provided as indicated on Figure 15 and Appendix E of the Bushfire Assessment Report;
3. Access shall be provided in accordance with Table 5.3b of PBP 2019. This will require the provision of a minimum of two (2) separate road access points provided from the development site to the east and west to ensure safe evacuation for all residents. A temporary access road shall be provided during the staged construction of the development to Terriere Drive and temporary access provided to Station Lane;
4. Any temporary turning heads shall be constructed in accordance Appendix A3.3 of PBP 2019;
5. Vegetation within road verges (including swales) to be consistent with a grassland vegetation classification with tree canopy less than 10% at maturity;
6. Vegetation with the stormwater basins; including associated batters shall be planted consistent with a grassland vegetation classification with tree canopy less than 10% at maturity;
7. All future dwellings to be constructed on the proposed lots shall have due regard to the specific considerations given in the National Construction Code: Building Code of Australia (BCA) which makes specific reference to Australian Standard AS3959-2018 Construction of buildings in bushfire prone areas (AS3959-2018) and the NASH Standard Steel Framed Construction in Bushfire Prone Areas;
8. All new lots are to be connected to a reliable water supply network and that suitable fire hydrants are located throughout the development site that are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure shall comply with AS2419.1 2005 and section 5.3.3 of PBP 2019; and
9. Consideration should be given to landscaping and fuel loads on site to decrease potential fire hazards on site.

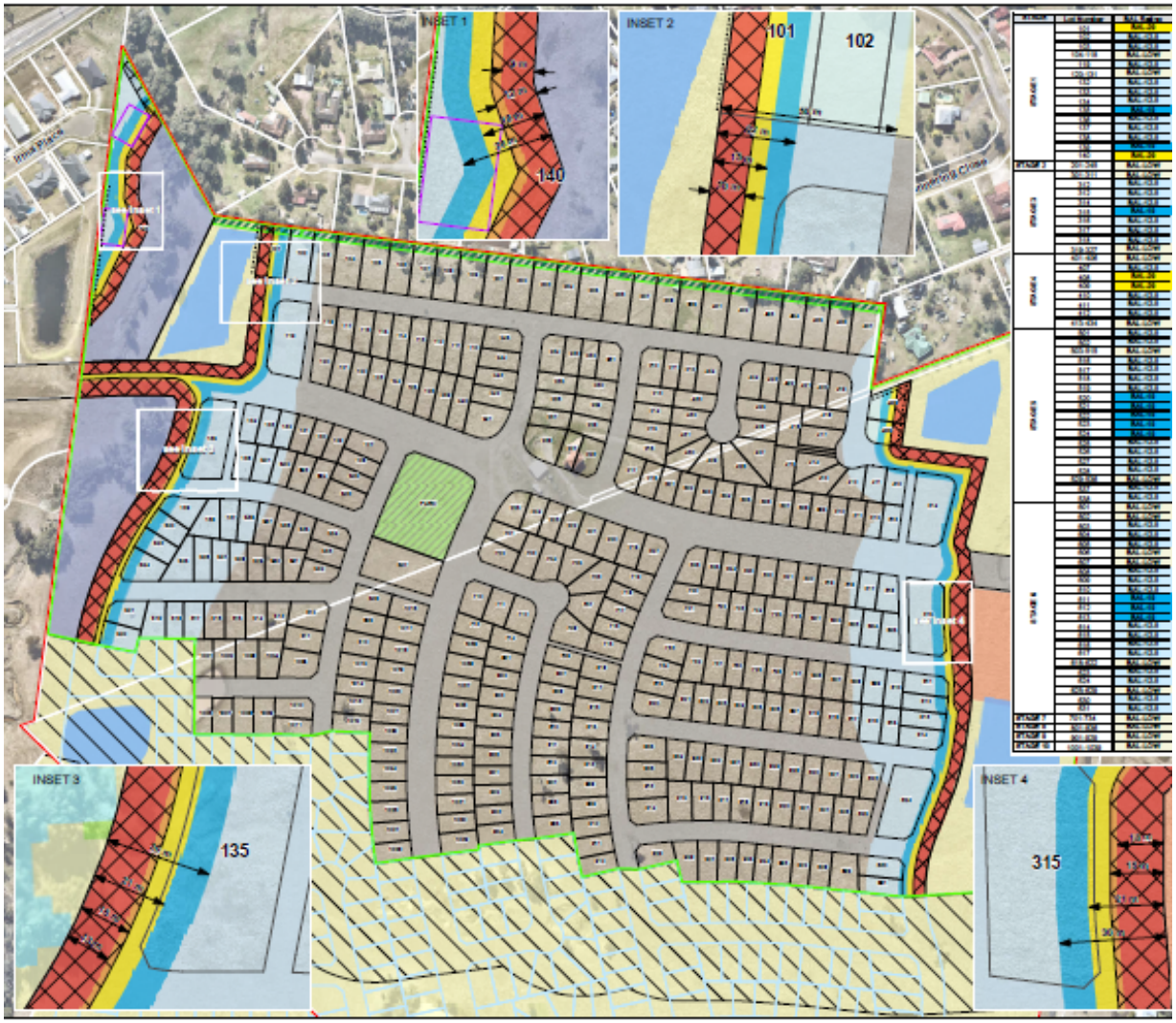

Figure 21: Subdivision BAL Plan Extract from Appendix E of Bushfire Assessment Report
Source: Bushfire Planning Australia

5.6 Stormwater Management

The proposal is accompanied by a stormwater quantity and quality assessment which is provided within the Civil Engineering Report at Appendix 9 prepared by Acor.

Stormwater Quantity

Acor's stormwater quantity assessment considers stormwater conveyance and detention across the site.

Minor system stormwater conveyance for the development will be a via a traditional pit and pipe system, with the capacity to convey the peak flows from a 10% Annual Exceedance Probability (AEP) storm event. Major system stormwater conveyance will be via overland flow paths, utilising the road carriage way and footpath, which will have the capacity to convey the peak flows from a 1% AEP storm event. Overland flows will flow to the stormwater management basin.

Stormwater detention has been provided for within the development site. DRAINS modelling was undertaken by Acor to determine the outcomes of pre-developed and post-developed peak flows. The DRAINS modelling demonstrates that the construction of

detention basins will reduce peak flows to below that of the site's pre-developed peak flows.

Stormwater Quality

The stormwater quality management objectives for the development include achieving reductions of:

- 80% in Total Suspended Solids;
- 45% in Total Phosphorous;
- 45% in Total Nitrogen; and
- 70% in litter / gross pollutants.

To achieve these outcomes, the project includes rainwater tanks, gross pollutant traps, and bioretention basins, which each progressively reduce pollutants as water passes from one to the other.

Water quality modelling using the MUSIC model indicates that the water quality measures to be implemented will achieve the above targets and therefore the requirements of Maitland City Council.

5.7 Flooding

A flood assessment is in the process of being prepared which demonstrates that the downstream flow regime (for both east and west discharge locations) will not be impacted as a result of the proposal.

5.8 Aboriginal Heritage

An Aboriginal Cultural Heritage Assessment (ACHA) report has been prepared by McCardle Cultural Heritage and is provided as Appendix 15 of the SEE.

McCardle's search of the AHIMS register indicated there are 75 known Aboriginal sites within 3km of the project area which includes 69 artefact sites, 4 potential archaeological deposits (PADs), and two Artefact with PAD sites. Three previously identified sites are located within the project area, and include two artefact scatters and one isolated artefact. One additional PAD was identified through the assessment.

The four sites/PADs located within the project area are shown in Figure 14.

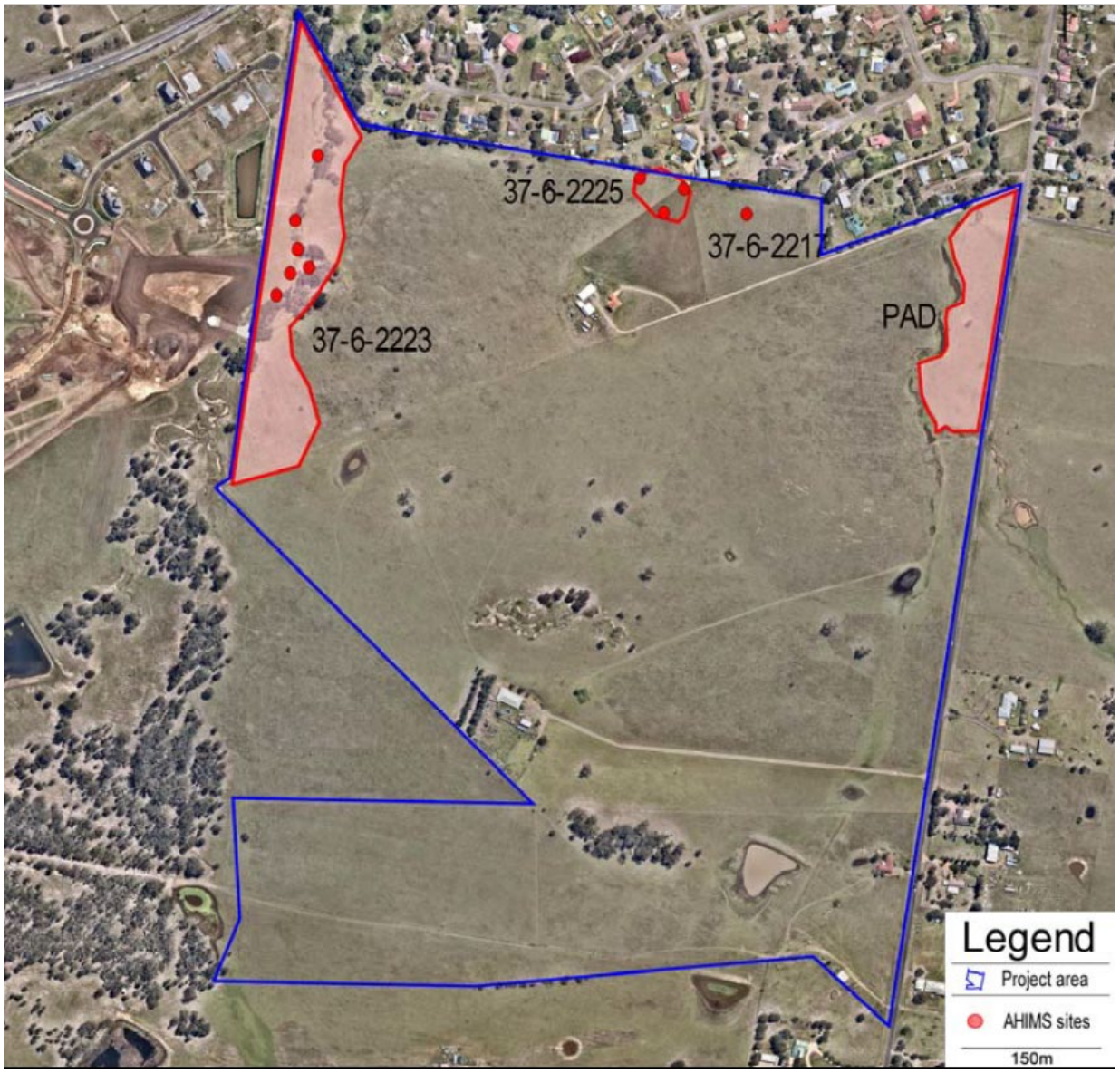

Figure 22: Location of sites and PADs in the project area

Source: McCardle Cultural Heritage

The assessment indicates that two of the PADs will be impacted upon by the development, however the majority of potential deposits will not be impacted on due to their location along waterways which will incorporate a buffer to development. Given the potential for some impact on PADs as a result of the proposal, archaeological subsurface investigation will be required in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the OEH Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (2011), and the DECCW Code of Practice of for Archaeological Investigation of Aboriginal Objects in New South Wales (2010).

Although two isolated artefacts were recovered during test excavations, the project area is highly disturbed from previous clearing, ploughing, grazing, sheet wash and flooding, resulting in no site integrity remaining or potential for in situ deposits. The isolated artefacts are representative of opportunistic hunting and gathering activities, and there is considered limited to no potential for additional artefacts to be present. As such, an Aboriginal Heritage Impact Permit (AHIP) is **not** required.

Recommendations

McCardle Cultural Heritage have provided the following recommendations:

1) The persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010, under the National Parks and Wildlife Act 1974.
2) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately and the Environmental Line contacted.

5.9 Traffic and Road Layout

A Traffic Impact Assessment (TIA) has been prepared by StreetWise Road Safety & Traffic Services Pty Ltd and is provided as Appendix 12 of the SEE. The TIA provides an overview of the existing and future road network, existing and future traffic volumes, and intersection modelling associated with the development.

5.9.1 Road Network

Local Road Network

The local road network comprises:

- The New England Highway – the major arterial road through the locality, forming part of the State road network connecting Lochinvar with Greater Newcastle and the Upper Hunter. Through Lochinvar, it provides a single lane of travel in each direction with a posted speed limit of 60km/hr, with a 40km/hr school zone in the vicinity of Station Lane.
- Station Lane – a local road providing a single lane of traffic in each direction on and on street parking. The posted speed limit is 50km/hr, with a 40km/hr school zone associated with St Patrick's Primary School. A proposed Council reconstruction and widening of Station Lane between the New England Highway and Christopher Road is expected in 2022.
- St Helena Close / Terriere Drive – a local road offering a divided carriageway with a single lane in each direction. The posted speed limit is 50km/hr.

Intersections

- New England Highway & Station Lane – a four-way sign controlled intersection allowing for all-turning movements, with New England Highway being the priority road.
- New England Highway and Terriere Drive – located around 1.5km west of Station Lane, this is a sign controlled T-intersection.

5.9.2 Future Road Network

The future road network as envisaged under the Lochinvar Structure Plan is shown in Figure 23. Of note, it includes:

- New England highway – arterial road providing major access to Lochinvar from

Maitland City and the upper Hunter Valley.

- Southern Ring Road - a new east-west distributor located south of Christopher Road and joining the New England Highway;
- Station Lane – upgraded and widened to distributor road status between the South Ring Road and Lochinvar Station;
- The Northern Ring Road – a new east-west collector road joining with the New England Highway, the Southern Ring Road, and Wyndella Road;
- Loop and Link Roads – new collector roads south of the Southern Ring Road and west of Station Lane.
- Existing Gregory Road, Robert Road, Christopher Road, and Station Lane (New England Highway to Station Lane – roads to be upgraded to collector road status.

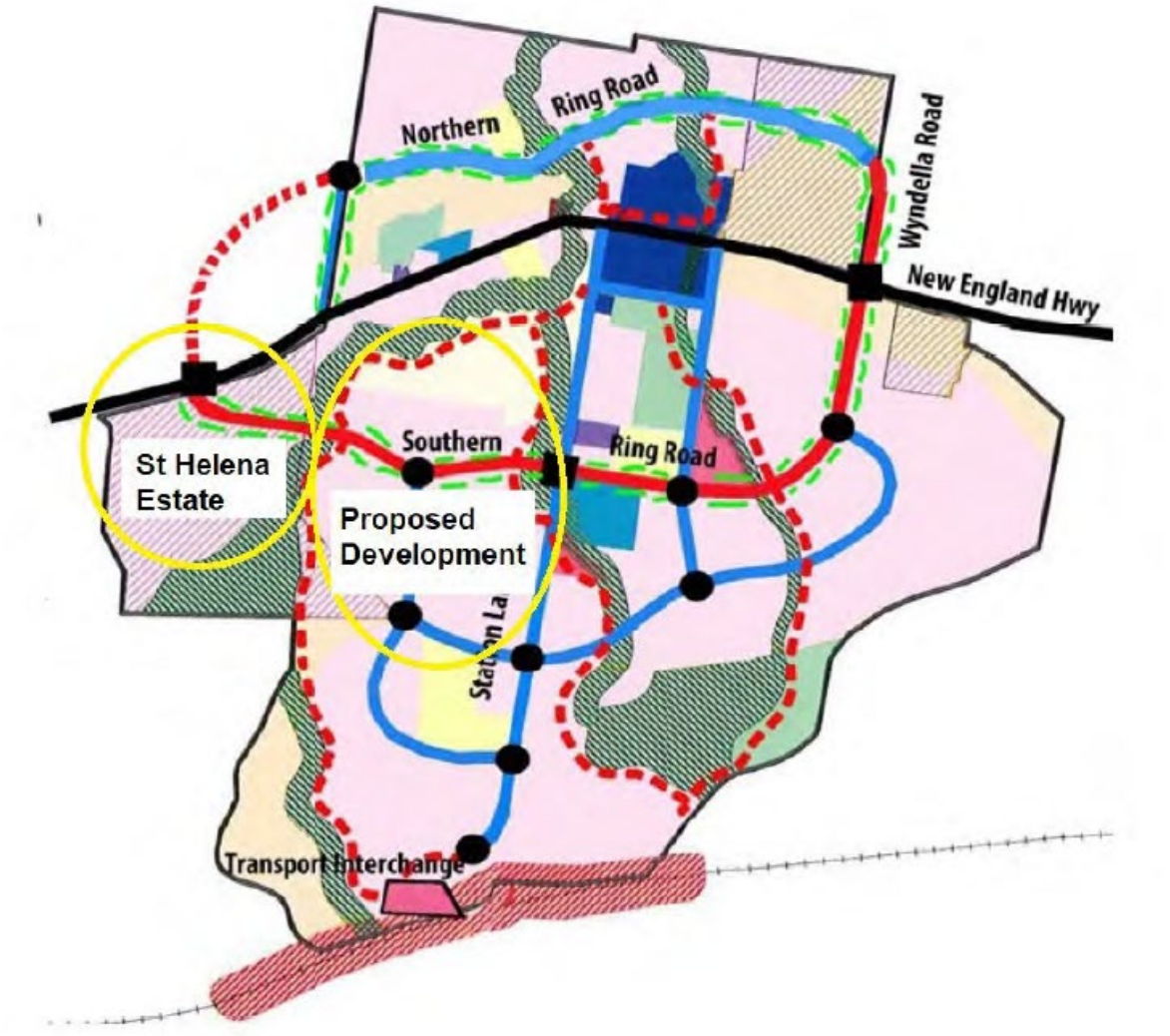

Figure 23: Lochinvar URA
Source: Maitland Council

5.9.3 Traffic Volumes

Manual traffic counts were undertaken at the New England Highway and Terriere Drive intersection on 1 December 2021, in the morning and evening peaks. These were compared

against traffic volumes collated by SECA in previous traffic studies for the site, undertaken in February 2020. Figure 24 shows a comparison between the two analyses. Traffic volumes between the two counts were similar, with a minor increase in overall volumes noted in the December 2021 count. The actual increase was 3.2%, upon which StreetWise have adopted a 3% annual growth rate.

SECA Count – Feb 2020			
New England Hwy	*Westbound (towards Singleton)*	*Eastbound (towards Lochinvar)*	*Total*
AM Peak Hour	462	723	1185
PM Peak Hour	683	588	1271

StreetWise Count – Dec 2021			
New England Hwy	*Westbound (towards Singleton)*	*Eastbound (towards Lochinvar)*	*Total*
AM Peak Hour	483	688	1171
PM Peak Hour	693	671	1364

Figure 24: New England Highway Through Values (2020 / 2021)

Source: Streetwise

Austroads guidance indicates that a single lane in a rural location can cater for up to 900 vehicles per hour. Given the current traffic volumes are around 700 in each direction on the New England Highway, StreetWise have determined that the road has adequate capacity to cater for existing volumes and projected growth over the next 10 years.

Staging of development

It is proposed that the first three stages of the development will be accessed via Terriere Drive, before opening up a connection across the eastern boundary to Station Lane. From Stage 4 onwards, traffic will have a choice of access from the west (Terriere Drive) or east (Station Lane).

5.9.4 Intersection modelling

SIDRA modelling was undertaken on existing and future traffic volumes for the existing channelised intersection of the New England Highway and Terriere Drive. It was assumed that the first dwellings associated with the subject development would be ready in 2024, with an average release rate of 90 lots per year, and that all traffic will use the subject intersection. The St Helena development has been assumed to be fully completed and occupied by 2023.

The results of the SIDRA modelling shows that all movements up until 2026 will have a Level of Service (LoS) of 'A' or 'B'. If all traffic generated from the entire residential development (i.e. 900 lots) is directed through the intersection, the LoS will drop to 'F' by 2033. There are plans to construct an intersection with Station Lane following the completion of Stage 3 after the

release of 112 lots (likely to occur around 2026). At this stage, further modelling of the road network will be undertaken.

Recommendations

A summary of the recommendations provided by StreetWise is outlined below.

- The existing channelised intersection of the New England Highway and Terriere Drive operates satisfactorily for existing traffic volumes, and has capacity to cater for the future traffic of the St Helena development and up to 450 lots of the Station Lane residential development via Terriere Drive (and future extension).
- The Station Lane development meets the required guidelines in terms of safe access to the site. The local road network has adequate capacity to cater for the additional vehicle trips to be generated by the early stages of the development with minimal impacts.
- The SIDRA modelling has shown that existing intersection of Terriere Drive and New England Highway will provide suitable access to Stages 1 – 3 (112 lots) of the subject development, with no significant impact on existing traffic flows. before constructing a new intersection and connecting to Station Lane.
- Council can include conditions on any DA approval limiting the number of lots in the subject development that can released before a vehicle connection to Station Lane is required. Based on the results of the SIDRA modelling, StreetWise recommend that the existing intersection of Terriere Drive and New England Highway can satisfactorily cater for the first 3 stages of the Station Lane development i.e. 112 lots (in addition to the fully completed St Helena development).
- Further assessment of the local road network will be undertaken to determine the impacts of the traffic generated by the later stages of the subject development, including the future connection with Station Lane.

5.10 Contamination

A Detailed Contamination Assessment (DCA) has been provided in Appendix 10 of the SEE to investigate the likelihood of ground contamination on the site from previous land uses and included comprehensive sampling testing. The investigations reported:

- Concentrations of lead above the human health and ecological criteria, requiring remediation / management;
- Concentrations of zinc above the adopted ecological criteria, with no remediation considered necessary;
- Chromium totals reported above the adopted human health criteria, considered to be naturally occurring;
- Elevated microbiological contamination above adopted criteria surrounding septic tanks, with effluent impacted soil requiring remediation and/or management; and
- Metal concentrations in dams and Lochinvar Creek, considered to represent regional background conditions.
- Arsenic concentrations above the site assessment criteria were present in some of the samples undertaken – despite this, the report outlines that the site can be made suitable for the development subject to implementation of a Remediation Action

Plan (RAP).

The DCA concludes that the existing onsite dams are suitable to be irrigated across the site as a part of their removal, provided they are irrigated in areas greater than 50m from waterways, dams and/or drainage lines.

The DCA also concludes that the site can be made suitable for the proposed residential development, with the following recommendations:

- Hazardous material survey be carried out on existing site buildings if proposed to be demolished/refurbished as part of the proposed development;
- Preparation of a Remediation Action Plan (RAP) to guide the delineation, remediation and/or management of lead contamination and microbiological contamination;
- Additional surface water sampling from dams not assessed, prior to dewatering; and
- Preparation of a Construction Environmental Management Plan following remediation which will include an Unexpected Finds Procedure.

It is considered that the above matters can be imposed as conditions of consent, requiring resolution prior to the relevant project stage.

5.11 Tree Removal

An arborist report has been prepared by Enviro Ecology and is provided as Appendix 20 of the SEE. This report provides an assessment of the current and potential health of trees located across the entirety of the subject land, not limited to the footprint of the staged residential subdivision proposed.

Of the one hundred & seventy-two (172) trees that were assessed within and adjacent to the proposed development, one tree has been identified for retention. All others are required to be removed to facilitate the subject residential subdivision and future stages of works (subject to separate approval). This application seeks approval for tree removal in the development footprint only (a total of 16 trees), with future applications to seek the removal of trees from the balance of the site.

General protection measures are recommended in section 4 of the arborist report to minimise potential impacts to the tree to be retained.

5.12 Biodiversity

A BDAR has been prepared by AEP and is provided in Appendix 13 of the SEE.

This report has been prepared to meet the requirements of the Biodiversity Assessment Method 2020 (BAM) established under Section 6.7 of the NSW BC Act 2016. This assessment utilises methods detailed within the BAM Order 2020 to identify biodiversity values inherent within the site, including known and potentially occurring threatened species and ecological communities, and quantifies impacts of the proposal upon these values.

The BDAR identifies the following:

- The Subject Site contains two Plant Community Type (PCT) which include:
    - 1603 – Narrow-leaved Ironbark – Bull Oak - Grey Box shrub - grass open forest of the central and lower Hunter (38.59ha); and
    - PCT 1731 – Swamp Oak - Weeping Grass grassy riparian forest of the Hunter

Valley (0.95ha).

These PCTs are commensurate with two State listed Endangered Ecological Communities (EEC), respectively Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions and Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions.

The remainder of the Subject Site consists of dams and cleared areas (0.78ha) including gravel tracks, dwellings, farm buildings and highly managed pastureland, which do not require assessment for ecosystem values and were determined not to provide habitat for threatened species. Farm dams identified within the subject site were considered as a potential foraging source for the threatened Southern Myotis.

- Fauna species recorded were typical of those expected in this locality and in this type of remnant habitat with marginal connection to vegetation offsite.
- Threatened species recorded within the Study Area included Large-eared Pied Bat, Eastern Falsistrelle, Little Bentwing-bat, Eastern Bentwing-bat, East Coast Freetail-bat, Southern Myotis, Grey-headed Flying-Fox, Yellow-bellied Sheath-tailed Bat and Greater Broad-nosed Bat.
- To offset residual impacts of the proposal upon identified biodiversity values, the proposal would require a total of 1 x PCT 1603 and 1 x PCT 1731 Ecosystem Credits (or equivalent). As PCT 1603 is listed as an EEC under the BC Act, suitable offsets must also satisfy the Final Determination for Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions.

  Furthermore, PCT 1731 is listed as an EEC and suitable offsets must also satisfy the Final Determination for Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions.

  Additionally, two Southern Myotis Species Credits are required to satisfy offset requirements for residual impacts caused to species not addressed within ecosystem credits.
- While impact to Large-eared Pied Bat breeding habitat is a potential Serious and Irreversible Impact (SAII), no suitable breeding habitat has been identified within 100m of the Subject Site, as such development of the Subject Site is not a candidate SAII for Large-eared Pied Bat. No other SAIIs are likely to occur as a result of the proposal. Furthermore, there is no identified breeding habitat for Large eared Pied Bat within 2km of the subject site, hence species credits are not incurred.
- Consideration of Avoid and Minimise requirements included the rehabilitation of two riparian corridors within the Subject Site, that will effectively result in a net gain to biodiversity. The riparian corridor in the north-east will cover an area of approx. 4.94ha and the riparian corridor within the north-west cover an area of approx. 3.38ha and both will be subject to the VMP.

Table 17 - Ecosystem Credit Requirements

Impacted PCT	Native Vegetation to be Removed (ha)	Number of Credits
PCT 1603	31.65	1
PCT 1731	0.12	1
Total	**31.77**	**2**

Table 18 - Species Credit Requirements

Impacted Species	Native Vegetation to be Removed (ha)	Number of Credits
Myotis macropus	9.93	2
Total		**2**

Figure 25: Ecosystem Credit Requirements

Source: AEP

5.13 Ongoing Vegetation Management

A Vegetation Management Plan (VMP) prepared by Habitat Environmental Services and is within Appendix 21 of the SEE. The VMP aims to improve the integrity of existing areas of native vegetation upon the site as well as re-establish native vegetation in cleared areas, improving habitat values for biodiversity.

A VMP Area has been established which comprises four separate land parcels upon the site. These were selected to ensure that the riparian zones of the mapped waterways within the site are protected and restored. The four land parcels comprising the VMP Area is shown in Figure 26 and generally restricted to the western and eastern boundaries of the site.

Figure 26: VMP Area

Source: Habitat Environmental Services

Vegetation mapping undertaken by Habitat Environmental Services identifies that the majority of the site contains grassland vegetation, with a community of Swamp Oak Floodplain Forest along Lochinvar Creek in the west.

For the purposes of implementing appropriate vegetation management strategies, two management zones are proposed in the VMP Area (shown in Figure 27):

- **Management Zone A (Woodland)** – Defined as the riparian zone of the central watercourses flowing through the western side of the site.
- **Management Zone B (Managed Grassland)** – The remainder of the VMP Area that cannot be revegetated due to the location of detention basins or potential for increased bushfire risk.

Management strategies for the two zones include vegetation protection, topsoil management, erosion control, weed control, and revegetation.

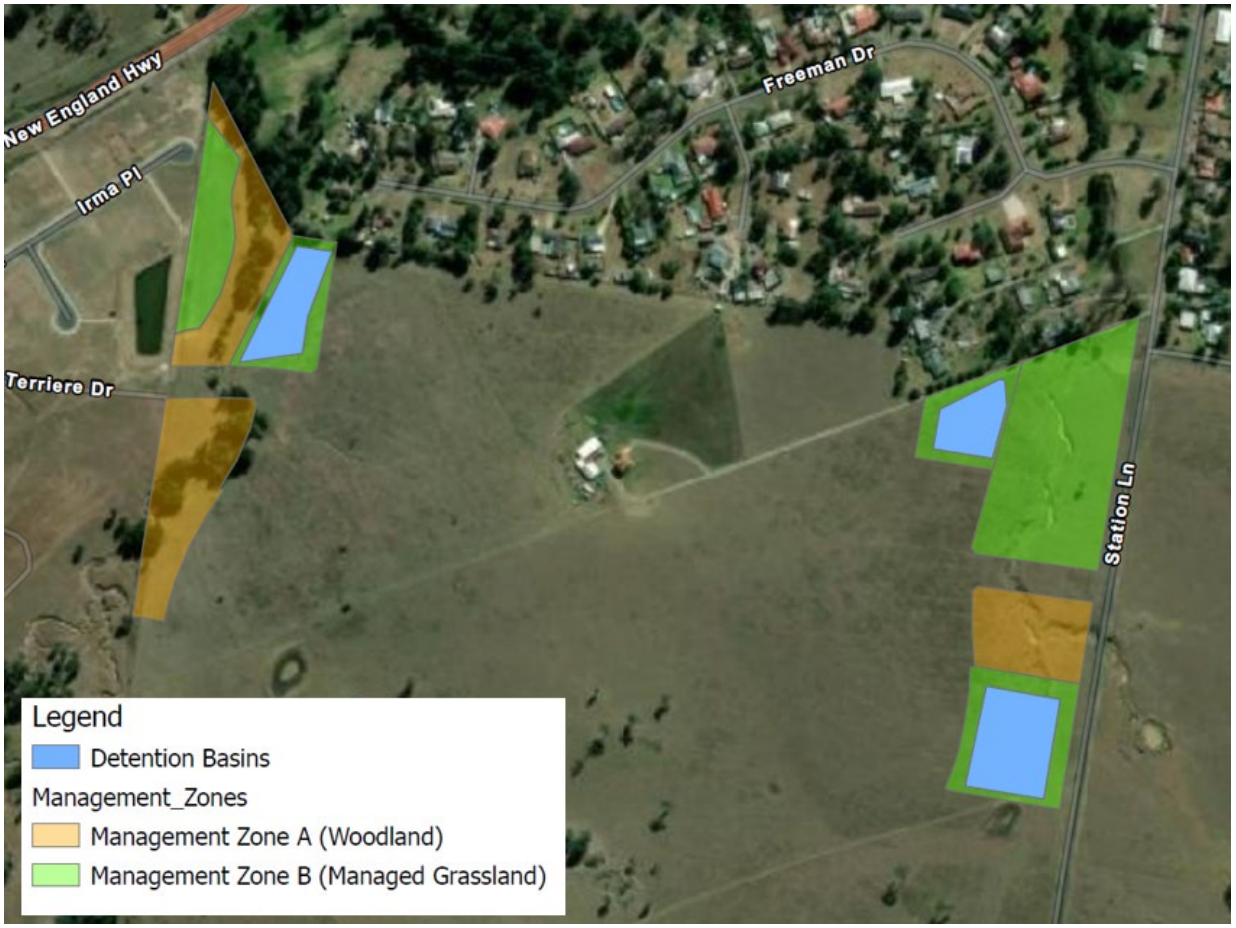

Figure 27: VMP Management Zones

Source: Habitat Environmental Services

5.14 Waste Management

Anticipated quantities of waste generated during demolition and construction and procedures for how they will be managed are outlined within the construction and demolition waste management plan provided as Appendix 19 of the SEE.

The requirements outlined in this WMP are intended to be implemented on site during construction and demolition, however, they may also be subject to review as part of the future Construction Management Plan which will be prepared by the build contractor.

5.15 Geotechnical

A Geotechnical Assessment prepared by Qualtest accompanies the SEE and is provided as Appendix 11 of the SEE.

The study involved surface and subsurface investigations of the site and outlines a series of recommendations with respect to the future civil works and design. It is expected that conditions of development consent will be imposed requiring the works to be undertaken with the recommendations of Qualtest's investigations.

5.16 Social and Economic Impacts

It is considered that the development will have an overall positive social and economic

impact. Social and economic benefits of the proposal include the following:

- Increase the supply of high-quality residential lots that will generate additional housing to cater for population growth within the Hunter Region;
- Significantly improve community amenity by redeveloping land identified for residential purposes within the Lochinvar URA. This will include new areas of open space able to be used for recreational purposes;
- Provide high quality public spaces including a local park and passive recreation areas for use by the local and wider community; and
- Generate economic benefits by the creation of employment opportunities during construction of the residential subdivision as well as during the construction phase of residential dwellings to follow.

5.17 Crime Prevention through Environmental Design

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy which reduces opportunities for crime by using design and place management principles. The NSW Department of Urban Affairs and Planning has published guidelines known as the *Crime prevention and the assessment of development applications: Guidelines under section 79C of the Environmental Planning and Assessment Act 1979*. The guidelines can be applied in the assessment of development applications to ensure that approvals are not creating or exacerbating crime risk.

Four principles are included in the guidelines that need to be used in the assessment of applications to minimise the opportunity for crime:

- Surveillance;
- Access control;
- Territorial reinforcement; and
- Space management.

Surveillance

The Guidelines state that the attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical. They also state that would-be offenders are often deterred from committing crime in areas with high levels of surveillance.

The proposed subdivision design provides for surveillance opportunities in accordance with the Guidelines by:

- Providing clear sightlines between public and private spaces, with private lots located directly opposite proposed open space and drainage lots, providing opportunities for overlooking and surveillance;
- Effective lighting of public places, with lighting to be provided as per Council's specifications;
- A landscaping design which is attractive but does not provide opportunities to hide or entrap victims, with well spaces street trees forming a part of the application.

Access Control

Physical and symbolic barriers can be used to minimise opportunities for crime and increase the effort required to commit crime. Illegible boundary markers make it easy for criminals to make excuses for being in restricted areas.

Whilst access control is generally more related to development applications with a building element, appropriate access control will form part of future dwelling designs as well as the potential to restrict access to drainage basins (if required by Council).

Territorial Reinforcement

Territorial reinforcement relates to community ownership of public spaces, and can be achieved through design that encourages gathering, provides clear transitions and boundaries between public and private spaces, and includes design cues on who is to use spaces and for what purposes.

The principle of territorial reinforcement relates generally to public space, such as future recreation areas within the subdivision. The indicative design of the park includes cues for its intended users such as playgrounds, seating, and sports areas, and facilitates gathering in public spaces by being located in a central location of the Kaludah Estate.

Space Management

Space management ensures that space is appropriately used and well cared for, with management strategies including activity coordination, site cleanliness, rapid repair of vandalism and graffiti, and the replacement of decayed physical elements. These are considered to be operational matters related to ongoing use of the public spaces, which are to be designed in greater detail under separate applications. Nevertheless, the proposed subdivision design does not unduly impact the ability for space management to occur in the future.

5.18 Site Suitability

Following the analysis undertaken as a part of this SEE, it is concluded that the site is suitable for residential subdivision for the following reasons:

- The proposal results in a development outcome consistent with relevant regional and local strategic plans.
- The development is permissible within the R1 zone and has been shown to be consistent with the relevant zoning objectives of the zone;
- The development achieves compliance with the key development standards, built form controls and provisions that apply under the applicable SEPPs, MLEP 2011 and MDCP 2011.
- The environmental, social, and economic impacts of the proposal have been assessed and have been shown to be acceptable.
- The development will provide for the economic and orderly use of land intended for low density residential purposes and will contribute to increased housing supply within the locality.

5.19 The Public Interest

The proposal is considered to be in the public interest for the reasons outlined in 5.18 above.

6 Conclusion

This Statement of Environmental Effects (SEE) has been prepared to support a Development Application (DA) for the staged residential subdivision of land known as 51, 134 and Part 146 Station Lane, Lochinvar (the site). The proposal is referred to as the Kaludah Estate.

This SEE describes the proposed development of the site and surrounding area in the context of relevant planning controls and policies applicable to the form of the development proposed. In addition, the SEE provides an assessment of the relevant heads of consideration pursuant to Section 4.15 of the EP&A Act.

The Kaludah Estate proposal will result in the staged residential subdivision of the subject site and assist in the realisation of Council's vision for the Lochinvar URA.

Overall, it is considered that the proposal is supportable by Council for the following reasons:

- The proposal results in a development outcome consistent with relevant regional and local strategic plans.
- The development is permissible within the R1 zone and has been shown to be consistent with the relevant zoning objectives of the zone;
- The development achieves compliance with the key development standards, built form controls and provisions that apply under the applicable SEPPs, MLEP 2011 and MDCP 2011.
- The environmental, social, and economic impacts of the proposal have been assessed and have been shown to be acceptable.
- The development will provide for the economic and orderly use of land intended for low density residential purposes and will contribute to increased housing supply within the locality.

Taking into consideration the above, we believe the project to be in the public interest. As such, we request that Council support this application by way of providing a recommendation for approval.

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