

Statement of Environmental Effects

Bingara Gorge, Wilton
The Fairways North and Golf Town Residential
Subdivision

Submitted to Wollondilly Shire Council
On behalf of Lendlease Communities

26 October 2018 | 16681



CONTACT

Paul Robilliard	Director	PRObilliard@ethosurban.com	DIRECT OR MOBILE
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This document has been prepared by:



Jacob Dwyer

25 October 2018

This document has been reviewed by:



Chris Curtis

25 October 2018

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Ethos Urban Pty Ltd
ABN 13 615 087 931.
www.ethosurban.com
173 Sussex Street, Sydney
NSW 2000 t 61 2 9956 6952

Contents

1.0	Introduction	5
1.1	Background	6
2.0	Site Analysis	9
2.1	Site Location and Context	9
2.2	Site Description	10
2.3	Existing Site Conditions	11
2.4	Surrounding Development	12
3.0	Description of Proposed Development	14
3.1	Subdivision and Lot Mix	14
3.2	Site Grading	17
3.3	Access and Movement	17
3.4	Landscaping and Vegetation Removal	18
3.5	Stormwater Management	19
3.6	Contamination Management	19
3.7	Utility Services	20
3.8	Construction Management	20
3.9	Management of Environmental Protection and Conservation Lands	20
4.0	Assessment of Environmental Impacts	21
4.1	Compliance with Conditions of Consent for Previous DAs	21
4.2	Strategic and Statutory Legislation	22
4.3	Subdivision Design	23
4.4	Streetscape and Public Domain	24
4.5	Ecology	24
4.6	Contamination	25
4.7	Bushfire	26
4.8	Mine Subsidence	30
4.9	Heritage	30
4.10	Traffic and Access	31
4.11	Water Cycle Management	31
4.12	Site Suitability	32
4.13	Social and Economic Issues	32
4.14	Public Interest	32
5.0	Conclusion	32

Contents

Figures

Figure 1	Location Plan (site location indicated by red marker)	10
Figure 2	Aerial Photograph of Site	11
Figure 3	Wilton Priority Growth Area Boundary	13
Figure 4	Wilton Interim Land Use and Infrastructure Implementation Plan	13
Figure 5	Fairways North (Stage 1) - Proposed lot layout	15
Figure 6	Golf Town and Part Golf North - Proposed lot layout	16
Figure 7	Section for Typical Minor Collector Road (Fairways North)	17
Figure 8	Site Context and Connectivity Plan <i>Source: Taylor Brammer</i>	18
Figure 9	Bushfire Attack Levels for Fairways North	28
Figure 10	Bushfire Attack Levels for Golf Town and Part Golf North	29
Figure 11	Location of Identified Indigenous Sites – Fairways North, Golf Town and Part Golf North	30

Tables

Table 1	List of reports and studies required under LEC consent orders	6
Table 2	Fairways North Subdivision Summary	15
Table 3	Golf Town Subdivision Summary	16
Table 4	Proposed Road Network Details	17
Table 5	Summary of consistency with key statutory plans and policies	22
Table 6	Cumulative Lot Distribution	23
Table 7	Summary of proposed residential lot sizes	24
Table 8	Asset Protection Zone Assessment	26

Appendices

Appendix A Civil Engineering Plans
Cardno

Appendix B Plans of Subdivision
RPS

Appendix C Compliance Tables
Ethos Urban

Appendix D Bushfire Protection Assessment
Eco Logical

Appendix E Bushland Management Plan

Contents

Eco Logical

Appendix F Vegetation Management Plan
Eco Logical

Appendix G Ecological Assessment
Eco Logical

Appendix H Koala Plan of Management
Eco Logical

Appendix I Weed Eradication Management Plan
Eco Logical/Cardno

Appendix J Traffic Impact Assessment
Cardno

Appendix K Flooding, Stormwater and Water Quality Management Statement
J. Wyndham Prince

Appendix L Cultural Heritage Assessment Report
Kayandel

Appendix M Aboriginal Cultural Heritage Management Plan
Delfin Lend Lease

Appendix N Street Tree Masterplan
TaylorBrammer

Appendix O Windrow Arborist Report
Moore Trees

Appendix P Community Facilities and Open Space Report
Elton Consulting

Appendix Q Phase 1 Site Investigation Report
Douglas Partners

Appendix R Contamination Report
Douglas Partners

Appendix S Phase 2 Salinity Assessment Report
Douglas Partners

Appendix T Residential Development Utilities Services Investigation
Cardno

Appendix U Statement of Environmental Effects, Bingara Gorge Wilton, April 2015
JBA

Contents

Appendix V Addendum Statement of Environmental Effects, Bingara Gorge, Wilton, Development Application
Additional 635 Lot Yield to a Maximum 1,800 Lots, Clearing of Vegetation, Fire Trails & 15 Lot
Subdivision (Stage 1J(2)), November 2015 (15556)

JBA

Appendix W Quantity Surveyor Cost Report
Hugh B. Gage

Appendix X Pre-DA Meeting Minutes
Wollondilly Shire Council

1.0 Introduction

This Statement of Environmental Effects (SEE) is submitted to Wollondilly Shire Council (Council) in support of a Development Application (DA) for The Fairways North and Golf Town Residential Subdivision at Bingara Gorge, Wilton.

The DA seeks approval for:

- The subdivision of part Lot 5 DP270536 (part future Lot 34 DP 270536), to be known as part Golf Town and part Golf North, to create:
 - 131 residential lots;
 - 11 residue lots;
 - 2 association property lots; and
 - Public road dedications.
- The subdivision of part Lot 31 DP270536, to be known as Fairways North Stage 1, to create:
 - 232 residential lots;
 - 7 residue lots;
 - 1 association property lot; and
 - Public road dedications.
- The subdivision of future Lot 81 DP280044 in Lot 5 DP270536 to create one residential lot and one public road dedication within the Greenbridge East Precinct.
- Design and construction of the proposed internal road network, including:
 - Internal local roadways;
 - On-street parking;
 - Pedestrian and cycle ways;
 - Road reserve landscaping; and
 - Services and stormwater drainage infrastructure.
- Provision of utility infrastructure such as stormwater drainage, sewerage, telecommunications and water;
- Grading of the site for final residential lots, landscape shaping, boundary interfaces and roadway levels;
- Construction of pedestrian/cycleway fire trails;
- Construction of 350sqm bio-retention rain garden; and
- Associated vegetation removal, street tree planting, landscaping, lighting and embellishments.

This SEE has been prepared by Ethos Urban on behalf of Lendlease Communities, and is based on the Plans of Subdivision provided by RPS (**Appendix B**), Civil Engineering plans provided by Cardno (**Appendix A**), and other supporting technical information appended to the report (see Table of Contents). This report describes the site, its environs, the proposed development, and provides an assessment of the environmental impacts and identifies the steps to be taken to protect or lessen the potential impacts on the environment.

As detailed in the following sections of this report, this DA has been prepared in accordance with the requirements of consent orders handed down by the Land and Environment Court (LEC) as part of an appeal for DA 010.201500000283.001 (Case No. 158921 of 2016). As part of the consent orders, numerous reports and studies were required to be carried out for subsequent development applications for residential subdivision in the remaining

precincts of Bingara Gorge. **Table 1** below lists these reports, which have been provided in this application, along with the relevant consent order conditions and their location in the SEE.

Table 1 List of reports and studies required under LEC consent orders

Information for DA	LEC decision (Condition, Section, Page)	SEE Reference
Flora Assessment (windrows only)	Condition 1(4)(iii) page 2	Appendix O - Windrow Arborist Report
Plan nominating area of vegetation to be cleared	Condition 5(c) page 3	Appendix A - Civil Engineering Plans Sheet NA82013043-64-C1002 and NA82013043-065-C1002
Plan nominating the fire trails that are to be constructed	Condition 1(5)(c) page 3	Appendix A - Civil Engineering Plans
Vegetation Management Plan	Condition 1(5)(c)(i) page 3-4	Appendix F - Vegetation Management Plan
Bushland Management Plan	Condition 1(5)(c)(iv) page 5	Appendix E - Bushland Management Plan
Koala Management Plan	Condition 1(5)(c)(v) page 5-6	Appendix H - Koala Plan of Management
Weed Eradication Plan (or evidence that the site is weed free)	Condition 1(5)(c)(vi) page 6	Appendix I - Weed Eradication Management Plan
Contamination Statement	Contaminated Land (page 13 4(1))	Appendix R - Contamination Statement
Schedule of cumulative proposed lots and remaining total within 1800	Condition 1(2)(b) page 2	Refer to Section 4.3, Table 6.
Protection and Management of Additional Conservation Lands	Condition 6 page 6	Refer to Section 3.9.
Conservation Management Plan for Aboriginal Archaeology (CMP) prepared by a qualified archaeologist.	Condition 7 pages 6-7	Appendix M - Aboriginal Cultural Heritage Management Plan
Traffic Management	Page 16-17 Condition 10 (1) (2)	Appendix J - Traffic Impact Assessment

1.1 Background

This detailed subdivision DA follows the original approval of a Staged DA for the Bingara Gorge Concept Plan, then known as Wilton Parklands (ID993-05) in May 2006 and consent orders from a Land and Environment Court (LEC) appeal for DA 283/2015, as detailed below. There are currently 975 residential lots DA approved and 643 registered lots.

1.1.1 Previous Development Consents

Staged DA ID993-05

Staged development consent (ID993-05) was approved by Wollondilly Council on 15 May 2006 for the overall development of land at the Bingara Gorge site (then referred to as Wilton Parklands). The consent comprised:

- The use of the land for the purposes (and generally in the areas) shown on the concept plan for the site:
 - Housing;
 - Open space;
 - A mixed-use village centre, incorporating but not limited to, commercial and retail uses;
 - Community facilities;
 - Recreational facilities (such as the golf course);
 - Landscaped streets and access paths;
 - A sewerage treatment plant and treated waste water reuse scheme; and
 - Utility services.
- 1,165 residential lots with the minimum lot sizes as shown on the Concept Plan.

ID993-05 also included development consent for Stage 1 development, which comprised the following:

- Torrens title subdivision to create 215 residential lots, a series of lots for further future subdivision, environmental protection and community recreation lands and infrastructure provision;
- The construction and operation of a sewerage treatment plant and treated effluent reuse irrigation scheme;
- Construction of a golf driving range and the final 8 holes of the 18-hole on site golf course (the first 10 holes having been approved via Development Consent ID01558-04); and
- Infrastructure, access, earthworks, landscaping and other ancillary works.

Detailed DAs

Since approval of the Staged DA in 2006, development has substantially commenced on the site including the delivery of Pembroke Village located to the southern part of the site, Greenbridge Village, elements of Fairways East and Highlands Villages to the west of the site, as well as the Country Club (Stage 1), Wilton Public Primary School, Site Office, retail facilities, Childcare Facility and the construction of the 18 hole golf course.

At the time of lodgement of DA 283/2015, described below, incremental detailed subdivision approvals across the Bingara Gorge Estate totalled 973 allotments. As such, development across the remaining four of the nine originally proposed precincts would be restricted to a total of 192 additional allotments when considering the total 1,165 lots approved under the Concept Plan.

Court DA 283/2015 (LEC Case No. 158921 of 2016)

DA 283/2015 submitted to Council in April 2015 sought development consent for the following, on land that was not already subject to a detailed DA for residential subdivision or construction works under ID993-05:

- A maximum of 827 residential lots (resulting in a total of 1800 lots for the overall Bingara Gorge Estate);
- A minimum and maximum lot yield within each identified development precinct;
- Consent for physical works to remove vegetation for which in principal approval was granted under the previously approved Staged DA ID993-05 i.e. removal of vegetation within the developable footprint of the site, and for sensitively located pedestrian, cycle and fire trails within the environmental protection and recreation lands, in addition to that already approved as part of the golf cart bridge and pathway and Stringy Bark bridge DAs; and
- Development guidelines to guide future detailed residential subdivision DAs.

DA 283/2015 was refused by Council and proceeded to a LEC appeal (Case Number 158921 of 2016). As a result of the LEC appeal, a number of conditions were agreed between Lendlease and Council which formed consent orders under direction from Justice Moore. The consent orders impose a number of conditions to ensure that the development is carried out in accordance with the conditions of consent and the approved plans to Council's satisfaction.

Under the consent orders, consent was granted for the following on land to which the current application relates:

- The removal of vegetation within development precincts 1 Rural (*now Fairways North*), 2 Fairways West, 3 Fairways East, 7 Bushland (*now Golf North*) and 8 Golf Town; and
- The construction of pedestrian paths, cycle ways and fire trails within the EP&R Lands and the associated removal of a maximum of 1.2 hectares of vegetation.

Further, concept approval was granted for the following:

- Up to 827 residential allotments within development precincts 1 Rural (*now Fairways North*), 2 Fairways West, 3 Fairways East, 7 Bushland (*now Golf North*) and 8 Golf Town of the Bingara Gorge Estate, Wilton resulting in a maximum of 1,800 residential allotments; and
- Indicative minimum and maximum residential lot yields within precincts 1, 2, 3, 7 and 8.

A full assessment of the current proposal against the consent orders is provided in **Appendix C**.

1.1.2 Current Development Applications

Additional Conservation Lands (DA145/2018)

A DA was lodged with Council on 15 March 2018 for the subdivision of land to enable the transfer of Additional Conservation Lands (ACL) to be managed and protected in perpetuity. The transfer of ACL is required to give effect to the conditions of consent issued by the LEC, discussed above (condition 6).

The application is currently being assessed by Council. It is understood that at the time of writing, the DA had been referred to the Local Planning Panel and is due to be heard at the November meeting due to missing the cut-off for the October meeting.

Council Pre-Lodgement Meeting

A formal pre-lodgement meeting for the subdivision of remaining land at Bingara Gorge was held with Council on 14 December 2016, with a subsequent meeting on 19 January 2017. Council provided advice on the requirements of the development application including deliverables required to satisfy consent conditions, conditions of the original DA and planning instruments. Minutes from these meetings are provided at **Appendix X**. Matters presented in Council's minutes include:

- A schedule of information required for future subdivision applications was presented, including the consent orders to which each document pertains. This schedule has been addressed in **Section 1.0** of this report;
- Detail in relation to the upgrade of Picton Road intersections was requested. This detail will be provided as part of a separate DA;
- Development applications require the approval of the Mine Subsidence Board and will be referred to NSW DPI – Water and NSW Rural Fire Services; and
- The application will require 'satisfactory arrangements' be made with NSW Department of Planning (DPE) and Environment for the provision of designated State public infrastructure.

A further formal pre-lodgement meeting for a separate subdivision and civil works DA at the Fairways North (2), Golf North and Fairways West (1) precincts was held on 4 October 2018 between Wollondilly Council and the applicant Lendlease Communities. That DA is anticipated to be lodged prior to the end of 2018. Matters raised in this meeting include:

- The EPBC approval process is currently progressing with draft conditions expected to be issued to Lendlease in late October, with determination expected by the end of 2018;
- Vegetation proposed is consistent with the LEC Consent Orders approval;
- The Picton Road Intersection upgrades are to be proposed under a separate DA;
- Street tree landscape plans are to be provided with the DA;
- Plans are to be lodged with the Mine Subsidence Board prior to lodgement of the DA;
- Council noted that a recent Koala sighting had been reported in the vicinity of Picton Road, and that Council is currently working with OEH to develop additional water quality monitoring criteria for Wilton PGA. Council are to provide any relevant information to Lendlease; and
- Council requires an additional copy of the DA documentation to be provided to the DPE for satisfactory arrangements purposes.

1.1.3 Concurrences and Referrals

This application requires referrals and concurrences with other State agencies and departments under the *Environmental Planning and Assessment Act 1979* (EP&A Act) and other Environmental Planning Instruments (EPIs) including:

- The proposed development is 'integrated development' in accordance with Section 4.46 of the EP&A Act. In addition to development consent, the development requires:
 - A bushfire safety authority issued by the Commissioner of the Rural Fire Service (RFS), in accordance with Section 100B of the *Rural Fires Act 1997* (RFA 1997) since the proposal is on land that is bushfire prone;
 - An approval from the Chief Executive of Subsidence Advisory NSW in accordance with Section 22 of the Coal Mine Subsidence Compensation Act 2017 No 37, for the subdivision of land within the Wilton mine subsidence district. This approval is currently being sought. The application has been referred to the Subsidence Advisory NSW.
 - A controlled activity approval (CAA) may be required in accordance with section 91 of the *Water Management Act 2000* (WMA 2000), since a first order creek runs through the site in the northern portion of the Fairways North precinct. The proposal therefore involves works within 'waterfront land' associated with the subdivision of land within 40m of a waterway. It is requested that the Department of Primary Industries – Water confirm the requirement of a CAA.
- Under Schedule 3 of State Environmental Planning Policy (Infrastructure) 2007 (ISEPP), the proposed development is defined as traffic-generating development, since it proposes over 200 allotments and the opening of public roads. Under clause 104 of the ISEPP, the application is therefore required to be referred to Roads and Maritime Services (RMS).

2.0 Site Analysis

2.1 Site Location and Context

The site is located at Bingara Gorge, Wilton within the Wollondilly Local Government Area. It is located approximately 60km south-west of the Sydney CBD and approximately 26km north-west of Wollongong. The site is located adjacent to the M5 Freeway/Hume Highway and to the north-west of the town Wilton. Picton lies approximately 7.8km to the north-west of the site. The locational context of the site is shown at **Figure 1**.



Figure 1 Location Plan (site location indicated by red marker)

Source: Google Maps/Ethos Urban

2.2 Site Description

The site comprises two separate portions of land that cover three of the nine total precincts of the Bingara Gorge Estate, owned by Bradcorp. The precincts to which this DA relate are described below:

- **Fairways North (Stage 1)** – located at the north of the Bingara Gorge Site between Stringybark Creek to the east and the Hume Highway to the west. The Fairways North Precinct is legally described as part Lot 31 DP270536 and covers approximately 42.63 hectares. The precinct was previously known as Precinct 1 – ‘Rural’ (within the original DA and consent orders); and
- **Golf Town and Part Golf North** – located at the east of the Bingara Gorge Site between Allens Creek to the east and Stringybark Creek to the west, with holes of the existing golf course directly to the east and west. The Golf Town and lower Golf North Precincts are legally described as part Lot 5 DP270536 and cover approximately 11.82 hectares. The precincts were previously referred to as Precinct 8 and part Precinct 7 – Bushland (within the original DA and the consent orders).

It is noted that in addition to the abovementioned parcels of land, the construction of pedestrian/cycleway/fire trails (detailed in **Section 3.3** of this report) extends beyond the boundaries of the residential subdivisions to include land within Lot 1 DP270536 and Lot 207 DP 1104390, known as the Environmental Protection and Rehabilitation Lands (EP&R Lands) and the existing golf course, respectively. Further, the proposed bio-retention rain garden (refer to **Section 3.5** for detail) is located at the southern end of Lot 206 DP1104390.

An aerial photo of the site is shown at **Figure 2**, including the location of each precinct within the overall Bingara Gorge Site and the extent of land including the construction of fire trails and the bio-retention rain garden. Further detail relating to both precincts is detailed below.

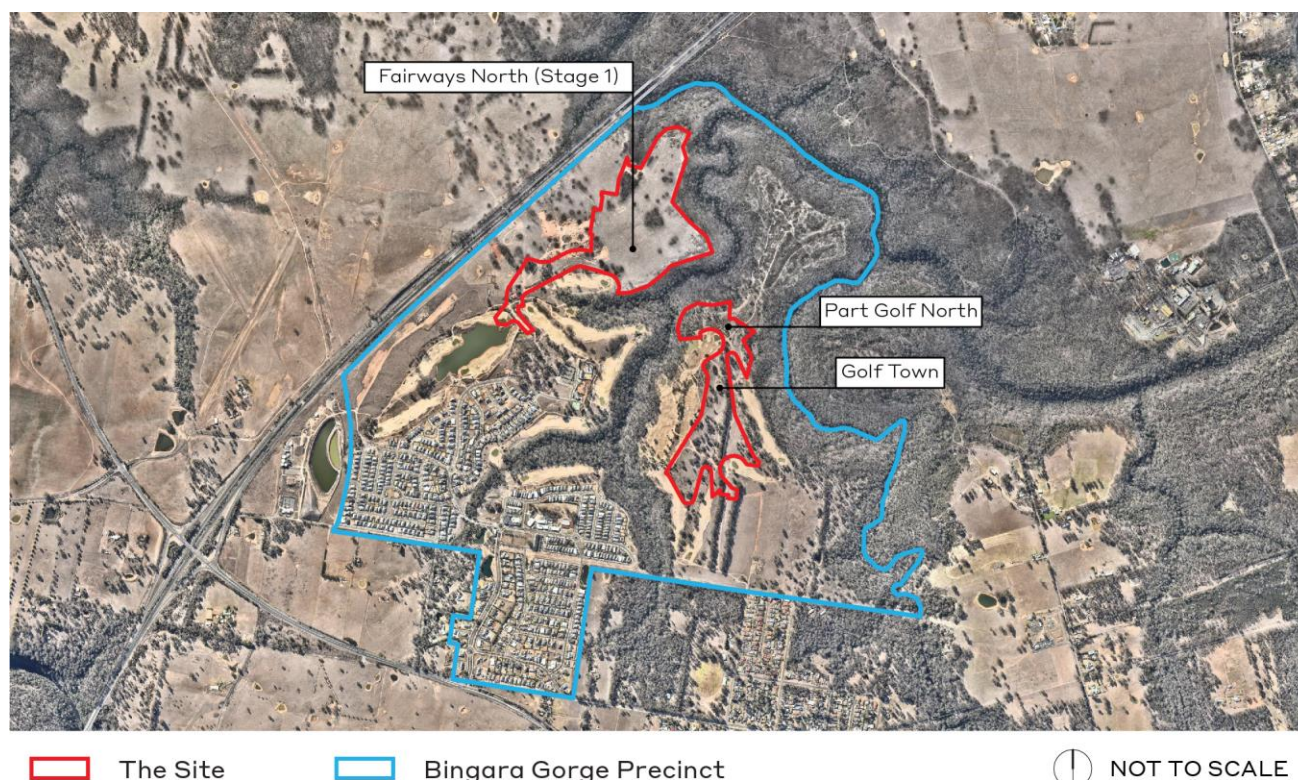


Figure 2 Aerial Photograph of Site

Source: Nearmap + Ethos Urban

2.3 Existing Site Conditions

The site has historically been cleared for agricultural grazing with some significant areas of bushland located in the gorges at the periphery of the Fairways North, Golf Town and Golf North precincts. A brief description of the existing site conditions for both precincts is provided below.

Fairways North (Stage 1)

Most of the Fairways North Stage 1 precinct comprises vacant grassland with scattered mature trees. The precinct is bordered by riparian corridors along its north, east, south-east and north-western boundaries associated with Allens Creek and Stringybark Creek. Hole 15 of the existing golf course adjoins the site to the south-west, with vacant land subject to future development as part of Fairways North Stage 2 and Fairways West bordering the precinct to the west, adjacent to the Hume Highway (subject to a separate application). The land falls from a high point in the southern central portion of the site to the north, east and west. Access to the existing precinct site is provided by a series of unsealed vehicle tracks. In the far south-west of the Fairways North site is an existing sandstone brick cottage.

Golf Town and Part Golf North

The Golf Town precinct and southern portion of Golf North are bordered by the existing golf course on to the east and west. Similar to Fairways North, most of the site comprises gradually undulating grassland with scattered, mature trees. The land falls gradually to the north, east and west from a high point at the southern end of the precinct, adjacent to the Country Town precinct. There is a wind-row of mature trees running north-south through the centre of the site, comprising 558 individual trees. Access to the existing site is currently provided by a series of unsealed vehicle tracks.

2.3.1 Bushfire Hazard

Land in both the Fairways North and Golf Town precincts is identified as bushfire prone land. The bushfire hazard within the Fairways North precinct is predominantly associated with forest vegetation in the gully system of Stringybark Creek and Allens Creek in the north, east and south-east of the precinct. The bushfire hazard within the Golf Town and part Golf North precincts is also primarily associated with forest vegetation in the gully systems of Stringybark Creek and Allens Creek. A significant portion of land in the northern area of the precinct is classified as bushfire prone. Specific bushfire management, protection and mitigation strategies have been prepared and are discussed further in the Bushfire Protection Assessments (BPA) included at **Appendix D**.

2.3.2 Heritage

There are no items of European heritage located within or surrounding the Fairways North and Golf Town sites. Further, the site is not located within a conservation zone. Portions of both the Fairways North and Golf Town sites are mapped as an Aboriginal item of local heritage significance (item I285 – Aboriginal Shelter Sites).

A Cultural Heritage Assessment and Test Excavation Report has been carried out by KAS and is attached at **Appendix L**. The report is a consolidated cultural heritage assessment and excavation report and considers previous cultural heritage assessments and archaeological surveys at the site carried out by Navin Officer in 2003 and KAS in 2014 and 2015 for ongoing development throughout Bingara Gorge. The report finds that the subject area contains 8 Aboriginal sites. Management of these sites is detailed in **Section 4.9**.

2.3.3 Vegetation

Extensive studies of the existing vegetation at the site and within the surrounding EP&R lands have been carried out across the Bingara Gorge site for previous applications as well as the current application. Details of the existing vegetation communities and threatened species at the site are provided in the Ecological Report provided at **Appendix G**.

2.4 Surrounding Development

Since approval of the Staged DA in 2006, development has substantially commenced at the Bingara Gorge site to the south of Fairways North and Golf Town, including the delivery of Pembroke Village, Greenbridge Village, parts of Fairways East and Highlands Villages located to the southern part of the site and as well as the Country Club (Stage 1), Wilton Primary School, retail facilities, a childcare centre and the 18 hole golf course. A development application for residential subdivision within the Golf North, Fairways North (2) and Fairways West (1) precincts is being lodged separately to this application.

Forest associated with Stringybark Creek, Allens Creek and Clements Creek extends to the north and east away from the site.

Wilton lies immediately to the south-east of the site. Wilton is a small township surrounded by rural residential development, with a predominant pattern of rural cottages located on larger farming lots. The dwellings on these lots are typically single and two storey detached houses. Surrounding the town centre and existing rural lots are farming areas and bushland areas, with rivers and creeks nearby. Wilton accommodates approximately 500 dwellings and small-scale retail facilities with a population of over 1,000.

In July 2016 the NSW Minister for Planning gazetted the State Environmental Planning Policy (Sydney Region Growth Centres) Amendment (Wilton) 2016. This identified the boundaries of the Wilton Priority Growth Area. Bingara Gorge is located along the north-eastern boundary of the growth area, as shown in **Figure 3** below.

In August 2017 an Interim Land Use and Infrastructure Implementation Plan was released by the NSW Department of Planning and Environment for the Wilton Priority Growth Area. As shown in **Figure 4** below, the land use plan identifies potential employment lands to the south-west of the Bingara Gorge site, with potential urban lands to the south and across the Hume Highway to the west of Bingara Gorge. Up to 15,000 residential dwellings are expected to be developed, with approximately 60,000sqm of retail and business space. A new town centre is proposed across the Hume Highway to the west of Bingara Gorge. It is noted that the Bingara Gorge land is zoned separately and does not form part of the investigations for the Wilton Priority Growth Area.

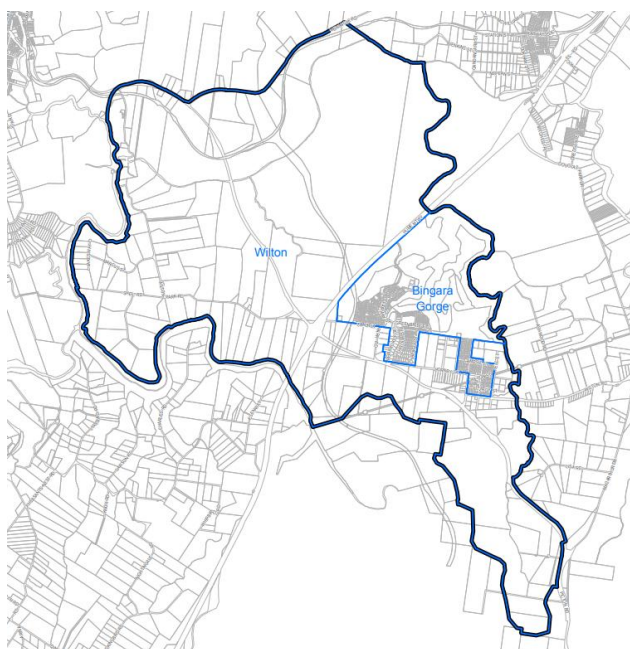


Figure 3 Wilton Priority Growth Area Boundary
 Source: State Environmental Planning Policy (Sydney Region Growth Centres) 2006

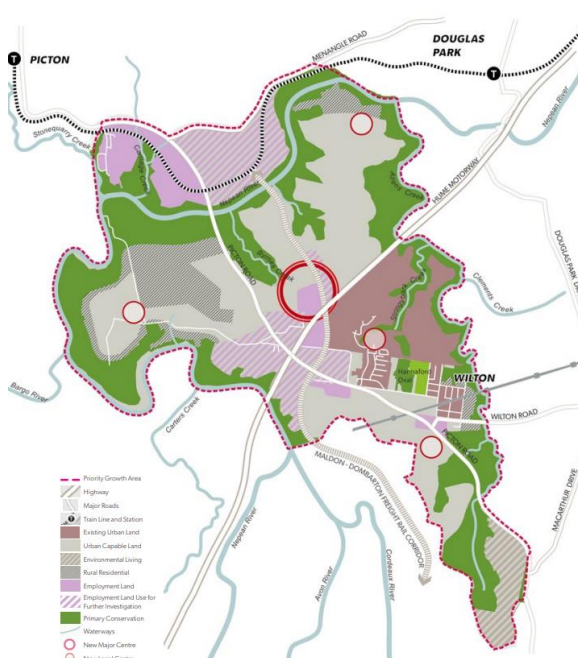


Figure 4 Wilton Interim Land Use and Infrastructure Implementation Plan
 Source: NSW Department of Planning and Environment

3.0 Description of Proposed Development

This application seeks approval for the following development:

- The subdivision of part Lot 5 DP270536 (part future Lot 34 DP 270536), to be known as Golf Town and part Golf North, to create:
 - 131 residential lots;
 - 11 residue lots;
 - 2 association property lots; and
 - Public road dedications.
- The subdivision of part Lot 31 DP270536, to be known as Fairways North Stage 1, to create:
 - 232 residential lots;
 - 7 residue lots;
 - 1 association property lot; and
 - Public road dedications.
- The subdivision of future Lot 81 DP280044 in Lot 5 DP270536 to create one residential lot and one public road dedication within the Greenbridge East Precinct.
- Design and construction of the proposed internal road network, including:
 - Internal local roadways;
 - On-street parking;
 - Pedestrian and cycle ways;
 - Road reserve landscaping; and
 - Services and stormwater drainage infrastructure.
- Provision of utility infrastructure such as stormwater drainage, sewerage, telecommunications and water;
- Grading of the site for final residential lots, landscape shaping, boundary interfaces and roadway levels;
- Construction of pedestrian/cycleway fire trails;
- Construction of 350sqm bio-retention rain garden; and
- Associated vegetation removal, street tree planting, landscaping, lighting and embellishments.

Civil Engineering drawings detailing the proposed development are included at **Appendix A**. Survey Plans of Subdivision are also provided at **Appendix B**.

3.1 Subdivision and Lot Mix

The proposed subdivision will create 364 residential lots in total, with 232 in the Fairways North precinct, 131 in the Golf Town precinct and one in the Greenbridge East Stage 6A precinct. Any subsequent dwellings on these lots will be subject to separate approvals. The area of each proposed lot is shown on the Subdivision Plans at **Appendix B**. The development, embellishments and/or use of these lots will be the subject of separate future development applications.

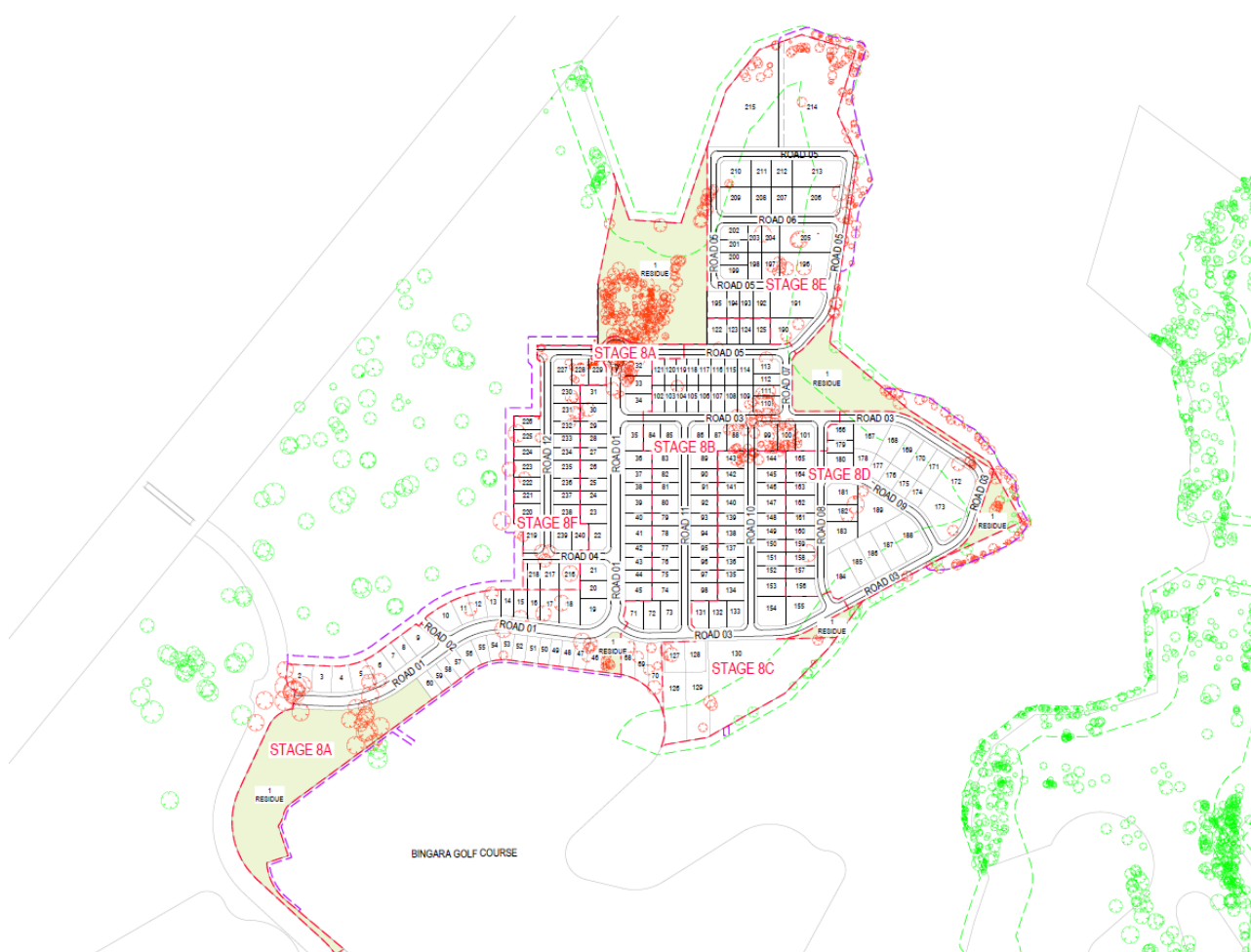
The subdivision within each precinct is proposed to be staged, as described below.

Fairways North (1)

The Fairways North (1) subdivision will be implemented over six stages, as shown in **Figure 5** below. Detailed subdivision plans for each stage are provided at **Appendix B**. A breakdown of the components of each stage is provided in **Table 2** below.

Table 2 Fairways North Subdivision Summary

Stage	Component
Stage 8A (Future Lot 36 in DP 270536)	1 association property lot
	59 residential lots (2-60)
	7 residue lots (61-67)
	Public road dedication
Stage 8B (Future Lot 62 in Fairways North Precinct Scheme)	58 residential lots (68-125)
	Public road dedication
Stage 8C (Future Lot 63 in Fairways North Precinct Scheme)	30 residential lots (126-155)
	Public road dedication
Stage 8D (Future Lot 64 in Fairways North Precinct Scheme)	34 residential lots (156-189)
	Public road dedication
Stage 8E (Future Lot 65 in Fairways North Precinct Scheme)	26 residential lots (190-215)
	Public road dedication
Stage 8F (Future Lot 66 in Fairways North Precinct Scheme)	25 residential lots (216-240)
	Public road dedication

**Figure 5 Fairways North (Stage 1) - Proposed lot layout**

Source: Cardno

Golf Town and Part Golf North

The Golf Town subdivision will be implemented over three stages, with a fourth stage for the part Golf North precinct as shown in **Figure 6** below. Detailed subdivision plans for each stage are provided at **Appendix B**. A breakdown of the components of each stage is provided in Table 3 below.

Table 3 Golf Town Subdivision Summary

Stage	Component
Stage 6A	1 association property lot
	47 residential lots (2-48)
	5 residue lots (49-53)
	Public road dedication
Stage 6B	45 residential lots (54-98)
	Public road dedication
Stage 6C	19 residential lots (99-117)
	2 residue lots (118-119)
	Public road dedication
Golf North Stage 6D	1 association property lot
	20 residential lots (2-21)
	4 residue lots (22-25)
	Public road dedication
Greenbridge East Stage 6A (not part of the Golf Town precinct subdivision)	1 residential lot (222)
	Public road dedication



Figure 6 Golf Town and Part Golf North - Proposed lot layout

Source: Cardno

3.2 Site Grading

Civil Engineering Plans prepared by Cardno illustrating the final levels of the site are included at **Appendix A**.

The Golf Town site is proposed to be graded with a gentle slope from 196m AHD to 167.5m AHD from the southern entry to the precinct to its northern extent. Fairways North will be graded from 175m AHD at its southern extent to 150m AHD in its northern extent.

No landscaping of the public domain, other than street tree and verge planting, is proposed under this DA.

3.3 Access and Movement

Roads

The proposed road layout is shown in the Civil Engineering Plans at **Appendix A**. Several new permanent roads are proposed to be constructed within the proposed subdivision layout. The proposed layout and road typologies are shown below in **Figure 7**. Fairways North will be accessed via Fairway Drive to the west of its precinct boundary. Golf Town will be accessed from the approved Road 01 under the Greenbridge East DA10.201400505.001.

The local roads for which consent is sought by this DA will be dedicated to Council as public roads.

An overview of the proposed road type and design for each precinct is provided in **Table 4** and the Civil Engineering Plans included at **Appendix A**.

Table 4 Proposed Road Network Details

Road Type	Road Reserve Width	Carriageway Width	Kerb Type
Typical Minor Collector Road	20.00m	11m	Kerb and gutter both sides
Modified Minor Collector Road	22.00m	11m	Kerb and gutter both sides
Typical Local Access Street	15.00m	7m	Roll kerb both sides
Modified Local Access Street	16.00m	7m	Roll kerb both sides
Typical Cul De Sac	14.00m	7m	Roll kerb both sides

Pedestrian and Cycling Pathways

Shared pedestrian and cyclist footpaths are proposed as shown in the Civil Engineering Plans at **Appendix A**. Concrete paths 2m in width are proposed along the verge of collector roads and typical access streets, as indicated in Figure 7 below, which provide an extensive pedestrian and cycling network throughout both precincts.

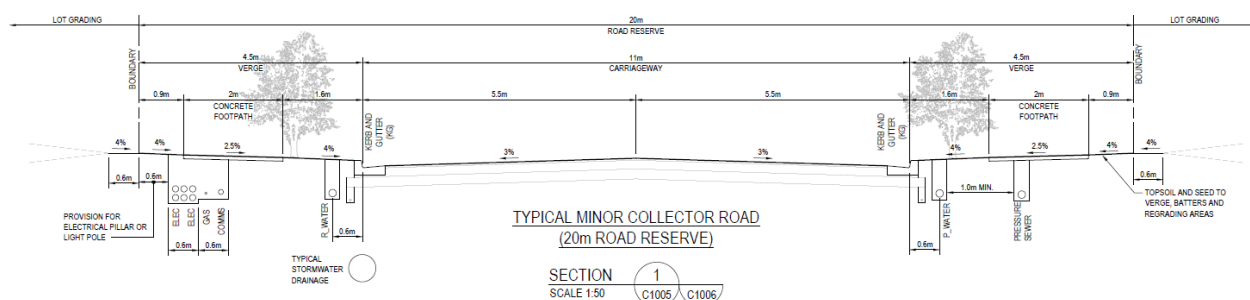


Figure 7 Section for Typical Minor Collector Road (Fairways North)

Source: Cardno

Construction of pedestrian paths/cycleways/fire trails within the EP&R lands is proposed in this application, as detailed in the Civil Engineering Plans at **Appendix A**. The location of these pathways has been determined and granted development consent under the LEC Consent Orders for DA 010.2015.00000283.001 (condition 4(b)). Condition 5(b) of the Consent Orders requires that the construction of any trail shall only be carried out after separate development consent for subdivision creating residential allotments has been granted, that triggers a Bushfire Safety Authorisation. This subject DA has been prepared in response to Condition 5(b)

The general arrangement of the trails as shown in **Appendix A** is consistent with those approved in the LEC Consent Orders. The pathways have been aligned so that they do not impact with any significant flora species, as detailed in the Ecological Report prepared by Eco Logical at **Appendix G**.

Figure 8 below shows a Site Context and Connectivity plan (from the Street Tree Masterplan at **Appendix N**), indicating primary pedestrian and cycle paths within the Fairways North and Golf Town Precincts. The primary shared cycleways and pedestrian footpaths have been located generally in accordance with the Cycleways and Pedestrian Linkages Map in the Wollondilly DCP, in particular the north-south shared pedestrian and cycle paths in both Fairways North and Golf Town.

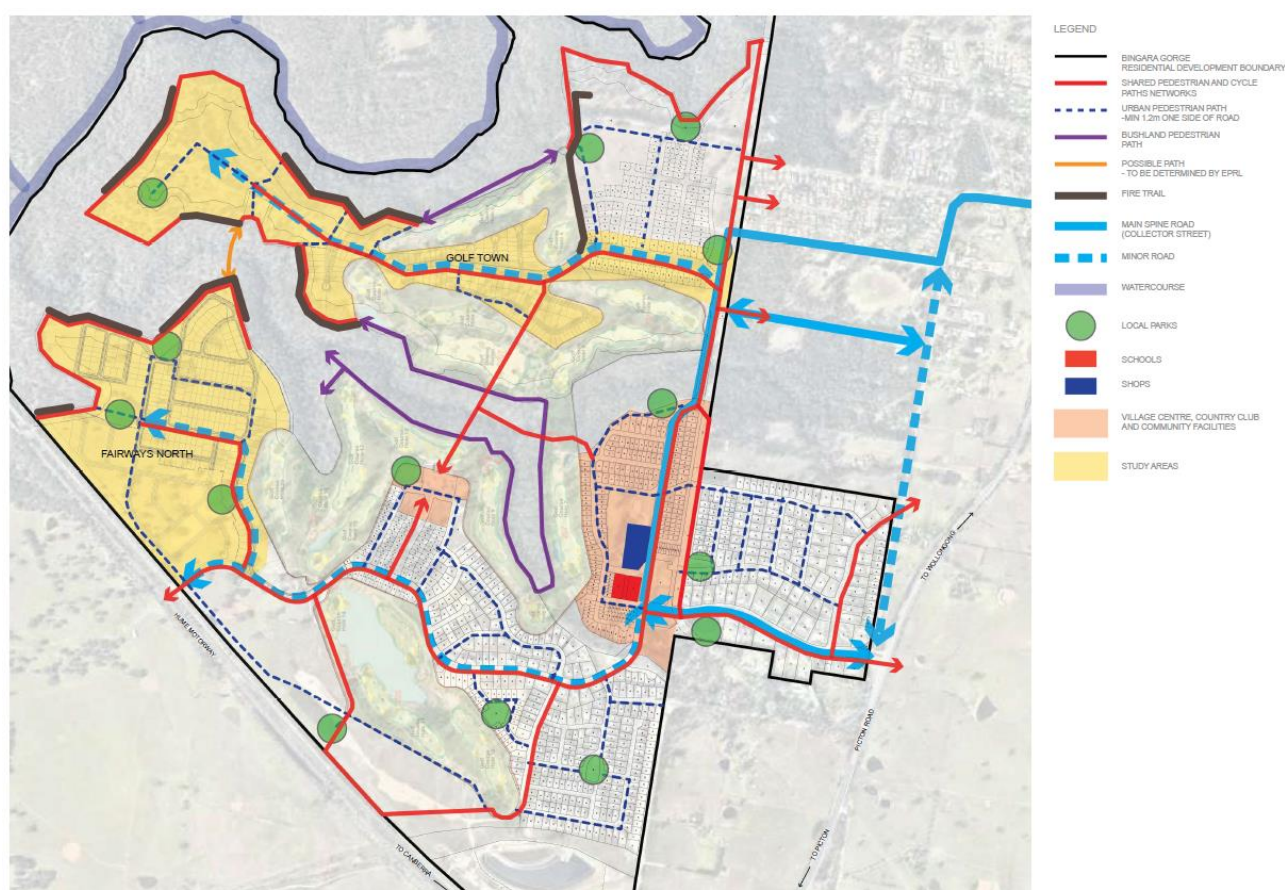


Figure 8 Site Context and Connectivity Plan

Source: Taylor Brammer

3.4 Landscaping and Vegetation Removal

Removal of vegetation in the Golf Town and Fairways North Precincts was granted concept approval as part of the LEC Consent Orders under DA 010.2015.00000283.001.

This application seeks consent for the physical works relating to vegetation removal to allow for residential development within the Fairways North and Golf Town precincts, and to allow for construction of fire trails within the EP&R lands. Detailed vegetation removal plans are provided in the Civil Engineering Plans at **Appendix A**. As

shown, the vegetation proposed to be removed in this application includes the approved footprint and additional vegetation within the areas of subdivision.

The windrow running north-south through Golf Town is proposed to be predominantly retained, as required by condition 4(a)(iii) of the Consent Orders. The windrow will form part of the road reserve for dedication to Council. As part of this application, several small, localised groups of trees within the windrow are required to be removed to provide appropriate vehicle access to all residential lots. The extent and impact of this tree removal is detailed in the Civil Engineering Plans at **Appendix A** and the Windrow Arborist Report at **Appendix O**.

Landscaping of the road reserve is proposed as part of this application. A Street Tree Masterplan has been prepared by Taylor Brammer and is provided at **Appendix N**. The street tree landscaping has been designed to respond to the hierarchy, scale and function of streets and open spaces. Species selection has been informed by the Bingara Gorge Streetscape Masterplan 2013 (prepared by Group GSA), the Streetscape Plans for Greenbridge (prepared by Group GSA) and the site context and the relation to existing vegetation. Refer to **Appendix N** for detail. Any further landscaping or embellishments to the residential allotments and parks will form part of a later DA.

3.5 Stormwater Management

The proposed stormwater management strategy for Fairways North (Stage 1) and Golf Town is shown in the Civil Engineering Plans at **Appendix A** and described in the Stormwater Compliance Letters at **Appendix K**. The strategy is proposed to integrate with the larger Bingara Gorge precinct and includes the construction of a piped drainage network, with regional stormwater collection tanks and storage ponds, together with a rising main transfer system to deliver collected stormwater runoff to a centralised lake for distribution/re-use on the adjacent golf course. An on-lot bio-swale will treat two (2) lots on the very northern tip of the development.

The required size and orientation of these drainage systems ensure that post development flows do not have an adverse impact on downstream watercourses following filling from the site. The drainage strategy also takes into account the future development pattern of the Bingara Gorge Precinct.

Regional Bio-Retention Raingarden

As identified in the Bingara Gorge Flooding, Stormwater and Water Quality Management Strategy Report (**Appendix K**) a 350sqm regional bio-retention raingarden is required to be constructed when detailed application for more than 1,165 allotments throughout the Bingara Gorge Precinct is made to ensure that pollution concentration targets could be met downstream of the site. Since this application will result in more than 1,165 total lots, construction of the bio-retention raingarden downstream of the main lake (in the south-west of the Bingara Gorge site) is proposed as part of this application. Details of the bio-retention raingarden and its role within the stormwater strategy are provided in the Fairways North Stormwater Compliance Letter at **Appendix K**. Detailed engineering drawings of the proposed raingarden will be provided at the Construction Certificate stage, post lodgement of the development application.

3.6 Contamination Management

A preliminary site investigation for contamination in the proposed remaining development areas at the overall Bingara Gorge Estate was carried out by Douglas Partners in March 2016 (Project 43677.40.R.003.Rev1). The preliminary site investigation considered historical information and site observations in determining that there was a low potential for contamination across the site. It was recommended, however, that soil sampling be undertaken from around the cottage and nearby sheds/remnant structures located at the southern tip of the Fairways North Precinct.

In accordance with the findings in the preliminary site investigation, a Targeted Site Investigation for Contamination at Fairways North was prepared by Douglas Partners and is attached at **Appendix R**. The targeted site investigation found that zinc and lead impacted soils exist in close proximity (two metres) to the cottage structure. It is recommended that the site is suitable for the current application and that further consideration is to be made when development applications for demolition/construction at the cottage site are made. The cottage is proposed to be located in future residue Lot 61 as part of this subdivision.

Also attached at **Appendix R** is a letter regarding further site investigations within the Golf Town precinct. The letter states that the site is relatively unchanged from the conditions described in the Preliminary Site Investigation. A

contractor diesel tank remains on site. When removed, the area surrounding the tank will be inspected to determine any signs of contamination.

The Fairways North and Golf Town precinct sites are suitable for the proposed development, with the limited area surrounding the cottage at the south-west of the Fairways North precinct (proposed to form part of a future residue lot) being able to be determined as suitable or to be made suitable for further development.

3.7 Utility Services

Consultation with relevant utilities service providers has been undertaken in the preparation of previous DAs for the subdivision of the Bingara Gorge site for urban uses. From these consultations, it is concluded that the site is serviceable with potable water, gas, sewer, electricity and telecommunications, subject to extensions/augmentation of utilities infrastructure as part of the future development.

3.8 Construction Management

Construction activities would be undertaken between 7:00am and 6:00pm Monday to Friday and 8:00am to 1:00pm Saturday. No work is to take place on Sunday or public holidays. Any construction work outside of these hours will be subject to prior consultation with Council and Roads and Maritime Services.

Further details on construction management will be provided in a Construction Management Plan to be completed prior to the commencement of works.

3.9 Management of Environmental Protection and Conservation Lands

Condition 6 of the determination by the Land and Environment Court (010.2015.00000283.001) is as follows:

*(6). Protection and Management of Additional Conservation Lands
A mechanism(s) to be established providing for the ongoing management and maintenance of the Additional Conservation Lands in perpetuity.
Documentary evidence of the mechanism(s) and management obligations, including funding arrangements, is also to be provided with any development application affecting the ACL.*

The management of Conservation Lands in the Bingara Gorge development is principally the responsibility of Bingara Gorge Environment Ltd (ACN 160 681 630). The Company Constitution, in combination with the State Development Agreement for Bingara Gorge, sets out arrangements for funding and management of Conservation Lands by Bingara Gorge Environment Ltd. Bingara Gorge Limited is a not for profit company and clause 2.2 (c) of the Constitution states that the income and property of the Company must be used and applied solely in the promotion of its objects, which include (among others):

- Providing environmental support service in accordance with the Environment Management Agreement to the Bingara Gorge Community Association.
- To protect and enhance the Environmental Lands and the environment at Bingara Gorge generally.
- To comply with relevant environment and heritage requirements of the State Development Agreement and the Development approval.

The State Development Agreement requires funding to be provided to the management of Environment Lands from the sale of each development lot in the Bingara Gorge development. Schedule 4 to the Planning Agreement specifies:

- 1% of the sale price of each lot is required to be contributed to the Bingara Gorge Environmental Protection Fund. The Bingara Gorge Environment Ltd constitution then specifies that the funding must be spent in accordance with the limitations in clause 2.2 (see above).
- The area of land and the timing of transfer of land to EPR Lands to Bingara Gorge Environment Ltd.

- Additional contributions from members of the Community Association to the Fund.

As at 30 September 2018 the Environment Fund account had a total balance of \$1,900,249.

In combination, the determination of the Court, the State Development Agreement, the Community Association scheme and the Bingara Gorge Environment Ltd constitution provide for transfer of the Additional Conservation Lands, protection in perpetuity of the Environmental Protection and Community Recreation Land, and funding and management responsibilities for those lands, as required by condition 6 of the Court's consent.

4.0 Assessment of Environmental Impacts

This section considers the planning issues relevant to the proposed development and provides an assessment of the relevant matters prescribed in section 4.15(1) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

4.1 Compliance with Conditions of Consent for Previous DAs

Staged DA ID993-05

As previously identified, this development application sits within the extent of the approved Staged DA ID993-05 and is accordingly informed by the detailed specialist technical reports and assessments that accompanied the Staged DA. A full assessment of the proposal's compliance with the conditions of consent for ID993-05 is provided at **Appendix C**. The proposal is generally consistent with the conditions, except where superseded by the LEC Consent Orders, discussed below.

LEC Consent Orders (DA 010.201500000283.001)

Further to the above, this application is a detailed application for subdivision and civil works relating to the concept approval granted by the LEC under DA 010.201500000283.001. As such, the assessment of environmental impacts which formed part of DA 010.201500000283.001 is also relevant to this application. Expert reports submitted under the previous DA have been included with this application where required under the LEC Consent Orders, or otherwise, as outlined in **Section 1.0** of this report. Technical reports have been reviewed and updated where required by the LEC Consent Orders and also where necessary to address the detailed components of this application.

Under Condition 8 of the LEC Consent Orders, future development at the Bingara Gorge site is required to take place in accordance with the recommendations of the following reports:

- Development Application Statement of Environmental Effects, Bingara Gorge, Wilton Development Application Submitted to Wollondilly Shire Council on Behalf of Lend Lease Communities Pty Ltd' prepared by JBA dated April 2015 (Ref 13384) except where superseded by 'Development Application Addendum Statement of Environmental Effects, Bingara Gorge, Wilton, Development Application Additional 635 Lot Yield to a Maximum 1,800 Lots, Clearing of Vegetation, Fire Trails & 15 Lot Subdivision (Stage 1J(2)) on Behalf of Lend Lease Communities Pty Ltd' prepared by JBA dated November 2015 (Ref: 15556) draft consent 289 2016
- 'Bingara Gorge Residential Development Traffic Impact Assessment prepared for Lend Lease - Final' prepared by Cardno (NSW/ACT) Pty Ltd dated April 2015 (Ref NA82013034) except where superseded by 'Bingara Gorge Transport Assessment, Bingara Gorge - Land and Environment Court - Appeal 10554 of 2015 prepared for Lend Lease - Final' prepared by Cardno (Qld) Pty Ltd dated November 2015 (Ref: NA82013034)
- 'Bingara Gorge Flooding, Stormwater & Water Quality Management Strategy Report prepared for Lend Lease - Final' prepared by J. Wyndham Prince dated April 2015 (Ref: 9785-02Rpt1C) except where superseded by 'Bingara Gorge Flooding, Stormwater & Water Quality Management Strategy Report prepared for Lend Lease - Issue D LEC Update' prepared by J. Wyndham Prince dated November 2015 (Ref: 9785-02Rpt1D)
- 'Bingara Gorge Staged DA Ecological Assessment prepared for Lend Lease - Final' prepared by Eco Logical dated April 2015 (Ref 13WOLPLA_0011) except where superseded by 'Bingara Gorge Staged DA - AMENDED

Ecological Assessment - Addendum 1 prepared for Lend Lease' prepared by Eco Logical dated November 2015 (Ref 13WOLPLA_0011)

- 'Bingara Gorge Residential Development Utilities Services Investigation - Version 3' prepared by Cardno (NSW/ACT) Pty Ltd dated April 2015 (Ref NA82013043-05 Report 002 Rev 3).
- 'Development Application "Balance of Site' Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW - Cultural Heritage Assessment Report prepared on behalf of Lend Lease Wilton Pty Ltd' prepared by Lance Syme and Natalie Stiles, Kayandel Archaeological Services dated April 2015 except where superseded by 'Proposed Construction of Fire Trails, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW - Cultural Heritage Assessment Report prepared on behalf of Lend Lease Communities (Wilton) Pty Ltd prepared by Lance Syme and Natalie Stiles, Kayandel Archaeological Services dated December 2015
- Community Facilities and Open Space Report, Bingara Gorge Staged Development Application' prepared by Elton Consulting dated April 2015 (Ref: 12/3144)
- Bushfire Protection Assessment - Proposed Development - Bingara Gorge. Wilton prepared by Ecological Australia dated April 2016
- The Management Plans subject of condition 1(6)

The current application is generally consistent with the above documents and their recommendations. A full assessment of the proposal's compliance with the LEC Consent Orders is provided at **Appendix C**.

With the aforementioned in mind, the following sections of the report provide a detailed assessment of the key environmental impacts relating to this detailed application. The following sections should be read in conjunction with the technical reports and further environmental assessment attached to this SEE. Reference to the appropriate appendices is made throughout.

4.2 Strategic and Statutory Legislation

The DA's consistency and compliance with the relevant statutory plans and policies is located in **Table 5** below.

Table 5 Summary of consistency with key statutory plans and policies

Plan	Comments
Commonwealth Legislation	
EPBC Act	<p>Approval from the Commonwealth Environment Minister is required if a development is likely to have a significant impact on matters considered to be of National Environmental Significance.</p> <p>An EPBC referral has been made, with the process expected to be complete by the end of 2018. It is noted that the EPBC referral process is separate to the DA process. The outcomes of the EPBC referral process can be provided to Council.</p>
Strategic Plans	
Western City District Plan	<p>The proposal is consistent with the Directions and Planning Priorities in the Western City District Plan in that it:</p> <ul style="list-style-type: none"> • Provides the subdivision of land allowing for the increase of housing supply; • Protects and enhances bushland and biodiversity by setting aside EP&R and ACL areas to be appropriately managed and rehabilitated; and • Contributes to the Parkland City by integrating a residential community with conservation, management and rehabilitation (where required) of existing surrounding bushland and waterways.
NSW State Legislation	
<i>Mine Subsidence Compensation Act 2017</i>	The proposal has been referred to the Chief Executive of Subsidence Advisory NSW in accordance with Section 22 of the Act. An approval is currently being sought.
<i>Water Management Act 2000</i>	A first order creek exists at the far north of the Fairways North site. As such, a controlled activity approval is sought in accordance with section 91 of the <i>Water Management Act 2000</i> (WMA 2000), since the proposal involves works within 'waterfront land' associated with the subdivision of land within 40m of a waterway. Refer to assessment in Appendix C for a discussion of the proposal's impacts on waterways.

Plan	Comments
<i>Rural Fires Act 1997</i>	A bushfire safety authority issued by the Commissioner of the RFS is sought, in accordance with Section 100B of the <i>Rural Fires Act 1997</i> (RFA 1997) since the proposal is on land that is bushfire prone. Refer to Section 4.7 below for further assessment.
State Environmental Planning Policies	
SEPP 55	A Phase I Environmental Site Assessment was prepared for the site as part of DA (see Appendix Q) demonstrates the site is suitable for the proposed development. Appendix Q provides details regarding targeting investigations at the site, also outlined in Section 4.6 of the SEE. Phase 2 Salinity Investigations have also been carried out and are attached at Appendix S .
SEPP 44 Koala Habitat Protection	A Koala Plan of Management has been prepared and is attached at Appendix H . Refer to Section 4.5 for further detail.
SREP 20 – Hawkesbury-Nepean River (No. 2 – 1991)	A detailed assessment of the proposal in relation to the controls in SREP 20 is provided at Appendix C .
State Environmental Planning Policy (Infrastructure) 2007	The proposed development is defined as traffic-generating development under Schedule 3 of the ISEPP, since it involves the subdivision of land for more than 200 allotments and the opening of public roads. As such it is understood that the application will be referred to RMS.
SEPP (Sydney Region Growth Centres) 2006	The proposed development is within the Wilton Growth Area. As per clause 7A of the SEPP, for land within Bingara Gorge the provisions of the Wollondilly LEP 2011 apply.
Local Environmental Plans	
Wollondilly Local Environmental Plan 2011 (WLEP)	A detailed assessment of the proposal against the WLEP is provided at Appendix C . The proposal is consistent with the objectives and controls of the WLEP.
Development Control Plans	
Wollondilly Development Control Plan 2016 (WDCP)	A detailed assessment of the proposal against the relevant controls contained in the WDCP is provided at Appendix C . The proposal is consistent with the objectives and controls of the WDCP.

4.3 Subdivision Design

Yield and Density

The subdivision design has been developed in accordance with the total and indicative precinct yield of 1,800 dwellings established by the LEC Consent Orders. At the time of lodgement of this application, 975 residential lots had been approved. This application proposes a total of 364 residential allotments, bringing the cumulative total to 1,339 lots. It is noted that the proposed subdivision located in Greenbridge East not covered by the LEC Consent Orders, since it forms a part of Development Precinct 9. However, the lot will contribute to the total number of lots within the overall Bingara Gorge Precinct and therefore contributes to the maximum 1,800 lot yield. **Table 6** below provides a breakdown of the cumulative lot distribution.

Table 6 Cumulative Lot Distribution

Application	Number of Residential Lots	Cumulative total residential lots	Remaining lot balance
Determined Applications			
Various DAs (2007-2014)	666	666	-
010.2014.00000505.001	135	801	-
010.2015.00000213.001	77	878	-
010.2015.00000230.001	83	961	-
010.2015.00000214.001	12	973	827
010.2015.00000213.002	2	975	825
Current Application			
Fairways North	232	1,207	593
Golf Town & part Golf North	131	1,338	462

Application	Number of Residential Lots	Cumulative total residential lots	Remaining lot balance
Greenbridge East	1	1,339	461
Total:	1,339	1,339	461

In accordance with the site's bushland/golf course character, lot sizes are highly varied, but are generally large to accommodate detached residential dwellings. The proposed subdivision includes 364 residential lots, however, dwellings will be the subject of separate assessment and approvals at the appropriate time. The lots are considered appropriate due to the amenity afforded by the surrounding Bingara Gorge precinct and significant surrounding open space, which includes a golf course and EP&R/ACL land. **Table 7** below provides a summary of the proposed lot sizes for each precinct subject to this application.

Table 7 Summary of proposed residential lot sizes

Precinct	Minimum lot size	Maximum lot size	Primary lot size
Golf Town	375sqm	3,086sqm	450sqm
Part Golf North	526sqm	8,847sqm	N/A
Fairways North	375sqm	9,339sqm	450sqm
Greenbridge East	937sqm	937sqm	937sqm

Source: RPS

4.4 Streetscape and Public Domain

The proposed development has regard to key principles for the streetscape and public domain design:

- supports the even distribution of open space which is within five minutes' walk of dwelling lots, by providing a permeable street layout which is designed to enable easy and safe pedestrian movement to and from the adjoining open spaces;
- effectively integrates landscaping and subdivision layout with that of proposed stormwater works and the golf course;
- effectively uses view lines and setbacks from the centrally located golf course to visually enhance future adjoining development;
- uses native vegetation to assist in efficient water use;
- enhances and ecologically supports existing native vegetation within and adjoining the site, particularly that of the adjacent EP&R lands; and
- promotes 'quality' open space and recreation experiences rather than quantity only.

4.5 Ecology

4.5.1 Vegetation Removal

As detailed in the Ecological Assessment provided at **Appendix G**, the proposed works for development at the remainder of the Bingara Gorge Site require clearing of 8.3ha of Shale/Sandstone Transition Forest, 5.9ha of Cumberland Plain Woodland and 21.3ha of BNHW. Proposed vegetation removal under this application, as shown in the Civil Engineering Plans at **Appendix A**, applies only to land within the Fairways North and Golf Town Precincts and the immediately surrounding EP&R lands (for construction of fire trails).

Concept development consent for the removal of vegetation was granted as part of the LEC Consent Orders. The environmental impact of the proposed vegetation removal was considered in the Ecological Assessment carried out by Eco Logical in 2015 for the LEC appeal (**Appendix G**), including a 7-part test of significance. The report found that the proposed vegetation clearing was unlikely to result in a significant impact for the following reasons:

- The clearing is restricted to poorer quality vegetation;

- Large areas of high-quality vegetation will be retained within the EP&R lands; and
- Mitigation measures will be implemented to prevent indirect impacts on the remaining vegetation, including weed removal (refer to WEMP at **Appendix I**).

As such, the impact of the proposed vegetation removal does not require further consideration and has been granted concept development consent via the LEC Consent Orders, noting that Condition 5(a) requires the clearing to only be carried out after a separate development consent to be granted for subdivision that creates residential allotments within the area to be cleared.

4.5.2 Windrow Vegetation Removal

Under condition 4(a)(iii) of the LEC Consent Orders, the north-south windrows are to be retained. This application proposes to retain the north-south windrow within Golf Town (to be located within the road reserve). A number of trees need to be removed from the windrows to provide appropriate vehicle access to all residential lots. The extent of proposed tree removal is detailed in the Civil Engineering Plans at **Appendix A**. The trees to be removed are located in small, localised clusters and do not constitute a significant single area of removal from the windrow.

An arborist report has been prepared by Moore Trees, provided at **Appendix O**. The report assessed each of the 558 windrow trees and provided recommendations for protection of the remaining trees. Further the report finds that 20 of the trees proposed to be removed are either in poor condition, are dead or are dying. While removal of several small clusters of trees is necessary to enable the orderly development of the site, the windrow will be significantly retained in accordance with the intention of the consent orders. Since the proposed tree removal is confined to localised clusters of trees, the windrow will be mostly preserved and will still read and function as a windrow.

4.5.3 EPBC Referral

To compensate for the loss of Cumberland Plain Woodland at Bingara Gorge, the Ecological Assessment (**Appendix G**) recommended that a minimum of 70 credits of Cumberland Plain Woodland will be purchased and retired. The application is currently undergoing the EPBC referral process, with resolution expected by the end of 2018. It is noted that the EPBC referral process is wholly separate to the DA process.

4.5.4 Koala Habitat

A Koala Plan of Management (KPoM) has been prepared by Ecological and is attached at **Appendix H**. The plan considers all relevant matters contained within SEPP 44, the WDCP and the specific requirements set out in the LEC Consent Orders. Considering the numerous surveys and studies performed at the site, it is concluded that the Bingara Gorge site contains potential koala habitat and feed tree species, has no known records of usage or habitation by koalas, but could potentially be used as a fire refuge and movement corridor for koalas in the surrounding area. The KPoM outlines the following management procedures, noting that significant areas of native vegetation are to be retained under the proposal:

- Temporary fencing of a type as detailed in the KPoM is to be erected during construction;
- A pre-clearance fauna survey is to be undertaken by a qualified ecologist not more than 24 hours prior to any vegetation clearance;
- Any trees identified in the survey as containing a hollow/nest will be marked with paint or flagging tape;
- A qualified ecologist will be on site during the removal of any trees containing a hollow or nest;
- The ecologist will advise any additional mitigation measures such as the erection of nest boxes if required; and
- At the completion of vegetation clearance works, a report detailing the results of the study will be produced.

Further mitigation measures are detailed within the KPoM report, and these are proposed to be implemented as part of the proposed development.

4.6 Contamination

A preliminary site investigation for contamination in the proposed remaining development areas at the overall Bingara Gorge Estate was carried out by Douglas Partners in March 2016 (**Appendix Q**). In accordance with the findings in the preliminary site investigation, a Targeted Site Investigation for Contamination at Fairways North was

conducted by Douglas Partners (**Appendix R**). The targeted site investigation found that zinc and lead impacted soils exist in close proximity (two metres) to the cottage structure which is to be located in future residue Lot 61 under this subdivision. It is recommended that the site is suitable for the current application and that further consideration is to be made when development applications for demolition/construction at the cottage site are made. A letter regarding further site investigations within the Golf Town precinct is attached at **Appendix R**. The letter states that the site is relatively unchanged from the conditions described in the Preliminary Site Investigation, noting that a contractor diesel tank remains on site. When removed, the area surrounding the tank will be inspected to determine any signs of contamination.

The Fairways North and Golf Town precinct sites are suitable for the proposed development, with the limited area surrounding the cottage at the south-west of the Fairways North precinct being able to be determined as suitable or to be made suitable for further development. The cottage is proposed to be retained within future residue Lot 61 as part of this subdivision application (Stage 8A).

Phase 2 Salinity Assessments have also been carried out by Douglas Partners, provided at **Appendix S**. The reports find that within the Golf Town Precinct, soils are generally non-saline, unlikely to be susceptible to significant erosion (under appropriate protective cover) and are generally non-aggressive to concrete and steel. Similarly, within the Fairways North Precinct, soils are generally non-saline to slightly saline, unlikely to be susceptible to significant erosion (under appropriate protective cover) and are generally non-aggressive to concrete and steel.

4.7 Bushfire

The Bingara Gorge development site is identified as bushfire prone land. A Bushfire Safety Authority from the RFS is therefore required in relation to the proposed development (subdivision), in accordance with Section 100B of the *Rural Fires Act 1997*, Clause 44 of the *Rural Fires Regulation 2013* and 'Planning for Bush Fire Protection 2006' (PBP) (RFS 2006).

A Bushfire Protection Assessment (BPA) has been prepared by Ecological Australia and is included at **Appendix D**.

The BPA concludes that, subject to the implementation of the bushfire requirements recommended below, an adequate standard of bushfire protection will be provided for the proposed development. As such, the proposal is consistent with the aims and objectives of the PBP and appropriate for the issue of a Bushfire Safety Authority.

Table 8 Asset Protection Zone Assessment

Direction	Slope	Vegetation	PBP APZ	Proposed APZ
Fairways North				
North, east and south	Downslope >5 to 10 degrees	Forest	35m	39m
	Downslope >10 to 15 degrees		50m	50m
	Downslope >15 degrees		60m	61m
West	All upslope and flat land	Unmanaged grassland	10m	10m
All other directions	Managed land			
Golf Town				
West, north and east	Downslope >0 to 5 degrees	Forest	25m	32m
	Downslope >5 to 10 degrees		35m	39m
	Downslope >10 to 15 degrees		50m	50m
	Downslope >15 degrees		60m	61m
West	All upslope and flat land	Forest	20m	25m
All other directions	Managed land			

Source: EcoLogical Australia

It is noted in the BPA that the separation distances proposed exceed both the PBP and AS 3959-2009 minimum requirements regarding the width of Asset Protection Zones (APZ).

The BAL ratings for the two stages comply with the PBP Acceptable Solution method, which is to apply BALs based on the vegetation and slope assessment methodology within the PBP and Table 2.4.2 of AS 3959-2009 (Method 1).

There are perimeter fire trails to be established within the Community EP&R Lands as determined by the Court. These trails will be constructed in accordance with the PBP specifications for fire trails.

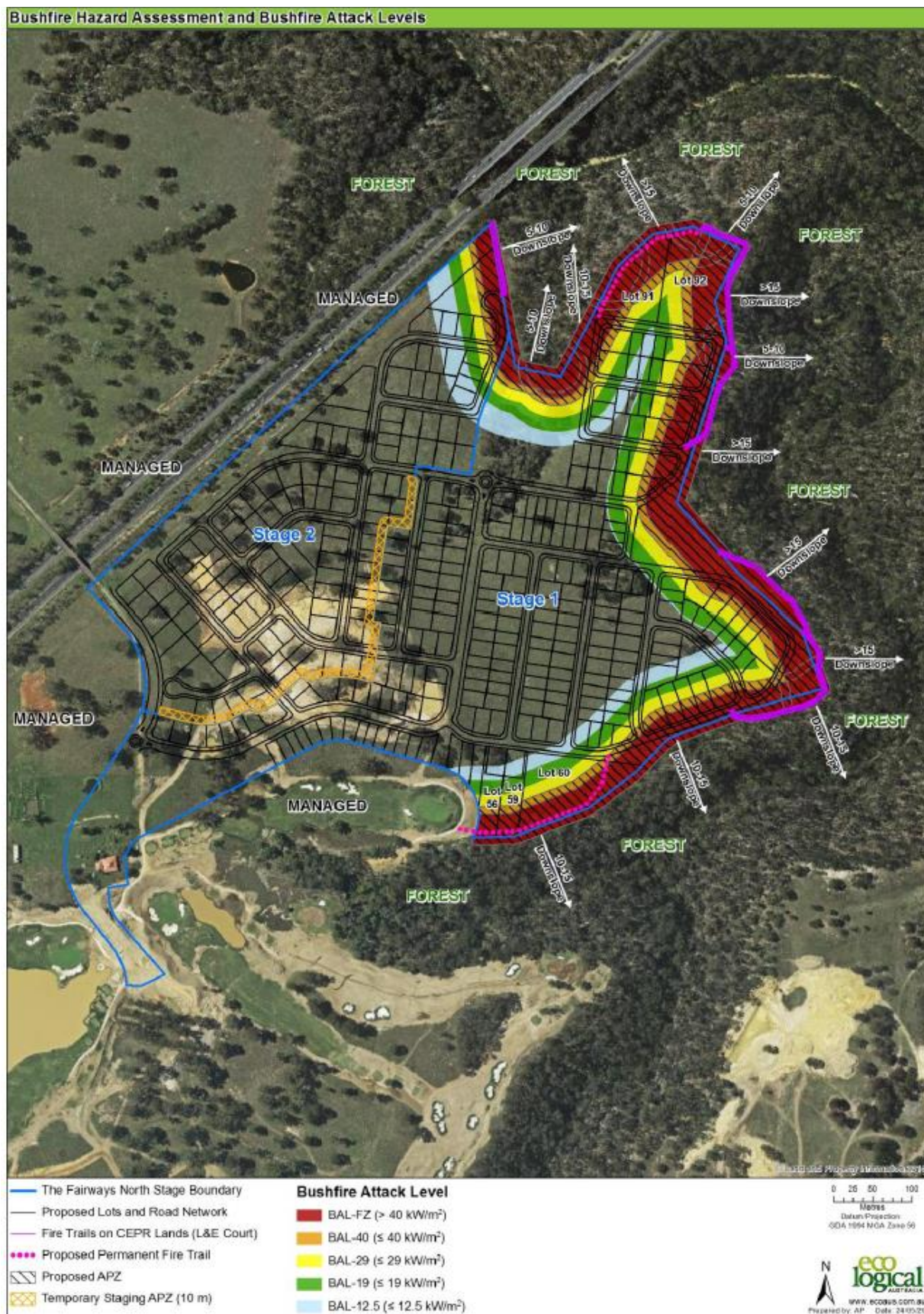


Figure 9 Bushfire Attack Levels for Fairways North

Source: EcoLogical

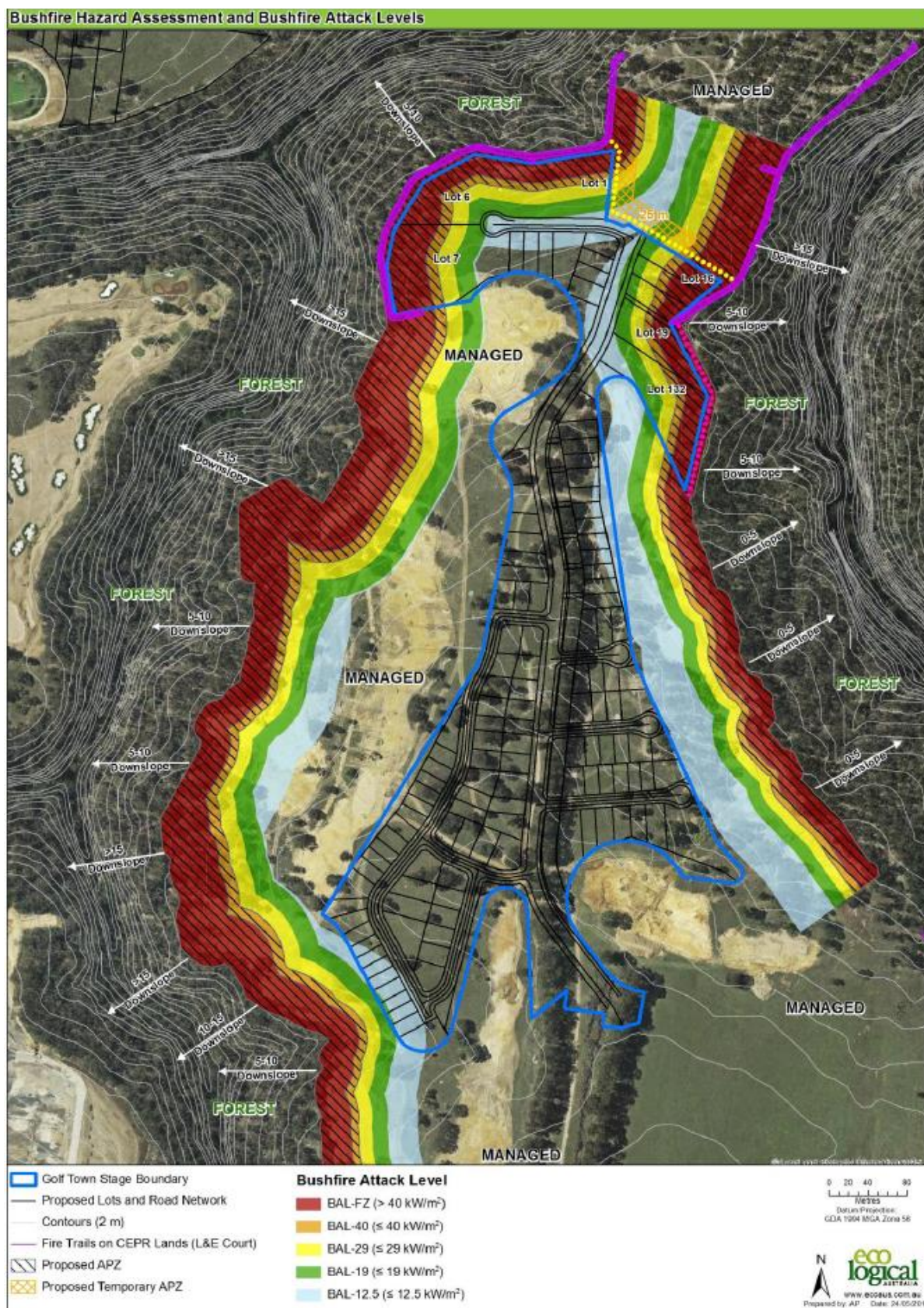


Figure 10 Bushfire Attack Levels for Golf Town and Part Golf North

Source: EcoLogical

4.8 Mine Subsidence

Under S15 of the *Mine Subsidence Compensation Act 1961*, development consent is required for “approval to alter or erect improvements within a mine subsidence district or to subdivide land therein”. As the land is within a mine subsidence district, the Mines Subsidence Board’s approval is required in respect of the subdivision. This application has been submitted to the Board and an approval letter will be submitted under separate cover. Any future development will require an approval from the Mines Subsidence Board.

4.9 Heritage

Portions of both the Fairways North and Golf Town sites are mapped as an Aboriginal item of local heritage significance (item I285 – Aboriginal Shelter Sites) under the WLEP. A Cultural Heritage Assessment and Test Excavation Report performed by KAS is attached at **Appendix L**. **Figure 11** below shows the location of AHIMS and identified sites within and surrounding the Fairways North and Golf Town Precincts. Extensive management strategies for the AHIMS sites are presented in the Endorsed Conservation Management Plan provided at **Appendix M**. Management strategies relating to sites BG-IF-03, BG-IF-04 and BG-AS-004 are provided in the Cultural Heritage Assessment at **Appendix L**. Development will proceed in accordance with these documents, including seeking an AHIP for works, where required.

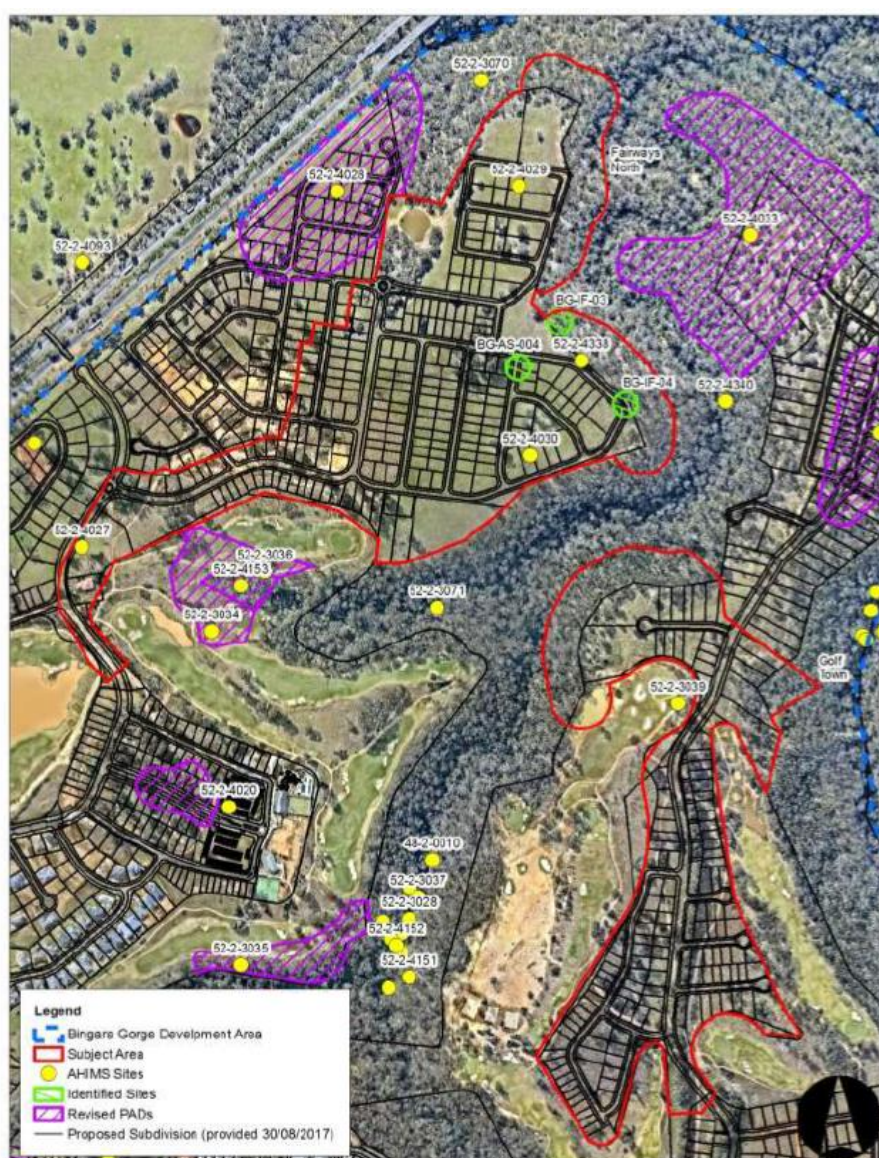


Figure 11 Location of Identified Indigenous Sites – Fairways North, Golf Town and Part Golf North

Source: KAS

4.10 Traffic and Access

A Traffic Impact Assessment (TIA) has been prepared by Cardno and is included at **Appendix J**. The TIA assesses the anticipated traffic implications of the proposed development with regards to pedestrian and bicycle requirements, traffic generation and impacts on the surrounding road network. The TIA forms an addendum to the previously approved November 2015 TIA prepared for the Land and Environment Court Appeal.

The 2015 report identified a morning and evening peak hour residential traffic generation of 0.8 vehicles per hour per dwelling, using a 75%/25% inbound and outbound split. Outbound was the dominant movement during the morning peak and inbound during the evening peak.

The proposed Fairways North, Golf Town and Part Golf North subdivisions total 364 dwellings, considered within the threshold of the overall 1,800 approved masterplan and therefore considered to not provide an impact greater than that previously assessed.

Traffic Generation

Using the traffic generation rates of 0.8 trips per hour per dwelling from the approved November 2015 TIA equates to a total of 291 trips for the proposed subdivision - 105 trips in Golf Town and 186 trips in Fairways North.

A peak hour traffic volume of 280 vehicles accessing Precinct 1 (Fairways North) was identified within the November 2015 TIA which equates to 350 lots in this location based on the traffic generation rate. The proposed 232 lots within Fairways North (with a further 126 lots identified adjacent to the development area) is considered a relatively minor increase when compared to the previous assessment.

Furthermore, Golf Town was identified in the 2015 TIA as having 240 trips accessing the precinct, equating to approximately 300 lots at 0.8 vehicles per hour per dwelling, well below the 131 proposed as part of this application.

Internal Road Network and Subdivision Layout

The road layout proposed for both Golf Town and Fairways North is generally consistent with the approved masterplan, with a single spine road connection for Golf Town, and a single proposed connection to Fairway Drive for Fairways North.

External Road Network

Vehicular access to the site is via Picton Road to the south, primarily via intersections with Pembroke Parade and Almond Street. Fairway Drive provides access to the north-western portion of the site (including Fairways North) via a roundabout off Pembroke Parade. Greenbridge Drive East provides access to the north-eastern part of the site, including the Golf Town area.

These two internal 'central spine' connections will continue to provide access to the northern residential precincts.

4.11 Water Cycle Management

The proposed stormwater management strategy for Fairways North (Stage 1) and Golf Town is shown in the Civil Engineering Plans at **Appendix A** and described in detail within the Stormwater Compliance Letters and the Flooding, Stormwater and Water Quality Management Strategy at **Appendix K**. The proposed strategy will integrate with the overall stormwater strategy for the Bingara Gorge precinct and includes the construction of a piped drainage network, with regional stormwater collection tanks and storage ponds, together with a rising main transfer system to deliver collected stormwater runoff to a centralised lake for distribution/re-use on the adjacent golf course. An on-lot bio-swale will treat two lots on the very northern tip of the development. The overall strategy is to allow treated wastewater to remain on site and be reused as part of an integrated water cycle management strategy.

As part of this application, construction of a bio-retention raingarden downstream of the main lake is proposed to address the impact of increasing the number of allotments beyond the originally approved 1,165 lots. Details of the bio-retention raingarden and its role within the stormwater strategy are provided in the Fairways North Stormwater Compliance Letter at **Appendix K**. Detailed engineering drawings of the proposed raingarden are to be provided at the Construction Certificate stage.

4.12 Site Suitability

The proposed development is entirely appropriate in that:

- It is/will be adequately serviced by roads, utilities and stormwater infrastructure, as proposed/approved by various DAs lodged/approved with Council;
- The proposed development is generally consistent with and supports the LEC Court consent, the WLEP and the WDCP;
- The works will support the built form and public domain objectives for the Bingara Gorge site;
- The site is zoned to accommodate the proposal in accordance with LEP 2011; and
- It will help to stimulate the housing and employment markets in the local area of Wollondilly.

4.13 Social and Economic Issues

The proposed development of urban land for future residential and commercial purposes (subject to future development applications & approvals) will provide additional housing choices and supply and access to within the region and is well connected to community services, public transport, parks and open spaces.

Further, the proposed development will support construction jobs as well as longer term economic benefits associated with ongoing employment within the commercial component, and flow on effects from establishing a new residential community, in accordance with the long-term strategic planning objectives for the site.

Housing stock and product availability is a key issue in today's property market, and Bingara Gorge seeks to provide a variety of housing types more suited to the needs of the market particularly through the delivery of affordable lot types.

4.14 Public Interest

The proposal is in the public interest as it progresses development at the site in line with current plans and development consents. The proposal is in the public interest because:

- Public roads and utilities infrastructure will be provided;
- Significant areas of bushland are to be preserved, rehabilitated and managed appropriately with public pathways allowing for appropriate access and recreation activities to take place; and
- The proposed subdivision and civil works will allow for an increase in supply of housing stock.

5.0 Conclusion

The proposed development seeks approval for the subdivision of land within the Fairways North, Golf Town, Part Golf North and Greenbridge East Precincts of Bingara Gorge to form 364 residential allotments, construction of associated roads, pedestrian/cycle pathways and fire trails, provision of associated utilities infrastructure and associated vegetation removal.

This SEE provides a detailed assessment of the proposal against the relevant matters under section 4.15(1) of the EP&A Act. The application is recommended for approval for the following reasons:

- The proposed development is consistent with the aims and objectives of the Wollondilly LEP and Wollondilly DCP as well as the relevant State Environmental Planning Policies;
- The proposed development will take place generally in accordance with the relevant LEC Consent Orders (DA 010.2015.00000283.001);
- The proposed development will allow for the provision of appropriate residential dwellings in the Bingara Gorge Precinct and the greater Wilton Growth Area, in line with previous development consents and the relevant strategic directions;

- Supporting technical studies which accompany this DA confirm that the environmental impacts associate with the proposal are generally positive and will not give rise to any adverse impacts; and
- The proposed development is suitable for the site and is in the public interest.