

Tallawarra Lands

Tallawarra Lands Concept Plan Approval Modification

82017142-02



Prepared for
Bridgehill (Tallawarra) Pty Ltd

31 May 2018



Contact Information

Cardno (NSW/ACT) Pty Ltd

Cardno

ABN 95 001 145 035

Level 1,

47 Burelli Street

Wollongong NSW 2500

Australia

www.cardno.com

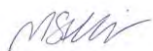
Phone 02.4228.4133

Fax 02 4228 6811

Document Information

Prepared for	Bridgehill (Tallawarra) Pty Ltd
Project Name	Tallawarra Lands Concept Plan Approval Modification
File Reference	Report 001 Ver 1 Tallawarra Lands Concept Plan Approval Modification.docx
Job Reference	82017142-02
Date	31 May 2018
Version Number	5

Author(s):

Michael St Clair
Planner

Effective Date 31/05/2018

Approved By:

Daniel Thompson
Manager – Planning

Date Approved 31/05/2018

Document History

Version	Effective Date	Description of Revision	Prepared by:	Reviewed by:
0	14/08/2017	Draft	MS	DJT
1	27/10/2017	Final	MS	DJT
2	28/03/2018	Revision	MS	DJT
3	23/04/2018	Revision	MS	DJT
4	17/05/2018	Revision	MS	DJT
5	31/05/2018	Revision	MS	DJT

© Cardno. Copyright in the whole and every part of this document belongs to Cardno and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with Cardno.

This document is produced by Cardno solely for the benefit and use by the client in accordance with the terms of the engagement. Cardno does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Executive Summary

The Tallawarra Lands Concept Plan Approval (Concept Plan) (MP09_0131) was approved on 23 May 2013 for a mixed use development including residential, commercial, industrial, retail and public open space, along with conservation areas. The approval provides the overarching requirements for the future residential development of the land. Since this approval was granted the need for housing within the Illawarra has increased and the type of housing stock required has shifted as the demographics of the area changed.

The site is identified as a key greenfield Urban Release Area within the Illawarra-Shoalhaven Regional Plan (DP&E, 2014), with the site earmarked for approximately 1,000 housing lots. Energy Australia, the current owners of the site have entered into an agreement with BridgeHill (Tallawarra) Pty Ltd (Bridgehill) for the ultimate development of two of the three Precincts indicated within the Concept Plan for the site. The Lakeside Precinct is proposed to be retained within Energy Australia ownership whilst contamination issues associated with the previous Tallawarra Coal Fired Power Station are completed. As such, the lots associated with this precinct are not expected to be developed in the foreseeable future.

In addition to the reduction of developable land with the Tallawarra Lands site, there has been a significant increase in the demand for housing lots throughout the Illawarra. This increased demand is especially strong for small lot sizes that support townhouse and attached dwelling housing types. The site is well located for higher density development, due to the proximity to open space, services and the Region's major centres, Wollongong and Shellharbour.

The proposed modification seeks to increase the density of development within the northern half of the site, achieved through amendments to the zoning boundaries and minimum lot sizes. The increased densities and development extents will help meet the increase in demand and the changing demographic requirements. The modification also seeks to amend a number of conditions of the original Concept Plan approval to acknowledge changes that have occurred over the four years since the approval was granted. These changes primarily comprise the separation of the North Shore and Central precincts from the Lakeside Precinct and the associated requirements of the first development application as identified within the Concept Approval.

The Tallawarra Lands is a Transitional Part 3A project, and the modification provisions under section 75W (now repealed) of the EP&A Act continue to apply. A review of the legal precedent for section 75W modifications has been undertaken, which illustrates that the scale of modification is within the bounds of section 75W.

Comprehensive assessment of the potential environmental impacts associated with the project has been undertaken. The assessments have reviewed the existing studies that informed the Concept Approval in consideration of the existing land use and legislative context. The studies have then considered the potential for additional impacts resulting from the modification and, where required, how these impacts can be offset. A summary of the findings of the key studies is below.

- > **Traffic assessment** – Considered the impacts of the revised development yield, previous land use assumptions and proposed changes to access arrangements. Previous traffic models were updated to reflect these changes and found that the revised development yield did not result in critical network operational concerns when compared with the approved concept yield.
- > **Acoustic assessment** – Considered the industrial, transport and urban noise affectation, finding that the noise impacts resulting from the development will be no greater than noise impacts on the previously approved lots. Therefore, no land use planning issues from cumulative industrial operations are expected for the North Shore or Central precincts.
- > **Ecological assessment** – Considered direct and indirect impacts resulting from the proposed modification. Direct impacts to the ecological values are limited, as the majority of the development is associated with cleared land, with only a further 4.2% of the development site being cleared as a result.

Indirect impacts from the proposed development may include noise and/or erosion associated with the construction phase of the project. These impacts will be managed through the development of a CEMP and a landscape scheme using native species to help reintroduce vegetation in areas of the site currently comprising cleared grass, improving biodiversity and visual amenity, with associated environmental sustainability benefits.

- > **Bushfire Assessment** – Considered the proposed modification against the provisions within *Planning for Bush fire Protection 2006* (PBP) to ensure compliance can be achieved. These provisions require Asset Protection Zones and Access to be provided. These measures have been incorporated into the proposed modification layout to ensure compliance with PBP.
- > **Geotechnical Assessment** – Considered the potential for stability issues through desk top and intrusive investigations. The assessment found that the expanded Central Precinct poses moderate geotechnical risks, with the North Shore Precinct having low risk. The potential risks can be managed by appropriate engineering design, which would be determined through future intrusive investigation and assessment prior to works commencing.
- > **Contamination investigation** – Comprised desk top and intrusive investigations. The assessment identified that there are currently no Contaminants of Potential Concern (COPC) present in the Central and North Shore Precinct modification areas at concentrations above the Tier I human health screening values.

Copper is present at the site at concentrations above the Tier I ecological screening values. However, ecological receptors of significance were not identified at or within close proximity to the modification areas. The overall potential risk to the local environment based on the measured copper concentrations is considered low. A Site Auditor has been engaged to review the investigations undertaken, providing a further level of rigour to the assessment.

- > **Visual Impact Assessment** – Was undertaken using the methodology employed for the Concept Approval. The assessment found that while the development would result in additional urban development being visible from viewing points beyond the site, the potential impact is limited and partially offset through the relocation of powerlines underground and removal of associated stanchion's.

The proposed changes are assessed and clearly illustrated through a photographic survey and the production of artist's impressions to determine the overall impact of the changes. The modifications are characterised by the backdrop of the Escarpment, which forms the dominant feature and minimises sky lining, which in conjunction with controls to cap building height and to carry out ridgeline tree planting will limit visual impact.

The environmental assessments undertaken and detailed within this report illustrate that the proposed modification subject to the identified mitigation and management measures will not create a significant environmental impact beyond that approved by the Concept Plan. The modification would contribute to meeting the residential and employment needs of the Illawarra consistent with State and local strategic planning documentation. Consequently, the modification provides a contemporary approach to realising the potential of the site, while addressing the potential for impact and is considered worthy of support.

Table of Contents

Glossary of Terms	x
1 Introduction	1
1.1 Overview of Proposal	1
1.2 Background	1
1.2.1 Tallawarra Lands Urban Release Area	1
1.2.2 Tallawarra Lands Concept Plan	5
1.2.3 Tallawarra Power Station	9
1.2.4 Zoning History	10
1.2.5 Tallawarra Lands Concept Plan Modifications	10
1.2.6 Illawarra Context	10
1.3 Secretary's Environmental Assessment Requirements	12
1.4 Consultation	13
1.5 Structure of Environmental Assessment	17
2 Site Description	18
2.1 Site Location	18
2.2 Site Description	18
2.2.2 Tallawarra Power Station	20
2.2.3 North Shore Precinct	20
2.2.4 Central Precinct	20
2.2.5 Southern Precinct	20
2.3 Surrounds	21
3 Modification Proposal	22
3.1 Need for approval modification	22
3.1.1 Increase Densities	22
3.1.2 Boundary Increases	23
3.1.3 Legal Precedent	24
3.2 Description of the Modification Proposal	25
3.2.1 Overview	25
3.2.2 Modification Proposal Components	28
3.2.3 Staging of Works	38
4 Regulatory Framework	39
4.1 Environmental Planning & Assessment Act 1979	39
4.2 Planning Approach	39
4.3 Commonwealth Legislation	39
4.3.1 Environmental Protection & Biodiversity Conservation Act 1999	39
4.4 NSW Legislation	40
4.4.1 Protection of Environment Operation Act 1997	40
4.4.2 Roads Act 1993	40
4.4.3 National Parks & Wildlife Act 1974	40
4.4.4 Heritage Act 1977	41
4.4.5 Rural Fires Act 1997	41
4.4.6 Contaminated Land Management Act 1997	42
4.4.7 Threatened Species Conservation Act 1995	43
4.5 State Environmental Planning Policies	43
4.5.1 State Environmental Planning Policy (State & Regional Development) 2011	43

4.5.2	State Environmental Planning Policy (Infrastructure) 2007	43
4.5.3	State Environmental Planning Policy No. 14 – Coastal Wetlands	44
4.5.4	State Environmental Planning Policy No. 55 – Remediation of Land	44
4.5.5	State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development	44
4.5.6	State Environmental Planning Policy No. 71 – Coastal Protection	45
4.5.7	Draft State Environmental Planning Policy (Coastal Management) 2016	49
4.6	Local Planning Context	49
4.6.1	Wollongong Local Environmental Plan 2009	49
4.6.2	Wollongong Development Control Plan 2009	54
4.7	Strategic Planning Considerations	54
4.7.1	NSW 2021 – A Plan to Make NSW Number One	54
4.7.2	Illawarra-Shoalhaven Regional Plan	54
4.8	Guidelines	55
4.8.1	National Airports Safeguarding Framework	55
4.8.2	Lake Illawarra Floodplain Risk Management Study 2012	55
4.8.3	Riparian Corridor Management Study 2004	55
4.8.4	NSW Wetland Management Policy 2010	55
4.8.5	RMS Guide to Traffic Generating Developments	55
4.8.6	AUSTROADS Guidelines	55
4.8.7	NSW Bicycling Guidelines	56
4.8.8	NSW Planning Guidelines for Walking and Cycling	56
4.8.9	Crime Prevention through Environmental Design (CPTED) Principles	56
4.8.10	Healthy Urban Development Checklist	56
5	Environmental Assessment	59
5.1	Key Environmental Aspects	59
5.2	Traffic & Transport	59
5.2.1	Tallawarra Lands Concept Approval	59
5.2.2	Concept Plan Modification Impact Assessment	59
5.2.3	Mitigation Measures	60
5.3	Stormwater and flooding	62
5.3.1	Tallawarra Lands Concept Approval	62
5.3.2	Concept Plan Modification Impact Assessment	62
5.3.3	Mitigation Measures	63
5.4	Noise	65
5.4.1	Tallawarra Lands Concept Plan	66
5.4.2	Concept Plan Modification Impact Assessment	67
5.4.3	Mitigation Measures	69
5.5	Biodiversity	70
5.5.1	Tallawarra Lands Concept Plan	71
5.5.2	Concept Plan Modification Impact Assessment	73
5.5.3	Mitigation Measures	76
5.6	Bush fire	77
5.6.1	Tallawarra Lands Concept Approval	78
5.6.2	Concept Plan Modification Impact Assessment	80
5.6.3	Mitigation Measures	84
5.7	Geotechnical	85
5.7.1	Tallawarra Lands Concept Plan	85
5.7.2	Concept Plan Modification Impact Assessment	87

5.7.3	Mitigation Measures	88
5.8	Contamination	88
5.8.1	Tallawarra Lands Concept Plan	89
5.8.2	Concept Plan Modification Impact Assessment	90
5.8.3	Mitigation Measures	91
5.9	Visual and Urban Design	93
5.9.1	Tallawarra Lands Concept Approval	93
5.9.2	Concept Plan Modification Impact Assessment	94
5.9.3	Mitigation Measures	95
5.10	European Heritage	96
5.10.1	Tallawarra Lands Concept Approval	96
5.10.2	North Shore and Central Precinct Statement of Heritage Impact	97
5.10.3	Mitigation Measures	100
5.11	Aboriginal Heritage	101
5.11.1	Tallawarra Lands Concept Approval	101
5.11.2	Concept Plan Modification Impact Assessment	103
5.11.3	Mitigation Measures	107
5.12	Utility Servicing	108
5.12.1	Tallawarra Lands Concept Approval	109
5.12.2	Concept Plan Modification Impact Assessment	109
5.12.3	Mitigation Measures	112
6	Conclusion & Recommendations	113
6.1	Conclusions	113
7	References	115

Appendices

Appendix A	SEARs
Appendix B	SEARs Compliance Table
Appendix C	Stakeholder Engagement Plan
Appendix D	Traffic
Appendix E	Flood Risk Assessment
Appendix F	Noise Assessment
Appendix G	Biodiversity Assessment Report
Appendix H	Bush Fire Assessment
Appendix I	Geotechnical Report
Appendix J	Environmental Site Assessment
Appendix K	Visual Impact Assessment
Appendix L	Statement of Heritage Impact
Appendix M	Archaeological Report: North Precinct
Appendix N	Archaeological Report: Central Precinct
Appendix O	Interim Site Audit Advice
Appendix P	Landscape Plan
Appendix Q	Landscape Visual Assessment

Tables

Table 1-1	Consultation Undertaken	14
Table 3-1	Propose Adjustments to Zone Boundaries within the North Shore Precinct	28
Table 4-1	SEPP 71 – Matters for Consideration	45
Table 4-2	Coastal Design Guidelines for NSW Design Principles	48
Table 4-3	Health Urban Development Checklist	56
Table 5-1	Secretary's Environmental Assessment Requirements (Flooding)	59
Table 5-2	Tallawarra Lands Concept Plan Conditions of Approval – Stormwater and Flooding	60
Table 5-3	Tallawarra Lands Concept Plan Statement of Commitments – Traffic and Transport	61
Table 5-4	Secretary's Environmental Assessment Requirements (Flooding)	62
Table 5-5	Tallawarra Lands Concept Plan Conditions of Approval – Stormwater and Flooding	63
Table 5-6	Tallawarra Lands Concept Plan Statement of Commitments – Stormwater and Flooding	64
Table 5-7	Secretary's Environmental Assessment Requirements (Noise)	65
Table 5-8	Recommended Noise Design Goals (Pacific Environment 2017)	68
Table 5-9	Tallawarra Lands Concept Plan Conditions of Approval – Noise	69
Table 5-10	Secretary's Environmental Assessment Requirements (Flora and Fauna)	70
Table 5-11	Vegetation Types and Zones and the Total Area within the Study Area and Subject Site	74
Table 5-12	Tallawarra Lands Concept Plan Conditions of Approval – Biodiversity	76
Table 5-13	Tallawarra Lands Concept Plan Statement of Commitments – Biodiversity	76
Table 5-14	Secretary's Environmental Assessment Requirements (Bush fire)	77
Table 5-15	Tallawarra Lands Concept Plan Conditions of Approval – Bush fire	84
Table 5-16	Tallawarra Lands Concept Plan Statement of Commitments – Bush fire	84
Table 5-17	Secretary's Environmental Assessment Requirements (Geotechnical)	85
Table 5-18	Tallawarra Lands Concept Plan Statement of Commitments – Geotechnical	88
Table 5-19	Secretary's Environmental Assessment Requirements (Contamination)	88
Table 5-20	Tallawarra Lands Concept Plan Conditions of Approval – Contamination	91
Table 5-21	Tallawarra Lands Concept Plan Statement of Commitments – Contamination	92
Table 5-22	Secretary's Environmental Assessment Requirements (Visual Impact Assessment)	93
Table 5-23	Tallawarra Lands Concept Plan Statement of Commitments – Visual and Urban Design	95
Table 5-24	Secretary's Environmental Assessment Requirements (European Heritage)	96
Table 5-25	Concept Approval list of European Heritage Sites	96
Table 5-26	Summary of heritage values associated with the study area	98
Table 5-27	Assessment of impacts to heritage items either within or adjacent to the study area	99
Table 5-28	Tallawarra Lands Concept Plan Conditions of Approval - Heritage	100
Table 5-29	Tallawarra Lands Concept Plan Statement of Commitments – European Heritage	100
Table 5-30	Secretary's Environmental Assessment Requirements (Aboriginal Heritage)	101
Table 5-31	Statements of scientific significance for archaeological sites recorded within the study area.	103
Table 5-32	Statements of scientific significance for archaeological sites recorded within the study area.	105
Table 5-33	Tallawarra Lands Concept Plan Conditions of Approval – Aboriginal Heritage	107
Table 5-34	Tallawarra Lands Concept Plan Statement of Commitments – Aboriginal Heritage	108
Table 5-35	Secretary's Environmental Assessment Requirements (Utilities)	108
Table 5-36	Tallawarra Lands Concept Plan Conditions of Approval – Utilities	112

Table 5-37 Tallawarra Lands Concept Plan Statement of Commitments – Aboriginal Heritage

112

Figures

Figure 1-1	Location Plan	3
Figure 1-2	Site Plan	4
Figure 1-3	Tallawarra Lands Concept Plan	6
Figure 1-4	North Shore Precinct Concept Plan	7
Figure 1-5	Central Precinct Concept Plan	8
Figure 1-6	Lakeside Precinct Concept Plan	9
Figure 2-1	Cadastre Plan	19
Figure 3-1	Concept Plan	27
Figure 3-2	North Shore Precinct Proposed Land Uses	29
Figure 3-3	Comparison of Approved and Proposed Land Uses North Shore Precinct	30
Figure 3-4	Central Precinct Proposed Land Uses	34
Figure 3-5	Comparison of Approved and Proposed Land Uses Central Precinct	35
Figure 4-1	Existing LEP Controls – North Shore Precinct	50
Figure 4-2	Existing LEP Controls – Central Precinct	51
Figure 4-3	Proposed LEP Controls – North Shore Precinct	52
Figure 4-4	Proposed LEP Control – Central Precinct	53
Figure 5-1	Concept Plan Approval APZ Locations and Dimensions	79
Figure 5-2	North Shore Precinct APZ Locations and Dimensions	82
Figure 5-3	Central Precinct APZ Locations and Dimensions	83
Figure 5-4	Summary of Geotechnical Constraints based on Simple Qualitative Rating System	86

Glossary of Terms

The table below provides a glossary of key terms and acronyms used within this document

Term or Acronym	Definition
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System
APRB	Albion Park Rail Bypass
APZs	Asset Protection Zones
ASS	Acid Sulphate Soil
BAR	Biodiversity Assessment Report
BGL	Below Ground Level
Bridgehill	Bridgehill (Tallawarra) Pty Ltd
CCGT	Combined Cycle Gas Turbine
CEEC	Critically Endangered Ecological Community
CEMP	Construction Environmental Management Plan
CLM Act	Contaminated Land Management Act 1997
Concept Plan	Tallawarra Lands Concept Plan Approval (MP09_0131)
Council	Wollongong City Council
CPTED	Crime Prevention through Environmental Design
Cardno	Cardno NSW/ACT Pty Ltd
DA	Development Application
DCP	Development Control Plan
DoE	Department of Environment
DP&E	Department of Planning and Environment
DPI Fisheries	NSW Department of Primary Industries – Fisheries
DPI Water	NSW Department of Primary Industries – Water
EEC	Endangered Ecological Communities
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority (NSW)
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
FM Act	<i>Fisheries Management Act 1994 (FM Act)</i>
FSR	Floor Space Ratio
Heritage Act	<i>Heritage Act 1977</i>
HIA	Heritage Impact Assessment
ICNG	Interim Construction Noise Guideline
IRS	Illawarra Regional Strategy
LEP	Local Environmental Plan
LGA	Local Government Area
Minister	Minister for Planning
NES	National Environmental Significance

Term or Acronym	Definition
NW Act	<i>Noxious Weed Act 1993</i>
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
NSW	New South Wales
OEH	Office of Environment and Heritage
PAD	Potential Archaeological Deposit
Pb	Lead
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PEA	Preliminary Environmental Assessment
PERA	Preliminary Environmental Risk Analysis
RAP	Remedial Action Plan
RL	Relative Level
RMS	Road and Maritime Services
Roads Act	<i>Roads Act 1993</i>
SEARs	Secretaries Environmental Assessment Requirements
SEP	Stakeholder Engagement Plan
SEPP	State Environmental Planning Policies
SoC	Statement of Commitments
TEC	Threatened Ecological Communities
TSC Act	<i>Threatened Species Conservation Act</i>
VPA	Voluntary Planning Agreement
WM Act	<i>Water Management Act 2000 (WM Act)</i>
WLEP	Wollongong Local Environmental Plan 2009
WSUD	Water Sensitive Urban Design

1 Introduction

This section introduces the proposed Concept Plan Modification, providing background to the project, requirements to be addressed and consultation undertaken.

1.1 Overview of Proposal

The Tallawarra Lands Concept Plan Approval (Concept Plan) (MP09_0131) provides the overarching requirements for the future residential development that will occur within the Tallawarra Lands. The site underwent rezoning when the Standard Instrument Local Environmental Plan was introduced to Wollongong in 2009. The rezoning utilised the now surplus environmental buffer zone that existed around the former coal fired power station to aid in the fulfilment of housing and employment needs in the Illawarra.

Approval for the Concept Plan was granted on 23 May 2013 for a mixed use development including residential, commercial, industrial and retail development, public open space areas, new recreational facilities, environmental management, conservation areas and riparian corridors. Since this approval was granted the need for housing within the Illawarra has increased and the type of housing stock required has shifted as the demographics of the area changed.

The proposed modification seeks to increase the density of development within the northern and central portion of the site by amending zone boundaries and minimum lot sizes to meet this increase in demand and the changing demographic requirements. The modification also seeks to amend a number of conditions of the original Concept Plan approval to acknowledge changes that have occurred over the 4 years since the approval was granted. These changes primarily comprise the separation of the North Shore and Central precincts from the Southern precinct, which is being held by the existing landowner Energy Australia, and the associated requirements of the Concept Plan for the 'first development application'.

1.2 Background

Bridgehill (Tallawarra) Pty Ltd (Bridgehill) has entered into a purchase agreement with Energy Australia over the North Shore and Central precincts of the Tallawarra Lands. Bridgehill has engaged Cardno (NSW/ACT) Pty Ltd (Cardno) to prepare a Modification to the Concept Plan approval to facilitate the development of the Lands.

1.2.1 Tallawarra Lands Urban Release Area

The Tallawarra Lands is an Urban Release Area (URA) identified within the Illawarra-Shoalhaven Regional Plan (ISRP) (DP&E 2014). The ISRP identifies Tallawarra as a significant URA within the Illawarra that will help provide for the forecast housing demand over the next 25 years. The ISRP lists the Tallawarra Lands as a key component in meeting the housing requirements throughout the Region. The Plan states that the site has been rezoned with the potential to house 1,000 lots.

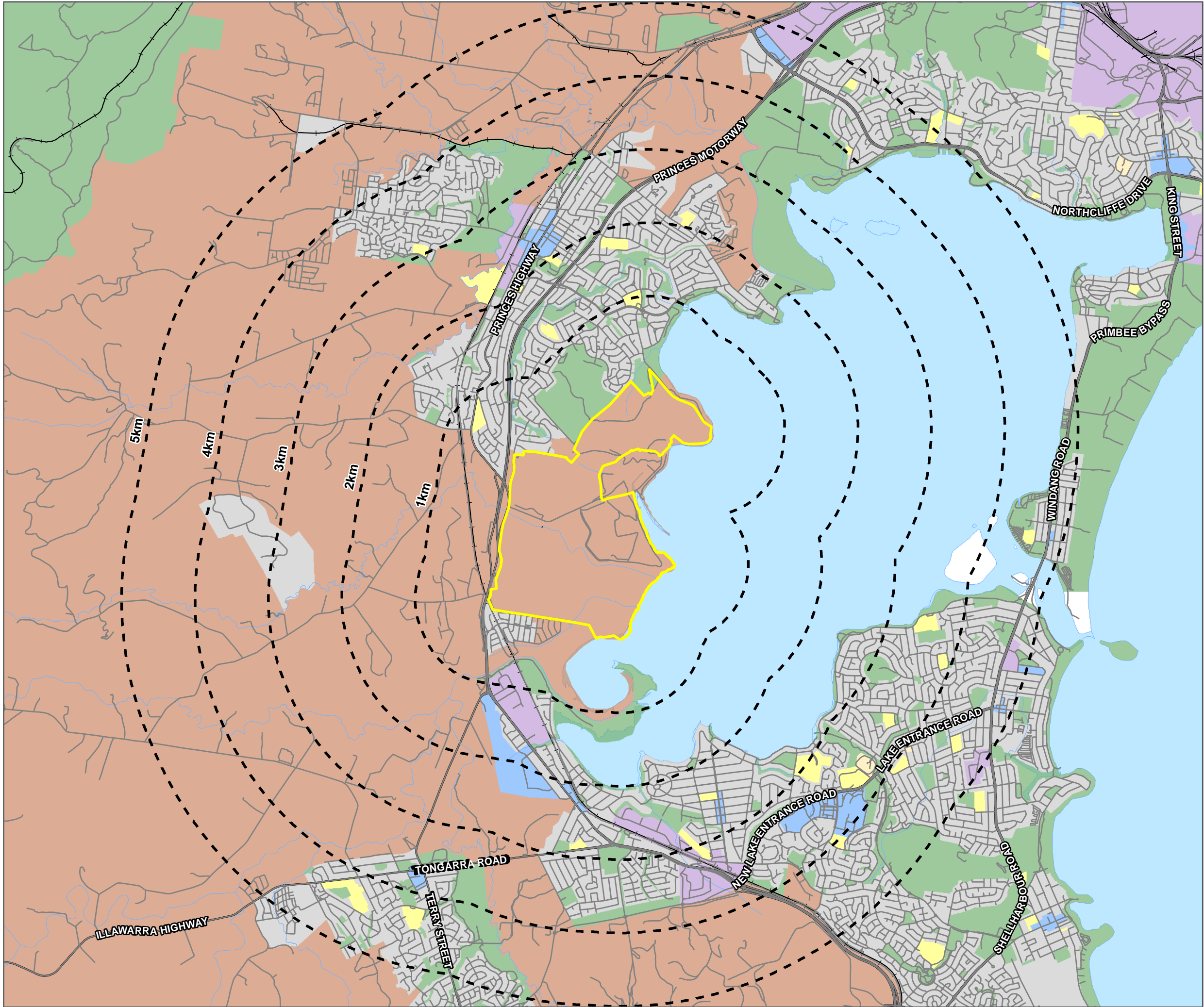
The site is located centrally within the wider Wollongong/Shellharbour region. The site is positioned on the western side of Lake Illawarra and is surrounded by the suburbs of Koonawarra, Dapto, Yallah and Haywards Bay. Whilst the site falls entirely within the Wollongong LGA, the site is within close proximity to Shellharbour. Shellharbour Town Centre is located to the south of the site at a distance of 13.5km, with Wollongong 20km to the north. The central location of site between the two major centres within the Region make it well placed to provide residential housing options for the area. In addition to this central location, the site is located adjacent to the Princes Motorway providing ease of access to both locations, as well as the wider Region, with Sydney located 100km to the north.

The site is also in close proximity to a number of employment areas. In addition to the two major centres of Wollongong and Shellharbour, the site is located proximate to the industrial areas of Port Kembla and Unanderra to the north, as well as employment locations within Albion Park Rail to the south. Dapto is the closest service centre to the site, located at a distance of 7km to the west. Whilst the site will include its own commercial land uses, it is expected that Dapto will remain the predominate location for future residents of the site to access their weekly needs.

The topography of the site is varied, with steep slopes on the southern side of Mount Brown providing the north western boundary of the site, more moderate slopes to the east, through to gentle slopes within the vicinity of the Lake. This topography, in conjunction with the location of the site adjacent to Lake Illawarra, results in a location that offers fantastic views both out over Lake Illawarra to the east and towards the Escarpment to the south.

These factors all combine to create a location that is highly suited to residential development. In comparison to other URAs throughout the area, the greater amenity that this site has leans itself towards higher density residential development. The proposed modifications addressed within this Environmental Assessment aim to provide a greater mix of residential typologies to that proposed within the initial Concept Plan to provide greater housing supply. Whilst densities within the site will be increased slightly, the Environmental Assessments undertaken (detailed below) have demonstrated that there will be no adverse impacts from these changes to those detailed within the initial Concept Approval for the Tallawarra Lands.

Figure 1-1 below details the location of the Tallawarra Lands site in relation to both Wollongong and Shellharbour. **Figure 1-2** details the proposed modified layout of the Central and North Shore Precincts of the site.



Locality Plan

TALLAWARRA LANDS

Legend

- Concept Plan Boundary
- Railway (LPI)
- Distance Buffer
- Local Roads (LPI)
- Major Roads (LPI)
- Major Watercourses (LPI)

Land Use (ABS, 2011)

- Other
- Commercial
- Education
- Hospital/Medical
- Industrial
- Parkland
- Residential

FIGURE 1-1

1:50,000 Scale at A3



Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2017-10-25 | Project: 8201714201
Coordinate System: GDA 1994 MGA Zone 56
Map: 82017142-01-GS-026-Locality_Plan.mxd 03



Site Plan

TALLAWARRA LANDS

Legend

- Concept Plan Boundary
- Lot Layout
- Watercourses (LPI)
- Cadastral (DFSI-SS, 2017)
- Concept Approval Boundary
- Modification Boundary

FIGURE 1-2

1:15,000 Scale at A3



Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2017-10-25 | Project: 8201714201
Coordinate System: GDA 1994 MGA Zone 56
Map: 82017142-01-GS-025-Site_Plan.mxd 03
Aerial imagery supplied by nearmap (October, 2016)

1.2.2 Tallawarra Lands Concept Plan

The Concept Plan approval (MP09_0131) was granted for the Tallawarra Lands on 23 May 2013. This approval was granted on the land owned by Energy Australia Tallawarra Pty Ltd for a mixed use development comprised of the following;

- > Three residential precincts being North Shore, Central and Lakeside; comprising a total of 1,010 lots
- > A retirement village containing 200 dwellings and a primary school
- > A neighbourhood centre
- > 12 ha of land zoned B6 Enterprise corridor
- > 54 ha of industrial and light industrial land
- > 2.5 ha site for use as a tourist facility
- > Road network, foreshore open space, walkways, cycle paths and share paths
- > 360 ha of open space

Specifically, the three precincts are described below and the approved Concept Plan is contained at **Figure 1-3**.

Figure 1-3 Tallawarra Lands Concept Plan



Source: Tallawarra Lands Masterplan (2013)

1.2.2.2 North Shore Precinct

The North Shore Precinct is located to the south of the suburbs of Kanahooka and Koonwarra, and north of the Tallawarra Power Station. The site has frontage to Lake Illawarra and is positioned on the eastern slopes of Mount Brown providing views to the north and east across the lake. The site is 110ha in size and has an approved residential yield of 310 lots. These residential lots will be positioned within the middle section of the site, with foreshore land set aside for public open space to the east and the conservation of existing vegetation on Mount Brown managed through Environmental Management lands on the upper slopes to the west.

This precinct will be connected to Kanahooka through the extension of the existing Gilba Road, which connects through to Fowlers Road and to the Princes Motorway.

Figure 1-4 North Shore Precinct Concept Plan



Source: Tallawarra Lands Masterplan (Warren Lee Urban Design, 2011)

1.2.2.3 Central Precinct

The Central Precinct is located to the south of the residential development of Dapto and to the east of the Princes Motorway. It is positioned on the southern slopes of Mount Brown and provides an outlook to the south with views towards Albion Park and Shellharbour. The precinct is 210 ha in size and is proposed to house 340 standard residential lots, with a further 10 large lots. Additionally, the precinct will house a neighbourhood centre, which will incorporate a small supermarket, speciality shops, medical centre and child-care centre. Industrial and light industrial land will be included towards the Tallawarra Power Station along the northern side of Yallah Bay Road.

The area is accessed by Yallah Bay Road, which provides connection through to the Tallawarra Power Station. Yallah Bay Road connects to the Princes Highway, which provides connection to Dapto in the north and Albion Park Rail in the south.

The Central Precinct also included areas south of Yallah Bay road and north of Duck Creek, which are proposed for the development of a 2.5 ha tourism site on the headland at the eastern portion of the site, further industrial land and open space inclusive of sports fields. **Figure 1-5** below details the approved Concept Plan for the Central precinct.

Note, the areas of the Central Precinct, with the exception of the tourism site, that are located to the south of Yallah Bay Road are not the subject of this modification. Consequently, these areas have not been addressed further in this report

Figure 1-5 Central Precinct Concept Plan



Source: Tallawarra Lands Masterplan (2013)

1.2.2.4 Lakeside Precinct

The Lakeside Precinct is located to the south of Duck Creek, north of the new residential subdivision located at Haywards Bay. The site is proposed to be accessed from the north from Yallah Bay Road and is the location of the historic coal storage areas associated with the now demolished Coal Fired Tallawarra Power Station. The site is generally flat and is surrounded by riparian corridors, wetlands and estuaries associated with Lake Illawarra.

The Precinct is proposed to contain 350 residential lots to the south of the area, with a 200 dwelling retirement village and primary school also included. The precinct will also contain a significant area of commercial zoned land for business/office and bulky goods uses.

Figure 1-6 Lakeside Precinct Concept Plan



Source: Tallawarra Lands Masterplan (2013)

1.2.3 Tallawarra Power Station

The Tallawarra lands have been utilised for power generation since 1954, initially through the establishment of a coal fired power station on the site through to the gas fired power station that currently exists. This use will continue for the foreseeable future with plans to expand the current power station in place.

1.2.3.1 Tallawarra Coal Fired power Station

The initial power station that existed on site was a coal fired power station that was constructed in 1954 and operated through to 1989 when it was decommissioned. The site was then extensively remediated with the former plant and the majority of ancillary buildings demolished. The operation of the power station required extensive buffer lands, which are still evident today through the surrounding open space and grazing land.

1.2.3.2 Tallawarra A

In 1998, Pacific Power lodged an Environmental Impact Statement with Wollongong City Council (Council) to support a Development Application to construct a Combined Cycle Gas Turbine (CCGT) Power Station on the site, with approval granted in 1999. In 2003 the site was purchased by TRU energy Tallawarra (now Energy Australia).

The construction of a CCGT Power Plant commenced in November 2006 and was opened in 2009. The power plant is a 435-megawatt power station with the capacity to supply 200,000 homes, producing around 70% less greenhouse gas emissions than a traditional coal fired power station.

1.2.3.3 Tallawarra B

The existing Tallawarra A power plant is expected to be expanded with the installation of Tallawarra B. This power plant will be installed adjacent to the existing power plant and will utilise the existing infrastructure on site. It is indicated that stage B will be of a similar scale to stage A, ensuring a continued and secure supply of energy to the NSW energy market. The Tallawarra B Power Station received project approval from the

Department of Planning on 21 December 2010, with a further Modification made to this approval to extend the lapse date of the initial approval granted extending the approval until 21 December 2020.

1.2.4 Zoning History

Following the demolition of the original Coal Fired Power Station and the construction of the CCGT on the Tallawarra site it was identified that there was scope to utilise the surplus land not required for the reduced buffer zones around the power station for other land uses. In 2006, Council engaged Wilana Associates to prepare a Local Environmental Study for the site which was used by Council to inform the subsequent zoning controls. This information provided the background studies required to lead into the drafting of a Local Environmental Plan (LEP) for the site, which was subsequently incorporated into the wider Wollongong LEP which was being prepared within the Standard Instrument. The zoning controls for the site were published within the Wollongong LEP 2009 (WLEP) on 26 February 2010.

1.2.5 Tallawarra Lands Concept Plan Modifications

There have been two modifications raised against the Tallawarra Lands Concept Plan. These modifications have been initiated by Bridgehill who have entered into an agreement with Energy Australia for the site and are described below.

1.2.5.1 Modification 1

A request for Secretary's Environmental Assessment Requirements (SEARs) to inform Modification 1 was submitted with the Department of Planning and Environment (DP&E) on the 8th November 2016.

This modification is detailed below in **Section 3**. In summary, it seeks to increase the footprint of residential development in the Central and North Shore Precincts and to increase the overall approved residential yield from 1,010 to 1,480 lots, along with decoupling the North Shore and Central precincts from the Lakeside Precinct, as it is not available to Bridgehill.

The SEARs for the modification were issued on the 23 January 2017. The SEARs are detailed at **Appendix A**.

1.2.5.2 Modification 2

Modification 2 was submitted to the DP&E on the 15th May 2017. This modification sought an extension to the Lapse date of the Concept Approval.

Schedule 2 within the Concept Approval within Part A – Terms of Approval includes a condition that details the lapse date for the Concept Approval. Condition A4 requires;

A4 – Lapsing of Approval

Approval of the Concept Plan shall lapse 5 years after the determination date shown on this Instrument of Approval, unless a Development Application is submitted to Council for approval to carry out all or part of the project the subject of this Concept Plan Approval.

The determination date for the Concept Approval is the 23rd May 2013, meaning that the approval would be due to lapse on the 23rd May 2018. Dentons Australia, on behalf of Bridgehill, applied to modify the lapse date of the approval by extending the date by 3 years. This modification was approved on the 1st August 2017, extending the lapse date of the Concept Approval through to the 23rd May 2021.

1.2.6 Illawarra Context

The following sections discuss the demographic trends and development context of relevance to the Tallawarra Lands.

Following the release of 2016 census data some trends of note have been highlighted in the changing nature of residential house hold structure within the Wollongong City statistical division. Over the period of time between the 2011 and 2016 censuses there has been an increase of 3,637 dwellings (80,276 to 83,913). Of this increase in dwellings, 806 (22.2% of the increase) are listed as a separate house, 1,158 (31.8% of the increase) medium density and 1,392 (38.3% of the increase) high density (Profile.id, 2017a). This proportion of dwelling type construction has seen a marked change in the overall spread of housing types within Wollongong Statistical Area. Separate houses have reduced from 69.4% of the dwelling stock to 67.3%,

medium density houses have increased from 20.2% to 20.7% and high density has increased from 9.0% to 10.3%. These figures point to a distinct shift in the dwelling type desired throughout the Illawarra (profile.id, 2017a).

In comparison, The Shellharbour City Statistical division LGA experienced a growth of 1,955 houses, approximately half of which related to separate houses (951 or 48.6%). Medium density houses increased by 941 (48.1%) and high-density houses fell by 108 (a fall of 0.4%), with the remainder of the increase attributed to no response within the 2016 census data. These changes have resulted in a fall in the comparative make-up of the Shellharbour City area for separate houses from 81.4% to 79.0%, with a subsequent increase in the proportion of medium density housing (16.5% to 18.8%) (profile.id, 2017b).

These figures point to the significant amount of apartment buildings that have been constructed within the Wollongong City Centre, as well as surrounding centres, since the 2011 census. Further in-fill development is also evident within the established areas surrounding the City in the form of townhouse style developments. This shift in housing development points to a desire for housing in close proximity to key services and employment opportunities that are not as accessible in the large green field development areas. The Tallawarra lands are in a highly accessible location. The site is surrounded by existing residential suburbs of Kanahooka, Koonawarra, Dapto and Haywards Bay providing a mix of services needed on a day-to-day basis. Additionally, the site is located adjacent to the Princes Motorway providing a rapid commute to either Wollongong or Shellharbour; or south western Sydney via Picton Road and the Hume Highway. As such, the Tallawarra Lands site can be closely related to an in-fill style development and more suited to providing higher density living options than found in either West Dapto or Calderwood (both discussed below). The proposed modification would help the development within the Tallawarra Lands align with the market demand for a range of smaller lot sizes, located in close proximity to areas of high amenity, transport and employment.

1.2.6.1 Developments in Proximity to the Site

The following large developments are either proposed or currently occurring within proximity to the site, which have potential to impact on the proposed development directly and indirectly.

1.2.6.1.1 Albion Park Rail Bypass

The development of the Albion Park Rail bypass is currently undergoing assessment with DP&E to see the Princes Highway upgraded within the vicinity of Albion Park Rail. This section of the highway is the last remaining section of the M1 Motorway to be upgraded as it passes through Wollongong and Shellharbour.

The proposed upgrade works are planned to commence adjacent to the northern boundary of the Tallawarra Lands site and upon its completion it will provide improved connections to Shellharbour in the south and some benefits for car travel through to Wollongong in the north. The Environmental Assessment that has been released for this project includes a major intersection upgrade of the Princes Highway/Princes Motorway adjacent to Yallah Bay Road. This interchange has been proposed to provide on/off ramps for both north and south bound travel.

Since the release of this Environmental Assessment there has been indications that this interchange may be removed from the design. The Traffic Impact Assessment (TIA) (Cardno, 2017e) undertaken to support this modification modelled the impact that the increased residential component would have on the surrounding road network. Whilst it found that there would be no impacts, it did highlight the benefits that the addition of the northern interchange would have on the wider road network. The exclusion of the northern interchange would lessen the beneficial impacts of this project on the Tallawarra Lands. There is still expected to be travel improvements through to Shellharbour in the south as the bottleneck of Albion Park Rail is removed from these trips.

The inclusion or exclusion of this interchange will influence some of the anticipated environmental impacts on the Central Precinct. The Concept Approval included provision for this interchange in the studies conducted, with this modification continuing this approach.

1.2.6.1.2 Calderwood

Calderwood Valley URA is located to the south-west of the Tallawarra Lands. This URA extends from the Illawarra Highway to the west of Albion Park in the Shellharbour Local Government Area (LGA) through to

Marshall Mount within the Wollongong LGA. When complete, the subdivision will house a further 4,800 dwellings and will incorporate a town centre with schools and extensive open space. This URA will eventually join up with the southern extent of the West Dapto URA described below.

At present Stage 1 of the development has been released to the public with Stage 2 under various stages of construction. Approximately 500 of the proposed lots have been sold, with lots being highly sought after. The sales process has been highly competitive with a ballot system used. Generally, lots are selling within days of being released to the market. The demand for these lots is high, with land being in premium supply throughout the Illawarra.

The development has offered a varied range of housing lot types, with lot sizes down to 300m². These small lots have proven highly popular, both in regards to affordability of the land and meeting current lifestyle choices.

The Tallawarra Lands have distinct advantages over Calderwood Valley due to the proximity to the Wollongong/Shellharbour urban footprint, with reduced travel times and improved service accessibility. The proposed amendments discussed in the Modification to the approved Concept Plan for the Tallawarra Lands aims to better position the site to take full advantage of its position and the need within the Illawarra for a more diverse housing stock within a higher density environment.

1.2.6.1.3 West Dapto

The development of the West Dapto URA is the major greenfield development within the Illawarra. Over the life of the URA approximately 19,000 residential lots will be released to the market with all of the associated infrastructure needed for a development of this size. This will include eight new town and village centres as well as 2,668ha of open space (WCC, 2009). West Dapto will be developed through five stages of works to enable supporting infrastructure to be progressively rolled out. Presently, Stages 1 and 2 have been rezoned for development with a number of subdivisions developed or in the process of being constructed.

To this point in time, there have been significant issues related to the development of the area due to the provision of required infrastructure. The area is predominately flat and has extensive flooding constraints imposed across the area. This has placed a high demand on service provision resulting in large upfront development contributions that have made it difficult to fund. This has been further exacerbated by limits imposed by the State government on the amount of contribution that Council can levy on development, further limiting Council's ability to construct the required infrastructure to enable further development. This has slowed development of the area, reducing lots to market.

As discussed above in regards to Calderwood, the lots that have been made available for sale have generally been quickly purchased with demand higher than supply. This has seen developments reduce lot sizes across the area to meet this demand and respond to affordability pressures that are becoming more evident throughout the area.

Tallawarra is seen as providing both better access than these two URAs, being in closer proximity to both the centres of Wollongong and Shellharbour. The location of the site also provides greater connectivity to the wider road network being located adjacent to the Princes Motorway whilst also surrounding the existing residential areas. The high demand for housing lots and the trend towards small building lots further adds weight to the benefits that will come from increasing the residential allotments proposed under these modifications.

1.3 Secretary's Environmental Assessment Requirements

On 8 November 2016, Urbis Pty Ltd on behalf of Bridgehill submitted to the DP&E a request for SEARs for the modification to the approved Concept Plan for the Tallawarra Lands (MP09_0131). This request was lodged pursuant to Section 75W of the EP&A Act to inform the preparation of an Environmental Assessment in support of the modification.

The SEARs, issued on 23 January 2017, are attached at **Appendix A**.

Appendix B details how this EA has addressed each of the SEARs.

1.4 Consultation

A Stakeholder Engagement Plan (SMP) (Cardno, 2017f) has been prepared to guide engagement during the course of the project. The SMP has identified key stakeholders and methods of engagement to ensure that meaningful engagement and input into the modification is received. The SMP builds on the requirements for consultation identified in the SEARs to identify additional parties for engagement. The SMP is contained at **Appendix C**.

The SEAR's require consultation with the following agencies:

- > Wollongong City Council
- > Shellharbour City Council
- > Office of Environment and Heritage
- > Environment Protection Authority
- > Department of Industry - Lands
- > NSW Office of Water
- > Transport for NSW
- > Roads and Maritime Services
- > Rural Fire Service
- > Lake Illawarra Estuary Management Committee
- > NSW Department of Education and Communities
- > Civil Aviation Safety Authority
- > Air Services Australia
- > Illawarra Regional Airport
- > Australian Department of the Environment and Energy.

Consultation with the other stakeholders noted below is proposed. This is not an exhaustive list, it may change as the project progresses, with certain stakeholders becoming more or less relevant to the project.

- > Local Residents
- > Energy Australia Community Liaison Group
- > Department of Planning and Environment – Illawarra Office
- > Industry Groups
- > State Politicians
- > Local Councillors.

At the time of lodgement, the following engagement had taken place.

Letters requesting feedback and offering to meet had been issued to the following parties:

- > Wollongong City Council
- > Shellharbour City Council
- > Office of Environment and Heritage (OEH)
- > Environment Protection Authority
- > Department of Industry – Lands
- > NSW Office of Water
- > Transport for NSW

- > Roads and Maritime Services
- > Rural Fire Service
- > Lake Illawarra Estuary Management Committee
- > NSW Department of Education and Communities
- > Civil Aviation Safety Authority
- > Air Services Australia
- > Illawarra Regional Airport
- > Australian Department of the Environment and Energy
- > Energy Australia

Meetings had been held with:

- > Wollongong City Council's executive team
- > Shellharbour City Council's executive team
- > Gareth Ward – Member for Kiama and Secretary for the Illawarra

Table 1-1 below identifies the consultation undertaken to date and the key points considered.

Table 1-1 Consultation Undertaken

Agency	Form of Consultation	Key Issues Raised	Response
Wollongong City Council	A letter was sent to Council on 27 July 2017 providing information on the modification and requesting a meeting to discuss the proposal. A subsequent meeting was held.	Council provided in principle support for the development without the detail being discussed.	Further discussion will be held with Council during the course of the modification assessment process.
Shellharbour City Council	A letter was sent to Council on 27 July 2017 providing information on the modification and requesting a meeting to discuss the proposal. A subsequent meeting was held.	Council provided in principle support for the development without the detail being discussed.	Further discussion will be held with Council during the course of the modification assessment process.
Office of Environment and Heritage	A letter was sent to OEH on 27 July 2017 providing information on the modification and requesting a meeting to discuss the proposal.	<p>A meeting was held with OEH and the following points were raised:</p> <p>Ecological Assessments lodged or substantially commenced prior to 25/8/17 have a 12-month grace period in which the methodology and Biobanking requirements under the existing legislation would remain valid. This means that we can use the existing legislated methodology for the modification, but would be required to undertake assessments and offset in accordance with the Biodiversity Act for the subsequent DA's.</p>	The information provided by OEH has informed this application.

Agency	Form of Consultation	Key Issues Raised	Response
		<p>OEH noted that they do not require the following to be prepared as indicated in the SEARs:</p> <ul style="list-style-type: none"> > An environmental management strategy (EMS) > Groundwater monitoring or assessment > Wetlands consideration <p>Aboriginal Heritage excavation is preferred as early as possible in the process – preferably pre DA.</p> <p>Larger scale investigation areas are preferred rather than small DA specific areas as this provides more flexibility for potential conservation items.</p> <p>The tourism precinct to the south was identified as having potential Aboriginal significance.</p> <p>European heritage is not considered to be an issue.</p>	
Environment Protection Authority	A letter was sent to the EPA on 27 July 2017 providing information on the modification and requesting a meeting to discuss the proposal.	A response was received from the EPA on 02 August 2017. The EPA has no further comments and did not wish to arrange a meeting.	N/A
Roads and Maritime Services	A letter was sent to the RMS on 27 July 2017 providing information on the modification and requesting a meeting to discuss the proposal.	<p>A letter was received from RMS on 14th September 2017 with the following comments:</p> <p>RMS is currently planning for the upgrade of the Princes Highway in the vicinity of the subject site. Following submissions, RMS has updated the design which will partially impact the proposed Central Precinct. As such, RMS seeks an amendment to the proposal through the repositioning of proposed lots so they are wholly located outside the future road reserve boundary.</p> <p>Details on how connectivity to/from Haywards Bay will be provided for vehicles, pedestrians and cyclists with the proposed separation of the Southern Precinct must be addressed</p>	<p>Section 3 of this document describes the proposed number of lots within each precinct.</p> <p>A Traffic Impact Assessment has been provided for the proposed modification at Appendix D.</p> <p>The lot and road layouts have been adjusted to meet the requirements detailed in the RMS letter.</p> <p>Attachment A of the Consultation Strategy provided at Appendix C shows the revised lot and road layout. It is noted that not all plans have been updated at this stage, however what is shown in the Attachment will accommodate RMS's request and will be fine-tuned further along in the process.</p>

Agency	Form of Consultation	Key Issues Raised	Response
		<p>and provided for in any amended design.</p> <p>A clear summary/comparative assessment is required to be submitted with any modification that details the proposed number of lots in each precinct, both as part of the issued concept approval and as part of the modification. Consideration will also need to be given to increased traffic generation and impacts this will have on the existing classified road network and proposed Albion Park Rail bypass.</p> <p>Confirmation that satisfactory arrangements are in place under Clause 6.1 of the LEP relating to the provision of state infrastructure.</p>	
Department of Industry – Lands	A letter was sent to DPI on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	<p>A response was received from the Department of Industry - Lands on 17th August 2017. The response raised the following concern regarding the use of Crown land to provide public open space for private development:</p> <p>Offset requirements for recreation and conservation lands cannot be placed onto adjacent Crown land, and the Department will not manage these lands to support private development.</p>	Recreation and conservation lands will be retained. Areas of development are of limited environmental value as a result of historic agricultural practices. Consequently, offsets will not be required.
NSW Office of Water	A letter was sent to NSW OoW on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A
Transport for NSW	A letter was sent to TFN on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A
Rural Fire Service	A letter was sent to RFS on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A
Lake Illawarra Estuary Management Committee	A letter was sent to LIEMC on 27 July 2017 providing information on the modification and requesting	An email was received from the LIEMC on the 10 August 2017. Given the short time frame for a	The application will be referred to agencies once lodged with the Department. Recreation and conservation lands will be

Agency	Form of Consultation	Key Issues Raised	Response
	written feedback on the proposal.	response the LIEMC is not in a position to provide comprehensive feedback. However, concern was raised over the proposed superlot boundary now encompassing land zoned as E3 and a significant piece of RE1.	retained. Areas of E3 land proposed to be developed are of limited environmental value as a result of historic agricultural practices. Consequently, offsets will not be required.
NSW Department of Education and Communities	A letter was sent to NSW DoEC on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A
Civil Aviation Safety Authority	A letter was sent to CASA on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A
Air Services Australia	A letter was sent to ASA on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A
Illawarra Regional Airport	A letter was sent to IRA on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A
Australian Department of Environment and Energy	A letter was sent to DoEE on 27 July 2017 providing information on the modification and requesting written feedback on the proposal.	No response received.	N/A

1.5 Structure of Environmental Assessment

The EA has been prepared in accordance with the EP&A Act 1979 and the EP&A Regulation 2000. It is set out as follows:

- > **Section 1** introduces the proposed Concept Plan Modification, providing background to the project, requirements to be addressed and consultation undertaken.
- > **Section 2** describes the existing site use and surrounding development patterns
- > **Section 3** describes the proposed modifications to the approved Concept Plan, the need for these modifications and the overall Concept Plan Modification
- > **Section 4** assesses relevant Federal, State and Local legislation applicable to the proposed development
- > **Section 5** assesses environmental impacts
- > **Section 6** details the proposed Concept Plan Modifications
- > **Section 7** provides a conclusion to the report
- > **Section 8** identifies reference material used in this report

2 Site Description

This section describes the existing site use and surrounding development patterns

2.1 Site Location

The Tallawarra Study Area is a 535.9ha landholding located on the Tallawarra Lands in Yallah, approximately 13 kilometres from the Wollongong Town Centre. The site is located within the Wollongong LGA and encompasses the eastern and southern slopes of Mount Brown, the western foreshore of Lake Illawarra and a number of wetlands and watercourses in the south, the largest being Duck Creek. The site borders the Shellharbour LGA to the south. Yallah Bay Road runs east/west through the centre of the site and the Tallawarra Gas-fired Power Station is present in the east of the study area, although it is excluded from the Concept Plan.

The study area is defined by the following:

- > Lot 1 DP 551658
- > Lots 30 and 31 DP 1175058
- > Lot 20 DP 633211
- > Lot 102 DP 716727
- > Lots 1 and 3 DP 109795
- > Lot 15 DP 1050255
- > Lot 151 DP 628980
- > Lot 1 DP 543285
- > Lots 10 and 11 DP 552933
- > Lots 1 and 2 DP 792664
- > Lots 7 and 8 DP 1049520
- > Lot 1 DP 1146409
- > (Southern) Part Lot 1092 DP 1140369

2.2 Site Description

The subject site is predominately rural and has been used for Power Station operations since the late 1950's. Large portions of the site have undergone past disturbance particularly in the south and east where a number of former ash settling ponds used by the original coal-fired Tallawarra Power Station now remain. The construction of the current power station and its operational infrastructure has further contributed to the disturbance of the site.

Extensive vegetation clearance has occurred across the remainder of the site for grazing purposes, resulting in large areas of exotic grassland. The majority of intact vegetation occurs in the south eastern corner of the site with smaller areas in the north, adjoining a large stand of vegetation in Mount Brown Reserve, as well as along the south western boundary.

The subject site has a varying topography, ranging from near level ground to steep slopes. The northern boundary of the site is characterised by a steep hill side (Mount Brown) sloping downwards towards the east, south and southeast. The ground surface near Yallah Bay Road is generally near level (<1° grade) and forms part of an alluvial flood plain and wetlands with exception of the areas near the western boundary. The area near the western site boundary (south of Yallah Bay Road) is locally elevated rising towards the Princes Highway to the west and sloping down towards the east.



TALLAWARRA LANDS

— Lot Layout
 — Watercourses (LPI)
 Cadastre (DFSI-SS, 2017)

FIGURE 2-1

1:9,000 Scale at A3



Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2017-10-25 | Project: 82017142-01
Coordinate System: GDA 1994 MGA Zone 56
Map: 82017142-01-GS-024-Cadastre_Plan.mxd 02
Aerial imagery supplied by nearmap (October, 2016)

2.2.2 Tallawarra Power Station

The Tallawarra Power Station is located in the southern portion of the North Shore Precinct, however was not included in the Concept Plan. The power station site is approximately 32.5ha in size (including switchyard but excluding the constructed wetlands area south of Yallah Bay Road).

Before the current gas-fired power station commenced operations in January 2009, the site was a 320MW coal-fired power station which operated between 1954 and 1989. The former plant and many ancillary buildings have been demolished and the operational areas of the site remediated.

2.2.3 North Shore Precinct

The North Shore Precinct is located to the south of the established suburbs of Kanahooka and Koonawarra, to the north of the Tallawarra Power Station. The precinct is 110ha in size and positioned on the eastern slopes of Mount Brown fronting Lake Illawarra. The North Shore precinct is situated along a ridge that runs in a north west to south east direction with a gentle to moderate slope to the north and south of the ridge line.

The majority of the North Shore Precinct consists of rural fenced paddocks, which were previously used for agricultural purposes. A rural homestead and compound is located in the northern most part of the site and includes dams, fences, small fenced paddocks and animal shelters. A high voltage power line, with associated towers, runs through the central portion of the Precinct in a north-south orientation.

The precinct has an approved residential density of 310 residential lots. These lots will be positioned in the middle section of the site, with foreshore land set aside for public open space and the conservation of existing vegetation. This precinct will be connected to Kanahooka through the extension of the existing Gilba Road, which connects through to Fowlers Road and to the Princes Motorway.

2.2.4 Central Precinct

The Central Precinct is located adjacent to existing residential development on the southern side of Mount Brown in Dapto. The precinct is 210ha in size and is positioned on the southern slopes of Mount Brown, providing an outlook to the south with views towards Albion Park and Shellharbour. The precinct extends from the Princes Highway in the west through to Lake Illawarra in the east. The topography of the Central Precinct is variable with the northern portion dominated by a moderate to steep slope with a southern aspect that grades into a generally flat ground surface in the vicinity of Yallah Bay Road.

The area is accessed by Yallah Bay Road which provides connection through to the Tallawarra Power Station and the tourism site. Yallah Bay Road connects to the Princes Highway which provides connection to Dapto in the north and Albion Park Rail in the south.

The precinct is proposed to house 340 standard residential lots, with a further 10 large lots. Industrial and light industrial land will be included towards the Tallawarra Power Station along the northern side of Yallah Bay Road. Additionally, the precinct will house a neighbourhood centre and a 2.5ha tourism site to be located on the headland at the eastern portion of the precinct. The 2.5ha tourism site is the only part of the Central and North Shore precincts located south of Yallah Bay Road.

2.2.5 Southern Precinct

The Southern Precinct is bounded by the Princes Highway, residential development in Haywards Bay, Duck Creek and existing wetlands adjacent to Lake Illawarra. The majority of this precinct is located within an existing bunded area that was formerly used as an ash dam for the previous coal fired power station. The site also comprises cleared paddocks for agricultural use, dense vegetated areas of both natural and introduced species, a road base stockpile and an asbestos landfill.

The precinct is proposed to contain 350 residential lots to the south of the area, as well as a 200 dwelling retirement village and primary school. The precinct will also contain a significant area of commercial zoned land.

The site is proposed to be accessed from the north from Yallah Bay Road and south via the existing suburb of Haywards Bay.

2.3 Surrounds

The Tallawarra Lands Study Area comprises the majority of the Yallah locality and is located between the Illawarra Escarpment and Lake Illawarra. The site benefits from close proximity to established transport including the Illawarra Rail Line, the Princes Motorway near the western boundary of the site and the Illawarra Regional Airport south west of the site. Specifically, the site is bound:

- > *To the north:* by Mount Brown and existing residential development in the suburbs of Koonawarra and Dapto
- > *To the east:* by Lake Illawarra
- > *To the west:* by the Princes Highway, the suburb of Penrose and the West Dapto Urban Release Area
- > *To the south:* by the suburb of Haywards Bay

3 Modification Proposal

This section describes the proposed modifications to the approved Concept Plan, the need for these modifications and the overall Concept Plan Modification

3.1 Need for approval modification

The Tallawarra Lands is a Transitional Part 3A project, and the modification provisions in section 75W (now repealed) of the EP&A Act continue to apply pursuant to clause 3C of Schedule 6A of the EP&A Act. Section 75W provides:

“(2) The proponent may request the Minister to modify the Minister’s approval for a project. The Minister’s approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.”

The main consideration in determining whether proposed amendments are consistent with the Tallawarra Lands Concept Plan Approval, and therefore whether a modification to the approval is needed, is whether they are consistent with the description of the project to which the approval applies and whether they satisfy the requirements of Tallawarra Lands Concept Plan Approval, Terms of Approval No. A1, specifically:

“Concept approval is granted to the development as described below;

- a) Three residential precincts accommodating up to 1,010 lots – the Northshore Precinct, Central Precinct and the Lakeside (southern) Precinct;*
- b) Lands for a neighbourhood centre within the Central Precinct;*
- c) Lands for a future tourism facility on the eastern headland of the central precinct;*
- d) Lands within the central and southern precincts for industrial, light industrial and business purposes;*
- e) An internal road network. A network walkways, cycle paths, share paths; and*
- f) Open space, public recreation areas and conservation lands.”*

The following sections consider the amendments comprising the Modification Proposal in relation to the Tallawarra Lands Concept Plan Approval and associated environmental assessment documentation. For each amendment, a conclusion is provided regarding whether a modification to the Tallawarra Lands Concept Plan Approval is required.

3.1.1 Increase Densities

As indicated above, Terms of Approval No. A1 (a) provided that:

- a) Three residential precincts accommodating up to 1,010 lots – the Northshore Precinct, Central Precinct and the Lakeside (southern) Precinct;*

Since the approval was granted on 23 May 2013, a new Regional Strategy has been released by the NSW State Government. The *Illawarra-Shoalhaven Regional Plan* (DP&E, 2015) called for increases to the supply of residential housing throughout the Illawarra and changes to the housing stock that is supplied to the market in the form of medium and high density living. This regional plan was informed by a range of further studies that investigated the needs of the Illawarra in regards to housing stock. These studies included the ‘Wollongong City Housing Study: A final report’ (Wollongong City Council, 2005), ‘Review of Illawarra housing market’ (SGS Economics and Planning, 2014a) and ‘Housing submarkets in the Illawarra’ (SGS Economics and Planning, 2014b).

The Wollongong City Housing Study identified that the Illawarra required future developments to provide a mix of housing types to meet the projected demographics of the area. This mix included 50% of future dwellings constructed to be detached, with 31% medium and 19% high-density dwellings (WCC, 2005). It is acknowledged that this study is now over a decade old but the trends identified have played out, with this housing mix also recommended in the two SGS Economics and Planning Reports (2014a and 2014b). These also argued that increased densities are required within Wollongong, with this improving service

provision and providing a diversity of housing choice for the aging population. The report noted that increased densities will need to be located near amenity and services to ensure that the benefits of denser living styles can be achieved. This report highlighted that there is a projected lack of supply of semi-detached housing stock that will occur from 2021 onwards.

This requirement for an increase in building densities and a greater mix of dwelling types was acknowledged by Wollongong City Council in the submission that was raised during the exhibition period for the initial Concept Plan Approval. Section 9 within this submission talked to Social Planning issues with the following point raised:

“Council supports a varied housing product mix insofar as providing an assortment of allotment sizes that will provide a variety of housing types i.e. multi-residential dwellings, 2-3 storey town houses, dual occupancy, 3-4 storey residential apartments. The appropriate allotment mix should offer 50% detached housing i.e. 450 - 700m² lots and the remaining balance an assortment of allotments that will provide a rich mix of housing types.

This approach is supported by the Illawarra Regional Strategy (IRS) in section 6 of the Housing and Settlement chapter. The outcome of this strategy is to provide an appropriate mix of housing from detached housing (50%) to medium (35%) and high (15%) density housing around neighbourhood centres or key services.

Provision of an assortment of allotment sizes that would provide an opportunity to locate medium and high residential density around the neighbourhood centre or key services would increase the proposed overall densities of 13 to 15 dwelling /ha. It is therefore recommended the proposed residential densities are revised upwards to allow for medium to high density development and a higher percentage of unconventional lot sizes.”

The increase in residential dwelling densities proposed within these amendments would provide for a greater mix of dwelling types, encouraging medium density living through the provision of lots suitable for terrace and townhouse dwellings. Additionally, the proposed modifications will provide lots that are suitable for small scale apartment developments in close proximity to amenity and lifestyle centres within the Tallawarra Lands. As such, this amendment has been included as part of the Modification Proposal.

3.1.2 **Boundary Increases**

The Tallawarra Lands Concept Plan Approval, Terms of Approval No. A2 provided that;

“The development shall be undertaken generally in accordance with:

- *The Environmental Assessment dated February 2011 prepared by DFP Planning Consultants, except where amended by the Preferred Project Report dated June 2012 prepared by DFP Planning Consultants including the supplementary Flood Risk Assessment Report prepared by Bewsher (ref J1898L_2), dated 10 January 2013;*
- *The statement of Commitments prepared by DFP Planning Consultants; and*
- *The following drawings.*

Author, Drawing No./Report	Name of Plan	Date
Warren Lee Urban Design	TRUenergy – Tallawarra Lands Concept Plan	7 May 2012
Corkery Consulting, Landscape Plan Report, Figure 30, PPR Appendix K	The Street Hierarchy	

Except for as modified by the following (other conditions of approval) pursuant to Section 75O(4) of the Act.”

As discussed above there is demand for increased residential densities, along with housing stock generally across the Illawarra. Energy Australia are currently unwilling to develop the Lakeside Precinct, sterilising approximately 350 lots. The proposed boundary increases described in Section 3.2.2.1.1 and 3.2.2.1.2 below would help to offset the loss of residential and industrial lands associated with the Lakeside Precinct, while contributing to meeting the demand for additional housing stock. To assess the Environmental Impacts

associated with these modification a range of assessments have been undertaken, with detail provided within **Section 5** of this report. A significant focus of these assessments was the impact that the modified boundaries would have on the noise impact generated by both the approved Tallawarra A and B power station and the impacts of the Princes Motorway located adjacent to the site. These aspects are directly addressed in **Section 5.2**. Other assessments undertaken ensured that the geology, ecology, contamination, traffic, stormwater and flooding, bush fire, heritage and the visual Impact where adequately assessed.

3.1.3 Legal Precedent

The legal test for a Section 75W modification has been identified by the NSW Court of Appeal in the case of *Barrick Australia Ltd v Williams (2009)*, a case commonly referred to as Cowral Gold.

In this case the proponent sought:

- > Increased ore extraction by 53M/t
- > Increased production from 6.9 million to 7.4 million t/yr
- > Increased employees 200 to 315
- > Extended operating life by 11 years
- > Increased infrastructure.

The Court identified that a '*radical transformation*' to the approved scheme could not be undertaken as a Section 75W modification, with general requirements identified by the Court of Appeal for a Section 75W modification comprising:

- > The approval must be one to which Part 3A relates
 - This requirement is satisfied as a Part 3A Concept Approval applies.
- > The proposed modification must have 'limited environmental consequences beyond those which had been the subject of assessment'
 - This Environmental Assessment seeks to illustrate the limited environmental consequences through comparison between the approved Concept Plan and proposed modifications.
- > The consent authority must be the Minister for Planning
 - The Minister or their delegate is the consent authority.

A review of the legal precedent illustrates that the proposed modification satisfies the legal precedent for a Section 75W modification subject to the modification having limited environmental consequences beyond those of the originally approved development. The environmental assessments undertaken and detailed within this report illustrate that the proposed modification subject to the identified mitigation and management measures will not create a significant environmental impact beyond that approved by the Concept Plan. A summary of the findings of the key studies is detailed below.

- > **Traffic assessment** – Considered the impacts of the revised development yield, previous land use assumptions and proposed changes to access arrangements. Previous traffic models were updated to reflect these changes and found that the revised development yield did not result in critical network operational concerns when compared with the approved concept yield.
- > **Acoustic assessment** – Considered the industrial, transport and urban noise affectation, finding that the noise impacts resulting from the development will be no greater than noise impacts on the previously approved lots. Therefore, no land use planning issues from cumulative industrial operations are expected for the North Shore or Central precincts.
- > **Ecological assessment** – Considered direct and indirect impacts resulting from the proposed modification. Direct impacts to the ecological values are limited, as the majority of the development is associated with cleared land, with only a further 4.2% of the development site being cleared as a result.

Indirect impacts from the proposed development may include noise and/or erosion associated with the construction phase of the project. These impacts will be managed through the development of a CEMP

and a landscape scheme using native species to help reintroduce vegetation in areas of the site currently comprising cleared grass, improving biodiversity and visual amenity, with associated environmental sustainability benefits.

- > **Bushfire Assessment** – Considered the proposed modification against the provisions within *Planning for Bush fire Protection 2006* (PBP) to ensure compliance can be achieved. These provisions require Asset Protection Zones and Access to be provided. These measures have been incorporated into the proposed modification layout to ensure compliance with PBP.
- > **Geotechnical Assessment** – Considered the potential for stability issues through desk top and intrusive investigations. The assessment found that the expanded Central Precinct poses moderate geotechnical risks, with the North Shore Precinct identified as low risk. The potential risks can be managed by appropriate engineering design, which would be determined through future intrusive investigation and assessment prior to works commencing.
- > **Contamination investigation** – Comprised desk top and intrusive investigations. The assessment identified that there are currently no Contaminants of Potential Concern (COPC) present in the Central and North Shore Precinct modification areas at concentrations above the Tier I human health screening values.

Copper is present at the site at concentrations above the Tier I ecological screening values. However, ecological receptors of significance were not identified at or within close proximity to the modification areas. The overall potential risk to the local environment based on the measured copper concentrations is considered low. A Site Auditor has been engaged to review the investigations undertaken, providing a further level of rigour to the assessment.

- > **Visual Impact Assessment** – Was undertaken using the methodology employed for the Concept Approval. The assessment found that while the development would result in additional urban development being visible from viewing points beyond the site, the potential impact is limited and partially offset through the relocation of powerlines underground and removal of associated stanchion's.

The proposed changes are assessed and clearly illustrated through a photographic survey and the production of artist's impressions to determine the overall impact of the changes. The modifications are characterised by the backdrop of the Escarpment, which forms the dominant feature and minimises sky lining, which in conjunction with controls to cap building height and to carry out ridgeline tree planting will limit visual impact.

The environmental assessment findings clearly demonstrate that the proposed development has limited environmental consequences beyond those associated with the existing approval and the proposed modification is not a radical transformation from the approved.

3.2 Description of the Modification Proposal

The proposed modifications to the Concept Plan result from the desire to provide a residential housing mix that meets the increased demand for a broader range of housing types in an inviting community setting, while offsetting the reduced yield associated with current delays in the development of the Lakeside Precinct. Bridgehill pride themselves on creating environments that are inclusive and celebrate the environment in which the development is placed.

3.2.1 Overview

The proposed changes seek to increase the residential capacity within the Tallawarra Lands site. The proponent aims to achieve these through amendments to the approved Concept Plan. This involves adjusting the zone extents of the R2, E3 and RE1 zones within the North Shore Precinct, and the R2, R5, E3, B1 and IN2 zones within the Central Precinct subject to further environmental assessment. A breakdown of the proposed adjustments to zone extents and the area in hectares affected by the proposed changes is provided in **Sections 3.2.2.1.1** and **3.2.2.1.2** below.

Further to this, the mix of housing types provided for will move towards smaller lot sizes to encourage townhouse and villa style dwellings over standard detached housing stock. These changes will combine to enable an increase in dwelling yield from the approved 1,010 lots to a proposed 1,480 lots.

The open space extents within the North Shore Precinct will remain largely unchanged, with the landscaped buffer identified by the Corkery Report located to the south west of the residential footprint pushed further south west to accommodate the expanded residential footprint. The Landscape Plan for the North Shore Precinct, provided at **Appendix O**, identifies a Woodland Habitat and Screen Planting in this area. The two Cardno Landscape drawings at **Appendix O** for the North Shore and Central precincts respectively are based on the detail in the Corkery Landscape Plan and simply amend this plan to accommodate the revisions to the development layout. Consequently, landscaping types, plantings and facilities will remain as is. The sports fields and associated facilities will remain.

Figure 3-1 below shows the modified Concept Plan, clearly demonstrating the proposed land uses and landscaping within the North Shore and Central Precincts. To enable these changes a number of modifications to the Concept Plan conditions of approval will be required. These modifications are discussed in more detail in **Section 3.2.2** below.



LEGEND

- BOUNDARY
- EXISTING + PROPOSED GRASS
- PROPOSED TREE PLANTING
- BICYCLE PATH
- SHARED USE PATH
- FOOTPATH (PEDESTRIAN ONLY)
- STORMWATER BASIN / POND / DRAINAGE CHANNEL

LAND USES

- RESIDENTIAL
- INDUSTRIAL
- OPEN SPACE AND ENVIRONMENT
- NEIGHBOURHOOD CENTRE

CONCEPT PLAN



landscape architecture
urban design
environmental management

SCALE NTS



BRIDGEHILL GROUP PTY LTD TALLAWARRA LANDS

DATE	DRAWING NO	ISSUE
30.05.18	SK1000	1

3.2.2 **Modification Proposal Components**

3.2.2.1 ***Boundary Increases***

The proposal seeks to increase the boundaries for both the North Shore and Central precincts. These increases have been considered with regard to the outcomes of various environmental assessments detailed in **Section 5** below.

3.2.2.1.1 **North Shore Precinct**

1. Residential Footprint Expansion

The approved Concept Plan provides a residential footprint of approximately 20.61 hectares within the North Shore Precinct. The proposed modification to the Concept Plan increases this residential footprint to 33.85 hectares. Further investigations following the Concept Plan approval identified that this land is suitable for residential development as discussed in **Section 5** of this assessment. The investigations found that the increased footprint would not impact on the environmental context of the site or surrounds. Furthermore, impacts on amenity of future residents within the site can be adequately addressed.

2. Open Space and Environment Footprint

The approved Concept provides an open space and environmental footprint of approximately 24.62 hectares. The proposed modification to the Concept Plan reduces this footprint to 11.59 hectares to allow for an increase in residential land use.

A limited area of E3 zoned land within the eastern portion of the site is proposed to be rezoned to RE1 to allow contiguous public recreation uses to occur in this area, as proposed by Bridgehill. This outcome is preferable to a small fragmented area of RE1 that has limited potential for active public uses. The E3 zone has limited value as environmentally managed land, as it does not hold significance from an ecological or landscape perspective, with the ground primarily cleared and containing exotic grass land.

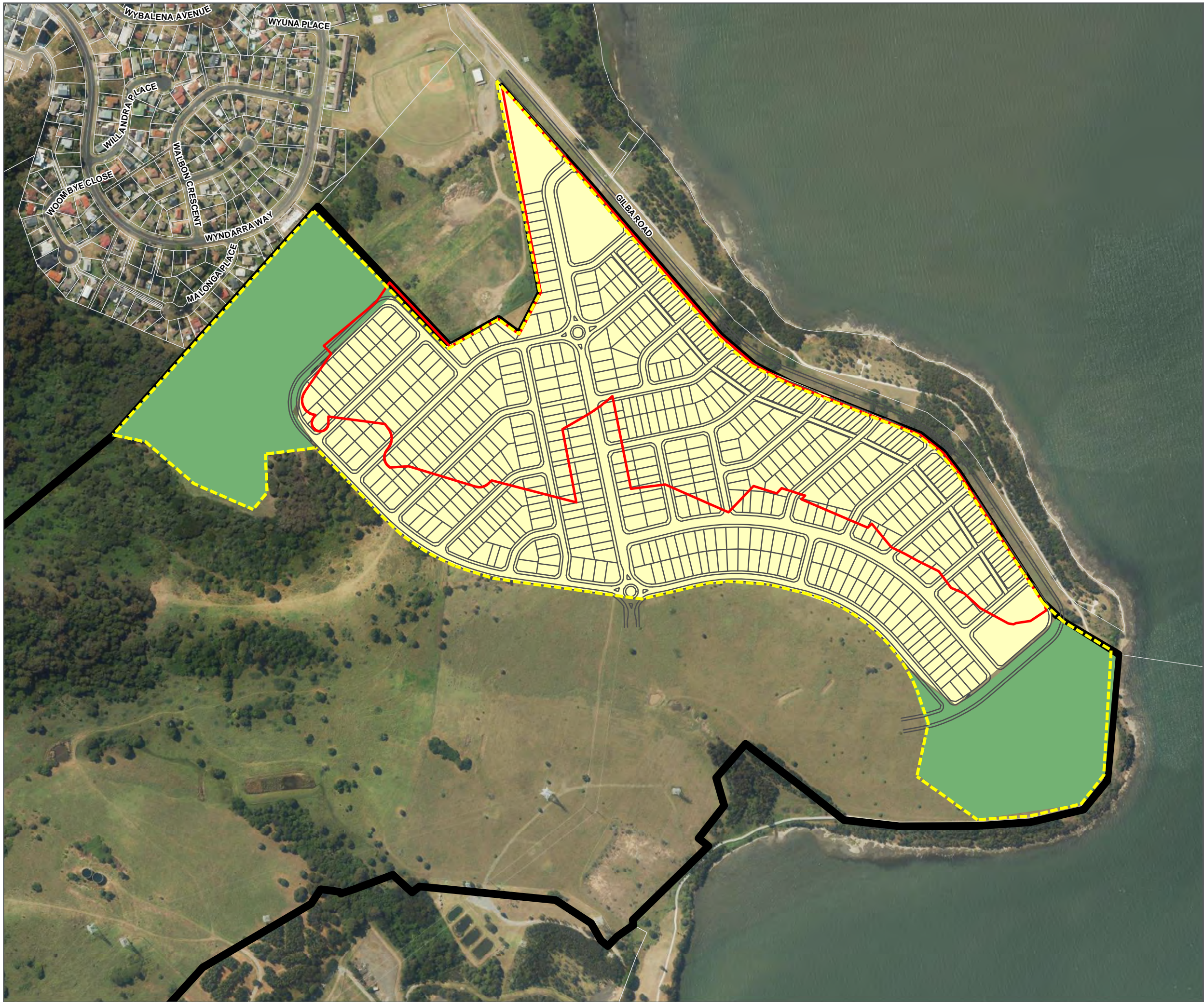
The adjustments to the land use boundaries within the North Shore Precinct are discussed in **Table 3-1** below.

Table 3-1 Proposed Changes to Land Use within the North Shore Precinct

Land Use	Proposed Land Use Changes	Existing Land Use Area	Proposed Land Use Area	Justification
Residential	Expand the R2 – Low Density Residential zone south into the E3 – Environmental Management zone.	The existing residential footprint within the North Shore Precinct on the approved Concept Plan is 20.61 hectares.	The proposed residential footprint within the North Shore Precinct is 33.85 hectares.	Further investigations, post Concept Plan approval have deemed this land suitable for residential development. Key aspects to consider when investigating the suitability relate to noise, visual and ecology, which are discussed in Section 5 . The investigations found that subject to appropriate mitigation the proposed expansion is acceptable.

Figure 3-2 below shows the proposed land uses within the North Shore Precinct.

Figure 3-3 below compares the approved land uses with the proposed land uses within the North Shore Precinct.



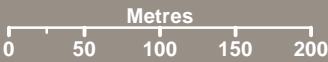
Proposed Land Uses North Shore Precinct

TALLAWARRA LANDS

Legend

- Concept Plan Boundary
 - Concept Approval
 - Indicative Lot Layout
 - Proposed Superlot Boundary
- Proposed Land Use**
- Residential Lands
 - Open Space and Environmental Lands
 - Cadastre (DFS-I-SS, 2017)

1:5,000 Scale at A3



Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2018-05-24 | Project: 82017142
Coordinate System: GDA 1994 MGA Zone 56
Map: 82017142-01-GS-052-ProposedLandUseNorthShore.mxd 04
Aerial imagery supplied by nearmap (October, 2016)