# Tallawarra Lands

Tallawarra Lands - Response to Submissions

82017142-02

Prepared for Bridgehill (Tallawarra) Pty Ltd

13 May 2019







### **Contact Information**

Cardno (NSW/ACT) Pty Ltd ABN 95 001 145 035

16 Burelli Street Wollongong NSW 2500 Australia

Phone +612 4228 4133 Fax +612 4228 6811

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### **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. Consequently, 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 due to the issues with the Lakeside Precinct, 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 to support 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 Concept Approved land use boundaries and adjustments to other development controls. 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 5+ years since the approval was granted. These changes primarily comprise the separation of the Northern and Central precincts from the Lakeside Precinct and the associated requirements of the first development application as identified within the Concept Approval.

Secretary's Environmental Assessment Requirements (SEARs) where issued by the Department of Planning and Environment (the Department) on the 23<sup>rd</sup> January 2017 to inform the additional assessment requirements necessary for the proposed modification application. Required assessments were undertaken throughout 2017, with the Tallawarra Lands Concept Approval Modification Application (Modification Application) submitted for assessment with the Department on the 24<sup>th</sup> January 2018. An adequacy review was undertaken internally within the Department before the application was formally accepted on the 31<sup>st</sup> May 2018 and exhibited publically over the period 26<sup>th</sup> June to 24<sup>th</sup> July 2018.

Following the exhibition process a total of 34 submissions were received from a variety of State agencies, Wollongong City Council, special interest groups and the general public. The Department advised that a formal Response to Submissions would be required to address all concerns raised. This report has been prepared to address this requirement.

In additional to the extensive environmental assessments that were undertaken to inform the Modification Application, further assessment and investigation has been undertaken to address specific concerns raised in submissions. This additional work is summarised below.

Traffic assessment – Further assessed the impacts and updated modelling undertaken to address a range of concerns raised by the general public and State agencies. Focus was placed on the impacts associated with a small number of lots accessing Carlyle Close to the north of the Central Precinct. Additional investigation was undertaken regarding public transport provision throughout the site. Traffic modelling was updated to address a number of concerns that were raised by Roads and Maritime Services. The outcomes of assessment result in the same findings detailed within the Modification Application, with the surrounding road network capable of supporting extra traffic demand that will be generated from the increase in residential yield, with no critical network operational concerns.

Additional comments raised by Roads and Maritime Services related to the land requirements of the Albion Park Rail bypass project. This required an adjustment of the subdivision layout in the southwestern portion of the Central Precinct to accommodate the updated bypass extents.

Acoustic assessment – Additional Acoustic assessment was undertaken to respond to various concerns raised, primarily from the EPA and Wollongong City Council. The subdivision layouts for the Northern and Central Precincts have been amended to ensure that all proposed residential lots are located outside the 40dB modelled contour extending from the Tallawarra Power Station. Further, additional assessment was undertaken to confirm the impacts of the Princes Motorway on proposed lots within the Central Precinct. Additional assessment found that previous modelling was sound.

- Ecological assessment All comments received relating to Ecological impacts were further considered to ensure that a complete assessment has been undertaken within the Modification Application. The extension of the residential lands proposed through this modification are located on lands predominately classified as cleared grasslands or weeds and exotics. Only limited removal of vegetation will be required which has been adequately assessed within the Modification Application in respect to the relevant legislation in place.
- Visual Impact Assessment Further commentary was provided in regards to the Visual Assessment. Details of the engaged consultants was provided to demonstrate that adequately qualified persons undertook the required works. Further assessment was undertaken to address the perceived impacts associated with the increased development extents, as well as providing additional photomontages. 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 offset through a combination of the existing approved built form, site topography and the relocation of power lines.

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 additional 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.

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# 1 Introduction

### 1.1 Background

The Tallawarra Lands is a Concept Approved Urban Release Area (URA) located within the Wollongong Local Government Area, providing 1,010 lots spread over three precincts located within the former buffer lands surrounding the Tallawarra Power Station. The overall site will provide employment opportunities within integrated commercial and industrial zoned land in addition to recreation and service precincts. The development will incorporate extensive environmental lands to provide a buffer around the reconstructed Tallawarra (A) Power Station and future Tallawarra (B) Power Station, as well as provide recreational opportunities to the future residents of the area.

Bridgehill (Tallawarra) Pty Ltd (Bridgehill) has entered into a purchase agreement with Energy Australia over two of the residential precincts (the Northern 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. The Environmental Assessment that supports this modification has been lodged with the Department of Planning and Environment and has been publically exhibited for 28 days.

This detailed Response to Submissions document has been prepared following the receipt of all submissions received by the proponent. It details the proponent's analysis of the submissions received, provides additional environmental impact assessment where required and amends the modification proposed if required based off additional assessments undertaken.

#### 1.1.1 Tallawarra Lands Urban Release Area

The Tallawarra Lands is an 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 the site between the two major centres within the Region makes 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 regional town centres, 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.

**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 Northern Precincts of the site.

#### 1.1.2 Tallawarra lands concept plan

The Concept Plan approval (MP09\_0131) was granted for the Tallawarra Lands on 23 May 2013. It provides the overarching requirements for the future residential development that will occur within the Tallawarra Lands.

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 Northern, 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

The approved Concept Plan is contained at Figure 1-3.

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. The approved Concept Plan is generally consistent with the land zoning adopted within WLEP 2009, with some minor discrepancies.

### 1.2 Modifications to Concept Approval

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 have changed. Bridgehill has moved to help meet this evolving demand through two modifications to the Approved Concept Plan approval. A brief description of both is included below.

#### 1.2.1 Modification 1

Modification 1 was commenced in November 2016 with a request for Secretary's Environmental Assessment Requirements (SEARs) to inform an increase in yield throughout the Tallawarra Lands site from 1,010 lots to 1,480 lots. SEARs were issued to the proponent on the 23<sup>rd</sup> January 2017. Associated Investigations were conducted throughout 2017, with submission of the Environmental Assessment to the Department of Planning and Environment (with a number of minor modifications made to the submitted documentation), the modification request was formally accepted on the 31<sup>st</sup> May 2018. This modification seeks to increase the density of development within the northern and central portion of the site by amending land use boundaries and minimum lot sizes to meet the increase in demand and changing demographic requirements.

The modification also sought 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 comprised the separation of the Northern 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'.

The proposed modifications addressed within the submitted 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 have demonstrated that there will be no adverse impacts from these changes to those detailed within the initial Concept Approval for the Tallawarra Lands.

The proposed modification was exhibited from 26 June 2018 to 24 July 2018, with a total of 7 submissions received from Government agencies and 26 submissions received from community members and special

interest groups. This report provides a review of these submissions, as well as providing response to all concerns raised. The result of this review has necessitated minor amendments to the proposed modification, which are detailed within **Section 6** of this report.

It is envisaged that the finalisation of this report will provide the Department of Planning and Environment with the necessary information to conclude their assessment of Modification 1 to the Concept Plan Approval and move to determine this application.

#### 1.2.2 Modification 2

Modification 2 was lodged with the Department of Planning and Environment on the 15<sup>th</sup> May 2017. This modification request sought to amend condition A4 of the Concept Plan Approval. This condition required that a Development Application be submitted within 5 years of the determination date of the Concept Plan. The Concept Plan was approved on the 23<sup>rd</sup> May 2013, meaning that the approval was due to lapse on the 23<sup>rd</sup> May 2018.

This modification request sought to extend the 5 year lapse date to 8 years to provide additional time for a modification (modification 1) to the Concept Plan to be processed and for a subsequent Development Application be lodged with Council.

This modification request was approved on the 1<sup>st</sup> August 2017, extending the lapse date for the Concept Plan to 23<sup>rd</sup> May 2021.

### 1.3 Structure of Environmental Assessment

The EA has been prepared in accordance with the Environmental Planning and Assessment Act 1979 (EP&A Act) and the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation). 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





	Concept Plan Boundary
<del></del>	Railway (LPI)
·	Distance Buffer
	Local Roads (LPI)
	Major Roads (LPI)
	Major Watercourses (LPI)
Land	Use (ABS, 2016)
	Other
	Commercial
	Education
	Hospital/Medical
	Industrial
	Parkland
	Primary Production
	Residential
	Water





# Site Plan

### TALLAWARRA LANDS

## Legend

	Concept Plan Boundary
	Proposed Superlot Boundary
	Lot Layout
	Watercourses (LPI)
	Road Link
	Area Excluded From Calculation
620	Modification Boundary
	APRB SPIR Footprint
	Cadastre (DFSI-SS, 2018)

### \*Area of the modification excluded from calculation. Dedicated for future road reserve.

## FIGURE 1-2









Source: Tallawarra Lands Masterplan (2013)

# 2 **Project Overview**

Bridgehill has entered into a purchase agreement with Energy Australia over the Northern and Central residential precincts of the proposed Tallawarra Lands development. Bridgehill has engaged Cardno to prepare a Modification to the Concept Plan approval to facilitate the development of the Lands. The Tallawarra Lands are subject to a Part 3A Concept Approval, which identified the development at Condition 1A as:

"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 of walkways, cycle paths, share paths; and
- f) Open space, public recreation areas and conservation lands."

The subsections below identify the proposed modification sought under Section 75W (now repealed) of the EP&A Act that was placed on public exhibition from the 26<sup>th</sup> June through to the 24<sup>th</sup> July 2018. These modifications seek to increase the development footprint and density within the Northern and Central precincts, as well as amend a number of conditions of the original Concept Plan approval to separate the Northern and Central precincts from the Southern precinct, which is being held by the existing landowner Energy Australia.

### 2.1 Key Elements

The original modification sought under Section 75W comprises an increased residential lot yield from 1,010 lots to 1,480 lots across all three precincts, with the Lakeside Precinct lot number remaining as 350 lots as approved in the Concept Plan. The Northern Precinct was proposed to increase from 310 to 570 lots, with the Central Precinct proposed to increase from 350 to 560 lots.

After accommodating for issues raised in submissions and final refinement of the Concept Plan, the modification in its current form proposes residential lot yields of 407 lots for the Northern Precinct, 553 lots for the Central Precinct and no change to the 350 lots for the Lakeside Precinct. Changes in lot yields result from an improved layout design, covering a wider area of the site and adjustments to lot size and density in some areas. Changes are summarised in the below subsections.

**Figure 2-1** and **Figure 2-2** below show the modified Concept Plan extents for both the Northern and Central Precincts as submitted with the Modification Application documentation.

#### 2.1.1 Concept Plan Extents

The revised lot yield would include an amendment to the approved Concept Plan layout and extents comprising:

- > Northern Precinct:
  - Extension of the Residential land west and south west into the Power Station buffer lands and RE1 zone to the south (to a minor extent only).
  - Relocation of the Landscape Improvements south west to accommodate the expanded Residential areas.
  - Relocation and undergrounding of the high voltage power lines with subsequent infill residential land in part of the redundant power line easement.
  - Revised internal road network layout.
- > Central Precinct:

- Extension of the Employment Industry extents eastwards and north westwards.
- Relocation of the public open space to the west of the Employment lands, with a corresponding consolidation of the Employment – Neighbourhood Centre land westwards
- Change from sportsfields to multi-use courts and active recreational spaces to better fit the available space
- Amendments to the areas proposed for large lot residential land uses within the Hillside location of the Central precinct.
- Extension of the Residential land eastwards.
- Revised internal road network layout.

#### 2.1.2 Increased Densities

The modification seeks to amend the densities that apply to the residential areas of the site as articulated through the approved Concept Plan. This will facilitate a greater variety of housing types and densities to meet the changing housing needs of the community. The proposed changes include:

- A reduction in the minimum lot size controls for some of the residential land. In the Northern precinct a strip of land along the Lake Illawarra foreshore is proposed to accommodate lots of 200m<sup>2</sup>. The remainder of the residential land in the Northern Precinct is proposed to have a minimum lot size of 299m<sup>2</sup>. In the Central Precinct the land fronting the riparian corridor and collector road through the centre of the Precinct is proposed to contain lots of 200m<sup>2</sup>. Other residential lots in the Central Precinct are proposed at 299m<sup>2</sup> with the northern and eastern edges of the Central Precinct to contain large residential lots of a minimum 3,999m<sup>2</sup>.
- An increase in the maximum height of buildings in certain areas within the Northern Precinct where lot sizes of more than 1,000m<sup>2</sup> are intended to be created from future subdivision to accommodate residential flat buildings. In these cases a building height control of 15m is appropriate.
- > An increase in the floor space ratio (FSR) for lots of 200m<sup>2</sup> to accommodate for smaller lot sizes and a variety of dwelling types in comparison to the 299m<sup>2</sup> lot sizes.

The proposed lots sizes, building heights and FSRs for the Northern and Central precincts are shown in **Figure 7-3** and **Figure 7-4** of the submitted Modification Application.

#### 2.1.3 Concept Approval Condition Amendments

A number of modifications are required to the Concept Approval both to reflect the changes in density and extent of development, along with Bridgehill only entering into an agreement with Energy Australia for the Northern and Central Precincts. These changes are generally minor in nature, with the majority relating to clarifying the wordings of these conditions and addressing changes to the road network affecting the Central Precinct. Each of the conditions affected and the proposed amendments are discussed below.

#### 2.1.3.1 Condition 11 – Further Investigation of the Areas of Environment Concern and engagement of a Site Auditor accredited under the Contaminated Land Management Act 1997

The timing of the requirements of condition 11 are unclear. The condition is expressed as applying to all applications that include those lands nominated as areas of further environmental concern in the Coffey Environmental Report. Because the application for super lot subdivision will include all of the land the subject of the Concept Approval, condition 11 will technically apply.

This condition requires not only further investigations but also requires that a Site Auditor certify that the site is suitable for its proposed use. As explained below, in relation to condition 12, a Site Auditor will not be able to certify site use suitability until the land is remediated. This would require remediation works to be carried out before super lot subdivision can occur.

#### Condition 11 currently states:

Further applications that include those lands nominated as Areas of Environmental Concern (AECs) in the Coffey Environment Report (December 2010) must be accompanied by a further environmental assessment report. In addition to adopting the recommendations contained in Section 12 of the Coffey Environments Groundwater Modelling Assessment report, the further investigations must consider:

- the potential of contaminants present in the soil and ground in the vicinity of the ash ponds to be mobilised and transported to the adjacent shallow aquifer, Duck Creek and ultimately to the receiving waters of Lake Illawarra, and measures to address this including the feasibility of remediation of contaminated soils and/or the containment of the sources of contamination;
- measure to ensure that the environment attributes of conservation lands on the site are not adversely impacted on by contaminants present in the soil and groundwater;
- recommendations for the ongoing management of contaminated groundwater;
- the potential for the contamination present in soil and groundwater in the vicinity of ah ash ponds to adversely affect groundwater dependent ecosystems on the site; and
- any risks to human health or the environment.

Following the completion of the further investigations, the proponent must engage a Site Auditor accredited under the Contaminated Land Management Act 1997 to verify the adequacy of the investigations (and any proposed remediation) and certify that the site is suitable for its proposed use.

It is proposed to modify condition 11 as follows:

Futurer ther applications that include works on those lands nominated as Areas of Environmental Concern (AECs) in the Coffey Environment Report (December 2010) must be accompanied by a further environmental assessment report. In addition to adopting the recommendations contained in Section 12 of the Coffey Environments Groundwater Modelling Assessment report, the further investigations must consider:

- the potential of contaminants present in the soil and ground in the vicinity of the ash ponds to be mobilised and transported to the adjacent shallow aquifer, Duck Creek and ultimately to the receiving waters of Lake Illawarra, and measures to address this including the feasibility of remediation of contaminated soils and/or the containment of the sources of contamination;
- measure to ensure that the environment attributes of conservation lands on the site are not adversely impacted on by contaminants present in the soil and groundwater;
- recommendations for the ongoing management of contaminated groundwater;
- the potential for the contamination present in soil and groundwater in the vicinity of ah ash ponds to adversely affect groundwater dependent ecosystems on the site; and
- any risks to human health or the environment.

Following the completion of the further investigations, the proponent must engage a Site Auditor accredited under the Contaminated Land Management Act 1997 to verify the adequacy of the investigations (and any proposed remediation). Prior to the issue of any Subdivision Certificate (other than for super lot subdivision), the proponent must obtain a Site Audit Statement which and certifyies that the site is suitable for its proposed use. No buildings may be erected on the land prior to the issue of a Site Audit Statement certifying that the site is suitable for its proposed use.

# 2.1.3.2 Condition 12 – Engagement of a site auditor to verify the adequacy of asbestos soil sampling and asbestos contamination investigations

Condition 12 requests verification from a NSW EPA Site Auditor, accredited under the *Contaminated Land Management Act 1997*, as to the adequacy of the previous investigations undertaken to inform the Concept Approval in July 2010. Additionally, this condition requires the Site Auditor to provide a Site Audit Statement and Site Audit Report (SAS/SAR) confirming that the site is considered suitable for the proposed use. Further works, including assessment and test sampling, may be required by the site auditor following approval of the concept plan modification to satisfy this condition.

At this stage of the project, it is not possible to receive a site suitability statement from the appointed Site Auditor, based on the Concept Plan land uses. Additional assessment and remediation works will be required before a Site Auditor can certify that the land is suitable for the proposed uses. Compliance with this condition will therefore almost certainly require that remediation works be carried out before a development application for super lot subdivision can be lodged. That remediation itself may be category one remediation, requiring separate development consent.

In the usual course of development, remediation works occur in conjunction with the physical development works. All that is required by SEPP55 is that the consent authority be satisfied that the site can be made suitable for the proposed use before granting development consent. The required remediation works are then carried out as a condition of development consent that approves that use (in this case, this would be the

future development consents for urban subdivision of the land, not the development consent for superlot subdivision).

It is unreasonably to require that the land be remediated and made suitable for its proposed use before a development application for super lot subdivision can be made. The development consent that will actually approve the proposed use of the land, triggering SEPP55, is the development application for actual subdivision of the land.

The investigations undertaken by Douglas Partners took place almost 10 years ago. Some further investigation works will be required to ensure that current EPA guidelines are met, and the Site Auditor should be able to have regard to these further investigations in confirming whether or not the total investigations carried out on the land to date are adequate.

Condition 12, as it currently states, requires;

"The first future application to Council (refer to Condition A6) must include a verification from a Site Auditor accredited under the Contaminated Land Management Act 1997 to as to the adequacy of the investigations and asbestos soil sampling undertaken by Douglas Partners (July 2010) and certification of the suitability of the site for the proposed use."

It is proposed to modify condition 12 as follows:

The first future application to Council (refer to Condition A6) must include a verification from a Site Auditor accredited under the Contaminated Land Management Act 1997 to as to the adequacy of the investigations and asbestos soil sampling undertaken by the Douglas Partners (July 2010) <u>and any further investigations subsequently undertaken by the proponent</u> and certification <del>of the suitability of</del> that the site <u>can be made suitable</u> for the proposed use.

2.1.3.3 Condition 15 – Upgrade of the junction of the Princes Highway and Yallah Bay Road to a roundabout

Condition 15 is ambiguous in its current state as it refers to an application, which includes works, conversely, it refers to Condition A6 (super lot subdivision), which does not include works. It is unclear whether this requirement is intended to apply to a development application for superlot subdivision that does not include any physical works or a subsequent application.

Given the uncertainty around the timing of the Albion Park Rail Bypass (APRB), it would be onerous to require design development at this stage of the process, with associated sign off by both Wollongong City Council and Roads and Maritime Services (RMS).

It is proposed to amend the timing of the design to be required in connection with the future subdivision of the Central Precinct.

Condition 15, as it currently states, requires;

"The first future application to Council (Refer to Condition A6) which includes works must be accompanied by an approved design for the upgrade of the junction of the Princes Highway and Yallah Bay Road.

The intersection must be upgraded to a roundabout. The submitted design must be to the satisfaction of and have been approved by Roads and Maritime Services and Wollongong City Council."

#### 2.1.3.4 Condition 16 – Requirements for a Concept Design for the Closure of Cormack Avenue

Similar to Condition 15, this condition requires substantial design work. Creating the superlot subdivision will not allow construction of physical works and thus requiring an approved concept be submitted at the time of the superlot subdivision is unreasonable. Added to this is the uncertainty surrounding the actual works required to this intersection with the last public release of documentation for the ARPB showing this intersection as a left in/left out intersection rather than complete closure.

The condition should be amended to reflect when this work is actually required, which is proposed to be at the time the roundabout is required for the site access to the Central Precinct due to its proximity to the APRB interchange.

It is proposed to amend the timing of the design to be linked to the future subdivision of the Central Precinct.

Condition 16, as it currently states, requires;

"The first future application to Council (refer to Condition A6) for superlot subdivision must include a concept design for the physical closure of the existing junction of Cormack Avenue with the Princes Highway.

The submitted design must be to the satisfaction of and have been approved by Roads and Maritime Services and Wollongong City Council.

The road closure is to be implemented in conjunction with the development of the Central Precinct."

# 2.1.3.5 Condition 25 – Satisfactory Arrangements for the provision of designated State public infrastructure

Condition 25 imports the requirement for "satisfactory arrangements" as identified in Clause 6.1 of the WLEP for State infrastructure into the Concept Approval. The WLEP requires that "satisfactory arrangements" must be made "only if the land is developed intensively for urban purposes". Consequently, Clause 6.1 of the WLEP would not apply to a superlot subdivision where a future development consent would be necessary before the land could be "developed intensively for urban purposes". Instead, satisfactory arrangements for State infrastructure would need to be made before the detailed subdivision could be approved.

Condition 25 requires Clause 6.1 of the WLEP to be complied with as part of the superlot subdivision DA, requiring a Voluntary Planning Agreement (VPA) to be prepared. VPA preparation at the superlot subdivision phase would place the financial burden of any agreement on Bridgehill, which is inequitable in circumstances where a contribution is required to be paid in relation to land that will remain in Energy Australia's ownership. Additionally, negotiation of the VPA would require detail that is not yet known, particularly when the finer details of the ultimate subdivision are yet to be refined.

It is proposed to amend Condition 25 to be consistent with the intention of the WLEP, requiring satisfactory arrangements be made only before the land is developed intensively for urban purposes. This would effectively require a VPA for State contributions to be registered on title prior to the approval of each stage of the development (other than the creation of the superlots).

Condition 25, as it currently states, requires;

"The first development application to Council (refer to Condition A6) must demonstrate that satisfactory arrangements have been made for the provision of designated State public infrastructure, in accordance with Clause 6.1 of Wollongong Local Environmental Plan 2009."

The proposed modifications to the Concept Plan results 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 (Southern) Precinct.





# Submitted Modified Concept Plan -North

TALLAWARRA LANDS

# Legend

	Concept Plan Boundary
	Proposed Superlot Boundary
	Lot Layout
	Cadastre (DFSI-SS, 2018)
60	Approved Superlot Boundary
Propo	osed Land Use
	Environmental Lands
	Open Space
	Residential Lands

### FIGURE 2-1

1:5,000 Scale at A3









# Submitted Modified Concept Plan -Central

TALLAWARRA LANDS

# Legend

U	
	Concept Plan Boundary
	Proposed Superlot Boundary
	Lot Layout
	Cadastre (DFSI-SS, 2018)
60	Approved Superlot Boundary
Propo	esed Land Use
	Residential Lands
	Open Space and Environmental Lands
	Industrial Lands
	Neighbourhood Centre Lands

## FIGURE 2-2

1:4,500 Scale at A3

0	50	<u>Metres</u> 100	150	200
6		Ca	rdr	0

Map Produced by Cardno NSW/ACT Pty Ltd (WOL) Date: 2019-05-01 | Project: 82017142 Coordinate System: GDA 1994 MGA Zone 56 Map: 82017142-01-GS-052-ProposedLandUseCentral.mxd 07 Aerial imagery supplied by nearmap (March, 2019)

# 3 Analysis of Submissions

### 3.1 Exhibition of Modification

The Tallawarra Lands Concept Plan Modification Application was exhibited by the Department of Planning and Environment following the lodgement of the EA documentation on the 31<sup>st</sup> May 2018. The exhibition period was for 28 days and encompassed the period of the 26<sup>th</sup> June 2018 through to the 24 July 2018.

The exhibition period resulted in 33 separate submissions being received by the Department of Planning and Environment. These submissions provided comment, advice and argument for and against the proposal from a variety of backgrounds and interests, raising a diverse set of concerns. The issues raised have been categorised and summarised in the following sections.

The breakdown of submissions is summarised as follows:

- > State Government Agencies;
  - Department of Industry Crown Lands and Water,
  - Office of Environment & Heritage (OEH),
  - Office of Environment & Heritage Heritage Division
  - NSW Rural Fire Service (NSW RFS),
  - Transport for NSW (TfNSW),
  - Environment Protection Authority (EPA), and
  - RMS.
- > Local Government Agencies:
  - Wollongong City Council.
- > Special interest groups:
  - National Parks Association of NSW,
  - TransGrid,
  - Save Lake Illawarra Action Group,
  - Lake Illawarra Estuary Management Committee,
  - Housing Trust, and
  - Illawarra Birders Inc.
- > General public submissions, classified by location comprise:
  - 12 from local residents in the immediately surrounding suburbs of the Tallawarra development,
  - 6 from residents of suburbs within 10km of the site, and
  - 2 from residents of the wider Illawarra Region.

### 3.2 Statistical Data

Basic statistical analysis of the submissions received provided invaluable insight into what both the community and different government agencies consider to be the key environmental concerns associated with the proposed modifications. This analysis has been used to target project amendments to address key concerns.

Table 3-1 below provides a summary of where concerns within the community lie.

Table 3-1 Percentage of respondents detailing specific areas of concern

Area of Concern	Percentage of Agency and Special interest Group Concern	Percentage of Public Concern
Noise	31%	20%
Reduced Visual Amenity	8%	20%
Impacts to Surface Water and Water Quality	46%	30%
Higher Flooding	23%	40%
Protection of the Lake	0%	5%
Erosion	0%	10%
Impact on Biodiversity of Threatened and Native Flora and Fauna	31%	50(cum)%
Vegetation Clearing	31%	35%
Impacts to the Riparian Corridor	0%	35%
Livability of the site	0%	25%
Impacts on Traffic from the Development	31%	65%
Detrimental impact to the wider community and economy	0%	5%
Zoning	54%	15%
Recreational Space	23%	30%
Density	31%	25%
Loss of Aboriginal Heritage	23%	5%

The agency and Special Interest Group's main areas of concern relate to the land use zoning changes (54%), Impacts to Surface Water and Water Quality (46%), and a range of other issues that 31% of respondents detailed (Noise, Biodiversity, Vegetation Clearing, Traffic and Density. The main areas of concern to the general public related to Traffic (65%), Biodiversity (50%) and Flooding (23%). Each of these areas have been addressed in detail in **Section 5** below.

### 3.3 Summary of Submissions

**Appendix B** contains a number of tables that summarise the issues identified throughout the exhibition process. **Table 1-1** at the Appendix provides a summary of the 8 submissions that were received for State Government agencies and Wollongong City Council. **Table 1-2** at the Appendix provides a summary of the 6 submissions received from Special Interest Groups associated with the development of the site. **Table 1-3** at the Appendix provides a summary of the 20 submissions received from the general public.

# 4 Actions Taken During and After the EIS Exhibition

### 4.1 Engagement Activities

Following the submission of the EA documentation to the Department of Planning and Environment a number of further engagement activities have been undertaken by Bridgehill to inform the stakeholders about the proposed modification to the Tallawarra Lands Concept Plan. This section details each of these activities, including a description of the topics discussed, as well as any comments received from the community

### 4.1.1 Energy Australia Community Liaison Group

Bridgehill and Cardno representatives have attended a number of meetings both to gain an insight into current and future Energy Australia operations and community interests. Cardno have also presented progress updates associated with the modification and the anticipated way forward.

#### 4.1.1.1 Topics discussed

- > Interaction between the residential lands and both Tallawarra A and B.
- > Overall development scheme, with a focus on the use of the Lake foreshore and the E3 zoned buffer lands.
- > Consideration of both the modification currently being assessed and the future strategic vision for the site.
- > Potential for conservation of bird habitat within the proposed scheme.
- > Level of community support and/or opposition.
- > Separation of the Lakeside Precinct from the Northern and Central precincts.

#### 4.1.1.2 Comments raised

- Community were supportive of the use of the underutilised portions of the site, subject to the development considering the constraints of the site, with key considerations being the interaction with the current and future power station, as well as flora and fauna, with particular concern for fauna.
- > Potential to incorporate wildlife management into the overall all scheme, with a focus on bird life.
- Community were generally supportive of the vision, noting it can have great community benefit. However, it needs to be both implemented appropriately and supported by key messaging for the local community as to the public benefits.

#### 4.1.2 Lake Illawarra Estuary Management Committee

Cardno representatives provided a briefing to the Committee regarding both the current modification and the strategic vision.

#### 4.1.2.1 Topics discussed

- > Current modification being assessed by the Department of Planning and Environment
- > Future strategic vision for the site.
- > The approvals mechanisms for both aspects.
- > Key environmental concerns.
- > The lack of resources to address existing environmental issues.

#### 4.1.2.2 Comments raised

- > The Committee was generally unsupportive of the scheme, with numerous comments made that the Lake and surrounding foreshore was better left in it's current state.
- Impacts on water quality were a key concern for the Committee. It was noted that development has the potential to raise revenue to allow foreshore and Lake improvements, with improved stormwater management to reduce current erosive process that impact on water quality.

- > Questions were raised as to why a modification and the associated increase in density and overall yield is required, particularly in a sensitive foreshore environment. Responses given included, to meet the demand for housing in the Illawarra and particularly market demand for smaller lots in well-serviced areas of high amenity. Additionally, the increased densities provide additional funding to inform public amenity and recreation areas.
- Structures located both on the Lake foreshore and in the Lake were questioned with potential impacts to sea grass and heritage items raised. The development scheme is indicative, with extensive environmental assessment requirements necessary to support such structures.

#### 4.1.3 Department of Planning and Environment

Bridgehill and Cardno representatives met with the Department on a number of occasions to help to clarify the scheme and misunderstandings or perceived short comings.

#### 4.1.3.1 Topics discussed

- > The necessary drawings to clearly illustrate the proposed modification.
- > The Department's key concerns being noise and visual amenity.
- > A revised scheme that addresses the concerns raised.

#### 4.1.3.2 Comments raised

- > The drawings and associated modification should be based on Concept Approved layers, rather than zoning changes. Amendments to the WLEP zones will not be undertaken as part of any approval, with Concept Plan amendments allowing potentially prohibited land uses. Any changes to the land use zonings would require a planning proposal prepared by Council.
- The Department strongly suggested retracting the residential extents to the 40dB contour to address acoustic and visual concerns. A revised scheme is proposed with residential development pulled back to the 40dB contour. Recreational uses are now included in the land beyond the 40dB contour.

#### 4.1.4 Environmental Protection Agency

Cardno representatives met with the Environmental Protection Agency (EPA) to provide clarifications regarding the proposed scheme.

#### 4.1.4.1 Topics discussed

> The extents of contamination and the proposed amendment to Conditions 11 and 12 to separate the Lakeside Precinct from the Central and Northern precincts.

#### 4.1.4.2 Comments raised

- > EPA requested clarification regarding current and future ownership. A revised plan has been prepared showing the land under future ownership of Bridgehill and Energy Australia. Yallah Bay Road was identified as the dividing boundary, with the exception of a limited tourism precinct located on the Lake foreshore in the Lakeside Precinct.
- > EPA requested the timing associated with Condition 12 is to remain in place that is prior to super lot subdivision the requirements of Condition 12 must be addressed for land under the ownership of Bridgehill.
- > Brief discussion around the proposed strategy to mitigate the noise impacts that have been identified by EPA and other agencies. Once the revised layout is provided EPA would provide further comment if required.

#### 4.1.5 Utility Service Providers

#### 4.1.5.1 Topics Discussed

- Endeavour Energy Ongoing discussions have continued with Endeavour Energy regarding the relocation of the 132kV feeders underground.
- Sydney Water Further discussions were undertaken with Sydney Water regarding servicing requirements within the Northern Precinct.

#### 4.1.5.2 Comments Raised

- Endeavour Energy –Supply offer has been provided to progress the relocation of the 132kV feeders underground. Further investigations and design has been undertaken with a proposed relocation provided to Endeavour Energy for approval. Correspondence with Endeavour Energy is contained at Appendix M.
- Sydney Water Advised that following lodgement of a Section 73 application as part of future development applications, Sydney Water planners would advise of requirements regarding system upgrades to service the development.

### 4.2 Further Environmental Assessment

A number of the submissions received throughout the exhibition period highlighted the need to undertake further assessment of various aspects of the proposal to provide more detail surrounding the areas of concern raised. To achieve this, Bridgehill have re-engaged a number of sub-consultants to undertake these further assessments. **Table 4-1** below lists the identified areas requiring further assessment, the sub-consultants engaged to undertake the work and the location within this report where this assessment is contained.

Table 4-1 Futther En	vironmental Assessment of	Ideitaken	
Assessment Area	Sub-Consultant	Location of further assessment	
Traffic & Transport	Cardno (NSW/ACT) Pty Ltd	Additional Environmental Assessment undertaken as detailed in Appendix C and further discussed at Section 5.3	
Noise	Pacific Environment	Additional Environmental Assessment undertaken as detailed in Appendix D and further discussed at Section 5.5	
Biodiversity	Ecoplanning Pty Ltd	Additional Environmental Assessment undertaken is discussed at Section 5.6	
Visual & Urban Design	Cardno (NSW/ACT) Pty Ltd and Haycraft Duloy	Additional Environmental Assessment undertaken as detailed in <b>Appendix E, Appendix F</b> and <b>Appendix G</b> , with further discussed at <b>Section 5.10</b>	
European Heritage	Biosis	Additional Environmental Assessment undertaken as detailed in Appendix L and further discussed at Section 5.11	
Aboriginal Heritage	Biosis	Additional Environmental Assessment undertaken as detailed in <b>Appendix H</b> , <b>Appendix I</b> , <b>Appendix J</b> and <b>Appendix K</b> , with further discussed at <b>Section 5.12</b>	

Table 4-1 Further Environmental Assessment Undertaken

# 5 **Response to Submissions**

This section details the responses prepared by Bridgehill to all the submissions received. This section is structured based off the analysis of the submissions received as detailed in **Section 3** above. All submissions received have been reviewed as detailed within the Register of Submissions contained at **Appendix A** and the summary contained at **Appendix B**. This review has identified the broad areas that require further detail, with targeted areas for further assessment being determined.

This section of the report has been structured to address the main areas of assessment undertaken within the submitted EA, with individual sections below responding to the assessments undertaken within Section 5 of that report. A summary of the submission points raised in respect of each of these areas is provided, detailing what source these concerns were raised within. A response is provided for each assessment area, detailing how the submissions relating to each topic have been addressed.

### 5.1 **Precinct Layouts**

A range of comments were received from both the public and agency submissions relating to the subdivision precinct layouts proposed within the modification Application for the Tallawarra Lands Concept Plan. This section addresses the keys themes of these comments separately to ensure that a comprehensive response is provided.

### 5.1.1 Zoning boundary

#### 5.1.1.1 Summary of Comments

A range of submissions were received that related to the proposed changes to land uses within various zones throughout both the Northern and Central Precincts. These concerns related to the following;

- Residential Concern that the proposed encroachment of residential land into E3 Environmental Management zoned land would reduce the amenity of the area and create a lack of open spaces for residents and visitors. Submissions questioned the rationale behind the proposed changes.
- Industrial Change of zoning from IN1 to IN2 is supported, however, there is concern that the increase of the industrial footprint will reduce the buffer between proposed industrial and residential lands. It is recommended that the previous buffer be retained.

#### 5.1.1.2 Response to Comments

#### 5.1.1.2.1 Residential

Encroachment into E3 zoned land is proposed to be partly offset by the reallocation of Environmental lands elsewhere. The proposed reduction in E3 land could potentially reduce the perceived amount of natural or open spaces in the area. However detailed landscape concepts have been provided to demonstrate the high quality of embellishment proposed to land for Public Open Space use. Land nominated for Public Open Space will contain a variety of planting and restorative works which will greatly enhance the biodiversity and ecological contribution of these areas in conjunction with intended improvements to land in Zone E3.

Land in Zone E3 may not be available for public access and should thus not be associated with useable open space for residents in the area. Specific provisions for recreational areas are made throughout the site. See **Section 5.1.3** for further information.

A number of adjustments have been made to the extent of the residential land proposed by the modification to address the noise constraints from the adjacent Tallawarra Power Station. The extent of residential lots has been reduced along the ridgeline to the southwest of the Northern Precinct to ensure all dwellings sit outside the modelled 40dB noise contour.

The Central Precinct has also been modified along the eastern boundary to ensure that residential lots will be located outside the 40dB noise contour. The southwestern corner of the Central Precinct has also been modified to accommodate the land required for the construction of the Albion Park Rail Bypass as requested by RMS.

#### 5.1.1.2.2 Industrial

The change to the industrial land within the Central Precinct from general industry to light industry, limits the permissible land uses, reducing the potential for conflict with the residential land and Lake Illawarra given the close proximity. The nature of light industry ensures that the permissible uses are less offensive to the surrounding development than general industrial land uses. The need for a buffer is subsequently reduced. This modification reflects that change by marginally reducing the proposed buffer area to accommodate for the efficient higher order use of the land.

#### 5.1.1.3 Proposed changes

The proposed land uses contained within the Modification Application have remained unchanged. However, in acknowledgement of concerns raised by different authorities, the buffer distance between the residential and industrial land has been accommodated to reduce the potential for land use conflicts to occur once the site is developed.

#### 5.1.2 Density

#### 5.1.2.1 Summary of Comments

The increase to residential density across the Central and Northern precincts was a major focus for comments received. As indicated above, 31% of public submissions and 25% of agency submissions identified density increases as requiring further discussion. These comments related to the following;

- Minimum Lot size Concern that reducing the minimum lot sizes possible across the site would have a detrimental impact upon the liveability of the overall Tallawarra Lands. Specifically, concern was raised that the 300m<sup>2</sup> and 200m<sup>2</sup> lot sizes were too small and have produced poor outcomes in other developments within the Illawarra.
- Building Height Concern that the proposed height controls for lots along the Lake Illawarra foreshore were too high in the locations where townhouse and residential flat buildings are proposed to be located.
- Floor Space Ratio (FSR) Concern that the proposed increase to FSR within the lots fronting Lake Illawarra would result in built forms that were not in keeping with the surrounding low density residential character of the surrounding area.
- Public Open Space Concern that the increase in residential lot yield was not coupled with an increase in public recreation space.
- Traffic Concern that an increase in residential lot yield would result in a corresponding increase to traffic utilising local roads both within and adjacent to the development site.
- Loss of urban greening Concern that the reduction in lot sizes would result in reduced ability to provide adequate deep soil planting areas to enable the establishment of substantial trees. The resultant lack of plantings would reduce habitat for native animals and increase the urban heat island effect.

#### 5.1.2.2 Response to Comments

The various comments have been reviewed and the following response is provided.

- Minimum Lot Size The proposed subdivision layout contains a range of lot sizes throughout both the Central and Northern Precincts. The proposed reduction in minimum lot size to 299m<sup>2</sup> across the majority of the site and 200m<sup>2</sup> lots along the interface with Lake Illawarra in the Northern Precinct and along the riparian corridor within the central precinct has been included to enable a greater diversity of lot sizes to suit a wider variety of housing types throughout the site. Recent building trends have seen reductions in building size and differing building typologies to the standard detached house that is predominant throughout Wollongong. The proposal is consistent with the imminent Medium Density Housing Code. This variety of housing lot sizes is proposed to provide greater choice within the Illawarra housing market, enabling more appropriate housing stock to be provided to a diverse household mix where the proportion of smaller households is increasing. It should be noted that whilst the minimum lot size is proposed to be reduced, a majority of the proposed allotments would cater to detached housing stock.
- Building Height The proposed increase in building height is only proposed in two specific locations within the Tallawarra Lands site. These two locations are adjacent to public open space and within low topography on the site. They are appropriate to support small residential flat buildings of three to four storeys in height. Accommodating higher buildings on sites low in the general topography offsets bulk and scale of future buildings in the surrounding landscape.

Floor Space Ratio (FSR) – The proposed changes to FSR throughout the site reflect the intended uses of the individual parcels of land and are generally consistent with the existing FSR patterns to WLEP 2009.

Within the Central Precinct, changes to FSR controls have been proposed within the large lot residential component of the site as the Concept Plan does not detail any controls within this area. The proposed 0.3:1 control for large residential lots will ensure the desired built form and density to distinguish this land from the remaining residential land and allow for broad landscaped space on the visually prominent areas of the Central Precinct.

The FSR of 0.75:1 for lots of 200m<sup>2</sup> will enable townhouse style development within these locations consistent with the intentions for medium density housing as exemplified by the imminent Medium Density Housing Code.

These amendments to the FSR's throughout the site are consistent with the envisaged land uses within these parcels of land. The increases are minor and when enforced with the other development controls in place for each site will still result in a low density residential character, whilst still providing a greater diversity of housing choice.

Public Open Space – The proposed increase in density is supported by extensive public open space. Publicly accessible open space is located both along the Lake Illawarra foreshore, along the ridgeline at the south west edge of the Northern Precinct and along the riparian corridor within the Central Precinct.

Land in the central precinct to be available for public recreation includes active multi-use courts and active recreation spaces within land in Zone B1 adjacent to the employment lands and centrally located within the Concept Plan area. These multi-use spaces will be readily accessible by walking, cycling and public transport. In responding to issues relating to noise generated from the nearby Tallawarra power station, further recreational space is proposed to be provided along the ridgeline to the south of the northern precinct. This space will provide a range of both passive and active recreational uses and will be located in close proximity to a significant number of lots.

- Traffic The increased lot yield proposed within the modification application was identified as resulting in an increase to traffic and parking demand throughout the site. As such, traffic assessments accompanied the modification application submitted. This assessment confirmed that the internal and surrounding road network was capable of supporting the increased traffic generated throughout the development. All lots are capable of meeting the required parking demand from residential uses, with the street hierarchy also providing the required on-street parking provision as expected of a development of this scale. An updated traffic report is contained at **Appendix C** to this report, with the original traffic assessment contained at Appendix D of the EA.
- Loss of urban greening The site is currently characterised by grassed paddocks utilised for the gazing of livestock. The resultant development of the site for residential uses will result in street trees being provided along all roadways. This in itself will result in a substantial greening of the overall site. Additionally, as stated above a range of lot sizes will be provided for across the development area to provide a diversity of offering to the public. This will enable deep soil planting zones of various sizes for each allotment, further increasing the number of trees and shrubs that will be planted throughout.

The increase in density across the site was primarily achieved within the modification application due to the extension of the precinct boundaries rather than through the provision of denser neighbourhoods internal to the site. The reduction in the proposed residential boundary due to noise constraints discussed further below means that there has been a reduction in the overall lot yield of the site from 1,480 lots to 1,320 lots. Whilst some lots will be of a higher density form based on the 299m<sup>2</sup> lot size, by having a varied lot size disposition throughout each street a lower density character will result. The housing typology that will result will be of a greater housing variety resulting in a more varied street character that will ultimately result in a more desirable streetscape.

#### 5.1.2.3 Proposed changes

The comments received relating to density across the site have resulted in the inclusion of additional open space located along the ridgeline within the Northern Precinct. This area has been provided through a reduction in the residential housing proposed adjusting for impacts based on the noise constraints generated from the nearby Tallawarra Power Station.

#### 5.1.3 Recreation Space

#### 5.1.3.1 Summary of Comments

Various submissions received indicated that there was a lack of recreational space provided to reflect the increase in residential yield proposed. These comments were generally received from the public, with this aspect also articulated in Wollongong City Council's response. Department of Industry – Crown Lands and Water expressed concern about the use of Crown Lands for the provision of recreational space for future residents.

The comments can be summarised as follows:

- > General comments that recreation spaces are not detailed in the proposal
- Specific concerns raised by Council that an increase in density should also be coupled with an increase in open space. Concern also raised that the location of recreational spaces is not appropriate for the location of housing
- Crown lands indicated that there is no support for the use of their land for anything related to the development of the site, including any concept plans advertised in other locations for this land

#### 5.1.3.2 Response to Comments

The reduction in residential land proposed within the Northern Precinct has been offset by the increase in open space that is proposed to be transferred to Bridgehill. The landscape concept plans contained at **Appendix G** detail the proposed treatments that are envisaged to be located within this space.

These facilities will provide a range of both passive and active recreational opportunities for the use of future residents. This space is an increase on the open space that was proposed within the initial Concept Plan for the Northern Precinct as well as being located in a location that offers higher amenity than the open space that was proposed to be provided under the high-tension powerlines.

Landscaped open space is provided throughout the Central Precinct that is sufficient for the proposed residential yield. Publicly accessible open space within land in Zone B1 is to be provided in the form of active open spaces and multi-use courts immediately adjacent to employment lands, main cycling and walking routes and future public transport routes.

#### 5.1.3.3 Proposed changes

Additional recreational land has been incorporated into the Northern Precinct to increase open space provisions for future residents. This open space has been provided along the ridgeline and will provide high amenity space with a range of recreational uses. The detailed Landscape Plans in Appendix G show this open space area will be planted with canopy trees and provide a continuous vegetated buffer along the ridgeline from the lake foreshore to the slopes of Mount Brown covering a larger area than the previously approved landscaped corridor. The resultant landscaped open space will provide a vegetated corridor as well as visual screening in a manner which also caters for public recreation. Overall the proposed landscaped open space to the south western edge of the Northern Precinct is a distinct improvement on the previous landscaped strip approved with the original Concept Plan. The new landscaped open space strip meets the requirements of existing Condition B4 of the Concept Approval.

Public open space within land in Zone B1 is to include active open spaces and multi-use courts immediately adjacent to employment lands, main cycling and walking routes and future public transport routes.

#### 5.1.4 Industrial zoned land

#### 5.1.4.1 Summary of Comments

Two submissions were received that related to the industrial land within the site, one from Wollongong City Council and one from the Save Lake Illawarra Action Group. The comments received varied in the intent of their concerns. The 'Save Lake Illawarra Action Group' indicated that they are not supportive at all with the provision of any industrial land in such close proximity to the Lake Illawarra foreshore, citing concern for the potential for contamination to enter the Lake. Wollongong Council provided comments indicating that they were generally supportive of the proposed change of use of the industrial land from general industrial to light industrial. However, Council were concerned about the reduction in the buffer distance between the proposed residential areas in the central precinct to the industrial land located along Yallah Bay Road.

#### 5.1.4.2 Response to Comments

The retention of the industrial land and a change in the character and impacts from general industrial to light industrial is a key consideration of the modification application. The provision of employment opportunities in close proximity to residential homes is a good planning outcome and one that the proponent is keen to maintain. The location of the industrial land within the Tallawarra site is well accessed from the adjacent Princes Motorway and being located centrally between both the Wollongong and Shellharbour town centres provides an easily accessible employment location for residents throughout the Illawarra.

It is also noted that the site is located in close proximity to the Lake Illawarra foreshore. The change from general industrial to light industrial was proposed to reduce the risks to the lake from the highly polluting land uses that could utilise general industrial land and that are not permissible uses within a light industrial area. It is acknowledged that buffer zones have been reduced between the residential and industrial land. However, the magnitude of this reduction has been reduced from what was proposed during the initial Modification Application. The reduction in buffer zone is proposed due to the reduced impacts that are generated by light industrial land uses and that the adjacent residential land is large lot residential providing for increased setbacks from site boundaries.

#### 5.1.4.3 Proposed changes

The proposed industrial land uses contained within the Modification Application have remained unchanged. However, the buffer distance between the residential and Industrial land has been increased to reduce the potential for land use conflicts to occur once the site is developed.

#### 5.1.5 Road Location

#### 5.1.5.1 Summary of Comments

Various comments were received from both public and agency submissions relating to the proposed location of roads within the E3 – Environmental Management and RE1 – Public Recreation zones. The comments sought for all roads to be located within Residential Zoned Land.

#### 5.1.5.2 Response to Comments

Both precincts have been designed to provide perimeter roads between interfaces of residential development with adjacent land use zones. These adjacent land uses zones include both E3 – Environmental Management and RE1 – Public Recreation. In determining whether to place roads within these zones, a review of the land use tables for both of these zonings was undertaken. In both cases, 'Roads' are listed as being permissible land uses with Development consent.

The placement of roads within these zones has been minimised as much as possible, with any roads falling within these zones being for the purpose of providing perimeter roads to enable access for either recreational purposes or for the management of environmental areas and protection from bushfire risks.

A review of the objectives have been undertaken for both zones to ensure that locating roads within these zones is consistent with the outcomes envisaged for these locations.

#### 5.1.5.2.1 Objectives of RE1 – Public Recreation zone

- > To enable land to be used for public open space or recreational purposes.
- > To provide a range of recreational settings and activities and compatible land uses.
- > To protect and enhance the natural environment for recreational purposes.
- > To cater for the development of a wide range of uses and facilities within open spaces for the benefit of the community.

The provision of roads within the RE1 zoned land will enable the objectives listed above to be met. Specifically, by placing roads within this zone residents will be able to access this land for both public open space or recreational purposes.

#### 5.1.5.2.2 Objectives of E3 – Environmental Management zone

- > To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.
- > To provide for a limited range of development that does not have an adverse effect on those values

The provision of roads within the E3 zoned land will enable the objectives listed above to also be met. By placing select roads within this zone, access will be provided to enable effective protection and management

of areas that have special ecological, scientific, cultural or aesthetic value. Further, by placing perimeter roads between residential and other land use greater public access and surveillance of these areas can be achieved to ensure these areas are valued by all.

#### 5.1.5.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to locating roads within either the RE1 or E3 zoned land. It is noted that the location of roads have moved due to other amendments that have occurred to the Modification Application.

#### 5.1.6 Landscaping

#### 5.1.6.1 Summary of Comments

A number of comments were received throughout the exhibition process that related to landscaping from both the community and agencies. These comments related to how the overall public spaces within the site would be treated. Namely this related to how streetscapes would be treated and how parks would be designed.

#### 5.1.6.2 Response to Comments

The landscaping design at the Concept Plan Modification stage predominately remains unresolved as this is generally addressed at the Development Application stage. Street tree plantings and general landscaping of the resultant residential subdivision will be detailed within individual applications as the construction of the development progresses. The overall landscaping plan will be further informed through the development of the Tallawarra Lands DCP chapter that will be incorporated into the Wollongong DCP at a future date. Whilst the detail of landscaping proposed has not been provided at this point, select areas have been designed to a higher level to provide further context as to how these areas are proposed to be developed. **Appendix G** contains a number of cross sections through the Northern Precincts linear park and through the riparian corridor that is located centrally within the Central Precinct.

At this stage, the identification of parks within the development footprint occurs with high level concept plans provided. Within the central precinct, parkland is proposed along both the Yallah Bay Road and Princes Motorway road reserves. Additionally, a linear park will provided along the riparian corridor that runs through the centre of the precinct. This corridor will terminate where it intersects with Yallah Bay Road, at which it is proposed to provide active play spaces for residents. This remains unchanged from what was initially proposed in the Modification Application.

The landscape plan for the Northern Precinct has been amended from what was submitted within the Modification Application. The reduction in the extent of residential land has enabled additional landscaped open space to be provided in the form of a linear park that runs along the ridgeline within this precinct. This has been designed to provide zoned active and passive recreational spaces that take advantage of the elevated aspects of the site. As stated above, the proposed landscaped open space area along the south western edge of the Northern Precinct meets the requirements of Condition B4 for both a vegetated corridor and visual screening.

It should be noted that no works are proposed along the Lake Illawarra foreshore as this land is in Crown ownership. It is envisaged that at some point in the future that this land may be appropriately developed to provide enhanced public recreational facilities that are available to all residents within the Illawarra.

#### 5.1.6.3 Proposed changes

Further landscape plans have been prepared and are included at **Appendix G**. These plans show the proposed landscaping treatments within both the Central and Northern Precincts. Of note is the inclusion of new open space located along the ridgeline within the northern precinct.

### 5.1.7 Character

### 5.1.7.1 Summary of Comments

General public submissions identified that the increase in density within both precincts was not in keeping with the surrounding residential character that existed within Koonawarra and Dapto.

#### 5.1.7.2 Response to Comments

The development of both the Northern and Central Precincts are relatively separate from surrounding residential areas and will establish their own residential character. The impact on the character of the

surrounds will primarily be limited to the immediate interface with existing development within adjacent suburbs.

The Northern Precinct interfaces comprise residential development proposed along the northern boundary. Where proposed residential lots back onto existing dwellings, a low density detached housing form is envisaged. This will be achieved by providing no change to the height and FSR controls that will be in force within these locations. The proposed lots for residential flat buildings are located adjacent to open space and recreational uses, they are not adjacent to existing residential land uses. These sites are all located within low points of the site and will not be conspicuous buildings impacting the existing character of the area.

The Central Precinct will comprise a distinct residential precinct, with the only direct connection to the surrounding residential lands being the interface with Carlyle Close. The proposed large lot residential sites will be accessed from Carlyle Close, however, the fall of the land will prevent existing dwellings located along the ridgeline of Carlyle Close from being able to see majority of dwellings with the Central Precinct. The density of the lots fronting Carlyle Close will be low, with substantial areas of landscaped space surrounding each new dwelling. Consequently, the existing character of Carlyle Close will be largely retained.

### 5.1.7.3 Proposed changes

There are no changes proposed to the Modification Application in regards to comments received relating to Character.

### 5.2 Legislative Requirements

### 5.2.1 Summary of Comments

#### 5.2.1.1 Landownership and Crown Lands

Submissions received from the Department of Industry – Crown Lands and Water indicated that the proposed modification application detailed works that would be occurring within Crown Lands. These submissions detailed that no works within Crown Lands would be supported, with private developers required to provide all associated infrastructure wholly within their own lands.

#### 5.2.1.2 Coastal Management Legislation

A range of submissions received throughout the exhibition period related to the applicability of the *State Environmental Planning Policy (Coastal Management) 2018* (Coastal Management SEPP), which came into force on the 3<sup>rd</sup> April 2018. Comments highlighted that the submitted EA had not addressed the requirements contained within the Coastal Management SEPP.

#### 5.2.2 Response to Comments

#### 5.2.2.1 Landownership and Crown Lands

**Figure 5-1** below has been prepared to show the cadastral lots that exist throughout the northern portion of the approved Tallawarra Lands Concept Plan (north of Yallah Bay Road). This figure lists the legal lot descriptions and the associated landowners for each parcel of land that falls within the precinct boundaries for both the Central and Northern Precincts.

As shown within **Figure 5-1**, the Landowner for all affected lots is listed as 'True Energy Tallawarra Pty Ltd', which is a subsidiary company of Energy Australia. None of the lots that are impacted by the proposed modification to the approved Concept Plan for the Tallawarra Lands are listed as being Crown Lands.

#### 5.2.2.2 Coastal Management Legislation

#### 5.2.2.2.1 Application of State Environmental Planning Policy (Coastal Management) 2018

The introduction of the *Coastal Management Act 2016 (Coastal Act)* and the *State Environmental Planning Policy (Coastal Management) 2018 (Coastal Management SEPP)* as the new coastal management framework for NSW has repealed the *Coastal Protection Act 1979, State Environmental Planning Policy 14 Coastal Wetlands (SEPP 14)* and *State Environmental Planning Policy No 26—Littoral Rainforests* (SEPP 26).

The subject site comprising the Lake Illawarra foreshore in proximity to the Northern Precinct, along with an area on the lower slopes of Mount Brown to the north west of the Northern Precinct, contain areas mapped as either 'coastal wetland' or 'coastal wetland buffer' as defined by the Coastal Management SEPP. Further, small mapped areas also exist along the drainage ditches constructed to the north of Yallah Bay Road. Clause 10 of the Coastal Management SEPP outlines the legislative requirements for land within the coastal wetland area, with Clause 11 outlining controls for the coastal wetland buffer areas. Only a limited extent of development is located within the coastal wetland extent, with a greater level of development within the coastal wetland buffer extent.

However, transitional arrangements are currently in place as described in Clause 21 of the Coastal Management SEPP that revert development controls back to SEPP 14 and SEPP 26 subject to meeting certain requirements. Clause 10 of the Coastal Management SEPP does not apply in accordance with the transitional provisions of Clause 21 if the following criteria are met:

- > The application is made within 12 months after the commencement of this Policy, and
- > An environmental impact statement is to be submitted in connection with the application, and
- > The Secretary issued, before the commencement of this Policy, environmental assessment requirements for the preparation of the statement, and
- > Those environmental assessment requirements require the preparation of the statement to have regard to:
- > State Environmental Planning Policy No 14—Coastal Wetlands, or
- > State Environmental Planning Policy No 26—Littoral Rainforests.

The Coastal SEPP commenced on 3 April 2018, with the application inclusive of an environmental impact statement submitted prior to this date. The Secretary issued assessment requirements inclusive of the consideration of SEPP 14. Note the requirements did not include SEPP 26 as littoral rainforest is not mapped on or in proximity to the site and is not therefore relevant.

The project documentation meets the criteria to satisfy the transitional provisions. Consequently, SEPP 14 requirements rather than the Coastal Management SEPP applies. The Ecological Assessment (Ecoplanning, 2017) located at Appendix G of the original submission addressed SEPP 14 wetlands and considered the extent and form of development appropriate subject to the identified offsets and management measures, with no further assessment required to address the revised legislative framework.

#### 5.2.2.2.2 Permissibility of Modification of Concept Plan Modification in sensitive coastal locations

The Department of Planning and Environment provided commentary that required further consideration of Clause 8N of the Environmental Planning and Assessment (Savings Transitional and Other Provisions) Regulation 2017. Concern was raised that modification of the Concept Plan could not be undertaken in areas where this clause applies.

Clause 8N in schedule 4 of the Environmental Planning and Assessment (Savings Transitional and Other Provisions) Regulation 2017 states;

# 8N – Projects or concept plans for which approval may not be given concerning environmentally sensitive land or sensitive coastal locations

- 1. For the purposes of sections 75J (3) and 75O (3) of the Act, approval for a project application may not be given under Part 3A of the Act for any project, or part of a project, that:
  - a. is located within an environmentally sensitive area of State significance or a sensitive coastal location, and
  - b. is prohibited by an environmental planning instrument that would not (because of section 75R of the Act) apply to the project if approved.
- 2. To avoid doubt, a project is not prohibited for the purposes of subclause (1) (b) if:
  - a. it is not permitted because of the application of a development standard under the environmental planning instrument, or
  - b. it is prohibited under the environmental planning instrument but is permitted to be carried out because of the application of another environmental planning instrument to the environmental planning instrument.
- 3. In this clause:

**environmentally sensitive area** of State significance has the same meaning as it has in State Environmental Planning Policy (State and Regional Development) 2011.

sensitive coastal location has the same meaning as it has in Schedule 4A to the Act.

To determine if Clause 8N applies, assessment against the listed definitions is required. It is noted that Schedule 4A of the EP&A Act was repealed on the 1<sup>st</sup> March 2018, with the definition of sensitive coastal location no longer found within current legislation. The definition below is the wording that existed at the time of initial submission of the modification application with the Department of Planning on the 24<sup>th</sup> January 2018.

The following details the requirements of each definition, with a summary of its applicability provided.

#### Environmentally sensitive area of State significance means:

- a. coastal waters of the State, or
- b. land identified as "coastal wetlands" or "littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map (within the meaning of State Environmental Planning Policy (Coastal Management) 2018), or
- c. land reserved as an aquatic reserve under the Fisheries Management Act 1994 or as a marine park under the Marine Parks Act 1997, or
- d. a declared Ramsar wetland within the meaning of the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth, or
- e. a declared World Heritage property within the meaning of the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth, or
- f. land identified in an environmental planning instrument as being of high Aboriginal cultural significance or high biodiversity significance, or
- g. land reserved as a state conservation area under the National Parks and Wildlife Act 1974, or
- h. land, places, buildings or structures listed on the State Heritage Register under the Heritage Act 1977, or
- i. land reserved or dedicated under the Crown Lands Act 1989 for the preservation of flora, fauna, geological formations or for other environmental protection purposes, or
- j. land identified as being critical habitat under the Threatened Species Conservation Act 1995 or Part 7A of the Fisheries Management Act 1994.

Point b above applies, with areas of coastal wetlands mapped in proximity of both the Northern and Central Precincts. This area incorporates the mapped coastal wetlands and the areas mapped as being land in proximity to coastal wetlands as defined by State Environmental Planning Policy (Coastal Management) 2018. These mapped areas have been shown within **Figure 5-2** and **Figure 5-3**.

sensitive coastal location means any of the following that occur within the coastal zone\*:

- a. land within 100m above mean high water mark of the sea, a bay or an estuary,
- b. a coastal lake,
- c. a declared Ramsar wetland within the meaning of the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth,
- d. a declared World Heritage property within the meaning of the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth,
- e. land declared as a marine park or an aquatic reserve under the Marine Estate Management Act 2014,
- f. land within 100m of any of the following:
  - i. the water's edge of a coastal lake,
  - ii. land to which paragraph (c), (d) or (e) applies,
  - iii. land reserved under the National Parks and Wildlife Act 1974,
  - iv. land to which State Environmental Planning Policy No 14-Coastal Wetlands applies,

g. residential land (within the meaning of State Environmental Planning Policy No 26—Littoral Rainforests) that is within a distance of 100m from the outer edge of the heavy black line on the series of maps held in the Department and marked "State Environmental Planning Policy No 26—Littoral Rainforests (Amendment No 2)".]

Points a, b and f(i) apply to the proposed development within the Northern and Central Precincts. **Figure 5-2** below shows the Northern Precinct and includes a 100m contour drawn from the mapped high-water mark from Lake Illawarra. **Figure 5-2** also shows the location of a coastal wetland plus a 100m buffer as mapped in SEPP 14. **Figure 5-3** shows the coastal wetland as mapped in SEPP 14 plus a 100m buffer.

**Figure 5-2** and **Figure 5-3** show parts of the Northern and Central Precincts are considered sensitive coastal locations. This means that approval for a Project or Concept Plan cannot be given for any modification which proposes any development that is currently prohibited under the WLEP 2009 within these sensitive coastal locations. The following is a detailed comment on the approved and propose land uses within these sensitive coastal locations.

#### 5.2.3 Proposed changes

The original Modification application to the Tallawarra Lands Concept Plan has been amended slightly to ensure that there are no changes to land uses permissible and prohibited on land in a sensitive coastal location.

**Figure 5-4** and **Figure 5-5** show the Northern and Central Precincts respectively. These figures show the proposed modifications to the Concept Plan graphically. The figures show current land use zoning as per WLEP 2009 as well as the proposed lot and road layouts and sensitive coastal locations.

A table is contained on both figures which breaks down each precinct into a number of sub-areas. The subareas have been listed individually in the table to explain that there will be no proposed change to prohibited land uses on land in sensitive coastal locations. As shown in the tables, there will be no change to prohibited or permissible land uses within sensitive coastal locations. Therefore the modification application is consistent with the legislative provisions of Clause 8N to the EP&A Reg 2017.

The following is a discussion of specific sub-areas of land in sensitive coastal locations and the proposed modifications which do not change prohibited land uses. In considering the text below it is very important to be aware that the layout of lots and roads throughout this RtS is indicative only. The specific location of lot boundaries and roads will be subject to future separate development applications for subdivision following the first superlot subdivision.

• Sub-area 'D' Environmental Lands in the Northern Precinct (Sub-area labelled 'D' in Figure 5-4)

The mapped coastal wetland and the majority of its 100m buffer in the Northern Precinct overlaps with land currently in Zone E3 and Zone R2. The original modification proposed part of this land to be rezoned from Zone E3 to Zone R2. However, following feedback from the exhibition process and consideration of the provisions of Clause 8N to the EP&A Regs 2000 – there is no change proposed to the existing zoning of land within the area labelled 'D' in Figure 5-4. The zoning of this land is not proposed to change and there will be no change to prohibited and permissible land uses.

• Sub-area 'E' Residential Land in the Northern Precinct (Sub-areas labelled 'E' in Figure 5.4)

The sub-areas labelled 'E' in Figure 5.4 include part of the 100m buffer to the mapped coastal wetland at the western edge of the Northern Precinct and land within 100m of the lake foreshore and foreshore wetlands. This land is currently in Zone R2.

The modification to the approved Concept Plan does change the land use zones in sub-areas labelled 'E' and therefore does not change prohibited and permissible land uses.

Residential land within the Lake Illawarra Foreshore includes three large lots proposed to be developed as Residential Flat Buildings. Residential flat buildings are permitted with consent under the Wollongong LEP.

Two large lots are proposed in the north-west portion of the Northern Precinct where residential lots overlap with land in the 100m buffer to a mapped coastal wetland. The lot boundaries enable the construction of a dwelling on each large lot outside the 100m buffer area. These large lots will not introduce new land uses that are currently prohibited in Zone E3.

The Height, minimum lot size and FSR controls that are proposed to be modified are all development standards and therefore do not impact the ability for the modification to be approved as detailed in Clause 8N(2)(a).

• Sub-area 'M' in Zone E3 in Central Precinct (Sub-area labelled 'M' in Figure 5-5)

The sub-area labelled 'M' will remain in Zone E3 with no change to prohibited and permissible land uses consistent with the legislative provisions of Clause 8N to the EP&A Reg 2017.

• Sub-areas 'N' ad 'R' in Zone IN2 in Central Precinct (Sub-area labelled 'N' and R' in Figure 5-5)

The sub-areas labelled 'N' and 'R' will remain in Zone IN2 with no change to prohibited and permissible land uses consistent with the legislative provisions of Clause 8N to the EP&A Reg 2017.

• Sub-area 'P' in Zone IN1 in Central Precinct (Sub-area labelled 'P' in Figure 5-5)

The sub-area labelled 'P' will remain in Zone IN1 with no change to prohibited and permissible land uses consistent with the legislative provisions of Clause 8N to the EP&A Reg 2017.

• Sub-area 'O' in Zone B1 in Central Precinct (Sub-area labelled 'O' in Figure 5-5)

The sub-area labelled 'O' will remain in Zone B1 with no change to prohibited and permissible land uses consistent with the legislative provisions of Clause 8N to the EP&A Reg 2017. The modification application proposes landscaped parkland with multi-use sports courts within the area labelled 'O'. Recreation areas are currently permitted with consent in Zone B1. The modification does not introduce land uses that are currently prohibited within the area labelled 'O'.




Concept Plan Boundary
Proposed Superlot Boundary
—— Lot Layout
Watercourses (LPI)
– – · Road Link
APRB SPIR Footprint





# Sensitive Coastal Location Extents -North

TALLAWARRA LANDS

# Legend

Concept Plan Boundary ---- Proposed Superlot Boundary ----- Lot Layout - - Road Link 100m High Water Mark Buffer\* 100m Waters Edge Buffer\*\* Cadastre (DFSI-SS, 2018) **Coastal Management SEPP** (OEH, 2018) Coastal Wetlands Coastal Wetlands Proximity  $\overline{}$ Area \*100m High Water Mark Buffer from 0.25m contour derived from 2013 LiDAR (NSW LPI) \*\*100m Waters Edge Buffer generated from NSW LPI Hydro Area (DTDB) FIGURE 5-2 1:5,000 Scale at A3 Metres 50 100 150 200 Cardno Map Produced by Cardno NSW/ACT Pty Ltd (WOL) Date: 2019-04-18 | Project: 82017142 Coordinate System: GDA 1994 MGA Zone 56

Map: 82017142-01-GS-062-CoastalSEPPBufferZones.mxd 11 Basemap from Talllawarra Concept Plan (2012)





WYNDAR	WALBON C				M1 RE BUERRODO UZ
Modification Zone	Zone	Change in Land Use - Proposed	Coastal Management SEPP	Do Legislative Provisions of S75W Allow Modification to Concept Plan	C F
A	E3	No	No	Yes	
В	R2	No	No	Yes	
С	RE1	No	No	Yes	
D	E3	No	Yes	Yes	
E	R2	No	Yes	Yes	
F	RE1	No	Yes	Yes	
G	E3	Yes	No	Yes	
н	R2	Yes	No	Yes	
	E3	Yes	No	Yes	
State of the state of the			V////		



# Northern Precinct Modification Permissibility

TALLAWARRA LANDS

# Legend

W2 - Recreational Waterways

Note: Zoning lines show extent of modified or retained zoning. The extent of modification to zoning should be read in conjunction with the zoning table.

\*100m High Water Mark Buffer from 0.25m contour derived from 2013 LiDAR (NSW LPI) \*\*100m Waters Edge Buffer generated from NSW LPI Hydro Area (DTDB)

FIGURE 5-4

1:5,000 Scale at A3

		Metres		
0	50	100	150	200



Map Produced by Cardno NSW/ACT Pty Ltd (WOL) Date: 2019-05-01 | Project: 82017142 Coordinate System: GDA 1994 MGA Zone 56 Map: 82017142-01-GS-068-NP\_Modification.mxd 08 Aerial imagery supplied by nearmap (March, 2019)



egislative ons of S75W odification to cept Plan	BRIDGEHILL
Yes	
Yes	Central Precinct
Yes	Modification
Yes	Permissibility
Yes	Fermissibility
Yes	TALLAWARRA LANDS
Yes	
Yes	Legend
Yes	Concept Plan Boundary
Yes	Proposed Superlot Boundary
Yes	Lot Layout
Yes	APRB SPIR Footprint
Yes	Cadastre (DFSI-SS, 2018)
Yes	Zoning Lines
Yes	Coastal Management SEPP (OEH 2018)
Yes	Coastal Wetlands
Yes	Coastal Wetlands Proximity Area
Yes	Zoning - Wollongong LEP 2009 (DPE, July 2018)
103	B1 - Neighbourhood Centre
	B6 - Enterprise Corridor
P2	E2 - Environmental Conservation
	E3 - Environmental Management
	E4 - Environmental Living
	IN1 - General Industrial
	IN2 - Light Industrial
	R2 - Low Density Residential
	R5 - Large Lot Residential
	RE1 - Public Recreation
	SP2 - Infrastructure
	Note: Zoning lines show extent of modified or retained zoning. The extent of modification to zoning should be read in conjunction with the zoning table.
	FIGURE 5-5
	1:5,000 Scale at A3
	Metres 0 50 100 150 200
	Map Produced by Cardno NSW/ACT Pty Ltd (WOL) Date: 2019-05-14   Project: 82017142
	Coordinate System: GDA 1994 MGA Zone 56 Map: 82017142-01-GS-069-CP_Modification.mxd 06 Aerial imagery supplied by nearmap (March, 2019)

# 5.3 Traffic and Transport

# 5.3.1 Summary of Comments

A significant number of submissions related to traffic concerns throughout both precincts. Roads and Maritime Services (RMS) as well as Transport for NSW (TfNSW) indicated concerns with a number of aspects. Further, Wollongong City Council indicated concerns. These related primarily to the following:

- > Completeness of traffic modelling undertaken
- > Impacts related to the Albion Park Rail bypass project that is recently been approved
- > Public Transport network
- > Interconnectedness of two precincts

Further responses were received from the general public. The residents within Carlyle Close indicated that they had concerns with the impact of the large lots along the northern boundary of the Central precinct accessing their lots from Carlyle Close. Other public submissions received indicated concerns with the following:

- > Network impacts resulting from increased traffic
- > Parking issues
- > Carlyle Close not addressed in report
- > Lack of Motorway access from the Central Precinct (Yallah interchange) and single access only to the Northern Precinct
- > Road widths not sufficient to support emergency vehicles
- > The provision of public transport and active transport measures have not been detailed. Public transport routes should be identified throughout the site. Active transport corridors should also be provided (both north-south and east-west)

### 5.3.2 Response to Comments

Cardno carried out a Traffic Impact Assessment (TIA) dated September 2017 to inform the proposed modification to the Tallawarra Concept Plan (MP09\_0131), approved by the Planning Assessment Commission as a delegate for the Minister for Planning and Infrastructure on 23<sup>rd</sup> May 2013. The TIA has been updated primarily to address the RMS comments received and is located at **Appendix C**. Further comments are provided below.

### 5.3.2.1 Network Traffic Impacts

#### 5.3.2.1.1 Background

The proposed modification was to increase the footprint for residential development in the Central and Northern precincts and increase the overall residential yield from 1010 to 1480 lots.

Table 5-1 describes the proposed modifications in the approved Concept Plan at that time.

Table 5-1 Approved and Modified Residential Density

Item	Approved Concept Plan (2013)	Proposed Modifications (2017)
Central precinct	350 Lots	572 Lots
Northern Shore precinct	310 Lots	572 Lots
Southern/Lakeside precinct	350 Lots	350 Lots
Total	1,010 Lots	1,494 Lots

Source: TIA for modifications in the approved Concept Plan for Tallawarra (Cardno, 2017).

The TIA (Cardno, 2017), assessed the key intersections for the following six (6) scenarios by applying the increased number of lots and modified land uses proposed across the Tallawarra Lands. The modelled scenarios are described in **Table 5-2** below.

Table 5-2 Modelled Sc	cenarios
-----------------------	----------

		Network G	Geometry	Development Yield (Number
Scenario No	Year	Northern Interchange in place	Haywards Bay Connection in place	of Lots included)
1	2026	×	×	1,144
2	2026	$\checkmark$	×	1,144
3	2041	×	×	1,144
4	2041	$\checkmark$	×	1,144
5	2041	×	$\checkmark$	1,494
6	2041	$\checkmark$	$\checkmark$	1,494

Source: TIA for modifications in the approved Concept Plan for Tallawarra (Cardno, 2017).

The assessment results showed that the operational performance of all key intersections was LoS D or better for both peak periods. The only exception was the intersection of the north-bound off-ramp and Princes Highway, which was performing at an unsatisfactory LoS (E or worse) in the PM peak for scenarios 3 and 5. The decreased LoS occurred when the amended yield of 1,494 lots was considered, but not with the approved 1,010 lot yield. The TIA (Cardno, 2017) made the following statement, which still remains:

"Potential mitigations measures that would improve the performance of this intersection include changing the intersection type to traffic signals or roundabout."

Roads and Maritime Services (RMS), in its letter (re: STH09/01095/16) dated 15 August 2018, made several comments including the following, regarding intersection upgrade and performance:

- By 2041 there are some Level of Service (LOS) changes as well as intersection capacity issues, particularly in the PM peak at the northbound offload to Princes Highway (LOS B to E). LOS B was with the original approved 1010 lot residential yield. LOS E/F was with the full modified 1494 lots at 2041. RMS notes that this intersection was sensitive to volume changes when the APRB models were being worked on. RMS also notes that this may require an intersection upgrade to roundabout or signals if northern interchange is not built. RMS requires details of any proposal as part of this modification to make improvements at this intersection to ensure it operates at a satisfactory level;
- > RMS notes that the modification does not propose/identify any upgrade works at the northern interchange of the Albion Park Rail Bypass on its eastern side. RMS is concerned that the intersection of the Princes Highway with Yallah Bay Road, the Princes Highway with Cormack Avenue and the intersection of the Princes Highway and the M1 northbound offload will require improvements prior to the provision of the northern interchange to operate at a satisfactory level. As such, RMS requires details on what improvements are required as part of this modification at these intersections to ensure they will operate at a satisfactory level for at least 10 years beyond the opening of the development;
- RMS requests that the plans submitted (e.g. Figures 3.1, 3.4, 3.5, 5.3, etc) are updated to clearly show the current Albion Park Rail bypass project boundaries so as to demonstrate that all works proposed and required as part of this concept approval are wholly located outside the currently identified/required road reserve area (e.g. local roads, bicycle paths, noise mitigation measures, etc)."

To address the RMS query, Cardno assessed the north bound off-ramp and Princes Highway intersection with traffic lights, assuming a simple 2- stage signalisation. The assessment indicated improved LoS, as shown in **Table 5-3**.

Intersection		3(Priority trol)		3(Traffic nals)		5(Priority trol)		5(Traffic nals)
	АМ	РМ	AM	РМ	AM	РМ	АМ	PM
Northbound Exit Ramp	С	С	С	С	С	С	С	С
Dapto Off-ramp / Princes Highway	D	E	В	В	С	F	С	С
Cormack Avenue / Princes Highway	С	С	В	С	С	С	В	С
Yallah Bay Road / Princes Highway	В	В	В	В	В	С	В	В

Table 5-3	Intersection Performance with	Signalised Dapto NB	off-ramp and Princes Highway intersection

The results are improved with the traffic signal installation. This also has a positive knock-on effect to the surrounding intersections (see **Table 5-3**). At this point in time the TIA recommends the installation of traffic signals as an integral component to the Concept Plan. The timing of the installation would be subject to future development applications to follow after the superlot subdivision.

The modelled scenario demonstrates the installation of traffic signals is recommended for 2041 and beyond. The installation would not be required for the first superlot subdivision. Future development applications for subdivision of land within the superlots will include finer-grained traffic impact analysis and will identify a threshold lot-creation and timing point more specific to the installation of traffic signals.

In regards to RMS requirement to show Albion Park Rail Bypass extents in respect to the Central precinct, **Figure 5-6** below shows the required detail. For consistency, all other Figures in this RtS document have been updated to show the area of land within the Albion Park Rail Bypass footprint despite some of those Figures showing features that pre-dated the designation of that land for Bypass purposes.

Overall **Appendix C** Traffic Impact Assessment has been revised in full to address all issues raised by the RMS.

# 5.3.2.1.2 Current Proposal

Since the preparation of the TIA for modifications to the approved Concept Plan for Tallawarra (Cardno, 2017), the overall residential yield has been decreased from 1,494 to 1,320 lots. **Table 5-4** describes the revised residential yield along with yields previously approved and proposed.

Table 5-4	Latest Residential	Yield

Item	Approved Concept Plan (2013)	Proposed Modifications (2017)	Latest Modifications (2019)
Central Precinct	350 Lots	572 Lots	553 Lots
Northern Precinct	310 Lots	572 Lots	407 Lots
Southern/Lakeside precinct	350 Lots	350 Lots	350 Lots
Total	1,010 Lots	1,494 Lots	1,310 Lots





# Albion Park Rail Bypass Extents

TALLAWARRA LANDS

# Legend

Г

- Concept Plan Boundary
- —— Lot Layout
- —— Major Road (LPI)
- ----- Local Road (LPI)
- Watercourses (LPI)
- - · Future Road Link
  - Cadastre (DFSI-SS, 2018)
- Modification Boundary
  - APRB SPIR Footprint

# FIGURE 5-6

# 1:15,000 Scale at A3

		Metres		
0	200	400	600	800
ę	Date: 2019	9-04-18   Project:	8201714201	L)

Date: 2019-04-18 | Project: 8201714201 Coordinate System: GDA 1994 MGA Zone 56 Map: 82017142-01-GS-063-APRB\_Extents.mxd 07 Aerial imagery supplied by nearmap (March, 2019)

# 5.3.2.2 Traffic Assessment

Based on the above, the following points have been noted:

- > 1,494 residential lots were considered in the previous TIA for modifications in the approved Concept Plan for Tallawarra (Cardno, 2017).
- > The latest layout plans shows that the residential yield has decreased to 1,320 lots.

The traffic assessment carried out as part of the TIA for modifications to the approved Concept Plan for Tallawarra (Cardno, 2017) consists of a conservative analysis. That is, the assessment previously undertaken for the modification to increase yield to 1,494 lots considered a scenario with 174 lots more than the current proposal. The conservative nature of the assessment, along with the analysis undertaken above demonstrates that the impacts of the proposal on the surrounding network are acceptable. As such, further detailed assessment is not required for the revised scheme.

# 5.3.2.3 Parking

Residential, commercial and recreational lots will be of adequate size to accommodate on-site parking. Subsequent development applications for specific land uses will address the specific parking demand created by that use and how this will be addressed.

# 5.3.2.4 Carlyle Close

Eight (8) residential lots are proposed with access via Carlyle Close. 27 dwellings currently use Carlyle Close for access onto Cormack Avenue. Cormack Avenue will be closed to the south, no longer providing a thorough fare. Therefore, the Cormack Avenue/Carlyle Close intersection performance will improve markedly, with only very limited traffic passing this intersection from the south. Consequently, the LoS is anticipated to improve even with the eight additional lots.

#### 5.3.2.5 Northern and Central Precinct Access

The response in Section 5.3.2.2 and the updated TIA located at Appendix C address access

### 5.3.2.6 Road widths - Emergency Vehicles

The road widths identified are adequate to allow emergency vehicle access. Note, the layouts provided are high level concepts only with the detailed engineering rigour to be applied at the development application and subsequently construction certificate phases. Consequently, the roads and wider layout will undergo further refinement to ensure compliance with Council Development Control Plan and relevant Australian Standards.

# 5.3.2.7 Public and Active Transport

Roads have been designed to allow bus routes along key routes through the precincts, with detailed consideration of the bus network to be identified at the development application stage, along with negotiations with operators. The subdivision layout within both the Northern and Central Precinct has been designed to accommodate the Type 3(a) Collector Road cross section as detailed within the West Dapto Access Network proposed Road types (Version 6). These collector roads are shown below at **Figure 5-7**.

The road reserve widths will allow adequate provision for foot and shared paths. Detailed cross sections identifying the layout of the roads will be provided at the development application stage.

# 5.3.3 Proposed changes

#### 5.3.3.1 Network Traffic Impacts

Further assessment has been undertaken considering the comments received, with the assessment finding that subject to appropriate mitigation and management measures the proposed development is acceptable.

# 5.3.3.2 Parking

Parking would be addressed by subsequent applications for specific land uses, with no change required.

# 5.3.3.3 Carlyle Close

The limited additional vehicle movements are anticipated to be more than offset by the improved performance of the Cormack Avenue/ Carlyle Close intersection as a result of Cormack Avenue being closed to the south and no longer providing a thorough fare.

# 5.3.3.4 Northern and Central Precinct Access

Further assessment has been undertaken considering the comments received, with the assessment finding that subject to appropriate mitigation and management measures the proposed development is acceptable.

### 5.3.3.5 Road widths - Emergency Vehicles

Specific road dimensions would be addressed by subsequent applications for specific land uses, with no change required.

# 5.3.3.6 Public and Active Transport

Public and active transport would be addressed by subsequent applications for specific land uses, with no change required to the Concept Plan. The existing and proposed bus routes have been mapped as shown in Figures 5-8 and 5-9. Bus routes and bus stops can provide through links and loop routes with simple extensions to existing routes. The links will connect with bus routes on local and regional scales. Bus routes will connect to nearby railway stations on the Illawarra line. Bus routes and stops will improve connectivity for existing residents of Haywards Bay to the south of the site.

New bus routes and bus stops can be located immediately adjacent to the new neighbourhood centre and employment lands. Approximately 80% of new residential lots will be within 400m walking distance of a new bus stop.

The provision of walking and cycling paths are intended to form a connected network combining on-road, road verge and off road pathways. Paths will be located in or adjacent to all public open space areas. There is potential to provide paths within environmental management lands and the foreshore area subject to compatibility with conservation and vegetation plans of management. Waling and cycling options are to be delivered in accordance with the guidelines published by the Premier's Council for Active Living and Better Placed by the NSW Government Architects Office. Development of the Northern Precinct in particular is an outstanding opportunity to enhance connectivity to the well established and popular lake foreshore pathways to the north subject to further design detail and coordination with adjoining landowners.





# Proposed Road Hierarchy

# TALLAWARRA LANDS

# Legend

Concept Plan Boundary
Proposed Superlot Boundary
——— Lot Layout
Watercourse (LPI)
– – · Road Link
APRB SPIR Footprint
Cadastre (DFSI-SS, 2018)
Modification Boundary
Proposed Road Hierarchy
Collector Road - Minor / Major (22.4m)
Collector Road - Minor (20.4m)
Local Street - Major (17.0m)
Local Street - Minor (14.5m)
Access Lane (8.0m)
Access Lane (8.0m)
Access Lane (8.0m)
Access Lane (8.0m) FIGURE 5-7
FIGURE 5-7
FIGURE 5-7 1:9,000 Scale at A3
FIGURE 5-7 1:9,000 Scale at A3





# 5.4 Stormwater and Flooding

# 5.4.1 Summary of Comments

Various submissions received from agencies and the public related to both Stormwater management and the impacts of flood waters across the site and in surrounding areas. The main comments related to the following:

- > There is the potential for adverse impacts on the water quality resulting from runoff into Lake Illawarra, with submissions requesting additional assessment.
- > Council request they be consulted in regards to the level of assessment required, with a Neutral or Beneficial Effects (NorBE) assessment proposed.
- > Further consideration of flooding requirements is suggested, with this to include the provision for bird life to retreat from rising floodwaters into a natural environment.

More detailed responses to comments received can be viewed in Appendix O and Appendix P.

# 5.4.2 Response to Comments

# 5.4.2.1 Water Quality

A Drainage Assessment report was prepared by BMT WBM (2010) to detail the issues associated with site development runoff quality and quantities. Water quality and quantity, which have the potential to impact on downstream water quality were identified by BMT WBM as able to be addressed by adopting a series of mitigation measures at the design phase. The modification resulted in a small increase in the development extents, with the subsequently revised scheme paring this increase back and replacing much of the increased area with a recreation space that will primarily comprise permeable landscaped surfaces interspersed with areas of vegetation planting. Consequently, the minor increase in impermeable area is not anticipated to result in a decrease in stormwater quality.

Additional investigation of the required stormwater quality to support the modification has also been undertaken by Cardno. The investigation addresses matters raised by Council and other agencies not previously addressed that pertain to water quality requirements of the proposed expansion of the development footprint and increase in residential yield. Additionally, the investigation outlines the proposed stormwater quality improvement assets required to meet stormwater quality targets with the proposed modifications to the Tallawarra Lands concept approval. The investigation can be viewed in full at **Appendix O**.

As can be seen by the water quality modelling results presented in **Appendix O**, the proposed development would meet the water quality objectives and is considered suitable.

### 5.4.2.2 Neutral or Beneficial Effects Assessment (NorBE)

A NorBE assessment would be undertaken at the development application stage if required to address water quality. The NorBE would be informed by the stormwater management design undertaken at the development application phase and refined through the detailed design.

# 5.4.2.3 Flooding

Following the concerns raised around the Flood Risk Assessment undertaken by Cardno (2017), Cardno have undertaken additional analysis of the flooding risk at the site. The flood model has been updated to include the finished design levels proposed within the Central Precinct industrial area, with updates made to both the finished design levels and proposed designs to mitigate any flood affectation caused by fill within the additional industrial areas. The results of the updated model and details around its inputs can be viewed at **Appendix P** 

The outcome of the updated flood model demonstrates that the proposed Central Precinct industrial area is located outside the areas of high flood risk and high hydraulic risk as the proposed area is flood free up to the 100 year ARI design storm event.

Based on the impacts analysed, flood increases are generally localised and contained within the proposed Central Precinct boundary. Additionally, the impacts to areas external to the proposed Central Precinct boundary are negligible (**Appendix P**). The outcome of the assessment establishes that the proposed modification to the Central Precinct industrial area will not impose additional impacts on the flood extent and behaviour elsewhere.

Consistent with the Updated Flood Risk Assessment (Cardno, August 2017), the additional fill does not involve modifications to the overall access arrangement to the Central Precinct. Therefore, the proposed modifications to the Central Precinct development does not impair the validity of the approved flood study regarding the Flood-Time Access.

Climate Change has the potential to increase peak flood levels over time. The analysis in the Flood Risk Assessment (Bewsher, 2010) states that the proposed Tallawarra Lands project will not be impacted by potential climate change effects as the proposed development levels are higher than the predicted sea/lake level rise. Consequently, the effect of sea/lake level rise will not have direct impact on the proposed Central Precinct industrial area as the fill will result in levels that are higher than that the approved concept development levels. Additionally, the potential impacts of climate change on the flood-time access remains unchanged from the Flood Risk Assessment (Bewsher, 2010) as the proposed addition does not include any modification to the access arrangement to the site.

The approved flood study indicates that the proposed development will have nil impact on the local tidal regime as the proposed development will not include any filling of lands within the tidal zone.

A pre- and post- peak discharge assessment will be undertaken in future design development stages to demonstrate that the proposed development will not result in increased peak discharges into Lake Illawarra.

# 5.4.3 Proposed changes

# 5.4.3.1 Water Quality

It is proposed that a condition require a long term stormwater quality monitoring program be submitted as part of Construction Certification and for independent construction phase water quality auditing be added to the Development Application Consent Conditions for the Tallawarra Lands development in line with comments made by the Department of Primary Industries Water comments.

The previously approved Tallawarra Lands Concept Plan proposed two water quality assets to be constructed on Crown Land as part of the North Shore Precincts stormwater management system. Despite this proposed management system being approved prior to the proposed modification, the stormwater concept plan has been updated to remove these basins from Crown Lands as per the request of NSW Department of Industries submission (Reference: OUT18/9945). The update to the stormwater concept plan proposes that the two basins can be combined and relocated within the development boundary (refer to **Appendix O**) however due to the nature of the adjoining Crown Land, it will be necessary to pass stormwater outlets (post-treatment stormwater distribution) though this land to reach Lake Illawarra. It is considered that this approach will minimise the use of Crown Land to manage stormwater and satisfy the Department of Industry recommendations.

#### 5.4.3.2 Neutral or Beneficial Effects Assessment

As above.

#### 5.4.3.3 Flooding

The proposed modification would not result in additional lots located within flood prone areas, nor would access through flood prone areas be amended or negatively impacted. The limited increase in impervious area associated with the modification is also considered negligible and will not impact downstream flood events. Consequently, no change is proposed.

# 5.5 Noise

# 5.5.1 Summary of Comments

Noise was a common theme raised throughout the submissions received due to the close proximity of the Northern Precinct, and to a certain extent the Central Precinct, to the Tallawarra Power Station. Additionally, concern was also raised by Roads and Maritime Services relating to the impacts of road noise from the adjacent Princes Motorway on dwellings along the western boundary of the Central Precinct. The submissions received are summarised as follows;

- > Impacts surrounding the increase in site noise from residential development on fauna.
- > The impacts of the current and proposed Power station on additional lots.

- > Clarification regarding whether the noise contours include a low frequency penalty and the height above ground level that noise contours are measured at.
- Identification of measures to ensure noise levels in the Central Precinct associated with operation of the Princes Highway and the Albion Park Rail bypass project.

# 5.5.2 Response to Comments

# 5.5.2.1 Fauna Impacts

The modification retains the intent and primary land uses approved by the Concept Plan. The changes to the scheme are small in scale and would not significantly alter the surrounding noise environment. The development proposed by both the Concept Approval and modification would generate limited noise, with noise from the existing and future Power Stations, in conjunction with road noise from the Princes Motorway, creating higher levels of noise than the limited uses associated with the modification.

An Acoustic Assessment prepared by Pacific Environment (2017) to inform the modification scheme identified acoustic impacts emanating eastwards from the freeway on the western boundary with noise levels upwards of 60dB across the bushland corridor. The Acoustic Report identified noise levels upwards of 40dB radiating outwards from the existing Power Station and across the green space. Consequently, the proposed modification would have a negligible impact on fauna from a noise perspective. A Biodiversity Assessment was undertaken by Ecoplanning (2017) to identify the potential for impacts from the development on flora and fauna. The assessment did not identify impacts associated with noise on flora and fauna throughout the site.

# 5.5.2.2 Power Station Impacts

A revised Acoustic Assessment has been prepared by Pacific Environment (2018). The assessment located at **Appendix D** considers the noise generation from both Tallawarra A and B Power Stations. **Figure 5-10** below illustrates the noise contours associated with these Power Stations, road and rail noise relative to the proposed development extents. The development scheme and associated extents have been revised to relocate residential lots beyond the extents of the 40dB noise contour as moderately affected by noise. Bevelopment in this area is acceptable subject to noise mitigation to address internal noise levels, ensuring they satisfy the recommended acceptable noise level for a rural area at night. Note that the suburban acceptable noise level is up to 45dB.

The Central Precinct has been revised, with the eastern extent reduced to follow the 40dB contour from the Power Stations. The land set aside as a result would be left as passive open space.

The Northern Precinct has been revised, with the south easterly residential boundary retracted to align with the 40dB contour. All proposed residential lots are now located outside this modelled contour. An area of active and passive open space inclusive of landscape planting has been located in the area where dwellings were previously proposed. This area will provide amenity and a visual buffer, while integrating a use that will not be impacted by the noise levels through this area. Further, lots along this southern boundary of the Northern Precinct have been designed so that building envelopes can be located inside each lot that lie outside the 50dB LA<sub>MAX</sub> contour.

#### 5.5.2.3 Modelling Clarifications

The modelling undertaken by Pacific Environment to inform this modification application relied on noise contour modelling undertaken for the Tallawarra B Power Station to determine the impacts associated with that project. The below is an extract from the Tallawarra B EA noise modelling completed by SKM (2011) which addresses the 5dB low frequency noise penalty. The impacts of this modelling rationale flow through to the modelling completed by Pacific Environment.

# 4.6 Modelling results

# 4.6.1 Modelling results for the proposed Stage B CCGT plant

Section 4 of the INP lists modifying factor adjustments for certain annoying characteristics of noise emissions from industrial premises. The low frequency adjustment requires that the difference between the predicted C weighted and A weighted levels is no more than 14 dB(A), without penalty. The average difference between the C weighted and A weighted levels calculated for the Tallawarra Stage B project is in the order of 20-24 dB when calculated at a receiver location and therefore the current assessment includes a penalty for low frequency noise. In accordance with Table 4.1 of the INP, a 5dB(A) penalty has been added to the predicted noise levels.

for the CCGT has been based on a design that incorporated attenuation in the turbine building such as equipment enclosures and insulation in the walls and roof. Other external noise sources such as air intake and stack opening also include noise attenuation. Major noise sources included in the model are shown in **Table 4-2**.

This statement details that the 5dB low frequency noise penalty was included within the noise contours modelled for the Tallawarra B Power station. As such, this penalty is also included within the Pacific Environment modelling undertaken for the modification application.

Noise prediction contours are typically calculated as 1.5m above ground level. 1.5m above ground level is representative of an external noise level as it would be experienced by a resident in their backyard, and is the approach taken to assess external noise amenity.

Elevated receivers would become a consideration where multi storey buildings have balconies facing the south west towards the Power Station. Only limited multi storey development is proposed, with this located in the far northern and southern portion of the Northern Precinct. The northern area is well beyond the 40dB contour. However, the southern multi storey development is located in proximity to the 40dB contour. Given the meteorological conditions of the area with southerly winds prevalent in winter and potential higher noise impacts along this elevation, balconies would not be proposed on southwest facing elevations in the southern portion of the Northern Precinct. This requirement would be reinforced by design guidelines.

# 5.5.2.4 Road Noise

The RMS has identified that appropriate mitigation of road noise associated with the Princes Motorway and future APRB has not been adequately considered.

The Acoustic Assessment has reviewed the proposed layout in the context of the identified noise contours. The development scheme reduces the exposure of lots to road traffic noise by moving the western boundary of the Central Precinct generally eastwards and therefore away from the noise source. **Figure 5-10** below illustrates the noise contours associated with the Power Stations, road and rail noise relative to the proposed development extents. New dwellings will be located within the acceptable noise contour limitations identified in the Acoustic Assessment.

A reduced number of receivers may be affected in the modified development scheme. The location of a landscaped buffer between residential land and the noise source (Albion Park Rail Bypass) will be established upon completion of bypass works. Should a noise wall be required this would be designed and approved at the residential subdivision development application stage and can be accommodated along with landscape screening within the road reserve to the western edge of the residential lots in the Central Precinct. This road reserve is intended to be constructed to the typical road section for a 'Local Street – Major' category with a 17m wide road reserve with verges 4.5m wide on both sides of the trafficable road pavement. The acoustic attenuation measures in the road reserve would be in addition to works within the APRB lands (see **Figure 5-6**).

# 5.5.3 Proposed changes

# 5.5.3.1 Fauna Impacts

The development would not result in noise impacts on fauna. Consequently, the development scheme is not proposed to be amended to respond to comments regarding fauna impacts.

# 5.5.3.2 Power Station Impacts

The Northern and Central precinct extents have been amended to omit development of residential lots within the 40dB contour.

#### 5.5.3.3 Modelling Clarifications

Clarification has been provided with no change to the scheme proposed.

#### 5.5.3.4 Road Noise

The modification scheme relocates lots eastwards away from the road noise source, reducing the potential for impact, with no change proposed.





# Noise Constraints Plan

# TALLAWARRA LANDS

# Legend

Concept Plan Boundary
Proposed Superlot Boundary
——— Lot Layout
Watercourses (LPI)
■
50 LAmax (dB (A) SKM, 2011)
Modification Boundary
APRB SPIR Footprint
Cadastre (DFSI-SS, 2018)
Modelled Noise Impacts LAeq Isovalues (Warren Lee Urban Design)
40 dbD (A)
45 dbD (A)
50 dbD (A)
FIGURE 5-10
1:9,000 Scale at A3
Metres 0 100 200 300 400
Cardno
Map Produced by Cardno NSW/ACT Pty Ltd (WOL) Date: 2019-04-30   Project: 8201714201 Coordinate System: GDA 1994 MGA Zone 56 Map: 82017142-01-GS-036-NoiseConstraintPlan.mxd 08 Aerial imagery supplied by nearmap (March, 2019)

# 5.6 Biodiversity

Ecoplanning prepared the biodiversity assessment that informed the modification document. Ecoplanning have subsequently reviewed the submissions and provided the responses below.

# 5.6.1 Summary of Comments

Impacts to Flora and Fauna were raised through a range of submissions received from the general public and special interest groups. These comments related to the following:

- Extensive comments were received relating to biodiversity. A range of concerns were identified including impacts to birds, endangered species, protected wetlands, Biodiversity Stewardship Agreements and the assessment framework. These concerns primarily related to the approved Concept Plan extents and are not applicable to the modification.
- Impacts on ecology associated with encroachment into RE1 and E3 land, with native vegetation clearing, including clearing of the CEEC considered to be undesirable. Does the clearing of CEEC need to be referred to the Commonwealth Department of Environment for potential significant impacts on a Matter of National Environmental Significance?
- Potential threat to water quality in Lake Illawarra, with consideration of aquatic and terrestrial flora and fauna and their habitats, and fisheries necessary.
- > Protection of a large portion of the Tallawarra Lands for a biodiversity corridor, with areas comprising the Yallah Bay Corridor and the Southern Precinct.

# 5.6.2 Response to Comments

# 5.6.2.1 RE1 and E3 Encroachment

The encroachment into areas zoned RE1 and E3 would predominately impact upon areas identified as 'cleared land' or 'weeds and exotics' with only small areas of native vegetation to be impacted. The impacts to flora and fauna resulting from impacts to native vegetation within areas zoned RE1 and E3 lands have been assessed in accordance with the *Framework for Biodiversity Assessment* (FBA) (OEH 2014a) and offsets have been calculated where appropriate. Subject to the implementation of the offsets the impacts would be appropriately mitigated.

Ecoplanning (2017) identified that the proposal would result in the identified clearing of Forest Red Gum -Thin-leaved Stringybark grassy woodland on coastal lowlands, Southern Sydney Basin Bioregion, which is identified as the Critically Endangered Ecological Community (CEEC) Illawarra Lowlands Grassy Woodlands and Swamp Oak floodplain swamp forest, Sydney Basin Bioregion and South East Corner Bioregion. The clearing would comprise 1.35ha and 0.33ha respectively, with a total clearing of 1.68ha. Ecoplanning have further reviewed the proposed clearing in response to the comments received and have provided a further response attached at **Appendix N**. The response indicated that clearing of CEEC over 2ha is considered to constitute a controlled action as a Matter of National Environmental Significance under the *Environment Protection and Biodiversity Conservation Act 1999*.

Consequently, a referral to the Commonwealth Government is not required as the land clearing proposed is less than the threshold of 2ha.

#### 5.6.2.2 Water Quality

As outlined within the Biodiversity Assessment Report (BAR) (Ecoplanning 2017), consideration of potential indirect impacts, including impacts to Lake Illawarra, that may be incurred during all phases of development will be managed through the Construction Environmental Management Plan (CEMP). An EMS may form a component of the CEMP and will be more appropriately prepared at the detailed design stage when potential indirect impacts are more readily defined.

Management of impacts to water quality within Lake Illawarra can be addressed through the approval conditions, with the detail to be provided at the residential subdivision development application stage. This detail would include concept and subsequently detailed design to identify the specifics of the stormwater treatment train. Conditions would also include the recommended stormwater quality performance targets and stormwater quality monitoring program.

#### 5.6.2.3 Dedication of Biodiversity Lands

The proposed modification predominately impacts land identified by the Concept Plan for residential and industrial purposes with only small areas zoned E3 impacted. The areas zoned E3, which would be

impacted by the proposal included areas identified as containing cleared land, weeds and exotics and only small areas (less than 2.55 ha) of native vegetation.

Only small areas (less than 2.55 ha) of native vegetation within the existing E3 areas which would contribute the 'Yallah Corridor' would be impacted by the proposed modification. Impacts to this native vegetation have been assessed in accordance with the *NSW Government Biodiversity Offset Policy for Major Project* (OEH 2014b) and the FBA and offsets determined where appropriate. Condition 9 of the concept approval requires that any lands earmarked for transfer to public authorities through the Landownership plan in the Environmental Assessment of the Concept Plan (Figure 37) to detail the proposed ownership arrangements. If public authorities are unwilling to accept transfer of the lands zoned for environmental purposes, than the proponent must implement an alternative method of securing identified lands in perpetuity. Since the issuing of the Concept Plan approval, the establishment of bio-banking agreements has become the standard method for how these outcomes is ensured.

As outlined within the BAR, consideration of potential indirect impacts, including impacts to Lake Illawarra, which may be incurred during all phases of development will be managed through the CEMP.

The management of the Lakeside Precinct as a large-scale wetland reserve has merit and would have a positive impact on local biodiversity; however, the proponent does not own this land. Furthermore, this proposal is counter to the approved Concept Plan and the Lakeside Precinct does not form part of the proposed modification.

# 5.6.3 Proposed changes

# 5.6.3.1 RE1 and E3 Encroachment

The revised development extents within both the Central and Northern Precincts will reduce the incursion into the E3 zone, with larger areas retained as open space. The large recreation area proposed to the south of the Northern Precinct will include areas of bushland, adding to the biodiversity of the site, creating an improved biodiversity outcome.

# 5.6.3.2 Water Quality

No changes are proposed, with detailed stormwater management measures to be identified at the development application to a concept level with monitoring regimes identified.

#### 5.6.3.3 Dedication of Biodiversity Lands

No change proposed, with the submissions proposing to dedicate extensive lands for biodiversity counter to the strategic intent and Concept Approval for the site.

# 5.7 Bushfire

# 5.7.1 Summary of Comments

No public submissions received provided any comments relating to bushfire associated with the proposed modification. One agency submission was received.

The agency submission received, prepared by the NSW Rural Fire Service (NSW RFS), provided no objection to the proposed modification to the Concept Plan subject to minor amendments being made to the northern precinct by providing a perimeter road around the lots adjacent to Lot 1 DP588318 (242 Wyndarra Way, Koonawarra).

### 5.7.2 Response to Comments

No further assessment has been undertaken in respect of this aspect in addition to the Bushfire assessment that was provided in support of the submitted EA prepared by Peterson Bushfire (2017). This report provided additional assessment of bushfire impacts associated with the modified concept plan boundaries as proposed within this modification. The bushfire risks associated with the unmodified sections of the Concept Plan remain covered within the Bushfire Assessment report prepared by Eco Logical Australia (ELA 2011) that supported the initial application.

The section of the site referred to in the NSW RFS response is located in a portion of the Concept Plan where no modification to the boundary is proposed. As such, the initial ELA assessment applies.

The internal subdivision layout within the Northern Precinct has been slightly modified in this portion of the site and it is recognised that improved bushfire protection will result as a consequence of these changes. The number of lots that back onto the boundary at this point within the site has been reduced. This has reduced the distance that separates perimeter roads that would be used to access any fire that was to occur within this cleared and managed paddock that is located adjacent to the site. Further, this lot is isolated from any significant bushfire risk. The lot is cleared grassland that is currently used as grazing land for horses. The lot is surrounded on two sides by standard residential development, with the Tallawarra Lands site located on a further side. The remaining boundary contains a lot that is also characterised by cleared grassland.

# 5.7.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to bushfire comments received.

# 5.8 Geotechnical

# 5.8.1 Summary of Comments

No comments have been received throughout the exhibition process that relate to the Geotechnical assessment undertaken.

# 5.8.2 Response to Comments

No further work has been undertaken in respect to this element of the modification.

# 5.8.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to Geotechnical aspects.

# 5.9 Contamination

# 5.9.1 Summary of Comments

No public submissions were received relating to contamination issues within the proposed modification. One agency submission was received from the NSW Department of Industry, Crown Lands and Water Division.

This submission identified that "Further evidence should be provided of the source of heavy metals (including zinc, arsenic and lead) found in the soil on site, and the impact on the groundwater".

Further, Environment Protection Authority sought further clarification as to what lands were proposed to be purchased by Bridgehill.

# 5.9.2 Response to Comments

Analytical soil results gathered during the intrusive Environmental Site Assessment completed by Cardno (2017) showed that concentrations of zinc, arsenic and lead were below the National Environment Protection Measure (NEPC 2013) Tier I human health and ecological screening values. Zinc, arsenic and lead are therefore not considered a constraint to the proposed development and do not require further assessment or remediation.

The only heavy metal that was reported at concentrations above the Tier I screening values was copper. Copper was reported equal to the NEPM Ecological Investigation Level (EIL) for an urban residential and public open space setting in one soil sample and four samples reported copper concentrations above the national parks and areas of high conservation value level. The ESA report stated the following with respect to the concentrations of copper detected:

Copper is present at the site at concentrations above the Tier I ecological screening values. Ecological receptors of significance were not identified at or within close proximity to the modification areas. The nearest significant ecological receptors are located outside of the Tallawarra Lands development footprint and include Duck Creek to the south and Lake Illawarra to the east and north. Therefore, the likelihood of a completed receptor pathway is unlikely under the current land use. If soil disturbance and earthworks is

required during the proposed redevelopment of the site, potential mismanagement of excavated soil could result in a completed pathway.

- The exceedances of the Tier 1 ecological screening levels were marginally above the criteria and concentrations were relatively consistent across the sampling locations indicating that they may be representative of background concentrations. The overall potential risk to the local environment based on the measured copper concentrations is considered low.
- Prior to the works commencing further soil sampling and laboratory analysis of heavy metals should be undertaken in the vicinity of the location of exceedances. The objective of further sampling should be to establish if elevated concentrations of copper are representative of natural background conditions or if the concentrations are more likely resultant from an anthropogenic source / activity.

The relatively low concentrations of heavy metals are likely to be representative of background conditions that do not currently warrant a groundwater investigation. A NSW EPA Accredited site auditor has been engaged to oversee and endorse the assessment and remediation of potential contamination at the site. As such the conclusions and recommendations provided above are considered suitable in the context of the proposed development.

Bridgehill propose to purchase the superlots identified within **Figure 5-11** below.

# 5.9.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to Contamination aspects.





# Concept Plan - Schedule 3 - Condition 12

# TALLAWARRA LANDS

# Legend

	Concept Plan Boundary
	Proposed Superlot Boundary
	Lot Layout
	Watercourses (LPI)
	Road Link
	APRB SPIR Footprint
	Cadastre (DFSI-SS, 2018)
Z	Future Bridgehill Owned Land
	Energy Australia Owned Land
ίΖΖ	Excluded Land



Approved Concept Plan TRUenergy, Tallawarra Lands (LPI, 2015)

FIGURE 5-11

1:15,000 Scale at A3

		Metres		
0	200	400	600	800
		) Ca	rdn	0
1				
$\otimes$	Map Produced	by Cardno NSW/	ACT Pty Ltd (WO	L)

Map Produced by Cardno NSW/ACT PY Ltd (WOL) Date: 2019-05-01 | Project: 8201714201 Coordinate System: GDA 1994 MGA Zone 56 Map: 82017142-01-GS-061-SitePlan\_Concept.mxd 09 Aerial imagery supplied by nearmap (March, 2019)

# 5.10 Visual and Urban Design

# 5.10.1 Summary of Comments

- > A revised Visual Assessment prepared by a suitably qualified professional should be undertaken.
- > The increase in development places housing in more visually prominent positions. Adequate assessment of these impacts has not been undertaken.
- > Detailed landscape plans should be provided consistent with the landscape plans prepared for the initial concept plan.

# 5.10.2 Response to Comments

# 5.10.2.1 Revised Visual Assessment

The Visual Assessment was prepared by John O'Grady of Cardno, a qualified Town Planner, Landscape Architect and Urban Designer with 30 years experience (refer to **Appendix E** for John's CV). John has undertaken numerous visual assessment projects including the projects listed below and is considered a suitably qualified professional.

The following is a selection of John's projects:

- Western Sydney University visual / landscape assessment for a proposed redevelopment within the grounds of a western Sydney campus of WSU (Confidential commission)
- > Waterloo Metro Precinct State Significant Development Application visual quality analysis (current commission for UrbanGrowth NSW Development Corporation)
- > Peer review (urban design and visual impacts) of several significant Planning Proposals on behalf of Burwood Council
- > Technical review of a Planning Proposal for a major new mixed use community on the Cooks River, opposite the Sydney International Airport (on behalf of Bayside Council)
- > Peer review (urban design / visual quality) for the Moorebank Intermodal Terminal (2 separate proposals) for Liverpool City Council
- Manooka Valley Planning Proposal rezoning from rural to residential uses urban planning, urban design and visual analysis
- > Fowlers Road, Dapto urban design, landscape and visual quality services for extensions to an arterial road (Wollongong City Council)
- > Inner Sydney urban renewal program visual quality / urban design services (current confidential commission for UrbanGrowth Development Corporation NSW)

John Haycraft of Haycraft Duloy has informed the Visual Assessment. John prepared the artistic images for both the Concept Approval documentation and subsequently the modification documentation. John has been a professional artist since 1971, with awards for architectural illustration by a number of national societies. John has also served as President of the Australian Association of Architectural Illustrators from 1995-2000.

John Haycraft was contacted to prepare updated imagery to respond to the RtS. However, following modelling of the view points John was of the opinion that the reduced extents proposed by the revised development would render further artistic illustration unnecessary. Further commentary from John Haycraft is provided in the below response.

#### 5.10.2.2 Visual Impact

The development extents within the Northern Precinct have been reduced, with the vast majority of the housing removed from the ridgeline running north west to south east through the precinct and setback further north east. The ridgeline will now primarily accommodate a public recreation space inclusive of landscaping, open parkland and ancillary recreational uses. Canopy tree planting and landscaping within this future public reserve will create a continuous vegetated strip from the foreshore of Lake Illawarra to the upper slopes of Mount Brown. The extent and nature of proposed landscaping exceeds the Landscape Concept provisions of the original Concept Plan and the Landscape Plans prepared by Corkery Consulting Landscape Consultants (May 2012). The proposed Concept Landscape Plan for this public reserve has been designed to meet the requirements of Condition B4 to the consent.

A limited number of dwellings located at the northwestern extent of the ridge will remain on the high ground. However, these dwellings are limited in number and located at the foot of Mount Brown, the dominant topographical feature, dwarfing and averting views to the dwellings. Furthermore, the limited number of dwellings will be obscured from views across the Lake by the planting within the recreation area.

Some limited near views to the dwellings will be possible from directly south. However, this area accommodates the Lake and Lake Foreshore, which receive very limited visitation, ensuring the dwellings do not impact on the amenity of the area. Distant views from Shellharbour would be possible, however, given the distance, lack of sky lining as a result of Mount Brown and the surrounding landscape planting these views would be very limited with negligible impact.

The views to the site are illustrated by the photomontages located at **Appendix F**. The montages are supported by analysis undertaken by John Haycraft who was engaged to prepare artistic representations of the site from both view points identified by the photomontages. Following analysis of the views in the context of the revised scheme, John did not believe it necessary to create artistic visualisations due to the imperceptible visual extents associated with the development extents.

Development extents within the Central Precinct have remained as previously proposed adjacent to Carlyle Close. The development in this area is in keeping with the current housing stock along Carlyle Close and the Concept approved urban character. While additional dwellings are proposed they will have limited additional impact that would be imperceptible from fleeting views associated with vehicles travelling north along the Princes Motorway.

Views from further south within Shellharbour to the site are distant, with the additional dwellings merging with those dwellings currently constructed and those approved by the existing scheme. Consequently, no greater impact will occur.

The development extents have been reduced in the western portion of the Central Precinct to account for the noise contours. The reduced extents would have limited impact on the visual character of the area due to the small scale and distant nature of the views.

# 5.10.2.3 Landscape Plans

Updated landscape plans have been prepared and are contained at **Appendix G**. These plans have been provided as an insert to the Landscape Plans prepared by Corkery Consulting Landscape Consultants (May 2012) to replace the pages of that document with new plans for features of the site that have changed.

The updated landscape plans include an updated overall Concept Plan in **Appendix G** and **Figure 7-6** showing all amendments proposed within this modification. Detailed cross sections have been provided for main areas within the site where changes to the open space are proposed. This includes along the southern boundary of the Northern Precinct and within the riparian corridor traversing the centre of the Central Precinct. The cross sections provided for the Northern Precinct demonstrate that the open space provided along the southern boundary includes vegetation in the vicinity of the ridgeline.

# 5.10.3 Proposed changes

# 5.10.3.1 Revised Visual Assessment

A revised Visual Assessment is not proposed, however, additional visual commentary and analysis has been provided in **Section 5.10.2.1** to support the revised and less visually intrusive development extents.

# 5.10.3.2 Visual Impact

Visual impact has been considered, with reduced residential development extents in the Northern Precinct to address comments received. The reduced footprint provides an improved outcome for the site and surrounds.

# 5.11 European Heritage

# 5.11.1 Summary of Comments

One comment was received in regards to European Heritage during the exhibition period. This comment was raised by Wollongong City Council, stating;

'The Heritage Impact Assessment Report prepared by Biosis appears to indicate a downgrading of the potential archaeological significance of a range of identified Archaeological sites detailed in the

earlier reporting. Evidence gathered by Council about this estate appears to indicate a significant history of transactions and history that is not reflected in the reporting and which may call into question some of the assumptions and conclusions in that report. Council considers that the Heritage Impact Assessment Report prepared by Biosis should be amended to reflect the substantial additional historical records available to ensure that the conclusions made about potential archaeological sites are properly considered and that the assumptions made in absence of this evidence are correct. Details of this additional history have been included in this submission at Attachment 2 and can be further clarified by Council's Heritage Coordinator as required.'

A further response was received from OEH's Heritage Division which indicated that there were no impacts to state listed heritage sites associated with the Modification application to the Tallawarra Lands Concept Plan.

# 5.11.2 Response to Comments

The site history that was raised in Council's submission relates to sites that are not located within either the central and northern precincts. Biosis have undertaken additional mapping work to spatially locate the properties identified within Council submission, with this mapping contained within **Appendix L**.

# 5.11.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to European Heritage aspects.

# 5.12 Aboriginal Heritage

# 5.12.1 Summary of Comments

A number of comments have been received that relate to Aboriginal Heritage assessment that relates to the Modification Application for the Tallawarra Lands Concept Plan. Submissions were received from one member of the community who identifies as an Aboriginal Elder and three agencies (Lake Illawarra Estuary Management Committee, OEH and Wollongong City Council).

In respect of the Aboriginal Heritage assessments undertaken to support this Modification Application the following aspects were identified as requiring further information;

- Further engagement should be undertaken throughout the process, an Aboriginal Heritage Management Plan (AHMP) will not suffice at the construction stage.
- > Aboriginal people should be involved throughout all levels of the development. This should include an Aboriginal/Youth Employment Strategy.
- > Additional archaeological test excavation and Aboriginal community consultation is required to better inform the impact of this development on Aboriginal heritage. An Aboriginal heritage impact permit (AHIP) under the National Parks & Wildlife (NPW) Act 1974 will be required for both the archaeological test excavation and the proposed development works. A summary of the additional requirements is provided below:
  - Update the consultation section of the reports and maintain consultation with the Registered Aboriginal Parties.
  - Apply for an Aboriginal Heritage Impact Permit to conduct archaeological test excavation.
  - Commitment to conserve of the fig tree associated with site 52-5-0615 (Biosis 2017b, pp.36, 38).
  - Prepare an archaeological technical report in accordance with the Code of Practice.
  - Submit an AHIP application for harm through the proposed construction after development consent has been approved by Council.
  - Prepare an AHMP to meet the requirements of the Concept Plan approval MP09\_0131.

These comments have been addressed individually below.

#### 5.12.2 Response to Comments

The EA submitted to inform the Modification Application was supported by Aboriginal Cultural Heritage Assessment (ACHA) (Biosis 2017a and 2017b) reports prepared for each of the two precincts that are

proposed to be modified. These reports were prepared to expand upon the assessments undertaken during the Concept Plan approval (Biosis 2010) and include assessment of expanded areas of the site.

It is noted that the submitted ACHA for both precincts are noted as being in draft form. The final versions have been included with this report and are contained at **Appendix H** and **Appendix I**. Further to these final versions, Archaeological Reports (AR) have also been prepared and are attached at **Appendix J** and **Appendix K** to inform assessments undertaken.

The following responses are provided in respect to the points raised above;

- Engagement with the Aboriginal community will continue throughout the development process. Consultation has occurred throughout the preparation of documents required to support the modification to the Concept Plan. Further consultation will be undertaken throughout the Development Application process when consent will be sought from Council for the staged development of the site. Further, consultation is expected to continue throughout construction works as will be detailed in the AHMP when it is prepared as required by the Concept Plan approval with the first future application to Council (refer to condition 8 of Schedule 3 of the Concept Approval).
- > This application relates to the modification of the approved Tallawarra Lands Concept Plan. As such, no works are proposed to be undertaken as a direct result of this application. Employment of individuals for future works will be addressed in future applications to Council.
- > The final ACHA and AR for each of the precincts contained at Appendix H, I, J, and K provide detail of the required consultation sought within OEH's submission. The assessment undertaken to inform the modification to the Concept Plan has identified a number of follow on items of work that will be undertaken prior to Development Applications being lodged with Council for any impacted parcels of land. This will include the application for AHIP's for test excavations as required for shell middens and any other AHIP applications required if impacts to known Aboriginal objects are necessary due to the development footprint.
  - The retention of the fig tree associated with site 52-5-0615 cannot be committed to due to the earthworks required within the vicinity of this tree to achieve the approved Concept Plan. The cultural heritage value of this tree is acknowledged and further investigations will be undertaken at the Development Application stage to determine if alternative measures can be employed to acknowledge the significance of this item.

Engagement with the Aboriginal community will continue to occur throughout the development process for this site. Biosis, the engaged sub-consultant for this work has a long history of work within this site and established connections with the local Aboriginal community. It is envisaged that this engagement will continue throughout the Development Application process.

# 5.12.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to Aboriginal Heritage aspects.

# 5.13 Utility Servicing

# 5.13.1 Summary of Comments

A number of public comments were received, as well as from the Save Lake Illawarra Action Group, relating to sewerage provision throughout the Kanahooka and Koonawarra areas. These submissions noted that the current sewerage system overflowed in high rainfall events, with runoff entering Lake Illawarra. Concern was raised that further development, especially of the Northern Precinct, would exacerbate this issue.

TransGrid in their response indicated that no issues are required to be addressed at this stage, instead providing further information regarding processes that are required to be undertaken within future Development Applications relating to the site.

The Department of Planning and Environment sought clarification as to the proposal to underground transmission lines within the Northern Precinct and that this aspect of the proposal should be incorporated into the overall project description.

# 5.13.2 Response to Comments

Section 5.12 of the submitted Modification Application included discussion surrounding wastewater service provision to both the Northern and Central Precincts. This review indicated that upgrades to sewerage systems for both precincts would be required to accommodate both the proposed dwelling yields approved under the Concept Plan, as well as through any increase to yield proposed by this Modification. This work would be further detailed through future development applications for both precincts.

As such, no further assessment is required to be undertaken.

The project description contained at **Section 7.1.1** for the Northern Precinct extents has been updated to include discussion about the intent to underground the existing transmission lines that currently traverse this precinct. This proposed action is discussed in the letter received from Endeavour Energy, which is contained at **Appendix M** below.

# 5.13.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to utility servicing. Note that further discussion has been included about the intention to underground the transmission lines within the Northern Precinct within the overall Project Description contained at **Section 7.1.1** below.

# 5.14 Additional Comments

# 5.14.1 Air Quality

# 5.14.1.1 Summary of Comments

One agency submission received identified that no assessment has been undertaken in regards to air quality for proposed residential lots located in proximity to the Tallawarra Power Station. Specific concerns were raised about the air pollution created during start up and shut down procedures where gases are released that are heavier than air.

#### 5.14.1.2 Response to Comments

The impact on air quality was assessed as part of the approvals for both the Tallawarra A and B power stations. In these project applications it was found that the noise impacts were far greater than any impacts associated with air quality in respect to adjacent residential uses. Noise from the power stations remains the determining constraint that will shape the extents of the modification, with no greater impact from air quality than as assessed for the Concept Approval. Consequently, there is no further requirement to consider air quality impacts.

#### 5.14.1.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to Air Quality assessment.

# 5.14.2 Affordable Housing

#### 5.14.2.1 Summary of Comments

Two agency submissions were received that directly related to the provision of affordable housing within the overall development of the Tallawarra Lands. Wollongong Council provided a letter prepared by The Illawarra Housing Trust and addressed to Council, this letter was also submitted directly to the Department of Planning and Environment as part of the exhibition process. This letter indicated general support for the proposed modification subject to the condition that 15% of the lots be provided for affordable housing. The submission indicated that the best practice approach to social housing was to provide housing in a 'salt and pepper' approach with 5% dedicated to social housing and 10% dedicated to affordable housing.

#### 5.14.2.2 Response to Comments

The proponent acknowledges that the provision of social and affordable housing is an important aspect of creating an inclusive community. The Illawarra region has not been identified as an area with a need for affordable housing under Section 7.32 of the *Environmental Planning and Assessment Act 1979*, which suggests that the type of action suggested by The Illawarra Housing Trust is not warranted. The developer

will provide both social and affordable housing as is required by statutory requirements that are in place at the time of individual development application submission. The developer remains committed to bringing the Central and Northern precincts to market with a range of lot sizes interspersed through the development to enable the continued supply of greenfield land, while ensuring that there is a varied socioeconomic demographic across the site. A mix of dwelling sizes will prevent enclaves of lower socioeconomic development being created while adding visual interest and a varied rhythm to the streetscape. This continued supply of land, of different lot sizes and densities, will aid in reducing the pressure for land prices to continue their historic rise, ensuring affordable land purchase values for future generations.

# 5.14.2.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to affordable housing provision.

# 5.14.3 Social Impact Assessment

# 5.14.3.1 Summary of Comments

Wollongong Council have indicated that the Modification Application should be accompanied by a Social Impact Assessment.

# 5.14.3.2 Response to Comments

The SEARs received for the preparation of the Tallawarra Land Concept Plan Modification did not include a requirement to undertake a Social Impact Assessment of the proposed changes. Nor was a Social Impact Assessment required in the assessment of the initial Concept Plan approval. This modification is only proposing minor increases additional to the development footprint already approved. As such, this aspect has been appropriately addressed previously. Social Impact Assessments can be prepared to inform subsequent development applications as required.

# 5.14.3.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to Social Impact Assessment.

# 5.14.4 Terminology

# 5.14.4.1 Summary of Comments

A number of comments have been received relating to the updating of references to state agencies that have had their names changed. Comments indicated that these references should be updated throughout all submitted documentation.

### 5.14.4.2 Response to Comments

As submitted documentation has already been publicly exhibited none of the EA documentation has been amended to reflect agency name changes. However, all references to state agencies within this document and its appendices have been to their current names at the time of finalisation.

# 5.14.4.3 Proposed changes

No changes are proposed to the Modification Application for the approved Tallawarra Lands Concept Plan in respect to terminology used throughout.

# 6 Changes to the Modification Application

# 6.1 Amendments to Modification Application

In reviewing the submissions received as part of the exhibition of the Tallawarra Lands Concept Plan Modification application a number of amendments have been identified. These changes primarily result from adjustments to precinct boundaries resulting from noise impacts from the Tallawarra Power Station and from RMS requirements relating to the Albion Park Rail Bypass of the Princes Highway. These changes result in a number of flow on benefits that aid in addressing a wide range of other concerns that were raised though out the submission received.

# **Table 6-1** below summarises the amendments made to the Modification Application for the approved Tallawarra Lands Concept Plan.

Avec of she	Description of adjustment
Table 6-1	List of changes to the Modification Application for the Tallawarra Lands Concept Plan

Area of change	Description of adjustment			
	Northern Precinct			
Boundary adjustments	The southern residential boundary of the extended precinct has been relocated northwards to increase the buffer distance from the Tallawarra Power Station to ensure that the residential dwellings are all located behind the predicted 40dB contour.			
	Eastern residential boundary has been adjusted to ensure that all of the proposed superlot is located within land zoned R2 within the WLEP.			
	Lots located with the north-western corner of the precinct have been shown as superlots in areas where the underlying zoning is E3 and is located in areas shown as being within the buffer zone of coastal wetlands as mapped by the Coastal Management SEPP. These lots will retain land uses consistent with the permissible land uses detailed for the E3 zone within the WLEP.			
Residential lots	The precinct boundary adjustment has resulted in the reduction in the number of lots proposed within the Northern Precinct. The modification application initially proposed a total of 571 residential lots within this precinct, which is now proposed to be reduced to 407.			
	The Concept Plan for the Northern Precinct was approved with a total of 310 lots.			
Open Space	Additional open space has been included within the Northern Precinct in the location that was proposed within the initial Modification Application to contain residential dwellings. This open space will provide future residents with a range of both passive and active recreational uses, with associated visual benefits.			
	Central Precinct			
Boundary adjustments	The eastern boundary of the Central Precinct has been modified to reflect the modelled 40dB contour from the Tallawarra Power Station. The western boundary has also been modified to remove the subdivision layout from the land acquisition requirements of the Albion Park Rail bypass works associated with the Princes Motorway.			
	The Industrial lands zoning boundaries have been revised to include a small section of General Industrial uses where mapping for Coastal Wetlands overlays this area. This adjustment has been made to achieve consistency with the requirements of Clause 8N to the EP&A Regs 2000 (as explained in Section 5.2.2.2).			
Residential lots	The precinct boundary adjustment has resulted in the reduction in the number of lots proposed within the Central Precinct. The modification application initially proposed a total of 559 residential lots within this precinct, which is now proposed to be reduced to 552 lots.			
	The Concept Plan for the Central Precinct was approved with a total of 350 lots.			
	Overall Scheme			
Residential lots	The initial modification application sought to increase the overall number of residential lots within the Tallawarra Lands URA from 1,010 to 1,480. With the changes to the modification discussed in this report, the overall number of residential lots proposed will reduce to 1,310.			

Road Network

Detail added to scheme showing the potential alignment of connecting road between the Northern and Central Precincts.

# 7 Updated Project Description

This section details the Project Description as updated through the Response to Submissions process. All detail within this section relates to the Project Description following additional environmental assessment undertaken and updates the Project Description contained within the Modification Application documentation formally accepted by the Department of Planning and Environment on the 31<sup>st</sup> May 2018.

# 7.1 Precinct Extents

# 7.1.1 Northern Precinct

# 7.1.1.1 Residential footprint

The approved Concept Plan provides a residential footprint of approximately 18.03 hectares within the Northern Precinct. The proposed modification to the Concept Plan increases this residential footprint to 27.41 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 and Section 5 of the Modification Application. 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 through appropriate design measures incorporated into the specific subdivision Development applications undertaken at a future date.

A component of the increase to residential footprint within the Northern precinct is achieved through the proposed undergrounding of the existing electrical transmission lines that currently traverse the centre of this precinct. **Appendix M** below contains discussion of these proposed works undertaken with Endeavour Energy.

# 7.1.1.2 Endeavour Energy 132kv feeders

A component of the increase to residential land is the relocation of the four 132kv electrical feeders that traverse the Northern Precinct in a north-south direction adjacent to the Council owned recreation reserve located at Barrons Gully. These four electrical feeders occupy an approximate 75m wide easement within the northern precinct. To allow better utilisation of the already zoned R2 residential land, it is proposed to relocate the four feeders underground to reduce the required easements associated with this piece of infrastructure. This aspect of the modification application remains under investigation with Endeavour Energy, with the resultant alignment to generally reflect the current locations of the existing pylons. Underground options would see feeders placed under the constructed road surface. Due to the complexity of the relocation and the need for physical separation of the existing assets, a second north-south road has been proposed to facilitate the works. This will allow two feeders to be located under the main north –south road and two feeders to be located under the secondary north-south road. Refer to **Figure 7-1** Proposed Transmission Line Relocation below for proposed placement of the transmission lines.

The works to relocate the transmission lines underground are to be subject to an approval under Part 5 to the EP7A Act, 1979. The approval process and works can occur concurrently with any future development application for subdivision of land within the Northern Precinct. Works are intended to be completed prior to the issue of a Subdivision Certificate for registration of any lots within the vicinity of the easement.

# 7.1.1.3 Open space and Environment Footprint

The approved Concept provides an open space and environmental footprint of approximately 27.46 hectares (comprising 10.47 hectares of Landscaped open space and 16.99 hectares of managed Environmental Land). The proposed modification to the Concept Plan reduces this footprint to 17.67 hectares (comprising 11.43 hectares of Landscaped open space and 6.24 hectares of managed Environmental Land) to allow for an increase in residential land use.

The increase in residential land primarily occurs through a slight movement of the residential portion of the site towards the ridgeline running from Mount Brown to Tallawarra Point. This increase of residential land is into areas that were proposed for landscaping works within the initial Concept Plan, namely the works that

were proposed along this ridgeline to create a treed space rather than the current grassed gazing land. The Modifications to the approved Concept Plan have maintained this aspect, increasing its extent further south and proposing to utilise this space for passive recreation uses. This will result in an overall increase in landscaped space within the Northern Precinct.

Both the increase in residential land and landscaped open space is offset by a loss of E3 zoned land that was not proposed to have any works occur within it. The E3 zoned land in this portion of the site is characterised by grazing land utilised as pasture for horses and cattle. The E3 Land that is lost will predominately be landscaped with native vegetation and will see a general improvement of the ecological values of these lands. The E3 land that is located within the superlot boundary to the west of the Northern Precinct will remain undeveloped and will be managed as open grass lands or as vegetation as is currently the case. Bridgehill will take ownership of this portion of the site and will take over the management of the environmental management of this portion of the site (managing bushfire risk, invasion of weed species etc.).

Provision has been made within the Northern Precinct to provide a connecting road linking the Northern and Central Precincts together as part of the overall development of the site. The construction of the road link will occur at an appropriate time after development within both precincts has commenced to provide a through connection within the overall site boundaries. Construction of the road will be informed by detailed TIAs and movement pattern projections identified with more detailed future subdivision applications.

The adjustments to the land use boundaries within the Northern Precinct are discussed in **Table 7-1** below, with **Figure 7-2** showing the updated concept plan.

Land Use	Proposed Land Use Changes	Existing Land Use Area	Proposed Land Use Area	Justification
Residential	Expand the residential development footprint south into the E3 – Environmental Management zone.	The existing residential footprint within the Northern Precinct on the approved Concept Plan is 18.03 hectares.	The proposed residential footprint within the Northern Precinct is 27.41 hectares. This is an increase of 9.38 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 <b>Section 5</b> and Section 5 of the Modification Application. The investigations found that subject to appropriate mitigation the proposed expansion is acceptable.
Open Space and Environmental Lands	The proposed changes seek to expand the landscaped open space. The changes will result in a reduction in managed environmental lands.	The existing landscaped open space within the Northern Precinct on the approved Concept Plan is 10.47 hectares. Whereas, the area of managed environmental lands is 16.99 hectares.	<ul> <li>The proposed landscaped open space within the Northern Precinct is 11.43 hectares.</li> <li>Whereas, the area of managed environmental lands is 6.24 hectares.</li> <li>This results in a: <ul> <li>0.96 hectare increase in landscapes open spaces</li> </ul> </li> <li>10.75 hectare reduction in managed environmental land</li> </ul>	The reduction in managed environmental land for the North Precinct is largely due to alterations to the 132kv electrical feeders that traverse the precinct. These alterations has opened up this corridor for residential development. Further increases in the residential areas proposed in the northwest corner of the site will predominately occur on cleared grassland that is not impacted by noise generated by the Tallawarra Power station. Landscaped open space has increased through increases to landscaped areas located along the ridgeline extending from

#### Table 7-1 Proposed Changes to Land Use within the Northern Precinct

Lake Illawarra through to Mount Brown.

Total North	45.49 hectares	45.49 Hectares	No change in overall area
Precinct Area			

Note: Comparisons of areas are based off the modification application precinct boundaries applied to the approved concept plan.





# Proposed Transmission Line

TALLAWARRA LANDS

# Legend

# FIGURE 7-1

1:5,000 Scale at A3

0 50 100 150 2	00



Map Produced by Cardno NSW/ACT Pty Ltd (WOL) Date: 2019-05-01 | Project: 82017142 Coordinate System: GDA 1994 MGA Zone 56 Map: 82017142-01-GS-070-PropTransmissionLine.mxd 06 Aerial imagery supplied by nearmap (March, 2019)





# Amended Concept Plan - North

TALLAWARRA LANDS

# Legend


#### 7.1.2 Central Precinct

#### 7.1.2.1 Residential Footprint

The approved Concept Plan provides a residential footprint of approximately 32.35 hectares within the Central Precinct. The proposed modification to the Concept Plan increases this residential footprint to 39.77 hectares. Further investigations, post Concept Plan approval have deemed this additional land suitable for residential development. The majority of the additional residential land is associated with an increase to the large lot residential sites. Key aspects to consider when investigating the suitability relate to noise, topography, visual and ecology, which are discussed in **Section 5** above and in Section 5 of the submitted Modification Application. The investigations found that subject to appropriate mitigation the proposed expansion is acceptable.

#### 7.1.2.2 Industrial Footprint

The approved Concept Plan provides an industrial footprint of approximately 13.27 hectares within the Central Precinct. The proposed modification to the Concept Plan increases this industrial footprint to 17.11 hectares, however maintains a portion of environmental lands to the north to create a landscape buffer between the residential and industrial land uses.

Additionally, it is proposed that the Industrial zoned portion of the site be restricted to predominately light industrial uses. This will increase the light industrial land uses within a consolidated area north of Yallah Bay Road, aiding in the provision of such land that is currently highly sought after in the Illawarra. Extensive areas of IN1 land are located south of Yallah Bay Road, which are unchanged by this Modification. The consolidation of all Industrial land north of Yallah Bay Road will provide a light industrial precinct that is compatible with the adjacent power station, whilst still achieving the employment generation envisaged for this site.

The location of the general industrial uses adjacent to the western side of the power station was deemed to have the potential to relocate undesirable off site amenity impacts closer to residents in the Central Precinct. The specific intent of the light industrial land uses, as identified by the objective *"To minimise any adverse effect of industry on other land uses"*, is to reduce impacts associated with industrial uses on adjacent residential lots. Consequently, the light industrial land uses will act as a suitable buffer between the power station and the residential lands.

Furthermore, it is understood that a key element of the Tallawarra Concept Approval was job creation. The extension of the light industrial land uses is likely to facilitate a greater increase in jobs than general industrial uses, due to the larger number of people generally employed in the lighter industrial land uses given heavier industrial jobs are generally highly automated in the current industrial climate. The light industrial land use objectives are supportive of job creation with the following objectives of specific relevance:

- > To encourage employment opportunities and to support the viability of centres.
- > To support and protect industrial land for industrial uses.
- > To encourage appropriate forms of industrial development which will contribute to the economic and employment growth of Wollongong.

In summary, the extension of the light industrial land uses will help to facilitate employment within the Tallawarra Lands URA while providing a more appropriate land use buffer.

#### 7.1.2.3 Open Space and Environment Footprint

The approved Concept Plan provides an open space and environmental footprint of approximately 24.83 hectares (comprising 17.14 hectares of landscaped open space and 7.69 hectares of managed environmental lands). The proposed modification to the Concept Plan reduces this footprint to 14.05 hectares (comprising 9.78 hectares of landscaped open space and 4.27 hectares set aside for future development of the Albion Park Rail Bypass) to allow for increased residential and industrial land uses.

#### 7.1.2.4 Neighbourhood Centre Footprint

The reduced neighbourhood centre footprint is considered appropriate, as the size of the approved neighbourhood centre footprint is excessive compared to the anticipated demand for commercial and retail space in the area. The modification will result in the approved commercial area under the Concept Plan

reduce from 4.59 hectares to 3.08 hectares. The residual neighbourhood centre land will more than adequately cater for the retail and commercial needs of the surrounding residents.

The adjustments to the land use boundaries within the Central precinct are described in **Table 7-2** below, with the updated concept plan contained at **Figure 7-3**.

Table 7-2 Proposed Changes to Land Use within the Central Precinct				
Land Use	Proposed Land Use Changes	Existing Land Use Area	Proposed Land Use Area	Justification
Residential	Expand the Residential development footprint into the E3 – Environmental Management zone. Expand the Residential development footprint into the R5 – Large Lot Residential zone. Expand the large lot Residential development footprint into the E3 – Environmental Management zone.	The existing residential footprint within the Central Precinct on the approved Concept Plan is 32.35 hectares.	The proposed residential footprint within the Central Precinct is 39.77 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, topography, visual and ecology, which are discussed in <b>Section 5</b> above and Section 5 of the submitted Modification Application. The investigations found that subject to appropriate mitigation the proposed expansion is acceptable.
Industrial	Expand the Light Industrial Land uses north over all the IN1 – General Industrial zone.	The existing industrial footprint within the Central Precinct on the approved Concept Plan is 13.27 hectares.	The proposed industrial footprint within the Central Precinct is 17.11 hectares.	The approved Concept Plan provides an industrial footprint of approximately 13.27 hectares within the Central Precinct. The proposed modification to the Concept Plan increase this industrial footprint to 17.11 hectares, however maintains a portion of environmental lands to the north to create a landscape buffer between the residential and industrial land uses.
Open Space and Environment	Expand the Environmental Management land uses into the R2 – Low Density Residential Zone. Expand the Environmental Management land uses west into the B1 – Neighborhood Centre zone.	The existing environmental footprint within the Central Precinct on the approved Concept Plan is 24.83 hectares (Comprising both landscaped open space and managed environmental land).	The proposed environmental footprint within the Central Precinct is 9.78 hectares. A further 4.27 hectares will be set aside as vegetated road reserve adjacent to the Princes Motorway at the request of the RMS.	The environmental lands are reduced due to the expansion of the industrial and residential footprints. These are considered more appropriate land uses for the site to cater for the projected housing and employment demand. Several areas that were identified on the approved Concept Plan for residential development have been changed to environmental lands to provide a minor offset for the loss of environmental lands in other areas throughout the Central Precinct. The Environmental Management land uses are proposed to be extended westwards to accommodate a park and sports facility as proposed by the Concept Plan. The sports facility is currently

			part located within IN2 land and does not align with the IN2 zone objectives. The relocation of the sports and park area will allow industrial development to occur on the industrial zoned land, with these facilities located adjacent, providing a buffer to the neighbourhood centre.
Neighbourhood Centre	The existing neighbourhood centre footprint within the Central Precinct on the approved Concept Plan is 4.59 hectares.	The proposed neighbourhood centre footprint within the Central Precinct is 3.08 hectares.	The reduced neighbourhood centre footprint is considered appropriate as the size of the approved neighbourhood centre footprint is excessive compared to the anticipated demand for commercial and retail space in the area. The residual neighbourhood centre land will more than adequately cater for the retail and commercial needs of the surrounding residents.
Total Central Precinct Area	75.04 hectares	75.04 Hectares	No change in overall area

Note: Comparisons of areas are based off the modification application precinct boundaries applied to the approved concept plan.





### Amended Concept Plan - Central

#### TALLAWARRA LANDS

#### Legend

Legend			
	Concept Plan Boundary		
	Proposed Superlot Boundary		
	Lot Layout		
	Road Link		
	Cadastre (DFSI-SS, 2018)		
60	Approved Superlot Boundary		
Proposed Land Use			
	General Industrial Lands		
	Light Industrial Lands		
	Neighbourhood Centre		
	Environmental Lands		
	Desidential Lende		

- Residential Lands
- Large Lot Residential Lands

#### FIGURE 7-3

1:4,500 Scale at A3

		Metres		
0	50	100	150	200



#### 7.1.3 Proposed Land Use Tables

The proposed uses within each of the areas proposed within the revised concept plan are consistent with the land use tables contained within the *Wollongong Local Environment Plan 2009* as listed within the version current on the 9<sup>th</sup> November 2018. The intent of this is to ensure that the majority of the site remains consistent with the predominant underlying zoning of the Northern and Central Precincts. The following subsections reproduce the Land Use Tables as existed for the 9<sup>th</sup> November 2018. The definitions for each land use are as found within the *Standard Instrument – Principle Local Environmental Plan*.

For each sub-section below, the relevant WLEP 2009 zone has been detailed for ease of reference.

#### 7.1.3.1 Residential

- 1. Objectives of zone
  - To provide for the housing needs of the community within a low density residential environment.
  - To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- 2. Permitted without consent

Home occupations

3. Permitted with consent

Attached dwellings; Bed and breakfast accommodation; Boarding houses; Boat launching ramps; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Environmental facilities; Exhibition homes; Exhibition villages; Group homes; Health consulting rooms; Home-based child care; Hospitals; Hostels; Information and education facilities; Jetties; Multi dwelling housing; Neighbourhood shops; Places of public worship; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Residential flat buildings; Respite day care centres; Roads; Semi-detached dwellings; Seniors housing; Shop top housing; Signage; Veterinary hospitals

4. Prohibited

Any development not specified in item 2 or 3

#### 7.1.3.2 Large Lot Residential

- 5. Objectives of zone
  - To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
  - To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
  - To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
  - To minimise conflict between land uses within this zone and land uses within adjoining zones.
- 6. Permitted without consent

Home occupations

7. Permitted with consent

Animal boarding or training establishments; Bed and breakfast accommodation; Business identification signs; Centre-based child care facilities; Community facilities; Dwelling houses; Exhibition homes; Farm buildings; Home-based child care; Places of public worship; Recreation areas; Respite day care centres; Roads; Roadside stalls

8. Prohibited

Any development not specified in item 2 or 3

#### 7.1.3.3 Environmental Lands

- 1. Objectives of zone
  - To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.
  - To provide for a limited range of development that does not have an adverse effect on those values.
- 2. Permitted without consent

Home occupations

3. Permitted with consent

Animal boarding or training establishments; Bed and breakfast accommodation; Building identification signs; Business identification signs; Community facilities; Dwelling houses; Environmental facilities; Environmental protection works; Extensive agriculture; Farm buildings; Farm stay accommodation; Forestry; Home-based child care; Recreation areas; Recreation facilities (outdoor); Roads; Secondary dwellings

4. Prohibited

Industries; Multi dwelling housing; Residential flat buildings; Retail premises; Seniors housing; Service stations; Warehouse or distribution centres; Any other development not specified in item 2 or 3

#### 7.1.3.4 Open Space Lands

- 1. Objectives of zone
  - To enable land to be used for public open space or recreational purposes.
  - To provide a range of recreational settings and activities and compatible land uses.
  - To protect and enhance the natural environment for recreational purposes.
  - To cater for the development of a wide range of uses and facilities within open spaces for the benefit of the community.
- 2. Permitted without consent

Nil

3. Permitted with consent

Boat sheds; Camping grounds; Caravan parks; Centre-based child care facilities; Community facilities; Environmental facilities; Environmental protection works; Extensive agriculture; Helipads; Information and education facilities; Kiosks; Markets; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreational facilities (outdoor); Respite day care centres; Restaurants or cafes; Roads; Signage; Take away food and drink premises; Water recreation structures

4. Prohibited

Any development not specified in item 2 or 3

#### 7.1.3.5 Business Area

- 1. Objectives of zone
  - To provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood.
  - To allow for residential accommodation and other uses while maintaining active retail, business or other non-residential uses at the street level.
- 2. Permitted without consent

Building identification signs; Business identification signs

3. Permitted with consent

Advertising structures; Amusement centres; Backpackers' accommodation; Bed and breakfast accommodation; Boarding houses; Business premises; Car parks; Centre-based child care facilities; Commercial premises; Community facilities; Entertainment facilities; Home-based child care; Hotel or motel accommodation; Information and education facilities; Medical centres; Neighbourhood shops; Neighbourhood supermarkets; Places of public worship; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Registered clubs; Respite day care centres; Roads; Seniors housing; Service stations; Shop top housing; Veterinary hospitals

#### 4. Prohibited

Rural supplies; Specialised retail premises; Vehicle sales or hire premises; Any other development not specified in item 2 or 3

#### 7.1.3.6 Light Industrial Area

- 1. Objectives of zone
  - To provide a wide range of light industrial, warehouse and related land uses.
  - To encourage employment opportunities and to support the viability of centres.
  - To minimise any adverse effect of industry on other land uses.
  - To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.
  - To support and protect industrial land for industrial uses.
  - To encourage appropriate forms of industrial development which will contribute to the economic and employment growth of Wollongong.
- 2. Permitted without consent

Building identification signs; Business identification signs

3. Permitted with consent

Advertising structures; Agricultural produce industries; Animal boarding or training establishments; Aquaculture; Boat building and repair facilities; Community facilities; Crematoria; Depots; Freight transport facilities; Garden centres; Hardware and building supplies; Helipads; Industrial retail outlets; Industrial training facilities; Kiosks; Landscaping material supplies; Light industries; Mortuaries; Neighbourhood shops; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Roads; Self-storage units; Service stations; Sex services premises; Take away food and drink premises; Transport depots; Vehicle body repair workshops; Vehicle repair stations; Vehicle sales or hire premises; Veterinary hospitals; Warehouse or distribution centres; Waste or resource management facilities; Water treatment facilities

4. Prohibited

Any development not specified in item 2 or 3

#### 7.1.3.7 General Industrial Area

- 1. Objectives of zone
  - To provide a wide range of industrial and warehouse land uses.
  - To encourage employment opportunities.
  - To minimise any adverse effect of industry on other land uses.
  - To support and protect industrial land for industrial uses.
  - To facilitate and encourage appropriate forms of industrial development which will contribute to the economic and employment growth of Wollongong.
  - To allow some diversity of activities that will not:
    - i. significantly detract from the operation of existing or proposed manufacturing and service industries, or
    - ii. significantly detract from the amenity of nearby residents, or

- iii. adversely impact upon the efficient operation of the surrounding road system.
- 2. Permitted without consent

Building identification signs; Business identification signs

3. Permitted with consent

Advertising structures; Community facilities; Crematoria; Depots; Freight transport facilities; Garden centres; General industries; Hardware and building supplies; Heavy industries; Helipads; Industrial retail outlets; Industrial training facilities; Kiosks; Light industries; Liquid fuel depots; Mortuaries; Neighbourhood shops; Places of public worship; Recreation areas; Recreation facilities (indoor); Roads; Service stations; Take away food and drink premises; Transport depots; Vehicle body repair workshops; Vehicle repair stations; Vehicle sales or hire premises; Warehouse or distribution centres

4. Prohibited

Any development not specified in item 2 or 3

#### 7.2 Increased Densities

In conjunction with the proposed changes to the boundaries of the two precincts discussed above, the modification to the approved Concept Plan also seeks to include development standards within the Concept Plan to control Height, Minimum Lot and Size and Floor Space Ratio (FSR). The proposed changes to development standards are intended to facilitate a greater mix of housing types and densities to meet the changing housing needs of the community. The proposed changes include:

- > a reduction in the minimum lot size within the Residential land
- > an increase in the maximum height of building in certain areas
- > an increase in the floor space ratio (FSR) in certain areas

The reductions to the minimum lot size are in keeping with other developments currently occurring throughout the Illawarra as discussed in Section 1 of the submitted Modification Application. Both the URAs of Calderwood and West Dapto have seen lot sizes reducing to 300m<sup>2</sup> to meet the growing demand from the community for smaller and more affordable lots to meet the demographic changes occurring throughout the Region.

The proponent seeks a reduction of the minimum lot size throughout the Residential development footprint to 299m<sup>2</sup> in both the Northern and Central precincts to further meet this growing demand for a range of lot sizes. It is envisaged that a range of lot sizes will be provided to ensure a diverse range of housing options are produced, enabling suitable lots for terrace, town house, villa and detached housing stock. The 299m<sup>2</sup> minimum lot size will not be applied to all lots with lots envisaged to range in size from 299m<sup>2</sup> up to 800m<sup>2</sup> for standard residential purposes.

The proposal also seeks for a strip of Residential land along the foreshore of Lake Illawarra be provided with a minimum lot size of 200m<sup>2</sup>. The foreshore space is seen as a key location within the Tallawarra Lands site, with this space likely to be activated in the future. By providing a minimum lot size of 200m<sup>2</sup> along this section of land it is expected that further activation will occur. These lots will be ideally positioned to enable terrace style housing with rear lane access, enabling these dwellings to actively interface with the street and foreshore opposite creating an inviting environment for future residents and visitors to enjoy this enviable location.

Figure 7-2 and Figure 7-3 detail the modified Concept Plan for these two precincts, showing the full range of lot sizes that are envisaged to be included in the development of these areas.

The proposal also seeks to determine the development standards applicable under the Concept Plan for the Height of Buildings, Minimum Lot Size and FSR controls to facilitate the development outcome outlined in the modified concept plan. Where residential apartment buildings are identified, the maximum height of building is proposed to increase to 15m (4 storeys) with a FSR of 1.5:1. Where terrace style housing is proposed along the foreshore and open space areas, the FSR is proposed to increase to 0.75:1.

The proposed building heights and FSRs for the North Shore and Central precincts are shown in **Figure 7-4** and **Figure 7-5**.







### Proposed Development Controls Plan - North

NORTH SHORE PRECINCT TALLAWARRA LANDS

### Legend

1)





### Proposed Development Controls Plan - Central

CENTRAL PRECINCT TALLAWARRA LANDS

### Legend Concept Plan Boundary --- Proposed Superlot Boundary Indicative Lot Layout Road Link 5m Contours (LPI LiDAR, 2013) Modification Boundary APRB SPIR Footprint Cadastre (DFSI-SS, 2018) Proposed Maximum Floor Space Ratio (n:1) 0.3 0.5 0.75 Proposed Maximum Building Height (m) 9 m 16 m 20 m Proposed Minimum Lot Size 200m<sup>2</sup> 299 m<sup>2</sup> 449 m<sup>2</sup> 1999 m<sup>2</sup> 3999m<sup>2</sup> 1.99 ha 39.9 ha FIGURE 7-5

1:9,000 Scale at A3 <u>Metres</u> 0 100 200 300 400



#### 7.3 Concept Approval Condition Amendments

A number of modifications are required to the Concept Approval notice of determination both to reflect the changes in density and extent of development, along with the practicalities of Bridgehill entering into an agreement with Energy Australia for the future purchase of the Northern and Central Precincts only. These changes are generally minor in nature, with the majority relating to clarifying the wording of these conditions and addressing changes to the road network affecting the Central Precinct. Each of the conditions affected and the proposed amendments are discussed below.

7.3.1 Condition 11 – Further Investigation of the Areas of Environment Concern and engagement of a Site Auditor accredited under the Contaminated Land Management Act 1997

As explained in Section 2.1.3 it is proposed to modify condition 11 as follows:

"Fu<u>ture</u>r<del>ther</del> applications that include <u>works on</u> those lands nominated as Areas of Environmental Concern (AECs) in the Coffey Environment Report (December 2010) must be accompanied by a further environmental assessment report. In addition to adopting the recommendations contained in Section 12 of the Coffey Environments Groundwater Modelling Assessment report, the further investigations must consider:

- the potential of contaminants present in the soil and ground in the vicinity of the ash ponds to be mobilised and transported to the adjacent shallow aquifer, Duck Creek and ultimately to the receiving waters of Lake Illawarra, and measures to address this including the feasibility of remediation of contaminated soils and/or the containment of the sources of contamination;
- measure to ensure that the environment attributes of conservation lands on the site are not adversely impacted on by contaminants present in the soil and groundwater;
- recommendations for the ongoing management of contaminated groundwater;
- the potential for the contamination present in soil and groundwater in the vicinity of ah ash ponds to adversely affect groundwater dependent ecosystems on the site; and
- any risks to human health or the environment.

Following the completion of the further investigations, the proponent must engage a Site Auditor accredited under the Contaminated Land Management Act 1997 to verify the adequacy of the investigations (and any proposed remediation). Prior to the issue of any Subdivision Certificate (other than for super lot subdivision), the proponent must obtain a Site Audit Statement which and certifyies that the site is suitable for its proposed use. No buildings may be erected on the land prior to the issue of a Site Audit Statement certifying that the site is suitable for its proposed use."

7.3.2 Condition 12 – Engagement of a site auditor to verify the adequacy of asbestos soil sampling and asbestos contamination investigations

As explained in Section 2.1.3 it is proposed to modify condition 12 as follows:

'The first future application to Council (refer to Condition A6) must include a verification from a Site Auditor accredited under the Contaminated Land Management Act 1997 to as to the adequacy of the investigations and asbestos soil sampling undertaken by the Douglas Partners (July 2010) <u>and any further investigations subsequently undertaken by the proponent</u> and certification <del>of the suitability of</del> that the site <u>can be made suitable</u> for the proposed use.

## 7.3.3 Condition 15 – Upgrade of the junction of the Princes Highway and Yallah Bay Road to a roundabout

Condition 15, as it currently states, requires;

"The first future application to Council (Refer to Condition A6) which includes works must be accompanied by an approved design for the upgrade of the junction of the Princes Highway and Yallah Bay Road.

The intersection must be upgraded to a roundabout. The submitted design must be to the satisfaction of and have been approved by Roads and Maritime Services and Wollongong City Council."

Condition 15 is ambiguous in its current state as it refers to an application which includes works, conversely, it refers to Condition A6 (super lot subdivision), which does not include works. It is unclear whether this requirement is intended to apply to a development application for superlot subdivision that does not include any physical works or a subsequent application.

Given the uncertainty around the timing of the Albion Park Rail Bypass (APRB), it would be onerous to require design development at this stage of the process, with associated sign off by both Wollongong City Council and Roads and Maritime Services (RMS).

It is proposed to amend the timing of the design to be required in connection with the future subdivision of the Central Precinct.

Proposed wording for Condition 15 is as follows:

"The first future application to Council (Refer to Condition A6) which includes works application for development within the Central precinct must be accompanied by an approved design for the upgrade of the junction of the Princes Highway and Yallah Bay Road.

The intersection must be upgraded to a roundabout. The submitted design must be to the satisfaction of and have been approved by Roads and Maritime Services and Wollongong City Council."

#### 7.3.4 Condition 16 – Requirements for a Concept Design for the Closure of Cormack Avenue

Condition 16, as it currently states, requires;

"The first future application to Council (refer to Condition A6) for superlot subdivision must include a concept design for the physical closure of the existing junction of Cormack Avenue with the Princes Highway.

The submitted design must be to the satisfaction of and have been approved by Roads and Maritime Services and Wollongong City Council. The road closure is to be implemented in conjunction with the development of the Central Precinct."

Similar to Condition 15, this condition requires substantial design work. Creating the superlot subdivision will not allow construction of physical works and thus this condition requiring an approved concept be submitted at the time of superlot subdivision should not be required. Added to this is the uncertainty surrounding the actual works required to this intersection with the last public release of documentation for the ARPB showing this intersection as a left in/left out intersection rather than complete closure.

The condition should be amended to reflect when this work is actually required, which is proposed to be at the time the roundabout is required for the site access to the Central Precinct due to its proximity to the APRB interchange.

It is proposed to amend the timing of the design to be required in connection with the future subdivision of the Central Precinct.

Proposed wording for Condition 15 is as follows:

"The first future application to Council (refer to Condition A6) for superlot subdivision application for development within the Central Precinct must include a concept design for the physical closure of the existing junction of Cormack Avenue with the Princes Highway.

The submitted design must be to the satisfaction of and have been approved by Roads and Maritime Services and Wollongong City Council. The road closure is to be implemented in conjunction with the development of the Central Precinct."

### 7.3.5 Condition 25 – Satisfactory Arrangements for the provision of designated State public infrastructure

Condition 25, as it currently states, requires;

"The first development application to Council (refer to Condition A6) must demonstrate that satisfactory arrangements have been made for the provision of designated State public infrastructure, in accordance with Clause 6.1 of Wollongong Local Environmental Plan 2009."

Condition 25 imports the requirement for "satisfactory arrangements" as identified in clause 6.1 of the *Wollongong Local Environmental Plan 2009* (WLEP) for State infrastructure into the Concept Approval. The WLEP requires that "satisfactory arrangements" must be made "only if the land is developed intensively for urban purposes". Consequently, clause 6.1 of the WLEP would not apply to a superlot subdivision where a future development consent would be necessary before the land could be "developed intensively for urban purposes". Instead, satisfactory arrangements for State infrastructure would need to be made before the detailed subdivision could be approved.

Condition 25 requires Clause 6.1 of the WLEP to be complied with as part of the superlot subdivision DA, requiring a Voluntary Planning Agreement (VPA) to be prepared. VPA preparation at the superlot subdivision phase would place the financial burdens of any agreement on Bridgehill, which would not be reasonable in circumstances where a contribution is required to be paid in relation to land that will remain in Energy Australia's ownership. Additionally, negotiation of the VPA would take time, particularly when the finer details of the ultimate subdivision are not yet known.

It is proposed to amend Condition 25 to be consistent with the intention of the WLEP, which is to require that satisfactory arrangements must be made only before the land is developed intensively for urban purposes. This would effectively require a VPA with the Minister for State contributions prior to the approval of each stage of the development (other than the creation of the superlots).

Proposed wording for Condition 15 is as follows:

"The first development application to Council (refer to Condition A6) Future applications for <u>development</u> must demonstrate that satisfactory arrangements have been made for the provision of designated State public infrastructure, in accordance with Clause 6.1 of Wollongong Local Environmental Plan 2009."

#### 7.4 Staging of Works

The staging of works to be conducted throughout the Tallawarra Lands will be detailed within the First Future application, which will be an application made to Wollongong City Council for superlot subdivision.

#### 7.5 Modified Concept Plan

**Figure 7-2** and **Figure 7-3** above shows the Modified Concept Plan incorporating all the changes detailed within the Modification Application and within this Response to Submissions.

The Concept Plan in Figure 7-6 is intended to supersede the approved Concept Plan.





## BRIDGEHILL GROUP PTY LTD TALLAWARRA LANDS

DATE	PROJECT NO.	DRAWING NO	ISSUE
10.05.19	82019142-02	L1000	2

landscape architecture urban design environmental management



### 8 Conclusion

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. Additionally, the southern Lakeside Precinct is being held by Energy Australia and not likely to be developed in the short to medium term it at all, effectively reducing the overall yield of residential and employment lands.

The proposed modification seeks to increase the density of development within the northern half of the site that is proposed to be developed by amending land use boundaries and development controls within the Concept Plan to meet this increase in demand and the changing demographic requirements of the Illawarra. The modification also seeks to amend a number of conditions of the original Concept Plan approval to acknowledge changes that have occurred over the 5+ years since the approval was granted. These changes primarily comprise the separation of the Northern and Central Precincts from the Lakeside Precinct and the associated requirements of the first development application (superlot subdivision).

Secretary's Environmental Assessment Requirement's were provided by the Department of Planning and Environment (the Department) for the modification in January 2017, with associated assessments undertaken throughout the remainder of 2017. The Tallawarra Lands Concept Plan Modification Application (Modification application) was lodged with the Department on the 24<sup>th</sup> January 2018, with it formally accepted on the 31<sup>st</sup> May 2018 after an internal review. Exhibition for the application occurred 26<sup>th</sup> June to 24<sup>th</sup> July 2018, with 34 submissions received. This Response to Submissions report has been prepared to respond to the concerns raised throughout the exhibition process.

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. Justification for this was provided within the Modification Application formally accepted by the Department.

Comprehensive assessment of the potential environmental impacts associated with the project has been undertaken and is contained within the Modification Application. Further assessment of various aspects was undertaken to address concerns raised. These 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 additional studies undertaken is below:

Traffic assessment – Further assessed the impacts and updated modelling undertaken to address a range of concerns raised by the general public and State agencies. Focus was placed on the impacts associated with a small number of lots accessing Carlyle Close to the north of the Central Precinct. Additional investigation was undertaken regarding public transport provision, walking and cycling throughout the site. Traffic modelling was updated to address a number of concerns that were raised by Roads and Maritime Services. The outcomes of assessment result in the same findings detailed within the Modification Application, with the surrounding road network capable of supporting extra traffic demand that will be generated from the increase in residential yield, with no critical network operational concerns. Specific network and intersection upgrades and the timing of delivery will be subject to more detailed TIAs submitted with future subdivision development applications after the superlot subdivision.

Additional comments raised by Roads and Maritime Services related to the land requirements of the Albion Park Rail bypass project. This required an adjustment of the subdivision layout in the southwestern portion of the Central Precinct to accommodate the updated extents of the land required to accommodate this road project.

Water Assessment – Additional Water Sensitive Urban Design and Flooding assessment was undertaken to address concerns and respond to comments, primarily from Wollongong City Council and NSW Department of Industry. The assessment confirmed that stormwater quality and quantity can be maintained at a suitable level for release to the local environment and flooding impacts can be managed appropriately, with no adverse impacts as a result of the proposed modification. Minor changes have been made to the proposed stormwater model to reduce the use of Crown Lands in the treatment of stormwater from the site.

- Acoustic assessment Additional Acoustic assessment was undertaken to respond to various concerns raised, primarily from the EPA and Wollongong City Council. The outcomes confirmed assessment outcomes developed through the Modification Application. The subdivision layouts for the Northern and Central Precincts have been amended to ensure that all proposed residential lots are located outside the 40dB modelled contour extending from the Tallawarra Power Station. Further, additional assessment was undertaken to confirm the impacts of the Princes Motorway on proposed lots within the Central Precinct. Additional assessment found that previous modelling was sound and consistent with the Noise Policy for Industry.
- Ecological assessment All comments received relating to Ecological impacts were further considered to ensure that a complete assessment has been undertaken within the Modification Application. The extension of the residential lands proposed through this modification are located on lands predominately classified as cleared grasslands or weeds and exotics. Only limited removal of vegetation will be required which has been adequately assessed within the Modification Application in respect to the relevant legislation in place. No consultation with the Commonwealth Government is required under the EPBC Act 1999 as the proposed impacts to threatened ecological communities affect less than the 2ha threshold.
- Visual Impact Assessment Further commentary in regards to the Visual Assessment was undertaken. Details of the engaged consultants was provided to demonstrate that adequately qualified persons undertook the required works. Further commentary was provided about impacts associated with the increased development extents as well as providing additional photomontages. 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 within the Northern Precinct.

Details of the landscaping proposed along the south west edge of the Northern Precinct demonstrate that a broad area of canopy trees and landscaping will be provided to the ridgeline. This will establish both an ecological corridor between the lake foreshore and Mount Brown and a visual screen along the ridgeline as originally anticipated by the approved Concept Plan and Condition B4.

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.

These additional environmental assessments illustrate that the concerns raised throughout the exhibition process have been adequately addressed through the amendments made to the Modification Application. These amendments made remain subject to the identified mitigation and management measures identified within the Modification Application and 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.

### 9 References

Office of Environment and Heritage, 2014, Framework for Biodiversity Assessment



### **REGISTER OF SUBMISSIONS**





### SUMMARY OF SUBMISSIONS RECEIVED





### TRAFFIC RESPONSE





### NOISE RESPONSE





### CV JOHN O'GRADY



### UPDATED VISUAL ASSESSMENT VP





### LANDSCAPE RESPONSE





### ACHA: CENTRAL PRECINCT



### ACHA: NORTHERN PRECINCT



## AR: CENTRAL PRECINCT




#### AR: NORTHERN PRECINCT



#### EUROPEAN HERITAGE RESPONSE



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#### ENDEAVOUR ENERGY LETTER



### ECOLOGY RESPONSE





#### STORMWATER RESPONSE





#### FLOODING RESPONSE



#### About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

#### Contact

16 Burelli Street Wollongong NSW 2500 Australia

Phone +612 4228 4133 Fax +612 4228 6811

www.cardno.com

