



Proposed Transmission Line

TALLAWARRA LANDS












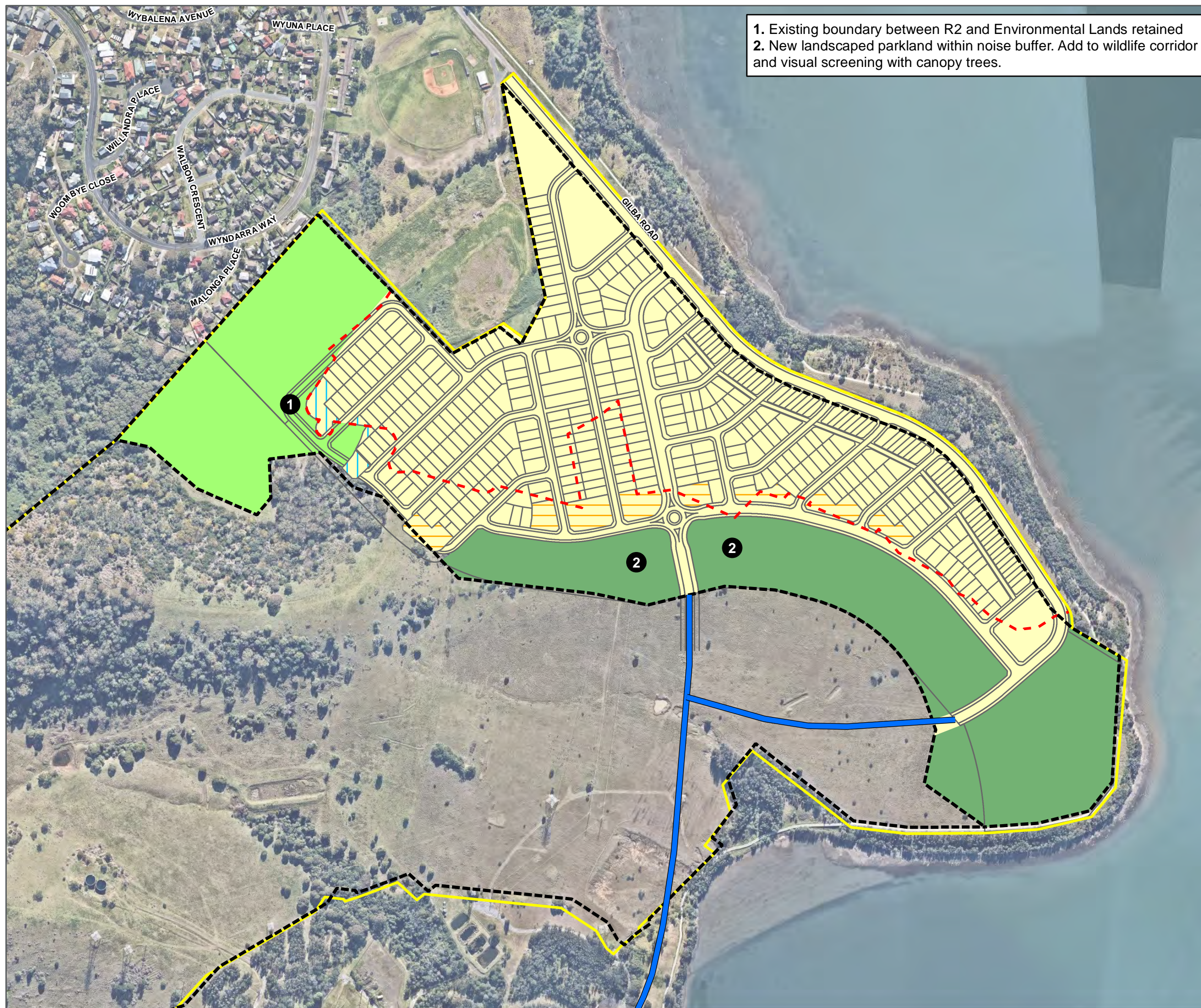
- Legend**
-  Concept Plan Boundary
 -  Lot Layout
 -  Watercourses (LPI)
 -  Collector Road
 -  Proposed Superlot Boundary
 -  Proposed Underground Transmission
 -  Existing Overhead Electricity Transmission Line (LPI)
 -  Extent of Existing Overhead Electricity Transmission Line to be moved underground
 -  Easement (LPI)
 -  Cadastre (DFSI-SS, 2018)
 -  Concept Approval Boundary

FIGURE 7-1

1:5,000 Scale at A3





1. Existing boundary between R2 and Environmental Lands retained
2. New landscaped parkland within noise buffer. Add to wildlife corridor and visual screening with canopy trees.



BRIDGEHILL
GROUP

Final Concept Plan North

TALLAWARRA LANDS

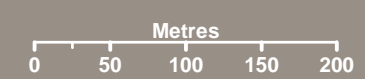
Legend

- Concept Plan Boundary
- Lot Layout
- Collector Road
- Proposed Superlot Boundary
- Approved Superlot Boundary
- Proposed Land Use**
- Environmental Lands - Zone E3
- Open Space - Zone RE1
- Residential Lands - Zone R2
- Residential Lands - Larger Lots (Noise Mitigation) - Zone R2*
- Residential Lands - Larger Lots (Coastal Wetland - Zone R2)

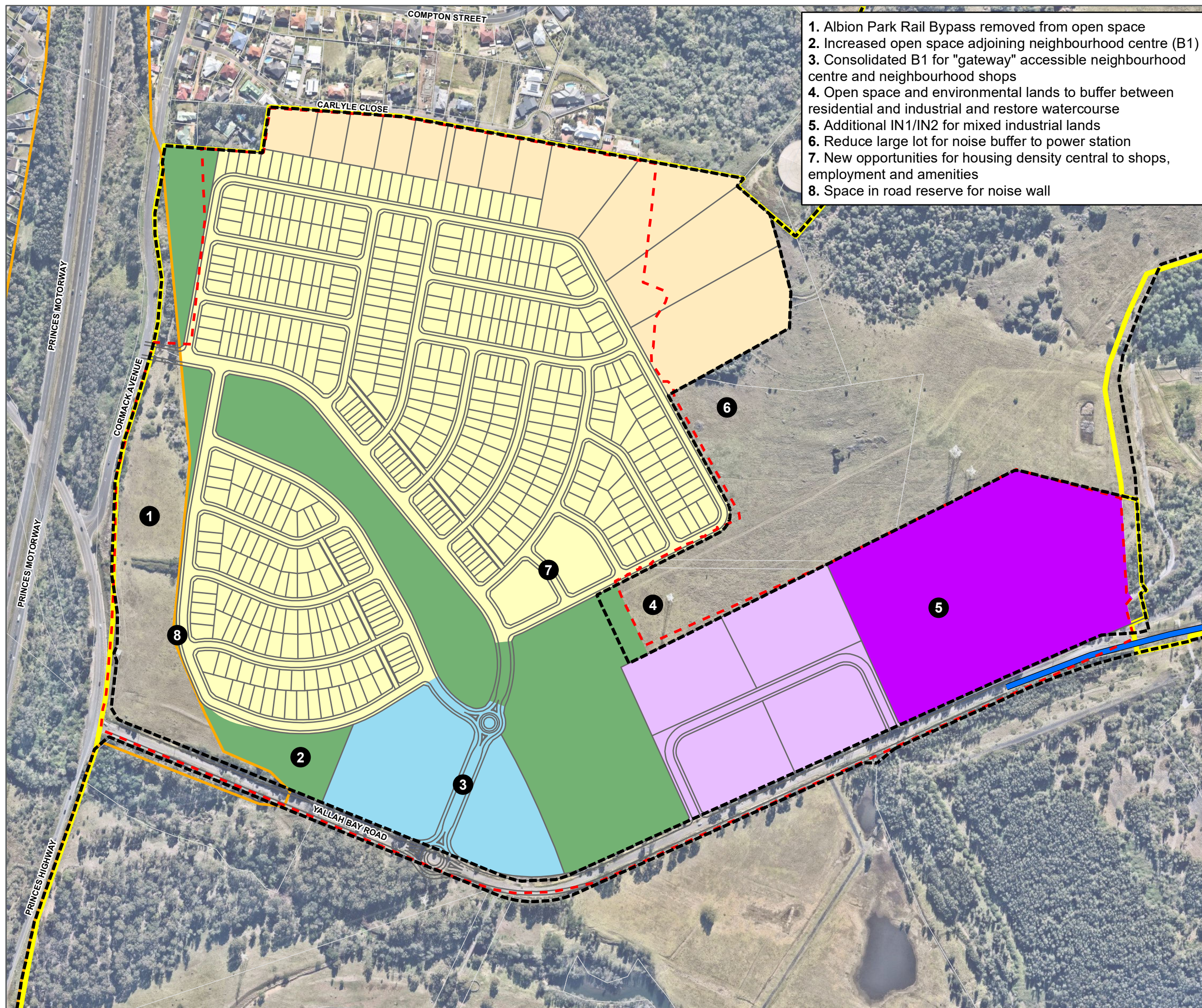
** Larger lots provided until certainty around Tallawarra "B" power station timing is confirmed*

FIGURE 7-2

1:5,000 Scale at A3



Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2019-09-09 | Project: 82017142
Coordinate System: GDA 1994 MGA Zone 56
Map: 82017142-01-GS-064-ModifiedConceptPlan_N.mxd 11
Aerial Imagery supplied by nearmap (July, 2019)



1. Albion Park Rail Bypass removed from open space
2. Increased open space adjoining neighbourhood centre (B1)
3. Consolidated B1 for "gateway" accessible neighbourhood centre and neighbourhood shops
4. Open space and environmental lands to buffer between residential and industrial and restore watercourse
5. Additional IN1/IN2 for mixed industrial lands
6. Reduce large lot for noise buffer to power station
7. New opportunities for housing density central to shops, employment and amenities
8. Space in road reserve for noise wall



BRIDGEHILL
GROUP

Final Concept Plan Central

TALLAWARRA LANDS

Legend

- Concept Plan Boundary
 - Lot Layout
 - Collector Road
 - Proposed Superlot Boundary
 - Approved Superlot Boundary
 - APRB SPIR Footprint
 - Cadastre (DFSI-SS, 2018)
- Proposed Land Use**
- General Industrial Lands
 - Light Industrial Lands
 - Neighbourhood Centre
 - Environmental Lands
 - Residential Lands
 - Large Lot Residential Lands

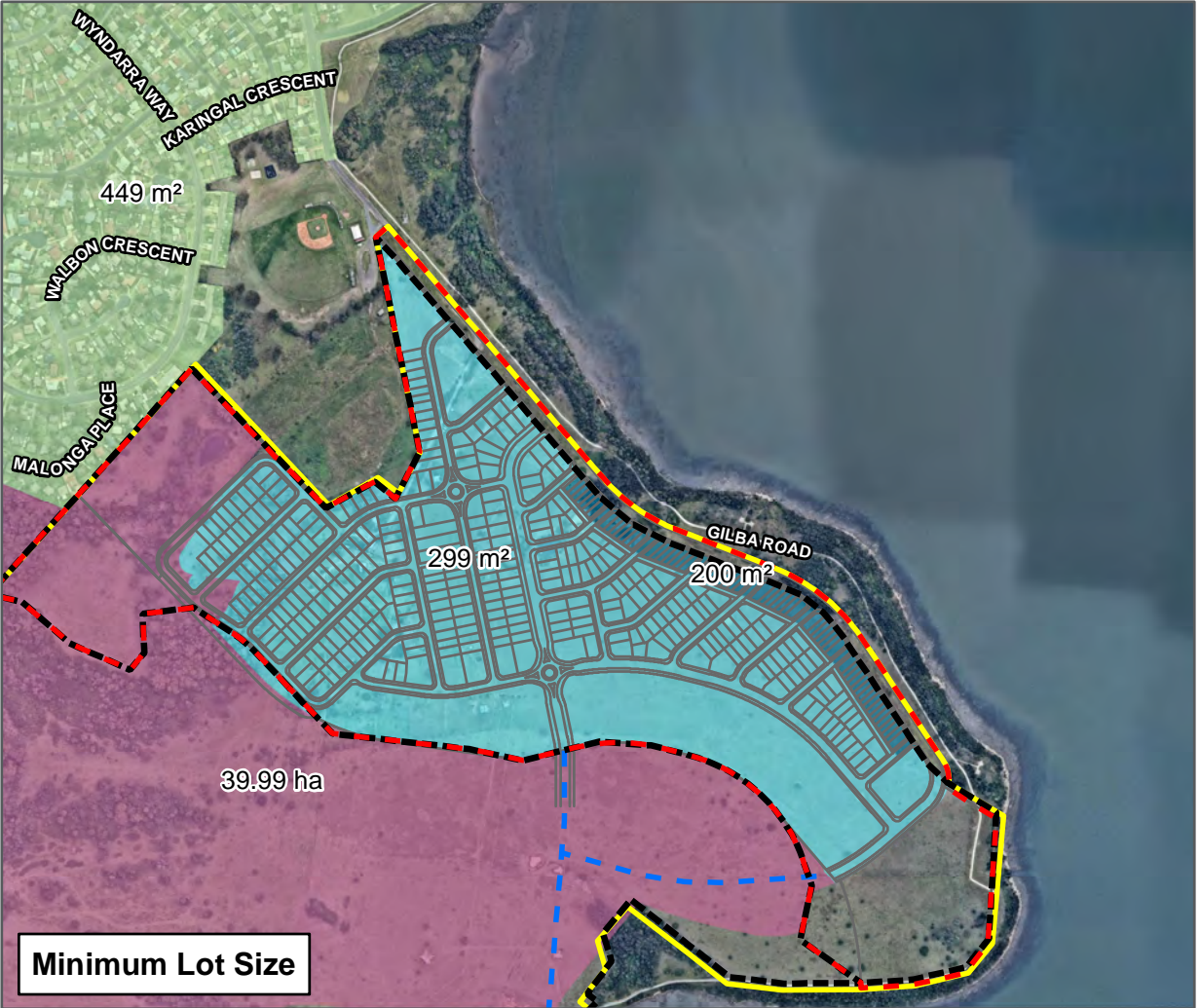
FIGURE 7-3


1:4,500 Scale at A3

Metres
0 50 100 150 200



Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2019-09-11 | Project: 82017142
Coordinate System: GDA 1994 MGA Zone 56
Map: 82017142-01-GS-065-ModifiedConceptPlan_C.mxd 09
Aerial imagery supplied by nearmap (July, 2019)





Proposed Development Controls Plan - North

NORTH SHORE PRECINCT
TALLAWARRA LANDS

Legend

- Concept Plan Boundary
- Lot Layout
- Collector Road
- 5m Contours (LPI LiDAR, 2013)
- Proposed Superlot Boundary
- Modification Boundary
- Cadastre (DFS-I-SS, 2018)

Proposed Maximum Floor Space Ratio (n:1)

- 0.5
- 0.75

Proposed Maximum Building Height (m)

- 9m

Proposed Minimum Lot Size



- 200 m²
- 299 m²
- 449 m²
- 39.99 ha

FIGURE 7-4

1:10,000 Scale at A3

Metres

0 100 200 300 400



Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
Date: 2019-09-12 | Project: 82017142
Coordinate System: GDA 1994 MGA Zone 56
Map: 82017142-01-GS-034-ProposedLEPControlNorth.mxd 12
Aerial imagery supplied by nearmap (July, 2019)

APPENDIX

B

PROPOSED MODIFIED SET OF CONDITIONS

APPENDIX B – Schedule of modified conditions for the Concept Approval

The following table is a list of the conditions of the Concept Approval that are requested to be modified.

Only those conditions requested to be modified are listed in the table.

Modifications are presented in 'track 'changes' format with strikethrough text to be deleted and underlined text to be added.

ORIGINAL CONCEPT APPROVAL	PROPOSED MODIFICATION	JUSTIFICATION
SCHEDULE 2		
PART A – TERMS OF APPROVAL		
A1 Development description Concept approval is granted to the development as described below; <ul style="list-style-type: none"> (a) Three residential precincts accommodating up to 1,010 lots – the Northshore Precinct, Central Precinct and the Lakeside (southern) Precinct; (b) Lands for a neighbourhood centre within the Central precinct; (c) Lands for a future tourism facility on the eastern headland of the Central precinct; (d) Lands within the central and southern precincts for industrial, light industrial and business purposes; (e) An internal road network, a network walkways, cycle paths, share paths; and (f) Open space, public recreation areas and conservation lands. 	A1 Development description Concept approval is granted to the development as described below; <ul style="list-style-type: none"> (a) Three residential precincts accommodating up to 1,010 <u>1,257</u> lots – the Northern shore <u>Northern</u> 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 <u>of</u> walkways, cycle paths, share paths; and (f) Open space, public recreation areas and conservation lands. 	<p>The number of residential lots is changed to accurately reflect the conceptual subdivision layout.</p> <p>The label of the northern precinct has changed from the “Northshore Precinct” to the “Northern Precinct” to match the wording on the revised Concept Plan.</p> <p>(e) subject to a minor typographical correction to replace “network walkways” with “network of walkways”</p> <p>There are no changes to the layout south of Yallah Bay Road.</p> <p>The link road between Haywards Bay and Yallah Bay Road remains an essential element of the future development of the land south of Yallah Bay Road.</p> <p>There are no changes to the general alignment of Yallah Bay Road.</p> <p>The land for a future primary school and retirement living have been deleted as required by Condition B1 Part B – Modifications in Schedule 2 to the current version of the Concept Plan approval. Condition B1 Part B can be deleted (see Part B below).</p> <p>The southern access road from the Princes Highway to the Lakeside Precinct has been deleted in accordance with Condition B2 Part B – Modifications in Schedule 2 to the current version of the Concept Plan Approval. Condition B2 Part B – Modifications in Schedule 2 to</p>

		the current version of the Concept Plan can now be deleted (see Part B below).																											
<p>A2 Development in accordance with Plans and Documentation</p> <p>The development shall be undertaken generally in accordance with:</p> <ul style="list-style-type: none"> ▪ The Environmental Assessment dated February 2011 prepared by DFR Planning Consultants, except where amended by the Preferred Project Report dated June 2012 prepared by DFP Planning Consultants including the supplementary Flood Risk Assessment Report prepared by Bewsher (ref. J1898L_2), dated 10 January 2013; ▪ The Statement of Commitments prepared by DFP Planning Consultants; and ▪ The following drawings <table border="1" data-bbox="165 762 730 1107"> <thead> <tr> <th>Author/Drawing No./Report</th><th>Name of Plan</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Warren Lee Urban Design</td><td>TRUenergy – Tallawarra Lands Concept Plan</td><td>7 May 2012</td></tr> <tr> <td>Corkery Consulting, Landscape Plan Report Figure 30 PPR Appendix K</td><td>The Street Hierarchy</td><td></td></tr> </tbody> </table> <p>except for as modified by the following pursuant to Section 75O(4) of the Act.</p>	Author/Drawing No./Report	Name of Plan	Date	Warren Lee Urban Design	TRUenergy – Tallawarra Lands Concept Plan	7 May 2012	Corkery Consulting, Landscape Plan Report Figure 30 PPR Appendix K	The Street Hierarchy		<p>A2 Development in accordance with Plans and Documentation</p> <p>The development shall be undertaken generally in accordance with:</p> <ul style="list-style-type: none"> ▪ The Environmental Assessment dated February 2011 prepared by DFR Planning Consultants, except where amended by the Preferred Project Report dated June 2012 prepared by DFP Planning Consultants including the supplementary Flood Risk Assessment Report prepared by Bewsher (ref. J1898L_2), dated 10 January 2013; ▪ The <u>modified</u> Statement of Commitments prepared by Cardno NSW/ACT Pty Ltd dated 11 September 2019; and ▪ The following drawings <table border="1" data-bbox="808 788 1373 1428"> <thead> <tr> <th>Author/Drawing No./Report</th><th>Name of Plan</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Warren Lee Urban Design</td><td>TRUenergy – Tallawarra Lands Concept Plan</td><td>7 May 2012</td></tr> <tr> <td>Corkery Consulting, Landscape Plan Report Figure 30 PPR Appendix K</td><td>The Street Hierarchy</td><td></td></tr> <tr> <td><u>Cardno NSW/ACT Figure 7-2</u></td><td><u>Final Concept Plan - North</u></td><td><u>09/09/2019</u></td></tr> <tr> <td><u>Cardno NSW/ACT Figure 7-3</u></td><td><u>Final Concept Plan - Central</u></td><td><u>11/09/2019</u></td></tr> <tr> <td><u>Cardno NSW/ACT Figure 7-4</u></td><td><u>Proposed Development Controls Plan - North</u></td><td><u>12/09/2019</u></td></tr> </tbody> </table>	Author/Drawing No./Report	Name of Plan	Date	Warren Lee Urban Design	TRUenergy – Tallawarra Lands Concept Plan	7 May 2012	Corkery Consulting, Landscape Plan Report Figure 30 PPR Appendix K	The Street Hierarchy		<u>Cardno NSW/ACT Figure 7-2</u>	<u>Final Concept Plan - North</u>	<u>09/09/2019</u>	<u>Cardno NSW/ACT Figure 7-3</u>	<u>Final Concept Plan - Central</u>	<u>11/09/2019</u>	<u>Cardno NSW/ACT Figure 7-4</u>	<u>Proposed Development Controls Plan - North</u>	<u>12/09/2019</u>	Modified to list the additional plans and documents submitted with, and approved by this modification application.
Author/Drawing No./Report	Name of Plan	Date																											
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	<div> <div>Cardno NSW/ACT Figure 7-5</div> <div>Proposed Development Controls Plan - Central</div> <div>09/09/2019</div> </div> <p>except for as modified by the following pursuant to Section 75O(4) and Section 75W of the Act.</p>	
A6 First Future Application The first future application must be an application to Council for superlot subdivision of the entire site and is to be generally in accordance with the land use boundaries provided in the Concept Plan. In addition to other requirements of the Terms of Approval, this application must identify the sequential staging of the Concept Plan.	A6 First Future Application The first future application shall be an application to Council for superlot subdivision of the entire site and it is to be generally in accordance with <u>the plan titled 'Proposed First Superlot Subdivision Plan' prepared by Bridgehill Group Drawing Reference BH-001 Rev.01 dated 06/09/2019</u> and land use boundaries provided in the Concept Plan.	Modified to account for the additional information and adjustments made with this modification and clarify the condition is relevant to the first future superlot subdivision application as referred to in Condition A6.
PART B – MODIFICATIONS		
B4 Environmental Corridor The proposed woodland vegetation along the ridgeline on the southern edge of the Northshore Precinct (identified in the Landscape Plan, prepared by Corkery Consulting, May 2012) shall comprise a continuous vegetated corridor providing ecological connectivity such that the movement of native fauna species between Mount brown Reserve and the foreshore of Lake Illawarra is facilitated.	B4 Environmental Corridor The proposed woodland vegetation along the ridgeline on the southern edge of the Northern shore Precinct (identified in the Landscape Plan, prepared by Cardno NSW/ACT Pty Ltd Plan Reference 82017142) Corkery Consulting, May 2012 shall comprise a continuous vegetated corridor providing ecological connectivity such that the movement of native fauna species between Mount brown Reserve and the foreshore of Lake Illawarra is facilitated.	The previously referenced Landscape Plan for the ridgeline park has been superseded by the Landscape Concept Plan prepared by Cardno NSW/ACT. The new Landscape Plan provides a superior outcome in terms of a continuous vegetated corridor and ecological connectivity between the lake foreshore and Mount Brown Reserve as well as creating a visual buffer of canopy trees to effectively treat the visual impact of the Northern Precinct redevelopment as viewed from the lake and lake foreshores.
B5 Bushfire Protection – Perimeter Road The Type 4 roads that form a perimeter road for bushfire planning purposes (as illustrated in fig 30 of the Landscape Plan, prepared by Corkery Consulting, dated May 2012) must be changed to a Type 3 road or increased in the width to meet the perimeter road	B5 Bushfire Protection – Perimeter Road The Type 4 roads that form a perimeter road for bushfire planning purposes (as illustrated in fig 30 of the Landscape Plan, prepared by Corkery Consulting, dated May 2012) must be changed to a Type 3 road or increased in the width to meet the perimeter road requirements of Section 4.1.3 of <i>Planning for Bushfire</i>	Modification to accommodate for revised Bushfire Assessment relevant to the modifications to the Central and Northern Precincts.

requirements of Section 4.1.3 of <i>Planning for Bushfire Protection 2006</i> .	<u>Protection 2006 except where superseded by the recommendations of the Bushfire Assessment prepared by Peterson Bushfire dated 24 July 2017.</u>	
SCHEDULE 3 FUTURE ENVIRONMENTAL ASSESSMENT REQUIREMENTS		
8. Cultural Heritage Management Plan <p>The first future application to Council (refer to Condition A6) shall be accompanied by a Cultural Heritage Management Plan that details how impacts on Aboriginal and non-Aboriginal heritage across the entire site will be minimised and managed.</p> <p>The plan shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (f) Specific measures to be applied to works undertaken in close proximity to identified Aboriginal and non-Aboriginal heritage items to minimise and avoid impacts on these items; (g) How heritage items (Aboriginal objects and relics or works) discovered during the construction of the project will be considered and managed. This shall include a component within the site induction program for construction workers on Aboriginal and non-Aboriginal heritage within the project area; (h) Stop-work and notification procedures to be implemented should any unexpected impact to archaeological deposits and/or State significant relics not previously identified be discovered; (i) A procedure for continued consultation with the relevant Aboriginal stakeholders <u>during site preparation and subdivision works</u>; and (j) Procedures to be followed should non-compliance against any of the provisions of the management plan occur. 	8. Cultural Heritage Management Plan <p>The first future <u>superlot subdivision</u> application to Council (refer to Condition A6) for shall be accompanied by a Cultural Heritage Management Plan (<u>CHMP</u>) that details how impacts on Aboriginal and non-Aboriginal heritage across the entire site will be minimised and managed.</p> <p><u>The plan shall be prepared in two parts to match the responsibilities of landowners in preparing for, and implementing, all future development. Part 1 of the plan shall apply to the Central and Northern Superlots and shall be submitted in detail with the first future superlot subdivision application. Part 2 of the Plan shall apply to the Southern (Lakeside) Precinct and shall be submitted with the first development application for the Southern Precinct following the approval of the first future superlot subdivision.</u></p> <p>The plan shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (a) Specific measures to be applied to works undertaken in close proximity to identified Aboriginal and non-Aboriginal heritage items to minimise and avoid impacts on these items; (b) How heritage items (Aboriginal objects and relics or works) discovered during the construction of the project will be considered and managed. This shall include a component within the site induction program for construction workers on Aboriginal and non-Aboriginal heritage within the project area; (c) Stop-work and notification procedures to be implemented should any unexpected impact to 	<p>A CHMP identifies the site management methods and responsibilities of developers, site managers and all persons involved in construction activities causing site disturbance.</p> <p>The modification is requested to align the responsibilities of future separate landowners and the practical consequences for land management and land development to be undertaken for the separate precincts.</p>

<p>All future applications must demonstrate how they will implement the Cultural Heritage Management Plan.</p>	<p>archaeological deposits and/or State significant relics not previously identified be discovered;</p> <p>(d) A procedure for continued consultation with the relevant Aboriginal stakeholders <u>during site preparation and subdivision works</u>; and</p> <p>(e) Procedures to be followed should non-compliance against any of the provisions of the management plan occur.</p> <p>All future applications must demonstrate how they will implement the Cultural Heritage Management Plan.</p>	
<p>9. Transfer of environmentally sensitive land and open space into public ownership and the Securing of Environmental Offsets</p> <p>Future applications which include lands to be transferred to public ownership on the "Conceptual Tallawarra Land Ownership Plan" (Figure 37 of the Environmental Assessment) must include details on the proposed ownership arrangements for the land nominated for transfer.</p> <p>In the event that a public authority is unwilling to accept transfer of the lands zoned open space, the proponent shall retain and maintain these lands as publicly accessible privately owned open space.</p> <p>In the event that a public authority is unwilling to accept transfer of the lands zoned for environmental purposes or lands required as an environmental offset, the proponent must implement an alternative method of securing the identified lands in perpetuity, such as establishing a biobanking agreement.</p>	<p>9. Transfer of environmentally sensitive land and open space into public ownership and the Securing of Environmental Offsets</p> <p>Future applications which include lands to be transferred to public ownership on the Conceptual Land Ownership Plan to be part of the site-specific DCP on the "Conceptual Tallawarra Land Ownership Plan" (Figure 37 of the Environmental Assessment) must include details on the proposed ownership arrangements for the land nominated for transfer.</p> <p>In the event that a public authority is unwilling to accept transfer of the lands zoned open space, the proponent shall retain and maintain these lands as publicly accessible privately owned open space.</p> <p>In the event that a public authority is unwilling to accept transfer of the lands zoned for environmental purposes or lands required as an environmental offset, the proponent must implement an alternative method of securing the identified lands in perpetuity, such as establishing a biobanking agreement.</p>	<p>This modification is requested to align the requirements for a Land Ownership Plan to match the timing of a site-specific DCP.</p> <p>The site-specific DCP will be supported by several specialist studies and management plans which will more accurately identify environmentally sensitive land and open space suitable for public ownership.</p> <p>For example:</p> <ul style="list-style-type: none"> - the CHMP will identify areas of land suited to sensitive management for cultural and heritage reasons - the Flood Risk Assessment Management Plan and the Stormwater Management Masterplan will identify the methods for flood risk management and stormwater management which may require infrastructure and land to be transferred to Council ownership
<p>10. Amended Vegetation Management Plan</p> <p>The first future application to Council (refer to Condition A6) shall be accompanied by an amended Vegetation Management Plan, which includes the following requirements:</p>	<p>10. Amended Vegetation Management Plan</p> <p>The first future application to Council (refer to Condition A6) shall be accompanied by an amended <u>Concept</u> Vegetation Management Plan <u>to be prepared in two parts – one for the land north of Yallah Bay Road and</u></p>	<p>The modification is requested to match the fact that there will be no works with the first future superlot subdivision application (including no vegetation management).</p> <p>The modification is also requested to align the responsibilities of future separate landowners and the practical consequences for vegetation management</p>

<p>(a) Inspection of revegetated and weed managed areas by an appropriately qualified environmental expert at the end of the initial five-year establishment period to ascertain whether the works are self-sustaining. If they are self-sustaining, develop an ongoing management regime for these areas in perpetuity; and/or</p> <p>(b) The provision of a vegetation condition report prepared by an appropriately qualified environmental expert at the end of the initial five-year establishment period. The condition report shall outline additional management measures to be undertaken if after five years it is determined that the revegetated areas are not self-sustaining. The condition report shall also outline recommendations for the management in perpetuity of the areas covered by the VMP.</p>	<p><u>one for the area south of Yallah Bay Road, with each part including, which includes the following requirements:</u></p> <p>(a) <u>Commitment to inspection of revegetated and weed managed areas by an appropriately qualified environmental expert at the end of the initial five-year establishment period to ascertain whether the works are self-sustaining. If they are self-sustaining, develop an ongoing management regime for these areas in perpetuity; and/or</u></p> <p>(b) <u>Commitment to the provision of a vegetation condition report prepared by an appropriately qualified environmental expert at the end of the initial five-year establishment period. The condition report shall outline additional management measures to be undertaken if after five years it is determined that the revegetated areas are not self-sustaining. The condition report shall also outline recommendations for the management in perpetuity of the areas covered by the VMP</u></p>	<p>and land development to be undertaken for the separate precincts.</p>
<p>11 Further Investigation of the Areas of Environmental Concern and engagement of a Site Auditor accredited under the Contaminated Land Management Act 1997</p> <p>Future applications that include those lands nominated as Areas of Environmental Concern (AECs) in the Coffey Environments Report (December 2010) must be accompanied by a further environmental assessment report</p> <p>In addition to adopting the recommendations contained in Section 12 of the Coffey Environments Groundwater Modelling Assessment report, the further investigations must consider:</p> <ul style="list-style-type: none"> the potential for 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 	<p>11 Further Investigation of the Areas of Environmental Concern and engagement of a Site Auditor accredited under the Contaminated Land Management Act 1997</p> <p>Future applications that include those lands nominated as Areas of Environmental Concern (AECs) in the Coffey Environments Report (December 2010) <u>The following development applications must be accompanied by a further environmental assessment report</u></p> <p><u>(i) The first future superlot subdivision application to Council (refer to Condition A6) must include a further environmental assessment report in relation to the northern and central super lots; and</u></p> <p><u>(ii) Any application for the further subdivision of the superlot containing the Southern Precinct (as identified in Condition A6) must include a further environmental assessment report in relation to the whole of the Southern Precinct.</u></p>	<p>See Issue 1 to the Key Issues letter for a detailed justification of the modification of Condition 11.</p> <p>The modifications <u>do not</u> change:</p> <ul style="list-style-type: none"> the requirement to consider the findings of contamination investigations acknowledged in the current Concept Approval; or the site-specific matters requiring further investigation as identified to date by the Concept Approval. <p>Therefore the modifications do not change the requirements to address specific asbestos-related investigations as required by the EPA.</p> <p>The modifications <u>do</u> change the condition to allow:</p> <ul style="list-style-type: none"> Investigation and reporting to be spatially separated so that separate landowners can fulfill the requirements of SEPP 55 with future DAs;

<p>this including the feasibility of remediation of contaminated soils and/or the containment of the sources of contamination;</p> <ul style="list-style-type: none"> ▪ 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 the ash ponds to adversely affect groundwater dependent ecosystems on the site; and ▪ any risks to human health or the environment. <p>Following the completion of the further investigations, the proponent must engage a Site Auditor accredited under the <i>Contaminated Land Management Act 1997</i> to verify the adequacy of the investigations (and any proposed remediation) certify that the site is suitable for the proposed use.</p>	<p><u>The further environmental assessment report must address all relevant Areas of Environmental Concern in the Coffey Environment Report (December 2010).</u> In addition to adopting the recommendations contained in Section 12 of the Coffey Environments Groundwater Modelling Assessment report, the further investigations must consider, <u>where relevant:</u></p> <ul style="list-style-type: none"> ▪ the potential for 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 the ash ponds to adversely affect groundwater dependent ecosystems on the site; and ▪ any risks to human health or the environment. <p>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). <u>Prior to the issue of any Subdivision Certificate (other than for the first superlot subdivision) the proponent must obtain a Site Audit Statement to certify that the site land and the subject of the Subdivision Certificate is suitable for the proposed use. No building may be erected on the land prior to the issue of a Site Audit Statement certifying that the land is suitable for the proposed building and associated use.</u></p>	<ul style="list-style-type: none"> ▪ Appropriate levels of investigation and reporting to be completed for the Central and Northern superlot by Bridgehill at the time of the first superlot subdivision consistent with SEPP 55 and EPA requirements; and <p>Appropriate levels of investigation and reporting with any future DA on any part of the site consistent with the requirements of SEPP 55 and EPA requirements</p>
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<p>12 Engagement of a site auditor to verify the adequacy of asbestos soil sampling and asbestos contamination investigations</p> <p>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) and certification the site for the proposed use.</p>	<p>12 Engagement of a site auditor to verify the adequacy of asbestos soil sampling and asbestos contamination investigations</p> <p>The first future superlot subdivision application to Council (refer to Condition A6) must include <u>in relation to the northern and central super lots</u>, 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 and certification of the suitability of that the site northern and central super lots can be made suitable for their proposed use.</u></p> <p><u>Any application to further subdivide or carry out any works on the Southern Precinct (as defined on the Super Lot Subdivision Plan and 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) and any further investigations subsequently undertaken by the proponent and certification that the Southern Precinct can be made suitable for its proposed use.</u></p>	<p>See Issue 1 to the Key Issues letter for a detailed justification of the modification of Condition 12.</p> <p>The modifications <u>do not</u> change:</p> <ul style="list-style-type: none"> the requirement to consider the findings of contamination investigations acknowledged in the current Concept Approval; or the site-specific matters requiring further investigation as identified to date by the Concept Approval. <p>Therefore the modifications do not change the requirements to address specific asbestos-related investigations as required by the EPA.</p> <p>The modifications <u>do</u> change the condition to allow:</p> <ul style="list-style-type: none"> Investigation and reporting to be spatially separated so that separate landowners can fulfill the requirements of SEPP 55 with future DAs; Appropriate levels of investigation and reporting to be completed for the Central and Northern superlot by Bridgehill at the time of the first superlot subdivision consistent with SEPP 55 and EPA requirements; and <p>Appropriate levels of investigation and reporting with any future DA on any part of the site consistent with the requirements of SEPP 55 and EPA requirements</p>
<p>25 Satisfactory Arrangements for the provision of Designated State public infrastructure</p> <p>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.</p>	<p>25 Satisfactory Arrangements for the provision of Designated State public infrastructure</p> <p>The first development application to Council (refer to Condition A6) for urban development of the <u>Northern and Central precincts</u> must demonstrate that satisfactory arrangements have been made for the provision of designated State public infrastructure for <u>subdivision of land within the northern and central precincts in</u> accordance with Clause 6.1 of Wollongong Local Environmental Plan 2009.</p> <p><u>The first development application for urban development of the Southern Precinct (as shown in the approved</u></p>	<p>This modification is requested to match the fact that there will be no works and no additional dwelling entitlements created with the first future superlot subdivision application. No SIC arrangements will be necessary prior to the approval of the development application for first superlot subdivision.</p>

	<p><u>'Proposed First Superlot Subdivision Plan' prepared by Bridgehill Group Drawing Reference BH-001 Rev.01 dated 06/09/2019) must demonstrate that satisfactory arrangements have been made for the provision of designated State public infrastructure for the subdivision of land in the Southern (Lakeside) Precinct in accordance with Clause 6.1 of Wollongong Local Environmental Plan 2009.</u></p>	
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APPENDIX

C

PROPOSED MODIFIED STATEMENT OF COMMITMENTS

APPENDIX C - Schedule of modified Statement of Commitments for the Concept Approval

The following table is a list of the Statement of Commitments to the Concept Approval that are requested to be modified.

Only those Statements requested to be modified are listed in the table.

Modifications are presented in 'track 'changes' format with strikethrough text to be deleted and underlined text to be added.

Table 9-1 Statement of Commitments Tallawarra Lands Concept PlanMP09_0131

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
1	Local Infrastructure	TRUenergy <u>The landowners commits</u> to consulting with Wollongong City Council to put in place satisfactory arrangements for the provision of local infrastructure.	Arrangements A Letter of offer to be submitted as part of a future development application which seeks consent to subdivide the Tallawarra Lands site into a series of superlots generally consistent with <u>the plan titled 'Proposed First Superlot Subdivision Plan' prepared by Bridgehill Group Drawing Reference BH-002 Rev.01 dated 06/09/2019 Figure 10</u> of the EA. The timeframe for delivery of the works will be detailed in the agreement when it is prepared.	Relevant Consent Authority	Modification to match anticipated landowner arrangements and new superlot subdivision plan consistent with the modified Concept Plan.
1	Roads / Bridge in E2 Zone	TRUenergy <u>The landowners commits</u> to offering to enter into an agreement with Wollongong City Council whereby approval under Part 5 of the EP&A Act would be sought for the proposed roads and bridge in the E2 zone in accordance with Clause 94(1) of SEPP Infrastructure 2007. This process would put in place arrangements for the provision of the proposed roads and bridge in the E2 zone by or on behalf of Council. This includes the bridge across Duck Creek and the length of road either side of the bridge as well as the road	Arrangements to be submitted as part of a future development application(s) relating to carry out road works for those parts of the site.	Relevant Consent Authority	Modification to be consistent with Condition B2 Part B – Modifications to the Concept Approval.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
		that leads into the B6 Enterprise Corridor zoned land from the Princes Highway.			
2	State/ Regional Infrastructure	The landowners commits to consulting with the State Government to put in place satisfactory arrangements for the provision of State/Regional infrastructure.	Arrangements to be submitted as part of a future development applications which seeks consent to <u>further</u> subdivide the Tallawarra Lands <u>Precincts and after the first future superlot subdivision</u> site into a series of superlots generally consistent with Figure 10 of the EA. The timeframe for delivery of the works will be detailed in the agreement when it is prepared.	Department of Planning & Infrastructure	Modification to be consistent with Conditions A6 and 25 to the Concept Approval
3	Superlot subdivision	<u>The landowners commits to lodging a development application with Wollongong City Council to carry out a superlot subdivision generally in the manner illustrated in the indicative superlot plan titled 'Proposed First Superlot Subdivision Plan' prepared by Bridgehill Group Drawing Reference BH-002 Rev.01 dated 06/09/2019</u> The landowners commits to preparing more detailed subdivision plans and notes that further environmental assessment will not be required, having been adequately addressed through the Concept Plan application.	The timing of lodgement of a super lot DA is not contingent upon the timing of the Concept Plan application.	Relevant Consent Authority	Modification to match Condition A6 to the Concept Approval. Modification to reflect the conceptual lot layout will be subject to further detailed documentation to be submitted with future development applications.
4	Landscape Design	Future Development Applications will reference the Landscape Plan and adopt the Landscape Principles prepared by Corkery Consulting and the Landscape Concept Plan <u>prepared by Cardno NSW/ACT Pty Ltd for the ridgeline park in the Northern Precinct</u> to guide the design and treatment of the following: <ul style="list-style-type: none">the residential precincts areas, employment lands, and neighbourhood centre components of the Concept Plan, including the principles of	Landscape plans to be further refined during the preparation of subsequent applications for the development of the super lots (or part of the super lots)	Relevant consent authority	Modification to match the additional Landscape Concept Plan for the ridgeline park in the Northern Precinct.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
		<p>visual amenity, function, ESD principles and biodiversity.</p> <ul style="list-style-type: none"> the open space zones (e.g. boundary zones, riparian zones, drainage lines and stormwater quality ponds, recreational areas) of each Precinct, including the recommended planting schedule. the street network. cycling infrastructure. 			
5a	Geotechnical	The landowners commits to undertaking further geotechnical engineering assessment of those parts of the Concept Plan development footprint identified as being constrained in the Geotechnical, Contamination and Groundwater Investigation dated 30 July 2010, prepared by Coffey Environments.	To be undertaken on a stage by stage basis as part of future development applications on affected land for residential subdivision, road works or construction of buildings.	Relevant consent authority	No change.
5b	Groundwater	The landowners commits to implementing the recommendations in Section 12 of the Groundwater Modelling Assessment Report dated 3 April 2012 prepared by Coffey Environments.	Recommendations to be implemented as per the timing set out in each recommendation and on a stage by stage basis.	Relevant consent authority and NSW Office of Water	Modification to match landowners' responsibilities post-superlot subdivision.
6	Land contamination	The landowners commits to continuing investigations into the areas of environmental concern (AECs) identified in the Geotechnical, Contamination and Groundwater Investigation dated 30 July 2010, prepared by Coffey Environments. The AECs to be further investigated are those parts of the site that fall within proposed development areas.	Further investigation to be undertaken on a stage by stage basis as part of future development applications on affected land.	Relevant consent authority	Modification to match landowners' responsibilities post-superlot subdivision.
6a		The landowners commits to managing land contamination in accordance with State Environmental Planning Policy No. 55 – Remediation of Land and the Managing Land Contamination: Planning Guidelines.	Further investigation to be undertaken on a stage by stage basis as part of future development applications on affected land.	Relevant consent authority	Modification to match landowners' responsibilities post-superlot subdivision.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
7		The landowners commits to undertaking any requirements for remediation and management as part of the findings from the further investigations of the AECs.	Recommended remediation works to be carried out on a stage by stage basis at the time of (or just prior to) any earthworks for subdivision works in the AECs.	Relevant consent authority	Modification to match landowners' responsibilities post-superlot subdivision.
8		The landowners commits to implementing the recommendations detailed in the Preliminary Hydrogeological Assessment – Ash Ponds dated 23 November 2010, prepared by Coffey Environments.	To be undertaken on a stage by stage basis as part of future development applications on affected land.	Relevant consent authority	Modification to match landowners' responsibilities post-superlot subdivision.
9		The recommendations detailed in the Register of Hazardous Materials Report in Residences in Northern Precinct dated 15 March 2010 prepared by Coffey Environments will be implemented.	To be undertaken in on a stage by stage basis accordance with the timing specified in the Register of Hazardous Materials Report in Residences in Northern Precinct	Relevant consent authority	No change.
10	Urban design strategies	<p>The urban design strategies recommended in the Richard Lamb and Associates Visual, Landscape and Scenic Resource Management Considerations will be reviewed and adopted for future development in the following areas of the Concept Plan site as identified in the Report:</p> <ul style="list-style-type: none"> the large lot and central residential precinct in Visual Exposure Zone A and north shore residential precinct in Visual Exposure Zone B the lakeside residential precinct in Visual Exposure Zone D <p>the employment in Visual Exposure Zones A and D</p>	To be considered on a stage by stage basis during the preparation of future development applications for the identified zones only.	Relevant consent authority	No change.
11	Traffic Management	The landowners commits to consulting with Wollongong City Council to put in place satisfactory arrangements to deliver the following road improvements:	Road improvements will be undertaken on a stage by stage basis. The timeframe for delivery of the road improvements will be	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
		<ul style="list-style-type: none"> the conversion of the intersection of Cormack Ave and the Princes Highway into a two lane circulating roundabout; two lane circulating roundabouts at each of the two access points to the site from the Princes Highway; the provision of a roundabout at the site access point off Cormack Avenue; Upgrade Yallah Bay Road to a collector road; Construction of the north-south collector road; and Consequential works to facilitate the site access points. 	detailed in discussion regarding the satisfactory arrangements.		
12	Ecologically Sustainable Development	Precinct scale and other major development applications consistent with the Concept Plan will demonstrate how they address the relevant desired sustainability outcomes contained in the Sustainability Report prepared by Urbis and dated 18 October 2010.	Details of the response to be submitted on a stage by stage basis with the relevant development application(s).	Relevant consent authority	No change
13	BASIX	Future residential development will achieve potable water and greenhouse gas reductions equivalent to BASIX +10% (2010 = 50% reduction).	Compliance to be demonstrated on a stage by stage basis in the development application submissions.	Relevant Consent Authority	No change
14	Sustainability for commercial and retail	<p>Future commercial and retail development will aspire to a target of a 40% reduction in:</p> <ul style="list-style-type: none"> operational greenhouse gas emissions associated with energy use; and operational potable water use in comparison to similar types of development in NSW. 	Compliance to be demonstrated on a stage by stage basis in future development application submissions.	Relevant Consent Authority	No change
15	Utilities infrastructure	<u>The landowners commits</u> to implementing the utilities servicing strategies identified in the Report on Siteworks and Utilities Infrastructure, prepared by Northrop.	Further investigations to be undertaken on a stage by stage basis with development applications.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
16	Aboriginal heritage	<u>The landowners commits</u> to implementing the recommendations of the Aboriginal Archaeological Assessment.	To be implemented on a stage by stage basis with the relevant development application.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
17	European Heritage	<p><u>The landowners commits</u> to implementing the management recommendations in Section 7.2 of the <i>Statement of Heritage Impact: Tallawarra Lands Part 3A</i>, prepared by Biosis Research, dated September 2010.</p> <p><u>The landowners commits</u> to obtaining assessments of significance / assessments of archaeological potential in relation to sites TH2, TH3, TH4, TH5, TH9 and TH10.</p> <p><u>The landowners commits</u> to ensuring that if substantial intact archaeological deposits and/or State significant relics not previously identified are discovered, work will cease in the affected area(s), the Heritage Council will be notified and the required assessment / approval will be sought prior to works continuing in the affected area(s).</p>	To be implemented on a stage by stage basis with the relevant development application.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
17a	Heritage	<p><u>The landowners commits</u> to preparing a Heritage Management Plan detailing how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The Plan shall include, but not necessarily be limited to:</p> <p>(i) Specific measures to be applied to works undertaken in close proximity to identified Aboriginal and non-Aboriginal heritage items and "Defined Areas of Aboriginal Sensitivity" to minimise and avoid impacts on these items;</p> <p>(ii) How heritage items (Aboriginal objects and relics or works) discovered during the construction will be considered and managed. This shall include a component within the site induction program for construction workers on</p>	Details to be provided on a stage by stage basis and submitted with the relevant construction involving site excavation works	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
		<p>Aboriginal and non- Aboriginal heritage within the site area; Stop-work and notification procedures to be implemented compliant with Heritage Office and OEH guidelines should any unexpected intact archaeological deposits and/or State significant relics not previously identified be discovered; and</p> <p>(iv) The procedure for continued consultation with the relevant Aboriginal stakeholders.</p>			
18	Ecology	<p><u>The landowners commits</u> to implementing the mitigation measures detailed in Table 12 of the Ecological Assessment report dated 4 March 2011 (Appendix 9 of the EA).</p>	<p>Mitigation measures to be implement on a stage by stage basis in accordance with the timing requirements contained in Table 12.</p> <p>The mitigation measures detailed in Table 12 should be included in any conditions of consent issued in relation to future development applications.</p>	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
18a	In perpetuity security of biodiversity outcomes	<p><u>The landowners commits</u> to entering into discussions with relevant authorities, or recognised private conservation land managers such as Bush Heritage Australia, to arrange for transfer of ownership of the areas of retained vegetation; and/or;</p> <p>dedicating the conservation lands to Wollongong City Council as reserves to be administered under the <i>Local Government Act</i>; and/or;</p> <p>establishing an in-perpetuity Property Vegetation Plan under the <i>Native Vegetation Act 2003</i>; and/or</p> <p>applying for Conservation Agreement under the <i>National Parks and Wildlife Act 1974</i>; and/or</p> <p>establishing a conservation covenant under</p>	To be undertaken on a stage by stage basis prior to completion of relevant works under the Vegetation Management Plan referred to in Commitment No. 19	<p>Relevant authority or recognised conservation land manager</p> <p>Wollongong City Council</p> <p>Catchment Management Authority</p> <p>NPWS/DECCW</p> <p>Nature Conservation Trust of NSW.</p>	Modification to match landowners' responsibilities post-superlot subdivision.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
		<i>Nature Conservation Trust Act; and/or</i> securing in perpetuity the biodiversity outcomes of the retained vegetation of the E2 lands through other appropriate legal mechanism(s).		Relevant consent authority	
18b		<u>The landowners commits</u> to holding discussions with the relevant authorities (such as Lake Illawarra Authority and Wollongong City Council) about entering into possible Voluntary Planning Agreements (VPAs) involving future land ownership transfers, infrastructure provision, site remediation and implementation of the Vegetation Management Plan. Any VPAs entered into will specify the works to be undertaken, the party responsible for carrying out the works and the timeframe within which the works will be undertaken.	Prior to determination of the superlot subdivision DA.	Relevant consent authority	Modification to match landowners' responsibilities post-superlot subdivision.
19	Ecology	<u>The landowners commits</u> to implementing the Vegetation Management Plan prepared by Eco Logical dated 4 February 2011, unless other arrangements are made arising out of VPA discussions referred to in Commitment 18b.	Implementation of the Vegetation Management Plan to occur on a stage by stage basis and should be required as a condition of consent on future DAs.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
20		<u>The landowners commits</u> to implementing the Environmental Management Strategy prepared by Eco Logical dated 4 February 2011.	Implementation of the Environmental Management Strategy to occur on a stage by stage basis and should be required as a condition of consent on future DAs.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
21		<u>The landowners commits</u> to the recommendations detailed at Section 5.1 of the GDE Risk Assessment prepared by Eco Logical Australia dated 19 April 2012.	Compliance with the recommendations of the GDE Risk Assessment to occur on a stage by stage basis and may be regulated via the conditions of consent on future DAs.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
22	Bushfire	The landowners commits to implementing the recommendations and management measures contained in the Bushfire Planning Assessment prepared by Eco Logical Australia dated 4 February 2011,	The recommendations are to be implemented on a stage by stage basis as required as part of the assessment of future DAs.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
23	Climate Change	The landowners commits to implementing the 'adaptation considerations' contained in the Climate Change Assessment report prepared by BMT WBM.	To be implemented on a stage by stage basis at the appropriate time of the design development as per the Climate Change Assessment report.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
24	Access	The landowners commits to working with the Lake Illawarra Foreshore Authority to facilitate public access to the foreshore.	Timing will be determined as part of the VPA discussions referred to in Commitment 18b, if such discussions reach an agreement.	Lake Illawarra Authority and Wollongong City Council.	Modification to match landowners' responsibilities post-superlot subdivision.
25	Demolition	The landowners commits to undertaking demolition activities in accordance with AS 2601-2001: <i>The Demolition of Structures</i> .	At the time of demolition and on a stage by stage basis.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
26		The landowners commits to employing licensed contractors to remove all contaminated material and to requiring them to comply with the provisions of the <i>Occupational Health & Safety Regulation 2001</i> .	Prior to commencement of works associated with removal of contaminated material and on a stage by stage basis.	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
27		The landowners commits to ensuring that demolition activities will only be carried out between 7am and 5pm Monday to Saturday and that no demolition activities will be carried out at any time on a Sunday or a public holiday.	On going during construction	Relevant Consent Authority	Modification to match landowners' responsibilities post-superlot subdivision.
28	Flood Risk Management	Future DAs will adopt the following flood risk management principles. It is noted that these principles exceed, or are equal to, those currently applied by Wollongong City Council in respect of the West Dapto Release Area:	Design to be incorporated into future development applications and on a stage by stage basis.	Relevant development application consent authority	No change

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
		<ul style="list-style-type: none"> All access roads to development precincts to be at or above 100 year flood level after allowing for year 2100 climate change impacts. Filling for development areas to be at a minimum level of the 100 year flood level allowing for year 2100 climate change impacts. <p>Development floors levels for each land use to be at the flood planning levels set by Wollongong City Council's DCP (Chapter E13).</p>			
29	Flood Management Risk	<p>Future DAs will adopt the following flood risk management principles:</p> <p>(a) All future development decisions will be based on the most up-to-date flood model available at the time of the future DA and include all components of the project which may influence flood behaviour (e.g. changes to riparian vegetation, filling adjacent to the floodplain, new bridges, etc.). It is recognised that flood models need revision over time as new data becomes available or Government policies alter. This includes the imminent revisions to the rainfall intensity-frequency-duration data published by the Bureau of Meteorology, and changes in Government policy and/or accepted practice concerning the impacts of climate change on sea levels and rainfall intensities. Further, flood levels within development areas remote from the main waterways will be modelled having regard to the capacity of the drainage system of the development area and its overland flow routes.</p> <p>(b) Land to be filled will be at sufficient height and grade to allow free-drainage of the filled area into the surrounding waterway.</p>	Design to be incorporated into relevant future development applications and on a stage by stage basis.	Relevant development application consent authority	No change

No	Subject	Commitment	Timing	Responsible Monitoring Body/ Authority	Justification for modification
		<p>(c) When stormwater concept designs are developed for proposed fill areas, potential flood hazard areas will be analysed and managed in accordance with best practice and the requirements of the Floodplain Development Manual and Council's DCP (Chapters E13 and E14).</p> <p>No filling of floodplain land will occur which produces off-site impacts in accordance with the "flood affectation" requirements of Chapter E13 of Council's DCP.</p> <p>(e) All future housing will be serviced by at least one road route providing egress off-site and at a height for the entire route which is no lower than the 100 year ARI flood level after allowing for year 2100 climate change impacts. Where future housing areas are isolated in a PMF, facilities (e.g. high ground or elevated building floors) will be provided for safe refuge above the PMF level, within the isolated area.</p> <p>(f) The existing old railway bridge across Duck Creek provides significant constriction to flood flows, raising flood levels upstream in major flood events. The Proponent commits to the following measures to mitigate flooding impacts:</p> <ul style="list-style-type: none"> ▪ designing the new bridge to provide less constriction to achieve lower upstream flood levels for the 100 year ARI and larger events; and ▪ setting the levels of new roads, landfill and habitable floors levels of proposed buildings based on flood modelling consistent with Council's Blockage Policy. 			

APPENDIX

D.1

FULL PAGE PUBLIC NOTICE OF NOTIFICATION
AND REGISTRATION OF ABORIGINAL INTEREST

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Public Notices

Public Notices

MARGARET CARLON 2/8/43 - 23/8/18

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Love always,
Teddy xxxxxx

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Public Notices



Quotations are invited for Printing of the Shoalhaven 2020 Visitor Guide

Ref: 61811E

Closing date/time: 10am AEST Tuesday, 3 September 2019

Enquiries: Lisa Friebe, Project Officer on 02 4429 3344

Documents can be downloaded free of charge at www.tenderlink.com/shoalhaven

Notification and Registration of Aboriginal Interest

Cardno, on behalf of Bridgehill Group intends to develop new residential communities, a light industrial development and tourism facilities at the Northern and Central Precincts at Tallawarra, Yallah, NSW. The original concept approval (MP09_0131) was granted on 23 May 2013 by the Planning Assessment Commission (PAC) as a delegate for the Minister for Planning and Infrastructure for a mixed use development. Bridgehill Group, intends to modify the existing concept approval MP 09_0131 MOD 1 under Part 3A section 75W of the Environmental Planning and Assessment Act 1979 (EP&A Act). If concept approval is granted, the proposed development will be assessed as integrated development under Part 4 of the EP&A Act. For more information please contact: Bridgehill Group C/-Adam Clarke, Cardno, PO Box 1285, Wollongong NSW 2500 or phone: (02) 4231 9600

Biosis on behalf of Cardno are restarting consultation with the Aboriginal community and are seeking to identify Aboriginal people who hold cultural knowledge in determining the significance of Aboriginal object(s) and/or places in the vicinity of the above area to register their interest in a process of community consultation.

The purpose of Aboriginal community consultation is to assist the PAC in assessing the 75W modification application; and the Director General of DPIE in their consideration and determination of any subsequent Aboriginal Heritage Impact Permits for the proposed development if required. The project will be undertaken in accordance with the National Parks and Wildlife Act 1974.

To register an interest in this project please contact Samantha Keats, Biosis Pty Ltd 30 Wentworth Street Port Kembla, NSW 2502, email: skeats@biosis.com.au

Please note that the name of each group that registers for consultation on this project will be provided to DPIE and the Local Aboriginal Land Council unless the group specifies that they do not want their details released.

REGISTRATIONS MUST BE RECEIVED BEFORE 5PM ON 7 SEPTEMBER 2019

Tenders

LATEST E-TENDERS



E5388 – Guest Park Amenities Refurbishment

– Contact: Rhonda Jorgensen on 02 4227 8885
– Closing: 10/09/2019 10am NSW

Contractors wishing to respond to this tender will find the full details including contacts at the URL below.

www.tenderlink.com/wollongong

LATEST E-TENDERS



T17/56 – Waste-Wise Event Full Waste Management Services

– Contact: Rhonda Jorgensen on 02 4227 8885
– Closing: 17/09/2019 10am NSW

Contractors wishing to respond to this tender will find the full details including contacts at the URL below.

www.tenderlink.com/wollongong

LATEST E-TENDERS



T19/14 – Expression of Interest – Cash In Transit

– Contact: Nathan Warren on 02 4227 8885
– Closing: 17/09/2019 10am NSW

Contractors wishing to respond to this tender will find the full details including contacts at the URL below.

www.tenderlink.com/wollongong

LATEST E-TENDERS



T19/28 – Harry Graham Park and Figtree Oval No. 2 Sportfield Lighting

– Contact: Rhonda Jorgensen on 02 4227 8885
– Closing: 17/09/2019 10am NSW

Contractors wishing to respond to this tender will find the full details including contacts at the URL below.

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APPENDIX

D.2

DUE DILIGENCE FOR ABORIGINAL
ARCHAEOLOGY – NORTHERN PRECINCT
ADDITIONAL URBAN FOOTPRINT



Tallawarra Lands North Precinct: Aboriginal Cultural Heritage Assessment

DRAFT REPORT

Prepared for Cardno

21 October 2019

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- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Duncan Falk Consultancy
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Glossary

ACHA	Aboriginal cultural heritage assessment
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AR	Archaeological Report
CBD	Central Business District
Consultation requirements	<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i>
DA	Determining Authority
DECCW	Department of Environment, Climate Change and Water
DP	Deposited Plan
EES	Environment, Energy and Science Group (formerly OEH)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
ICOMOS	International Council on Monuments and Sites
ILALC	Illawarra Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
NPW Act	National Parks and Wildlife Act
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NTSCORP	Native Title Services Corporation
NNTT	National Native Title Tribunal
OEH	NSW Office of Environment and Heritage (now EES)
RAP	Registered Aboriginal Party
the Code	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i>

Summary

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal cultural heritage assessment (ACHA) of a proposed development at Tallawarra (Northern Precinct), Yallah New South Wales (NSW). Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities on those lands.

Cardno on behalf of Bridgehill Group intends to lodge a development application for the proposed electrical transmission relocation in the Northern Precinct and to modify the existing concept approval for the Northern and Central Precincts (MP 09_0131 MOD 1). Wollongong City Council is the Determining Authority (DA) and will assess the application to help them determine if the proposed development is likely to have a significant effect on the environment, including Aboriginal cultural heritage. The boundary of the study area has been modified since the previous assessment undertaken by Biosis (2017) to include this electrical easement. An assessment in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010a) (the Code) has been undertaken for this additional area and is included in Appendix 7.

This ACHA covers the Northern Precinct (the study area) and aims to determine whether the proposed modification will have any additional impacts on Aboriginal cultural values. The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong Central Business District (CBD). It encompasses 45.06 hectares of private land and the adjacent road reserves.

This report has responded to Section 6.10.1 Aboriginal Cultural Heritage of the *Tallawarra Lands, Yallah: Request for Secretary's Environmental Assessment Requirements* (Urbis 2016) to:

- Confirm the location of archaeological sites relative to the proposed expanded areas.
- Consultation with relevant stakeholders prior to preparation of the EIS.
- Identify the nature and extent of impacts on Aboriginal and cultural heritage values across the project area; and
- Provide the actions that will be taken to avoid or mitigate impacts of the project or Aboriginal cultural heritage values.

SEARs Item	Response
12. Aboriginal Cultural Heritage Aboriginal Cultural Heritage Assessment in accordance with the Guide to investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011) and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW)	<p>This report has been conducted in accordance with the <i>Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i> (OEH 2011).</p> <p>This report supports the Aboriginal cultural heritage assessment, which has been conducted in accordance with the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> (DECCW 2010a). Consultation with Registered Aboriginal Parties is currently underway.</p>

There are 107 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register in a three square kilometre area around the study area. An archaeological survey was conducted on 29 June 2017. The overall effectiveness of the survey for examining the ground for Aboriginal sites was deemed low. This was attributed to vegetation cover restricting ground surface visibility combined with a low amount of exposures. No previously unrecorded Aboriginal cultural heritage sites were identified during the field survey. One area of moderate archaeological potential, previously identified by the 2010 Biosis assessment, was redefined.

Within the study area, there are two recorded Aboriginal sites that may be subject to harm (AHIMS 52-5-0223 and 52-5-0225). It is expected that the potential of harm to 52-5-0223, and 52-5-0225 from the proposed development will be direct, with a total loss of value. Two AHIMS sites (52-5-0642, and 52-5-0643) are located within 10 metres of the study area, and may be subject to harm. It is expected that the potential of harm to 52-5-0642, and 52-5-0643 from the proposed development will be indirect, with a partial loss of value.

Consultation

The Aboriginal community was consulted regarding the heritage management of the project throughout its lifespan. Consultation has been undertaken as per the process outlined in the DECCW document, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b) (consultation requirements). Community consultation has been restarted due the lapse in consultation of more than six months. This ACHA includes the current community consultation and the previous consultation documentation is included in Appendix 6.

The appropriate government bodies were notified and advertisements placed in the *Illawarra Mercury* newspaper (24 August 2019), which resulted in the following Aboriginal organisations registering their interest:

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Duncan Falk Consultancy
- Gumaraa
- Yerramurra (Murrin Clan/Peoples)
- Barraby Cultural Services
- Yurrandaali Cultural Services
- Yulay Cultural Services
- Paul James McLeod
- Murra Bidgee Mullangari Aboriginal Corporation
- Muragadi
- Leanne Tungai
- South Coast Peoples
- Tungai Tonghi
- Shaun Carroll

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* (NSW) listed no Aboriginal Owners with land within the study area. A search conducted by the National Native Title Tribunal (NNTT) listed no Registered Native Title Claims, Unregistered Claimant Applications or Registered Indigenous Land Use Agreements within the study area. There was one unregistered Claimant Applications within the study area – South Coast Peoples (NC2017/008).

Upon registration, the Aboriginal parties were invited to provide their knowledge on the study area and on the proposal provided in the project information and methodology documents. Responses from the Registered Aboriginal Parties (RAPs) are included in Appendix 3.

The outcome of the previous consultation process (Biosis Pty Ltd 2017) was that the RAPs considered the study area to have a high level of cultural significance. Three Ducks Dreaming Surveying and Consulting believes there are many significant areas within the area, especially around the creeks and plains. The 2010 Aboriginal archaeological assessment conducted for the study area identified that the study area is considered to have high cultural significance due to the presence of Aboriginal archaeological sites and the study area proximity to Lake Illawarra, Duck Creek and Mount Brown (Biosis Research 2010). The results of the current consultation process are included in this document.

The recommendations that resulted from the consultation process are provided below.

Conclusions

This assessment has concluded that the proposed modification and subsequent development will not have any impacts on additional AHIMS sites or areas of archaeological potential.

Strategies have been developed based on the archaeological significance of cultural heritage relevant to the study area. The strategies also take into consideration:

- Predicted impacts to Aboriginal cultural heritage
- The planning approvals framework
- Current best conservation practice, widely considered to include:
 - Ethos of the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter
 - The Code.

The recommendations that resulted from the consultation process are provided below.

Management recommendations

Prior to any development impacts occurring within the study area, the following is recommended:

Recommendation 1: Application for an Aboriginal Heritage Impact Permit (AHIP) to conduct test excavations

Under Requirement 14 of the Code, test excavations within 50 metres of known or suspected shell midden sites are not permitted without an AHIP. Due to the presence of AHIMS 52-5-0223 (Boomberry Point 1) within the study area and the proximity of one possible midden, AHIMS 52-5-0643 (Gilba Road 2 Fill 1), it will be necessary to apply for an AHIP to conduct test excavations.

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Department of Environment, Energy and Science (EES) issues AHIPs under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the EES. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the EES for the processing of AHIPs, which is dependent on the estimated total cost of the development project. Where there are multiple sites within one study area an application for an AHIP to cover the entire study area is recommended.

Recommendation 2: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the EES. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the EES and Aboriginal stakeholders.

Recommendation 3: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains.
2. Notify the NSW Police and EES's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by EES.

DRAFT

1 Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an ACHA for the proposed Northern Precinct at Tallawarra, Yallah NSW. The purpose of this assessment is to support a development application for the proposed electrical transmission relocation in the Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

A previous Aboriginal archaeological assessment for the Tallawarra Lands Part 3A Concept Plan (MP 09_0131) was conducted by Biosis in 2010. The previous assessment consisted of an Aboriginal archaeological survey, Aboriginal Community consultation, and Aboriginal archaeological test excavations (Biosis Research 2010). An impact assessment conducted as part of the 2010 assessment concluded that two Aboriginal archaeological sites Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225); would be impacted on by the proposed development. Both Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225) were assessed as having moderate archaeological significance. Boomberry Point 1 (AHIMS 52-5-0223) was assessed as having low subsurface archaeological potential, while Elizabeth Point (AHIMS 52-5-0225) was assessed as having moderate subsurface archaeological potential based on the results of the archaeological test excavations. Further assessment in the form of additional archaeological test excavations were recommended prior to development in order to establish the significance and extent of the archaeological resource.

The purpose of this assessment is to determine if the proposed modification will impact on any additional areas of archaeological potential or Aboriginal sites or objects. This investigation has been carried out under Part 6 of the NPW Act. It has been undertaken in accordance with the Code. The Code has been developed to support the process of investigating and assessing Aboriginal cultural heritage by specifying the minimum standards for archaeological investigation undertaken in NSW under the NPW Act. The archaeological investigation must be undertaken in accordance with the requirements of the code.

It is stated in section 1.2 of the Code that where the Aboriginal cultural heritage assessment concludes that the proposed activity will result in harm to Aboriginal objects or declared Aboriginal Places, an application for an AHIP will be required. This application must be supported by an ACHA and archaeological report (AR).

The *Environmental Planning and Assessment Act 1979* (EP&A Act) includes provisions for local government authorities to consider environmental impacts in land-use planning and decision making. Each Local Government Area (LGA) is required to create and maintain a Local Environmental Plan (LEP) that includes Aboriginal and historical heritage items. Local Councils identify items that are of significance within their LGA, and these items are listed on heritage schedules in the local LEP and are protected under the EP&A Act and *Heritage Act 1977*.

1.2 Study area

The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves (Figure 2).

The study area is within the:

- Wollongong LGA.

- Parish of Calderwood.
- County of Camden.

The study area is bounded by Lake Illawarra to the east, the suburb of Koonawarra to the north, Energy Australia Tallawarra Power Station to the south, and rural land to the west.

1.3 Proposed development

The development of the Northern Precinct will comprise residential, open space and associated civil works (Figure 3). The modification to the concept approval seeks to increase the footprint and residential yield for the Northern Precinct from 310 lots to 403 lots. Currently approved components of the concept plan for the Northern Precinct include:

- Approximately 403 residential lots (22.3 hectares)
- Environmental management areas in the vicinity of Mount Brown
- Open space areas on the foreshore of Lake Illawarra (87 hectares)
- The Northshore Precinct has existing vehicular access via Gilba Road.

The following amendments are proposed to the Concept Plan for the Northern Precinct:

- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m² and 12.5 metres frontages, where suited to the topography of the site.

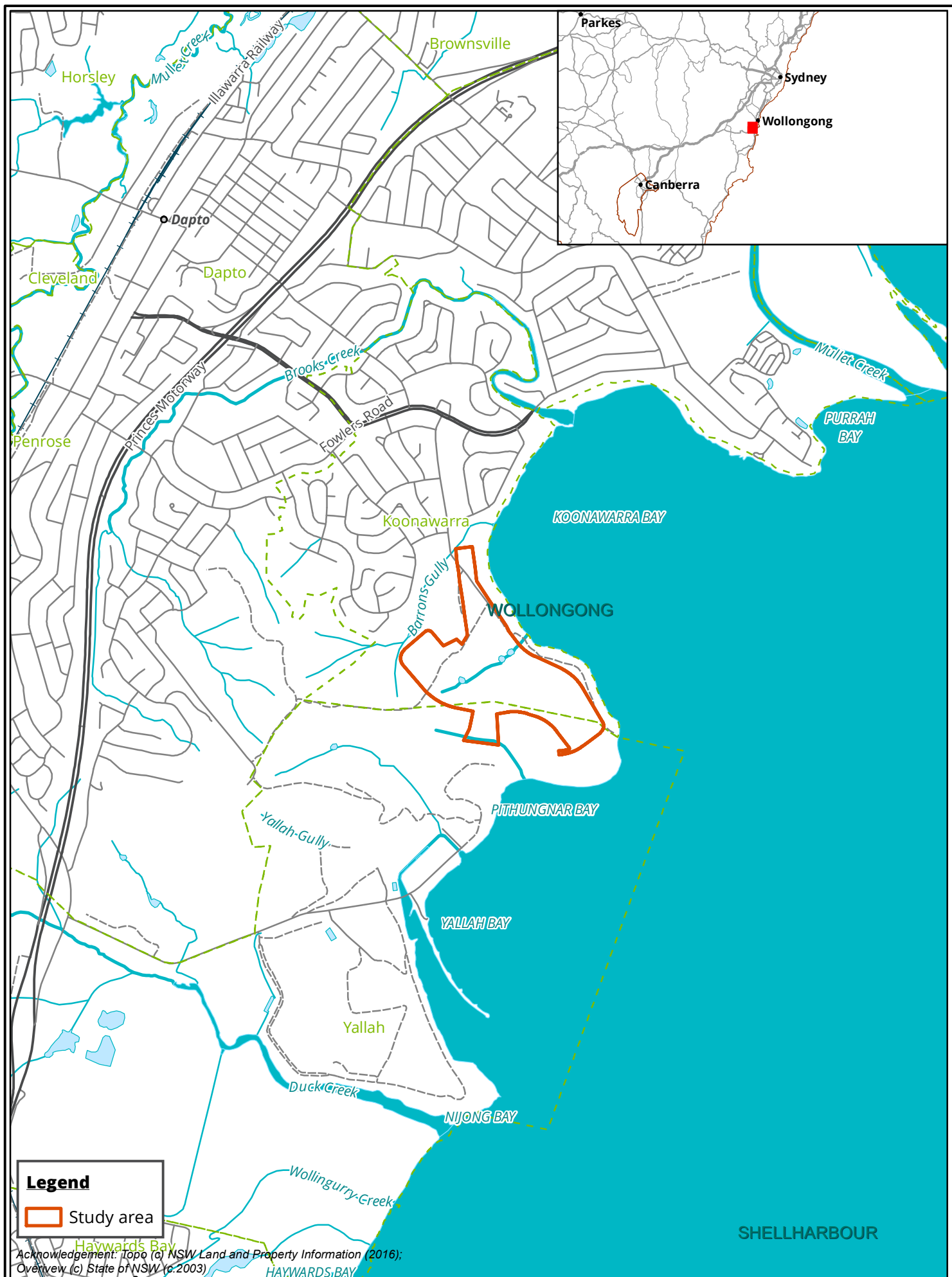


Figure 1 Location of the study area - Tallawarra North Precinct



Legend


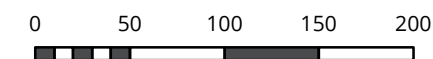
 Study area

Figure 2 Study area detail



Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 NSW Lambert



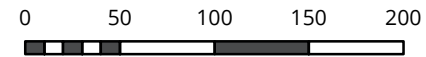
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- Legend**
- Study area
 - Proposed development

Figure 3 Proposed development



Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 NSW Lambert

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1.4 Planning approvals

The proposed modification will be assessed against Part 3A section 75W of the EP&A Act. The DA will be assessed under Part 4 of the EP&A Act.

Other relevant legislation and planning instruments that will inform this assessment include:

- Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.
- NPW Act.
- NSW *National Parks and Wildlife Amendment Act 2010*.
- Infrastructure State Environmental Planning Policy 2007.
- Wollongong Development Control Plan 2009.

1.5 Restricted and confidential information

Appendix 1 in the AR contains AHIMS information which is confidential and not to be made public. This is clearly marked on the title page for the Attachment.

1.6 Aboriginal cultural heritage

1.6.1 General description

According to Allen and O'Connell (2003), Aboriginal people have inhabited the Australian continent for the last 50,000 years. New evidence out of the Northern Territory has pushed this date back to around 60,000 years with the Malakanunja II rock shelter dated at 61,000 +9000/-13,000 BP (Clarkson et al. 2015). In NSW, according to Bowler et al. (2003), Aboriginal people have occupied the land for over 42,000 years. However, preliminary evidence presented by Biosis (2016) from a subsurface testing program in south-western NSW suggests Aboriginal people may have occupied the semi-arid zone of the region for 50,000 years.

Without being part of the Aboriginal culture and the productions of this culture, it is not possible for non-Aboriginal people to fully understand the meaning of site, objects and places to Aboriginal people – only to move closer towards understanding this meaning with the help of the Aboriginal community. Similarly, definitions of Aboriginal culture and cultural heritage without this involvement constitute outsider interpretations.

With this preface Aboriginal cultural heritage broadly refers to things that relate to Aboriginal culture and hold cultural meaning and significance to Aboriginal people (DECCW 2010b, p.3). There is an understanding in Aboriginal culture that everything is interconnected. In essence Aboriginal cultural heritage can be viewed as potentially encompassing any part of the physical and/or mental landscape, that is, 'Country' (DECCW 2010b, p.iii).

Aboriginal people's interpretation of cultural value is based on their 'traditions, observance, lore, customs, beliefs and history' (DECCW 2010b, p.3). The things associated with Aboriginal cultural heritage are continually and actively being defined by Aboriginal people (DECCW 2010b, p.3). These things can be associated with traditional, historical or contemporary Aboriginal culture (DECCW 2010b, p.3).

1.6.2 Tangible Aboriginal cultural heritage

Three categories of tangible Aboriginal cultural heritage may be defined:

- Things that have been observably modified by Aboriginal people.

- Things that may have been modified by Aboriginal people but no discernible traces of that activity remain.
- Things never physically modified by Aboriginal people (but associated with Dreamtime Ancestors who shaped those things).

1.6.3 Intangible Aboriginal cultural heritage

Examples of intangible Aboriginal cultural heritage would include memories of stories and 'ways of doing', which would include language and ceremonies (DECCW 2010b, p.3).

1.6.4 Statutory

Currently Aboriginal cultural heritage, as statutorily defined by the NPW Act, consists of objects and places which are protected under Part 6 of the Act.

Aboriginal objects are defined as:

"any deposit, object or material evidence...relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains"

Aboriginal places are defined as a place that is or was of special Aboriginal cultural significance. Places are declared under section 84 of the NPW Act.

1.6.5 Values

Aboriginal cultural heritage is valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010b, p.iii). More specifically it is used:

- To provide a:
 - 'Connection and sense of belonging to Country' (DECCW 2010b, p.iii).
 - Link between the present and the past (DECCW 2010b, p.iii).
- As a learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010b, p.3).
- As further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010b, p.3).

2 Study area context

This section discusses the study area in regards to its landscape, environmental and Aboriginal cultural heritage context. This section should be read in conjunction with the archaeological report attached in Appendix 6. The background research has been undertaken in accordance with the Code.

2.1 Topography and hydrology

The Illawarra region forms part of the Sydney Basin; a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age overlying older basement rocks of the Lachlan Fold Belt. The Illawarra subregion of the Sydney Basin is characterised by Permian siltstones, shale, sandstones and interbedded volcanics on and below the coastal escarpment. The geology of the region provides useful stone resources for toolmaking, included volcanic rocks useful for manufacture of edge ground axes.

The study area is situated on the Coastal Plain on the edge of Lake Illawarra and the Escarpment. This physiographic unit has formed from the gradual recession westward of the Plateau (Bowman 1971). The Coastal Plain is characterised as a mosaic of foothills, ridges, spurs, hillocks and floodplains with slopes varying from very gently inclined to steep with the occasional low cliff. It is dissected by easterly flowing streams at intervals that become more frequent towards the north (Fuller 1982, p.18). The Coastal Plain is widest at the points where Macquarie Rivulet has entrenched into the Plateau at Macquarie Pass and where other waterways that provide the catchment area of Lake Illawarra, such as Duck and Wollingurri Creek systems, have carved into the Escarpment (Bowman 1971).

The Northern Precinct is located approximately 50 metres inland from the shore of Lake Illawarra. Lake Illawarra was formed from the drowning of the Macquarie Rivulet valley during the raising of Holocene sea levels (6-7,000 years ago); the estuary was subsequently formed behind the large sand barrier that now forms the Windang Peninsula. Lake Illawarra is the largest estuarine lagoon on the south coast of NSW, covering an area of 33 square kilometres and extending over 9 kilometres in length and 5 kilometres in width. It receives salt water from the Pacific Ocean and fresh water from the Illawarra Escarpment (Roy 1984). Lake Illawarra is classified as an early Intermediate Barrier Estuary or an estuarine lagoon. Barrier estuaries are characterised by 'narrow elongated entrance channels with broad tidal and back barrier sand flats' (Roy 1984, p.5).

The proximity to Lake Illawarra would have provided abundant food resources and is likely to result in the presence of Aboriginal sites, such as middens, in the vicinity of the study area.

2.2 Climate

The climate within the study area is generally temperate with a maritime influence. Summers in the coastal regions are generally warm, while winters are mild. In the escarpment areas to the west, winters are cold. Moderate to high temperatures, high humidity, onshore winds and peak rainfall characterise summer and autumn (Hazelton 1992). One third of the mean annual rainfall occurs between January and March, with a secondary rainfall peak in June. Winter winds are predominantly westerly, producing drier, cooler conditions.

2.3 Soil landscapes

Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Because they are defined by a combination of soils, topography, vegetation and weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise

archaeological potential and exposure. The study area contains one erosional soil landscape called the Shellharbour soil landscape. Erosional soil landscapes comprise soils that are derived from the erosive action of running water, primarily well-defined streams that have the ability to transport their sediment load. Soils may be either absent, derived from water-washed parent materials, or derived from *in situ* weathered bedrock.

The characteristics of the Shellharbour soil landscape are summarised in Table 1.

Table 1 Shellharbour soil landscape characteristics (Hazelton 1992, pp.58–60)

Soil Landscape	Topography	Soils
Shellharbour	Rolling low hills with long side slopes and broad drainage lines. Relief 30-50 metres. Slopes <20% incline.	<p>Crests and upper slopes: Hard setting black rich clays overlying <100 cm of brown strongly pedal heavy clay.</p> <p>Mid slopes: Up to 20 cm of brownish black sandy loam overlies <50 cm of strongly pedal reddish brown sandy clay. 50 cm of mottled reddish brown sandy clay overlies <50 cm of brown strongly pedal heavy clay.</p> <p>Foot slopes and drainage plains: Up to 40 cm of reddish brown sandy clay overlies >50 cm of strongly pedal brown heavy clay.</p>

The Shellharbour soil landscape has a high to very high erodibility rating would therefore be susceptible to frequent soil movement. This would result in poor preservation of archaeological material at shallow depths but would potentially lead to exposures of any deeper archaeological deposits were topsoil has eroded away.

2.4 Landscape resources

The Coastal Plain of the Illawarra region provides a number of resources used by Aboriginal inhabitants. The geology of the region provides an abundant supply of raw materials. Quartz is the main stone raw-material type suitable for Aboriginal tool manufacture that is likely to occur in the vicinity of the study area in any abundance. This would have been available locally and also from trading with other groups (Donlon & Sefton 1988, p.23). Igneous material would have come from the south of the study area in areas like Gerringong (Donlon & Sefton 1988, p.55) due to its volcanic nature. Some of the other fine grain siliceous material may have come from the Cumberland Plain. Silcrete cobbles are known to have occurred along the Cumberland Plain (McDonald 1992), to the north of the study area. Elsewhere on the Plain, the potential raw materials for stone artefact making include silicified wood, tuff, mudstone, quartz, quartzite and basalt. River gravels and cobbles containing silcrete, chert, and other fine grained volcanic rocks were also used (Attenbrow 2010). While previous archaeological work within the region has not identified any specific stone sources, the presence of the volcanic Dapto Latite Member in the region may have provided a suitable source of raw material, providing lithic material for stone axes. Resources would have been accessible in the outcrops of siltstone, shale and tuffaceous sandstones of the Berry Siltstone formation.

Aerial imagery and vegetation mapping undertaken by the National Parks and Wildlife Service (NPWS) shows that the study area has been cleared of native vegetation; however, native vegetation communities in the vicinity of the study area and around Lake Illawarra would have been comparable to vegetation found in the study area prior to clearing. These vegetation communities include

- Lowland Woollybutt – Melaleuca Forest located on flat low-lying Shoalhaven Group sediments at elevations between 10 and 35 metres above sea level. It is characterised by the presence of Woollybutt (*Eucalyptus longifolia*), Stringybark (*E. globoidea*/*E. eugenioides*), and Honey Myrtle (*Melaleuca decora*).
- Coastal Swamp Oak Forest occurring in estuarine environment that include low-lying areas of coastal floodplain and the fringes of lakes and lagoons. Common and abundant species that occur include Swamp Oak (*Casuarina glauca*), Common Reed (*Phragmites australis*), and various sedges

A number of these plant species would have been used by Aboriginal groups to make various wooden implements. Wood from the Swamp Oak was used to make tools such as nulla nullas, while the bark was removed and made into canoe hulls (Robinson 1991, p.152).

Local Aboriginal groups would have had access to an abundant range of marine, terrestrial and avian species present in the coastal resource zone which would have provided a variety of uses. Marine animals such as cockles, lobster and periwinkles were eaten (Wesson 2009). Abalone and stingrays were also used to make fish hooks and tools in addition to their use as a food source. Terrestrial species on the coastal plain, such as kangaroos, possums and wombats would have been exploited for food and to make cloaks, and tools (Attenbrow 2010). Avian species were used as a food source, and in the case of the pelican and black duck were often totem animals for Aboriginal groups (Wesson 2009).

2.5 Land use history

Within the proposed study area, soil disturbance is associated with historic pastoral land-use practices and recreational usage. The entire area between Koonawarra and Yallah bays have been subjected to extensive grazing and agricultural practices from 1880s onwards. As well as vegetation clearing for pasture and agriculture, other land disturbances within the property include construction of the high voltage transmission lines and towers; recreational usage resulting in impact trails particularly by trail bikes and pedestrian traffic in the low lying areas along the foreshore.

Although these past land activities caused disturbances, they may have impacted only the surface contexts of any existing Aboriginal archaeological site; it is unlikely that they would have destroyed sites. Clearing of the land would have most likely removed a great number of native culturally modified trees.

3 Aboriginal cultural heritage context

3.1 Ethnohistory

Despite a proliferation of known indigenous sites there is considerable ongoing debate about the nature, territory and range of pre-contact indigenous language groups in the greater Sydney region. These debates have arisen largely due to the lack of ethnographic and linguistic information recorded at the time of European contact. By the time colonial diarists, missionaries and proto-anthropologists began making detailed records of indigenous people in the late 19th century, pre-European indigenous groups had been broken up and reconfigured by European settlement activity. The following information relating to indigenous people on the Illawarra is based on early ethnographic accounts.

Despite conflicting views between historical sources of the exact boundaries of tribal groups in the region, the linguistic evidence does identify distinct language groups at the time of European contact. Based on this information it appears that the study area was situated within the Tharawal (also Dharawal, Darawal, Carawal, Turawal, Thurawal) linguistic group. The named groups (often referred to as 'clans', 'bands' or 'tribes') belonging to the Tharawal/Dharawal language group included the following: Gweagal, Norongerraga, Illawarra, Threawal, Tagary, Wandandega, Wodi Wodi and Ory-ang-ora (Tindale 1974). In his overview of Australian Aboriginal tribal boundaries, Tindale (1974), places the Illawarra area within the territories of the Wodi Wodi tribe (or 'named group'). Tindale (1940, pp.194–195) describes the Wodi Wodi named group as occupying the area north of the Shoalhaven River to Wollongong.

The areas inhabited by each of the groups are considered to be indicative only and would have changed through time and possibly due to circumstances (i.e. availability and distribution of resources). The type and quantity of interactions between different social groupings would have varied with seasons and resource availability. Interactions between the groups inhabiting the many resource zones of the Sydney Basin (coastal and inland) would have varied but been continuous. This is reflected in the relatively homogenous observable cultural features such as art motifs, technology and resource use (McDonald 1992).

Ethnographic evidence considered by Donlon and Sefton (1988, pp.22–29) indicates high population mobility on the Woronora Plateau with frequent contact between the neighbouring Gandangarra, Cobrakall (Liverpool and Cabramatta) and Wodi Wodi (Illawarra). The traditional Wodi Wodi land extended from around Stanwell Park to the Shoalhaven River, and as far inland as Picton, Moss Vale and Marulan. The Wodi Wodi spoke the Dharawal language, however Dharawal (Tharawal) was not a word they had heard of or used themselves (Tindale 1974, Navin Officer Heritage Consultants 2000). Many of the town and place names of the Illawarra are derived from the Dharawal language.

The first European explorers in the area were Bass and Flinders when they travelled to Port Kembla in 1796. Flinders wrote about 'Canoe River' in his journal, making reference to the Lake Illawarra entrance (Organ 1990, p.11).

'This part is called Alowrie, by the natives, and is very low and sandy near the sides of the rivulet. About four miles up it, to the north-west, is the lagoon: and behind, stands a semi-circular range of hills, of which the highest is Hat Hill. The water in the lagoon was distinctly seen, and appeared to be several miles in circumference. The land around it is probable fertile, and the slopes of the back hills had certainly that appearance.'

Lake Illawarra also provided a rich variety of food resources. Allan Cunningham, Government Botanist, wrote in 1818:

...we came out upon the margin of the Lake, which is extensive, but very shoaly on its expanded surface. Pelicans, ducks and teal and some other aquatic birds were swimming, and in detached parties I observed natives of the Lake...in canoes, spearing fish, which is said to be abundant.

After the arrival of European settlers the movement of Aboriginal hunter-gatherers began to be increasingly restricted. European expansion was swift following the initial exploration by Bass and Flinders, and soon there had been considerable loss of land to agriculture. This led to violence and conflict between Europeans and Aboriginal people as both groups sought to compete for the same resources (Attenbrow 2010). At the same time diseases such as small pox were having a devastating effect on the Aboriginal population. Death, starvation and disease were some of the disrupting factors that led to a reorganisation of the social practices of Aboriginal communities after European contact.

The formation of new social groups and alliances were made as Aboriginal people sought to retain some semblance of their previous lifestyle. In 1820, approximately 3000 Aboriginal people were living in the Illawarra, but by 1899 their numbers had declined to only 33 people of non-mixed descent (Organ 1990). Today many Wodi Wodi and Tharawal people continue to live in the Illawarra.

3.2 Aboriginal heritage located in the study area

The archaeological assessment of the study area identified the following Aboriginal sites in the study area:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

The following Aboriginal sites are located within 10 metres of the study area:

- Gilba Road 1 (52-5-0642) - The location of Gilba Road 1 (52-5-0642) has been incorrectly recorded on the AHIMS database. A review of the site card and description indicates that this site is located along Gilba Road within 10 metres of the study area
- Gilba Road 2 Fill 1 (AHIMS 52-5-0643)

One area of moderate subsurface archaeological potential was identified within the study area. The archaeological report attached in Appendix 5 provides details for Aboriginal sites and areas of potential identified during the archaeological assessment. Figure 4 details the Aboriginal sites within the study area. Areas of archaeological potential are shown in Figure 5. A brief description of each site is provided below.

AHIMS 52-5-0223 Boomberry Point 1

Boomberry Point 1 is recorded as a small dispersed shell midden comprising of *Andara trapezia*. It is likely that Boomberry Point 1 has been mapped incorrectly as the site card describes its location as being located on the track running from Tallawarra Power Station to Boomberry Point across Tallawarra Point Headland, three metres south of an unnamed creekline. It was noted that the soil matrix is slightly darker than the surrounding soil and is probably related to the breakdown of charcoal. The highly fragmented shell was visibly exposed on the track and extended under the grass on the side of the track towards the creekline. No artefacts were found even though visibility on the track was 100%. The site is heavily disturbed by horse traffic and the deposition of building rubble and rubbish.

AHIMS 52-5-0225 Elizabeth Point

Elizabeth Point is recorded as an isolated artefact consisting of a grey chert flake fragment. The site is located along a walking track from Tallawarra Power Station to Boomberry Point across Tallawarra Point

Headland. It is also likely that Elizabeth Point has been mapped incorrectly as its current location is further west.

AHIMS 52-5-0642 Gilba Road 1

Gilba Road 1 is recorded as an isolated artefact located at the beginning of a walking track towards Boomberry Point. This site is currently mapped in the middle of Lake Illawarra; therefore, is also incorrectly mapped and the site is likely located at the end of Gilba Road within 10 metres of the study area.

AHIMS 52-5-0643 Gilba Road 2 Fill 1

Gilba Road 2 Fill 1 is recorded as an isolated artefact; however, the location is not described. The site card does include a map showing the location of shell scatter adjacent to the walking track, which extends for approximately 120 metres.

Area of moderate archaeological potential

The area of moderate archaeological potential identified in the 2010 Biosis assessment was redefined based on the findings of the predictive statement and the field survey. The low spur/crest running roughly east-west through the centre of the study area has been assessed as having moderate subsurface archaeological potential. Previous research indicates that the landform is likely contain low density artefact sites or isolated artefacts that were discarded as Aboriginal people travelled through the landscape. The test excavation program conducted by Biosis in 2010 indicated that this landform unit has been subject to low levels of previous ground disturbance with four distinct and intact soil horizons identified throughout the testing locations in the northern precinct.

3.3 Interpretation of past Aboriginal land use

Ethno-historical information points out that the area was intensively occupied by people of the Dharawal language group. Tangible evidence of this occupation is reflected across the landscape by many recorded sites around Lake Illawarra, the majority of them shell middens and artefacts.

Previous archaeological work around Lake Illawarra has recognised archaeological and cultural landscape values of the locality. All of the previous studies provide a general overview of the Aboriginal archaeological site patterning and predictive behaviour around the lake. Results of previous archaeological assessments indicate that areas of archaeological potential will occur where disturbance has been limited in all the landforms around the lake, with shell middens and artefact sites most likely to be present in the area (Figure 5).

Due to the proximity of the study area to Lake Illawarra, it would have provided access to a range of terrestrial and aquatic flora and fauna species that could be utilised by Aboriginal groups in the region. Aquatic species in the area would have included a range of shellfish species that could be exploited, and this would result in the potential for shell midden sites in the study area. Several sites are recorded in the study area, including three isolated artefacts and a shell midden (Figure 4). This indicates that the study area was utilised by Aboriginal people in the past.



Legend

- Study area
- AHIMS record

Figure 4 AHIMS records near the study area

NOT TO BE MADE PUBLIC

0 500 1,000 1,500
Metres

Scale: 1:35,000 @ A3
Coordinate System: GCS GDA 1994




Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 30437
Date: 21 October 2019,
Checked by: amurray, Generated by: amurray
Location: P:\30400s\30437\Mapping\30437_ACHA_F4_AHIMS.mxd



Legend

 Study area

Archaeological potential

 Moderate

 Low

Figure 5 Archaeological potential

0 50 100 150 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 NSW Lambert



Biosis Pty Ltd
Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 30437
Date: 21 October 2019,
Checked by: SJK, Drawn by: LW, Last edited by: amurray
Location: P:\30400s\30437\Mapping\
30437_ACHA_F5_ArchPotential

4 Aboriginal community consultation

Consultation with the Aboriginal community has been undertaken in compliance with the consultation requirements as detailed below. Community consultation has been restarted due the lapse in consultation of more than six months. This was confirmed in discussions EES. This ACHA includes the current community consultation and a consultation log of all communications with RAPs is provided in Appendix 1 and Appendix 6.

4.1 Stage 1: Notification of project proposal and registration of interest

4.1.1 Identification of relevant Aboriginal stakeholders

In accordance with the consultation guidelines, Biosis Pty Ltd notified the following bodies regarding the Proposal:

- Wollongong City Council.
- EES.
- NSW Native Title Services Corporation Limited (NTSCORP Limited).
- Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners.
- NNTT.
- South Coast Local Land Services.
- ILALC.

A list of known Aboriginal stakeholders in the Illawarra was provided by EES (a copy of these responses are provided in Appendix 2) and included:

- | | |
|--|--|
| • Badu (Murrin Clan/Peoples) | • Kullila Site Consultants and Koori Site Management |
| • Barraby Cultural Services | • La Perouse Botany Bay Corporation |
| • Bellambi Indigenous Corporation
Gandangara Traditional Owners | • Minnamunnung |
| • Biamanga (Murrin Clan/Peoples) | • Munyunga (Murrin Clan/Peoples) |
| • Bilinga (Murrin Clan/Peoples) | • Mura Indigenous Corporation (icn:8991) |
| • Darryl Caines | • Murramarang (Murrin Clan/Peoples) |
| • Gary Caines | • Murra Bidgee Mullangari Aboriginal Corporation |
| • Coomaditchie United Aboriginal Corporation | • Murrumbul (Murrin Clan/Peoples) |
| • Cullendulla (Murrin Clan/Peoples) | • NIAC |
| • Darug Land Observations | • Nundagurri (Murrin Clan/Peoples) |

- James Davis
- Dharug (Murrin Clan/Peoples)
- Duncan Falk Consultancy
- Ken Foster
- Gadhu Dreaming
- Raymond Garbutt
- Garrara Aboriginal Corporation
- Goobah Development PTY LTD (Murrin Clan/Peoples)
- Gumaraa
- Gundungurra Tribal Technical Services
- Gunyuu (Murrin Clan/Peoples)
- Guunamaa Dreamin Sites and Surveying
- Illawarra Aboriginal Corporation
- Illawarra Local Aboriginal Land Council
- Gundungurra Tribal Technical Services
- Gundungurra Tribal Technical Services
- Jerringong (Murrin Clan/Peoples)
- Karrial (Murrin Clan/Peoples)
- Korewal Elouera Jerrungurah Tribal Elders Council
- Pemulwuy (Murrin Clan/Peoples)
- Norma Simms
- South West Rocks Corporation
- Three Ducks Dreaming Surveying and Consulting
- Thoorga Nura
- Tungai Tonghi
- Leanne Tungai
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- The Wadi Wadi Coomaditchie Aboriginal Corporation (correspondence via NIAC)
- Walbunja (Murrin Clan/Peoples)
- Walgalu (Murrin Clan/Peoples)
- Warra Bingi Nunda Gurri
- The Wodi Wodi Elders Corporation
- Woronora Plateau Gundungara Elders Council
- Wullung (Murrin Clan/Peoples)
- Yerramurra (Murrin Clan/Peoples)
- Yurrandaali Cultural Services
- South Coast Peoples

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* (NSW) listed no Aboriginal Owners with land within the study area. A search conducted by the NNTT listed no Registered Native Title Claims, Unregistered Claimant Applications or Registered Indigenous Land Use Agreements within the study area. There was one unregistered Claimant Applications within the study area – South Coast Peoples (NC2017/008).

4.1.2 Public notice

In accordance with the consultation guidelines, a public notification was placed in the following newspapers:

- *Illawarra Mercury* (24 August 2019).

The advertisement invited Aboriginal people who hold cultural knowledge to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. A copy of the public notice is provided in Appendix 2.

4.1.3 Registration of Aboriginal parties

Aboriginal groups identified in Section 4.1.1 were sent a letter inviting them to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. In response to the letters and public notice, a total of 14 groups registered their interest in the project. Responses to registration from Aboriginal parties are provided in Appendix 3. A full list of Aboriginal parties who registered for consultation is provided below:

- Illawarra Local Aboriginal Land Council
- Woronora Plateau Gundangara Elders Council
- James Davis
- Warra Bingi Nunda Gurri
- Guunamaa Dreamin Sites and Surveying
- Gumaraa
- Yerramurra (Murrin Clan/Peoples)
- Duncan Falk Consultancy
- Shaun Carroll
- Barraby Cultural Services
- Yurrandaali Cultural Services
- Yulay Cultural Services
- Paul James Mcleod
- Murra Bidgee Mullangari Aboriginal Corporation
- Muragadi
- Leanne Tungai
- South Coast Peoples
- Tungai Tonghi

4.2 Stage 2: Presentation of information about the proposed project

On 19 September 2019 Biosis provided RAPs with details about the proposed development works (project information pack). A copy of the project information pack is provided in Appendix 3.

4.3 Stage 3: Gathering information about cultural significance

4.3.1 Archaeological assessment methodology information pack

On 19 September 2019 Biosis provided each RAP with a copy of the project methodology outlining the proposed Aboriginal cultural heritage assessment process and methodology for this project. RAPs were given 28 days to review and prepare feedback on the proposed methodology. A copy of the project methodology pack is provided in Appendix 3.

From the 2017 ACHA, Biosis received comments from several RAPs, including Three Ducks Dreaming Surveying and Consulting, Darug Land Observations, Biamanga (Murrin Clan/Peoples), Cullendulla (Murrin Clan/Peoples), Goobah Development Pty Ltd (Murrin Clan/Peoples) and Murramarang (Murrin Clan/Peoples), who agreed with the project methodology. Three Ducks Dreaming Surveying and Consulting requested that any artefacts found are provided to the Illawarra Local Aboriginal Land Council for future educational design projects.

This current ACHA, Yulay Cultural Services, Barraby Cultural Services, Yurrandaali Cultural Services, Murra Bidgee Mullangari Aboriginal Corporation, Muragadi and Shaun Carroll all agreed with the methodology.

4.4 Stage 4: Review of draft Aboriginal cultural heritage assessment report

To be completed following the review and comments of the current ACHA from RAPs after the statutory 28 day period.

Responses from the 2017 ACHA were received from Three Ducks Dreaming, Guunamaa Dreaming Site and Surveying, Murramarang (Murrin Clan/Peoples), Cullendulla (Murrin Clan/Peoples), Biamanga (Murrin Clan/Peoples), Goobah Development Pty Ltd (Murrin Clan/Peoples) and Duncan Falk Consultancy. All groups agreed with the draft report. Duncan Falk Consultancy recommending that any artefacts found are reburied in an agreed location where they will not be impacted upon in the future, and also confirmed that Duncan Falk Consultancy holds evidence regarding language boundaries, noting that Dharawal ranged from the Illawarra to Bong Bong now known as the Southern Highlands and surrounding areas. Guunamaa Dreaming Sites and Surveying requested that only Aboriginal groups from the Illawarra be involved in any further work. Three Ducks Dreaming Surveying and Consulting believes there are many significant areas within the area, especially around the creeks and plains.

DRAFT

5 Aboriginal cultural significance assessment

The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values. This report will assess the cultural values of Aboriginal sites in the study area. Details of the scientific significance assessment of Aboriginal sites in the study area are provided in Appendix 5.

5.1 Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in the Australia International Council on Monuments and Sites (ICOMOS) *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia ICOMOS 2013) ('the Burra Charter'). This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. These values are provided as background and include:

- **Historical significance** (evolution and association) refers to historic values and encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives *in situ*, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.
- **Aesthetic significance** (Scenic/architectural qualities, creative accomplishment) refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social values and may include consideration of form, scale, colour, texture, and material of the fabric or landscape, and the smell and sounds associated with the place and its use.
- **Social significance** (contemporary community esteem) refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day community. Places of social significance have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social significance be damaged or destroyed. These aspects of heritage significance can only be determined through consultative processes with local communities.
- **Scientific significance** (Archaeological, industrial, educational, research potential and scientific significance values) refers to the importance of a landscape, area, place or object because of its archaeological and/or other technical aspects. Assessment of scientific value is often based on the likely research potential of the area, place or object and will consider the importance of the data involved, its rarity, quality or representativeness, and the degree to which it may contribute further substantial information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the Burra Charter significance values guidelines, various government agencies have developed formal criteria and guidelines that have application when assessing the significance of heritage places within NSW. Of primary interest are guidelines prepared by the Australian

Government, the NSW OEH and the Heritage Branch, and the NSW Department of Planning and Environment. The relevant sections of these guidelines are presented below.

These guidelines state that an area may contain evidence and associations which demonstrate one or any combination of the Burra Charter significance values outlined above in reference to Aboriginal heritage. Reference to each of the values should be made when evaluating archaeological and cultural significance for Aboriginal sites and places.

In addition to the previously outlined heritage values, the OEH *Guidelines to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) also specify the importance of considering cultural landscapes when determining and assessing Aboriginal heritage values. The principle behind a cultural landscape is that 'the significance of individual features is derived from their inter-relatedness within the cultural landscape'. This means that sites or places cannot be 'assessed in isolation' but must be considered as parts of the wider cultural landscape. Hence the site or place will possibly have values derived from its association with other sites and places. By investigating the associations between sites, places, and (for example) natural resources in the cultural landscape the stories behind the features can be told. The context of the cultural landscape can unlock 'better understanding of the cultural meaning and importance' of sites and places.

Although other values may be considered – such as educational or tourism values – the two principal values that are likely to be addressed in consideration of Aboriginal sites and places are the cultural/social significance to Aboriginal people and their archaeological or scientific significance to archaeologists and the Aboriginal community. The determinations of archaeological and cultural significance for sites and places should then be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

5.2 Cultural (social significance) values

Cultural or social significance refers to the spiritual, traditional, historical and/or contemporary associations and values attached to a place or objects by Aboriginal people. Aboriginal cultural heritage is broadly valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010b, p.iii). More specifically it provides:

- A 'connection and sense of belonging to Country' (DECCW 2010b, p.iii).
- A link between the present and the past (DECCW 2010b, p.3).
- A learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010b, p.3).
- Further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010b, p.3).

It is acknowledged that Aboriginal people are the primary determiners of the cultural significance of Aboriginal cultural heritage. Table 2 below outlines areas identified as having Aboriginal cultural significance based on the previous Aboriginal consultation for the study area in 2010 (Biosis Research 2010).

Table 2 Areas of Aboriginal cultural sensitivity, identified through stakeholder consultation in Biosis (2010)

Defined area of Aboriginal cultural sensitivity	Description of component area	Identified cultural values
Duck Creek	Easterly trending creek with fluvial deposits located on the southern and northern banks of the creek.	It would have been used as an access way to the lake and for its resources.
Fig Tree	SSE trending basal slope	Men's business or women's business, a meeting place, birthing tree
Lake Illawarra Foreshore	Open, sloping lake shores and floodplain / swamp land	The lake itself, the foreshore, the midden sites and its association with the birth of Queen Rosie.
Wollingurri Point	Open low slope towards Lake Illawarra	Large midden site situated on a point that extends out into the lake
Ridgeline Access – Mt Brown to the Lake	Steep to moderate slopes trending south east towards Lake Illawarra	Ridgeline - access way from Mt Brown to Lake Illawarra <ul style="list-style-type: none"> - camping - vista.
Mount Brown	Steep to moderate slopes trending south east towards Lake Illawarra	Mt Brown – lookout.

5.3 Historic values

Historic significance refers to associations a place or object may have with a historically important person, event, phase or activity to the Aboriginal and other communities. The study area is not known to have any historic associations.

5.4 Archaeological (scientific significance) values

An archaeological (scientific) assessment was undertaken for the study area and is presented in detail as part of the attached Archaeological Report (Appendix 5).

5.5 Aesthetic values

The study area is located in close proximity to Lake Illawarra with some areas of disturbance present throughout. The landscape of the study area has undergone tree clearing and farming practices but due to its proximity to Lake Illawarra and Mount Brown is still closely linked with Aboriginal cultural values and provides a context for Aboriginal sites that gives a strong sense of place.

5.6 Statements of significance

The significance of the Aboriginal sites has been assessed in accordance with the following criteria:

- Requirements of the Code.

- The Burra Charter.
- Guide to Investigating and reporting on Aboriginal Heritage.

The combined use of these guidelines is widely considered to represent the best practice for assessments of Aboriginal cultural heritage. The identification and assessment of cultural heritage values includes the four values of the Burra Charter: social, historical, scientific and aesthetic values. The resultant statement of significance has been constructed for the study area based on the significance ranking criteria assessed in Table 3.

5.6.1 Statement of significance for Boomberry Point 1 (AHIMS 52-5-0223)

Boomberry Point 1 (52-5-0223) consisted of shell midden containing one shell species. The site was exposed on the side of a track in a hill slope landform. The site was noted to be badly disturbed with highly fragmented shell. The site has no direct historical associations and has low scientific potential. The site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed. The significance of this site has been assessed as low.

5.6.2 Statement of significance for Elizabeth Point 1 (AHIMS 52-5-0225)

Elizabeth Point 1 (52-5-0225) was recorded as an isolated stone artefact located on a walking track. The artefact was a grey chert flake piece, common in the region and was observed to have been disturbed by the walking track. The site has no direct historical associations and has low scientific potential. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed. The significance of this site has been assessed as low.

5.6.3 Statement of significance for Gilba Road 1 (AHIMS 52-5-0642)

Gilba Road 1 (52-5-0642) was recorded as a stone artefact located at the very beginning of a concrete pathway. Based upon the location of this artefact and current aerial imagery, the artefact has been disturbed as a concrete pathway now extends through the area that the artefact was initially found in. The site has no direct historical associations and has low scientific potential. The site is located on the Lake Illawarra foreshore next to a concrete bicycle track. It has moderate aesthetic significance due to its proximity to Lake Illawarra. The significance of this site has been assessed as low.

5.6.4 Statement of significance for Gilba Road 2 Fill (AHIMS 52-5-0643)

Gilba Road 2 Fill (52-5-0643) site was recorded as an artefact located in an area of fill, with shell and pottery also present. The location of the artefact in an area of fill indicates that it has been disturbed. The site has no direct historical associations and has low scientific potential. The site is located on the Lake Illawarra foreshore in an area of fill. It has moderate aesthetic significance due to its proximity to Lake Illawarra. The significance of this site has been assessed as low.

Table 3 Significance assessment criteria

Site name	Criteria	Ranking
Boomberry Point 1 52-5-0223	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains a shell midden with one species present. The site type is common in the region, and it is located in an area of previous disturbance. It is assessed with low scientific	Low

Site name	Criteria	Ranking
	significance.	
	Aesthetic – the site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed.	Moderate
Elizabeth Point 1 52-5-0225	Cultural – discussions with the local Aboriginal communities reflect that all sites are high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains an isolated artefact which is common in the region. The site is located on a walking track and is disturbed. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to its location.	Moderate
Gilba Road 1 52-5-0642	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains an isolated artefact common in the region, and which is located in an area of previous disturbance. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located on the Lake Illawarra foreshore next to a concrete bicycle track. It has moderate aesthetic significance due to its proximity to Lake Illawarra.	Moderate
Gilba Road 2 Fill 52-5-0643	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage. It is assessed with low historical significance	Low
	Scientific – the site contains an isolated artefact common in the region, and which is located in an area of previous disturbance. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located on the Lake Illawarra foreshore in an area of fill. It has moderate aesthetic significance due to its proximity to Lake Illawarra.	Moderate

6 Proposed development limitations & mitigation measures

As previously outlined, Cardno on behalf of Bridgehill is proposing to submit a development application for the Tallawarra Lands Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

The proposed development will involve the following activities that have the potential to impact on Aboriginal archaeological sites or objects:

- Earthworks.
- Subdivision.
- New housing stock.
- Public open space areas.
- New recreation facilities.
- Environmental management and conservation areas and riparian corridors.
- New internal roads.
- New pedestrian and cycle pathways.
- Landscaping.
- Power station buffer areas.
- Installation of services (water, gas, power).

The following amendments are proposed to the Concept Plan in the Northern Precinct:

- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road.
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands.
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge.
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m² and 12.5 metres frontages, where suited to the topography of the site.

6.1 Predicted physical impacts

The proposed modification and associated development will not impact on any additional Aboriginal sites or areas of archaeological potential. Within the study area, there are two recorded Aboriginal sites that may be subject to harm (52-5-0223, and 52-5-0225). It is expected that the potential of harm to 52-5-0223, and 52-5-0225 from the proposed development will be direct, with a total loss of value.

Two AHIMS sites (52-5-0642, and 52-5-0643) are located within 10 metres of the study area, and may be subject to harm. It is expected that the potential of harm to 52-5-0642, and 52-5-0643 from the proposed development will be indirect, with a partial loss of value.

Strategies to avoid or minimise harm to Aboriginal heritage in or near the study area are discussed below. A summary of impacts is provided below in Table 4. Figure 6 shows the proposed development footprint and the AHIMS sites in and adjacent to the study area.

Table 4 Summary of potential archaeological impacts

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm
52-5-0223	Boomberry Point 1	Low	Direct	Total	Total loss of value
52-5-0225	Elizabeth Point	Low	Direct	Total	Total loss of value
52-5-0642	Gilba Road 1	Low	Indirect	Partial	Partial loss of value
52-5-0643	Gilba Road 2 Fill	Low	Indirect	Partial	Partial loss of value

6.2 Avoiding harm to Aboriginal heritage

Aboriginal sites Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225), and the area of moderate archaeological potential are located within the centre of the development footprint and impacts cannot be avoided by the proposed development. Aboriginal sites Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) are located within 10 metres of the area of proposed works. The proposed works are not expected to directly impact on these sites. Strategies to avoid or minimise harm to Aboriginal heritage in or adjacent to the study area are discussed below.

6.3 Management and mitigation measures

Ideally, heritage management involves conservation of sites through the preservation and conservation of fabric and context within a framework of 'doing as much as necessary, as little as possible' (Australia ICOMOS 2013). In cases where conservation is not practical, several options for management are available. For sites, management often involves the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation.

Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable.

Boomberry Point 1 (AHIMS 52-5-0223) and Elizabeth Point (AHIMS 52-5-0225) are currently located within the proposed development area and impacts cannot be avoided. It is therefore recommended that an archaeological test excavation program be conducted within the vicinity of these two sites. Under Requirement 14 of the Code, test excavations within 50 metres of known or suspected shell midden sites are not permitted without an AHIP. Due to the presence of AHIMS 52-5-0223 (Boomberry Point 1) within the study area and the proximity of one possible midden, AHIMS 52-5-0643 (Gilba Road 2 Fill 1), it will be necessary to apply for an AHIP to conduct test excavations.

Previous assessments, including a limited archaeological test excavation program conducted by Biosis (2010), identified an area of moderate subsurface archaeological potential within the study area. Further testing is therefore recommended in the area of moderate archaeological potential prior to development, to fully identify the nature and extent of Aboriginal occupation within the study area.



Legend




-  Study area
-  Proposed development
-  AHIMS record

Figure 6 Proposed development with AHIMS

0 50 100 150 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 NSW Lambert



Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 30437
Date: 21 October 2019,
Checked by: SJK, Drawn by: LW, Last edited by: amurray
Location: P:\30400s\30437\Mapping\30437_ACHA_F6_AHIMSDevelop

7 Recommendations

The recommendations below respond specifically to the wishes of the registered Aboriginal parties. Recommendations regarding the archaeological value of the site, and the subsequent management of Aboriginal cultural heritage is provided in the archaeological report (Appendix 5).

Recommendation 1: Application for an AHIP to conduct test excavations

Under Requirement 14 of the Code, test excavations within 50 metres of known or suspected shell midden sites are not permitted without an AHIP. Due to the presence of AHIMS 52-5-0223 (Boomberry Point 1) within the study area and the proximity of one possible midden, AHIMS 52-5-0643 (Gilba Road 2 Fill 1), it will be necessary to apply for an AHIP to conduct test excavations.

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The EES issues AHIPs under Part 6 of the NPW Act.

AHIPs should be prepared by a qualified archaeologist and lodged with the EES. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the EES for the processing of AHIPs, which is dependent on the estimated total cost of the development project. Where there are multiple sites within one study area an application for an AHIP to cover the entire study area is recommended.

Recommendation 2: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the EES. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the EES and Aboriginal stakeholders.

Recommendation 3: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains.
2. Notify the NSW Police and EES's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by EES.

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Appendices

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Appendix 1 Consultation log

Stage 1 – Notification of project proposal and registration of interest

Step 1: Identification of Aboriginal people/parties with an interest in the proposed study area

Organisation contacted	Date and type of contact	Date and type of response	Response details
Wollongong City Council (WCC)	22/8/2019 – Email	22/8/2019 – Email	Received notification
EES	22/8/2019 – Email	25/7/2019 – Email	Provided list of Aboriginal stakeholders
NSW Native Title Services Corporation Limited (NTSCORP Limited)	22/8/2019 – Email	30/8/2019 – Email	Requested further information of the work involved such as surveying the study area and monitoring during construction works.
Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners	22/8/2019 – Email	14/10/2019 – Email	Indicated there were no Aboriginal owners and to contact ILALC
National Native Title Tribunal (NNTT)	22/8/2019 – Email	N/A	
South East Local Land Services	22/8/2019 – Email	23/8/2019 – Email	Recommended to contact OEH
Illawarra Local Aboriginal Land Council (ILALC)	22/8/2019 – Email	26/8/2019 – Email	Registered an interest

Step 2: Public advertisement

The public notice was published in the *Illawarra Mercury* on the 24 August 2019. A copy of the advertisement is provided in Appendix 2.

Step 3: Registration of interest

The registration period ran from the 24 August to the 13 September 2019. Leeway was given to Aboriginal parties/groups who provided responses shortly after the close of this period and they have been registered as Aboriginal parties for consultation.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Badu (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Barraby Cultural Services	30/8/2019 – Email	1/9/2019 – Email	Registered interest
Bellambi Indigenous Corporation Gandangara Traditional Owners	30/8/2019 – Email	N/A	N/A
Biamanga (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
Bilinga (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Darryl Caines	30/8/2019 – Email	N/A	N/A
Gary Caines	30/8/2019 – Email	N/A	N/A
Coomaditchie United Aboriginal Corporation	30/8/2019 – Email	N/A	N/A
Cullendulla (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Darug Land Observations	30/8/2019 – Email	N/A	N/A
James Davis	30/8/2019 – Email	29/8/2019 – Email	Registered interest
Dharug (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Duncan Falk Consultancy	30/8/2019 – Email	1/9/2019 – Email	Registered interest
Ken Foster	30/8/2019 – Email	N/A	N/A
Gadhu Dreaming	30/8/2019 – Email	N/A	N/A
Raymond Garbutt	30/8/2019 – Email	N/A	N/A
Garrara Aboriginal Corporation	30/8/2019 – Email	N/A	N/A
Goobah Development PTY LTD (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Gumaraa	30/8/2019 – Email	30/8/2019 – Email	Registered interest
Gundungurra Tribal Technical Services	30/8/2019 – Email	N/A	N/A
Gunyu (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Guunamaa Dreaming Sites and Surveying	30/8/2019 – Email	30/8/2019 – Email	Registered interest
Illawarra Aboriginal Corporation	30/8/2019 – Email	N/A	N/A
Illawarra Local Aboriginal Land Council	30/8/2019 – Email	30/8/2019 – Email	Registered interest
Gundungurra Tribal Technical Services	30/8/2019 – Email	N/A	N/A
Gundungurra Tribal Technical Services	30/8/2019 – Email	N/A	N/A
Jerringong (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Karrial (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Korewal Elouera Jerrungurah Tribal Elders Council	30/8/2019 – Email	N/A	N/A
Kullila Site Consultants and Koori Site Management	30/8/2019 – Email	N/A	N/A
La Pouse Botany Bay Corporation	30/8/2019 – Email	N/A	N/A
Shaun Carroll	N/A	12/9/2019 – Email	Registered interest

Organisation contacted	Date and type of contact	Date and type of response	Response details
Minnamunnung	30/8/2019 – Email	N/A	N/A
Munyunga (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Mura Indigenous Corporation (icn:8991)	30/8/2019 – Email	N/A	N/A
Muragadi	N/A	2/9/2019 – Email	Registered interest
Murramarang (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Murra Bidgee Mullangari Aboriginal Corporation	30/8/2019 – Email	2/9/2019 – Email	Registered interest
Murrumbul (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
NIAC	30/8/2019 – Email	N/A	N/A
Nundagurri (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Paul McLeod	N/A	2/9/2019 – Email	Registered interest
Pemulwuy (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Norma Simms	30/8/2019 – Email	N/A	N/A
South West Rocks Corporation	30/8/2019 – Email	N/A	N/A
Three Ducks Dreaming Surveying and Consulting	30/8/2019 – Email	N/A	N/A
Thoorga Nura	30/8/2019 – Email	N/A	N/A
Tungai Tonghi	30/8/2019 – Email	3/9/2019 – Phone	Registered interest
Leanne Tungai	30/8/2019 – Email	3/9/2019 – Email	Registered interest
The Wadi Wadi Coomaditchie Aboriginal Corporation	30/8/2019 – Email	N/A	N/A
The Wadi Wadi Coomaditchie Aboriginal Corporation (correspondence via NIAC)	30/8/2019 – Email	N/A	N/A
Walbunja (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Walgalu (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Warra Bingi Nunda Gurri	30/8/2019 – Email	30/8/2019 – Email	Registered interest
The Wodi Wodi Elders Corporation	30/8/2019 – Email	N/A	N/A
Woronora Plateau Gundungara Elders Council	30/8/2019 – Email	26/8/2019 – Email	Registered interest
Wullung (Murrin Clan/Peoples)	30/8/2019 – Email	N/A	N/A
Yerramurra (Murrin Clan/Peoples)	30/8/2019 – Email	30/8/2019 – Email	Registered interest
Yulay Cultural Services	N/A	1/9/2019 – Email	Registered interest

Organisation contacted	Date and type of contact	Date and type of response	Response details
Yurrandaali Cultural Services	30/8/2019 – Email	1/9/2019 – Email	Registered interest
South Coast Peoples	30/8/2019 – Email	3/9/2019 – Email	Registered interest

Stage 2 – Presentation of information about the proposed project

Step 1: Provision of project information pack

A copy of the information pack is provided in Appendix 3 and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Barraby Cultural Services	17/9/2019 – Email	24/9/2019 – Email	Agrees with the methodology
James Davis	17/9/2019 – Email	N/A	N/A
Duncan Falk Consultancy	17/9/2019 – Email	N/A	N/A
Gumaraa	17/9/2019 – Email	N/A	N/A
Guunamaa Dreaming Sites and Surveying	17/9/2019 – Email	N/A	N/A
Illawarra Local Aboriginal Land Council	17/9/2019 – Email	N/A	N/A
Shaun Carroll	17/9/2019 – Email	8/10/2019 – Email	Agrees with the methodology
Muragadi	17/9/2019 – Email	8/10/2019 – Email	Agrees with the methodology
Murra Bidgee Mullangari Aboriginal Corporation	17/9/2019 – Email	25/9/2019 – Email	Agrees with the methodology
Paul McLeod	17/9/2019 – Email	N/A	N/A
Tungai Tonghi	17/9/2019 – Email	N/A	N/A
Leanne Tungai	17/9/2019 – Email	N/A	Received methodology
Warra Bingi Nunda Gurri	17/9/2019 – Email	N/A	N/A
Woronora Plateau Gundungara Elders Council	17/9/2019 – Email	N/A	N/A
Yerramurra (Murrin Clan/Peoples)	17/9/2019 – Email	N/A	N/A
Yulay Cultural Services	17/9/2019 – Email	24/9/2019 – Email	Agrees with the methodology
Yurrandaali Cultural Services	17/9/2019 – Email	24/9/2019 – Email	Agrees with the methodology
South Coast Peoples	17/9/2019 – Email	N/A	N/A

Stage 3 – Gathering information about cultural significance

Step 1: Provision of project methodology pack and consultation meeting

A copy of the methodology pack is provided in Appendix 3 and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Barraby Cultural Services	17/9/2019 – Email	24/9/2019 – Email	Agrees with the methodology
James Davis	17/9/2019 – Email	N/A	N/A
Duncan Falk Consultancy	17/9/2019 – Email	N/A	N/A
Gumaraa	17/9/2019 – Email	N/A	N/A
Guunamaa Dreaming Sites and Surveying	17/9/2019 – Email	N/A	N/A
Illawarra Local Aboriginal Land Council	17/9/2019 – Email	N/A	N/A
Shaun Carroll	17/9/2019 – Email	8/10/2019 – Email	Agrees with the methodology
Muragadi	17/9/2019 – Email	8/10/2019 – Email	Agrees with the methodology
Murra Bidgee Mullangari Aboriginal Corporation	17/9/2019 – Email	25/9/2019 – Email	Agrees with the methodology
Paul McLeod	17/9/2019 – Email	N/A	N/A
Tungai Tonghi	17/9/2019 – Email	N/A	N/A
Leanne Tungai	17/9/2019 – Email	N/A	Received methodology
Warra Bingi Nunda Gurri	17/9/2019 – Email	N/A	N/A
Woronora Plateau Gundungara Elders Council	17/9/2019 – Email	N/A	N/A
Yerramurra (Murrin Clan/Peoples)	17/9/2019 – Email	N/A	N/A
Yulay Cultural Services	17/9/2019 – Email	24/9/2019 – Email	Agrees with the methodology
Yurrandaali Cultural Services	17/9/2019 – Email	24/9/2019 – Email	Agrees with the methodology
South Coast Peoples	17/9/2019 – Email	N/A	N/A

Stage 4 – Review of Draft Aboriginal Cultural Heritage Assessment

Step 1: Provision of draft report for review *(to be completed following 28 day review period)*

Organisation contacted	Date and type of contact	Date and type of response	Response details

DRAFT

Appendix 2 Stage 1: Notification of project proposal and registration of interest

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Appendix 3 Stage 2: Presentation of information about the proposed project and Stage 3: Gathering information about cultural significance

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Appendix 4 Stage 4: Review of draft cultural heritage assessment report

DRAFT

Appendix 5 Archaeological report

DRAFT

Appendix 6 Previous consultation log

Stage 1 – Notification of project proposal and registration of interest

Step 1: Identification of Aboriginal people/parties with an interest in the proposed study area

Organisation contacted	Date and type of contact	Date and type of response	Response details
Wollongong City Council (WCC)	15/06/2017 - Letter	29/06/2017 - email	Encouraged to refer to OEH List
NSW Office of Environment and Water (OEH)	15/06/2017 - Letter	26/08/2017 - email	Provided list of Aboriginal stakeholders
NSW Native Title Services Corporation Limited (NTSCORP Limited)	15/06/2017 - Letter	N/A	
Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners	15/06/2017 - Letter	26/08/2017 - email	Indicated there were no Aboriginal owners and to contact ILALC
National Native Title Tribunal (NNTT)	15/06/2017 - Letter	N/A	
South East Local Land Services	15/06/2017 - Letter	23/06/2017 - letter	Recommended to contact OEH
Illawarra Local Aboriginal Land Council (ILALC)	15/06/2017 - Letter	N/A	

Step 2: Public advertisement

The public notice was published in the *Illawarra Mercury* on the 20 June 2017. A copy of the advertisement is provided in Appendix 2.

Step 3: Registration of interest

The registration period ran from the 27 June 2017 to the 11 June 2017. Leeway was given to Aboriginal parties/groups who provided responses shortly after the close of this period and they have been registered as Aboriginal parties for consultation.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Badu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Bellambi Indigenous Corporation Gandangarra Traditional Owners	27/06/2017 - email	N/A	N/A
Biamanga (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest

Organisation contacted	Date and type of contact	Date and type of response	Response details
Bilinga (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Bilinga Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Coomaditchie United Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Cullendulla (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Darug Land Observations	27/06/2017 - email	21/06/2017 - email	Registered interest
Dharug (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Duncan Falk Consultancy	27/06/2017 - email	10/07/2017 - email	Registered interest
Gadhu Dreaming	27/06/2017 - email	N/A	N/A
Garrara Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Goobah Development Pty Ltd (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Gundungurra Tribal Technical Services	27/06/2017 - email	N/A	N/A
Gunyu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Gunyu Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Guunamaa Dreaming Sites and Surveying	27/06/2017 - letter	27/06/2017 - email	Registered interest
Illawarra Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Illawarra Local Aboriginal Land Council	27/06/2017 - email	N/A	N/A
Jerringong (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Karrial (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
Korewal Elouera Jerrungurah Tribal Elders Council	27/06/2017 - letter	N/A	N/A
Kulila Site Consultants & Koori Site Management	27/06/2017 - letter	N/A	N/A
La Pouse Botany Bay Corporation	27/06/2017 - email	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
Minnamunnung	27/06/2017 - email	10/07/2017 - email	Registered interest
Munyunga (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Munyunga Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Murramarang (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Murrumbul (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Murrumbul Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - letter	N/A	N/A
NIAC	27/06/2017 - email	N/A	N/A
Nundagurri (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Pemulwuy (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
South West Rocks Corporation	27/06/2017 - letter	N/A	N/A
The Wodi Wodi Elders Corporation	27/06/2017 - email	N/A	N/A
Three Ducks Dreaming Surveying and Consulting	27/06/2017 - email	27/06/2017 - email	Registered interest
Walbunja (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Walgalu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Warra Bingi Nunda Gurri	27/06/2017 - email	21/06/2017 - email	Registered interest
Wingikara Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Gary Caines	27/06/2017 - email	N/A	N/A
James Davis	27/06/2017 - letter	30/06/2017 - email	Registered interest
Ken Foster	27/06/2017 - letter	N/A	N/A
Norman Simms	27/06/2017 - email	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
Woronora Plateau Gundungara Elders Council	27/06/2017 - email	27/06/2017 - email	Registered interest
Wullung (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Yerramurra (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
The Wadi Wadi Coomaditchie Aboriginal Corporation	27/06/2017 - email	28/06/2017 - verbal	Registered interest
Tungai Tonghi	27/06/2017 - email	N/A	N/A

Stage 2 – Presentation of information about the proposed project

Step 1: Provision of project information pack

A copy of the information pack is provided in Appendix 3 and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Cullendulla (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for the ACHA report.
Darug Land Observations	22/09/2017 – Email	29/09/2017 – email	Jamie Workman contacted Biosis on behalf of Darug Land Observations in response to the methodology. Darug Land Observation Pty Ltd supports the methodology, and wishes to be involved in the monitoring of the topsoil removal, test excavations, and any other works to be carried out.
Duncan Falk Consultancy	22/09/2017 – Email	N/A	
Goobah Development Pty Ltd (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
Guunamaa Dreaming Sites and Surveying	22/09/2017 – Email	N/A	
Illawarra Local Aboriginal Land Council	22/09/2017 – Email	N/A	

Organisation contacted	Date and type of contact	Date and type of response	Response details
Individual	22/09/2017 – Email	N/A	
Minnamunnung	22/09/2017 – Email	N/A	
Murramarang (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
The Wadi Wadi Coomaditchie Aboriginal Corporation	22/09/2017 – Post	N/A	
Three Ducks Dreaming Surveying and Consulting	22/09/2017 – Email	22/09/2017 - email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Warra Bingi Nunda Gurri	22/09/2017 – Email	N/A	
Woronora Plateau Gundangara Elders	22/09/2017 – Email	N/A	

Stage 3 – Gathering information about cultural significance

Step 1: Provision of project methodology pack and consultation meeting

A copy of the methodology pack is provided in Appendix 3 and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Cullendulla (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for the ACHA report.
Darug Land Observations	22/09/2017 – Email	29/09/2017 – email	Jamie Workman contacted Biosis on behalf of Darug Land Observations in response to the methodology. Darug Land Observation Pty Ltd supports the methodology, and wishes to be involved in the monitoring of the topsoil removal, test excavations, and any other works to be carried out.
Duncan Falk Consultancy	22/09/2017 –	N/A	

Organisation contacted	Date and type of contact	Date and type of response	Response details
	Email		
Goobah Development Pty Ltd (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
Guunamaa Dreaming Sites and Surveying	22/09/2017 – Email	N/A	
Illawarra Local Aboriginal Land Council	22/09/2017 – Email	N/A	
James Davis (individual)	22/09/2017 – Email	N/A	
Minnamunnung	22/09/2017 – Email	N/A	
Murramarang (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
The Wadi Wadi Coomaditchie Aboriginal Corporation	22/09/2017 – Letter	N/A	
Three Ducks Dreaming Surveying and Consulting	22/09/2017 – Email	22/09/2017 - email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Warra Bingi Nunda Gurri	22/09/2017 – Email	N/A	
Woronora Plateau Gundangara Elders	22/09/2017 – Email	N/A	

Stage 4 – Review of Draft Aboriginal Cultural Heritage Assessment

A copy of the correspondence relevant to this stage of consultation is available in Appendix 4.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR.
Cullendulla (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR.
Darug Land Observations	02/11/2017 - Email	N/A	

Organisation contacted	Date and type of contact	Date and type of response	Response details
Duncan Falk Consultancy	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR; recommended that any artefacts found are reburied in an agreed location where they will not be impacted upon in the future. Confirmed that Duncan Falk Consultancy holds evidence regarding language boundaries, noting that Dharawal ranged from the Illawarra to Bong Bong now known as the Southern Highlands and surrounding areas.
Goobah Development Pty Ltd (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR; wishes to be kept informed of any further developments.
Guunamaa Dreaming Sites and Surveying	02/11/2017 - Email	06/11/2017 - Email	Confirmed support for draft ACHA and AR; request for Aboriginal groups from Illawarra only to be involved.
Illawarra Local Aboriginal Land Council (ILALC)	02/11/2017 - Email	N/A	
Minnamunnung	02/11/2017 - Email	N/A	
Murramarang (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR.
The Wadi Wadi Coomaditchie Aboriginal Corporation	02/11/2017 - Letter	N/A	
Three Ducks Dreaming Surveying and Consulting	02/11/2017 - Email	06/11/2017 - Email	Confirmed support for draft ACHA and AR; believes there are many significant areas within the area, especially around the creeks and plains.
Warra Bingi Nunda Gurri	02/11/2017 - Email	N/A	
Woronora Plateau Gundangara Elders Council	02/11/2017 - Email	N/A	
James Davis (individual)	02/11/2017 - Email	N/A	



Tallawarra Lands North Precinct: Archaeological report

FINAL REPORT

Prepared for Cardno on behalf of Bridgehill Group

3 October 2019

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Biosis gratefully acknowledges the contributions of the following people and organisations in preparing this report:

Registered Aboriginal Parties

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Guunamaa Dreaming and Sites Surveying
- James Davis
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- South Coast Peoples
- Tungai Tonghi
- Shaun Carroll

Government Departments

- Environment, Energy and Science group (EES, formerly OEH)
- National Native Title Tribunal (NNTT)
- Wollongong City Council (WCC)
- South East Local Land Services (LLS)
- Office of the Registrar Aboriginal Land Rights Act

Client

- Cardno on behalf of Bridgehill Group

Biosis

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Glossary

ACHA	Aboriginal cultural heritage assessment
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
Consultation requirements	<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i>
CBD	Central Business District
DA	Determining Authority
DECCW	Department of Environment, Climate Change and Water
DP	Deposited Plan
EES	Environment, Energy and Science Group (formerly OEH)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
GDA	Geocentric Datum of Australia
GPS	Global Positioning System
GSV	Ground Surface Visibility
ILALC	Illawarra Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MGA	Map Grid of Australia
NPW Act	National Parks and Wildlife Act
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NTSCORP	Native Title Services Corporation
OEH	NSW Office of Environment and Heritage (now EES)
PAD	Potential Archaeological Deposit
Study area	Defined as Lot 30 DP 1175058 and part Lot 31 DP 1175058
RAP	Registered Aboriginal Party
The code	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW 2010)

Summary

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal cultural heritage assessment (ACHA) and archaeological report (AR) (this report) of a proposed development at Tallawarra (Northern Precinct), Yallah New South Wales (NSW). Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities on those lands.

Cardno on behalf of Bridgehill Group intends to lodge a development application for the proposed electrical transmission relocation in the Northern Precinct and to modify the existing concept approval for the Northern and Central Precincts (MP 09_0131 MOD 1). Wollongong City Council is the Determining Authority (DA) and will assess the application to help them determine if the proposed development is likely to have a significant effect on the environment, including Aboriginal cultural heritage. The boundary of the study area has been modified since the previous assessment undertaken by Biosis (2017) to include this electrical easement. An assessment in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010a) (the Code) has been undertaken for this additional area and is included in Appendix 7 of the ACHA.

This AR covers the Northern Precinct (the study area), and aims to determine whether the proposed modification will have any additional impacts on Aboriginal cultural values. The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD. It encompasses 45.06 hectares of private land and the adjacent road reserves.

This report has responded to Section 6.10.1 Aboriginal Cultural Heritage of the *Tallawarra Lands, Yallah: Request for Secretary's Environmental Assessment Requirements* (Urbis 2016) to:

- Confirm the location of archaeological sites relative to the proposed expanded areas.
- Consultation with relevant stakeholders prior to preparation of the EIS.
- Identify the nature and extent of impacts on Aboriginal and cultural heritage values across the project area; and
- Provide the actions that will be taken to avoid or mitigate impacts of the project or Aboriginal cultural heritage values.

SEARs Item	Response
12. Aboriginal Cultural Heritage Aboriginal Cultural Heritage Assessment in accordance with the Guide to investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011) and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW)	<p>This report has been conducted in accordance with the <i>Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i> (DECCW 2011).</p> <p>This report supports the Aboriginal cultural heritage assessment, which has been conducted in accordance with the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> (DECCW). Consultation with Registered Aboriginal Parties is currently underway.</p>

There are 107 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register in a three square kilometre area around the study area. Two AHIMS sites are located within the study area Boomberry Point 1 (AHIMS 52-5-0223) and Elizabeth Point (AHIMS 52-5-0225). Two AHIMS sites are located within 10 metres of the study area Gilba Road 1 (52-5-0642) and Gilba Road 2 Fill 1 (AHIMS 52-5-0643).

An archaeological survey was conducted on 29 June 2017. The overall effectiveness of the survey for examining the ground for Aboriginal sites was deemed low. This was attributed to vegetation cover restricting ground surface visibility combined with a low amount of exposures. No previously unrecorded Aboriginal cultural heritage sites were identified during the field survey. One area of moderate archaeological sensitivity was identified. There is potential for development activities to impact Aboriginal sites and the area of archaeological sensitivity.

This assessment has concluded that the proposed modification and subsequent development will not have any impacts on additional AHIMS sites or areas of archaeological potential.

Strategies have been developed based on the archaeological significance of cultural heritage relevant to the study area. The strategies also take into consideration:

- Predicted impacts to Aboriginal cultural heritage
- The planning approvals framework
- Current best conservation practice, widely considered to include:
 - Ethos of the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter
 - The Code.

The recommendations that resulted from the consultation process are provided below.

Management recommendations

Prior to any development impacts occurring within the study area, the following is recommended:

Recommendation 1: Application for an Aboriginal Heritage Impact Permit (AHIP) to conduct test excavations

Under Requirement 14 of the code, test excavations within 50 metres of known or suspected shell midden sites are not permitted without an AHIP. Due to the presence of AHIMS 52-5-0223 (Boomberry Point 1) within the study area and the proximity of one possible midden, AHIMS 52-5-0643 (Gilba Road 2 Fill 1), it will be necessary to apply for an AHIP to conduct test excavations.

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Department of Environment, Energy and Science (EES) issues AHIPs under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the EES. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the EES for the processing of AHIPs, which is dependent on the estimated total cost of the development project. Where there are multiple sites within one study area an application for an AHIP to cover the entire study area is recommended.

Recommendation 2: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the EES. Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the EES and Aboriginal stakeholders.

Recommendation 3: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains.
2. Notify the NSW Police and EES's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by EES.

1 Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal archaeological investigation for the proposed Northern Precinct at Tallawarra, Yallah NSW. The purpose of this assessment is to support a development application for the proposed electrical transmission relocation in the Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

A previous Aboriginal archaeological assessment for the Tallawarra Lands Part 3A Concept Plan (MP 09_0131) was conducted by Biosis in 2010. The previous assessment consisted of an Aboriginal archaeological survey, Aboriginal Community consultation, and Aboriginal archaeological test excavations (Biosis Research 2010). An impact assessment conducted as part of the 2010 assessment concluded that two Aboriginal archaeological sites, Boomberry Point 1 (AHIMS 52-5-0223) and Elizabeth Point (AHIMS 52-5-0225), would be impacted on by the proposed development. Both Boomberry Point 1 and Elizabeth Point were assessed as having moderate archaeological significance.

This investigation has been carried out under Part 6 of the NPW Act. It has been undertaken in accordance with the Code. The Code has been developed to support the process of investigating and assessing Aboriginal cultural heritage by specifying the minimum standards for archaeological investigation undertaken in NSW under the NPW Act. The archaeological investigation must be undertaken in accordance with the requirements of the code.

It is stated in section 1.2 of the Code that where the Aboriginal cultural heritage assessment concludes that the proposed activity will result in harm to Aboriginal objects or declared Aboriginal Places, an application for an Aboriginal Heritage Impact Permit (AHIP) will be required. This application must be supported by an ACHAR and AR).

The *Environmental Planning and Assessment Act 1979* (EP&A Act) includes provisions for local government authorities to consider environmental impacts in land-use planning and decision making. Each Local Government Area (LGA) is required to create and maintain an Local Environmental Plan (LEP) that includes Aboriginal and historical heritage items. Local Councils identify items that are of significance within their LGA, and these items are listed on heritage schedules in the local LEP and are protected under the EP&A Act and *Heritage Act 1977*.

1.2 Study area

The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). The study area contains 45.06 hectares of private land and the adjacent road reserves (Figure 2).

The study area is within the:

- Wollongong LGA.
- Parish of Calderwood.
- County of Camden.

The study area is bounded by Lake Illawarra to the east, the suburb of Koonawarra to the north, Energy Australia Tallawarra Power Station to the south, and rural land to the west.

1.3 Planning approvals

The proposed modification will be assessed against Part 3A section 75W of the EP&A Act. The DA will be assessed under Part 4 of the EP&A Act.

Other relevant legislation and planning instruments that will inform this assessment include:

- Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.
- NPW Act.
- NSW *National Parks and Wildlife Amendment Act 2010*.
- Infrastructure State Environmental Planning Policy 2007.
- Wollongong Development Control Plan 2009.

1.4 Objectives of the investigation

The purpose of this assessment is to determine if the proposed modification will impact on any additional areas of archaeological sensitivity or Aboriginal sites or objects.

The objectives of the investigation can be summarised as follows:

- To conduct additional background research in order to recognise any identifiable trends in site distribution and location.
- To search statutory and non-statutory registers and planning instruments to identify listed Aboriginal cultural heritage sites within the study area.
- To highlight environmental information considered relevant to past Aboriginal occupation of the locality and associated land use and the identification and integrity/preservation of Aboriginal sites.
- To summarise past Aboriginal occupation in the locality of the study area using ethnohistory and the archaeological record.
- To formulate a model to broadly predict the type and character of Aboriginal sites likely to exist throughout the study area, their location, frequency and integrity.
- To conduct a field survey of the study area to locate unrecorded or previously recorded Aboriginal sites and to further assess the archaeological potential of the study area.
- To assess the significance of any known Aboriginal sites in consultation with the Aboriginal community.
- To identify the impacts of the proposed development on any known or potential Aboriginal sites within the study area.
- To recommend strategies for the management of Aboriginal cultural heritage within the context of the proposed development.

1.5 Investigators and contributors

The roles, previous experience and qualifications of the Biosis project team involved in the preparation of this archaeological report are described below in Table 1.

Table 1 Investigators and contributors

Name and qualifications	Experience summary	Project role
Taryn Gooley BA /Sci (Hons) Archaeology	Taryn is a consultant archaeologist with seven years of experience across south eastern NSW and Western Australia. Taryn has a particular interest in Aboriginal archaeology of North Western NSW, and the Hunter Valley and Newcastle regions. Taryn has experience in the successful completion of Aboriginal Cultural Heritage assessments, archaeological surveys, test excavations, and salvage excavations, as well as Aboriginal community consultation. She is also accomplished in obtaining approvals under the NSW National Parks and Wildlife Act 1974.	<ul style="list-style-type: none"> • Project director • Quality assurance
Samantha Keats BA (Hons)	Samantha is a consultant archaeologist with Biosis Wollongong office. Samantha has over three years of experience as an archaeologist, with a particular research focus on rock art assemblages and ochre in the north-west Kimberley region of Australia. Samantha has experience in conducting desktop assessments, archaeological survey and Aboriginal and historical excavation as well as consulting with Traditional Owners. She has experience in the successful completion of Aboriginal Cultural Heritage assessments, archaeological surveys, test excavations, and salvage excavations, as well as Aboriginal community consultation. She is also accomplished in obtaining approvals under the NSW National Parks and Wildlife Act 1974.	<ul style="list-style-type: none"> • Project manager • Report writing • Background research • Aboriginal groups consultation
Mathew Smith BA/BSc (Hons) Archaeology	Mathew is a field archaeologist with Biosis Wollongong office. Mathew has over one year of experience as an archaeologist, and specialises in lithics analysis. In addition to this, Mathew has well developed skills in archaeological survey and test excavation, as well as Aboriginal community consultation and background research.	<ul style="list-style-type: none"> • Lithics analysis • Report writing

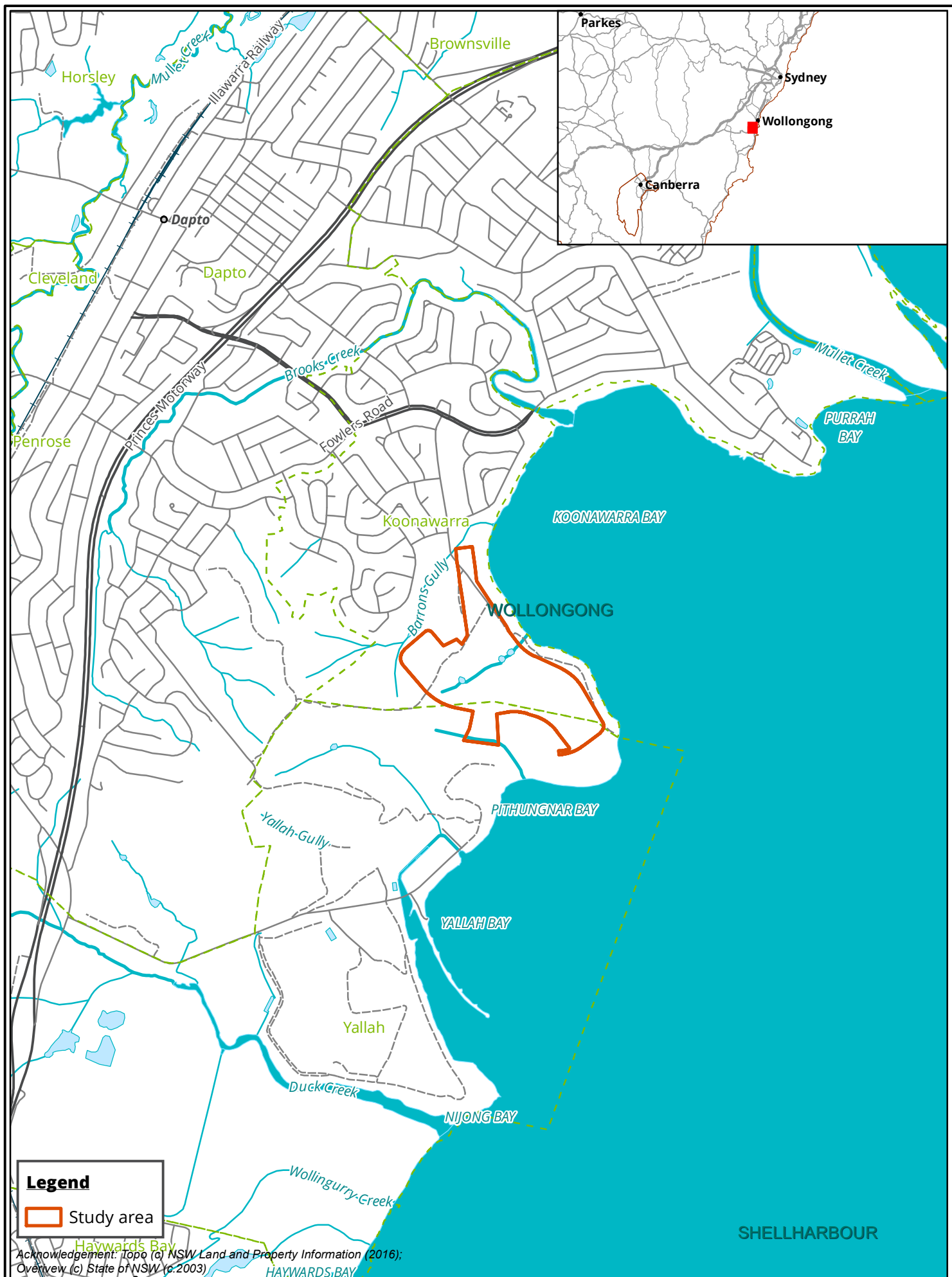


Figure 1 Location of the study area - Tallawarra North Precinct



Legend


 Study area

Figure 2 Study area detail

0 50 100 150 200
Metres

Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 NSW Lambert



Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 30437
Date: 21 October 2019,
Checked by: SJK, Drawn by: LW, Last edited by: amurray
Location: P:\30400s\30437\Mapping\
30437_ACHA_AR_F2_StudyArea

2 Proposed development

The development of the Northern Precinct will comprise residential, open space and associated civil works (Figure 3). The modification to the concept approval seeks to increase the footprint and residential yield for the Northern Precinct from 310 lots to 403 lots. Currently approved components of the concept plan for the Northern Precinct include:

- Approximately 403 residential lots (22.3 hectares)
- Environmental management areas in the vicinity of Mount Brown
- Open space areas on the foreshore of Lake Illawarra (87 hectares)
- The Northshore Precinct has existing vehicular access via Gilba Road.

The following amendments are proposed to the Concept Plan for the Northern Precinct:



- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m² and 12.5 metres frontages, where suited to the topography of the site.



- Legend**
- Study area
 - Proposed development

Figure 3 Proposed development

0 50 100 150 200
Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 NSW Lambert

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3 Desktop assessment

The desktop assessment involves researching and reviewing existing archaeological studies and reports relevant to the study area and Lake Illawarra region. This information is combined to develop an Aboriginal site prediction model for the study area, and to identify known Aboriginal sites and/or Places recorded in the study area. This desktop assessment has been prepared in accordance with requirements 1 to 4 of the Code.

3.1 Landscape context

It is important to consider the local environment of the study area any heritage assessment. The local environmental characteristics can influence human occupation and associated land use and consequently the distribution and character of cultural material. Environmental characteristics and geomorphological processes can affect the preservation of cultural heritage materials to varying degrees or even destroy them completely. Lastly landscape features can contribute to the cultural significance that places can have for people.

3.1.1 Geology, topography and hydrology

The Illawarra region forms part of the Sydney Basin; a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age overlying older basement rocks of the Lachlan Fold Belt. The Illawarra subregion of the Sydney Basin is characterised by Permian siltstones, shale, sandstones and interbedded volcanics on and below the coastal escarpment. The geology of the region provides useful stone resources for toolmaking, included volcanic rocks useful for manufacture of edge ground axes. The study area is dominated by the Broughton Formation geological unit (Figure 4).

The study area is situated on the Coastal Plain on the edge of Lake Illawarra and the Escarpment (Figure 6). This physiographic unit has formed from the gradual recession westward of the Plateau (Bowman 1971). The Coastal Plain is characterised as a mosaic of foothills, ridges, spurs, hillocks and floodplains with slopes varying from very gently inclined to steep with the occasional low cliff. It is dissected by easterly flowing streams at intervals that become more frequent towards the north (Fuller 1982, p.18). The Coastal Plain is widest at the points where Macquarie Rivulet has entrenched into the Plateau at Macquarie Pass and where other waterways that provide the catchment area of Lake Illawarra, such as Duck and Wollingurri Creek systems, have carved into the Escarpment (Bowman 1971).

Situated on the western shore of Lake Illawarra, the study area extends from Koonawarra to Yallah bays (from north to south). Lake Illawarra was formed from the drowning of the Macquarie Rivulet valley during the raising of Holocene sea levels (6-7,000 years ago); the estuary was subsequently formed behind the large sand barrier that now forms the Windang Peninsula. Lake Illawarra is the largest estuarine lagoon on the South Coast of NSW, covering an area of 33 square kilometres and extending over nine kilometres in length and five kilometres in width. It receives salt water from the Pacific Ocean and fresh water from the Illawarra Escarpment (Roy 1984). Lake Illawarra is classified as an early Intermediate Barrier Estuary or an estuarine lagoon. Barrier estuaries are characterised by 'narrow elongated entrance channels with broad tidal and back barrier sand flats' (Roy 1984, p.5).

The proximity to Lake Illawarra would have provided abundant food resources and is likely to result in the presence of Aboriginal sites, such as middens, in the vicinity of the study area.

3.1.2 Climate

The climate within the study area is generally temperate with a maritime influence. Summers in the coastal regions are generally warm, while winters are mild. In the escarpment areas to the west, winters are cold. Moderate to high temperatures, high humidity, onshore winds and peak rainfall characterise summer and autumn (Hazelton 1992). One third of the mean annual rainfall occurs between January and March, with a secondary rainfall peak in June. Winter winds are predominantly westerly, producing drier, cooler conditions.

3.1.3 Soil landscapes

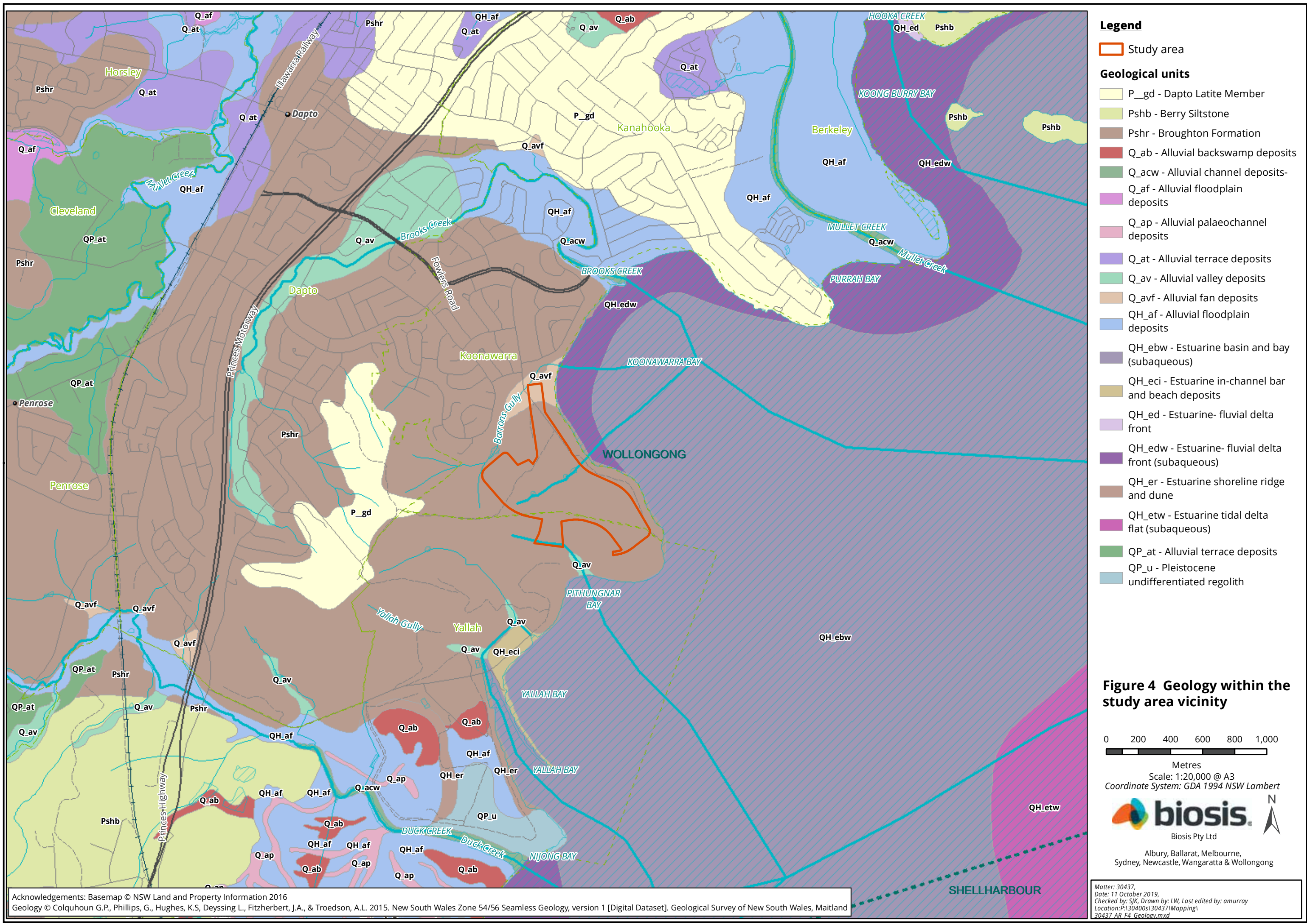
Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Because they are defined by a combination of soils, topography, vegetation and weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise archaeological potential and exposure. The study area contains one erosional soil landscape called the Shellharbour soil landscape (Figure 5). Erosional soil landscapes comprise soils that are derived from the erosive action of running water, primarily well-defined streams that have the ability to transport their sediment load. Soils may be either absent, derived from water-washed parent materials, or derived from *in situ* weathered bedrock.

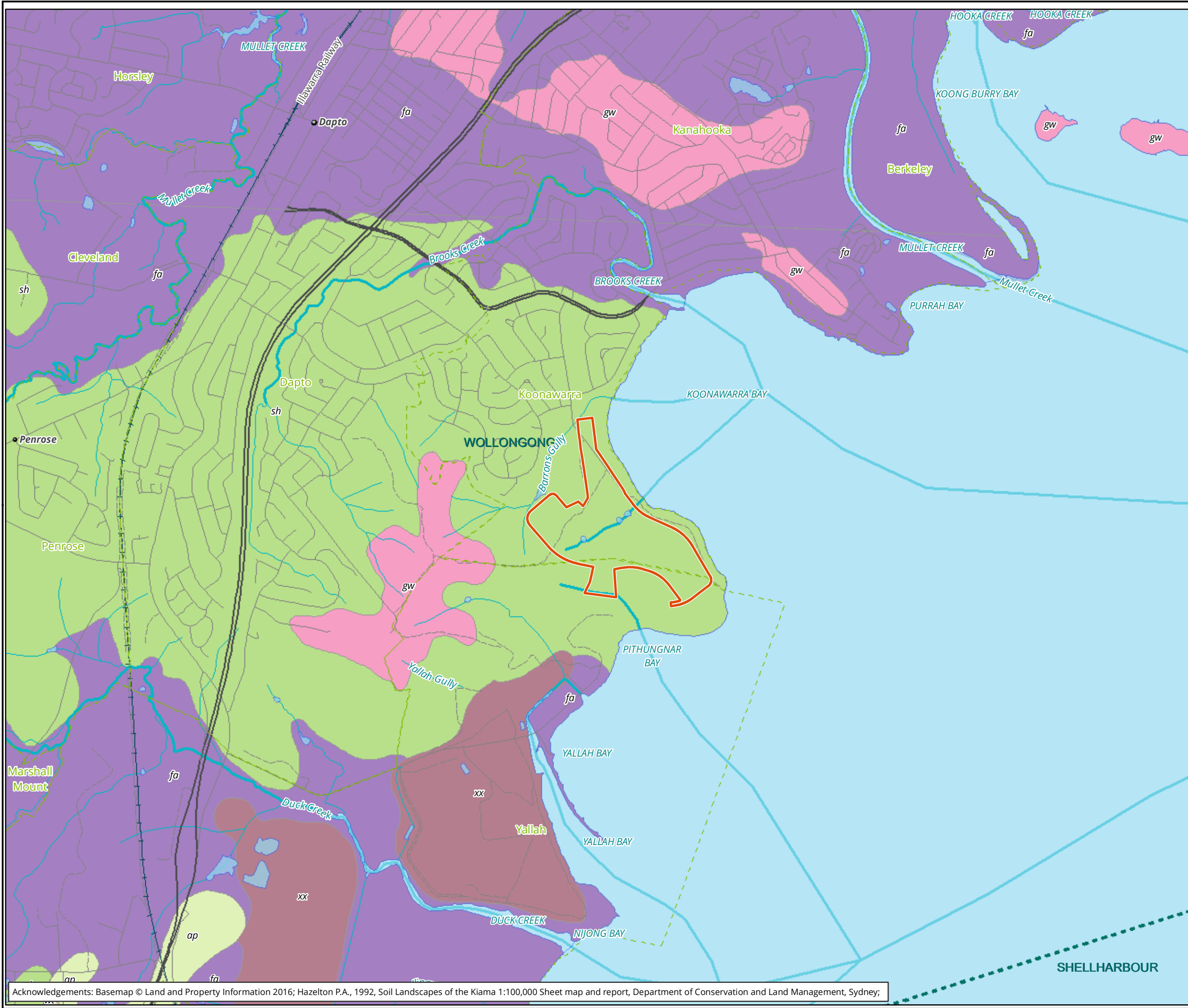
The characteristics of the Shellharbour soil landscape are summarised in Table 2.

Table 2 Shellharbour soil landscape characteristics (Hazelton 1992, pp.58-60)

Soil landscape	Topography	Soils
Shellharbour	Rolling low hills with long side slopes and broad drainage lines. Relief 30-50 metres. Slopes <20% incline.	Crests and upper slopes: Hard setting black rich clays overlying <100 cm of brown strongly pedal heavy clay. Mid slopes: Up to 20 cm of brownish black sandy loam overlies <50 cm of strongly pedal reddish brown sandy clay. 50 cm of mottled reddish brown sandy clay overlies <50 cm of brown strongly pedal heavy clay. Foot slopes and drainage plains: Up to 40 cm of reddish brown sandy clay overlies >50 cm of strongly pedal brown heavy clay.

The Shellharbour soil landscape has a high to very high erodibility rating would therefore be susceptible to frequent soil movement. This would result in poor preservation of archaeological material at shallow depths but would potentially lead to exposures of any deeper archaeological deposits were topsoil has eroded away.





Legend

Study area

Soil landscape units

- ap - ALBION PARK
- fa - FAIRY MEADOW
- gw - GWYNNEVILLE
- sh - SHELLHARBOUR
- wt - WATTAMOLLA ROAD
- xx - DISTURBED TERRAIN

Figure 5 Soil landscapes (1:100,000) within the study area

0 200 400 600 800 1,000

Metres

Scale: 1:20,000 @ A3

Coordinate System: GDA 1994 NSW Lambert

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Acknowledgements: Basemap © Land and Property Information 2016; Hazelton P.A., 1992, Soil Landscapes of the Kiama 1:100,000 Sheet map and report, Department of Conservation and Land Management, Sydney;

Matter: 30437
 Date: 21 October 2019,
 Checked by: SJK, Drawn by: LW, Last edited by: amurray
 Location: P:\30400s\30437\Mapping\30437_AR_F5_Soils