

# **Tree Removal**

## **Shortland Waters Golf Course**

### **Lot 2 DP1215916**

## **Statement of Environmental Effects**

prepared for  
AVEO

22<sup>nd</sup> March 2017



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## REVISION

**PROJECT: Tree Clearing, Shortland Waters Golf Course**  
**Statement of Environmental Effects**

Revision	Issue	Date
Final	DA lodgement	23.3.17

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Authorised for use by:



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Date: 22<sup>nd</sup> March 2017

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# 1. Introduction

PEP Consulting has been engaged by AVEO (the applicant) to prepare this Statement of Environmental Effects (SEE) for works proposed under the approved Seniors Living Concept Development Proposal (DA2012/419).

The proposed development comprises the works pertaining to the following concept proposal for the development of the site as approved in DA2012/419:

- Golf Course design and works of “Vale Street site” (Lot 103 DP881682)

This development application (DA) relates to tree clearing for realignment of golf course holes.

## 1.1 Background

This development application (DA) represents the tenth DA under the approved Concept Development Proposal (DA2012/419) - Concept of seniors housing development, golf course works and associated works which was approved by Council on 11 March 2014. The concept approval comprised the following concept proposals for development of the site:

- Contamination Remediation Works of “Lorna Street site” (Lot 10 DP1149782)
- Contamination Remediation Works of the “Vale Street site” (Lot 103 DP881682)
- Golf Course redesign works of “Lorna Street site” (Lot 10 DP1149782)
- Golf Course design and works of “Vale Street site” (Lot 103 DP881682)
- Seniors living development comprising 300 serviced self-care units, a 127 bed Residential Care Facility and associated community facilities
- Subdivision of the seniors living development

Further development applications are required to detail the concept proposals, and consent is required to carry out that development.

The status of existing DAs is provided in [Table 1](#) below.

**Table 1: Development Application Status**

Reference	Description	Lodged	Determined
DA2012/419	Concept Development Approval	-	11/4/14
DA2012/419	Section 96(1A)	23/6/15	15/10/15
DA2015/1011	Subdivision (1 lot into 2)	7/9/15	18/12/15



Reference	Description	Lodged	Determined
SC2016/00006	Subdivision certificate	20/1/16	5/2/16
DA2015/10112	Phase 1 (Admin/Community Facility, 50 seniors dwellings, entry road, carpark)	28/10/15	17/5/16
DA2015/10112.01	Phase 1 – typos & street names	1/6/16	27/9/16
DA2015/419.01	Section 96(1)	3/11/15	5/12/15
DA2015/10277	Clubhouse (demolition of existing, construction of new clubhouse and carpark reconfiguration)	20/11/15	7/7/16
DA2016/00136	Temporary Stockpile DA	10/2/16	Withdrawn
DA2016/00444	Lorna Street Remediation and Golf Course DA	27/4/16	16.9.16
		10.5.16	Stop the clock pending additional \$590 advert DA fee
		11.5.16	Payment made
DA2016/01120	Signage DA	7.10.16	15.2.17
DA2017/00149	Stage 2 Dwellings	8.2.17	Pending

## 1.2 Site Description

The subject site is legally described as Lot 2 DP1215916 referred to as the 'Shortland Waters Golf Club ("SWG") and is approximately 42.55ha in size. The land is zoned RE2 Private Recreation under the *Newcastle Local Environmental Plan 2012* (NLEP) (refer to [Figure 1](#)). The site currently forms part of the golf course and adjoins the 'AVEO Newcastle Seniors Living Development' (Lot 1 DP1215916).

The site is accessible from a private road through the University land (Lot 1 DP1188100), connected to Vale Street via a bridge over the Jesmond Bypass Road (Main Road/ State Highway 23).





Figure 1: Site Aerial





Figure 2: Course Redevelopment Overview



### 1.3 Context and Surrounding Land Uses

The area surrounding the subject site accommodates a wide variety of land uses. The key nearby land uses are listed below:

- North-east: Great Northern rail line, SEPP 14 wetlands, Newcastle Produce Markets, various industrial and warehouse uses, Sandgate Cemetery;
- North-west: SEPP 14 wetlands (including the 'Newcastle Wetlands Reserve'), limited low-density residential development, Jesmond Bypass Road (State Highway No. 23) interchange, Shortland Wetlands Centre;
- West: Jesmond Bypass Road, low-medium density residential development (i.e. suburb of Shortland);
- South: Shortland Waters Golf Club, Newcastle Institute for Energy Research complex ('NIER' - former BHP Billiton Newcastle Technology Centre), the University of Newcastle (including bushland, landscape supplies & green waste storage areas, farm animal enclosures, wallaby enclosures, parking areas, creek, wetlands area [not SEPP 14] and wetland pavilion, sports fields, various shops & facilities, etc), Warabrook Train Station;
- East: Great Northern rail line, Hanbury Rail Junction, major electricity transmission lines, Warabrook Pond (not a SEPP 14 wetland), residential, commercial and industrial development within the suburb of Warabrook.



## 2. Description of the Development

The proposed tree clearing will comprise the following works:

- 180 trees (>450mm circumference) removed; and
- Cleared vegetation will be mulched and applied onsite.

The tree clearing is required to realign two golf holes (shown as #4 and #9 on [Figure 2](#)) that form part of the overall site redevelopment as approved in the Concept Proposal (DA2012/419) for AVEO Newcastle Seniors Living Development. The proposed tree clearing areas are shown on [Figure 3](#).

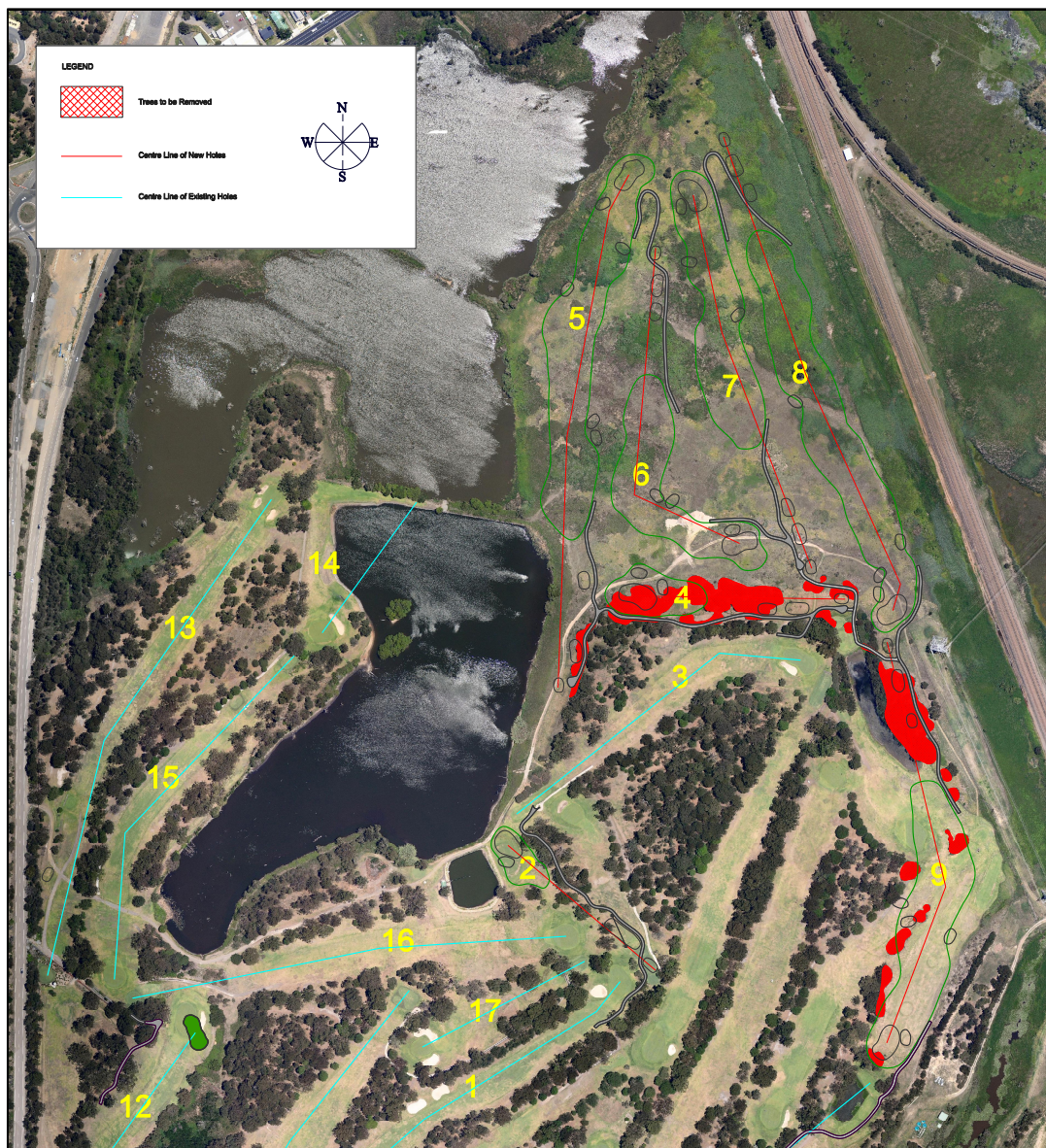


Figure 3: Approximate Tree Clearing Area

## 2.1 Access

The current legal access to the golf course, is via an existing easement through the University of Newcastle's Lot 1 DP1188100 onto the SWGC land.

## 2.2 Timing and Duration

Tree clearing is expected to be undertaken over approximately 3 weeks.

## 2.3 Consultation

Consultation relevant to the proposal has been undertaken, with the key outcomes summarised below:

- Shortland Waters Golf Club
  - Contractual agreement reached with Aveo to progress the approved Concept Proposed Seniors Living Development (DA 2012/419).
  - Easement agreements as part of the approved subdivision (DA2015/1011).
- Hunter Water Corporation
  - Licence Agreement for temporary and permanent crossing of CTGM provided.
  - Easement for access across CTGM provided.
  - Specifications for crossing Hunter Water assets located near Lorna Street site.
- University of Newcastle
  - Easement Deed of Agreement signed.
  - Easement for access provided.
  - Review of each DA SEE.
  - Ongoing construction liaison.



## 3. Statutory Planning

### 3.1 Permissibility

The proposed tree clearing is within the existing golf course land zoned RE2 Private Recreation under the *Newcastle Local Environmental Plan 2012* (NLEP).

The proposed tree clearing is permissible with consent under Clause 5.9(3)(a) of NLEP. Trees less than 450mm circumference may be cleared without development consent.

The earthworks associated with realignment of the two golf holes is considered ‘ancillary’ to the existing approved golf course use. Therefore, the earthworks is permissible without consent pursuant to Clause 6.2(2)(b) of NLEP.

### 3.2 Concept Approval

Compliance with consent conditions of the Concept Approval (DA2012/419) is addressed in [Table 2](#) below.

**Table 2: Compliance with Concept Approval (DA2012/419)**

DA2012/419 Condition of Consent	Compliance	Discussion
A1	N/A	Noted.
B1	Yes	This proposal constitutes Golf Course design and works of “Vale Street site” (Lot 103 DP881682) as approved by the Concept Approval.
B2	Yes	Noted.
C1. i) NSW Office of Water 1.	N/A	The proposed tree clearing does not constitute a controlled activity.
D1.	Yes	The proposal is consistent with the approved concept as modified 23.6.15 and constitutes part of the Seniors Living development as approved by the Concept Approval. The development footprint is consistent with the approval.
D2, E1, E2.	N/A	Noted.
E3	Yes	This DA assesses the ‘large scale tree removal required within the development footprint’.
F1 Staging	Yes	This proposal constitutes Golf Course design and works of “Vale Street site” (Lot 103 DP881682) as approved by the Concept Approval.
G(i). Roads and Maritime Services	N/A	Noted.
G2	N/A	Noted.
G(ii)/G3 Transgrid	N/A	No works proposed near Transgrid assets.
G(ii)/G4 Hunter Water	Yes	Construction works over the CTGM has been discussed and approved by Hunter Water.
G5.	Yes	Access to the CTGM will be maintained at all times.





DA2012/419 Condition of Consent	Compliance	Discussion
G6. Services	Yes	All services will be a minimum of 600mm clear of the CTGM. The location of services and roads across the CTGM have been approved by Hunter Water with a Construction Licence Agreement (Ref: 2014-427, see attached) and easements.
G7. CTGM Protection	Yes	The detailed crossing design has been approved by Hunter Water under Construction Licence Agreement (Ref: 2014-427).
G8. Landscaping	Yes	No additional planting is proposed over the CTGM. The cart tracks and entry road across the CTGM will be capable of disassembly should access to that portion of the pipeline be required in the future.
G9.	Yes	A construction licence agreement (Ref: 2014-427) has been granted by Hunter Water for the CTGM crossings.
G10. Easement	Yes	Easements have been created for the crossings over CTGM.
G(iv)/G11. Stormwater	Yes	The proposed tree clearing will not result in any drainage from the development affecting the rail corridor.
G12. Fencing	N/A	The golf course perimeter will be densely planted and sign posted to prevent unauthorised access to the rail corridor.
H1. Nest boxes	Yes	<a href="#">Section 4.1.1</a> of this SEE includes the nest box plan, felling procedures and ongoing maintenance.  6 hollow bearing trees are proposed to be removed with 12 compensatory nest boxes to be installed onsite.
H2. Tree clearing	Yes	All recommendations will be implemented as provided in <a href="#">Section 4.1.1</a> .
H3. Stormwater	N/A	Erosion and sediment controls will be implemented during tree clearing. The reformed golf holes include detailed drainage plans that ensure no runoff impacts to the SEPP14 wetlands (refer <a href="#">Appendix 1</a> ).
H4. Weeds	Yes	The proposed development area comprises part of the existing golf course and does not contain any noxious weeds.
H5. EEC	Yes	Stormwater runoff will not impact on the Endangered Ecological Community (EEC).
H6. Sewer	Yes	Sewer connection of the maintenance shed was investigated and was found to be uneconomical.



DA2012/419 Condition of Consent	Compliance	Discussion
H7. ASS	Yes	The site is identified as being within a Class 3 acid sulfate area pursuant to the NLEP Acid Sulfate Soils Planning Map. However, works do not comprise Works more than 1 metre below the natural ground surface, or works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface. Therefore an Acid Sulfate Soil Management Plan is not required.
H8	N/A	Noted.
H9	Yes	The Ecology assessment prepared for the site confirms the absence of any high value trees on the site (refer <a href="#">Appendix 2</a> ). The tree clearing plan identifies 180 existing trees will be removed.
H10	N/A	Noted.
H11	N/A	Noted.
H12.	N/A	Tree clearing will not result in any demonstrable traffic impacts. All required machinery will be brought to site and remain onsite for the duration of works. No material will be taken offsite and therefore will not result in additional trips.
H13.	N/A	Noted.
I	N/A	-
J1 - J3, K1	N/A	The proposed tree clearing will not require any soil disturbance.
L1	N/A	-
M1 –M10	N/A	Noted

### 3.3 Local Planning Controls

#### 3.3.1 Newcastle Local Environmental Plan 2012

The lot is zoned RE2 Private Recreation.

[Table 3](#) describes compliance with the relevant clauses of the NLEP.

**Table 3: NLEP Compliance**

Relevant Clause	Compliance
1.2 Aims of Plan	Yes. The proposal is consistent with the aims of the plan as it will allow the future golf course development of the land facilitating the seniors living development for the economic benefit of Newcastle, including job creation and diversity of housing choice for the community.
2.3 Zone objectives	Yes. The tree clearing will facilitate the redevelopment of the golf course site.



Relevant Clause	Compliance
5.5 Development within a coastal zone	Yes. The proposal will not have any effect on the NSW coastline in terms of view blocking, disruption to ecological habitats or preventing access.
5.9 Preservation of trees or vegetation	Yes. The proposed tree removal is not in a heritage conservation or Aboriginal heritage area.
5.10 Heritage conservation	Yes. The site is an existing golf course and is not identified as having any heritage significance or containing any heritage items. This has been confirmed via a search of the Aboriginal Heritage Information Management System (AHIMS) including a buffer area of 50 metres and was submitted with the concept DA (2012/419).
6.1 Acid sulfate soils	Yes. The site is identified as being within a Class 3 acid sulfate area pursuant to the NLEP <i>Acid Sulfate Soils Planning Map</i> . However, works do not comprise <i>Works more than 1 metre below the natural ground surface, or works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface</i> . Accordingly, no impacts associated with acid sulfate soils are anticipated in these areas and an Acid Sulfate Soil Management Plan is not required.
<p>Clause 6.2 Earthworks</p> <p>(2) Development consent is required for earthworks unless:</p> <p>(a) the earthworks are exempt development under this Plan or another applicable environmental planning instrument, or</p> <p>(b) the earthworks are ancillary to other development for which development consent has been given.</p>	Earthworks for the new golf holes is considered ancillary to the existing approved golf course use and is therefore does not require development consent.

### 3.3.2 Development Control Plan

**Table 4: Development Control Compliance**

Relevant Clause	Compliance
5.01.01 Erosion prevention	Erosion and sediment control measures will be implemented in accordance with the Blue Book.
5.01.02 Sediment control	
5.01.03 Cut and fill	No imported fill is required for the development.
5.02 Land Contamination	Yes. A Phase 1 contamination assessment is provided in <a href="#">Appendix 3</a> and identifies the development area as unlikely to be contaminated.



Relevant Clause	Compliance
5.03 Tree Management	Yes. The proposed trees to be removed constitute ‘prescribed vegetation’ under the DCP being native vegetation with circumference greater than 450mm. Therefore the proposed clearing requires development consent.
5.04 Aboriginal heritage	Yes. The site itself is not identified as having any aboriginal heritage significance or significant items. The site is disturbed and current a golf course. It is therefore considered unlikely that any potential artefacts remain.
5.06.01 Archaeological Management	Yes. It is considered highly unlikely that any archaeological significant items will be uncovered on site. However, if this does occur Council will be notified immediately and an archaeological assessment will be undertaken before any more construction continues.

## 3.4 State Environmental Planning Policies

### 3.4.1 SEPP71 Coastal Protection

The subject site is located within the boundaries of the NSW coastal zone, and therefore the provisions of SEPP 71 apply. SEPP71 also defines the site as a ‘sensitive coastal location’ being within 100m of a SEPP14 Coastal Wetland.

This policy aims to ensure that development in the NSW Coastal Zone is appropriate and suitably located, to ensure that there is a consistent and strategic approach to coastal planning and management, and a clear development assessment framework for the coastal zone. Clause 8 of the SEPP lists matters which are to be taken into account by the consent authority when it determines a DA for development on such land. Additional provisions provide development controls for all development within the coastal zone.

The relevant provisions of this SEPP are addressed in Table 5 below, in relation to the proposed development. In summary, given the subject sites proximity to the coastal foreshore the proposal will have a positive impact on the coastal environment and will comply with the provisions of SEPP 71.

**Table 5: SEPP71 Compliance**

Clause	Compliance
8(a) the aims of this Policy set out in clause 2,	Yes. The proposal will protect and manage the coastal attributes of the adjoining SEPP14 wetlands and provide new opportunities for access to this area.
(b) existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,	Yes. The proposal will not affect any existing or future public access to the coastal foreshore.
(c) opportunities to provide new public	Yes. The tree clearing is required to facilitate the



Clause	Compliance
access to and along the coastal foreshore for pedestrians or persons with a disability,	remediation and golf course works that will provide visitors with viewing opportunities to the adjoining rehabilitated coastal wetlands.
(d) the suitability of development given its type, location and design and its relationship with the surrounding area,	Yes. The proposal will make use of an underutilized site, providing low intensity development that blends with the surrounding wetlands and character of the area. The golf course provides opportunities for re-vegetation and landscaping to enhance the wetland environment.
(e) any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,	Not applicable.
(f) the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,	Yes. The proposal will improvement of the visual amenity of the area.
(g) measures to conserve animals (within the meaning of the <a href="#">Threatened Species Conservation Act 1995</a> ) and plants (within the meaning of that Act), and their habitats,	Yes. The proposal will not require the removal of any Freshwater Coastal Wetland Complex Endangered Ecological Community (EEC).
(h) measures to conserve fish (within the meaning of Part 7A of the <a href="#">Fisheries Management Act 1994</a> ) and marine vegetation (within the meaning of that Part), and their habitats	Implementing erosion and sediment control plan in accordance with the Blue Book will ensure there is no negative impact on marine life or their habitats as a result of the proposal.
(i) existing wildlife corridors and the impact of development on these corridors,	Yes. The site is not identified as being within a wildlife corridor.
(j) the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,	Not applicable.
(k) measures to reduce the potential for conflict between land-based and water-based coastal activities,	Not applicable. The site does not provide for any water-based activities.
(l) measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,	Not applicable. The site is an existing golf course and is not likely to possess any Aboriginal significance.
(m) likely impacts of development on the water quality of coastal waterbodies,	Yes. Implementing erosion and sediment control in accordance with the Blue Book will ensure there is no negative impact.
(n) the conservation and preservation of items of heritage, archaeological or historic significance,	Not applicable. The site does not contain any items of historic significance.



Clause	Compliance
(o) only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,	Not applicable.
<p>(p) only in cases in which a development application in relation to proposed development is determined:</p> <p>(i) the cumulative impacts of the proposed development on the environment, and</p> <p>(ii) measures to ensure that water and energy usage by the proposed development is efficient.</p>	Yes. The proposed tree clearing will enable the site remediation and ongoing golf course use that will have beneficial impacts on the area providing opportunity for revegetation and management.
<p>14 Public access</p> <p>A consent authority must not consent to an application to carry out development on land to which this Policy applies if, in the opinion of the consent authority, the development will, or is likely to, result in the impeding or diminishing, to any extent, of the physical, land-based right of access of the public to or along the coastal foreshore.</p>	Yes. The proposal will not affect any existing or future public access to the coastal foreshore.
<p><b>15 Effluent disposal</b></p> <p>The consent authority must not consent to a development application to carry out development on land to which this Policy applies in which effluent is proposed to be disposed of by means of a non-reticulated system if the consent authority is satisfied the proposal will, or is likely to, have a negative effect on the water quality of the sea or any nearby beach, or an estuary, a coastal lake, a coastal creek or other similar body of water, or a rock platform.</p>	Not applicable. The proposal will not require any effluent disposal.
<p><b>16 Stormwater</b></p> <p>The consent authority must not grant consent to a development application to carry out development on land to which this Policy applies if the consent authority is of the opinion that the development will, or is likely to, discharge untreated stormwater into the sea, a beach, or an estuary, a coastal lake, a coastal creek or other similar body of water, or onto a rock platform.</p>	Yes. The development will incorporate erosion and sediment controls to prevent runoff of untreated stormwater.

### 3.4.2 SEPP55 Remediation of Land

Clause 7 of the SEPP requires that:



*(1) A consent authority must not consent to the carrying out of any development on land unless:*

*(a) it has considered whether the land is contaminated, and*

*(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*

*(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

A Phase 1 Environmental Site Assessment has been prepared by RCA (2012) and is provided in [Appendix 3](#). The investigation did not identify any potential contaminants of concern in the proposed area of tree clearing (refer [Section 4.2](#) of this SEE). Furthermore, the tree clearing will not result in any demonstrable soil disturbance.

Therefore the proposed development satisfies the requirements of SEPP55.

### **3.4.3 SEPP14 Coastal Wetlands**

This SEPP aims to ensure the protection of coastal wetlands throughout NSW. The adjoining golf course lot contains coastal wetlands as defined in the SEPP 14 maps.

Clause 7 of the SEPP provides that a person shall not undertake the following works in relation to SEPP 14 wetlands, except with the consent of the Council and the concurrence of the Director of the Department (NSW Office of Environment and Heritage):

*(a) clear that land,*

*(b) construct a levee on that land,*

*(c) drain that land, or*

*(d) fill that land.*

The proposed tree clearing work does not constitute any Clause 7 activities and therefore does not trigger further assessment under this SEPP.

## **3.5 Other Relevant Policies and Legislation**

### **3.5.1 Rural Fires Act 1997**

The site is mapped as bushfire prone. However, tree clearing does not constitute a special fire protection purpose or residential subdivision and therefore does not require referral to the Rural Fire Service for approval of a Section 100b Bushfire Safety Authority.

### **3.5.2 NSW Coastal Planning Policy (1997)**

Provisions of the NSW Coastal Planning Policy (1997) apply to the subject site. The proposed development complies with the relevant aims of this policy is to ensure that development within the NSW coastal area does not affect water quality, does not disturb acid sulfate soils and does not affect the NSW coastline sustainability or visual amenity.

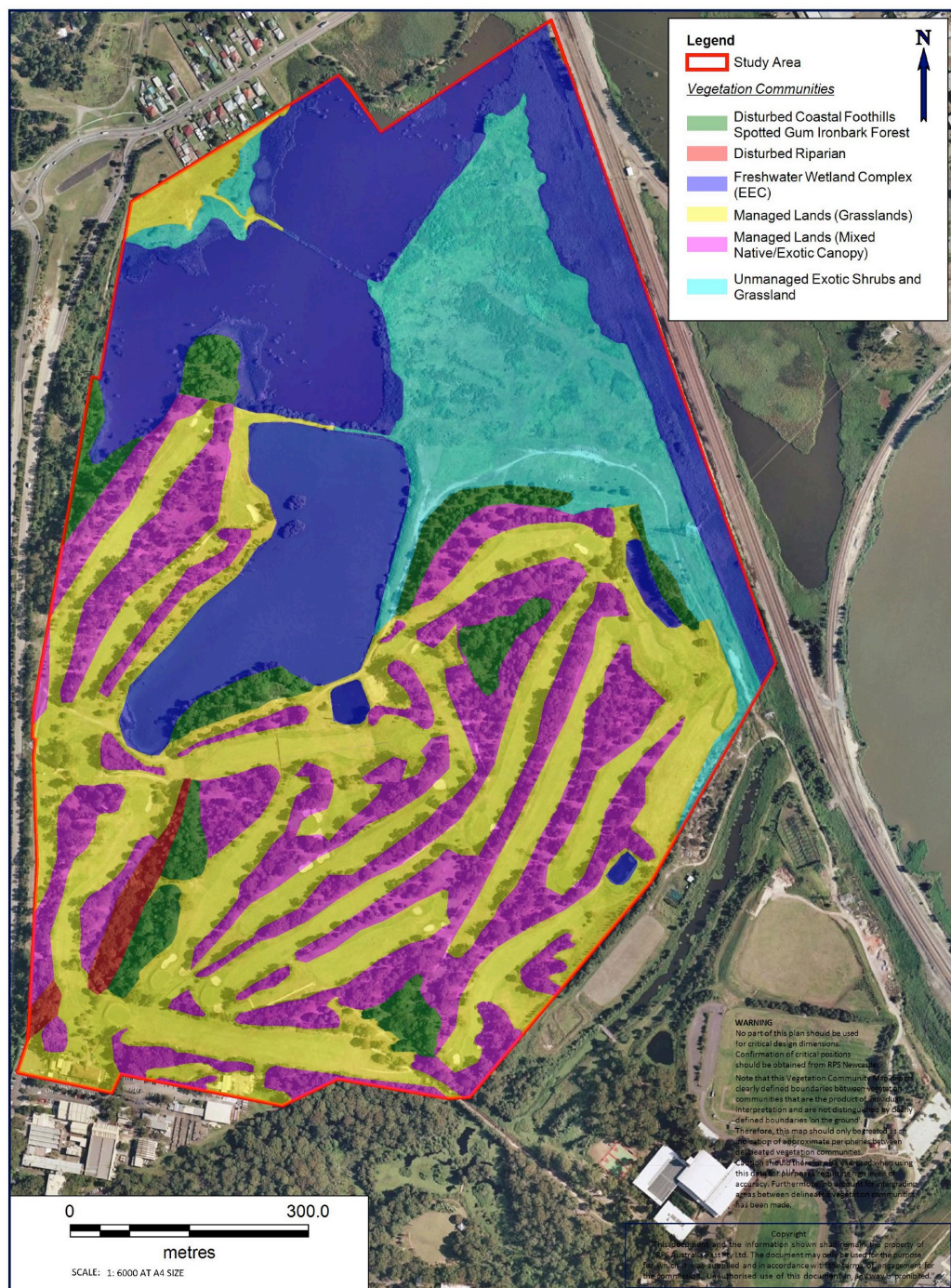




## 4. Environmental Impact Assessment

### 4.1 Ecology

Ecological assessment for the entire golf course site was prepared by RPS (2011) to accompany the overall Concept Development Proposal (DA 2012/419) (refer [Appendix 2](#)). The assessment identified the vegetation communities on the site as shown in [Figure 4](#).



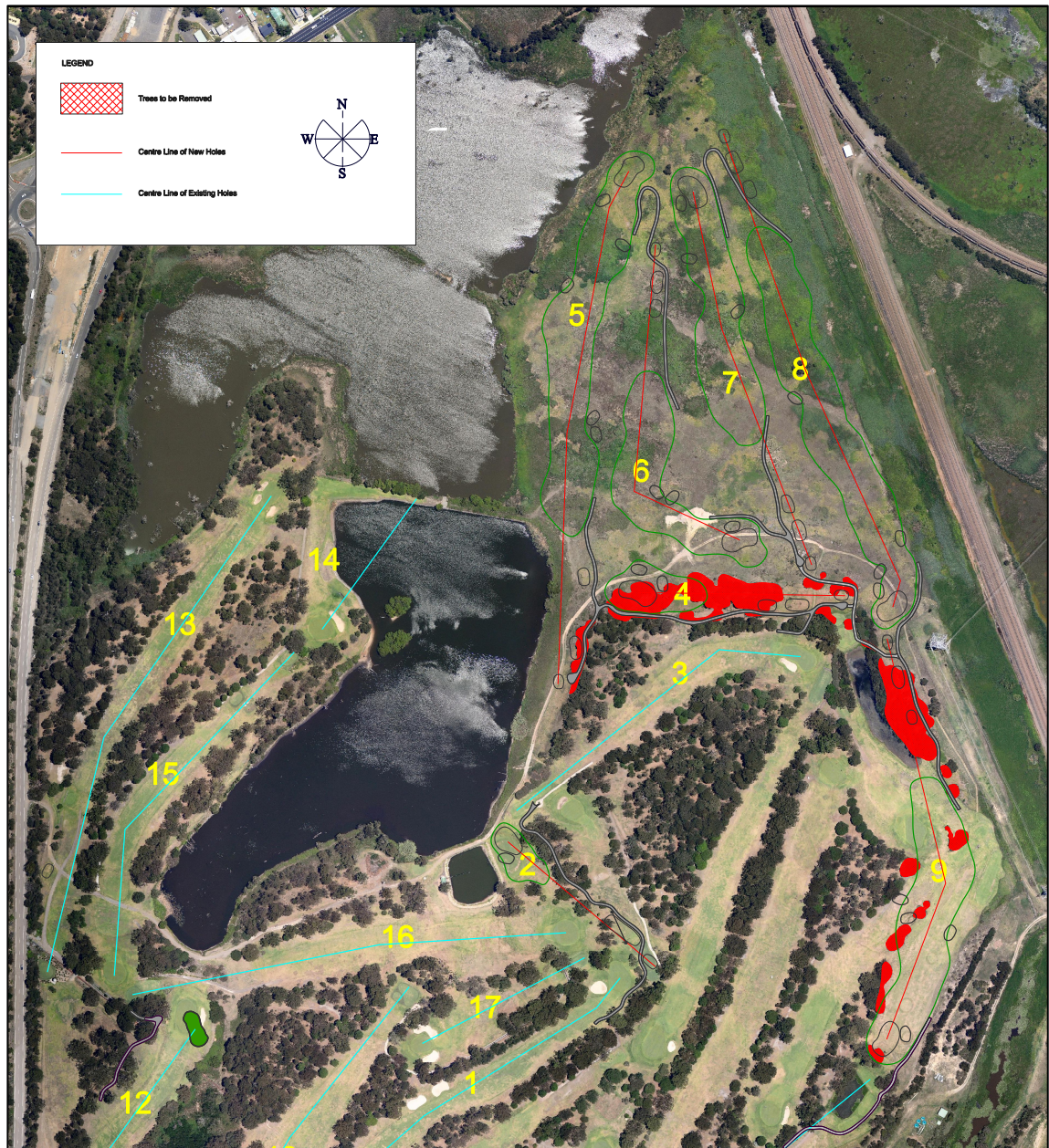
(SOURCE: RPS (2011) Flora and Fauna Assessment, at Birmingham Gardens Shortland Waters Golf Course)

**Figure 4: Vegetation Communities**



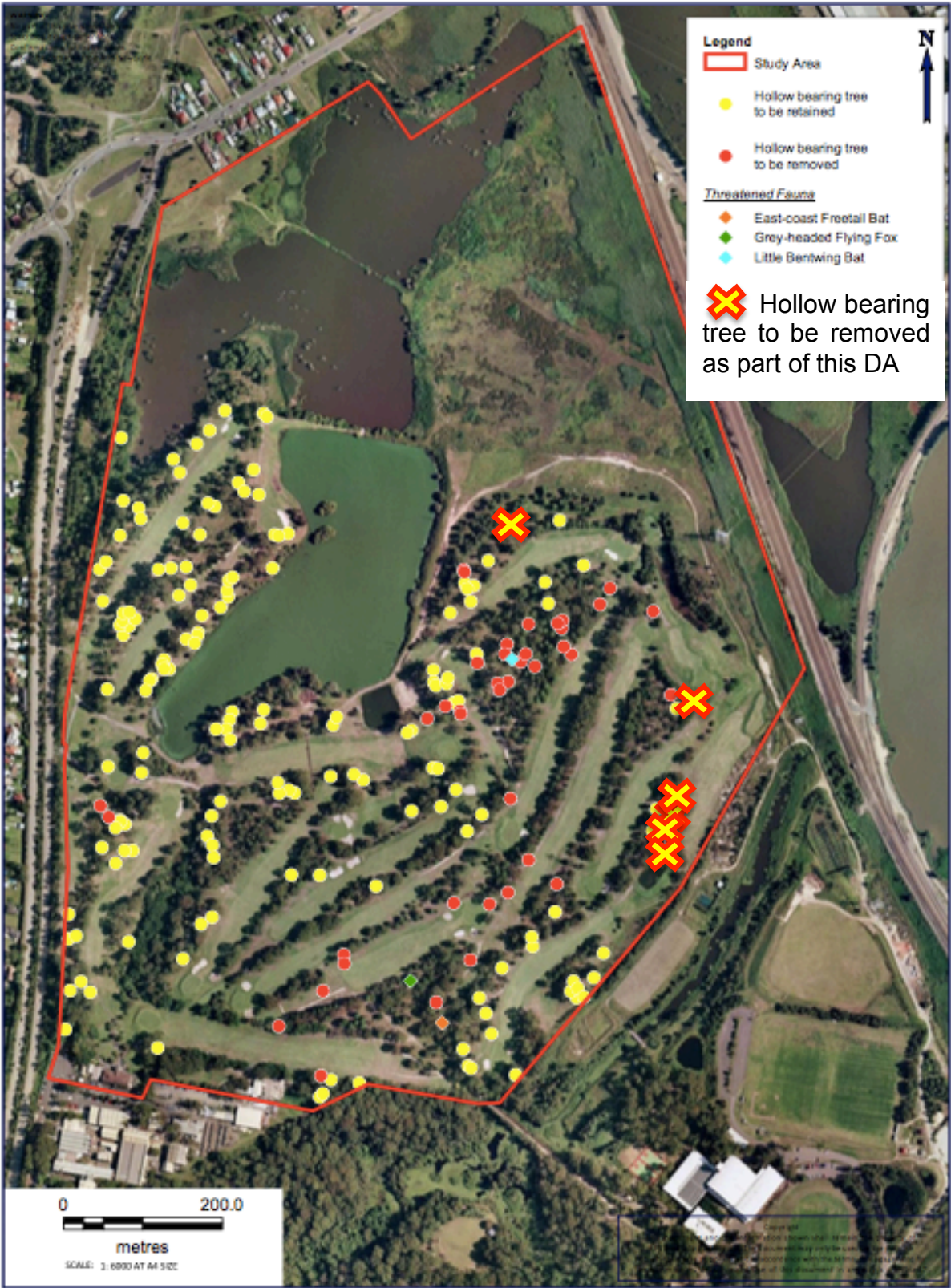


The area proposed for tree clearing is shown in [Figure 5](#). This area is identified as comprising 'Disturbed Coastal Foothills Spotted Gum Ironbark Forest'. The tree clearing will result in the clearing of 6 hollow bearing trees as shown in [Figure 6](#). Nest boxes will be installed at a rate of 2:1 for every hollow-bearing tree removed, resulting in the installation of 12 replacement nest boxes.



**Figure 5: Approximate Tree Clearing Area**





(SOURCE: RPS (2011) Flora and Fauna Assessment, at Birmingham Gardens Shortland Waters Golf Course)

**Figure 6: Hollow Bearing Tree Removal**



The flora and fauna assessment ([Appendix 2](#)) assessed the impact of the “proposed extensions and amendments to the existing layout of the Shortland Waters Golf Course combined with the proposal for residential development on the current golf course” as approved in the Concept Proposal DA2012/419. The proposal assumed removal of 41 hollow-bearing trees as shown on page 34 of [Appendix 2](#) and [Figure 6](#) above.

The assessment concluded, the seniors living development and realignment of the golf course is unlikely to significantly impact on any species, population or ecological community listed under the *TSC Act 1995* or *EPBC Act 1999*.

#### **4.1.1 Mitigation Measures**

Strategies to mitigate the impacts are described in page 78 of [Appendix 2](#) and summarized below:

- weed monitoring and control
- use of native species in landscaping
- management of erosion and sedimentation during construction to ensure that adjoining vegetation communities and downstream aquatic systems and endangered ecological communities are not adversely impacted
- pre-clearance surveys and implementation of appropriate tree-felling procedure
- installation of nest boxes or reinstated tree hollows at a ratio of 2:1, in accordance with the concept approval.

##### **Pre-clearance surveys**

Pre-clearance surveys will be undertaken for the clearing of vegetation. Pre-clearance surveys will be undertaken by suitably qualified and experienced ecologists and involve the following:

- the demarcation of areas approved for clearing to reduce risk of accidental clearing
- habitat resources and habitat trees will be identified and marked. This may include hollows, cracks or fissures and spouts, active nests, dreys or other signs of recent fauna usage
- hollow trees that require removal will be ‘stag-watched’ for 30 minutes prior to or immediately following dusk
- the identification of habitat features that are suitable for salvage and re-use.

##### **Tree-felling Procedure**

The clearing of vegetation will be undertaken as soon as possible after the pre-clearance survey and in accordance with the following ‘two-stage’ clearing procedure:

- all non-habitat trees and the understorey vegetation will be cleared, taking care to avoid all marked habitat trees and features
- within one day of the clearing of non-habitat trees, habitat trees will be cleared in the presence of a suitably qualified ecologist. Before clearing, the trunk of the hollow-bearing tree will be shaken vigorously with heavy machinery then shaking will be



paused for 30 seconds to allow any fauna present to escape, prior to felling of the tree. The machinery operator will then push the tree over as slowly as possible, so as to minimise the intensity of impact when hitting the ground

- once the tree has been felled, the ecologist will inspect the tree (particularly tree hollows) for signs of any trapped or injured fauna
- any injured fauna will be carefully captured by the qualified and experienced person, and taken to a wildlife carer or veterinary clinic
- the ecologist will identify any habitat features (hollows, logs, etc) that are suitable for salvage.

Detailed records will be maintained regarding the type and number of habitat features cleared, the type and number of fauna encountered and their fate. This will assist in informing mitigation programs such as nest boxes and habitat augmentation programs.

#### **Nest Box Installation**

Nest boxes will be established in retained vegetation in proximity to the cleared area to mitigate the loss of hollow-bearing trees. Nest boxes will be installed at a ratio of 2:1 for every hollow removed and maintained for five years post-clearance. These nest boxes will be representative of the size of the hollows removed. This aims to compensate for the loss of these hollows and therefore maintain the density of available hollows in the locality. The nest boxes are to be installed within retained vegetation within the Shortland Waters Golf Course site. Nest boxes will be designed to meet the requirements of locally- occurring hollow-dependent bird, mammal and bat species. The specific location of the nest boxes will be determined in consultation with a suitably qualified ecologist and installed within 6 months of clearing.

The range of measures proposed mitigate the impacts of the development such that the proposed tree clearing is not expected to have an adverse effect on the biodiversity of the Shortland Waters site or the local area.

## **4.2 Contamination**

The potential for contamination on the entire seniors living site was assessed in a Phase 1 Environmental Site Investigation (ESI) (RCA; 2012) prepared for the approved Concept Proposal (DA2012/419). The assessment concluded the following (refer [Appendix 3](#)):

“Based on the above information RCA considers that the site has been used as a golf course since 1935 and that contamination resulting from this activity is limited to the following:

- Fill – in localised areas. Due to the ownership by BHP and the proximity to the BHP Research facility, and based on observations by Douglas Partners, there is potential for slag and other industrial waste products to be present at the site. Due to the proximity of the former Lorna Street landfill, RCA considers the potential for uncontrolled filling to be more likely at the northern boundary.



- Petroleum storage – this is limited to the area near the greenhouses, however there has been no deep soil investigation >0.5m in the area of the UPST and depending on the integrity of the UPST there could be impact on groundwater.
- Herbicide and pesticide use – these chemicals are likely to have been used over the course over a long period. While historical chemicals would have contained contaminants such as DDT, which have shown persistence in the environment, RCA considers that the sampling by Douglas Partners in the proximity of the greenhouses to have targeted the area of highest contamination potential. Therefore, RCA does not consider that there would be significant concentrations in the soil at the site. Long-term runoff from the courses into the adjacent water bodies may however, have caused accumulation of concentrations in the sediment.
- Hazardous building materials – these have been identified at the site. The majority are in good condition and are therefore not considered to have caused contamination at the site. There may however, have been some fragments of asbestos containing materials which were disposed of on the site after the construction of the buildings.
- The potential contamination may pose a risk to human health and the environment during the construction of the proposed development and where use is going to be more intensive, such as the residential care complex.

RCA therefore makes the following recommendations:

- Sampling is undertaken in the areas where excavation will be undertaken for construction of buildings and alternative fairways and holes. This information could then be used to determine either or both the scope of remediation required and management controls required during the construction process.
- Sampling is undertaken in areas where soil accessible will be accessible to residents at the site.
- The current UPST and AST are removed, and these and the former AST location are validated in accordance with the NSW EPA's Guidelines for Assessment of Service Station Sites.
- Demolition of buildings must be undertaken in accordance with the WorkCover code of practice for asbestos (Ref [6]) and disposed of at a waste facility licensed to receive that waste. Any suspected material that has not already been identified should be considered as asbestos containing for disposal purpose or until analysed as not containing asbestos.
- Synthetic mineral fibres are to be managed and disposed on in accordance with the requirements of Newcastle City Council (Ref [7]), generally:
  - contain the SMF in heavy duty plastic bags or wrap in heavy duty builder's plastic;
  - seal the bags with, for example, duct tape or jointing tape; and
  - unload the bags in a manner which minimises the release of dust. Please note that it is the transporter's responsibility to ensure that the bags remain intact during this unloading process. If additional roof insulation is discovered during any building works within the areas described, the insulation should be treated as containing SMF and treated in the same manner as described above or otherwise analysed.





- All fluorescent ceiling lights are to be checked for PCB by a suitably qualified specialist to determine whether the appropriate removal and disposal requirements” (RCA;2012:12).

As confirmed above, the proposed tree clearing area is not identified as an area considered of potential contamination requiring any further investigation. Furthermore, the proposed tree clearing will not result in any demonstrable soil disturbance, further limiting the risk of exposing any potential contamination.

#### 4.3 Acid Sulfate Soils

The site is identified as being within a Class 5 acid sulfate area pursuant to the NLEP *Acid Sulfate Soils Planning Map*. However, works do not comprise *Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land*.

Accordingly, no impacts associated with acid sulphate soils are anticipated in these areas

#### 4.4 Noise

Tree removal will be undertaken during standard working hours only. The proposed work will be short term and temporary and will not have a significant impact on the existing site users or adjoining University.

#### 4.5 Traffic and Access

The existing entry road provides access to the site as per the approved Concept Proposal (DA2012/412) and formalised with easements (refer [Section 2.3](#)).

The existing access around the existing clubhouse to the development area will be used until the clubhouse is demolished.

Machinery used for clearing will be brought to site and remain onsite for the duration of work. The proposed clearing will not result in a demonstrable increase in traffic.

#### 4.6 Waste Management

All cleared vegetation will be mulched and re-used onsite in landscaping.



## 5. Summary and conclusion

The proposed golf course works will not have a demonstrable impact on the environment and is considered suitable.

The project, as described in this SEE, is not likely to have a significant effect on the environment.

## 6. Certification

This SEE provides a true and fair review of the proposed activity in relation to its likely effects on the environment. It addresses to the fullest extent possible, on the basis of and subject to supplied information and the defined scope of work, all matters affecting or likely to affect the environment as a result of the proposed activity.

Name (print): Shay Riley-Lewis



Signed:

Designation: Principal Environmental Planner

Date: 22 March 2017



# Appendix 1

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Tree Clearing Plans



## Appendix 2

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Flora and Fauna Assessment

## Appendix 3

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### Phase 1 Contamination Assessment



