

NORA CREINA GOLF COURSE AND TOURISM RESORT



MAJOR DEVELOPMENT

RESPONSE DOCUMENT

RESPONSE TO SUBMISSIONS RECEIVED DURING PUBLIC & AGENCY CONSULTATION PERIOD

27 JANUARY 2016 – 21 MARCH 2016

prepared pursuant to Section 46(7) of the Development Act 1993

Proponents: Justin Scanlon and Damian Scanlon

SEPTEMBER 2017

CONTENTS

	Page No.
Executive Summary	1
1. Introduction	3
2. Background to Proposal	4
3. Summary of Changes	7
4. Key Issues	10
4.1 Native Vegetation Clearance and Offset	11
4.2 Coastal Management Issues	15
4.3 Aboriginal Heritage Issues	21
4.4 Commonwealth EPBC Act Requirements	23
5. Summary of Public and Agency Consultation	29
6. Agency Submissions	30
6.1 Department of Environment, Water and Natural Resources (DEWNR)	30
6.2 Department of State Development - Aboriginal Affairs and Reconciliation (DSD-AAR)	32
6.3 Environment Protection Agency (EPA)	32
6.4 Commonwealth Department of Environment (DoE)	33
6.5 District Council of Robe	33
7. Public Submissions	34

LIST OF ATTACHMENTS

Attachment A	Revised Nora Creina Project Masterplan
Attachment B	EBS Ecology Report (Vegetation Clearance – March 2017) & NVMU Response
Attachment C	Coastal Report by Brian Caton
Attachment D	Agency Submissions
Attachment E	Public Submissions
Attachment F	EBS Ecology Report (EPBC Act Matters – August 2017) & Offset Calculators

EXECUTIVE SUMMARY

The Nora Creina Golf Course and Tourism Resort ('the Nora Creina Project') was declared a Major Development by the Minister for Planning on 14 February 2014.

Since that time, guidelines for the preparation of a Public Environmental Report (PER) have been released, a PER prepared and subjected to public and agency consultation (including a public forum in Robe) and submissions received.

A total of 31 public submissions were received along with comments from three State Government agencies, the Commonwealth Department of Environment and the District Council of Robe.

As a result of those submissions, particularly the comments received from the Department of Environment, Water and Natural Resources (DEWNR) with respect to native vegetation clearance, a significant amount of work has been completed to refine the golf course layout, reduce the vegetation clearance requirements and ensure wherever possible lower quality vegetation is removed in the first instance.

The changes to the layout have also allowed a north-south habitat corridor to run through the site and the remaining areas of vegetation are generally larger and more contiguous, greatly reducing the impact on flora and fauna.

The required clearance requires a suitable 'significant environmental benefit' by way of an offset (size and location to be determined at the appropriate time) and an in-principle agreement has been reached with the Native Vegetation Management Unit (NVMU) of DEWNR insofar as the steps required to devise an on-ground solution for submission to the Native Vegetation Council (refer section 4.1).

This work has also resulted in a more refined layout of both golf courses that will ensure the key project objective of producing a world-class golfing and tourism destination will be achieved.

Additional work has also been completed with respect to Commonwealth requirements pursuant to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* for the critically endangered Orange-Bellied Parrot and the Little Dip Spider Orchid. This work has resulted in a greater level of detail around the potential threats, the mitigation measures required, the relationship with the relevant species recovery plans and the appropriate offsets being calculated (refer section 6.4).

Other key issues confronting the Nora Creina Project are those of coastal hazard management and Aboriginal heritage. A significant amount of work has occurred in these areas to ensure the impacts by the proposal are minimised and can be sustainably managed into the future.

A draft version of the Response Document was provided to DEWNR in April and May 2017 and following a further review of outstanding issues, it is noted the following issues require additional work to be completed prior to any construction taking place:

- (1) A fauna survey (targeted for Spring 2017);
- (2) A coastal erosion hazard and sand drift study;
- (3) Further detail around water use and supply.

It is expected the additional work required in respect of these matters will form conditions of approval (should approval be granted).

This Response Document sets out the key issues in section 4 and details the efforts made to satisfy concerns raised as a result of the consultation process, noting that in many cases more work is required during the detailed design process. Numerous management plans for various aspects of the lead up to construction, maintenance and on-going operation of the project will be required as will a number of environmental management plans.

The Response document also responds directly to the main issues raised by agencies and the public.

Apart from the changes to the layout of the golf courses, all components of the proposal as contained in the PER remain.

The Nora Creina Project stands by its original projections for capital investment and job creation, which is expected to be in the order of 150 full-time equivalent jobs, including in a range of professions and specialist roles. With the surrounding region brimming with complementary food, wine and tourism experiences, the Nora Creina Project is expected to underpin the viability of many of those existing businesses and give the confidence for many others to be created and be a major tourism drawcard for the South East and South Australia.

1. INTRODUCTION

On 14 February 2014, the Minister for Planning declared that the Nora Creina Golf Course and Tourism Resort ('the Nora Creina Project') near Robe in South Australia would be assessed as a Major Development pursuant to the relevant provisions of the *Development Act 1993*.

A development application was lodged with the Development Assessment Commission (DAC) by the proponents, Justin and Damian Scanlon, on 16 June 2014. The DAC subsequently determined that the assessment of the proposal would be subject to a Public Environmental Report (PER) process and published the PER Guidelines in October 2014.

A PER was prepared and the public and agency consultation period commenced on 27 January 2016 and ended on 21 March 2017. As part of the consultation period, a public forum was held on 17 February 2016 at the Robe Institute in Robe. Representatives of the Department of Planning, Transport and Infrastructure (DPTI) were in attendance as were the proponents and a number of their representatives, including the golf course architect.

This document is the Response Document, which addresses the issues raised by the public and agency submissions and describes the additional investigations undertaken and changes made to the proposal contained in the PER.

In all, 31 public submissions were received, as well as comments from the Commonwealth Department of Environment (CDoE), District Council of Robe and a number of State Agencies, including the Department of Environment, Water and Natural Resources (DEWNR - which includes the Coast Protection Board (CPB) and the Native Vegetation Management Unit (NVMU)), the Department of State Development – Aboriginal Affairs and Reconciliation (DSD-AAR) and the Environment Protection Authority (EPA).

Draft versions of the Response Document was provided for comment in April, May and June 2017, with additional feedback received from DEWNR, EPA, CDoE, and DSD-AAR. Where necessary and appropriate, this additional feedback is also reflected in the final version of the Response Document (August 2017).

The Response Document has been submitted to DPTI as part of the development assessment requirements pursuant to Section 46(7) of the *Development Act 1993* to allow an assessment and determination of the application.

2. BACKGROUND TO PROPOSAL

The Nora Creina Project is centred around the establishment of a world-class golfing and tourism destination comprising two 18-hole golf courses and an associated tourist accommodation complex, incorporating a restaurant and wellness retreat. The subject land is located approximately 15 kilometres to the south-east of the township of Robe in the South East of South Australia.

Golf Courses

The Nora Creina Project's centrepiece will be two 18-hole golf courses laid out over the dune area and a small part of the cleared grazing area. The aspiration for the courses – and key objective for the project - are for the courses to be in the Top 10 courses in Australia within a short time. The links course layout, prepared by Harrison Golf Architects, seeks to use the existing landforms and integrate and retain as much of the existing vegetation as possible. As a result, some of the holes would have direct ocean frontage and views, which will be a crucial element in the appeal, status and eventual ranking of the courses.

A clubhouse and pro-shop to service the golfing requirements of visitors to the site would be situated between the two courses as part of the main building complex, which is described in more detail below.

A practice range would be situated near the clubhouse to allow for golfers to warm up and practice. Several practice greens are also proposed for putting and chipping practice.

It will also be necessary for a number of small service buildings to be constructed at various points across the golf course to provide shelter, toilets, food and beverage facilities for golfers using the golf course.

Tourism and Function Complex

A number of centrally-located buildings are required to cater for visitors to the golf course (including those staying overnight). These buildings would include a function centre, restaurant, a general store (including a cellar door and gourmet food sales) and administration and would be positioned in a section of land identified between the two golf courses about 200 metres back from the seaward property boundary. The buildings will house all the non-accommodation components of the site (with the exception of the wellness retreat) and be strategically located to take advantage of views north and south across where the golf course and west across the bay and Southern Ocean.

The restaurant is intended to be a fine-dining experience drawing on local produce (including from the on-site beef farm and vineyard) and will also be open to the general public.

An Aboriginal heritage education centre will also be incorporated into the main building in recognition of the strong Aboriginal ties to the land and the region more generally.

A 120-space car park would be situated behind this building to adequately cater for both daytime and overnight visitors.

Walking trails are proposed to take advantage of the spectacular lake and sea views, to allow for the appreciation of flora and fauna (particularly bird watching) as well as to view some Aboriginal middens on the land.

Accommodation

There will be various types of accommodation provided across the site, with the primary complex consisting of a mixture of three to five star rated accommodation situated to the north-east of the main building complex. This will consist of a up to 60 individual units with construction likely to be staged as demand increases.

To cater for premium visitors to the site, two 7-star accommodation options will also be available with one located within the northern golf course and one within the southern course. The accommodation will be located roughly where existing planning consents are held for residential uses on Lots 200 and 202.

Wellness Retreat

A wellness retreat, incorporating treatment rooms, day spa and swimming pool will be located about 100 metres west of the main building complex closer to the bay. This will be a small, unobtrusive building, primarily for use by those staying on site, designed to take in the best views of the coastline and promote relaxation and wellness.

Beef Farm and Vineyard

As part of the 'value-add' experiences of the proposal, it is proposed that a boutique vineyard and wagyu beef cattle farm would be established on the inland side of the site, which may provide local beef and wine for the restaurant but would be primarily used to promote food and wine in the region more generally.

The precise size of the vineyard and beef farm is yet to be determined, however insofar as the beef farm is concerned it is intended that this be of a size (both in terms of physical area and number of head of cattle) such that the animals are able to graze in a sustainable fashion. Depending on the amount of excess water generated by the operations of the whole site it may be possible to have irrigated pasture, which might require fencing of the area involved into two or more paddocks to enable rotation to occur. There would be no slaughtering or processing of stock on the site and it is not expected to be of such a size or operation to cause any nuisance odours.

Water Storage Facilities

The precise nature of the requirements for storage have not been calculated at this stage but will form part of the detailed design of the facility following conditional approval of the project.

Obviously, water supply for the irrigation of the golf course and potable water for the accommodation and administration/tourist area will be necessary.

Arrangements are already in place to purchase water licences for groundwater extraction (confined aquifer) and all roof stormwater will be captured for use. Careful consideration will also be given to the re-use of grey water generated by the development.

It will also be necessary to store a sufficient amount of water for fire-fighting purposes.

Infrastructure

It will be necessary to capture and treat all sewage and other effluent on site, with a view to re-using water wherever possible. Stormwater runoff from hard areas such as the car park will be directed to detention/treatment areas and depending on detailed design may be available for re-use on the golf course or elsewhere.

It will be necessary to improve the existing mains electricity supply to the site as well as the capacity of telecommunications. A new access road from Nora Creina Road will also be required.

A number of internal roads, including throughout the golf courses to enable access by maintenance and emergency service vehicles, will also be required.

Maintenance Compound

A maintenance area will need to be established to allow for the proper care and maintenance of the golf courses and the other facilities on site. It is envisaged this area would be unobtrusively located in the cleared area away from the main accommodation and administration area and will be clustered with wastewater treatment and other functions necessary for the operation of the proposal.

3. SUMMARY OF CHANGES

As a result of the public and agency consultation period, there have been changes made to the layout of both golf courses which have resulted in an improved layout with significant environmental improvements, such as a north-south habitat corridor and reductions in the amount of vegetation requiring clearance. The changes have also reduced the potential for disturbance and interference with sites of Aboriginal heritage significance.

The details of the changes and the basis on which they arose are set out in section 4 below.

Despite the changes to the layout of the golf courses, the revised masterplan will still ensure the Nora Creina Project meets its key objective of a world-class golfing and tourism destination.

Apart from changes to the layout, all the components listed in section 2 above remain in the final proposal. To that end, a revised masterplan has been prepared which is the basis of the approval now sought.

The original masterplan and the updated masterplan are shown below for comparison. A larger, higher-resolution copy of the updated masterplan is contained in **ATTACHMENT A.**

ORIGINAL MASTERPLAN – OCTOBER 2015

Nora Creina Golf Resort

Robe, South Australia



LEGEND

- ① Cattle farm
- ② Vineyard
- ③ 3-5 star accom
- ④ Clubhouse
- ⑤ Retreat
- ⑥ 7-star villa

Golf Course Masterplan

Buildings designed by:
Hudsongram Pty Ltd
Suite 406
33 Flinders Street
Adelaide SA 5000



NORA CREINA GOLF RESORT

Scale: 1:4000 @ A1
Date: 9th October 2015

Client:
J & D Scanlon
Revision: For Review

Golf Course design by:

harrison golf
Harrison Golf Pty Ltd
Suite 1002, 275 Alfred Street
North Sydney NSW 2060



REVISED MASTERPLAN – APRIL 2017

Nora Creina Golf Resort

Robe, South Australia



Golf Course Masterplan

LEGEND

- | | |
|------------------|----------------|
| 1 Cattle farm | 4 Clubhouse |
| 2 Vineyard | 5 Retreat |
| 3 3-5 star accom | 6 7-star villa |



NORA CREINA GOLF RESORT

Scale: 1:4000 @ A1
Date: 10 April 2017
Client: J & D Scanlon
Revision: For Approval

Golf Course design by:



Copyright: Harrison Golf Pty Ltd

4. KEY ISSUES

As a result of the public and agency consultation, four key issues affecting the Nora Creina Project were identified as requiring specific and cogent attention. Those key issues were identified as:

1. Native Vegetation clearance and offsets – specifically, the minimisation of clearance and fragmentation by way of design and reaching in-principle agreement with the Native Vegetation Management Unit (NVMU) of DEWNR on a suitable approach to offsetting the clearance and providing a ‘significant environmental benefit’ (SEB).
2. Coastal management issues – specifically the management of erosion (including through the control of vehicles and pedestrian access through the site and onto the beach) coastal hazards generally (including sand drift) resulting from sea level rise and the likelihood of increased storm events resulting from climate change.
3. Aboriginal Heritage issues – specifically the identification and protection, wherever possible, of the Aboriginal heritage sites identified in the Aboriginal Heritage report (contained in Appendix R of the PER) through the redesign of parts of the layout of both golf courses.
4. Commonwealth EBPC Act requirements – further investigation of the potential impacts on the Orange-Bellied Parrot and the Little Dip Spider Orchid in order to meet obligations pursuant to the *Environmental Protection and Biodiversity Conservation Act (Cth)*.

Having identified these four key issues is not to say that there are not a range of other matters raised through the consultation process that require further investigations or explanation. However, the key issues set out above were viewed as those which needed to be solved in a robust and practical manner.

The way in which each of these matters has been addressed since the completion of the consultation period is set out below and addresses many of the concerns raised by the public submissions on these matters. It also seeks to resolve the key outstanding issues with the Government agencies some of which will require further work as part of any conditions of approval and prior to construction commencing.

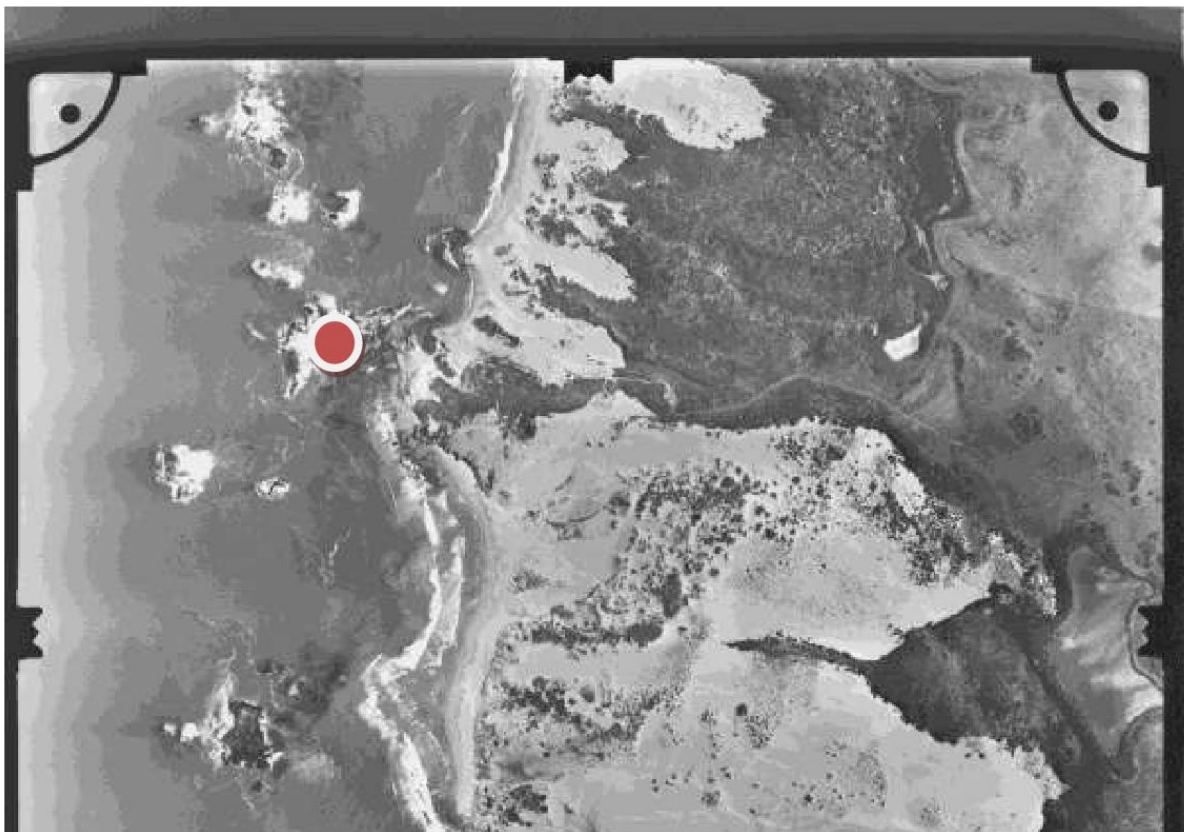
4.1 Native Vegetation Clearance and Offsets

The clearance of native vegetation to allow for the establishment of two golf courses, clubhouse, tourist accommodation and other buildings and infrastructure comprising the Nora Creina Project is an unavoidable component of the proposal.

Concerns were raised by DEWNR and members of the public about the clearance of native vegetation and the potential for destruction and fragmentation of remnant vegetation and high-quality vegetation.

It is important to note that, as was shown in the historical aerial photos contained in Appendix H of the PER, very little remnant vegetation remains on the site, as most was completely gone by the mid- 1970s, particularly at the southern end of the land. This was due to grazing and burning of the land, which destroyed native vegetation and caused considerable dune instability.

The image from 1975 is shown below, with the red dot located roughly in front of where the clubhouse would be located. It also shows the area now proposed for the southern course is virtually devoid of all vegetation and the area for the northern course very much degraded.



Fortunately, the situation stabilised somewhat by the late 1990s (due to the removal of stock and fencing off of the area) and by 2005 substantial regrowth had occurred on the land. However, there remain many degraded areas as well as exotics and weeds throughout many parts of the site.

PROPOSED CLEARANCE

The original estimate (i.e. at the time of the PER consultation) for clearance of vegetation was in order of 84 hectares, which included not only the two golf courses but the areas required for the accommodation, clubhouse etc.

Some of the key concerns raised included:

- The amount of vegetation proposed to be cleared
- The quality of the vegetation proposed to be cleared
- Potential for impacts on the vegetation surrounding the lake system
- Loss of habitat corridor from north to south
- Fragmentation of remaining vegetation

Several meetings have been held with the Native Vegetation Management Unit (NVMU) of DEWNR since the consultation period ended, which explored a number of options for dealing with the proposed clearance and the required offset, which is unavoidably a necessary part of the Nora Creina Project.

After further careful analysis of the land, the layout of the golf courses came under intense scrutiny and subsequent redesign, with a number of significant changes made which substantially addressed all the concerns listed above.

Specifically, the following changes were made to the golf course layouts:

- Relocation of three holes of the northern golf course, into cleared grazing land, thereby requiring no clearance for the placement of these holes. This change also locates these particular golf holes in the area designated for the vineyard, which will provide a contrast for golfers using the course;
- Reduction in the number of holes (from six to three) on the northern course that are close to, or interact with, the lakes/wetlands present on the subject land, as these been determined to have a high vegetation and biodiversity rating. This will reduce the opportunity for the disturbance of vegetation and native fauna, the introduction of weeds and the risks associated with people entering those areas;
- Relocation of various holes and adjustments to the layout (in both the northern and southern courses) to maximise the overall size of the remaining areas of native vegetation and making them generally more contiguous. This will assist in making the vegetation remaining (which will form part of the SEB offset and will therefore will be recorded on the Certificate of Title, intended to be for perpetuity and also be subject to a Management Plan) more ecologically viable in the long term and reducing potential issues associated with habitat fragmentation. Some of these areas, particularly along the eastern edge of the northern golf course and around the southern and eastern edges and the centre of the southern golf course are very large areas, with tens of hectares of contiguous and undisturbed vegetation.

- Relocation of various holes to create a wider and more contiguous north-south corridor between most of the golf course and the cleared grazing land, which ensures the link between Little Dip Conservation Park and the land already under heritage agreement to the south is maintained. This link also incorporates the lake/wetland system.
- Maximisation the use of areas identified as containing poorer quality vegetation (such as the former aquaculture site) for the siting of golf holes to assist in minimising impact on higher quality vegetation; and
- Updating of SEB condition ratings based on further analysis of the site and more detailed mapping.

The above changes combined to reduce the amount of vegetation clearance from 84 hectares to around **66 hectares**, which represents **a reduction of approximately 21%**. As well as being a material reduction in the overall hectares proposed to be cleared, the changes also introduced a number of other environmental benefits which improve the overall outcome but cannot necessarily be measured in area (such as the benefits arising from the improved north-south corridor).

The Nora Creina Project's golf course architect, who was necessarily intimately involved in the changes made, has confirmed to the proponents that these alterations have in no way diminished the quality and attractiveness of the golf courses as high-quality, international standard courses. Accordingly, it is considered an appropriate balance has been struck between the practical and economic realities of siting a golf course on the subject land and minimising disturbance to native vegetation.

Although this desktop analysis undertaken has greatly increased the confidence of the amount of clearance proposed (and utilised information already gathered from the site by others), it is acknowledged that some on-ground checking and verification will be required prior to any clearance commencing.

OFFSET OF THE PROPOSED CLEARANCE

To offset the proposed 66-hectare clearance, further analysis shows that an offset area of approximately 440 hectares is required, due to the application of multiplier factors to reflect the various qualities of the vegetation to be cleared.

The vegetation remaining in the dunes following the proposed clearance totals approximately 165 hectares¹, leaving a deficit of approximately 275 hectares.

After consideration of a number of options, it has been decided that any deficit in offset that cannot be met on the subject land will be met through the purchase and rehabilitation of one (or possibly two) parcels of degraded land elsewhere in the region (within about 25-50 kilometres). Although no

¹ Offset areas for the purposes of meeting obligations under the *Environment Protection and Biodiversity Conservation 1999 Act (Cth)* will impact on the number of the hectares available on-site for any offsets required by DEWNR policy, with the remainder needing to be found 'off site'.

specific parcel/s have yet been identified, some preliminary research has shown there are numerous candidates within the region for such work to be undertaken and a significant environmental benefit will be created.

This will allow the already cleared grazing area of the subject land, which is not ideally suited for rehabilitation and revegetation, to remain available for the vineyard and Wagyu beef farm components of the Nora Creina Project.

Dr Travis Howe of EBS Ecology assisted the proponents in the analysis of the amended golf course layouts and provided the expert advice that resulted in the above calculations of both the total proposed clearance area and the required offset. EBS Ecology and Dr Howe are both Native Vegetation accredited consultants able to prepare reports for proposed clearances pursuant to the *Native Vegetation Act 1991*.

This information was presented to Mr Adam Schutz of the Native Vegetation Management Unit (NVMU) in March 2017 who, after some further discussions with EBS, provided written advice that the proposal had gained the in-principle support of the NVMU.

NVMU's written correspondence also provided the following advice:

- NVMU was supportive of the changes to the golf course layouts and the resultant reduction in native vegetation clearance;
- NVMU acknowledged the offset calculations had been undertaken in accordance with Native Vegetation Council Policy 1.2.11;
- NVMU was supportive of the consolidation of the remaining vegetation, which made it more suitable as part of any proposed offset;
- NVMU would need to be presented with a specific proposal for a parcel or parcels of land in the region to use as an off-site offset in order to finalise the offset, but broadly endorsed the criteria that EBS had nominated for selection of such land at the appropriate point in the future.

A full copy of the EBS Ecology advice and the NVMU response can be found in **ATTACHMENT B**.

With this in-principle agreement in place, which comes at the end of many months of discussion and negotiation, it is considered this key issue has now been adequately resolved to allow the project to proceed to a determination.

The changes described above and the subsequent achievement of an in-principle agreement with NVMU address many of the native vegetation issues and concerns raised in the public submissions, as well as one of the key issues raised by DEWNR in its response to the PER consultation.

4.2 Coastal Management Issues

The coastline of the subject land is approximately 2.6 kilometres in length and consists of three distinct sections, which are laid out north to south as follows:

- The long, northern beach is known as Boundary Beach, behind which the northern golf course will sit. This beach is generally protected from the high-energy waves from the ocean by a series of reefs a few hundred metres offshore, making it ideal for water activities. It is a sandy beach with a moderate slope up to the foredune and is approximately 850 metres in length. Higher cliffs lead up to the beach's northern boundary with Little Dip Conservation Park and its southern extent is marked by a headland.
- The small inlet and bay known as Shelly Beach sits within the compound headland of German Head and is also protected to a significant extent by the offshore reefs. Its beach is the steepest of the three beaches along the subject land's coastline. The Wellness Retreat will sit to the east of this beach, with the clubhouse and restaurant complex further on.
- Southern Beach lies to the south of German Head and extends roughly 900 metres to the southern boundary of the subject land. The southern golf course will be located behind this beach, which is less protected by reefs and more exposed to the ocean.

The subject land's coastline fronts directly on to the Southern Ocean to the south-west, exposing it to powerful swells, strong winds and a low tidal range. As such, effective and dynamic management of the coastline along the subject land is an essential component for the proposed use, which is also part of the appeal of the site.

Brian Caton, a well-respected expert on matters of coastal management who has undertaken extensive work for DEWNR in the past, has provided an assessment of the coastal processes at Nora Creina and the implications of managing this coastline.

Caton's report attempts to consider the sustainability of the Nora Creina Project within the context of the coastline's current state and projected changes, as well as examining the geology and landforms of the subject land and adjacent nearshore zone. The report also comments on wind and wave processes and projections of the effects due to climate change including sea level rise.

Caton's full report can be found in **ATTACHMENT C**, but the key findings of it are as follows:

- The dunes are functionally linked to the beaches;
- Sand is coarsest on Shelly Beach and there is little mixing of sand between the three beaches;
- The high swell and storms of May 2016 revealed minimal damage and showed the beaches and dunes to be well protected from relatively large events, which are projected to increase in frequency due to climate change;

- Revegetation of the dunes in the last two decades has improved their stability, following the virtual obliteration of vegetation on the dunes and their consequent movement inland during the 1960s and 1970s;
- Sea level rise at all predicted amounts will increase storm damage to the beach and dunes;
- Climate change is bringing warmer and dryer conditions, however many of the coastal dune plants of this area are also found in warmer and drier conditions on the west coast of the state.

Caton makes the following recommendations with respect to actively managing the site having regard for the current and projected coastal process likely to impact on it:

- For the Nora Creina Project the aims of coastal management are the stability of the shoreline and dunes;
- In general terms, the response to dynamic physical coastal processes should be vigilance;
- Shoreline erosion should be monitored by:
 - Maintain a photographic record of the impact of storms on foredunes and also on eroding headlands;
 - Erosion of embayments should be recorded using stable beach and foredune marker posts and photo points;
- Dune stability should be addressed by vigilantly seeking to maintain vegetation cover to prevent blowout initiation and growth. This would involve vehicle and pedestrian control, as well as rabbit and fire control. Current management suggests 4WD access to beaches from the north is a significant source of damage. This could be addressed by a fence at the beach and headland at the southern border of Little Dip Conservation Park - a matter that would involve agreement of the landowners, Parks & Wildlife and the Robe Council;
- Maintenance of dune stability may well become more difficult over time as a dryer and warmer world would slow natural recovery from blowouts and encourage weed invasion.

In subsequent comments, Caton also noted:

- Management of foredune storm damage to prevent blowout recession depends on rapid response using sand drift fencing and ground covering materials, such as cut brush, followed by seasonal plantings of primary colonizing plants;
- Management of foredune damage due to 4wd/ORV activity would depend in this locality on management of such traffic by way of beaches and headlands from Little Dip Conservation Park;
- Estimates of frequency of foredune damage by storms could be made with further study, but 4wd/ORV damage is unpredictable without access control.

As such, from an environmental perspective and especially with respect to the proper and on-going management of the foredune and beaches, removing 4wd and off-road vehicles from the beach – particularly Boundary Beach - will greatly limit dune damage and erosion and will better protect the habitat of shore birds (including nesting habitats) and make on-going efforts at coastal management much more effective and predictable.

In fact, Caton has opined closing the vehicular access to the beach from Little Dip could be considered the single most effective way to better manage this section of coast and protect it from erosion and damage.

The proponents strongly support this approach and have long advocated the closing of the beach access from Little Dip – at least for the last 10 years – to stop the environmental and property damage that occurs when people recklessly cross the dunes to exit the area when they find they cannot get off the beach in any other way.

Part of the issue is a lack of security, which having golf courses and associated infrastructure on the subject land will go a long way to solving. However, there is also a lack of information available to the public in Little Dip which could better discourage access and point out to 4wd'ers and riders the potential problems and risks of entering the beach.

Damage to dunes, beaches, middens, vegetation, habitat and private property has been extensive and has been well documented, as shown in the photographs below. The damage is also on-going.

Vehicle damage to midden and headland between Boundary Beach and Shelly Beach:



Foredune and vegetation damage due to off-road vehicles:





Despite previous undertakings from DEWNR that the beach, which the proponents have followed up on numerous occasions, this restriction has not occurred.

In July 2008, the proponents received written advice from (the then) Aboriginal Affairs and Reconciliation Division that a Management Plan had been developed to “*ensure the effective protection and management of this registered site*”, which was in reference to the Errington Midden Site.

The specific management measures listed in the correspondence were appropriate fencing, revegetation and site-specific signage. The letter further advised that a working group was to be formed to implement the recommendations in the Management Plan. The proponents note, nearly nine years later, that none of the proposed measures were ever put in place, which provides another example of good intentions not being carried through, the damage and neglect being allowed to continue virtually unchecked and the environment suffering as a result.

As part of any approval of the Nora Creina Project action to close vehicle access to Boundary Beach needs to be an essential component allowing for greater levels of safety and security as well as instant improvements to environmental management and the prevention of erosion. It will also allow greater enjoyment of the public domain (i.e. the beaches, which are on Crown Land and are public).

It is anticipated the current vehicle access path would be permanently blocked and replaced with a pedestrian-friendly way of moving between the beach and Little Dip. Signage could also be erected to warn motorbike riders and the like of the restrictions and penalties for non-compliance. The proponents will continue to work with the relevant Government Departments to ensure this closure occurs.

It is worthy of note, and has been acknowledged by DEWNR, that all the buildings associated with the proposal are set well away from the coastline and are extremely unlikely to be affected by sea level rise or erosion. As such, the main risk is damage to the golf course infrastructure located closest to the coast, which will primarily be to the golf holes themselves. A management and monitoring programme will be implemented to identify any emerging or chronic problems and remedies put in place. It is not expected there will be any problems in the short-medium term and the golf courses are well placed behind beaches, foredunes, cliffs and headlands that are significantly protected by off-shore reef systems.

Although the coastal risks are well understood by the proponent, it has been acknowledged in correspondence with DEWNR that additional investigations are required to be as informed as possible in relation to the potential threat posed due to coastal hazards and processes as well as sand drift. Such investigations would take into account predicted changes in sea levels and the frequency of storm events as a result of climate change.

The investigations would contain information and conclusions on the potential for damage to the coastal environment and its processes resulting from the proposal *as well as* any potential for the impacts of coastal processes on the proposal itself, in particular those components of the golf courses which are closest to the coast).

This work would need to be completed prior to any construction occurring on the site and would be used to properly inform a number of management plans, including construction, erosion, and operation.

It is anticipated that the additional investigations required would form part of any conditions of approval, with the scope generally in line with comments provided from DEWNR throughout the Major Development process (latest version provided 9/5/17).

4.3 Aboriginal Heritage Issues

As detailed in the PER, an Aboriginal Cultural Heritage Survey was completed for the Nora Creina project in March 2015 after fieldwork completed in February in conjunction with the South East Aboriginal Focus Group (SEAFG) and a four-person field team endorsed by the SEAFG.

The Survey identified a total of twelve (12) sites across the land (known as NC1 – NC12 inclusive), which was in addition to the six already known on the site from previous studies (known as GP1 – GP5 and Errington Hole Midden² (*EHM*)). The Department of State Development, Aboriginal Affairs and Reconciliation (DSD-AAR) advises that all eighteen (18) sites are now recorded in the Central Archives pursuant to the *Aboriginal Heritage Act 1988*.

The Survey recommended:

- All twelve additional sites be entered onto the AAR Register of Sites and Objects;
- Sites NC3, NC6, NC9, GP2 and EHM should remain undisturbed by activities associated with the Nora Creina Project;
- In the event some of the sites will be disturbed, damaged or otherwise interfered with by the proposed development it is recommended that site mitigation work be undertaken at these locations prior to the commencement of any development activities which may affect the sites.³

As noted above, the twelve sites have now been recorded in the Central Archive. The SEAFG was briefed on the outcomes of the report in October 2015.

Mapping of the sites show the following sites are not affected by the revised golf course layout:

- NC1*, NC4, NC6, NC7*, NC8, NC9**, NC11, NC12
- GP2*

* NC1 and NC7 are considered proximate and any changes to the golf course layout will need to consider whether these sites subsequently become affected

** not located on the subject land

Mapping of the sites and further changes to the golf course layout in order to avoid the sites as much as possible has resulted in all or part (as indicated below) of the following sites being affected:

- NC2, NC3 (part), NC5 (part), NC10 (part)
- GP1**, GP3**, GP4**, GP5**, EHM (part)

** exact coordinates unknown so full extent of disturbance not able to be determined

As such, the following has been achieved:

- No disturbance to the key sites identified by the Survey has been achieved for NC6, NC9 and GP2;

² The Errington Hole Midden is only partly contained on the subject land, the coastal reserve (Crown) and the Little Dip Conservation Park.

³ It is acknowledged that a s23 application would be necessary in these scenarios.

- Amendments to the layout of the golf course has greatly reduced the impact on NC3 so only a small part of that site is potentially disturbed;
- EHM is identified as a large area with roughly half the total site area not within the subject land. EMH appears to be a group of discrete sites grouped together. The golf course layout affects around one-third of the total site area.

Accordingly, it is considered suitable efforts have been made to identify sites of Aboriginal heritage significance on the subject land, avoid them through design changes wherever possible, minimise impacts on them through design changes and minimise any areas that might be more significantly impacted by the project.

As detailed in the PER, as part of the preparation for both construction on the site, the preservation of the locations identified above, the damage or destruction (or otherwise) to the remaining locations (including any mitigation measures and applications necessary pursuant to the *Aboriginal Heritage Act 1988*, including section 23 applications) a Cultural Heritage Management Plan (CHMP) will be developed as a condition of approval. It is recognised that the CHMP is a key aspect of the framework for engagement between the parties regarding the treatment of Aboriginal heritage on the land.

This approach will help to further minimise disturbance of the identified sites and allow discussion, negotiation and agreement on how best to treat those sites either partly or wholly affected by the revised layout. It is also acknowledged that the coastal dunes are more likely to contain ancestral burial sites and this elevated risk will be addressed in the CHMP.

It is also anticipated that the CHMP will assist in the identification and development of the walking trails as well as informing the development of the proposed education and cultural centre. Contingency plans relating to Aboriginal heritage will also form part of the Construction and Environment Management Plan (CEMP) to ensure that if any Aboriginal artefacts or remains are discovered during the construction phase (whether or not in the areas already identified), an appropriate process to deal with such an event is already devised and documented. It is acknowledged that the discovery of Aboriginal sites, objects or remains in areas (whether inside or outside a s23 authorisation area) trigger other parts of the *Aboriginal Heritage Act 1988* (such as s20).

Notwithstanding the work still to be done, there have been significant improvements to the Nora Creina Project, most particularly the layout of the golf courses, which have further reduced the potential for impact on sites of Aboriginal heritage significance. On-going dialogue with the SEAFG will continue to ensure any harm is avoided or minimised and it is acknowledged that the commencement of any s23 application will allow for consultation⁴ with other Aboriginal organisations and parties who may have an interest in the proposed development.

⁴ Pursuant to s13 of the *Aboriginal Heritage Act 1988*

4.4 Commonwealth EPBC Act Requirements

There are two species listed pursuant to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act) potentially impacted by the Nora Creina Project (one flora and one fauna). Following feedback from and numerous consultations with the Commonwealth Department of Environment (CDoE), the relevant matters have now been fully considered and appropriate avoidance, mitigation measures and offsets devised and documented by EBS Ecology (contained in **ATTACHMENT F**).

Little Dip Spider Orchid

The Little Dip Spider-orchid (*Caladenia richardsiorum*) is protected under the *Environment Protection and Biodiversity Conservation Act (1999)* where it is listed as Endangered. It has a limited distribution of approximately 900 km², occurring only within South Australia between Kingston SE and Southend in coastal vegetation.

Threats to the Little Dip Spider-orchid listed in the Recovery Plan for three orchid species in South Australia and Victoria: *Caladenia richardsiorum* (Little Dip Spider-orchid), *Caladenia calcicola* (Limestone Spider-orchid) and *Pterostylis tenuissiuma* (Swamp Greenhood) 2009-2013 (SA DEWNR, 2012) include:

- Clearance of vegetation within or near essential or potential threatened species habitat.
- Vehicle access through essential or potential threatened species habitat.
- Weed invasion in essential or potential threatened species habitat.
- Vertebrate pest invasion in essential threatened species habitat (particularly rabbits and Western Grey Kangaroo)
- Construction or maintenance of management tracks or recreational trails through essential or potential threatened species habitat.
- Activities that contribute to excessive foot traffic through essential or potential threatened species habitat.
- Activities that promote soil disturbance in or near areas of essential habitat susceptible to soil erosion.
- Activities that reduces the size and increases the isolation of threatened plant sub-populations further.
- Illegal collection
- Inappropriate fire regimes

At present, there is one site within the project area that contains approximately 100 individuals of Little Dip Spider-orchids . These individuals were patchily distributed in a 30 m x 10 m area, under planted non-local native *Eucalyptus gomphocephala* (Tuart Gum – native to WA) and *Leptospermum laevigatum* (Coast or Victorian Tea-tree), which is considered to be atypical habitat (UTM 54H 395437, 5872697).

There is very limited data for the sub-population of Little Dip Spider-orchids as the sub-population was only discovered as a result of flora surveys for this project. Therefore, it is unclear whether the population (number of individuals) is stable, increasing in number or decreasing in number. It is also unclear whether the extent (area occupied) of the species is stable, increasing in area or decreasing in area. All that is currently known is that the population size is approximately 100 individuals and the extent of the population is approximately 300m². The golf design has been altered to avoid this area, as shown in the figure below.



Approximate Location of the Little Dip Spider Orchid (indicated by the red dot)

EBS Ecology has undertaken an assessment of the current threats to the population, the issues raised by the Commonwealth Department of Environment (CDoE), consulted the Recovery Plan and detailed the ways in which the on-site population will be avoided and the objectives of the Recovery Plan met. A calculation of an offset area in accordance with CDoE requirements has also been completed and the proposed offset area mapped.

In summary, the Little Dip Spider Orchid will be protected by the following measures:

- Exclusion fencing (of a suitable construction and height to prevent access by vertebrate grazing, access by visitors);
- Active management of rabbits and kangaroos (as part of a wider programme across the project site);
- Active weed control;
- Active management of *Acacia Longifolia ssp sophorae* (Coastal Wattle);
- Signage indicating the fenced area as being for conservation but not specifically mentioning the Little Dip Spider Orchid by name;
- Use of mulch to assist in minimising edge effects;
- Similar protection (specifically fencing, weed control and mulch) of any additional locations on the project site where there are further occurrences of the Little Dip Spider Orchid; and
- The implementation of an offset area.

A 50m buffer will be established from the edge of the golf greens / fairways to the subpopulation of the Little Dip Spider-orchid. The distance to which edge effects penetrate is highly variable between habitats, varying largely in response to the permeability of the habitat edge. Given the permeability of the habitat edge will be low due to the presence of dense Coastal Wattle shrubland, and that Little Dip Spider-orchids are able to persist within roadside vegetation (Dickson et al. 2009), a 50m buffer will ensure that edge effects on the subpopulation of the Little Dip Spider-orchid are negligible following weed and run-off management.

The offset area will be located near the subpopulation, and within vegetation which share similar characteristics to that within the subpopulation. It occurs solely within Coastal Wattle shrubland, to ensure that the offset measures will be effective in benefiting the Little-dip Spider-orchid. The perimeter of the remaining offset (1 ha) will be 30 m from the edge of the project footprint, which in accordance with the control of runoff, will ensure that edge effects within the offset are negligible. The remaining offset area will not be fenced, however, signage informing visitors of a conservation zone will be installed (no specific reference will be made to the Little-dip Spider-orchid to ensure visitors do not go looking for the species or collecting it). This area will also be utilised for any future translocation activities, if they are required.

Further measures will be taken (described below) to ensure the population is not affected by run-off from the golf course and through the use of fertilizer. No pesticides will be used on the site.

The proponent is committed to ensuring that run-off will not be a threatening process and has committed to the following environment management plans, which relate to run-off, for approval prior to any construction works commencing:

- Integrated Stormwater Management Plan
- Stormwater Management Plan
- Irrigation Management Plan
- Soil Erosion and Drainage Management Plan

The population will also be subject to a management plan regime that requires population monitoring and contingency measures should it be found the population is being affected and/or decreasing.

More detail on the project's response with respect to the Little Dip Spider-Orchid (including the offset assumptions and calculations) can be found in the EBS Ecology report contained in **ATTACHMENT F**.

Orange-bellied Parrot

The Orange-bellied Parrot (*Neophema chrysogaster*) is protected under the EPBC Act where the species is listed as Critically Endangered. It is a small grass parrot (20-22 cm) that is predominantly green. The species has a prominent bright blue band above the beak which extends to their eye, and a blue band which extends the perimeter of their wing. The colour on their front softens from light green on their chest to pale yellow at their vents and a distinctive orange belly.

The species is migratory, breeding in south west Tasmania, from November to March, and migrating to south-eastern Australia in the non-breeding season. Pairs breed in hollows or artificial nest boxes, with a clutch size consisting of 4-6 eggs.

The habitat of the Orange-bellied Parrot in south-eastern Australia is comprised of coastal and sub-coastal (<10 km from coast) saltmarsh, vegetated sand dunes, heathland, grassland, and pasture. The preferred foraging habitat for the Orange-bellied Parrot is saltmarsh and adjacent pasture. Foraging observations on pasture predominantly occur within 500 m of saltmarsh.

In South Australia, the distribution of saltmarsh is more limited than Victoria, constrained primarily to the Lower Lakes and Coorong region. Therefore, within the southeast of South Australia, the foraging habitat is comprised of beach fronts and dune scrub. The relative lack of their preferred habitat is the likely cause of fewer records in South Australia (eight records) than Victoria (166 records). As such, conservation measures of their winter habitat are most warranted in Victoria.

The Orange-bellied Parrot is nomadic through its winter distribution, moving in response to the availability of food resources. Food resources on offer would vary in response to the inundation, and subsequent unavailability of saltmarsh, and the times of seed set by other feed species.

The national recovery plan recognises that many locations are now no longer occupied by the Orange-bellied Parrot due to their very low population, however, considers that any habitat where Orange-bellied Parrots have been recorded since the year 2000, essential for the conservation of the species.

The most recent population estimates of the Orange-bellied Parrot is 14 individuals (ABC News 2017). The historical decline was attributed to habitat loss and degradation in south-eastern Australia. The steep decline since 2000, when the population was 200 individuals, is attributed to low food availability associated with habitat loss, and Psittacine Beak and Feather Disease (Pbfd). At present, Pbfd is the greatest threat, with the disease causing the mortality of most of the infected nestlings. In 2015, 19 of the 26 nestlings were found to have tested positive to Pbfd.

The threatening processes which were assigned a risk rating of high or very high in the National Recovery Plan 2016 were:

- Development and land use change;
- Inappropriate hydrological regimes;
- Inappropriate fire regimes;
- Invasive weeds;
- Loss of genetic diversity and inbreeding;
- Disease;
- Stochastic environmental events;
- Climate change; and
- Predators and competitors.

A total of eight observations of Orange-bellied Parrot have been recorded in South Australia since 2010. These observations have occurred primarily in the far south east of the state, however have also occurred on the southern Fleurieu Peninsula, Lake Alexandrina, and the Coorong. The last

record of an Orange-bellied Parrot at Nora Creina (although **not** on the project site) occurred in 2007. Extensive surveys of the Orange-bellied Parrot are conducted by Birdlife Australia along the South Australian coastline from May to September.

Given the population size and relatively few records of the Orange-bellied Parrot in South Australia over the past decade, it is unlikely that the species would occur within the project area. Furthermore, if the species were to occur, their presence would be temporal, due to their nomadic nature in their winter distribution.

Within the project area, the potential for foraging habitat was determined by comparing the species list for each vegetation association with the known food plant species of the Orange-bellied Parrot. It was determined that each of the eight vegetation associations mapped within the project area had a minimum of one known food plant species, and a minimum of two species within the same genus as a known food plant species. Therefore, the Orange-bellied Parrot has food resources well distributed over the project area. However, this does not necessarily mean that the entire project area constitutes foraging habitat, as habitat structure is an important determinant in the suitability of foraging locations for birds.

The Orange-bellied Parrot roosts within dense shrubs that are located within a few kilometres of foraging sites. The potential roosting habitat for Orange-bellied Parrot within the project area was based upon the protection offered from wind and rain. Therefore, vegetation association which had an open structure, located on fore dunes, or within wind blow outs were deemed unsuitable for roosting. As such, it was determined that vegetation associations 4, 5 and 6 were suitable for roosting due to the high density of shrubs.

The clearance of potential roosting habitat may have a minor impact on the Orange-bellied Parrot, as 43.9 ha of the cleared land is to be converted in to a grassed tee, practice greens and fairways, which may create foraging habitat for the species, as it has done at a golf course at Queenscliff, Victoria.

Having regard for all the above information, calculations indicate the Orange-bellied Parrot will lose 48.8 ha of potential roosting habitat and an offset is required. This should be comprised of improvement in the condition of existing vegetation, through the control of weeds, which would lead to the subsequent regeneration of indigenous species. Given the current population size of the Orange-bellied Parrot and the total of eight records in South Australia since 2010 the impact of the clearance of potential roosting habitat is expected to be negligible.

As such, an offset area has been calculated for the Orange-bellied Parrot, which is 90 hectares. This offset area encompasses the largest continuous area of native vegetation across the project area and is comprised of three vegetation communities. The native vegetation within the offset will be enhanced and will form the basis for the offset management plan for this area. It is considered appropriate to establish an on-site offset for the OBP at this site.

As the habitat within the project area is considered to be important habitat for the OBP, and the reason why an offset is required, it is appropriate that the larger portions of habitat across the site are managed as an offset. This provides an offset which is directly offsetting the potential lost

habitat as a result of the proposed development. Therefore, if the species was to recover to a level where it is recorded again within the region, better quality habitat will be available for the species to utilise.

These offset measures will also be applied to the SEB offset (offset associated with the *Native Vegetation Act 1991*, which is recorded on the relevant Certificate of Title and is intended to be in perpetuity), which covers all remaining vegetation in the project area outside of the offsets for the threatened species. As such, the benefit to the surrounding native vegetation, and subsequently, the Orange-bellied Parrot, is expected to surpass the minimum offset of 90 ha.

The methodology of the calculation, the calculator and a map of proposed on-site offset area is set out in the EBS Ecology report contained in **ATTACHMENT F**.

5. PUBLIC AND AGENCY CONSULTATION

The Public Environmental Report (PER) was placed on public and agency consultation on Wednesday 27 January 2016 and the consultation period continued until Monday 21 March 2016.

As part of that process, a public forum was held at the Robe Institute on Wednesday 17 February 2016, where representatives of DPTI and the proponent made themselves available to interested members of the public. Displays of the proposal were available and feedback forms provided to allow for comment as well as other information. The forum ran for a number of hours and was well attended.

As a result of the public and agency consultation, the following submissions were received by DPTI (on behalf of the Minister):

AGENCY/GOVERNMENT SUBMISSIONS

DPTI provided a consolidated summary of the submissions received from agencies, which contained submissions from:

- Department of Environment, Water and Natural Resources (DEWNR), which incorporated comments from Coast Protection Board (CPB) and Natural Resource Management (NRM)
- Department of State Development – Aboriginal Affairs and Reconciliation (DSD-AAR)
- Environment Protection Agency (EPA)

Separate submissions were received from the Commonwealth Department of Environment and the District Council of Robe.

A copy of the agency submissions is contained in ***ATTACHMENT D***.

PUBLIC SUBMISSIONS

31 submissions were received from the public, which comprised:

- 21 submissions received from individuals
- 7 submissions received from groups and community organisations
- 3 submissions received from businesses

A copy of the public submissions (excluding those not authorised for public release) is contained in ***ATTACHMENT E***.

6. AGENCY SUBMISSIONS

The proponent's response to the agency submissions received is set out below and should be read in conjunction with section 4 of this document.

Some of the submissions include suggested changes to wording in the PER but subsequent investigations have generally either overtaken such concerns or have become irrelevant. As such, it is not proposed that the PER document be amended and instead the submissions and the Response Document will represent the most up-to-date position on all matters.

6.1 Department of Environment, Water and Natural Resources (DEWNR)

One of the key parts of the submission received from DEWNR was concerned with the clearance of native vegetation on the site. As has been described in detail in section 4.1 above, this matter has now substantially been resolved through re-design of the golf course, closer analysis of the types of vegetation proposed to be cleared and the setting out of criteria for the selection of suitable offset land.

This approach has now received the 'in-principle' agreement of the Native Vegetation Management Unit (NVMU), which on the proponent's reading of the DEWNR submission addresses all the issues associated with vegetation clearance and offsets to the extent they can be at this point in the process.

The following matters raised are expected to be dealt with in detail following conditional approval of the Nora Creina Project, as it is premature to deal with them at this point:

- Management Plans

It is anticipated that all Management Plans will be developed following conditional approval of the Nora Creina Project, including the following:

- Construction and Environmental Management Plan (CEMP)
- Operational and Environmental Management Plan (OEMP)
- Environment Monitoring and Management Plan (EMMP)

There will also be Management Plans specifically relating to the as on-going management of remaining vegetation on the site (including dealing with pests and weeds), stormwater management, irrigation management and coastal/erosion management.

- Fauna Survey

A fauna survey, to ensure any obligations under the *National parks and Wildlife Act 1972* will be carried out as part of the detailed design process for the project, as preliminary investigations indicate the risk of not undertaking this at an earlier stage is low.

It is anticipated the requirement for a fauna survey will form part of any conditions of approval and the fauna survey would be carried out during spring.

The results of the fauna survey will also be submitted to the Commonwealth Department of Environment.

Commonwealth EPBC Act Requirements

The Commonwealth Department of Environment provided a separate submission during the consultation period specifically with respect to the Little Dip Spider Orchid and Orange-bellied Parrot. The proponent's response is set out in section 4.4 above with the accompanying report contained in **ATTACHMENT F**.

Coastal Issues

A detailed report on the coastal assets, the risks and mitigation measures has been prepared by Brian Caton, is discussed in section 4.2 above and contained in **ATTACHMENT C**.

The Caton report has provided sufficient information to understand and quantify the risks to the Nora Creina Project, with management details to be devised and included in a future erosion management plan.

However, additional work is required to fully understand the risks posed both by and to the coastal environment arising from sea level rise and climate change as well as the construction of the proposal (and any on-going risks posed to it).

The proponent acknowledges the requirement for this additional work, understands it will form part of any conditions of approval and must be completed prior to any construction occurring. The scope of this additional work will be in keeping with the comments received from DEWNR throughout the Major Development process (latest version 9/5/17).

Water Issues

It is expected that approximately 300-400 megalitres per annum will be required for the Nora Creina Project. This volume is underpinned by access to two water licences of 220 megalitres which will allow access to artesian (confined aquifer) water sources. The transfer of these water licenses to the project site will be in accordance with relevant DEWNR/NRM policies.

A water management strategy across the entire site will be completed during the detailed design process, which will include the management of stormwater, management of irrigation (including runoff), potable water requirements and water re-use.

DEWNR has expressed a desire to have a greater level of information relating to water supply and water use for the site. As such, further detailed work on the precise water requirements, the method of supply (including re-use) and management of runoff and other impacts will be undertaken prior to the finalisation of any relevant management plans or construction occurring on the site. It is anticipated this requirement will form part of any conditions of approval.

Bushfire

The clarification suggested by DEWNR in its submission is to be adopted by the proposal thus:

On-going management of bushfire risk will be a key part of management of the site, incorporating appropriately sited buildings and infrastructure, which minimises vegetation clearance and land disturbance, and adequate separation from adjacent vegetation, to mitigate bushfire risk and by the time of operation fire-fighting facilities, including an appropriately dimensioned and located water supply, will be available. The on-going requirements will be documented in a suitable management plan format with the ability for continuous improvement.

6.2 DSD- Aboriginal Affairs and Reconciliation

The significant changes made to the layout of the golf courses has been overlaid against the location of the 18 Aboriginal heritage sites identified (all now contained in the Central Archives), with half unaffected and half at least partly affected, which is a substantial improvement on the original masterplan (refer section 4.3 above).

Once conditional approval is achieved, a section 23 application will be submitted detailing the construction methods and likely impacts on the sites and the land uses proposed around the affected sites.

A Cultural Heritage Management Plan (CHMP) will be prepared, possibly prior to any relevant application/s being made. This CHMP will be prepared in consultation with the SEAFG.

6.3 Environment Protection Agency (EPA)

The EPA response set out a requirement for a number of the future Management Plans to be prepared and submitted to the EPA for approval prior to the commencement of construction. Some of these plans (or components of them) overlap with issues raised by DEWNR.

The required Management Plans include:

Integrated Water Management Plan (including a Stormwater Management Plan)

- Irrigation Management Plan, prepared in accordance with the EPA's Guideline Wastewater Irrigation Management Plans (WIMP)
- Soil Erosion and Drainage Management Plan
- Construction and Environmental Management Plan (CEMP – this will incorporate various other management plan such as that prepared for stormwater and erosion)
- Environmental Management and Monitoring Plan (EMMP)

All applicable EPA guidelines and policies, including those on air quality, contamination, construction management and noise will be incorporated into the relevant Management Plans.

It is also acknowledged there is the potential for some licensing requirements at the site. This will be explored in more detail with the EPA once conditional approval is received.

No feedlot is proposed with respect to the Wagyu beef farm.

The main site access road is well away from existing residences.

The EPA has reviewed the details set out above and provided a response to DPTI on 3 May 2017 indicating the proposed approach was acceptable.

6.4 Commonwealth Department of Environment (DoE)

The Commonwealth submission was in respect of the two EPBC listed species the Nora Creina Project could potentially impact on, namely, the Little Dip Spider-Orchid and the Orange-Bellied Parrot.

Additional work has been completed to fully assess the potential for impacts on the two listed species, including a review of the relevant recovery plans and the calculation of necessary offsets.

The proponent's response is set out in section 4.4 above with the accompanying report (which was prepared in further consultation with CDoE) contained in **ATTACHMENT F**.

6.5 District Council of Robe

The DC Robe submission outlines in broad terms the likely benefits to the town and region, including economic and social benefits, job creation and benefits to existing golf courses, which the proponents also expect as a positive outcome of the Nora Creina Project.

The submission also points to the potential for the project to eventually lead to demand for improvements at the local airstrip so visitors from interstate and overseas can access Nora Creina more directly. This outcome has occurred at Bridport in Tasmania due to the success of Barnbogle Dunes, the project on which Nora Creina is modelled.

Council also acknowledges the extensive damage already done and continuing to be done to vegetation, Aboriginal heritage sites and fauna in the area, particularly birds and wombats. The proponents strongly agree and will insist that the success of the Nora Creina Project and its desired environmental outcomes will be greatly served through the proper management of such uncontrolled activities.

Council qualifies its response and support for the project by noting that concerns over the protection of the environment and Aboriginal heritage need to be adequately addressed by the proposal. As discussed in section 4 of this document, these issues have been carefully considered and investigated by the proponents.

7. PUBLIC SUBMISSIONS

There were a range of matters raised in the submissions received from the public in respect of the Nora Creina Project. The key issues, some of which were raised by several submitters, are set out below along with the proponent's response. The responses should be read in conjunction with the information set out in section 4 of this document in particular and more generally the information set out in section 6.

There were many encouraging and supportive comments throughout the submissions, which mentioned many positive aspects of the proposal including:

- The economic impact and creation of jobs, which would underpin the future prosperity of Robe and surrounds, particularly during the 'off-peak' months
- The spin-off created for existing and new complementary and allied businesses throughout the region
- The benefits for nearby country-town golf courses
- The benefits for the site in terms of better management of weeds and pests

There were also numerous submissions that raised various concerns about the proposal, including a number that raised issues with the Major Development process and various other aspects of how Government operates, which are matters clearly beyond the scope of this Response Document.

However, many submissions sought further information to better understand various aspects of the Nora Creina Project. It is the aim of this document to provide as much of that information as possible and commit to the provision of further and more detailed information at the appropriate time in the process. Many of the key issues raised have already been addressed to some extent by the significant re-work of the layout of the golf courses.

The main issues are set out below and are in no particular order.

There were also several issues raised only by one or two submitters or noted as less significant issues by others. The proponent's response to those issues is also set out below and grouped under the heading 'other issues of concern.'

MAIN ISSUES

Loss of Vegetation and Habitat (refer also to section 4.1)

The issue of the proposed clearance of vegetation and associated loss of habitat was the primary concern voiced by the public submissions.

It is a necessary and unavoidable part of the proposal, if it is to proceed, that some level of vegetation clearance will be required. The Major Development process anticipates and facilitates this through a specific exemption in the *Native Vegetation Regulations*.

Some of the submitters were of the view that the subject land was representative of a pristine and virtually untouched landscape that was worthy of total protection. However, as discussed in section 4.1 above, the land and its vegetation cover was decimated over four decades through the grazing of cattle in the dune system and other poor land management practices.

Whilst a significant amount of vegetation regrowth has occurred in the last two decades, a great deal of exotics, weeds and pests have also become part of the landscape. Control, much less eradication, of invasive species and pests is simply impossible in the current circumstances given the size of the land and enormity of the task.

However, the proposal for golf courses and tourist facilities on the subject land creates the opportunity for improved land management to be not only possible but necessary and highly desirable.

It is also the case that the significant changes made to the layout of the golf courses shown in the PER to that now proposed, has overcome (or at least substantially addressed) many of the issues raised by the public submissions with respect to this issue.

These include:

- Significant improvements to the size, shape and permeability of the north-south corridor linking Little Dip Conservation Park to the land under heritage agreement at the southern edge of the golf course;
- Significant reduction in both the overall proposed clearance of vegetation and the quality of vegetation being removed, with a focus on already cleared areas or areas of low (or relatively lower) biodiversity value; and
- Reduction of fairways and golf holes near the lake system, thereby significantly reducing potential for impacts on the vegetation and habitat around those lakes.

As noted in section 4.1, in-principle agreement has now been reached with the Native Vegetation Management Unit (NVMU) of DEWNR for a reduced clearance area, improved environmental outcomes and appropriate criteria on which to base future offset arrangements.

The golf course layouts have also taken into account the need to avoid the area where the EPBC-listed Little-Dip Spider Orchid has been found and ensure the adequate protection of potential habitat for the Orange-Bellied parrot. The future vegetation management plan for the site will carefully consider how best to deal with these issues to ensure consistency with the relevant recovery plans and the Commonwealth EBPC Act.

As stated previously, it will be important to manage the remaining vegetation (up to 165 hectares remaining on site) to ensure it is well-presented and of a high quality. This will necessarily mean the devising of a management plan/s for the on-going and long-term management of pests, weeds and other invasive species. Such an extensive management regime, which is by its nature labour intensive and expensive especially in its early years, simply cannot occur with the current land ownership by individuals due to the both the size of the land area and the task involved.

Landscaping around buildings and other areas will be extensive and be part of the on-going rehabilitation and management of the site. It will be a requirement that all landscaping be comprised of locally indigenous species in the first instance and species indigenous to South Australia otherwise. Apart from the grasses used on the golf course, which will be limited in the number of types used, no exotic plantings will be permitted to occur on site. 'Edge effects', which are a risk to both the remaining vegetation on site and the Little Dip Conservation Park, will be carefully monitored and controlled where necessary, the procedures for which will be documented in the relevant vegetation management plan/s. Any soil to be imported onto the site will need to be clean and free of weeds or other vegetation, with the appropriate type and quantity to be determined during the detailed design process.

Several groups, some of which made submissions on the PER, have expressed an interest in being consulted and providing advice on landscaping selections and wherever possible this consultation will take place in good faith during the detailed design process.

Destruction/Stability of Dunes (refer also to section 4.2)

Construction of the golf courses, which is modelled on Barnbougle Dunes in north-eastern Tasmania, does not rely on 'moving' dunes around, with the required earthworks much less invasive and with some reinstatement. The essential form of the landscape will remain unchanged with the golf course 'rolled out' over the existing landscape rather than the landscape being modified to suit. This is essential to the amenity and attractiveness of this type of golf course.

Much of the coastline of the subject land is protected to some extent by off-shore reef systems and recent storm events have shown the significant level of protection provided to the beaches and dunes. Over the last two decades much of the dune movement has been halted through revegetation after being stripped virtually bare due to grazing in the 1960s and 1970s. Although vegetation clearance is required as part of the project no new 'bare' areas will be created and as such concerns over new blowouts occurring is misplaced and vegetation cover will be constantly monitored, with emerging problems quickly remedied and chronic problems actively managed.

Section 4.2 above has outlined the coastal management issues associated with the subject land and how it is anticipated they could be managed, with the Caton report providing a greater level of analysis and detail.

It has been acknowledged more work is required in this area as part of detailed design and this requirement will form part of any conditions of approval. This information will allow for the preparation of effective and dynamic management plans for the coastline, including contingency and action plans for storm damage and other potential outcomes, but sufficient information is already to hand which indicates the issues are manageable, subject to the removal of vehicle access to Boundary Beach.

As noted in section 4.2, removing access for vehicles to the beach, particularly from Little Dip Conservation Park is essential if there is any long-term prospect of managing this area effectively. Such a change would instantly halt vegetation and habitat damage and provide a more stable and predictable framework in which to devise and implement an effective and long-term coastal and erosion management plan.

Impacts on Aboriginal Heritage (refer also to section 4.3)

The potential for impacts by the Nora Creina Project on Aboriginal heritage has been known for some years due to previous works undertaken for the proposed abalone farm.

As described in section 4.3 above, changes have been made to the layout of the golf courses based on the outcomes of the Aboriginal heritage survey and many of the sites have been completely avoided or only partly impacted. Consultation with the relevant Focus Group (SEAFG) has occurred and will need to continue as a Cultural Heritage Management Plan is devised, agreed and put in place.

At the appropriate time, an application to the Minister pursuant to section 23 of the *Aboriginal Heritage Act 1988* will be submitted but through further detailed design work any necessary impacts are likely to be minimised even further.

Impact on Fauna

A specifically-targeted fauna survey has not yet been undertaken on the site, but will form part of any conditions of approval, with results provided to both DEWNR and the Commonwealth Department of Environment.

However, as indicated in the PER the subject land potentially provides habitat for at least 1 fauna species of national significance, the nationally Critically Endangered *Neophema chrysogaster* (Orange-bellied Parrot). It is noted it has been many years since this parrot has even been recorded in the South-East let alone on or in the vicinity of the subject site, despite on-going efforts by various groups.

The subject land also potentially provides habitat for up to 14 fauna species of state significance, such as *Vombatus ursinus* (Common Wombat – Rare). However, habitat for a number of other species identified, such as: *Rattus lutreolus* (Swamp Rat), *Wallabia bicolor* (Swamp Wallaby), and *Antechinus minimus* (Swamp Antechinus) is within the wetland habitat which will be set aside and untouched by the construction or operation of the Nora Creina Project.

The potential for impacts on fauna on the subject land, or those passing through the subject land, have been considerably reduced due to changes in the layout of the golf courses, including:

- Reduction in overall amount of vegetation clearance proposed;
- Reduction of impact on higher-value vegetation;
- Significant improvements to and widening of a north-south habitat corridor through the site;
- Significant improvements to the areas of vegetation left over after the construction of the golf courses, making them larger and more contiguous; and
- Lessening of impact around the lakes through the removal of some golf holes.

It will also be a management condition that no domestic animals are permitted on the site, including cats and dogs.

It is acknowledged there will be a need for a fauna survey prior to detailed design being completed and it is expected this will be a condition of any approval granted. However, preliminary analysis shows the Nora Creina Project is unlikely to be particularly at risk due to fauna issues and many improvements have already been made to further reduce that risk.

Amount of Water Required

It is anticipated that between 300ML – 400ML of water per annum will be required to operate the golf courses and tourism complex once fully up and running.

As set out in the PER, it is anticipated this will be met by a range of measures, which are underpinned by access to artesian water by way of the transfer of two existing licences totalling around 220ML. The transfer of these licenses to the project site will be in accordance with DEWNR/NRM policies. It is worthy of note that artesian water is sourced from a confined aquifer.

Stormwater from roofs will also be harvested for re-use and stormwater from hard-stand areas will be captured and cleaned to allow for irrigation of the golf course and other areas wherever possible. Both stormwater capture processes will yield significant amounts of water and reduce the pressure on groundwater resources.

The details of how these systems will work, how they will interact, the amount of water they will capture and how it will be stored and treated, as well as procedures for the release of excess water will be carefully considered and thoroughly documented during the detailed design stage of the project.

The requirement to provide additional information to DEWNR on water supply and use on the project site will form part of any conditions of approval.

It will also be necessary to provide the EPA with documentation to this effect prior to construction commencing.

Impacts of Irrigation/Fertiliser/Leachate on the Lakes/Wetlands/Coast

The use of fertilizers and other chemicals will be minimised on the site, both for environmental and economic reasons. An irrigation management plan will be prepared as part of the detailed design process and will include provisions requiring the monitoring of impacts of runoff. Once again, it will be necessary to provide the EPA with documentation to this effect prior to construction commencing.

Concerns over Project Viability

Several public submissions were concerned about the viability of the golf course proposal, although there were several different points of view.

Some were concerned that the failure of the golf course would mean native vegetation had been cleared for no purpose, whilst others were concerned about the obligations it might place on taxpayers/ratepayers if it were to fail, or perhaps that it would lead to a moribund site over time.

The fears over failure seemed to be almost exclusively based on the fact that several other golf courses in South Australia had met such fates (with The Dunes at Port Hughes cited as the best example). There was also concern that the Kangaroo Island Golf Course, approved in 2016 following a Major Development assessment, along with the recently opened Cape Wickham course on King Island will be too much competition for the Nora Creina Project.

As had been repeated throughout the process, the Nora Creina Project is heavily modelled on the highly successful Barnbougle Dunes course in Tasmania, which attracts tens of thousands of golf rounds each year and is now constructing its third golf course. It has been a tourism boon for the north-east of Tasmania and has effectively been the saviour of the nearby existing Bridport Golf Course, as well as having enormous economic and social benefits for the town.

The Nora Creina project does not rely on the sale of residential real estate, as was the case with The Dunes and which forms a significant part of the Kangaroo Island proposal, and Nora Creina is much easier to travel to than either Kangaroo Island or King Island. The Nora Creina Project will also, critically, have two 18-hole golf courses from day 1, which neither Kangaroo Island nor King Island have. This is a vitally important component that will underpin the economic viability of the project and greatly increase the site's attractiveness to avid golfers as a destination worth the effort of travelling to.

The focus of the project has always been, and relentlessly so, to obtain approval for a world-class golfing destination incorporating two 18-hole golf courses that will rank in the top 10 in the world. It is worthy of note that the developers of the Kangaroo Island Golf Course, approved only last year, have already sought significant changes to the golf course layout to ensure it the best it can be (by moving some holes closer to the seafront), but it remains only one course.

The Nora Creina Project also includes accommodation, a restaurant and wellness retreat, as well as access to other ocean-based activities and activities in the wider region. All of this combined with a world-class golfing experience over two courses will ensure the project appeals to a wide range of people both locally, nationally and internationally.

As such, the proponents are confident of the business model, which is tried and proven, which will no doubt be scrutinised thoroughly by those looking to invest in the project if approved. Further, the modelling completed is relatively conservative and does not rely on the 'high' case for the project to be viable and there has already been considerable interest from potential investors.

To that end, it is considered concerns over the viability of the Nora Creina Project are unfounded as they are not based on the relevant information. The project as it is currently proposed has some fundamental differences to others before it (and with those it will directly compete with) that the proponents are confident will give it numerous advantages and a high likelihood of success, which will be huge boost for employment and tourism in the South East.

Traffic

It is obvious that the operation of the proposal will increase the level of traffic travelling along the Nora Creina Road. The PER contained a traffic analysis setting out the expected increases, but ultimately concluded the road currently has the capacity to cope with that increased demand.

Sealing of the road would also be highly desirable and the District Council of Robe has previously indicated that upon securing appropriate Federal funding the road would be sealed. Rental cars are often prohibited from travelling on unsealed roads, which is another key reason why the road should be sealed. There will also be further consideration of the most appropriate access route from the south (i.e. towards Mount Gambier and Melbourne) and how this should be promoted and communicated to visitors.

As noted in the PER, there will be a single main vehicle access into the subject land from Nora Creina Road and this will be appropriately placed and designed to ensure it meets all relevant safety standards, including for larger vehicles. It is anticipated this access will be in use for construction purposes and, once the site is operational, delivery and service vehicles would also use this access. The existing access point would remain in place but would only be used for emergency purposes.

Improved signage along Nora Creina Road warning of the dangers of wildlife on the road combined with a lower speed limit past the subject land should assist visitors to better navigate the road, especially outside daylight hours.

Apart from Nora Creina Road, traffic management is an important consideration right across the site. Key traffic considerations for the detailed design process will include no access to the subject land from the Little Dip Conservation Park and minimising vehicle access points generally, but especially onto the beach. It will also be necessary to consider appropriate levels of access across the site for emergency services vehicles, particularly ambulances and Country Fire Service.

A critical element of traffic management, which has enormous environmental benefits as well, will be for vehicle access from Little Dip Conservation Park to the beach in front of the subject land to be halted. Up to 22,000 people visit Little Dip each year bringing with them around 12,000 vehicles.

Currently, vehicles can travel down a steep track from Little Dip on to the beach and find shortly after they cannot continue along the beach and must turn back. However, the steepness of the slope back into Little Dip often means vehicles cannot return this way and must travel across the subject land to exit, resulting in considerable damage to the dunes, vegetation, shorebird habitat and sites of Aboriginal heritage significance (e.g. middens), as well as to property on the subject land. There is also an increased security risk on the subject land brought about by vehicles driving over it, which will be completely incompatible with and unacceptable for the Nora Creina Project.

With the development of the Nora Creina Project, there will also likely be more people on the beaches and surrounds, particularly during warmer months, and so from a safety and amenity perspective, vehicles travelling on the beach will not be compatible.

As noted in section 4.2 above, from an environmental perspective, removing vehicles from the beach will also greatly limit any dune damage and erosion and will better protect the habitat of shore birds (including nesting habitats). In fact, closing the vehicular access to the beach from Little

Dip is considered the single most effective way to better manage this section of coast and protect it from erosion and damage.

The proponents strongly support this approach and have long advocated the closing of the beach access from Little Dip – at least for the last 10 years – to stop the environmental and property damage that occurs when people recklessly cross the dunes to exit the beach, or simply drive through the dunes anyway.

Despite previous undertakings from DEWNR (and others) that the beach access be closed, this has not occurred. However, as part of proceeding with the Nora Creina Project this will be an essential component allowing for greater levels of safety, security and instant improvements to environmental management and the prevention of erosion. It is anticipated the vehicle access path would be permanently blocked and replaced with a pedestrian-friendly way of moving between Boundary Beach and Little Dip.

As such, there will be further development of the traffic management requirements for the site during the detailed design process based around the issues outlined above. The proponents will also be seeking that Government take the necessary steps to permanently close the beach access from Little Dip for vehicles.

Use of the Name 'Nora Creina'

Several of the submitters opined that it was incorrect to designate the location of the project at Nora Creina. One of the submitters went so far as to say the use of the name for the Golf Course of 'Nora Creina' was "*completely false, as the proposal is around 7km away*", it would be "*an insult*" to have the development called Nora Creina and the "*correct locality name*" should be used. Another submission was of the view that using the name of a shipwreck was "*plain stupid*", especially for Asian investors and visitors influenced by feng-shui.

At this time, the precise name of the project for branding and marketing purposes is unknown. However, the Certificates of Title for the subject land confirm the name of the area in which the Nora Creina Project is proposed is indeed Nora Creina and is therefore the legal address of the project, even if some might argue this is not its locally known name. The Certificate of Title information can be found in Appendix B of the PER document.

Other Issues of Concern

There were also a number of issues that were mentioned only once or twice each in the submissions received from the public or were mentioned as more minor matters. For completeness, those issues are set out here with a brief comment on each of them.

Inconsistency of the proposal with other Government documents

As the PER set out, a range of documents (mostly Government policy documents) were referenced in respect of the proposal. As with any such document, they are not intended to be rigid, prescriptive

documents and it is not unusual for there to be differing views on the degree of compliance or otherwise for a particular project or proposal.

The information as set out in the PER remains the views of the proponents and the general level of consistency of the Nora Creina Project with the various documents cited. However, with the significant changes made to the golf course layouts, which greatly reduces the amount of clearance proposed, along with the improvements envisaged to limit vehicular access along the beaches and improved protections for sites of Aboriginal heritage significance, it is considered the overall level of compliance has lifted substantially and the project now demonstrates an even greater level of consistency with the suite of documents referenced.

Treatment of Wastewater

Wastewater will be collected, stored and treated on-site and re-used wherever possible. It is expected this will result in most of the wastewater from the site being re-used in some form and the requirement to discharge water will be low and probably non-existent for much of the year, with only the colder, wetter months potentially presenting more of a challenge.

In any event, there will be no discharge of treated (or untreated) wastewater into the ocean.

The details of wastewater management will be determined during the detailed design process.

Waste from the Beef Farm

It is not intended for the beef farm to be a fully functional and operational beef farm. Its primary function, as with the vineyard, is to provide an enhanced visitor experience and promotional tool to remind tourists of the expansive food and wine region of the South-East.

The beef farm will be only lightly stocked to ensure the land allocated for the cattle is appropriately managed, continues to present well to its surrounds and doesn't create any nuisance such as odour.

As such, it is expected any waste generated from the cattle will be absorbed by the ground, just as it is now with the cattle that currently graze on the site. It is not expected there will be any opportunity for waste (liquid or solid) to become concentrated or require specific disposal.

Spray Drift from Vineyard

As per the normal management of vineyards, spraying is not done when the wind is blowing as this is inefficient and ineffective, nor it is done when the wind is lightly blowing in the 'wrong' direction, which avoids any spray drift on to sensitive receivers.

A procedure for determining when and how any chemical sprays are to be applied to the vineyard could be included in any management plan prepared for the establishment and operation of the

vineyard and is therefore a concern for the detailed design process. However, this is not considered a difficult issue to manage effectively.

Cost of Infrastructure (water and power)

The anticipated costs associated with power and water, and the likely methods by which they would be provided were set out in the PER. None of these details have changed.

The project anticipates bearing the costs of providing water and power to the site.

Risk of Gas Exploration

Given the position of the major State political parties on the issue of gas exploration in the South East, this is not considered a major risk to the project. It is noted there were no submissions from any Government agency that highlighted this as a potential risk to the project.

Rezoning

As it currently stands, there is no proposal, no future plans, nor any current need to rezone the subject land. If this occurs in the future, it will be subject to a separate process that will necessarily involve public consultation.

Storage and Disposal of Waste (rubbish)

All waste, including general waste, food waste and recycling will be placed in a designated area where it will be secure from foraging animals until it can either be collected and taken away for disposal or recycled on site for use, for example as mulch or compost.

Although a matter to be determined in the detailed design phase of the project, it is likely the storage location will be away from the clubhouse and accommodation area to avoid any potential odours arising and the area will be appropriately screened by fencing and/or vegetation. The location will also need to be easily accessed by any vehicles or other machinery necessary for its normal operation.

Neighbour's concerns over property rights

Notwithstanding anything shown or inferred on the masterplan contained in the PER (or shown or inferred on the updated masterplan contained in this document), the Major Development process does not alter the existing property rights of adjacent landholders. If changes to rights-of-way or any other property-related issue arises, it will need to be dealt with by negotiation at the relevant time.

ATTACHMENT A

REVISED PROJECT MASTERPLAN

10 APRIL 2017

Nora Creina Golf Resort

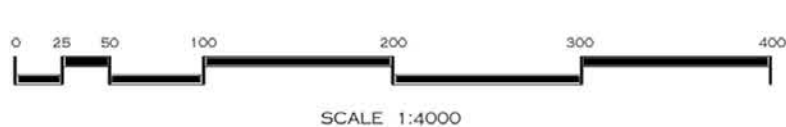
Robe, South Australia



Golf Course Masterplan

LEGEND

- 1 Cattle farm
- 2 Vineyard
- 3 3-5 star accom
- 4 Clubhouse
- 5 Retreat
- 6 7-star villa



NORA CREINA GOLF RESORT

Scale: 1:4000 @ A1
Date: 10 April 2017
Client: J & D Scanlon
Revision: For Approval

Golf Course design by:



Copyright: Harrison Golf Pty Ltd

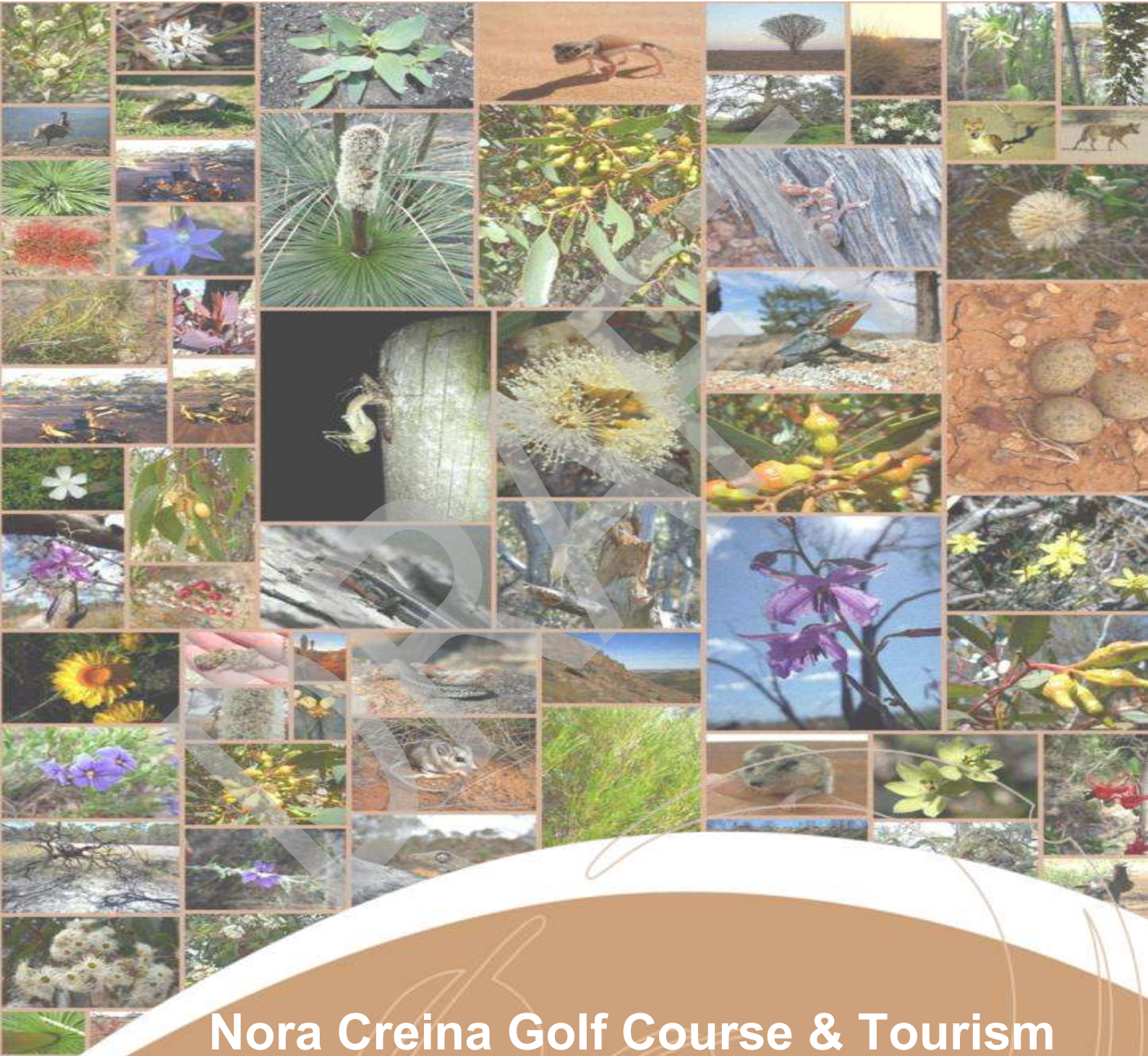
ATTACHMENT B

EBS ECOLOGY REPORT

(Vegetation Clearance – March 2017)

and

NVMU RESPONSE



**Nora Creina Golf Course & Tourism
Resort Major Development
Vegetation Clearance and Proposed SEB**

Nora Creina Golf Course & Tourism Resort Major Development Vegetation Clearance and Proposed SEB

21 March 2017

Version 1

Prepared by EBS Ecology for JA and DA Scanlon

EBS Ecology Project Number: E60710

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Table of Contents

1 INTRODUCTION	1
2 VEGETATION CLEARANCE	2
3 SEB REQUIREMENTS	5

List of Tables

Table 1. Vegetation clearance and SEB requirements for the Nora Creina Project.	4
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List of Figures

Figure 1. Nora Creina Project layout and vegetation condition.....	3
Figure 2. SEB Offset within the subject land for the Nora Creina Project.	6
Figure 3. Areas identified as potential SEB areas for the Nora Creina Project.....	7

1 INTRODUCTION

The proposed Nora Creina Golf Course and Tourism Resort Major Development includes the development of two 18 hole golf courses, a club house, accomodation and associated infrastructure such as roads. The project also includes the development of a Wagyu Beef farm and vineyard. The project requires environmental offsets to be provided as a result of vegetation clearance required to implement the project. The initial vegetation clearance estimate, based on the masterplan, was approximately 84ha and included all proposed infrastructure. The Significant Environmental Benefit (SEB) requirement was in the order of 590ha.

As part of the approvals process, the layout and design of all infrastructure was reviewed. This report details the changes that have been made, the vegetation clearance required and provides options for delivering the SEB requirements for the project.

Further details on the project, the vegetation across the project site and ecology surveys that have been previously undertaken were included in the Public Environmental Report (PER) for the project.

2 VEGETATION CLEARANCE

A number of changes have been made to the design to reduce the impact on native vegetation. In addition to reducing the area required for clearance, the updated design also aimed at reducing the potential indirect impacts of the project on key landscape features and the native vegetation remaining within the site.

The key changes to the project and the design layout include the following:

- Relocation of three holes, associated with the northern golf course, into cleared grazing land;
- Reduction in the number of holes that are close to, or interact with, the lakes system present on site, which have a high vegetation and biodiversity ratings;
- Movement of holes and adjustments to the layout (southern and northern courses) to increase and maximise the size of the remaining areas of native vegetation thereby making them more ecologically viable in the long term and reducing potential issues with habitat fragmentation;
- Maximisation of poorer quality vegetation condition areas across the site for the siting of golf holes (ie. to minimise impact on higher quality vegetation);
- Updating of SEB condition ratings based on further analysis of the site and more detailed mapping;
- Reduction in vegetation clearance from 84ha to 66.37ha (approximately 21%).

Figure 1 details the updated layout and vegetation condition for the Nora Creina Golf Course & Tourism Resort project. Table 1 details the areas of vegetation requiring clearance, the associated SEB scores and the SEB requirements for each element of the project.



Figure 1. Nora Creina Project layout and vegetation condition.

Table 1. Vegetation clearance and SEB requirements for the Nora Creina Project.

Location	SEB Condition Ratio	Clearance Area (ha)	SEB X Score	SEB Offset
7-start villa (South)	0:01	0.24	0	0.00
7-start villa (North)	5:01	0.05	5	0.27
Northern holes	0:01	0.36	0	0.00
Northern holes	1:01	0.11	1	0.11
Northern holes	3:01	2.03	3	6.10
Northern holes	4:01	2.70	4	10.79
Northern holes	5:01	5.99	5	29.95
Northern holes	6:01	2.86	6	17.14
Northern holes	8:01	13.56	8	108.44
3-4 star accommodation	5:01	1.23	5	6.17
Practice green	0:01	0.28	0	0.00
Practice green	1:01	0.31	1	0.31
Practice green	3:01	2.02	3	6.07
Clubhouse	4:01	0.36	4	1.45
Clubhouse	8:01	1.13	8	9.01
Southern holes	0:01	0.32	0	0.00
Southern holes	4:01	4.37	4	17.49
Southern holes	7:01	0.78	7	5.45
Southern holes	8:01	27.03	8	216.25
3-4 star accommodation access track	8:01	0.08	8	0.63
Clubhouse access track	0:01	0.03	0	0.00
Clubhouse access track	8:01	0.38	8	3.04
Retreat	8:01	0.13	8	1.04
Total		66.37		439.71

3 SEB REQUIREMENTS

Based on the updated project vegetation clearance estimates (Table 1), an SEB offset of approximately **439 hectares** is required for the project. This is based on using the standard formula for calculation under the *Native Vegetation Act 1991*.

A proposed method to deliver the SEB for the project is detailed below. Once accepted 'in principle', the necessary management plans and further detail in relation to the delivery of the SEB would be prepared. These plans would then be submitted to the Native Vegetation Council for endorsement prior to the commencement of construction of the project.

There are two components to the proposed SEB to meet the necessary 439 hectares, which are:

- 165 ha offset within the subject land (Figure 2);
- *At least* 275 ha offset within the region through a mix of protection of existing native vegetation and revegetation (Figure 3).

The SEB proposal will involve setting aside the balance of the native vegetation within the subject land (approximately 165 ha).

Appropriate potential options for the delivery of the remainder of the SEB within the surrounding area have been identified, as this will meet the necessary SEB target and allow the Wagyu Beef farm and vineyard to be included as per the original concept.

The 275 ha component of the SEB would require the purchase of land, development of appropriate management strategies and implementation of these strategies. The nature of the required management is unknown as the site(s) have not been finalised. However, initial investigations suggest that there are numerous opportunities for purchasing sufficiently sized areas that are predominantly covered with native vegetation of varying condition.

Once an in-principle agreement has been reached further investigations would be required to identify land suitable for SEB purposes. Part of the selection process to identify the appropriate site (in addition to a landowners willingness to sell), will include:

- Native vegetation areas that are not currently in reserve or Heritage Agreement
- Areas that are adjacent to an existing reserve or Heritage Agreement
- Areas of native vegetation where there is an opportunity to improve condition and biodiversity values
- Areas closer to the project site will be given a higher preference
- Whilst revegetation may be utilised as a management tool, the intention is to identify areas with some level of native vegetation cover
- The intention is to identify one large parcel or two parcels of similar size

Initial investigations by the project proponent suggest that the areas detailed in Figure 3 would potentially be available for purchase as an SEB option.



Figure 2. SEB Offset within the subject land for the Nora Creina Project.

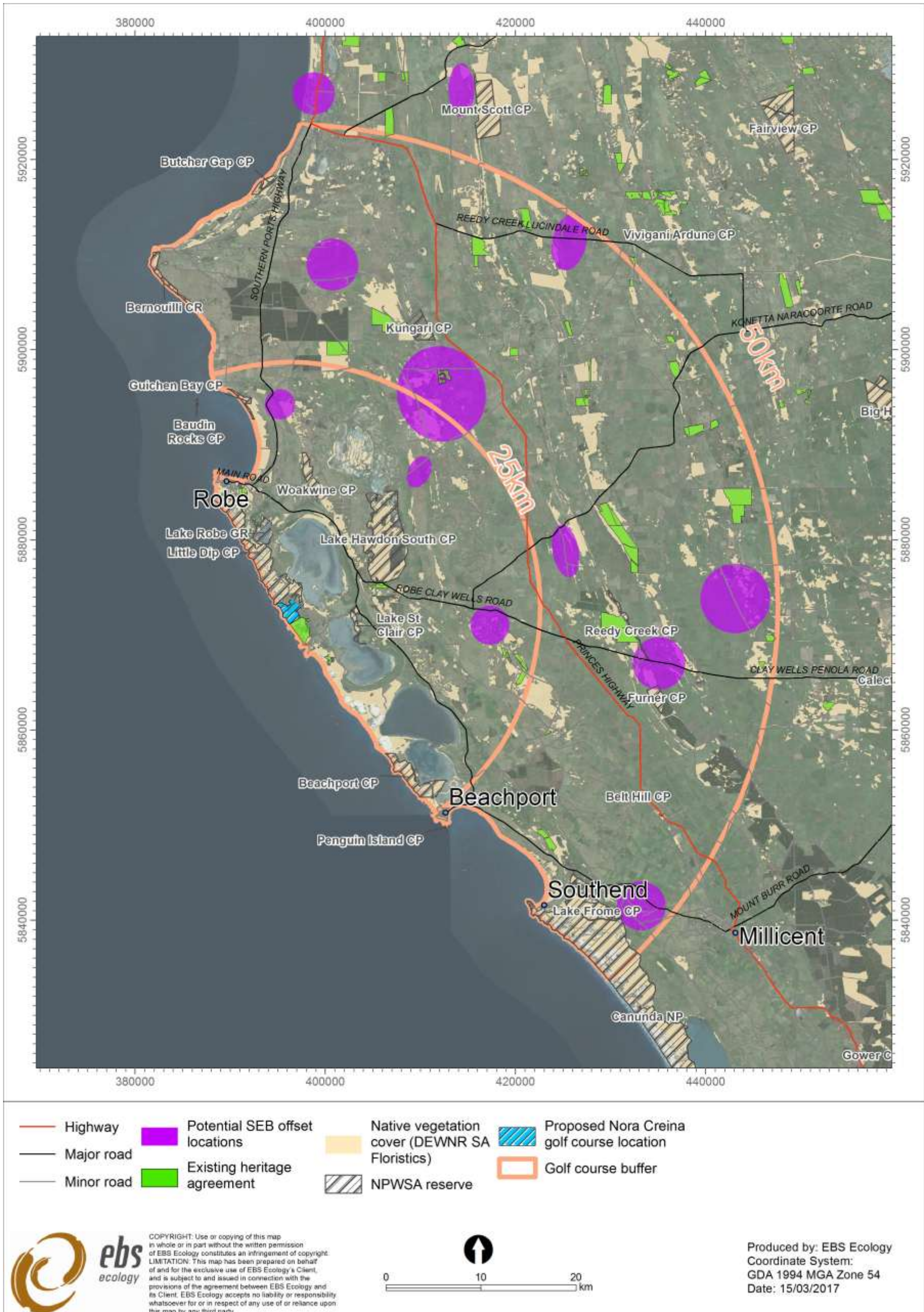


Figure 3. Areas identified as potential SEB areas for the Nora Creina Project.



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From: Schutz, Adam (DEWNR) <Adam.Schutz@sa.gov.au>
Sent: Thursday, 30 March 2017 3:36 PM
To: 'Travis How'
Cc: Reachill, Sarah (DEWNR); justinscanlon21@gmail.com; Mark Baade (markb@skplanning.com.au); 'Damian Scanlon' (damian.scanlon@gmail.com)
Subject: RE: Nora Creina Project [DLM=For-Official-Use-Only]

Follow Up Flag: Follow up
Flag Status: Flagged

For Official Use Only

Hi Travis

Thank you for providing the Vegetation Clearance and Proposed SEB Report for the Nora Creina Gold Course and Tourism Resort development. The follow are comments relating to the Report provided by the Native Vegetation Management Unit (NVMU).

1. The NVMU is supportive of the changes that have been made to the Golf Course layout in order to reduce the overall clearance required and reduce impacts on areas of better condition vegetation. These changes have enable a significant reduction in the overall impact of the development from a vegetation clearance perspective.
2. The NVMU acknowledges that the revised clearance areas and SEB ratios that have been applied in Table 1 of the report have been developed in accordance with Native Vegetation Council Policy 1.2.11. This information has based on desktop analysis and prior on ground vegetation assessment and may need some on ground verification prior to construction to account for any fine scale adjustments.
3. The NVMU agrees that the redesign of the Golf Course layout enables the remaining vegetation to be better consolidated making it more suitable to form part of the SEB.
4. The Report proposes a number of potential SEB offset locations across the region. Given the general nature of the information provided in relation to these proposals, only a general response can be provided. In determining if a site is appropriate as SEB, the NVC gives preference to sites that are in close proximity and of the same vegetation community as the clearance site. However, the NVC may depart from this position when a proposed SEB area is of high conservation significance within the region. This may be based on a range of factors such as the presence of rare or threatened species or communities, a substantial area of vegetation within a highly cleared region, vegetation providing important connectivity within the region or areas connected to or expanding existing protected areas. Accordingly, whilst the proposed SEB offset sites identified within the report are a distances from the clearance site and likely to be of a different vegetation community, the NVC would be able to consider them as SEB sites if it can be demonstrated that they are of high conservation value.

Accordingly, the NVMU provides it's in principle support to the approach that has been outlined in the Vegetation Clearance and Proposed SEB Report for the Nora Creina Gold Course and Tourism Resort development. This will enable the more detailed development of the proposed SEB options, including management plans and associated details, for submission to the Native Vegetation Council for consideration and endorsement.

If you have any questions or comments, please contact me.

Kind regards

Adam Schutz

Coordinator, Assessments and Stakeholder Liaison

Native Vegetation Management Unit | Climate Change Group
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Government of South Australia
Department of Environment,
Water and Natural Resources



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Adam

From: Travis How [mailto:Travis.How@ebservices.com.au]
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Subject: Nora Creina Project

Hi Adam,

Please find attached the updated vegetation clearance and proposed SEB report for the Nora Creina project.

As discussed at the last meeting, there has been quite a reduction in the footprint within native vegetation and the layout has been refined. In terms of the proposed SEB, the proponent is focused on meeting the required SEB area as calculated for the clearance. This has required a change in the proposed SEB offset for the project to ensure this occurs.

Can you please review the attached and provide any feedback as soon as possible (within the next week if that is feasible) so that the proponent can continue working through the other requirements for the project.

If there are any comments or queries, please let myself or Mark Baade know.

Thanks

Travis

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ATTACHMENT C

COASTAL REPORT

BY BRIAN CATON



**COASTAL
PROCESSES
AT
NORA
CREINA**

COASTAL PROCESSES AT NORA CREINA

Brian Caton

July, 2016

Cover photographs of the foreshore at Nora Creina following the storms of early May 2016, by Justin Scanlon.

COASTAL PROCESSES AT THE NORA CREINA PROPOSED DEVELOPMENT SITE

Introduction and Background

Following the public and agency consultation of the Public Environmental Report (PER) for the proposed Nora Creina Golf Course in February 2016 and the feedback received, the proponents have requested an assessment of physical coastal processes at the site, including potential impacts from projected climate change at this location. This work has been undertaken in May and June 2016 by Brian Caton, using published and secondary sources.

This report attempts to consider the sustainability of the proposed Nora Creina development within the context of current and projected changes. The report examines the geology and landforms of the site and adjacent nearshore zone. Wind and wave processes, and the indications of past change in the area are outlined. Projections of the effects due to climate change are summarized and the effects of sea level rise discussed.

Biodiversity, habitat quality and vegetation corridors have not been addressed in this report.

Current coastal processes

The shoreline at the proposed Nora Creina project faces directly on to the Southern Ocean to the south-west: it is exposed to powerful swells and strong winds and to a low tidal range.

Tides

Spring tide range is micro-tidal: 0.9m at Robe and Beachport. Local observation at Robe shows that actual tide times are in close agreement with predictions, but that tide heights may not agree with forecasts. The discrepancies in tide heights are produced by a variety of factors including local winds, variations in atmospheric pressure and periodic oscillations in the level of the Southern Ocean of an order of 1 to 20 days. These variations are sufficient to mean that a beach, or nearshore reef, that is awash at one forecast high tide may not be covered at the next. In this micro-tidal environment, a powerful onshore wind may be as significant in changing local ocean surface height as astronomic tide.

Winds

Records at nearby Robe show that strong south-westerly winds occur throughout the year, but most notably in winter and spring; the dominance of the on-shore south-westerlies is the outstanding feature in the record. In summer and autumn SE winds are also significant, notably in drawing up cold, nutrient rich sub Antarctic water of the Bonney upwelling from beyond the continental shelf.¹

Waves

The only local wave records are visual observations from the lighthouse at Cape Northumberland, (100 km to the SE of the study area) 1957 to 1978. This records the wave climate as high energy: with a long period, SW swell of over 2m occurring on 68% of the year. Low-pressure cells crossing the Southern Ocean, well south of Australia, generate this swell. Superimposed on this regular swell pattern are local waves: 85% of these are below 1m with a relatively short period.

¹ (Cw of Austr.,The South East Regional Marine Plan. Assessment Reports, 2002)

The strong swell waves approach relatively close to the shore between Robe and Beachport due to the relatively steep continental slope gradients. However, the many nearshore reefs and islets attenuate and refract the swell within the surf zone, greatly reducing the wave power at the beach.²

Surfaces: late Pleistocene Robe Range; Holocene sands

The surface form of the subject land, (and south to Beachport and north to Robe), largely depends on the late Pleistocene Robe Range and the partly overlying Holocene dunes. The Robe Range was deposited as a series of overlapping coastal sand dunes between 220,000 and 180,000 BP. Oscillations of sea level and climate led to the induration of the aragonite rich sands to form 'calcareous'. The hardening of the sands was varied: in places calcium rich ground waters barely cemented the sandy soils, elsewhere surface evaporation of soil water formed a rock hard calcrete at an earlier surface. To-day the surface of this calcarenite range is irregular, reflecting its origin as a series of coastal sand dunes.

From 20,000 to 7,000 BP the advancing shoreline of the post-glacial marine transgression carried with it sand-sized sediment grains. These sands were blown up from the shore to form the coastal dunes of post-glacial times. These two surfaces – the Late-Pleistocene calcarenite of the Robe Range and the calcareous Holocene sands of the dunes constitute the nearshore and coastal topography of the area.

Reefs and Headlands

The calcarenite surface of the Robe Range is seen in a series of nearshore small islands, reefs and three headlands. The headlands are low, below 20m in height, as the Robe Range in this immediate area appears slightly lower than at Robe township to the north, where the cliffs reach 25m in height. There are many signs of active erosion here with collapsed calcarenite boulders at the foot of the low cliffs of the headlands. Several reefs are flat topped at low water, where seawater (saturated for lime) slows the erosion of the rock

² Short & Hesp, 1980, p. 10

from solution processes. The physical erosion processes of the waves and the holdfasts of the kelp appear to erode the reefs more slowly below low water than weathering above mean sea level.

The nearshore calcarenite reefs (100m to 500m from the beach) protect the beaches from the high energy of the waves, most notably near Point German. In the north of 'Boundary Beach', as far as the reefs off Errington Hole, and in the north half of 'Southern Beach', gaps between reefs are larger, allowing more wave energy to reach the shore.

Beaches

Three beaches are found in the study area: Boundary Beach in the north, tiny Shelly beach, within the compound headland of German Head, and Southern Beach, running from German Head to the southern edge of the study area. The beaches show medium foreshore slope, although Shelly Beach is reported as being steeper than the other two. The beaches are micro-tidal and do not show extensive nearshore bar development.

Preliminary visual examination of the composition of the beach sands show that all are dominated by calcareous material, though texturally Shelly Beach is coarser than the other two. The Boundary and Southern Beaches show medium to coarse sand, whereas Shelly Beach is comprised of coarse to very coarse sands. There appears to be little mixing of sand between the beaches, suggesting restricted movement of sand along the shore. Vertical and oblique aerial photography appear to support this conclusion, with few signs of littoral drift along the beaches or nearshore bar.

However, the same sources do suggest past foredune erosion, though limited in extent. This was the case recently following the high swell of May 2 and 3, 2016, and the local storms of May 5th. (See front cover). It appears that foredune damage was limited on this occasion to the southern end of Boundary beach. It is likely that wave refraction may have focused some wave energy on this location, but most of the beaches were well protected by the reefs and islands that reduced the wave energy in the breaker zone.

Shoreline alignment and measured rates of recession

The Limestone Coast of the South East experiences relatively rapid change at both its cliffs and its beaches.

Fotheringham (2009) has measured recession of the calcarenite cliffs near Cape Dombey by examining change of position of the cliff edge at over 30 locations in a survey in 1986, to compare with a surveyed Robe town map of 1896. This was a careful work that located the original survey pegs on the ground. The results showed there was great variation in speed of recession, depending on the hardness of the calcarenite, with an average rate of c.7cm/year. The highest rates of erosion were not at the headlands, but in small embayments, leading to the coast becoming gradually more indented.

Further away to the south – east, Gill (1974) has measured erosion rates in calcarenite at Warrnambool averaging 4cm/yr.

To the north, the Coorong beaches between Tea Tree Crossing and 42 Mile Crossing have been shown to be currently in recession: a time series of aerial photographs post 1945 suggests this is of the order of 1m/yr. Recent aerial photograph analysis suggests that erosion of this order has been taking place over the whole of the peninsula.

Re-survey of land division in the Hundred of Duffield shows this has been happening for at least a century³. While the Younghusband Peninsula sand barrier is cored by a calcarenite ‘range’, its variable surface is at or below sea level, offering less protection than the Robe Range at Nora Creina.

Currently the South Australian Coast Protection Board and the Beachport Council are working to reduce the movement of sand during storms at Post Office Rock. Here, in the past, storm surge has caused wave overtopping and erosion of the tombola linking Post Office Rock to the shore. As a result, sand has leaked between embayments from south to north along the coast: serious erosion has taken place at the small embayment south of Post Office Rock, threatening the coast road. The emplacement of a hard rock causeway along the tombola is currently addressing the storm overtopping.

The Post Office Rock situation raises the question of possible alongshore sand movement within and from the project area. There

³ see Caton et. al. 2011, p.453

are two headlands separating 'Southern Beach', 'Shelly Beach' and 'Boundary Beach', and a further headland at the northern end of the study area near Errington Hole. The headlands are relatively large composite features cored by calcarenite, and at or above 10m in height. It appears unlikely that either wind on a dry beach, or waves in a storm, would cause beach sand to leak from one beach to another. Thus longshore movement would be confined to nearshore bars. Vertical and oblique aerial photos do not show extensive bar development along this coastline, where multiple reefs and islands break up the actions of shoaling waves. Also there is not marked accretion at one side of the calcarenite headlands, suggesting little net longshore sand movement.

Remaining fencing (probably from the 1980's) separating Crown coastal reserve and privately held land was not compared with original survey maps to show recession along the shore, as a re-survey on the ground or air photo rectification could well be needed. However, it does appear that the boundary fence is generally close to the shoreline and this distance is variable.

Dunes

Almost all of the study area is composed of Holocene dunes of variable depth to the Pleistocene calcarenite of the Robe Range. These dunes are functionally linked to beaches, but are also perched as cliff-top dunes on the headlands. Between Beachport and Robe these dunes extend in places over 2.5 km in width; at the Nora Creina study area they are between 1 and 2 km across. Both vegetated and unvegetated transgressive dune forms are seen, though most (approximately 80%) of the project area is vegetated

The dune complex between Robe and Beachport including the project area has shown instability for at least 200 years, and probably much longer than that, as indicated by the repeated transgressive parabolic dune forms. The Coast Protection Board Morphodynamic and Engineering study⁴ estimate that in the last 6,000 years $5,255 \times 10^3$ cu.m. of sand has been moved onshore by littoral transport and by dune movement.

⁴ Short and Hesp, 1980 p.10

Historical record shows that European farming has had a sharp impact on the dunes in this area. For example, the dunes immediately north of Beachport had cattle grazing introduced in the middle of the 19th century⁵. The effect of grazing was to remove the vegetation sufficiently to mobilise large areas of dune, causing sand to move landward, closing the Robe to Beachport coach road by the end of the century, and then advancing into Lake George. Using aerial photographs Armstrong was able to track the still advancing sand fronts through the 1950's and 60's at speeds of 7 to 9m/yr. into the lake. Plantings in the 1990's have slowed this movement.

The time series of aerial photos contained in the PER shows that much of the dunes within the Nora Creina study area was de-vegetated by the 1970's, with active sand movement directly inland from the coast taking place. Short and Hesp suggest this was due to grazing with only a small contribution from other causes. De-stocking, fencing, and planting effort in the 1980's is shown by the aerial photography to have quickly covered much of the dune surface.

Within the coastal dunes damage to the vegetation cover occurs naturally, usually by storm damage to foredunes initiating blow out development. Strong onshore winds move the de - vegetated sand landward burying downwind vegetation. Where there is sufficient rainfall the bare sand will be colonised by invasive ground covering plants. This area colonized by grasses and herbs will in turn be colonized by shrubs, other grasses and sedges. Thus within natural dunes there is a diversity of plant species, in part reflecting previous damage to the plant cover. In the past, attempts to stabilize dunes using fast growing species have reduced species diversity and hence habitat value; thus parts of the NE coast of Tasmania have been stabilized to a monoculture of marram grass. In the 1950's Bowman's Farm at Rivoli Bay served as a marram nursery, producing plant material to repair damaged coastal dunes.

This process of damage and recovery takes decades, but modern pressures reduce the chances of mature recovery occurring. In the South East grazing is now uncommon in the dunes, but off-road vehicles (especially 4WD and quad bikes) have increased in number

⁵ Armstrong, 1977

for many years. The recreational use of these vehicles causes clear physical damage to plants, and – like stock – they bring in and spread weeds. Other pressures on the dunes include rabbits and plant disease, together with the on-going threats of fire and drought. In the study area the landholder reports that 4WD vehicles moving along the beach from the neighboring Little Dip Conservation Park commonly access the dunes, causing damage.

Climate Change

“Coastal regions are vulnerable to sea level rise, increased sea surface temperature, increased storm intensity, change in storm frequency, ocean acidification and changes in rainfall, run off, wave height, period and direction, and ocean currents”
(National Climate Change Adaptation Framework, COAG, April, 2007)

Within the context of international agreements on climate change, Australian Federal, States and Local Governments have adopted actions and policies to adapt to projected changes and to reduce emissions of greenhouse gases. In South Australia development within the coastal zone is required to consider allowance for a 0.3m sea level rise by 2050 and a 1.0m. rise by 2100.

This report attempts to consider the sustainability of the proposed Nora Creina development within the context of current and projected changes.

Temperature and Rainfall

Australia’s average temperature has risen 0.9°C since 1950. South Australia’s average temperature has increased by 1.2°C, slightly faster than the national trend. Temperature projections clearly show a warmer world: annual temperatures are projected to increase to between 0.6 to 1.0°C by 2030 and 1.5 to 2°C by 2070⁶, and these changes are almost uniform throughout the year. Ocean sea surface temperatures show a similar trend 1⁰ to 1.5°C by 2070, with

⁶ CSIRO 2007 technical report 5, pp. 67 to 68

moderating effect in terms of seasonal variation. Subsequent updated projections for South Australia have not altered this trend.

Trends in South Australian annual rainfall are generally weaker than in other parts of the continent: the southern coastal regions have experienced a slight drying trend since 1950. Rainfall projections are more uncertain than temperature, but suggest a drying trend, with 10 – 20% less rain by 2070.

Projections show most extreme rainfall events will be less frequent, but locally more intense.

Sea Level Rise

Current Measurement

Global sea level rose 17cm from 1900 to 2,000; from 1950 to 1993 the average was 1.8mm/year, since 1993 the rise has averaged 3mm/year. This rise and its acceleration correspond with the upper limit of the series of IPCC projections since 1991. All Australian coasts show sea level rise but with variation from place to place; South Australia shows slightly higher rises than much of the Australian coast and the average recently as reported by the National Tidal Facility of the Bureau of Meteorology for South Australia has been 4.5 mm/yr.

Projections of sea level rise

There have been a number of internationally recognized projections over the last decade.

IPCC 2007: projected to be 18 to 59 cm at 2100, with possible additional contributions from ice sheet melting of 10 to 20 cm.

Allison et. al. The Copenhagen Diagnosis, 2009: this projected higher rises, to 140cm by 2100.

IPCC, 2014: 0.28m. to 0.95m. by 2100.

CSIRO 2015: median projected sea level rise relative to 1986 – 2005:
2030: 0.12m to 0.13m; 2090: 0.29m to 0.81m.

All of the above projections depend mainly on calculation of thermal expansion of the oceans following global temperature rise. They have

not included more than a notional contribution from the melting of land-based ice at Greenland and Antarctica. Melting of land-based ice at the poles is currently under amendment by IPPC: recent measurements of polar ice melting (for example Hansen et.al. 2016) will reinforce confidence in future projections. South Australian State Policy on Planning and Sea Level Rise is based on the IPCC Workshop 2 report of 1991. (The policy has been reviewed and remains unchanged).

Sea level rise will affect the Nora Creina shoreline in 3 ways: -

(i) The rise in mean water level will tend to move sand offshore, leading to shoreline retreat. The headlands will tend to erode more slowly and beach retreat will tend to be greatest at bay midpoint, making the coast more indented. It is not possible to calculate speed or detail of change of bay shape, as neither nearshore bathymetry or surface form of the Robe Range have been mapped.

(ii) The rise in mean water level will allow more wave energy to overtop the reefs and reach the beach: foredune cut will increase during storms, leading to shoreline retreat and threatening increased blowout initiation and dune erosion.

(iii) Examination of the frequency curves of long-term tide gauges show that even modest sea level rise will mean that sea level events that were previously very rare will become commonplace. Thus, for example, the '100 year' storm level as recorded at many tide gauges, with a 0.5m sea level rise becomes a storm level with a 2-year return period, (Church et al 2006).

In summary, the climate record at Nora Creina shows the area is gradually warming, becoming slightly drier, and sea level rise is accelerating. Climate change projections by the IPCC and the CSIRO suggest acceleration in these existing trends, and that agreement on the scale of change appears stronger on mean temperature change than rainfall or sea level rise. All models show rate of sea level rise increasing.

Management Implications of current and projected coastal processes

Management aims depend on use: at Nora Creina the aims are the stability of the shoreline and dunes.

In general terms the response to dynamic physical coastal processes should be vigilance. Sea level rise at all predicted amounts will increase storm damage to the beach and dunes. Climate change is bringing warmer and dryer conditions. Many of the coastal dune plants of this area are also found in warmer and drier conditions on the west coast of the state, although their propagation and growth is slower.

Shoreline erosion should be monitored: -

- (a) Maintain a photographic record of the impact of storms on foredunes and also on eroding headlands.
- (b) Erosion of embayments should be recorded using stable beach and foredune marker posts and photo points.

Dune stability should be addressed by vigilantly seeking to maintain vegetation cover to prevent blowout initiation and growth. This would involve vehicle and pedestrian control, also rabbit and fire control. Current management suggests 4WD access from beaches to the north is a significant source of damage. This could be addressed by a fence at the beach and headland at the southern border of Little Dip Conservation Park; a matter that would involve agreement of the landowners, Parks & Wildlife and the Robe Council.

Maintenance of dune stability may well become more difficult over time as a dryer and warmer world would slow natural recovery from blowouts and encourage weed invasion.

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ATTACHMENT D

AGENCY SUBMISSIONS

NORA CREINA GOLF COURSE AND TOURISM RESORT PER – STATE AGENCY WHOLE-OF-GOVERNMENT COMMENTS (March 2016)

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
Flora						
1	Native Vegetation and Fauna, pp 31-36, Appendix L	5.3.2-5.3.10	<ul style="list-style-type: none"> Poor reflection and interpretation of baseline data in main PER document and no mapping of proposed areas to be cleared Insufficient consideration of potential impacts, both clearance and degradation Insufficient SEB detail provided PER does not demonstrate consistency with the Little Dip Spider Orchid Recovery Plan, as required by the EPBC Act, 1999. 	<p><u>Flora and vegetation communities</u></p> <p>The Public Environmental Report (PER) repeatedly characterises the vegetation as being poor condition regrowth that is heavily impacted by weed invasion and a long history of disturbance. This statement contradicts the detailed vegetation assessment completed by EAC Pty Ltd which identified 8 different vegetation associations and found that the associations were generally in either good or very good condition. This included identifying 95 native species present which was considered to be very high for this location. There were 41 weed species recorded, however they were in relatively low cover throughout all vegetation associations. Additionally, the EAC report found one nationally listed - Little Dip Spider-orchid -and four state listed - Dune Fanflower, Squat Picris, Spiny Spear-grass and Sticky Daisy-bush - flora species present on site and suitable habitat to one nationally listed (Orange-bellied Parrot) and four state listed (Hooded Plover, Swamp Wallaby, Swamp Antechinus and Swamp Rat) fauna species.</p> <p>Of note is the consistency in vegetation communities identified on site and present in the neighbouring Little Dip Conservation Park; highlighting the high conservation value of the site. Both the EAC Report and the Heritage Agreement report found that the area of vegetation is significant in size (240 ha) for this region and provides a vital link between an existing Heritage Agreement area to the south and the Little Dip Conservation Park to the North.</p> <p>Vegetation on site is noted as having recovered over a significant period of time (over more than 30 years) and to such an extent that it would now likely be considered as “intact” vegetation under the Native Vegetation Act 1991. This is further supported by the fact that in 2011, the Native Vegetation Council (NVC) approved an application for a Heritage Agreement over approximately 187 hectares within Allotments 200 and 202. The Heritage Agreement report that was presented to the NVC found that the plant species diversity was high, that the vegetation was largely intact and no major weed problems except for Aleppo Pines.</p>	<p>Proponent is to address guideline requirements and obligations under the <i>Native Vegetation Act, 1991</i> such as determining SEB requirements for the site. This requirement was previously highlighted during DEWNR’s review of the Draft PER in November 2015.</p> <p>Proponent has not addressed their obligations under the <i>National Parks and Wildlife Act, 1972</i> i.e. the potential for listed species to occur on site. As listed flora have already been identified, the Proponent is required to determine the level of impact to listed species from the development. Inclusion of vegetation mapping, noting clearance and disturbance areas is also recommended. This requirement was previously highlighted during DEWNR’s review of the Draft PER in November 2015.</p> <p>DEWNR has provided an indicative Scope of Work to DPTI to guide the Proponent in achieving the requirements of guideline 5.3.2-5.3.10. This includes requirements for an SEB under the <i>Native Vegetation Act, 1991</i> and also details to achieve a suitable baseline fauna assessment.</p>	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
				<p>The PER suggests that that the development of the golf course will have either a negligible impact on native vegetation or possibly even positive impacts. In particular, the report suggested that the development of the golf course would be considered a low intensity recreational use, the main built form to occur on the existing cleared farming land (contrary to the visual depiction provided on the masterplan which shows the development, with the exception of one hole, throughout the area of native vegetation) and that there will be an improvement in connectivity in the landscape, regardless of what would be classified as substantial clearance of vegetation. These statements contradict the technical reports provided with the PER and as such are unsubstantiated and scientifically invalid.</p> <p>DEWNR notes the following potential for ongoing negative impacts on the native vegetation due to the development of the golf course, including;</p> <ul style="list-style-type: none"> • significant fragmentation of the vegetation • loss of connectivity in landscape • increased potential weed invasion, particularly of invasive grasses such as Pyp Grass (<i>Ehrharta villosa</i>) which are currently restricted to the edges of the tracks. • potential to increase nutrient levels through the application of fertilizer to the fairways and greens, • the introduction of invasive exotic grasses for the fairways and greens • potential increase in abundance of herbivores (e.g. rabbits, kangaroos and wallabies) due to the irrigated fairways, • possible changes in groundwater levels due to irrigation • potential erosion from the removal of native vegetation. <p>Review of the PER notes that the potential impacts noted above have not been addressed sufficiently to determine potential impacts of the proposal.</p> <p>Further, the total extent and size of the impact on the vegetation completely lacks detail, rigor and supporting information, making an assessment of the likely impacts extremely difficult.</p> <p>From a native vegetation clearance perspective the Proponent must firstly demonstrate that reasonable steps have been undertaken to minimise and mitigate the impacts as much as possible. Clearance should occur within areas already cleared, or more degraded or in areas not containing matters of conservation significance. Limited evidence has been provided within the PER to demonstrate that such steps have been taken as part of the planning of the golf course. For example, there appears to be cleared land between the vegetated dune system and the proposed vineyards that could</p>	<p>The PER must provide significantly more and properly supported information regarding likely impacts. In particular, there needs to be clear delineation of all the areas of native vegetation that are likely to be impacted, the condition of that vegetation and the matters of conservation significance located within those areas (e.g. threatened species). In addition, further information regarding mitigation of impacts such as edge effects and other impacts is required.</p>	

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
				<p>accommodate a number of holes. This would reduce the amount of clearance required. No evidence has been provided to explain why this is not a reasonable alternative.</p> <p>Secondly, this information is required in order to determine the appropriate Significant Environmental Benefit (SEB) as per the <i>Native Vegetation Act, 1991</i>, in order to offset the impacts of the development, and, as per PER Guideline 5.3.9. The development currently proposes a clearance footprint of approximately 60 to 75 hectares, based on the masterplan. Given the quality of the vegetation as described in the EAC Report and depending on the final layout of the development, this could result in an SEB obligation in the order of 360 to 600 hectares. The PER provides some general discussion regarding a possible 'set aside' area. However, the amount of details provided is very limited and the two areas that are discussed are only 25.25 ha in size in total. Insufficient information has been provided to date to satisfy the Proponents obligations under the <i>Native Vegetation Act, 1991</i> and the guideline requirements.</p> <p>The PER states that uncleared vegetation within the dune system may be subject to a Heritage Agreement as a means of satisfying SEB requirements. However, given the levels of fragmentation of the vegetation that will occur as a result of the development and potential on going impacts, it is unlikely the areas would be considered suitable as either a Heritage Agreement or as an SEB under the <i>Native Vegetation Act, 1991</i>.</p> <p>Regardless of potential onsite heritage agreements or SEB's, based on the current proposal, the SEB requirement for the development is likely to be in excess of what can be achieved on the property itself. Under Native Vegetation Regulation 5(1)(c), the alternative to providing an SEB on the property of the Development is to make a payment into the Native Vegetation Fund.</p> <p>The PER references the following document in relation to planning for the 'set-aside' area; <i>Guidelines for a Native Vegetation Significant Environmental Benefit Policy</i> (DWLBC 2005). This document is relevant to the Mining and Petroleum industry under Native Vegetation Regulation 5(1)(zd), not a Major Project under Native Vegetation Regulation 5(1)(c).</p>		

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
				<p><u>Wetlands</u></p> <p>The wetlands found on the site have been assessed through a wetland inventory process run by DEWNR in 2008/2009. At that time the wetlands found on the property (Dolly Lake, Pud Lake, Errington Hole, Karinya Wetland and Waterhouse Wetland) were all assessed as having high ecological value.</p> <p>The wetlands are described in the PER as being part of the area set aside for conservation, potentially as part of the required SEB. The vegetation fringing these wetlands (especially silky tea tee and cutting grass habitats) are relatively rare in the region and recognised on the Provisional list of Threatened Ecosystems of South Australia (DEH, 2001). In line with the requirements of the NVC, these areas are of such a high quality that they would be considered unsuitable as an SEB as there is no means for the Proponent to significantly improve the areas.</p> <p>The plan for the green layout shows greens and fairways situated very close to two of the wetlands, Errington Hole and Dolly Lake. The Proponent has not demonstrated in the PER how they intend to protect the wetlands including measures to manage runoff and nutrient input into wetlands and also the potential from direct human impacts. .</p>	As per standard wetland conservation practice, wetlands should be buffered from developed areas (by maintenance of native vegetation buffer or by revegetation) to improve filtration of surface water runoff into wetlands and to provide additional cover and habitat for fauna species	
2	Native Vegetation and Native Fauna, pg. 36, Construction and Operation, pg. 61 & PER Guideline 5.3.4	5.3.4	Non-compliance with guideline	The PER defers detailed consideration of construction and operational impacts to the Construction Environmental Management Plan (CEMP) and Environmental Management and Monitoring Plan (EMMP), in addition there is continuous reference to future actions/approvals and plans. At no time does the PER provide an indication as to what stage of the process the plans will be developed and where the plans fit in the overall approval process, for example will they be assessed by agency staff and what content will they include.	The PER should provide a better understanding of potential mitigation of environmental impacts. An understanding of the content of the CEMP and EMMP would also be preferable for example where water quality will be dealt with or irrigation management requirements. This was also noted during DEWNR's review of the Draft PER in November 2015.	B
3	Appendix M, GHD Report, 2.5, pg. 5	5.3.26	Non-compliance with the guideline	The PER states there is the potential for indirect and direct impacts but does not state what they would be and defers details to the CEMP .	Main PER document broadly outlines the potential impacts, as per the guideline (management details can be deferred to CEMP). This requirement was highlighted during DEWNR's review of the Draft PER in November 2015.	B

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
	& main PER document, Effects on Coastal Wetlands, pg. 38					
4	Appendix M, GHD Report, 2.6, pg. 5 & main PER document, Impacts on Conservation Values of adjacent land, pg. 38	5.3.27	Non-compliance with the guideline	The PER states there is the potential for indirect impacts on Lake Eliza but does not state what they would be and defers details to the CEMP. These sections also identify the potential for increased weed invasion into Little Dip Conservation Park and the Heritage Agreement to the south, and flags weed controls, but defers details to the CEMP and OEMP	Main PER document to provide an analysis of potential impacts in line with content of technical appendices.	B
5	Appendix M, GHD Report, 2.7, pg. 6 & main PER document, Impacts on Coastal Habitat, pp. 38 & 39	5.3.28	Non-compliance with guideline	The GHD Report identifies that the coastal dune habitat would be significantly fragmented for approx. 2-3km - which is downplayed in the main PER document – and identifies that ground-dwelling mammals would potentially be most affected. The PER claims, on the basis of a search of the EPBC Protected Matters database (but not fauna survey), that this is a 'manageable environmental issue'; which is insufficient information on which to base an assessment of impact.	Main PER document identifies the impact on the habitat value of on-site native vegetation that provides a wildlife corridor along the coast, as per the guideline. Proponent to consider a fauna survey to provide a scientifically robust baseline in order to qualify impacts.	A
6	Appendix M, GHD Report, 4.3, pg. 12 & main PER document, Groundwater and Site Contamination, pg. 43	5.3.36	Editorial	These sections describe the potential for Groundwater Dependent Ecosystems (GDEs), which are also relevant to native vegetation and fauna assessment and reporting.	For completeness, the impacts on the native vegetation and fauna of the groundwater-dependent permanent coastal springs and saline wetlands (e.g. Pud Lake, Errington Hole Lake, Dolly Lake, Karinya) should be considered and identified in the Native Vegetation and Fauna section.	C
7	Appendix M, GHD Report, 4.9, pp. 16, 17	5.3.39	Non-compliance with guideline	The GHD report identifies that agricultural pollutants and sediments have the potential to impact the coastal lakes, but not what the potential impacts would be, nor proposed mitigation measures.	Main PER document to provide details of the potential impacts on the underlying groundwater from nutrients and chemicals leaching from the golf course and vineyard, as per the guideline	A

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	& main PER document, Groundwater and Site Contamination, pg. 42			The main PER document simply defers to the GHD report, hence this guideline has not been addressed.		
8	Appendix M, GHD Report, 4.11, pg. 17	5.3.41	Non-compliance with guideline	<p>This section states:</p> <p><i>“Refer to all other sections of this report which provide measures for environmental management of the site”.</i></p> <p>However, in at least the examples above, this has not occurred.</p>	Main PER document to identify and describe the impact avoidance, minimisation and mitigation measures and their effectiveness, as per the guideline	
Threatened flora						
9	Native Vegetation and Native Fauna, pg. 35	5.3.10	Recovery plan not specifically addressed.	<p>It is encouraging that the Proponents have followed agency advice to undertake a more intensive survey for the Little Dip Spider Orchid. During this survey, the species was discovered to be found at one location, with about 100 individuals growing under non-local native species established at the site. This is not unexpected as the site occurs as part of continuous coastal vegetation with known populations found in Little Dip Conservation Park to the north and in the Heritage Agreement directly south of the property. The Little Dip Spider Orchid has been found at other locations in the Robe area growing amongst revegetation areas of predominantly exotic plants.</p> <p>The PER states:</p> <p><i>“These considerations are not expected to be inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans, including the respective Recovery Plans for the Little Dip Spider Orchid.”</i></p> <p>This statement is unsupported when considering potential impacts (identified below) from the proposed development.</p> <p>Threats to the Little Dip Spider Orchid (as per recovery plan)</p> <ul style="list-style-type: none"> • Vegetation clearance and fragmentation. Clearance for intensive coastal development, leading to fragmentation and isolation of sub-populations - potential significant impact. • Environmental weed invasion - potential significant impact (e.g. increased edge to area of habitat; increased fertilizer and spray use). • Grazing. Grazing by rabbits threatens some sub-populations in the Canunda region; Grazing by Western Grey Kangaroo (<i>Macropus</i> 	<p>The following is requested:</p> <ul style="list-style-type: none"> • Demonstrate that the proposed development would not contribute to existing threats to the Little Dip Spider Orchid. The recovery plan outlines a number of threats to the species which could each be addressed to answer this. • Include information about the preferred habitat of the species and the proposed impact of the development on the preferred habitat of the species. • Include more detail on the proposed approach to managing the discovery of further populations, for example, detailed surveying of all areas immediately prior to disturbance of native vegetation would be prudent, given the density of the vegetation at the site. • Include an outline of a program of regular monitoring, in line with recommendations in the Recovery Plan 	A

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				<p><i>fuliginosus</i>) has the potential to be a problem in the Nora Creina area - potential significant impact because of likely increases in herbivore numbers.</p> <ul style="list-style-type: none"> • Site disturbance. Visitor impacts from recreational vehicles (e.g. four-wheel drives and motorbikes) and pedestrian traffic - potential significant impact through increased numbers of people and their cumulative impacts. • Illegal collection. Collecting of the species by plant enthusiasts is considered a moderate threat because the Little Dip Spider Orchid is an attractive species with many easily accessible sub-populations - potential impacts through increased opportunity for visitors to encounter, and potentially remove, orchids. <p>A program of regular monitoring, in line with recommendations in the Recovery Plan, would also be useful in providing data about the trajectory of the population over time. Low pollination rates limit reproduction of the species which is pollinated by native wasps and it is unclear if there would be any impact from the pesticides associated with golf course green maintenance on native wasp populations.</p>		
Fauna						
10	Native Vegetation and Fauna, pp. 31-36	5.3.11-5.3.20	<p>No background search or on-ground fauna assessment to determine occurrence or likelihood of common and threatened species.</p> <p>Insufficient assessment of impacts to fauna species.</p>	<p>The PER claims the proposed mitigating actions are expected to result in all species and communities affected by construction and operational activities recovering or contributing to a net environmental benefit. This claim is unsupported; as discussed below.</p> <p>No fauna surveys have been undertaken at the site in the development of the PER to establish a good baseline to adequately measure impacts or mitigation measures. The BushRat survey completed by EAC (under the requirements of the NV Act) noted the lack of previously surveyed fauna sites on both the property and in surrounding areas; making it difficult to predict the number of fauna species likely to utilising this property for habitat.</p> <p>As such it is unclear where sensitive species, such as wombats, are located on the property and in what numbers. No information is provided in the PER to indicate how these species will be managed (monitored, relocated or destroyed) or what processes will be followed to facilitate this. The PER also makes statements about Orange-Bellied Parrots (OBPs) that are not supported by the literature; as per the specific comments below.</p> <p>The National Parks and Wildlife Act 1972 is not referenced in the PER. The</p>	<p>A suitable fauna survey is undertaken and additional detail is provided, in line with the guidelines, to assess the impact of development on fauna species (native and introduced). Details regarding impact minimisation and management are also required in order to meet obligations under the <i>National Parks and Wildlife Act, 1972</i>.</p>	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
				Act provides for the conservation of South Australia's flora and fauna species. The state-wide datasets have records for approximately 50 species of fauna located on the property, including the Common Wombat, Musk Duck, Sooty Oystercatcher and the Swamp Antechinus which are all listed threatened species under the Act.		
11	Native Vegetation and Fauna, pg. 32 and 34	5.3.20	Unsupported statement	<p><i>"The plantations are often characterised by Norfolk Island Pine, Cypress Pines, Tuart Gums, among others, and are in varying degrees of condition and vigour. It was recommended to retain at least the larger trees as interim tall habitat structure (except spreading weeds), especially as roosting habitat for the Critically Endangered Orange-bellied parrot. This latter species may use this area in its winter migratory route between Tasmania and SA."</i></p> <p><i>"As noted above, there are no tall native trees existing within the disturbance footprint of the proposal. However, where possible taller exotic planted trees will be retained as roosting habitat for the Critically Endangered Orange-bellied parrot."</i></p> <p><i>"Taller roosting or resting habitat for the migratory Orange-bellied Parrot is only provided on site by exotic plantations of introduced species including Aleppo Pine (or other Pinus sp.), Norfolk Island Pine, Cypress Pines, and Tuart Gums (no taller native trees occur within the disturbance footprint of the proposal). Hence most of these will be retained to help maintain suitable habitat for this species, consistent with its National EPBC Act Recovery Plan."</i></p> <p>Roosting habitat important for OBPs is (a) night-time roost sites usually in protective cover of densish low shrubs (Acacia, Myoporum, and the like, and including boxthorn) – not day-time perching roosts which may be envisaged in the above statement; these also tend to be nearer the ground in shrubs rather than trees.</p> <p>OBPs prefer to feed on seeds of herbaceous plants on, or near, the ground and on low shrubs. Hence, rank, low open vegetation of grasses and herbs, including weedy species, rather than manicured grass, is favoured by OBPs when feeding. They prefer to roost in dense (shrubby) low vegetation cover.</p>	Amend statement accordingly	A
12	Native Vegetation and Fauna, pg. 33	5.3.20	Unsupported statement	<p><i>"The inland wetland areas appear to be in good condition and have a higher biological value than the remainder of the area and it is recommended they be protected from feral pests, weed invasion and significant disturbance. However, they could be managed within the context of sensitive eco-tourism activities (e.g. bird watching, board-walks/hides, kayaking)."</i></p> <p>Such ecotourism activities could impact wetland species. Species of</p>	Amend statement accordingly	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
				particular significance or concern include Painted Snipe (EPBC Endangered), The Australasian Bittern and southern subspecies of Swamp Antechinus are currently within the nomination process for listing under the EPBC Act and should be considered as part of the PER.		
13	Native Vegetation and Fauna, pg. 34	5.3.18	Unsupported statement	<p><i>“Important mitigating considerations or actions that are expected to result in all species and communities affected by construction and operational activities on site recovering and contributing to a “Significant Environmental Benefit”</i></p> <p>This statement is not supported by the technical studies completed for the project and contained in Appendix L. In addition there is no known scientifically valid data that would support this conclusion.</p>	Review technical data and update the PER to align with scientific outcomes.	A
14	Native Vegetation and Fauna, pg. 35	5.3.12, 5.3.20	Unsupported statement	<p><i>“Once completed, the golf course will be maintained as exotic low grassland for greens and fairway – this in itself will maintain habitat connectivity and still have important open habitat value for native fauna, including as open feeding area for the Endangered Orange-bellied parrot and other species.”</i></p> <p>“Rough” grassland may suit OBPs as feeding habitat. However, edge effects and an increase in other herbivores needs to be considered along with this statement.</p>	Review technical data and update the PER to align with scientific outcomes.	A
15	Native Vegetation and Fauna, pg. 35	5.3.17	Non-compliance with guideline	<p>The PER does not outline native fauna likely to interact with the golf course (such as kangaroos, wallabies, wombats and possums) and how they would be managed, as per PER Guideline 5.3.17</p> <p>Kangaroos, wallabies and wombats in particular are likely to have potentially large impacts on the condition of grassed areas if not managed appropriately (as noted in golf courses throughout Australia).</p>	Fauna survey is required to determine existing populations as a means of providing appropriate management measures during both construction and operation.	B
16	EAC Report & Native Vegetation and Fauna, pg. 34	5.3.11	Conservation status of Swamp Antechinus and Swamp Wallaby	<p>The EAC Report identifies that the <i>Garnia trifida</i> sedgeland provides suitable habitat for the Swamp Antechinus (<i>Antechinus minimus</i>) and Swamp Wallaby (<i>Wallabia bicolor</i>), and the main document states that the wetland is intended to be set-aside.</p> <p>It should be noted that Swamp Antechinus is about to be listed as Vulnerable under EPBC Act, whilst the Swamp Wallaby is actually increasing in both abundance and range within SA and, in recent State status assessments has been recommended for de-listing</p>	Assess impacts accordingly	A
Pest plants and animals						

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
17	Native Vegetation and Fauna, Marine Environment, Construction and Operation	5.3.8, 5.9.7	Non-compliance with guidelines	<p>PER Guideline 5.3.8 requires consideration of the effects of weeds and human habitation on native vegetation before and after construction, and PER Guideline 5.9.7 requires a description of management strategies to prevent the introduction of pest species during construction and operation.</p> <p>However, the PER has not addressed these guidelines as follows:</p> <ul style="list-style-type: none"> • There is no baseline or desktop survey, or description, of pest animals and their potential impacts on the existing ecosystem or the potential for exacerbation of current impacts as a result of the project • The PER states that invasive weeds such as African Boxthorn will be controlled in remaining vegetation but does not clarify how that will be undertaken, particularly as vegetation is very dense and the use of broad spectrum weed killers could negatively impact native vegetation. • There is no consideration of potential for current common species to become overabundant due to changes in the ecosystem arising as a result of the development. <p>The PER states that there will be weed and pest controls, including procedures to prevent the transfer of weeds, pests and pathogens onto the site via plant, equipment and people but defers the documenting of these controls to the construction and operational environmental management plans.</p>	PER to determine the impacts and proposed management strategies (the management actions can be deferred to the CEMP and OEMP)	A
Coast and marine						
18				<p>The Robe Range dunes of Nora Creina are transgressive dunes. These move landwards and bury whatever lies behind. Movement occurs where there is no foredune or where it has been destabilised. When active these dunes are bare and highly unstable and can move hundreds of metres to kilometres inland until revegetated and stabilised again. The Historical Aerial Photos included in Appendix H of the PER show clearly the capacity for sand dune drift in this location and in recent history. This is contrary to the Proponents statement that the perpendicular nature of the dunes is a result of previous clearance and disturbance.</p> <p>Coastal dunes are classified into two types: regressive and transgressive. Regressive dunes build seawards on a prograding shoreline – one that is growing outwards or seawards. As the beach builds seawards, a series of foredunes paralleling the shoreline are left behind, marking the seaward movement of the coast. This is well demonstrated by the foredune ridges of Rivoli Bay. There the foredunes are generally vegetated and stable.</p>	Proponent to provide further information regarding management of potential erosion. DEWNR had previously highlighted the requirement for this information during the Departments review of the Draft PER in November 2015.	

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				<p>Transgressive dunes and areas of sand drift are natural coastal features and are rarely associated with a human cause (Short and Woodroffe 2009). Generally they pose no threat and evolve naturally, except when they are impacting on human development or infrastructure.</p> <p>Short and Hesp (1984) made a comparison of historic aerial photographs of this location, confirming significant transgressive dune movement in the period 1945-1975, with extensive movement of individual lobes of sand, threatening the lakes, and some internal revegetation and partial stabilisation also occurring. This natural revegetation and stabilisation noted by Short and Hesp has continued to today, with only minor foreshore blowouts any evidence of the extensive drifting sand seen only decades ago.</p> <p>The Proponent is advised that the subject land is at risk from future sand drift hazard. It is expected that the risk of the dunes becoming unstable could increase as a result of increased aridity due to predicted climate change and increasing sea levels impacting on the foreshore. The entire golf course and associated development lies within an active dune system, putting it at risk of future sand drift.</p> <p>The PER generally recognises potential impacts on the marine environment (and the marine park) and hence addresses guidelines 5.3.29 -5.3.32. Appendix M adequately describes the potential threats to the marine environment posed by the construction and operation of the proposal. Provided wastewater, stormwater and irrigation is appropriately managed, the proposal is not likely to impact Marine Park but Proponent needs to address compliance with the Marine Parks Act, as per PER Guideline 5.1.5.</p>		
19	Subject Land and Locality, pg. 4		Inconsistent statements	<p>The PER states:</p> <p><i>“A Marine Park has recently been declared along the entire extent of the coastal interface of the subject land, with a Habitat Protection Zone intended to be in place by October 2014.”</i></p> <p>This contradicts what is said about the marine park and zone on p. 3 of the PER. The marine park zoning came into effect on 29 March 2013.</p>	The sentence on p. 4 be re-written in the present tense. <i>‘...with the area of the marine park adjacent to the resort zoned as a habitat protection zone.’</i>	C
20	Planning and environmen	5.15	Non-compliance with guideline	As per previous comments provided, the PER has not addressed PER Guideline 5.1.5 by describing the relevant requirements of the Marine Parks Act 2007, particularly the general duty of care, zoning and management	PER describes the relevant requirements of the Marine Parks Act 2007, particularly the general duty of care, zoning and management strategies (including any prohibitions or	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
	tal legislation, pg 10			strategies (including any prohibitions or restrictions that may apply).	restrictions that may apply), as per the guideline.	
21	Planning and environmental legislation, pg 11	5.3.1	Unsupported statements	<p>The PER claims:</p> <p><i>“The subject land, despite its initial appearances, is not in a ‘largely natural state’ and the dune system has significantly modified such that many of the dunes run perpendicular to the coast rather than parallel. This part of the coastal dune system was also cleared for agricultural purposes and has recovered somewhat but remains at high risk from weeds and exotic plant species, as well as no formal land management practices.”</i></p> <p>The Barron Environmental Report (2014) also implies that the dunes are not in a ‘natural state,’ as follows:</p> <p><i>“the remnant sand dunes and swales appear to be degraded and aligned perpendicular, rather than parallel, to the coast, as a probable indicator of erosion and mobility in the recent past.”</i></p> <p>These statements are repeated in Section 7 p.24 – Environmental Impacts – (response to PER Guideline 5.3.1)</p> <p>These statements are an incorrect description of the Robe Range coastal dune system. It is a large, natural transgressive dune system that is located behind high wave energy beaches and is exposed to periodic strong to very strong winds, capable of blowing large volumes of sand inland when destabilised through natural or human induced causes.</p>	Amend statements accordingly	A
22	Planning and environmental legislation, pg 11	5.1.1	Unsupported statements	<p>The PER states:</p> <p><i>“...the proposal will assist in achieving the implied aspirations of the statement (Desired Character Statement), including improving flora diversity and fauna habitats, siting of buildings in existing cleared areas, replanting of native vegetation and the implementation of careful and strict management practices.</i></p> <p><i>As such, the proposal has the potential to provide the means by which this part of the coast can be enhanced and made more environmentally sustainable.</i></p> <p><i>The golf courses laid throughout the dune system can comfortably be defined as a ‘low-intensity recreational use’ and one which not only has</i></p>	Amend statements accordingly	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
				<p><i>minimal impact on the coast but provides the basis on which to improve the existing environment.</i></p> <p>It is questionable that this can be possible given the clearance of thousands of square metres of native vegetation, reshaping of extensive sand dunes and the introduction of thousands of square metres of irrigated and fertilised introduced turf grass (exotic weed). The land is an important vegetation corridor that links a Heritage Agreement property on A5 DP 24258 with the Little Dip CP.</p>		
23	Coastal Environment, pp 37-39, GHD Report	5.3.21	Non-compliance with guideline	<p>PER Guideline 5.3.21 requires a description of all coastal ecological assets and current levels of disturbance on and around the site</p> <p>As per previous comments, the PER does not include any site specific information on coastal fauna and only a limited discussion of coastal flora.</p> <p>It is noted that the GHD Report does not specifically address this guideline</p>	PER describes all coastal ecological assets and current levels of disturbance on and around the site, as per the guideline. DEWNR highlighted this requirement during the Draft PER review phase in November 2015.	A
24	GHD Report: 2.1, pg. 4 & 2.2, pg. 4	5.3.22, 5.3.23	Conflicting statements	<p>The PER and supporting report by consultants GHD has conflicting statements about the management of sand dune drift coastal hazard, specifically:</p> <p><i>"If natural dune function is allowed to continue (ie: erosion is permitted to occur), the development would not be expected to affect beach behaviour as sand will be readily supplied from the dune to the beach."</i></p> <p>This is incompatible with maintaining the proposed golf course and protecting the golf course and associated built development from sand dune drift.</p> <p>The PER then acknowledges the widespread areas affected by wind-blown sand and blowouts from Robe to Beachport and describes the measures that will be implemented to limit the frequency and extent of blow-outs.</p>	Amend statements accordingly	A
25	GHD Report, 2.3, pg. 4	5.3.24	Non-compliance with guideline	<p>The PER states:</p> <p><i>"A detailed, site-specific assessment of coastal recession due to sea level rise is beyond the scope of this assessment."</i></p> <p>This is a major development and a site specific assessment is exactly what is required.</p>	Undertake a detailed, site-specific assessment of coastal recession due to sea level rise, as per the guideline. DEWNR highlighted this requirement during the Draft PER review phase in November 2015.	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
26	Coastal environment Section 7, page 37-40, Appendix M	5.3.39, 5.3.40	Management of operations, including chemicals/pesticides used on the golf course, to ensure the protection of the marine environment	<p>Appendix M details the potential migration of contaminants from surface runoff to discharge features such as coastal lakes. The EPA requires more assurance that groundwater will not be contaminated from leaching of nutrients and chemicals (including herbicides, pesticides and agricultural chemicals) associated with the golf course and vineyard.</p> <p>The EPA also requires more details to confirm that the risk of contamination of marine environment from groundwater sources is low due to low volumes discharged, and that the risk of groundwater contamination from construction and ongoing operations are low. Such details are necessary to demonstrate compliance with the <i>Environment Protection (Water Quality Policy) 2003</i> and the general environmental duty as contained in section 25 of the <i>Environment Protection Act 1993</i>.</p>	<p>The Response Document needs to provide details of how potential contamination of groundwater (particularly from nutrients, herbicides, pesticides and agricultural chemical use) would be managed to ensure that there is no impact on the surrounding marine/ groundwater discharge environment(s).</p> <p>As referenced below under Water Quality, an Irrigation Management Plan should be provided as part of an Integrated Water Management Plan. The EPA will need to review this plan to ensure that it incorporates adequate measures to mitigate impacts on groundwater and the marine environment. This detail could also be included as part of an Environmental Management and Monitoring Plan (EMMP) to be provided and reviewed by the EPA prior to construction commencing.</p>	B
Aboriginal Heritage						
27	Section 13 & Appendix R	5.10.1 – 5.10.6	Potential breach s23 AHA	<p>Across the Development Area there are a total of 18 Aboriginal Sites (12 newly recorded sites from the Nicholson 2015 Survey). From the Concept Plan provided for Golf Course Layout, it appears evident that a significant number of sites will be damaged, disturbed or interfered with. This will require an Application pursuant to s23 of the Aboriginal Heritage Act 1988 (AHA), and an attendant s13 consultation process unless all sites can be avoided.</p> <p>The actual number of Aboriginal sites that may be impacted will need to be determined through an accurate review of the current Concept Plan and elements yet to be revealed through the CHMP process (such as the indication of a possible 50 metre buffer zone for sites).</p>	The Proponent will need to make Application pursuant to s23 of the AHA, and s21 and s29 if salvage and or analysis of cultural material is proposed as suggested in the Nicholson Report at Appendix R. The PER makes reference to a Cultural Heritage Management Planning process, monitoring of ground disturbance by SEAFG members, registration of newly discovered sites and a number of other issues. The CHMP process will be a critical component in effective risk management for areas of cultural significance as yet undiscovered. Early Application and consultation processes are highly recommended in relation to s21, s23 & s29.	A & B
28	Section 5 Page 14 A.11	5.1.1 – 5.1.12	Misunderstanding of obligations pursuant to AHA 1988	QUOTE from PER: "Extensive investigative works have been carried out in respect of Aboriginal sites on the subject land and as a result of recommendations the golf course and other parts of the development have been located away from the most important sites. More work needs to be done with the development of Heritage Management Plan..."	<p>The AHA 1988 does not discriminate as to the requirement to protect ALL Aboriginal sites, no matter what level of significance may be attributed to them. All sites are protected pursuant to the AHA and if there is an intention to damage, disturb or interfere, then relevant applications will be required pursuant to the AHA.</p> <p>Reference to a Heritage Plan – high relevance to risk management, needs to be produced by proponent.</p>	A
29	Section 8 Page 48	5.4.1 – 5.4.6	Clarification of imprecise language used to describe Heritage	QUOTE from PER: "The proposed development will have no impact on heritage items, places or areas as none are located on or adjacent the site".	Define the Heritage that is being referred to. If it is European Heritage then that needs to be articulated. Clearly there will be Aboriginal Heritage that is impacted.	C
30	Section 11	5.8.1 – 5.8.12	Refer also to No 2	QUOTE from PER: "As a result of the preliminary investigations, the golf	The golf course Concept Plan indicates that there will be a	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
	Page 59		above: Misunderstanding of obligations pursuant to AHA 1988	course has been planned with a high level of confidence to avoid area of Aboriginal heritage importance”	number of Aboriginal sites that will be impacted. The discovery of 12 new Aboriginal sites, and the previously recorded (6) sites need to be assessed as to which ones will be impacted. Regardless of levels of significance, all Aboriginal sites are protected pursuant to the AHA. Relevant applications pursuant to the AHA will be required if damage, disturbance or interference cannot be avoided.	
31	Section 13 Page 64	5.10.1 – 5.10.6	Requirement to apply pursuant to relevant sections of the AHA for authorisations (S21, s23)	QUOTE from PER: “It was recommended that Nora Creina Sites 3, 6 and 9...remain undisturbed by activities...In the event that some of the sites will be disturbed...it is recommended that site mitigation work be undertaken at these locations prior to the commencement of any development...” (See also Attachment 2. Preliminary Assessment Fairways impacting Aboriginal Sites Map)	A full analysis of the golf course plan overlaid with the existing and newly discovered Aboriginal sites needs to be undertaken by the Proponent. A preliminary analysis by DSD-AAR indicates that proposed fairways Number 5, 6, 8, 14, 15, 16, 23, 24, 26, 27, 28, 29, 31 may impact on Aboriginal sites. Any mitigation work proposed that will damage, disturb or interfere with Aboriginal sites will require applications pursuant to the AHA.	A
32	Section 13 Page 64	5.10.1 – 5.10.6	Wording used in the last paragraph on P64 is not consistent with the location of known Aboriginal sites that will be impacted by development.	QUOTE from PER: “Using the information gathered by the consultant report, the current golf course layout was devised to avoid Nora Creina Sites 3, 6 and 9 and the Errington Hole Midden”.	The current golf course concept plan appears to impact on these sites. The response given in No.5 above is applicable.	C
33	Section 13 Page 64	5.10.1 – 5.10.6	Incorrect reference to DSD-AAR	Quote from second to last paragraph: “the Department of Aboriginal Affairs and Reconciliation”	Correct reference is: The Department of State Development – Aboriginal Affairs and Reconciliation (DSD-AAR)	C
34	Section 13 Page 64	5.10.1 – 5.10.6	Unprecise comment re feedback received	Quote from second to last paragraph: “ No additional comments were received” gives the impression that all matters are settled when in fact they are not and further feedback is being provided through this process.	Clarify the wording to accurately reflect that further comments are in process.	C
35	Section 13 Page 65	5.10.1 – 5.10.6	Correction to spelling	Quote from third to last paragraph: “aboriginal artefacts”	Correct spelling is: “Aboriginal artefacts”	C
36	Appendix R Page 29 dot point 2	n/a	Registration request for Aboriginal sites from Nicholson on behalf of SEAFG members.	If the request to register Aboriginal sites is one of the components of the Cultural Heritage Management Planning process, then this will have to be addressed either by application from the proponent pursuant to s12 of the AHA or by s9.	Determine what is to happen with the request to register the newly discovered (and possibly other) Aboriginal sites. Make application pursuant to s12 as applicable.	A
37	Appendix R Page 25	n/a	References to monitoring and possible discovery of burials	Issues raised in relation to monitoring of ground disturbance and reference to possible discovery of burials need to be addressed.	Best practice would be for the proponent to come to an agreement with Aboriginal interested parties through the Cultural Heritage Management Planning process.	B
38	Appendix R Page 30	n/a	References to collection of cultural materials and keeping place	Issues raised in relation to collection of cultural materials, retaining those on site, and the provision of a keeping place need to be addressed.	If materials are collected this will need to be done either as part of a s23 or a s21 application (or possibly with s37). The Cultural Heritage Management Plan should address the	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
					keeping place request.	
Water supply and use						
39	Water, pg. 53	5.7.5	Further information is required	<p>The PER lacks clarity in relation to the adequacy of the water allocations it is seeking compared to any projections on water required for the course and associated facilities. More information is needed to quantify the volume of water required, the source of the water and the quality required to demonstrate that the development would have an adequate water supply. Whilst the PER indicates that steps have been put in place to purchase two existing water allocations (of approx. 178KL and 52KL, respectively), as well as capture roof water and stormwater run-off, and reuse treated wastewater, there is no indication of the expected water demand and whether the proposed sources would meet that demand.</p> <p>The PER generally provides limited detail in response to the PER Guidelines making it difficult to assess issues related to groundwater access and how they would manage stormwater and waste water.</p>	<p>To determine the likelihood of water being accessible from the property, Proponent undertakes a preliminary hydrogeological assessment as per Lower Limestone Coast WAP principles and guidelines, and details</p> <ul style="list-style-type: none"> • The volume of water required based on the current design • The primary water source intended for the project, i.e. confined or unconfined aquifer (noting limits to how far can transfer water) • Details of water quality for potable or non-potable use, and treatment as necessary • Impacts on Groundwater Dependent Ecosystems <p>Some commentary on the volumes and qualities of groundwater that might be available at the property would help demonstrate the likely availability of water and may require test drilling to support assessment. The Proponents must be clear that they are able to access water under the existing policies of the WAP.</p> <p>These requirements were highlighted during DEWNR's initial review of the Draft PER in November 2015.</p>	A
40	Water, pg. 54	5.7.11, 5.7.12	Non-compliance with guidelines	<p>The PER indicates that:</p> <ul style="list-style-type: none"> • Stormwater capture from hardstands and its treatment and reuse (elsewhere it is claimed that all roof runoff and all stormwater will be captured and reused on site) will be carefully considered during the detailed design stage • An Irrigation Management Plan will be developed but deferred to detailed design stage. PER Guidelines 5.7.11 and 5.7.12 require an integrated water management strategy, and the measures to manage and treat stormwater from hard surfaces not being used to harvest water. <p>Currently only general information is provided that does not describe, even in broad terms, how the management of runoff and its treatment and storage would be undertaken. The PER should broadly identify the volume and quality of stormwater generated, how it would be captured and stored and managed in the landscape, including whether it would be re-used or recharge aquifers. Stormwater needs to be managed as per requirements</p>	<p>Proponent to provide an integrated water management strategy including WSUD, as per the guidelines, including the following basic information:</p> <ul style="list-style-type: none"> • Stormwater management: <ul style="list-style-type: none"> ○ Basic calculations of stormwater/runoff generation and locations, concept designs and capacity of proposed detention basins etc. • Irrigation management <ul style="list-style-type: none"> ○ Impacts of infiltration to groundwater, pesticide residues, changes in groundwater quality, runoff into swamp areas and potential impacts to surface water quality. 	A

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
43		5.7.8, 5.7.12	Stormwater and greywater management	<p>Guideline 5.7.8 requires the proponent to describe stormwater and grey water management strategies to maximise recycling (including recycled water storage requirements) and the potential impact on groundwater resources, surface water resources and the marine and coastal environment. In particular, the management of runoff and the transport of nutrients and chemicals used in day to day maintenance of the golf course and vineyard.</p> <p>Guideline 5.7.12 requires the proponents to outline the measures to treat stormwater from hard surfaces which are not being used to harvest water.</p>	<p>The EPA needs to review an Operational Water Management Plan prior to development commencing to ensure that it demonstrates compliance with the <i>Environment Protection (Water Quality) Policy 2003</i> and the general environmental duty as contained in section 25 of the <i>Environment Protection Act 1993</i>.</p> <p>Although this application must be assessed against the <i>Environment Protection (Water Quality) Policy 2003</i>, as it was lodged prior to 1 January 2016, it is recommended that a note is included in any potential approval notification which brings the 1 January 2016 commencement of the new <i>Environment Protection (Water Quality Policy) 2015</i> to the proponent's attention.</p>	
44	Construction and operation Section 11, page 62	5.7.11, 5.8.1-5.8.11, 5.9.8	Soil erosion and drainage management and WSUD	<p>There is a commitment that a Soil Erosion and Drainage Management Plan (SEDMP) and a Stormwater Management Plan (SMP) will be written in conjunction with the Construction Environment Management Plan (CEMP). This is necessary to ensure that construction works are undertaken in a manner consistent with the general environmental duty, as contained in section 25 of the <i>Environment Protection Act 1993</i>, and the <i>Environment Protection (Water Quality) Policy 2003</i>. Guidance can be found at: http://www.epa.sa.gov.au/environmental_info/water_quality/programs/stormwater/pollution_prevention_for_building_and_construction_activities</p>	<p>The EPA needs to be able to review the content of the CEMP (which should incorporate the SEDMP and SMP) prior to construction commencing.</p> <p>The SEDMP should outline all measures taken to prevent runoff from the site and minimise erosion during the construction phase. The stormwater management plan should include information about how stormwater will be captured and treated (e.g. Water Sensitive Urban Design elements), and details of the size of any detention basins.</p>	A & B
Fire management						
45	Planning and Environmental Legislation and Policies: District Council of Robe Development Plan, pg. 11	5.1.1	PER does not explicitly consider adequate separation distances from adjacent vegetation	<p>The PER states:</p> <p><i>"... the proposal will assist in achieving the implied aspirations of the statement, including improving flora diversity and fauna habitats, siting of buildings in existing cleared areas, replanting of native vegetation and the implementation of careful and strict management practices."</i></p> <p>The siting of buildings and infrastructure within cleared land to minimise vegetation clearance, while highly desirable, may not take into consideration the implementation of adequate separation distances from adjacent vegetation to address bushfire risk. Depending on the overall fuel hazard of the vegetation community, differing setback distances will be required to address bushfire risk and this should also be considered when siting buildings and infrastructure.</p>	<p>DEWNR recommends the following amendment to address this concern:</p> <p><i>"On-going management of bushfire risk will be a key part of management of the site, incorporating appropriately sited buildings and infrastructure, which minimises vegetation clearance and land disturbance, and adequate separation from adjacent vegetation, to mitigate bushfire risk- and By by the time of operation fire-fighting facilities, including an appropriately dimensioned and located water supply, will be available. The on-going requirements will be documented in a suitable management plan format with the ability for continuous improvement."</i></p>	B

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
46	Hazard and Risk Management, pg. 62	5.9.5	PER does not consider the inherent bushfire risk to the golf course	This section states: <i>"Hazards and risks will need to be identified and documented for both the construction and operational phases of the proposed development..." and that "Suitable bushfire protection and management provisions will also need to be put in place..."</i> The PER does not consider the inherent bushfire risk to the golf course; deferring any consideration to the CEMP and OEMP.	PER details fire management processes and measures to reduce bushfire risk, especially those which minimise vegetation clearance and land disturbance, as per the guideline	B
Site Contamination						
47	Groundwater and site contamination Section 7, pg 42 pg 4, pg 43 Appendix M	5.9.5	Bunding	Sufficient information has been provided to demonstrate that bunding would be consistent with the EPA Guidelines <i>Bunding and spill management</i> (August 2012). This is necessary to ensure compliance with the <i>Environment Protection (Water Quality) Policy 2003</i> and the general environmental duty.	A condition is suggested to ensure that the bunding detailed in the PER is in place prior to commencement of operation of the development. Bunding should contain a minimum of 120% of the volume of the largest tank/container used on site and should be impervious to material stored within the bund.	A & B
48	Appendix M	5.8.1-5.8.11	Construction management	PER investigations report presented in Appendix M is generally adequate. Reference is made to a CEMP and an EMMP to address risk and hazard management, however these documents have not yet been developed or provided for review.	The EPA will need to review the CEMP and EMMP prior to the development commencing to ensure the proposed controls to minimise potential site contamination are adequate. See also Noise, Air Quality and Construction Management below.	A & B
Air Quality						
49	Impact on existing and future sensitive receivers Section 8, page 48	5.8.1-5.8.11	Proposed cattle farm	The information requested under Section 5.5.5 that relates to the proposed cattle farm has not been provided by the proponents. There are statements in the PER that suggest the size, location and type of cattle farm makes it unlikely to cause any odour impacts to the nearest sensitive receptors. It appears that the nearest residential property (not associated with the proposed development) is approximately 650 metres north of the northern boundary of the site (Nora Creina Road) which is also the boundary of the proposed cattle farm, located adjacent to and east of Big Dip Lake (noting that this is based on viewing Google Earth aerial imagery and has not been confirmed by the proponents).	The EPA is satisfied that a small grazing farm would not cause any odour issues. However, if a cattle feedlot was to be incorporated into the proposed development, the EPA needs to review/assess details of such a proposal, including the engineered waste management aspects, prior to any potential development approval notification.	A & B
50	Construction and operation Section 11,	5.8.1-5.8.11	CEMP	There is a commitment in the PER that a CEMP will be developed.	The EPA needs to review the CEMP prior to construction commencing to ensure that it demonstrates how air quality would be managed during the construction phase to comply with the general environmental duty. Also see the Site	A & B

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
	page 59-61				Contamination section above, and Noise and Construction Management sections below.	
Noise						
51	Construction management Section 7, page 36	5.8.1-5.8.11		Noise from construction activities are generally anticipated to have a minimal off-site impact. However; it appears that the proposed access road would pass close to a neighbouring dwelling and as such off-site noise impacts may arise from construction of this component of the proposed development.	<p>The location and alignment of the proposed access road should be reviewed in light of potential adverse noise impacts on the existing dwelling located within 60m of the proposed road.</p> <p>A CEMP should be prepared which details the mandatory requirements under Part 6 Division 1 of the <i>Environment Protection (Noise) Policy 2007</i> as they relate to the proposed development, and how construction of any components of the proposal likely to have an off-site impact will be managed to ensure that the requirements of the <i>Environment Protection (Noise) Policy 2007</i> will be met.</p> <p>Also see Air Quality and Site Contamination sections above and Construction Management section below.</p> <p>It is also recommended that a note is included in any potential approval notification to advise the proponents of the need to comply with the mandatory construction noise provisions of the Environment Protection (Noise) Policy 2007. Further guidance can be found at: http://www.epa.sa.gov.au/environmental_info/noise/types_of_noise/construction_noise</p>	A & B
52	Impact on existing and future sensitive receivers Section 8, page 48	5.8.1-5.8.11	Noise from access during construction and general operations	<p>The nearest dwelling is located on the subject land, approximately 1.1km from the club house. Another dwelling is understood to be located on Allotment 1 (also around 1.1 kilometres from the club house). Other dwellings are located 3.7 kilometres to the south and six kilometres to the north. It is unlikely any of these dwellings would be materially affected by noise from the operation of the proposed development.</p> <p>The proposed route for the site access road is not detailed in the PER. From the master plan that has been provided, it appears that the access road is proposed to pass within approximately 60 metres of the nearest noise sensitive receiver. Daily trips of up to 181 vehicles are predicted on Saturdays, and peak hour traffic is anticipated to be “just over a vehicle per minute”. As such, if the access road is constructed along the apparent</p>	<p>Alignment of the site access road should be selected to minimise the potential for neighbouring residences to be adversely impacted by nuisance noise from vehicles accessing the site, and from construction of the access road.</p> <p>Regardless of the alignment of the access road, the management of potential noise (and dust) from the construction of the access road should be addressed in the CEMP.</p> <p>Potential ongoing noise impacts, although likely to be minor, should also be addressed in the EMMP.</p>	B

No.	PER Ref section/pg	Guideline Ref	Summary Issue	Key Comments	Suggested Response/solution	Category
				alignment, it is anticipated that unacceptable nuisance is likely to arise for the resident/s of the closest house.		
53	Construction and operation Section 11, page 59-61	5.8.1-5.8.11	Construction and operation noise	Noise from the construction of the proposal has been covered in the discussion above. Noise from operation of the proposed development is unlikely to have off-site impacts, with the exception of nuisance noise potentially arising from the proposed access road (depending on the selected alignment).	See above	A & B
Construction Management						
54	Construction management Section 7, page 36	5.8.1 -5.8.11	EMMP, CEMP, SEDMP	The PER states that an EMMP will be prepared to set out further management details for environmental issues raised in the PER Guidelines as part of the detailed design and prior to construction.	In addition to the CEMP and SEDMP (discussed above), the EPA needs to review the content of the EMMP prior to a decision being made on the application. This plan should address each aspect of the proposal in a manner which ensures compliance with relevant Environment Protection Policies and the general environmental duty.	A & B
55	Construction management Section 7, page 36	5.8.1-5.8.11	EMMP	There is a commitment that an EMMP will be developed.	The EPA will need to review the EMMP prior to construction commencing to ensure that it contains adequate details regarding the management of potential air quality impacts.	A & B

Category Key	<p>Comments categorised according to the following:</p> <ul style="list-style-type: none"> • A= state interest (legislative or policy of the agency) • B= Best Practice for this issue • C= editorial/tidy up/incorrect ref
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References

- Caton, B., Quinn, J., Detmar, S., Fotheringham, D., Rubbo, N., Royal, M., Sandercock, R. and Laurence, S. 2011, Limestone Coast and Coorong Coastal Action Plan and Conservation Priority Study, South East NRM Board and Department of Environment and Natural Resources, Adelaide
- DEH, 2001, Provisional List of Threatened Ecosystems of South Australia. Department of Environment and heritage (SA), unpublished and provisional list.
- Short A. D. and Hesp P. A. 1984. Beach and Dune Morphodynamics of the South East Coast of South Australia. Coastal Studies Unit Technical Report 84/1. Department of Geography, University of Sydney, NSW.
- Short A. D. and Woodroffe C. D. 2009. The Coast of Australia. Cambridge University Press, Victoria.

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EPBC 2014-7249. Nora Creina integrated golf course and tourism development, South Australia

Comments on the Public Environment Review (PER)

The matters to be addressed by this PER for assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) are within the Environmental Scoping Document (ESD) provided to the proponent. Table 1 contains an assessment of whether the information in this PER addresses the requirements of the ESD with reference to Matters of National Environmental Significance (MNES), and implications for conditions, should the project receive approval.

Table 1. Assessment on how the information in the PER addresses the requirements of the ESD with reference to MNES and implications for proposed approval conditions.

Work Required (with reference to MNES)	Addressed in PER?	Comments
<p>4.6.2 CONSISTENCY WITH GOVERNMENT POLICY</p> <ul style="list-style-type: none"> The PER should demonstrate that the proposed action is consistent with any relevant EPBC Act guidelines or plans that may be relevant to the proposed action. <p>5.1. PLANNING AND ENVIRONMENTAL LEGISLATION AND POLICIES</p> <ul style="list-style-type: none"> 5.1.7 Describe any relevant EPBC Act policies, guidelines or plans, and how these would be complied with and/or demonstrate that the implementation of the proposal will not be inconsistent with any relevant EPBC Act policies, guidelines or plans. 	<p>Insufficient in detail for the Commonwealth Minister (or Delegate) to fully assess the impacts to MNES and to make an informed decision whether or not to approve the proposed action, and if so, under what conditions.</p>	<ul style="list-style-type: none"> The Department considers that the PER provides insufficient detail relating to EPBC Act guidelines or plans relevant to the proposed action. Specifically: <ul style="list-style-type: none"> <i>Recovery Plan for three orchid species in South Australia and Victoria: Caladenia richardsiorum (Little Dip Spider-orchid), Caladenia calcicola (Limestone Spider-orchid) and Pterostylis tenuissima (Swamp Greenhood) 2009-2013</i> (discussed under 5.3 Environmental Issues : Native Vegetation) (SA DEWNR, 2012) <i>National Recovery Plan for the Orange-Bellied Parrot (Neophema chrysogaster)</i> (Tasmania DPIWE, 2006) The PER should discuss whether the proposed action will not be inconsistent with the above plans. The Department considers that the PER provides insufficient detail relating to the statutory or policy basis for the mitigation measures and management of residual significant impacts on MNES. For instance, in terms of vegetation clearance and conservation:

Work Required (with reference to MNES)	Addressed in PER?	Comments
		<ul style="list-style-type: none"> - The Department's EPBC Act <i>Environmental Offsets Policy</i> (DoE, 2012). • In the event that impacts cannot be avoided or mitigated, the proponent is required to provide further details on offset/s to compensate for any residual impacts on EPBC Act listed species, including: <ul style="list-style-type: none"> - The type of offset/s proposed - Extent to which the proposed offset actions correlate to, and adequately compensate for, the impacts on EPBC Act listed threatened species - Suitability of the location of any proposed offset site for EPBC Act listed threatened species - Conservation gain to be achieved by the offset i.e. positive management strategies that improve the site or averting the future loss, degradation or damage of the protected matter - Time it will take to achieve the proposed conservation gain - Level of certainty that the proposed offset will be successful - Current land tenure of any proposed offset and the method of securing and managing the offset for the life of the impact - Demonstrate how the proposed action is consistent with the EPBC Act <i>Environmental Offsets Policy</i>. • The Department notes that the proponent states on page 35 of the PER "During the preparation of more detailed plans for clearance, revegetation and weed and pest management, the document <i>Guidelines for a Native Vegetation Significant Environmental</i>

Work Required (with reference to MNES)	Addressed in PER?	Comments
		Benefit Policy (DWLBC, 2005), along with the requirement of the <i>South Australian Native Vegetation Act 1991</i> will be consulted and drawn upon where relevant, along with the Commonwealth Department of Environment's EPBC Act <i>Environmental Offsets Policy</i> (DoE, 2012)".
<p>5.1. PLANNING AND ENVIRONMENTAL LEGISLATION AND POLICIES</p> <ul style="list-style-type: none"> • 5.1.9 Demonstrate the proposal's consistency with State and Commonwealth legislation and initiatives relating to conservation or protection of the biological environment and heritage items, including sections 3 – Objects of Act and 3A – Principles of ecologically sustainable development of the EPBC Act. • 5.1.10 Consider any other relevant plans or studies that relate to the area, including (if relevant) section 176(5) – Bioregional Plans of the EPBC Act. 	Insufficient in detail for the Commonwealth Minister (or Delegate) to fully assess the impacts to MNES and to make an informed decision whether or not to approve the proposed action, and if so, under what conditions.	<ul style="list-style-type: none"> • The Department considers that Chapter 5 of the PER adequately addresses the proposal's consistency with State and Commonwealth legislation. • The Department requires further detail regarding the principles of Ecologically Sustainable Development (ESD) and links to the proposed action. Notwithstanding this: <ul style="list-style-type: none"> - The Department considers that the principles of ESD are concisely addressed in the PER e.g. page 47 'Various ESD principles will be put in place, such as water collection & filtration to be re-used within and around the resort. Where possible, materials will be locally sourced, and of a low environmental impact quality'. • The Department considers that given that the proposed action no longer includes an aquaculture (and associated pipeline) component the Marine bioregional plan for the South-west marine Region does not apply to the assessment of the PER. The Bioregional Plan covers Commonwealth waters, which are generally 3 nautical miles (or 5.5 km) from the coast.

Work Required (with reference to MNES)	Addressed in PER?	Comments
<p>5.3. ENVIRONMENTAL ISSUES</p> <p>NATIVE VEGETATION</p> <ul style="list-style-type: none"> • 5.3.5 Describe the ability of communities or individual species (especially those listed as uncommon or threatened under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> and the South Australian <i>National Parks and Wildlife Act 1972</i>) to recover, regenerate or be rehabilitated. • 5.3.10 Describe how the proposal is not inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans. For instance, the <i>Recovery Plan for the Little Dip Spider Orchid (Caladenia richardsiorum)</i>. 	<p>Insufficient in detail for the Commonwealth Minister (or Delegate) to fully assess the impacts to MNES and to make an informed decision whether or not to approve the proposed action, and if so, under what conditions.</p>	<ul style="list-style-type: none"> • The Department notes that some detail is present within Barron Environmental – Report on the Little Dip Spider Orchid (Appendix K) regarding the <i>Recovery Plan for three orchid species in South Australia and Victoria: Caladenia richardsiorum</i> (Little Dip Spider- orchid), <i>Caladenia calcicola</i> (Limestone Spider-orchid) and <i>Pterostylis tenuissima</i> (Swamp Greenhood). • The Department notes that the proponent states on page 35 of the PER “These considerations are not expected to be inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans, including the recovery plans for the Little Dip Spider Orchid and the Orange-bellied Parrot”. The Department considers that the PER must discuss direct links of the proposed mitigation measures with threats, recovery objectives and performance criteria detailed within the <i>Recovery Plan for three orchid species in South Australia and Victoria</i>. • The Department considers that the PER provides insufficient detail on the ability of the Little Dip Spider Orchid to recover and regenerate following construction, and the proponent should elaborate on proposed mitigation strategies to account for this. • The Department notes that it is anticipated that an Environmental Management and Monitoring Plan (EMMP), Construction and Environment Management Plan (CEMP) and an Operational and Environment Management Plan (OEMP) will be prepared for the proposed action. These plans must take into account EPBC Act listed threatened species and communities. These plans may require the DoE Minister’s approval before proceeding with the action.

Work Required (with reference to MNES)	Addressed in PER?	Comments
<p>5.3. ENVIRONMENTAL ISSUES</p> <p>NATIVE FAUNA</p> <ul style="list-style-type: none"> • 5.3.11 Quantify and detail the abundance, condition and significance of native fauna populations that currently exist or may depend on habitat on site or along the routes of infrastructure for the proposal. Any fauna surveys conducted must meet the requirements of any relevant EPBC Act survey guidelines. • 5.3.12 Describe direct and indirect impacts to fauna associated with the proposal, the extent of expected fauna and/or habitat loss or disturbance during the construction and operation phases (both on and around site) and the ability of communities and individual species to recover, especially for resident or migratory birds and threatened or significant species (including those listed under the EPBC Act and the South Australian National Parks and Wildlife Act 1972). • 5.3.20 Describe how the proposal is not inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans. For instance, the National Recovery Plan for the Orange-bellied Parrot (<i>Neophema chrysogaster</i>). 	<p>Insufficient in detail for the Commonwealth Minister (or Delegate) to fully assess the impacts to MNES and to make an informed decision whether or not to approve the proposed action, and if so, under what conditions.</p>	<ul style="list-style-type: none"> • The Department notes that the Bushland Rapid Assessment Technique was applied at the proposal site. The Department considers that this was an effective method for determining likely Orange-bellied Parrot (<i>Neophema chrysogaster</i>) dispersal habitat. • The Department notes that in the EAC Ecological Evaluation (<u>Appendix L</u>) cover letter it states that “EAC recommends a further 2 day/night fauna survey conducted of the wetlands. Without further investigation to ascertain what is present in the wetland areas, it is possible that future works could potentially impact on fauna through altered hydrology causing increased nutrient loads, increased salinity and further dune blowouts leading to a loss of critical habitat”. • The Department considers that the proponent must commission these additional surveys in compliance with relevant EPBC Act survey guidelines. For instance: <ul style="list-style-type: none"> - the Department’s survey guidelines for Australia’s threatened birds (DEWHA, 2010) - the Department’s survey guidelines for Australia’s threatened frogs (DEWHA, 2010). • The Department considers that the PER would benefit with the inclusion of data detailing specific numbers of potential habitat trees to be maintained, and number of potential habitat trees to be cleared. • As discussed above in <i>Environmental Issues – Native Vegetation</i> the Department notes that the proponent states on page 35 of the PER “These considerations are not expected to be inconsistent

Work Required (with reference to MNES)	Addressed in PER?	Comments
		<p>with any relevant EPBC Act guidelines, conservation advice and/or recovery plans, including the recovery plans for the Little Dip Spider Orchid and the Orange-bellied Parrot”.</p> <ul style="list-style-type: none"> The Department considers that the PER provides insufficient detail relating to mitigation measures with known and potential threats and recovery actions within the <i>Recovery Plan for the Orange-bellied Parrot (Neophema chrysogaster)</i>. For instance, the Department requires a detailed map of retained Orange-bellied Parrot roosting habitat.
<p>MARINE ENVIRONMENT</p> <ul style="list-style-type: none"> 5.3.30 Describe the existing marine and aquatic communities potentially impacted by the proposal (especially invasive species and species listed under the EPBC Act). 	Yes	<ul style="list-style-type: none"> The PER (<i>Marine Environments</i> pg. 37) and the GHD Report-Nora Creina Limited Investigations (<u>Appendix M</u>) addresses the marine environment. The Department considers that the PER adequately describes the existing marine and aquatic communities potentially impacted by the proposal.
<p>4.6.3. AVOIDANCE, MITIGATION, OFFSET, MANAGEMENT AND CONTROL OF ADVERSE EFFECTS</p> <ul style="list-style-type: none"> Where relevant, the PER should demonstrate that the proposed avoidance, mitigation, offset, management and control measures are consistent with the EPBC Act offsets policy and relevant recovery plans, conservation advice and threat abatement plans. 	Insufficient in detail for the Commonwealth Minister (or Delegate) to fully assess the impacts to MNES and to make an informed decision	<p>The Department considers that the PER provides insufficient detail relating to the statutory or policy basis for the proposed mitigation measures. For instance, in terms of vegetation clearance and conservation the PER has not adequately addressed:</p> <ul style="list-style-type: none"> the Department’s EPBC Act <i>Environmental Offsets Policy</i> (DoE, 2012). As discussed above in <i>Planning and Environmental Legislation and Policies</i>, that in the event that impacts cannot be avoided or mitigated, the proponent is required to provide further details on offset/s to compensate for any residual impacts on EPBC Act

Work Required (with reference to MNES)	Addressed in PER?	Comments
	<p>whether or not to approve the proposed action, and if so, under what conditions.</p>	<p>listed species, including:</p> <ul style="list-style-type: none"> - The type of offset/s proposed - Extent to which the proposed offset actions correlate to, and adequately compensate for, the impacts on EPBC Act listed threatened species - Suitability of the location of any proposed offset site for EPBC Act listed threatened species - Conservation gain to be achieved by the offset i.e. positive management strategies that improve the site or averting the future loss, degradation or damage of the protected matter - Time it will take to achieve the proposed conservation gain - Level of certainty that the proposed offset will be successful - Current land tenure of any proposed offset and the method of securing and managing the offset for the life of the impact - Demonstrate how the proposed action is consistent with the EPBC Act <i>Environmental Offsets Policy</i>.



9 March 2016

Minister for Planning
Att: Robert Kleemann
Unit Manager
Major Crown Development and Grants
Department of Planning Transport and Infrastructure
GPO Box 1815
Adelaide SA 5001

Dear Sir

Re: Proposed Nora Creina Golf Course & Tourism Development
Our Ref: 3.71.7

I am writing on behalf of the District Council of Robe providing qualified support for the Nora Creina Golf Course and Tourism Development.

By providing qualified support Council refers to the need for the development to satisfy the government's requirements regarding the protection and enhancement of the natural environment and aboriginal heritage.

If these requirements are met Council believe that the development will have significant advantages to the Robe township as well as the Limestone Coast region.

The development would provide a significant economic boost to the township of Robe not only from the increased tourism that would result from the development but Council envisages that the majority of staff employed at the Golf Course and associated business's will reside in Robe this will have the impact of increasing the number of permanent residents which will help in improving the viability of town.

Currently Robe is essentially a summer holiday destination which results in many of the hospitality business within the town having to struggle to survive during the off season. The proposed Nora Creina Golf Course and Tourist development will be an all year round attraction to tourist and visitors and this will assist in improving the viability of local business/s. The proposed development could also provide opportunities for new business's to become established in the town (car hire, shuttle bus service).

Increased patronage of Councils airstrip may result in an expansion of the facility thus making the airstrip useable by emergency service planes (Flying doctor, CFS Water bombing)

An increase in the number of residents will also have a positive impact upon the provision of social services, health and education as well sporting clubs and community groups which all contribute to the community wellbeing and social fabric of the town.

Full time employment opportunities and careers for the districts youth are limited and the town struggles to retain its youth once they have finished their schooling. The Golf Course and Tourist development will provide career opportunities and full time employment for our youth in the areas of hospitality and horticulture.

The development will attract significant numbers of golfing tourists to the region which will have a positive impact upon the Robe Golf Club and the golf clubs located in the neighboring towns. The development will result in the environment of the coastal dunes being well managed and enhanced because being part of the golf course will see it being valued as a point of difference for golfing tourists. An opportunity will also be presented to inform those tourists of the unique land forms and natural feature which will help educate and raise awareness of the limestone Coast. The same opportunity will exist to inform and educate visitors to the course of the significant aboriginal heritage that exists of the site.

Council witness's each year the damage that is done by off road vehicles to Little Dip and Canunda Conservation Parks, damaging vegetation, damaging aboriginal heritage sites, introducing weed species, impacting upon fauna such as nesting sea birds and wombats.

Council compares this to the proposal which will see a development that values the coastal environment and heritage and therefore conditional upon the environmental and heritage concerns being met fully supports the proposal.

Yours faithfully



Roger Sweetman
Chief Executive

ATTACHMENT E

PUBLIC SUBMISSIONS

Major Development Application Nora Creina Golf Course Resort Submissions



Tell us what you think about the following aspects of the Public Environment Report.

Submissions may be made available for public inspection and would be included in the proponent's Response Document (that will be released for public information at a later date). Please indicate below if you object to your submission being made available in this way.

Name Allan Cullen Address 2143 Nora Creina Rd Nora Creina
Telephone 08 87357247 Email allan@siliconplus.com.au

Overall, what do you think about the proposed Nora Creina Golf Course and Tourism Resort development?

The idea maybe alright but I do not think the plan is suitable at this location as too much vegetation and habitat would be destroyed.

Do you have any specific comments on the following?

Tourism and economy (Tourist visitation, job creation, value adding to local business etc)

I find it hard to believe that the proposal would be viable and to get the amount of tourists that the developers predict.

Environmental (native vegetation and animals, landscape, cultural heritage etc)

Having lived on the coast at Nora Creina for 82 years and being very involved with conservation here, I think it would be a disaster to go ahead with this plan.



Government of South Australia

Department of Planning,
Transport and Infrastructure

Infrastructure and services (Power and water use, delivery of services to the site etc)

I think it will be very hard to get a large supply of water to meet the demand and power will be very expensive to supply.

Buildings and design (Building location, design and architecture, landscaping etc)

Traffic and access (access, car parking etc)

The amount of traffic predicted would be too much for the local roads. Scanlon's are saying all traffic would come from the north (Robe) this is incorrect as there would be plenty from the south (Mount Gambier). There would be more traffic into Nora Creina causing extra strain on the native vegetation.

Are there any other matters you would like to raise?

The naming of the golf course "Nora Creina" is completely false, as the proposal is around 7km away, at the German's locality. Reports on the ABC and the press are quoting the golf course is at Nora Creina (false). The Cullen family have been here at Nora Creina for 5 generations and when you speak of the Cullen's, they are Nora Creina. To us Nora Creina is a sacred place as both my parents ashes are scattered in the bay and monuments and a flagpole are at a place overlooking the bay. It would be an insult to us to have the golf course development called Nora Creina, call it by the correct locality name.

Please indicate your preference below:

Please make my submission public YES ✓

Please *do not* make my submission public

Written submissions commenting on the PER are invited until 5pm, Monday 21 March 2016 addressed to:

Minister for Planning c/-
Robert Kleeman, Unit Manager
Major, Crown Development and Grants (Investment
Management)
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000

or via email to: DACadmin@sa.gov.au

Further information

Call – 1800 PLANNING – press option 1

Visit – sa.gov.au/planning/majordevelopments

Email – DACadmin@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure

Submission regarding Nora Creina proposed development

19-3-16, Associate Professor S. Petit, environmental scientist

I sympathise with the landholders who have been told they could make a lot of money by developing a golf course on coastal dunes, but the proposal that has been submitted is at best naïve and in any case based on statements that are untrue. It represents a major waste of time and money for everyone but the consultants. The proposed development (high intensity with large impacts) in a conservation zone would have enormous and irreversible consequences. It would also create a very dangerous precedent. The proposal shows no understanding of coastal geomorphology, ecology, or Aboriginal culture.

I have read the proposal and my comments follow in chronological order (54 numbered paragraphs).

1. Recent large golf course developments in SA have been failures with significant environmental costs as well as costs to the community. SA is saturated with golf courses. The development of one more golf course has just been approved with Kangaroo Island, a site that would add competition to the already bankrupt golf courses and the proposed one.
2. The region benefits more from natural coastal dunes (which it is well known for) than from the destruction of those dunes for the profit of a developer.
3. The location of the proposed development between two very high-value protected natural areas will affect the corridor linking these areas and the status of these areas protecting biodiversity. The reason why these dunes are special and support amazing wildlife is that they are one long system.
4. Recent research published in top quality journals shows that the best way to protect species is to keep habitats pristine, not put golf courses on top of them.
5. Dune destruction via development results in unstable beaches and the need to replenish the beaches with sand.
6. It is greatly alarming that the “precise nature of the requirements for storage are unknown at this stage, but obviously water supply for the irrigation of the golf course and potable water for the accommodation and administration/tourist area will be necessary” (p. 7). The amount of water needed (phenomenal for a golf course in this landscape) must be calculated and the implications of extraction must be modelled accurately.
7. “Careful consideration will also be given to the re-use of grey water generated by the development.” Exactly how “careful” will the developers be in their “consideration”? There is no indication that water management has been “considered” adequately.
8. The building of the many roads mentioned will have a devastating impact on wildlife and Aboriginal heritage.

9. The map on page 8 is hair-raising. The dunes will be completely damaged and habitat reduced to small fragments. Developments go to the edge of the beach, which will cause extensive damage to the beach and associated flora and fauna.

10. Section 5 will no doubt be embarrassing to the Council. The devastation of a Coastal Conservation Zone will not “assist in achieving the implied aspirations of the statement, including improving flora diversity and fauna habitats” as stated by the proposal, but will do exactly the opposite. The statement in the proposal is not compatible in the slightest way with the map on page 8 and shows a complete lack of understanding of this ecosystem, or a deliberate attempt at misguiding people.

11. Another untrue statement is “the golf courses laid throughout the dune system can comfortably be defined as a 'low-intensity recreational use' and one which not only has minimal impact on the coast but provides the basis on which to improve the existing environment.” A lawn on a dune is a very high-intensity development since it kills all the habitat that was there.

12. Everything that follows in this section is similarly absurd. The dot points on page 11 are extremely misleading:

- “providing a sound basis for conservation work, including interpretative signage;” – the destruction of a zone is only a sound basis for conservation work in that it makes expensive conservation activities necessary
- “the development being designed and sited to be compatible with conservation and enhancement of the coastal environment and scenic beauty of the zone;” – a golf course is a scenic beauty only to golfers; it is not compatible with conservation
- “not adversely impact on the ability to maintain the coastal frontage in a stable and natural condition;” – constructing lawns and buildings next to the beach will do exactly the opposite
- “minimise vehicle access points;” – building a panoply of roads as mentioned earlier is the opposite of what is said here
- “provide landscaping using locally indigenous species; and” – the landscaping with indigenous species is already occurring now, in much greater extent; introducing a pest grass will not help biodiversity
- “providing controlled public access to the coast (walkways and fencing)” Disneyworld is not meant to occur in a conservation zone.

13. The proposal has the merit to state that changes may be made to the development plan once the “Major Development declaration is lifted.” If the developers have free reins, what is the purpose of the process?

14. Allowing re-zoning would be an appalling decision sure to enrage everyone working hard to protect Australian species from extinction. It would be a terrible precedent and the people responsible would go down in history as assassins.

15. One would hope that no one on earth would believe the statement at the bottom of page 13 that Principle 1 of the Limestone Coast Region Plan “Recognise, protect and restore the region's environmental assets” is served by the proposed development in any way. In fact, the proposed development trashes Principle 1.

16. The South East Regional NRM plan is in no way served by the proposed development, contrary to what is stated in the proposal on pages 14-16: “improving native vegetation” – building facilities (roads, buildings) and a golf course has never improved native vegetation; “managing threatened species” – removing their habitat does not assist in “improving biodiversity”; “protecting Aboriginal sites” – the development will destroy many and cannot protect the others; “respecting Aboriginal issues” – destroying a large site of great significance to Aboriginal people cannot be compensated by a display in the clubhouse (the “education” provided to tourists); “reducing key invasive species and managing pests” – which are targeted and how is this going to happen?; “adopting sustainable irrigation” – this is completely impossible in view of the water needed (re-using water is not explained but would be vastly insufficient); “increasing perennial plant system” – in what way? what does this mean?; “protecting land from erosion” – dunes are not meant to be “stabilised” because they need to move to keep the ecosystems and beaches healthy (the “stabilisation” of the dunes is what causes erosion in the first place); “supporting biodiversity on private land” – in what way will this be a “key consideration” of the management plan? All activities proposed will reduce biodiversity; “protecting habitats through formal arrangements” – the “likely” protection will not be necessary since the habitats will have been killed; “involving Aboriginal people” – the anticipation that Aboriginal people may be encouraged to apply for jobs will surely be little comfort for the people whose land and ancestors have been desecrated; “planning for climate change” – it is a relief to know that the buildings will be away from the sea rise level, but the development will have put a large fraction of the land at increased risk from climate change from habitat destruction.

17. Contrary to what is said in the proposal on page 17, the development plan is completely inconsistent with the Native Vegetation Act. One simply cannot believe that the habitat destruction and clearance illustrated on page 8 have anything to do with abiding by the Native Vegetation Act.

18. Previous statements stand for what concerns the Limestone Coast and Coorong Coastal Action Plan, acts, and other strategies.

19. The proposal states that golf has not grown in SA. It is not surprising since the large golf course developments have been failures, at great cost to local communities.

20. The rationale (pages 21-22) is based on the fact that golf is experiencing growth in some places, although golf is well known to have ups and downs. There is no shred of evidence that the development is economically sound.

21. The fact that the “direct frontage to the coast” is “relatively unencumbered” shows that the developers do not understand fragile ecosystems. Native habitats may look “relatively unencumbered” but represent hundreds of thousands of years of evolution.

22. The “intensive management of the balance of the site”, which is supposed to address all values from environmental to Aboriginal, would be extremely expensive. Where are the financial models? At the moment, the dunes manage themselves for free.

23. The “easy reach from Adelaide and Mt Gambier” is not really that easy.

24. The lack of financial modelling does not allow the prediction of employment suggested by the proposal.

25. The alignment of natural dunes (p. 24) is not necessarily parallel to the coast line. This statement is also absurd: “The proposed development provides an opportunity for improvements to the vegetation through the removal of weeds and pests, protection of the majority of the site and revegetation and restoration programs.” A golf course as presented on the map is NOT an opportunity to improve the vegetation; it is exactly the opposite. Clearing native vegetation (p. 25) is not an activity that is in line with protecting native vegetation! Clearing native vegetation does not improve it, contrary to what the proposal keeps mentioning.

26. No plan is shown regarding impacts of irrigation on the wetlands (p. 25) and the “flattening” of some parts of the land.

27. The pictures of other “similar” golf courses show extensive areas of exotic vegetation, erosion, and environmental devastation from which it is probably impossible to come back. Interestingly, the areas are free of people, which reminds us of the increasing competition from other golf courses popping up everywhere, including one on Kangaroo Island approved recently, and the ones on the photographs. It also reminds us of the bankruptcy that large golf course developments have recently been subjected to, along with the local communities hosting them.

28. The section on native vegetation and fauna (from page 31) again refers to the necessary clearing of a quarter to a third of the native vegetation. The map seems to indicate more than that. In addition, such intense clearing means that ALL the vegetation will be affected, since tiny fragments will be created. Fragments consist mostly of edge and the vegetation and the communities it supports are not functional (contrary to what is suggested on p. 34, which is false “habitat will remain relatively connected and unfragmented”). And no, greens and fairways are not vegetation corridors and feeding grounds for orange-bellied parrots, p. 35). Importantly, the proposal refers to various threatened species and communities. Leaving a few trees standing is not going to help the orange-bellied parrot. The proposal also sounds in places like blackmail: invasive species will not be controlled if the proposal is not approved. It is an indication that the landholders do not respect the site. The destruction of the entire area resulting from the development of the proposal would not help the integrity of the natural communities, by definition, so the “more structured approach to land management” (p. 31) is completely laughable.

29. Having conducted much research on endangered spider orchids, I know that orchids sit at the end of a long chain of ecosystem functions. Orchids mimic the pheromone produced by a unique species of wasp, a wingless female. The winged male is attracted by the pheromone and will land on the orchid, believing a female wasp is present. This is how these orchids get pollinated. The orchids also depend on a specific mycorrhizal fungus. The female wasp must lay eggs in a beetle larva underground; both male and female feed on nectar, which must be available at the right time. Spider orchids are not annuals. A proper survey takes years. In summary, the orchids depend not just on a small patch, but a very large intact ecosystem to be functional. Preserving the small patch on which orchids have been seen (30 x 10 m, p. 33) is not going to help the orchid population for very long. This project is sure to lead this endangered species to extinction and on this basis alone should be rejected.

31. The information regarding native wildlife of significance, including a critically endangered species, is very naïve. It does not take into consideration the foraging ranges of the species and the functionality of the ecosystem on which they depend. Similarly, the proposal on p. 38 says that only

part of the golf course will be very close to the “lake”. The whole ecosystem around the wetland is what makes it healthy. Works around the wetland will damage it.

32. There is nothing in the proposal that suggests any benefit to Little Dip Conservation Park, unlike what is suggested on page 36. A golf course is not a corridor when compared to a natural dune system.

33. It seems that the authors have completely misunderstood the “impacts on beach and dune forms” on p. 37. No person with any understanding of coastal geomorphology could suggest that building a golf course all the way to the edge of the beach on top of dune is going to have no effect on beach behaviour. GHD said “provided natural dune function was allowed to continue” – well, the whole proposal implies an end to “natural dune function”. The effect on the beach would be dramatic and can be seen in all urbanised places where construction has been allowed on the dunes. Interestingly, exposure to “some of the most severe wind and wave conditions in Australia” does not seem conducive to the use of a golf course. Sand movement replenishes the beaches; dunes are not meant to be static.

34. The statement about sea level rise is most curious “In any event, if any parts of the golf course are affected by erosion and/or sea level rise repairs and stabilising works can easily be undertaken with little impact on the continuing function of the golf course.” Do the golf course operators really think they are going to stop the sea and natural sand movement? If they are, it will be with very costly work and at the detriment of the native ecosystem. The proposal shows developers are not concerned with medium-term sustainability, much less long-term health of the site.

35. There is no information on sewage management for the beef industry. On p. 54 the construction of a sewer (for people facilities) is mentioned, with no information on capacity and impact.

38. Impacts on Lakes Eliza and Little Dip Conservation Park have been waved off on p. 38. The authors state that all will be sorted with some weed management and a management plan. These potentially irreversible and large impacts need to be thought about now; later will be too late.

39. The lack of understanding about irrigation threatens not only the local area, but adjacent properties as well. Irrigation can cause serious depletion of groundwater and saltwater incursion (very likely at this site), widespread land salinity and death of ecosystems.

40. Another very naïve statement occurs on pp. 39-40 regarding the interruption of the corridor between Little Dip Conservation Park and the Heritage Agreement land. A corridor is not a place where threatened species may necessarily have been seen by a consultant, it’s a corridor! A place to allow the *movement* of all species in a habitat that is suitable. Certain bird species will not cross a road, much less a golf course.

41. No information is given on sewage treatment. Is sewage to go into the sea? “Wave action” is said to minimise the effect of fertilizer on the marine environment. Really? How about the effects of fertilizers and pesticides (in heavy use on golf courses) on the groundwater and terrestrial environments? Information on pages 42 and 43 indicates that no sampling was undertaken by GHD and that their knowledge of groundwater is shady at best and based on “desktop information” (Table 2).

42. The whole GHD report (based on what appears on p. 40) seems to be grounded in the “natural dune function” being allowed to continue. NATURAL DUNE FUNCTION WILL NOT CONTINUE if the development takes place, by definition. Therefore, any finding by GHD that the golf course will not have severe impacts is invalid. Stabilisation of dunes by golf courses is the very definition of preventing natural dune function to continue.
43. Wind turbines (p. 44) are unlikely to be compatible with a site protecting birds and bats.
44. There is no grounding for number of future visitors and job creation. Robe is not Tasmania, and major golf courses in South Australia have already been bankrupt. It would be absurd to destroy a very important area in a conservation zone located between two protected areas for the purpose of a few jobs over what would most likely last less than 5 years before failure. The Hudson-Howells letter in the appendix states “A Microsoft Excel model has been developed to assess the economic impacts and an Input –Output methodology has been employed to model the impact of the development on the regional economy.” It means that they have put numbers in a spreadsheet. In other words, it’s pretty much off the top of their head.
45. On p. 47 the construction costs include an airstrip? What is meant by that? How large and where? 23 or so millions of dollars are to be reimbursed by the sale of units? That would be a fair few units? And many rounds of expensive golf?
46. The proposal states that there will be no impact on heritage places (p. 48), but the entire area is of great significance to Aboriginal people. The section on social impacts does not mention people who want to keep the area free of development. About 130 users of Little Dip Conservation Park signed a (hard copy) petition against the development, based on ecological and Aboriginal values, yet nothing is said about impacts on them and the consequent lack of trust in all levels of governments that would result from the authorisation of such a development.
47. The building allows for dune movement??? (p. 49). How?
48. The image on p. 50 shows that it’s not only greens that will be sitting against the beach; buildings are very close as well, as confirmed by the maps. See previous comments on constructions on top of active dunes.
49. “A sufficient and fit-for-purpose water supply is almost certainly available for the purposes of the establishing and maintaining the golf course and operating the resort” p. 53. Again this near certainty is not enough, and irrigation impacts have not been researched. Discarding water that can’t be stored (p. 55) “in the environment” could have serious impacts.
50. All additional facilities that are mentioned in the infrastructure section are going to take more space than what has been declared in the proposal.
51. I assume tax payers would pay for the “highly desirable” (p. 58) redevelopment and maintenance of Nora Creina Road to accommodate “additional” traffic (p. 57)?
52. “A helicopter landing area” (p. 58) does not appear on the map. Where is it going to be and what impacts is it going to have? Maybe the helicopter could be used to transport orange-bellied parrots...

53. I have already addressed most of the concepts presented under section 11, construction and operation. However, some statements raise more alarm: “The significant size of the land (and in particular the amount of land not required for the development) will easily allow for both subtle and more material changes to the concept plan if and when they arise” (p. 60). It sounds as if the developers give themselves free reins for more development.

54. Allowing mitigation for the disturbance of Aboriginal sites of significance (p. 61) is disturbing. The report in the appendix indicates that “all of the sites identified within the ... proposed development area are considered to be of high significance to Aboriginal tradition.” The report refers to “serious concerns” regarding the development (p. 28 in the appendix) and states that sites are “part of a larger cultural landscape.” The proposal does not show a serious attempt at accommodating Aboriginal culture needs. The “cultural centre” in the clubhouse, which sounds a bit like a poster in a corner, is poor compensation for digging up a population’s ancestors and shredding their connection with the land.

13/3/16

Minister of Planning
c/- Robert Kleeman, Unit Manager,
Major, Crown Development & Grants (Investment Management),
Dept of Planning, Transport & Infrastructure,
GPO Box 1815 Adelaide SA 5000.

I am a descendant and active community member of the South East Aboriginal Community. My role is to care for cultural knowledge and heritage which is past down from my family connections.

The Nora Creina Golf Course and Tourist Resort proposal will have devastating impacts on Aboriginal Sites due to the locality of this development. This type of infrastructure when actioned will not only excavate new Aboriginal Sites it will have a devastating impact on the whole Coastal Landscape.

This will take away the important cultural values of the newly recorded sites (AARD Heritage Unit). As we know the coastal vegetation holds this very important coastline together as it has been for a long time, that's why Aboriginal People utilised the different vegetation types for food and survival.

This type of lifestyle with the vegetation and water was a great place to live and this type of living has been happening for thousands of years. This is why you will find many Aboriginal Heritage Sites on the Scanlon Property and surrounding area. Most of the Aboriginal Sites that were recorded in the last Heritage Survey were recorded on the surface and there are many Aboriginal Sites that will also be found under the surface if disturbance occurs.

Therefore I am at the opinion that the Nora Creina Golf Course Proposal should not proceed due to the high amount of Cultural Heritage Values in and around the proposed area.

Yours Sincerely

Doug Nicholls

PO Box 280
Kingston SE
SA 5275

Submission regarding Nora Creina proposed development

In response to the Major Project Public Environmental Report - Proposed Nora Creina Golf Course and Tourism Resort, Development, January 2016.

21-3-16

To: Minister of Planning,
Attention, Robert Kleeman, Unit Manager,
Major, Crown Development and Grants
Department of Planning, Transport and infrastructure
GPO Box 1815
ADELAIDE SA 5000
Email: DACadmin@sa.gov.au

From: Dr Freya HIGGINS-DESBIOLLES, PhD
Senior Lecturer in Tourism
School of Management
University of South Australia
Email: Freya.HigginsDesbiolles@unisa.edu.au

I have read the documentation for the proposed development at Nora Creina. While I can sympathise with the landholders who wish to use their investment for income generation and I can understand the District Council wants to encourage development opportunities, I am concerned about the location and the planning of this development as per the proposal under consideration. My concerns are particularly to do with: 1) faulty analysis of the tourism development potential, 2) environmental concerns and 3) the impacts on Aboriginal culture, heritage and values. I am also concerned with the process of declaring this development a "major development" which has the potential to discount such concerns by weighing up the balance between social, environmental and economic concerns in a way that judges economic concerns to override the demands of environmental sustainability and social well-being.

In brief, my concerns are:

- 1) Golf is an environmentally damaging recreational and tourism activity as it uses large amounts of water, and causes many types of pollution (including fertilisers and pesticides), significantly impinging on habitats and damaging ecologies (see for instance, <http://www.theguardian.com/commentisfree/2007/jun/14/thecaseagainstgolf>). As tourists become more aware, such environmentally irresponsible tourism and recreation practices are giving way to more sustainable and integrated tourism development such as ecotourism and slow tourism (see C. M. Hall 2008 Tourism Planning).
- 2) Golf is known as a 'game of the powerful' elitist activity, well documented for failing to engage with demographics, and is being increasingly criticised from wider groups of the community.
- 3) The economics of the argument do not make sense. It is now documented in Golf Australia figures that 50% of Australia golf clubs are in financial distress due to very low memberships. The participation rates have been on a decrease for the last 15 years. Australia has too many golf courses already, the market is known to be saturated, and with Kangaroo Island planning a new elite golf course, it seems even more unlikely the economic case made in the proposal is justified.

- 4) The development plan seems to be filled with current tourism buzzwords rather than a well-analysed, integrated and sustainable tourism development. I say this because of the sprinkling of concepts from “golf tourism”, to Chinese visitors, to a “wellness” aspect to a Wagyu beef value-added component. I am concerned that this is another “build it and they will come” initiative of consultants rather than an integrated plan for a sustainable and beneficial development underpinned by triple bottom-line sustainability.
- 5) The economic analysis requires critical analysis. For instance, the argument that visitor access is easy is not accurate, the lack of financial modelling is not convincing on the employment promised and the target markets are not realistic at a time when the Chinese economy is contracting, the global economy is very uncertain and other international markets are not promising as a result. Again, this points to the value of planning for a sustainable development that complies with all relevant planning documents for this location and does not alienate social and environmental values in the pursuit of economic goals.
- 6) I have engaged with scientists with environmental expertise and my understanding is that this location has fragile dune ecology and involves impact on important a wild-life corridors. I note ecotourism is the promising attraction of this district and a golf course development that has such negative ecological impacts works counter to the very assets which this region is known for. In my understanding from reading relevant planning documents, it also is not compatible with natural resource planning, native vegetation legislation nor District Council plans for this region.
- 7) I understand the proposed development location has sites of Aboriginal Heritage significance. I also understand that leadership of effected Aboriginal communities (specifically the Meintangk and Bunganditj peoples) have voiced concerns about the consultation process for the development, the development proposal and the negative impacts they will suffer for generations as a result if this development as proposed is allowed to proceed. In particular I am very concerned about the proposal’s statement allowing for mitigation for the disturbance of Aboriginal sites of significance (p. 61), which I find unacceptable; we need to protect these valuable sites and the impacts of development cannot be “mitigated” on declared sites in my opinion. The appendix states that “all of the sites identified within the ... proposed development area are considered to be of high significance to Aboriginal tradition.” The report refers to “serious concerns” regarding the development (p. 28 in the appendix) and states that sites are “part of a larger cultural landscape.” I would urge respect for Aboriginal Heritage legislation, native title rights, adherence to Australian commitments under the United Declaration on the Rights of Indigenous Peoples and thereby ensure that any development proposal for this region adheres to best practice in consultation, ensuring prior informed consent and full benefit sharing from developments in order to meet obligations to Aboriginal nations which can help ensure their custodianship enhances the environmental and economic values for this region. Finally I note the concept of a “cultural centre” in the clubhouse is simply insulting and cannot be accepted.

It is for these regions that I strongly urge the Planning Minister use his powers and to reject this development proposal.

Yours sincerely,

Freya

Dr Freya Higgins-Desbiolles

**Submission – Kungari Aboriginal Heritage Association, prepared by Dr Irene Watson
March 15th 2016**

kungarifirstpeoples@gmail.com

**In response to the Major Project Public Environmental Report - Proposed Nora Creina
Golf Course and Tourism Resort, Development, January 2016.**

To: Minister of Planning,
Attention, Robert Kleeman, Unit Manager,
Major, Crown Development and Grants
Department of Planning, Transport and infrastructure
GPO Box 1815
ADELAIDE SA 5000

Email: DACadmin@sa.gov.au

Introduction

Permission is given for this submission to be made available for public information and viewing.

In this submission Kungari outlines the concerns of the First Nation Peoples of the South-East of S.A and includes those of the Meintangk and Bunganditj peoples whose territories the proposed development of Nora Creina would have a damaging impact upon.

Kungari Aboriginal Association was established by the Tanganekald, Meintangk and Bunganditj elders in 1988 at Kingston SE. The primary objective of Kungari was then and remains, to care for country, and in particular our sacred ancestral and cultural sites. We know our ancestors managed our territories for millennia and we still carry the responsibility to ensure a sustainable environment for future generations of our peoples.

Kungari does not support this proposal and we call upon Minister Rau to exercise his power to also say no to this proposal. At the information meeting in Robe on 17th February, 2016 we called upon the developers, the Scanlon brothers, to withdraw their application. We understand that the desire to make a profit is what is driving this proposal, but we maintain that the damage that will be done to this landscape can never be recovered. A relative said to me recently, “if this goes ahead we will be spending the next 200 years cleaning up their mess”. If it goes ahead, we shall be left with recovering and reburying unearthed burial grounds and damaged midden sites. The level of damage stands to be disturbing and this is without considering the immense damage that will be done to our ngaitjes - our spiritual connection to the animals, water systems and natural environment generally of this region.

Meintangk and Bunganditj Law - colonial laws, and a conflict of law and power

Australian law does not acknowledge First Nations epistemologies, our ways of knowing our relationships to country, and most significantly the obligations we hold towards caring for our lands. This lack of acknowledgement is due to the international law principle 'terra nullius'.

Our ancient legal systems do exist in Australian law for the purpose of 'recognising' a native title right. This feeble acknowledgement on the part of Australian law is the most vulnerable of property law rights. It is a right open to extinguishment and has no power to veto or prevent destructive developments on our lands. Furthermore, native title is also difficult to prove mainly due to the impact of colonialism.

There has been no native title application made over our lands in the South East and much of the lands in the South East are freehold and outside the ambit of native title claim processes.

Australian law denies our legal identities as sovereign peoples and continues as though we have ceded or agreed to the invasion of our lands. Neither has occurred.

At the time of invasion, the Meintangk and Bunganditj peoples were much larger in number. Massacres, forced evictions and the general dislocation which began with the British occupation of the south-east decimated us. But even though, as a proportion of today's population we are small in number our relationships to our lands remain as strong as ever.

We are still here. We continue to exist and our long connections to our country provide our authority to care for it, for present and future generations. Australian law ignores First Nations authority to care for country, and ineffective processes of recognition in Native Title and Aboriginal Heritage protection do not enable us to protect our lands from damage.

It is significant to our survival that our lands remain healthy, for that is the connection between people and the land: unhealthy lands, unhealthy peoples.

But a conflict of laws exists; the state has not acted in good faith when dealing with our Peoples, and has ignored, and attempted to assimilate and or roll all that is Aboriginal into the dominant paradigm of progress and development.

The Australian legal system has never acknowledged Aboriginal epistemologies and has instead constructed First Nations as uncivilised and barbaric beings, and subjected us to a process of normalisation . The dominant legal narrative ignores Indigenous epistemologies of relationality.

As a result the regulatory system fails to understand how Aboriginal laws from ancient times remain important to human relationships to country.

Indigenous philosophy centres on relational and cyclical connections to the natural world – a plan which resulted in a damaged country-side would never be allowed to proceed - while

eurocentric ideas of progress tend to allow damage and can culminate in destructive ends and means - such as the destruction of fragile ecological habitat, where our ancestors are buried and evidence of our ancient connection to country lay in midden sites. Aboriginal culture and law explains what happens to our land, air and water if human beings go down this track,

Linear progression is akin to the flat earth way of viewing life on earth, a view which science eventually came to know as not the truth when it discovered the earth is round. It was a truth Indigenous peoples had known for millennia.

For these and many other reasons Indigenous Knowledges need to be embraced, our knowledges are proving that eurocentric sciences have much to learn from us and in consequence Australian law should give greater account to those knowledges.

Currently Meintangk and Bunganditj peoples have little presence or acknowledgement in decision-making processes that impact our territories, this is the terra nullius dilemma, that is the idea that we are inhuman or without law. Our ancient laws, culture and knowledge in our contemporary being and presence should be included in any decisions made about the land.

As the ancient carers and managers of our lands it is our obligation to ensure proper management of country and we are alarmed by this proposal and its potential to impact upon and damage our coastal dune system, surface waters, underground waters, and native species dependent upon and living in the region of the proposed development.

Australian law which pertains to Native title and Aboriginal Heritage at both state and commonwealth levels, are inept in managing the ongoing health of our lands. These laws are unable to protect country. Native title is vulnerable to the plenary power of the state and extinguishment, while Aboriginal Heritage protection is a matter for ministerial discretion which is to protect or not protect. For example see Section 23 of the *SA Aboriginal Heritage Act* (1988), ministerial power to authorise to damage, disturb, or interfere with an Aboriginal site, object or remains.

The inherent weakness of the Aboriginal Heritage Act is likely to be made weaker due to the recent proposed amendments introduced at the time of writing this submission in March 2016 in the Aboriginal Heritage Bill.

Native Title laws and Aboriginal Heritage laws of both the State and Commonwealth fail to engage with First Nations epistemologies - connections to land and law and as a result do not provide minimum standards of protection as are identified in international laws, aimed at being necessary to ensure the survival of indigenous peoples.

There is currently no native title determination covering the South East. Free-hold lands are exempt from native title and any remaining and potentially claimable land has no native title claim extant. This is for a number of reasons, one being a failure on the part of native title administrators to allocate resources to groups requesting support to initiate a claim. It is as though Meintangk and Bunganditj peoples no longer exist in the eyes of the state.

While within the South East there has been no engagement with native title processes beyond small gestures relating to site protection under Aboriginal Heritage laws, there has also been

no consultation with First Nations which complies with minimum standards in international law.

Standards drawn from the right to self-determination in regard to negotiations between States, multi-national developers and First Nations have been established in the Universal Declaration on Human Rights the International Covenant on Civil and Political Rights (“ICCPR”) (which provides that members of minority groups “shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, and to use their own language”), and the International Covenant on Economic, Social and Cultural Rights (“ICESCR”) (which provides that “States Parties ... recognize the right of everyone [t]o take part in cultural life”).

It is the land which is the foundation of our culture, and spiritual life ways and all activities that impact upon those connections should be considered. Australia is a party to both UN covenants, the ICCPR, ICESCR.

The United Nations *Declaration on the Rights of Indigenous Peoples* (“UNDRIP”) declares; “Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.”

UNDRIP declares that as a minimum standard indigenous peoples have the right not to be subjected to destruction of our culture. Environmental damage to our lands impacts our capacity to survive as peoples and impacts upon our cultural integrity.

I draw your attention to the right of self-determination of all peoples as recognized in Article 1 of the two international covenants on human rights; this right is also declared in Article 3 of the UNDRIP. It embraces the idea that indigenous peoples should decide which is the appropriate development that can take place on our lands.

Under *UNDRIP* and *ILO Convention 169 on indigenous and tribal peoples (1989)* we have an expectation drawing on customary international law that we be consulted and involved in any decisions regarding proposals to exploit resources on our lands, particularly when that exploitation threatens our future survival.

Those minimum standards and expectations around consultation are set out in UNDRIP, in particular article 32 requires that states undertake good-faith consultations in order to obtain our free, prior and informed consent to any large-scale projects.

The principle of free, prior and informed consent is also referred to in articles 6 and 15 of *ILO Convention 169*.

While not enforceable rights, the above standards should be engaged as a requirement towards the protection of Meintangk and Bunganditj people's right to survive genocide and ecocide.

This view was supported by the UN Special Rapporteur on Indigenous Peoples, the Committee on the Elimination of Racial Discrimination (CERD), and also the Inter-American Court decision on the *Saramaka people v Suriname* (IACHR, 2007, para 17, 137).

It is the duty of parties to consult in good faith, and that requires the free, prior and informed consent of Indigenous Peoples in accordance with traditional laws and custom.

This proposed project has failed to consider those international minimum standards. It is the view of Kungari that any process should be in accordance with first nations laws and customs. A proper process should be considered in the context of the Meintangk and Bunganditj culture laws and customs, and at a base line such a process should involve and be inclusive of all our peoples, and not merely a handful of representatives taken from the SEFG which is an advisory body to the South Australian Government. It is akin to the government negotiating with itself.

To re-iterate, there is nothing in Meintangk and Bunganditj peoples laws which would or could agree to the destruction of the natural environment. This is because embedded in first nations' laws is the philosophy of relationality and the sustainability of the natural world for all future generations of life on earth.

Aboriginal Heritage, Culture, Identity and the Environment.

Any discussion regarding our territories should occur within an equitable framework. Across the history of the colonisation of our territories this has not ever occurred; instead we had extermination, protection, and assimilation policies. Their purpose was to enable the settler colonial society to occupy and control our lands and to destroy First Nations as viable entities. We remain in the era of assimilation and the idea that First Nations will inevitably be absorbed and disappeared into the dominant settler society. Assimilation is an act of genocide, and we remain -hanging by a thread - the survivors of an historic and continuing colonial policy of genocide.

The idea of consultation is embedded in the power of the colonial state and corporations who have economic power to contain and marginalise First Nations the state has the power of choice of accepting or rejecting the opinions of those consulted, and it seems usual that they recognise only that which fits and conforms to their agenda. When the agenda becomes economic development at any cost then First Nations Peoples and our way of knowing our worlds seem to count for little. If the colonial state was serious then any discussions should

occur within a framework of negotiation, which involve the process of free, prior and informed consent.

The primary purpose and concern of Kungari is for the protection of our ancient lands from any development which would damage our spiritual, cultural and economic relationships to land and our ancestors.

The Major Project Public Environmental Report - Proposed Nora Creina Golf Course and Tourism Resort, Development (PER) addresses *Aboriginal Heritage* and *Native Title* in accord with guidelines, 5.10.1-5.10.6; in this submission I will highlight issues regarding the consultation process and its inherent limitations and thus potential for risk and damage to the interests of the Meintangk and Bunganditj peoples.

Kungari first became aware of the proposed Nora Creina development in June 2014, when advised by a concerned individual a few hours prior to the expiry time and date for receipt of comments to the EPBC Act. It is to be noted in the submission made to the EPBC that the Scanlons application stated that there were no Aboriginal Heritage interests in the area of the proposed development. This is even though they had the advantage of the 2006 V. Woods report, which noted a number of sites, all of which were recommended for registration pursuant to the Aboriginal Heritage Act.

Kungari first observed a copy of the Nicholson Report in late January 2016 when it was sighted on the DAC website; any discussions around or viewing of early drafts were not made available to Kungari. Kungari did not participate in any further meetings nor comment on the draft report. This is the first time comment on that report has been made.

Free Prior and Informed Consent

First Nations peoples are often at a disadvantage when responding to colonial state inquiries, particularly those which enable development in our territories, and which mostly seem to ignore the minimum standards of responsibility towards obtaining the *free prior and informed consent*, of First Nations Peoples.

We have never formally ceded our territories nor is there any intention to do so in the future.

The business of the invasion of our lands remains ongoing. There is no basis in international law, imperial law and importantly the laws of the Meintangk and Bunganditj peoples which would lead the Commonwealth and the State of SA to assume they have law-full jurisdiction over our lands. In my view the business of coloniality, which assumes that the state and the commonwealth have only the claim to power over our territories continues to this day.

It is submitted that the jurisdiction that the state has assumed is one of colonial military power and not of law. In this context, international law has outlawed colonialism as a crime against humanity. The ongoing coloniality practised within South Australia and the state's dealings with First Nations Peoples lands and lives is against prescribed minimum standards set out in international law and the United Nations Declaration of the Rights of Indigenous Peoples.

Our lands have never been ceded so the question remains - by what law-full authority does the South Australian state come to deal with our territories?

We say no

Kungari says 'no way' to this proposed development. In our laws, in our ways of knowing the world, in our epistemological knowledges, - we have a responsibility to take care of country. We have an obligation to respect our ancestors and to take care of their sacred and spiritual resting places. The proposed development site near the place known as Nora Creina is to us a special, spiritual and sacred place and we say: "no, you cannot develop against our ways and our laws."

We have reviewed the proposal, and we attended the public information session; we have heard it all before, and we still say no.

We have every law-full right to say **no** under our ancient and still living Meintangk and Bunganditj laws. For we have never ceded our law-full connection to our territories. We must say **no**, for it is our law. We have a responsibility to our ancestors and to future generations.

There is no amount of money, or offer of jobs and education which would offset our obligations to say no to this development. Our strong connections to the land are evidenced by the ongoing sustainability of the land, it is a contradiction to consent to damage of the land, and to consider that a side-show education centre' might equal - let alone replicate - our unique and ancient relationships to our territories is an insult.

Time frame:

From a First Nations perspective the time frames for the development have been rushed and are time frames which better meet the needs of the SA government and the developer. There has been no attempt made to engage with our ways of being and going through the process is inequitable. I say inequitable because First Nations do not have the same level of resources as do developers and in having to respond to development applications such as this one, we are unable to provide and call upon the same level of expertise to respond with the equivalent level of detail as most development interests are resourced to provide. Such inequities result in the advantage and privileging of government and developers. That is the status quo, one which is cynical and patronising of First Nations People's right to life in accord with our ways of being.

For those who oppose this development we do what we can with the limited resources available to us to do so. We face odds that are stacked against our inherent rights as First Nations Peoples, there is no equality in this process.

The Aboriginal Cultural Heritage Survey

The survey and report prepared by Annie Nicholson during March 2015 raises a number of concerns for Kungari.

The consultation process involved members of the NRM-South East Focus Group (SEFG), and did not include and involve representatives of First Nations traditional owner groups. Whilst the author mentioned Irene Watson chairperson of Kungari the report failed to mention and include the views of Irene Watson regarding the consultation process. I call the process cynical in that it is unlikely to truly represent our urgent calls of no you cannot damage and destroy this place. You cannot use a proclaimed government process such as Aboriginal Heritage protection to legitimise such damage to our lands.

The SEFG is an advisory body to the NRM and is a creature of the State Government. It does not have a mandate to act as a representative of First Nations Peoples or for the purposes of conducting heritage surveys under the (SA) *Aboriginal Heritage Act* as traditional owners.

While it is acknowledged some of the SEFG members are also First Nations Peoples of the South East, the SEFG was consulted in respect of the Aboriginal Heritage survey in its capacity as a governmental advisory group. The SEFG needs to clarify the capacity in which those who attended and participated in the Aboriginal Heritage act were engaged. Did they act on behalf of SEFG or on the behalf of First Nations? Which First Nations did they represent and are they all identifying as Meintangk or Bunganditj people?

Further to the colonial policies and practices of the SA government and in the view of First Nations epistemological and ontological ways of being, there can be no authority to damage our lands and furthermore there is no lawful process which enables a clearance for development; such a clearance would be an unlawful one. It is understood that the South Australian government might legitimise such a process, however the laws of Meintangk and Bunganditj would not. At this point the reader may think that the laws of Meintangk and Bunganditj do not exist and this is the point, they do not exist in the context of the principle of terra nullius. But terra nullius is rejected by international customary law and also the High Court of Australia; terra nullius itself is unlawful.

The mandate of the SEFG is the provision of advice to the NRM, but it certainly has no mandate to consult on Aboriginal Heritage pursuant to the *Aboriginal Heritage Act*. As a result, there are problems on this aspect of the report. The process which was undertaken should have involved negotiations with First Nations /traditional owners and not simply with an advisory group to the State Government, even though some of the survey team are members of First Nations of the region.

At a meeting of the SEFG in February 2015, I attended as a visitor and advised the meeting of the need to consult broadly and go beyond the SEFG to include all Meintangk and Bunganditj people. I would again make that recommendation, one which is in accord with the *Aboriginal Heritage Act*, but also in accord with principles in international law, and the minimum standards as outlined in the UN Declaration on the Rights of Indigenous Peoples. (UNDRIP)

The Aboriginal Heritage consultation in respect of the proposed Nora Creina development was rushed and done on the state and developers' time and agenda while First Nations timelines and concerns were overtaken. As a result, an inequitable position has emerged; First

Nations' positions have not been fully considered. In my opinion the Nicholson Report (Appendix R of PER), was a rushed response to a call from the proponents to tick the *Aboriginal Heritage Act* (box) requirement for Aboriginal consultation. This was a process which followed on from an earlier report and survey by V. Wood in 2006. Wood made recommendations for the registration and protection of 5 sites within the area, but that process has never been followed up by the State Government. The opportunity to better protect our heritage has been overtaken by other interests.

The Nicholson Report makes a recommendation for protection and registration of the 5 sites identified by Wood, plus a further 12 new sites including numbers 3, 6 and 9 at German Point and Errington Hole and Nora Creina sites 1,2 4, 5, 7, 8, 10, 11 and 12. It further recommends that German Point sites 1,3,4 and 5, if disturbed, have mitigation work carried out to protect them.

While recommendations for registration and protection is to be commended, it is Kungari's view that the above recommendations do not fully guarantee protection of the area. They fail to note the significance of the sites and their inter-relationship with the environment, particularly the native flora and fauna. For example, how do you mitigate extensive damage of the cultural integrity of a site? How do you repair the interconnectedness of the natural world when the habitat of an endangered species has been destroyed?

Once these coastal areas are damaged they are difficult to rehabilitate, and so much of the Australian coastline has been damaged by development. As the natural qualities of these areas are being erased so is the opportunity to educate future generations about the sacredness and full value of the natural world. For this reason, it should be considered critical to retain their integrity and relationship with the entire landscape.

Since 1988 the Kungari Association has been dedicated to the protection of and caring for country. We have been involved in the South East Survey of sites prepared by V Woods and in particular the recommendation that hundreds of sites be entered into the Aboriginal Heritage Sites Register for protection. Those recommendations have been ignored and this has caused us great concern regarding the future protection of a large number of sites at risk of damage. These include the sites nominated in this proposal. It is important to note that there is the potential that many other sites will be uncovered in the event of the disturbance of the area likely if construction of this proposal is commenced. A major concern is that the likelihood of burial grounds being disturbed and damaged is significant.

What conclusions can be drawn by the State's continued ignoring of recommendations for protection? It is difficult not to draw the cynical conclusion that the State has no intention to protect our culture and territories, and that our lands remain vulnerable when it comes to development interests.

Native title

While Appendix R – Aboriginal Heritage, Report at p 12, notes that there have been no native title claims over the area, it should also be pointed out that individuals of the First Nations of the South-East have approached the SANT Unit for assistance. Those requests have all been

deferred with the Unit claiming that it lacks the resources that would be necessary to assist the First Nations Peoples of the South East in developing a claim.

I am not advocating that there be a Native Title claim (for there are as many weaknesses inherent in the native title process as there are in the Aboriginal Heritage processes in their lack of capacity to protect country from destructive developments) but to clarify and correct the current reading of the South-East position.

I have previously critiqued the Native Title process for the empty vessel it is, and likewise the entire colonial project. I refer you to my writings on them:

<http://www.routledge.com/books/details/9780415721752/>

Native Title laws and processes as sourced in commonwealth and state jurisdictions are products of an ongoing coloniality. The colonial jurisdictions and their claims to the lawfulness of state ownership of our lands and native title are both disputed and rejected for their un-lawful foundations. The pursuit of native title frameworks to inform the processes we are dealing with here is of no assistance. In more instances than not native title processes in the form of Indigenous Land Use Agreements are employed to assist the opening up and approval of country for the purposes such as the one that this proposal endorses. In other words, native title is a process which is largely used to assist the development paradigm more than it is to provide protection in a traditional and lawful way, embracing First Nations epistemological approaches and relationships to our territories.

Do we need another golf course?

As I have stated above, we say no, and there is nothing which will shift our position regarding this development. However, in saying that it might also be worth considering the general weakness of the proposal. Do we need another golf course? The proponents' argument is that a golf course would be good for the economic development of the state and in particular the South-East region.

South Australians are being seduced by the promise of employment and the developers are indicating there could also be jobs for Indigenous people. We have heard it all before - these promises do not usually translate into the reality of long term economic security for First Nations.

A number of similar proposals have been floated over recent years, and they have not been successful. They were similarly projected as winners which would save the state and improve economic development and include the golf course and urban development at Port Hughes, and the golf course and marina at Wirrina. Neither of these have saved the state, but now there are competing proposals for a new coastal golf course on Kangaroo Island and another golf course at Robe. So far there is no business case or evidence to indicate their success, and worse than that they carry the critical baggage of loading the South Australian public and the First Nations Peoples who have the responsibility for caring for country with the costs of not only assisting with the costs of construction, but also with the clean-up at the most likely failure and destruction of the environment.

If the SA government accepts the economic claims and promises of this resort proposal contributing to the wealth of the south east region without any independent cost analysis and business studies of its own, then we will live the consequences for decades to come.

But worse than this we will no longer have the pristine natural environment which the SA settler society has taken for granted. That environment will likely be lost to the future generations and more importantly to the Meintangk and Bunganditj peoples who have taken care of the land since ancient times, and moreover, they will have the task of repairing the damage which has been wreaked upon the land.

Contemporary developments and the environment

Recent studies are revealing that the theme park and themed resorts of the past are not necessarily the economic panaceas they are touted to be. Theme parks such as Disneyland and resorts such as golf courses are suffering loss of tourist interest and investment while interest in natural environmental tourism is taking off. People are wanting to enjoy the natural world environment and mindful that as those environments diminish along with mass species decline it seems a cynical and backward development for the South Australian government to support a proposal likely to be read as a retrograde step in the light of current international tourism patterns.

It is Kungari's view that a more popular choice would be to work on improving the natural environment at Nora Creina and to take care of the natural relationships which already are in existence at this proposed development site. Much of the coastal dune systems around Australia have been destroyed. This is an opportunity to care for and to maintain for all peoples to witness, enjoy and learn from. A different approach is called for and one that builds upon Aboriginal management of our lands, then we would enable an opportunity for future generations to see orange bellied parrots, wombats and many other species in their natural habitat could be a future reality, one that is known of in educational and museum settings and not necessarily just a continuing memorial to extinct species

Research also reveals the importance of dune systems and their relationship to maintaining and stabilising beaches. We do not want a future such as we now witness at many South Australian beaches where there is a need to find a source of sand to replenish the continually-eroding beaches.

Prior to colonisation the South-East was one wide and inter-connected wetland. Ongoing unsustainable development has created a much drier environment. This proposal calls for lots of good water; it is unclear at this stage where that water will be sourced and along with the release of water what impact will that have on the current sources? While it might be suggested that water supply could be managed with proper calculations and modelling of water use, storage and release, it seems that if there is not enough water of low-salinity available, the project would not be sustainable. Many areas of the South-East are calling out for more water. Just some 100 kms north the Coorong Lakes are struggling and calling out for water. It seems to me to be an ill-considered plan to call on another extensive use of water for a project that is yet to demonstrate its viability in economic terms.

It is our view the proposal has not fully considered its potential impacts on the whole environment. The proposal maintains that its realisation will improve flora diversity and fauna habitats, but it's plain that this is a contradiction - it will do the opposite. The visual images are misleading. The pictures of golf courses being laid out across dune systems and referred to as 'low-intensity recreational use' reveals a complete lack of understanding of the environment and the relationships shared between the climate flora and fauna and human beings. For example, lawn maintained on a sand dune is a very high-intensity development; it means the loss of the existing natural habitat, while introducing yet another set of weeds, that is, lawn grasses. The logic in this is not at all affirming of caring for country.

Rezoning – what is the primary purpose, caring for country or economic development?

In this era of climate change, species extinctions and vulnerable natural environments it seems highly cynical that the South Australian government is considering rezoning this region.

How is this process likely to protect Australian species from extinction? The current zoning is a small attempt to provide some level of protection. While this proposal, if approved, has the potential to destroy significant features and assets of its site and the reason why people love to visit the area – that is because of the way it is. It is a unique ecological corridor in which remnant native species are battling for survival.

Instead of going down a trajectory that will hasten the path of extinction, what about the alternative, of enhancing and enabling the possibility of survival and also the possibility to thrive?

This proposal is not in unison with the Native Vegetation Act, the proposal to enable habitat destruction and the clearance of vegetation is in contradiction to the purposes of the Native Vegetation Act and that is to protect ecosystems that have taken hundreds of thousands of years to evolve. It is also not in unison with the South East Regional NRM plan, instead it contradicts it. Clearly it is not about improving native vegetation, how will the building of roads, numerous resort buildings, 60 units, an administration and function and education centre and the golf course improve native vegetation; the management of threatened species? This proposal will not improve the capacity to care for country. Why go against decades of significant work in land management initiatives to protect the coast from development? Why approve the building of 60 units? Why approve this level of development which the era of good coast-care management practices that have recently grown up?

This proposal will not protect First Nations cultural sites such as middens and burial grounds, and such destruction cannot be replaced or compensated for by way of an educational display in the proposed Resort centre, this is because from a First Nations perspective the education is in the land, when you destroy the biodiversity in the land you destroy the possibility of learning in a proper way.

Major Development Application Nora Creina Golf Course Resort Submissions

RECEIVED
17 FEB 2016
Development Assessment Commission

Tell us what you think about the following aspects of the Public Environment Report.
Submissions may be made available for public inspection and would be included in the proponent's Response Document (that will be released for public information at a later date). Please indicate below if you object to your submission being made available in this way.

Name Elias Scanlon Address 14 Halsbury Ave Kingswood
Telephone 0813 059 149 Email elias.scanlon@delmail.com

Overall, what do you think about the proposed Nora Creina Golf Course and Tourism Resort development?

Great! ~~much~~ Brilliant idea, will showcase the wonderful land & Aboriginal heritage as well as protect the ~~and~~ natural Eboras farm

Do you have any specific comments on the following?

Tourism and economy (Tourist visitation, job creation, value adding to local business etc)

Great for the economy! Provide wide range of job prospects through project construction as well as the resort management which will branch out to the wider community in the South East through a boost in tourism & a variety of job sets made available through the development

Environmental (native vegetation and animals, landscape, cultural heritage etc)

Environmental aspects have been very well considered! The Project would see proper management of the native veg & wild life which needs ~~protection~~ management. Showcasing the cultural heritage & providing jobs for indigenous communities is a very significant POSITIVE!



Infrastructure and services (Power and water use, delivery of services to the site etc)

greater infrastructure in robe & surrounding areas. Great for loads especially in construction of this infrastructure!

Buildings and design (Building location, design and architecture, landscaping etc)

Great ecofriendly & sustainable design. Designs seem very modern will full use of new technology.

Traffic and access (access, car parking etc)

Road will need development as well as airport which will be beneficial for all!

Are there any other matters you would like to raise?

Please indicate your preference below:

Please make my submission public

Please *do not* make my submission public

Written submissions commenting on the PER are invited until 5pm, Monday 21 March 2016 addressed to:

Minister for Planning c/-
Robert Kleeman, Unit Manager
Major, Crown Development and Grants (Investment Management)
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000

or via email to: DACadmin@sa.gov.au

Further information

Call – 1800 PLANNING – press option 1

Visit – sa.gov.au/planning/majordevelopments

Email – DACadmin@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure



Minister For Planning C/-
Robert Gleeman, Unit Manager
Major, Crown Development and Grants (Investment Management)
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000

Dear Mr Kleeman,

I writing this submission with regard to the MDA of Noria Crenia Golf Course Resort,

As resident & business owner of Robe, I would like to voice my support for the Development. Having spent time discussing with the developers their vision and proposal, I believe it is a great fit for the future prosperity Robe and the surrounding district.

The Employment and Cashflow that the Development itself will generate would be significant for the surrounding area. The secondary spin off and effect on business created from The Golf Course and Resort will also be well received and much appreciated.

Robe is already looking to upgrade its Airport in a staged and considered way, this is to capitalise on future arrivals to the Nora Creina Golf Course resort but also Arrivals that are coming to the Robe Township and the Robe Golf Course.

One of the models used by The developers is that of Barnboogle Golf Course TAS. This is a similar distance to the small Tasmanian town of Bridport. The effect that Barnboogle has had on this town has been astonishing.

I know that currently there is a Melbourne business looking to purchase the lease on the Bridport Airport and upgrade it to be capable of accepting Corporate Jets. This will allow high end VIP charters to fly direct to the town. The proposers believe this to be a very viable business and are willing to spend the money to achieve it.

This is another Business being developed in a small town that if you had suggested was possible 10 years ago would have seemed farcical.

So lets hope that this Development is approved and we can all enjoy the benefits of a well thought out and environmentally sound tourism opportunity for the South East region.

Kind regards.

Scott Fennell

FI HELICOPTERS



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PO Box 411 ROBE, SOUTH AUSTRALIA 5276
P.0488989087 EMAIL: SCOTT@FIHELICOPTERS.COM



The Friends of Little Dip CP

PO Box 1011, Robe, SA, 5276

19th March 2016

Minister for Planning

Attention: Robert Kleeman, Unit Major Crown Development & Grants, Department of Planning, Transport & Infrastructure, GPO Box 1815 Adelaide SA 5000.

I write this submission as the President of the Friends of Little Dip Conservation Park (FoLD) and on behalf of the Group. The Park is located due north of the Scanlon property and is separated from it by the 4WD track from the Nora Creina Road to the coast at the southern end of Errington's Hole.

We as a Group do not want to see this development approved, without consideration given to some of the following concerns.

There are many important issues and dire impacts that will directly affect this ecological peaceful area. This area is one of the last remaining untouched areas along the South-East Coast with High Conservation, Biodiversity and Heritage values and uniquely surrounded by the important High Value Ground Water Dependant Coastal Lakes.

Scanlon's Lake is one of a string of coastal lakes occurring in association with coastal dunes to the west and Lake Eliza to the east. It is one of the northernmost lakes in a complex extending from Robe through to Nora Creina, referred to as the Karinya Coastal Lakes Complex. Scanlon's Lake is one of three wetlands in this complex participating in the Healthy Wetlands on Private Land project in 2010.

The Friends of Little Dip are concerned about the amount of water that will be required for this Golf and Resort development as it will have to come from the underground water system. Even if the Proponents are willing and able to utilise the runoff from this development and purchase the estimated 230KL of ground water, we are concerned that the fresh water lakes in Little Dip and in the surrounding area will be impacted by the lowering of the water table. I recently researched the rainfall in Robe from 1860 to 2015 and noted that 2015 was the eleventh driest year in that period.

The remanent coastal vegetation on the Scanlon property, on which the proposed development is to take place, forms a corridor linking the Little Dip Conservation Park in the north, to land to the south, which is currently under a Heritage Agreement to protect its natural state. We are concerned that this development will fragment this corridor, therefore isolating the wildlife into "Islands".

Currently, there is little or no beach vehicle traffic on the beaches through to Nora Creina from Erringtons Hole's. The Friends of Little Dip are concerned for a species of small shore bird that is listed as **vulnerable** in Schedule 1 of the Commonwealth Endangered Species Protection Act 1992, i.e. the *Thinornis rubricollis* or as is commonly known as either the Hooded Plover, Hooded Dotterel or Dotterel. This very small population is found on these beaches. In the past 6 counts the reported sightings are as follows: 7 noted in April 2013, 10 in Nov 2013, 4 recorded in April 2014, 3 in Nov 2014, none in May 2015 and in Nov of that year 4 birds where recorded.

The Hoodie Survey is conducted twice yearly, by a DEWNR Ranger, who rides a quad bike from the boundary of Little Dip Conservation Park through to Nora Creina recording what shore birds are sighted.

For some years now, the South East DEWNR has conducted a "fox baiting program" on the coastline to assist in the breeding of these very small birds. It would be a shame if this Development was to go ahead and pests (cats and dogs) were allowed to wipe out any of the native wildlife that are in this area.

The Friends of Little Dip are also concerned for a specific threatened flora species. The Nationally Endangered *Caladenia richardsiorum*, or the "Little Dip Spider Orchid". Only one small population has been recorded and this is in the northern coastal dune area, the same dune system where the Golf course is due to be developed. In the past three years I have been involved in two "Little Dip Spider Orchid" plant surveys in similar dune systems and I would think that more of these Orchids would be found in this coastal dune system.

Our Group is very concerned about the possible disturbance of any Aboriginal Burial sites and Middens. We note that there have been only eighteen recorded sites in this proposed development and most have been within 250m of the shore line (the same area where the two 18 hole Golf Courses are planned). We would hope that members of the South East Focus Group would be able to assist with this proposed development and to look after any of their ancestral remains and artefacts etc.

However, we do realise that this proposed golf course and resort is a major development and will possibly bring employment for the South East.

Yours Sincerely

James Smith

President of the Friends of Little Dip

PO Box 1011

Robe SA 5276



Friends of Shorebirds SE

Minister for Planning
Attention: Robert Kleeman, Unit Manager
Major, Crown Development and Grants
Department of Planning, Transport and Infrastructure
GPO Box 1815
Adelaide SA 5000

Via email to: DACadmin@sa.gov.au

Re: Proposed Nora Creina Golf Course and Tourism Resort

Thank you for the opportunity to comment on this proposed development. The Friends of Shorebirds SE (FOSSE) is a non-government voluntary group concerned with protection, research, conservation and education regarding both migratory and resident shorebirds and their habitats.

Although FOSSE has no specific objections to this proposal, indeed it should be noted that golf courses are often ideal habitat for a number of bird species, we would appreciate being able to have some input into the location of beach access paths, etc. when it comes to the detailed design phase of this proposed development.

FOSSE is concerned that the probable high visitation numbers to the proposed golf course could lead to an increase in disturbance of feeding and roosting shorebirds and breeding beach-nesting species such as the Hooded Plover. Given that the beaches fronting the site are presently relatively undisturbed compared to many other beaches in the lower south east, all efforts should be made to limit and control access.

As FOSSE has considerable knowledge regarding the sites used by these birds in the area in question, we would be able to give guidance as to where access points to and from the beach should be avoided in order to lessen disturbance and would be pleased to do so at the appropriate time.

Regards

Jeff Campbell
President
sarah.jeffcampbell@bigpond.com
17 March 2016

Major Development Application Nora Creina Golf Course Resort Submissions

RECEIVED
17 FEB 2016
Development Assessment Commission

Tell us what you think about the following aspects of the Public Environment Report. Submissions may be made available for public inspection and would be included in the proponent's Response Document (that will be released for public information at a later date). Please indicate below if you object to your submission being made available in this way.

Name George Keenan Address P.O. Box 25 Combarava 5263
Telephone 0402 819 129 Email george.keenan@hotmail.com

Overall, what do you think about the proposed Nora Creina Golf Course and Tourism Resort development?

Feel very excited. Think it would be a positive for our region and the state.

Do you have any specific comments on the following?

Tourism and economy (Tourist visitation, job creation, value adding to local business etc)

Environmental (native vegetation and animals, landscape, cultural heritage etc)

Has the land been cleared before?



Infrastructure and services (Power and water use, delivery of services to the site etc)

How far does the power have to come from?
Any use of wind or solar energy?

Buildings and design (Building location, design and architecture, landscaping etc)

Really like the design. Works well with
landscape.

Traffic and access (access, car parking etc)

Will there be beach access for general public.
ie. ~~the~~ surfers?

Are there any other matters you would like to raise?

Good luck!!

Please indicate your preference below:

Please make my submission public

Please *do not* make my submission public

Written submissions commenting on the PER are invited until 5pm, Monday 21 March 2016 addressed to:

Minister for Planning c/-
Robert Kleeman, Unit Manager
Major, Crown Development and Grants (Investment
Management)
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000

or via email to: DACadmin@sa.gov.au

Further information

Call – 1800 PLANNING – press option 1

Visit – sa.gov.au/planning/majordevelopments

Email – DACadmin@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure

Proposed Nora Creina Golf Course Development Nature Based Services – 19/3/16

Dear Sirs

I have just learnt of the proposed development so my submission will be brief but non the less I will express some concerns I have regarding this proposal to develop an international standard, links style golf course and mixed tourism resort near Nora Creina in the South East region, by South East Abalone Pty Ltd.

I am not against development but have serious misgivings regarding this proposal.

There are numerous golf courses easily accessed and well provisioned in the State and I contend that we have enough such facilities.

One needs to take into consideration that there have been a number of significant golf course failures. eg Warinna, Greg Norman's York Peninsula scheme went into receivership, The Links at Lady Bay, all failures. There was also the white elephant event at Vivonne Bay not all that many years ago that had to be bailed out with tax Payers money and local businesses so why does Nora Creina have to have another chancy development to contend with where rate payers will no doubt have to make good the outcomes of this folly.

We recently had a new Golf course approved on Kangaroo Island in spite of many issues revolving around water supply, power, management of turf grasses invading adjacent bushland, encroachment to the coastal zone and costings and again we are expected to accept this development at Nora Creina, where irreversible dune destruction, impact on the coastal environment are real undesirable outcomes.

Water

Golf links on sands will absorb huge amounts of water and more so in summer when it will be needed most. Consequently, water is a precious resource and it would be a precarious decision to allow it to be used when we are no doubt in a period of changing climatic conditions where rainfall is irregular and often less than in past seasonal periods.

Even if the site were to provide an appropriate water holding storage facility, there is no reliable formula that will guarantee sufficient water when needed and considering the significant water uptake of the sand, much of what is used will quickly pass by the turf root zone. In summer the water capacity required to supply both the greens, domestic use and reserves for fire fighting will be demanding and the fire risk high due to the proposed sighting of the development. We now have an unreliable rainfall pattern and there is no certainty that sufficient water can be captured and stored.

Introduced grasses and water will irresponsibly increase wallaby and kangaroo numbers – unnecessary culling will no doubt be called for as scats on putting greens will not be acceptable. Culling here will put an ugly face to the regions International and local image.

Likewise, it is totally absurd to say that grassed areas will enhance the environment, it will be a monoculture that will have displaced the ecological biodiversity that once lived there.

Wildlife Corridors

The development will destroy existing natural corridors between two significant wildlife preserves and be ecologically damaging for endemic flora and fauna.

Introduced grasses.

My experience as a landscape consultant is that turf grasses are generally fast colonizing species that if allowed to escape into bushland makes them quite impossible to control without considerable damage to native species. They have the ability to not only set seed, some can reproduce from small stem segments and rhizomes. They are aggressive colonizers and will not be able to be prevented from seeding. The concept that such grasses will not colonize is just wishful thinking.

Microclimates will occur, seed will set, and it will only take one kangaroo to graze on the site, then pass scats in the Coastal or other neighboring areas of native bushland to bring about the establishment of a turf grass infestations.

Re Zoning

Another appalling aspect is the proposition to re zone the area. This would be a retrograde act and set a highly dangerous precedent that local Government should be fully aware of which could unleash detrimental consequences.

Dune systems.

The fragile dunes and disturbed areas where vegetation clearance and damage will occurred will be prone to significant blow out problems. Impact by human impact over these areas too will in time create problems that will be extremely difficult to remedy. There is a conflict of interest here. To potentially knowingly destroy aspects of the natural values of this area and create problems makes no sense as funds from rate payers will be required to restore public lands affected and who will enforce resort management to attend to such issues on their sites?

Protection of Aboriginal Sites

Aboriginal Sites once destroyed are lost forever and just displaying items found is a poor substitute for a more holistic approach to preserving these precious sites in tact. Aboriginal occupation of this region was intense and it would be detrimental to Aboriginal Culture and disrespectful of their culture and long history of occupation to allow impact and the destruction of such sites.

What recent and past surveys have been undertaken to identify and protect Aboriginal sites? I ask regarding recent as sand movement due to the vagaries of weather can cover and expose such areas.

Refuse collection/disposal

Storage and disposal systems are not clearly defined.

(1) How will contamination of the coastal/local environment by leachate/other pollutants, be prevented?

(2) Prevention of food waste being accessed by fauna having the potential to create undesirable population build up.

Conclusion

Clearly this proposal begs more questions and responses than it provides.

I am therefore of the opinion that for the reasons outlined, the development application should be refused.



Graham Churchett
NATURE BASED SERVICES

Nature Based Services
23 Sunset Strip, ATHELSTONE SA 5076
Ph 08 8336 5070 Mob. 0427 807 893



16 FEB 2016

To Minister for Planning - Hon. John Rau MP

Re: Development of the golf course resort and aquaculture next to Little Dip Conservation Park

(Nora Creina Bay)

7th February, 2016

P30
PLN 0001116

ATTORNEY-GENERAL'S OFFICE	
Rec'd	
Reg. no.	16 PLN 0111
File Copy ... YES/NO	ACK ... YES/NO
Action	DS
C.C.	

Dear Minister Rau,

I am very concerned to discover that a major development (including two golf courses) is planned for a coastal dune site adjacent to Little Dip Conservation Park. I request that you exercise your power and say NO to the development of a golf resort and to instead ensure the environmental integrity of Nora Creina and surrounding areas for now and generations to come. This beautiful and unique coastal habitat that I have often visited during my life has enormous value for the following reasons:

- The Nora Creina coastal dunes have been the home for the original first nations Meintangk and Boandik peoples for thousands of years. Meintangk and Boandik midden and burial grounds are almost continuous in these dunes, and it is inconceivable that development as proposed would not cause destruction of these cultural and spiritual sites. Such destruction would cause immeasurable cultural and spiritual loss for the Meintangk and Boandik peoples, but it would also impact upon non-Aboriginal peoples of Australia and indeed citizens of other countries.
- Nora Creina remains an ecological corridor for many native species, some now endangered, including the orange bellied parrot, many migratory shorebirds and the Little Dip Spider Orchid.
- The Nora Creina coastal lakes comprise part of only 6-8% of natural wetlands remaining in the south-east of South Australia.
- The coastal habitat - importantly the primary to tertiary dunes systems - makes it possible for rare species to survive, minimises fragmentation and its highly detrimental impacts, while making the region unique to visitors.
- Unmodified dunes allow the natural movement of sand, which prevents beach erosion. Very high costs could arise from the erosion caused by vegetation clearance and dune destabilisation as a result of the proposed development. Dune instability is a major problem in this region.

We fear damage to the continuity of intact beaches and their associated dunes. In the referral to the Federal Government, the proponent developers failed to address how they will mitigate impacts on matters of national significance, including listed species or the very real threat of erosion. The referral said that there was no site of cultural significance but the Wood Report (2006) recommended the registration of a number of Aboriginal-significant and important sites. We request that these be registered and a protection and management plan be developed.

Kind Regards,

Heather Heggie

PO Box 1095 Naracoorte SA 5271

08 8762 0982

ATTORNEY-GENERAL'S DEPT.



AGD543993

Date 15th January 2016

Name Helen Whittington
Address 25 Denning Street
Hawthorn 5062

Hon. John Rau, MP
GPO Box 464
Adelaide SA 5001
Australia
agd@agd.sa.gov.au



Dear Minister Rau,

Re: Development of the golf course resort and aquaculture next to Little Dip Conservation Park (Nora Creina Bay)

I am writing to express my concern and disappointment about a major development (including two golf courses) being proposed for a coastal dune site adjacent to Little Dip Conservation Park. We request that you exercise your power and say no to the development of a golf resort, and to instead ensure the integrity of Nora Creina for future generations. This beautiful and unique coastal habitat has enormous value for the following reasons:

- The Nora Creina coastal dunes have been the home for the original first nations Meintangk and Boandik peoples for thousands of years. Meintangk and Boandik midden and burial grounds are almost continuous in these dunes, and it is inconceivable that development as proposed would not cause destruction of these cultural and spiritual sites. Such destruction would cause immeasurable cultural and spiritual loss for the Meintangk and Boandik peoples, but it would also impact upon non-Aboriginal peoples of Australia and indeed citizens of other countries.
- Nora Creina remains an ecological corridor for many native species, some now endangered, including the orange bellied parrot, many migratory shorebirds and the Little Dip Spider Orchid.
 - The orange bellied parrot is known to be a critically endangered species, with an estimated 50 individuals left in the wild.
- The Nora Creina coastal lakes comprise part of only 6-8% of natural wetlands remaining in the south-east of South Australia.
- The coastal habitat - importantly the primary to tertiary dunes systems - makes it possible for rare species to survive, minimises fragmentation and its highly detrimental impacts, while making the region unique to visitors.
- Unmodified dunes allow the natural movement of sand, which prevents beach erosion. Very high costs could arise from the erosion caused by vegetation clearance and dune destabilisation as a result of the proposed development. Dune instability is a major problem in this region.

I am concerned about potential damage to the continuity of intact beaches and their associated dunes. In the referral to the Federal Government, the proponent developers failed to address how they will mitigate impacts on matters of national significance, including listed species or the very real threat of erosion. The referral said that there was no site of cultural significance, but the Wood Report (2006) recommended the registration of a number of Aboriginal-significant and important sites. I request that these be registered, and that a protection and management plan be developed for this site.

Thank you for considering my concerns.

Sincerely,

PO Box 676, Hahndorf, South Australia 5242

Minister for Planning
Attention: Robert Kleeman, Unit Manager
Major, Crown Developments and Grants
Department of Planning, Transport and Infrastructure
GPO Box 1815
Adelaide SA 5000

By post and email: DACadmin@sa.gov.au; dpti.pdpublicsubmissions@sa.gov.au

12th February 2016

Dear Sir or Madam

Submission regarding Proposed Nora Creina Golf Course and Tourism Resort

As the freehold owners of the adjoining site, Lot 15, 1446 Nora Creina Road, this submission is to highlight three areas of concern:

- i. We are writing to highlight our Free and Unrestricted Right of Way across the proposed land, together with that of our neighbor (Lot 16).
- ii. We jointly own the lake to the north of the proposed golf course development with the land boundary running across the middle
- iii. The need to seal the road from Robe to proposed development

i) Free and Unrestricted Right of Way across subject land

We are concerned as our right of way has not been highlighted in any of the submission material, notably under s10, page 58, and development proposals and needs to be planned for in any proposal to develop the land and operate as a golf course / tourist resort.

I have attached a copy of our land title and a map depicting the following easements:

"Subject to Free and unrestricted right of way over land marked A

Together with Easement(s) over the land marked F for the transmission of electricity by underground cable (TG 11344051)

Together with Free and Unrestricted right(s) of way over the land marked B and C

Together with Free and Unrestricted right(s) of way over the land marked D on DP 70078 and E on DP 76284"

We believe that this must be considered when assessing the proposed development and operation of any golf course/hotel. Together with our neighbor, we have an unrestricted right of way through what would be the proposed golf course and resort through onto the beach. All the

owners of these blocks of land, including the Scanlons who own the subject land, currently fully utilize that right of way, taking quad bikes, towing boats, bringing our children, dogs etc down to the beach. We are concerned that in no place in the PER proposals, has this right of way been taken into account and what that means. Indeed, our access runs right through the proposed vineyard and the club house. We are not prepared nor legally obliged to have our access to the beach restricted in any way.

Whilst we are not directly opposing the Golf Course proposal, we would request that this right of access be adequately planned for (in partnership with ourselves) and documented as part of any planning approval and negotiations with a potential developer/operator to ensure that our ownership rights are taken into account.

We are disappointed that we have not even been consulted by the owners as to how this might work.

ii) We jointly own the lake to the north of the proposed golf course development with the land boundary running across the middle

This needs to be acknowledged. There is mention of proposed pathways around the lakes which would not be possible over our private land.

iii) Requirement to seal road from Robe to proposed development

The current unsealed road already suffers from traffic in the summer developing pot holes etc and simply would not be able to adequately support the anticipated level of traffic anticipated once development starts / the course became operational. We would request that the sealing of this road is a precondition to start of any development.

We would appreciate your acknowledgement of this submission and are available to discuss any matters raised.

Yours faithfully

A handwritten signature in black ink, appearing to read 'D Humphrey'. The signature is written in a cursive style with a large, stylized initial 'D'.

Dr Daniel and Mrs Samantha Humphrey

Enc.



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Registrar-General

Certificate of Title - Volume 6058 Folio 184

Parent Title(s) CT 5972/519, CT 5972/520, CT 6009/542
Dealing(s) TG 11344051
Creating Title
Title Issued 13/05/2010
Edition 2
Edition Issued 19/12/2012

REAL PROPERTY ACT, 1986



South Australia

Estate Type

FEE SIMPLE

Registered Proprietor

DANIEL JAMES HUMPHREY
OF 6 SMOKES HILL ROAD SUMMERTOWN SA 5141
1 / 4 SHARE

SAMANTHA LOUISE HUMPHREY
OF 6 SMOKES HILL ROAD SUMMERTOWN SA 5141
3 / 4 SHARE

Description of Land

ALLOTMENT 15 DEPOSITED PLAN 70078
IN THE AREA NAMED NORA CREINA
HUNDRED OF WATERHOUSE

Easements

SUBJECT TO FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED A

TOGETHER WITH EASEMENT(S) OVER THE LAND MARKED F FOR THE TRANSMISSION OF ELECTRICITY BY UNDERGROUND CABLE (TG 11344051)

TOGETHER WITH FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED B AND C

TOGETHER WITH FREE AND UNRESTRICTED RIGHT(S) OF WAY OVER THE LAND MARKED D ON DP 70078 AND E ON DP 76284

Schedule of Dealings

Dealing Number	Description
----------------	-------------



11859984

MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

NIL

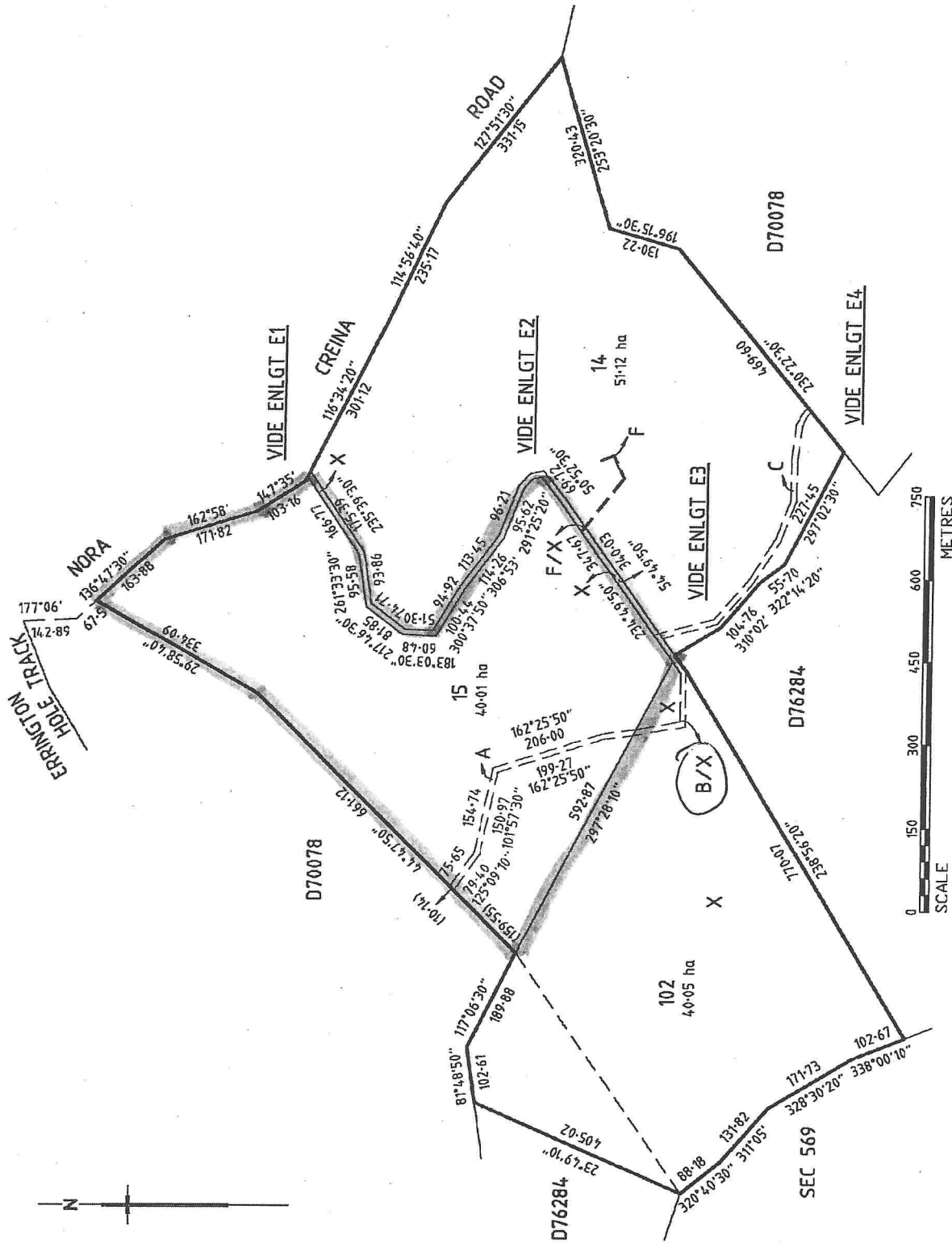
Administrative Interests

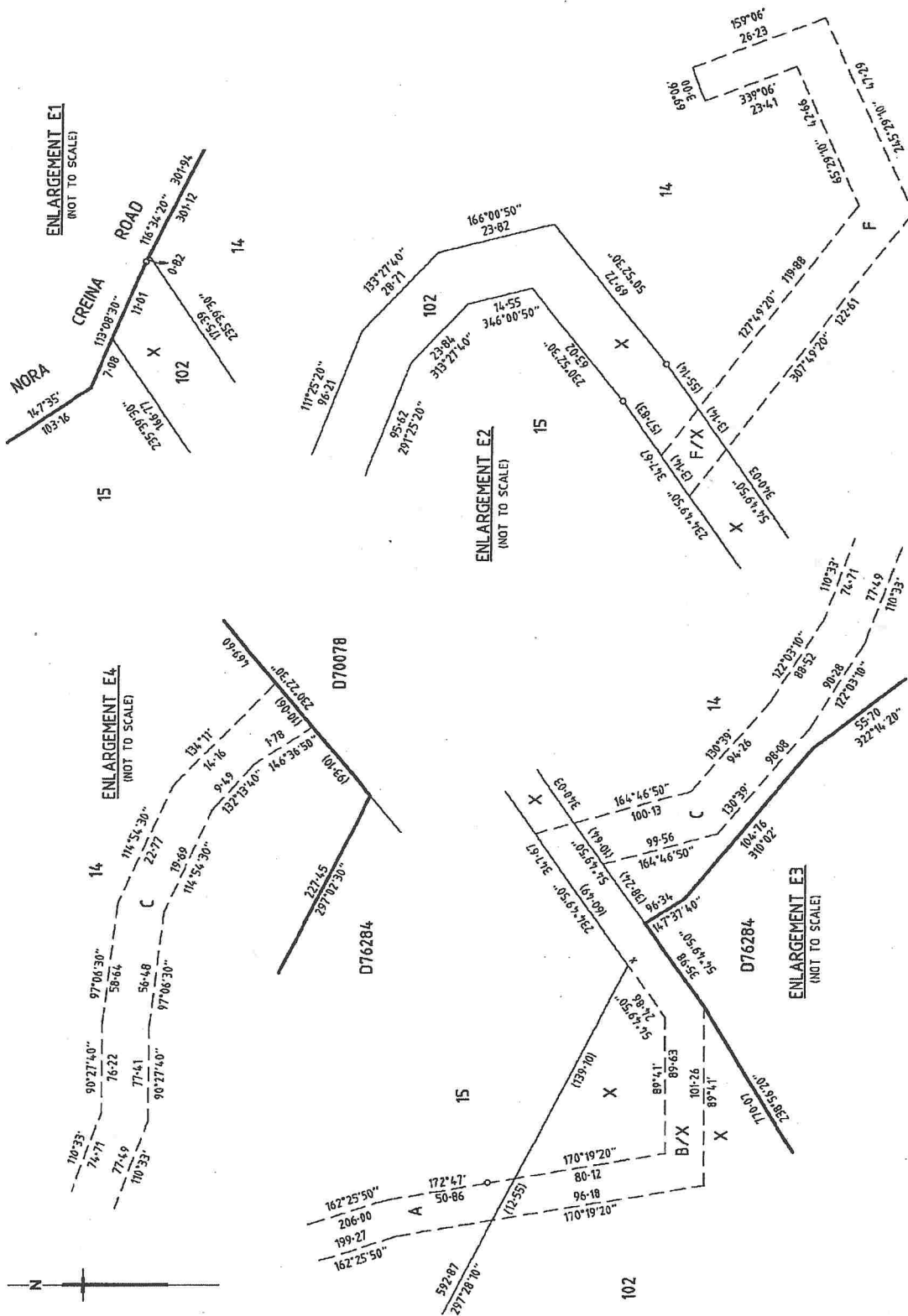
NIL

* Denotes the dealing has been re-lodged.



LOT 16 BOUNDARY

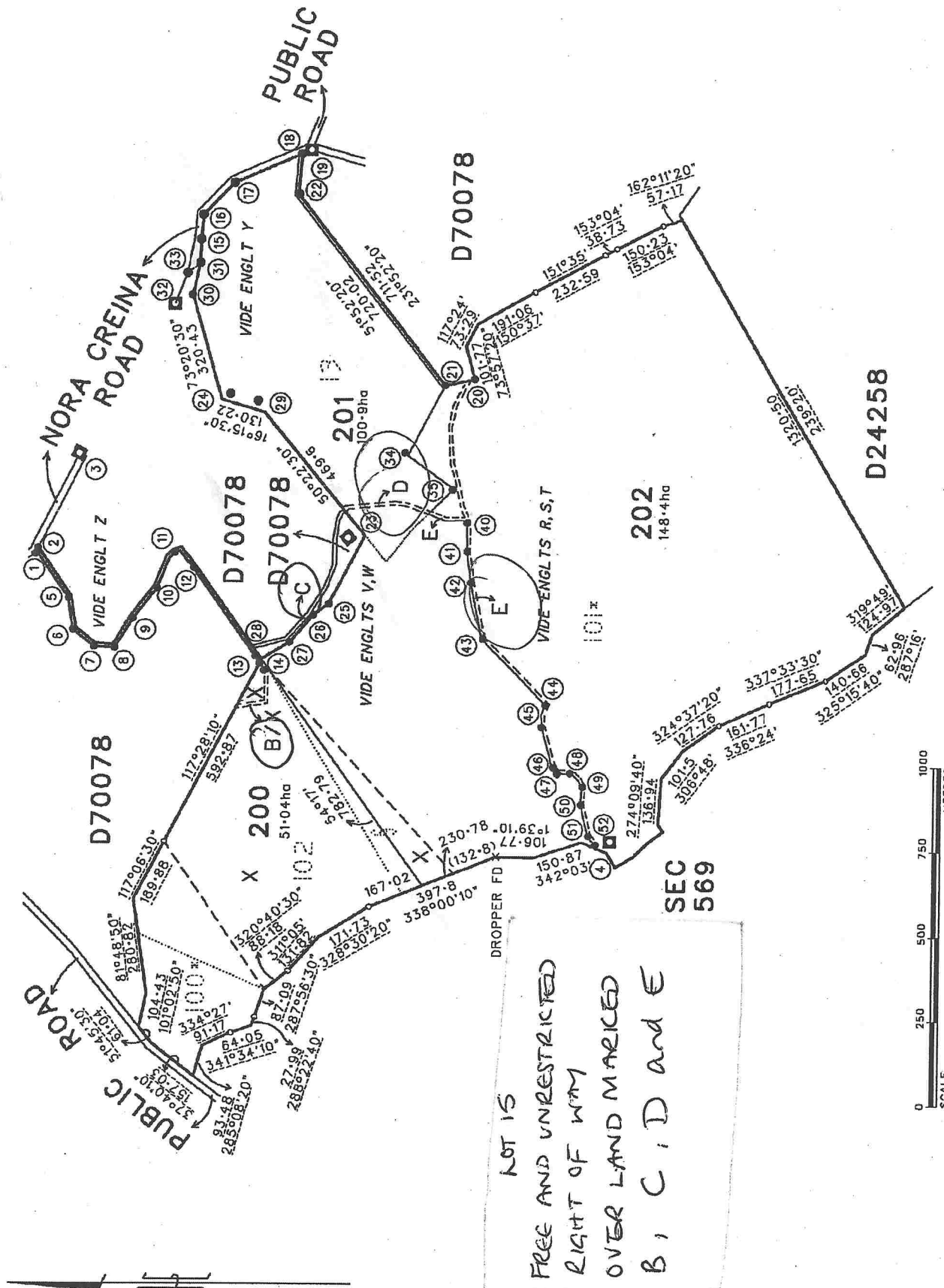




LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA

DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 6071 FOLIO 913

SEARCH DATE : 08/05/2012 TIME: 09:30:43



SURVEY INFORMATION IS DERIVED FROM DEPOSITED PLAN 85108

Nora Creina Golf Resort

Robe, South Australia



LOT 15
HOUSE.

"SHARED"
Lake.

LEGEND

- ① Cattle farm
- ② Vineyard
- ③ 3-5 star accom
- ④ Clubhouse
- ⑤ Retreat
- ⑥ 7-star villa

Golf Course Masterplan

9 r m

NORA CREINA GOLF RESORT

1000
4000 & 4
1000
1000
1000

1000
1000
1000
1000
1000

Archived: Wednesday, 23 March 2016 3:55:50 PM
From: Webb, Lee (DPTI)
Sent: Wednesday, 23 March 2016 3:43:26 PM
To: 'markb@skplanning.com.au'
Subject: FW: Nora Creina golf course development
Importance: Normal

FYI

From: Jim Pegler [<mailto:jfpegler@bigpond.com>]
Sent: Friday, 18 March 2016 6:23 AM
To: DPTI:PD Public Submissions
Cc: alpegler@bigpond.net.au
Subject: Nora Creina golf course development

Hi name is Jim Pegler and I have property across the road from the proposed Nora Creina golf course development.

I fully support this development and hope that it does get the approval of the SA government.

Regarding some of the issues I heard at the open day at robe I would like to say the following

Concerns re helicopters scaring livestock and local fauna...helicopters are currently used in the area to check power lines and also by the dept of environment

to poison box thorn in national parks and have not created major problems with our livestock or fauna that I have noticed.

Sacred sights are not an issue if they are identified and protected. We have an aboriginal burial site on our property which has been fenced off and left alone and I am sure the golf course could do the same .

The coastal dune system has been inundated with coastal wattle (south African) and non indigenous Australian species ,Apple of Sodom and False Caper and it will be great to see this controlled so that native species can come back.

Concerns with Agricultural sprays on the golf course ...if used correctly should be ok as I do not hear any complaints re sprays from Robe or Beachport golf clubs.

In relation to Fauna I believe the golf course will attract local fauna with green grass and fresh water. The two can live together in harmony as they do on the Mt Gambier golf

course with a large family of Kangaroos.

The benefits for tourism and the local economy are very welcome and the development will provide off season work for fisherman who often have to leave home in winter to secure employment.

Local businesses in Beachport and Robe suffer financially during the winter months and the development will help these people survive.

Finally I would like to say that much of our coast line is only accessible by 4WD and hopefully the golf course will allow people to see more of our pristine coastal environment. I am sure some of the local people feel they own the area and it is only for them .It will be great to see the area become more accessible for others. I see many tourists get to the Nora Creina gate and turn around as they believe it is private property but this coastline belongs to us all and we should all have reasonable access .Kind regards Jim Pegler ph 0408854349

9/3/16

Minister for Planning

Attention: Robert Kleeman, Unit Major Crown Development & Grants, Dept of Planning, Transport & Infrastructure, GPO Box 1815 Adelaide SA 5000.

I am the sole owner of the property directly opposite the Scanlon property on Nora Creina Rd with Big Dip Lake frontage and surrounded by Little Dip CP and Lake Eliza. I camp a lot at my property alongside Big Dip Lake and I am in the process of revegetating this property. I do not want to see this development approved. There are many important issues and dire impacts that will directly affect this ecological peaceful area. I see this area as one of the last remaining beautifully untouched areas along the South-East Coast with High Conservation, Biodiversity and Heritage values and uniquely surrounded by the important Key and High Value Ground Water Dependant Coastal Lakes.

The Scanlon's Coastal property is connected to remnant vegetation from both sides. As per the proposed Nora Creina Golf Course and Tourist Resort PER there will be a staggering 236 ha of fragile Coastal Dunes which will be significantly modified and 3 km of pristine coastline affected by this development. Heritage sites and EPBC species which inhabit this area are at high risk due to the direct and indirect impacts of significantly increased human activity, development and clearance of coastal vegetation.

The Coastal corridor from Nora Creina to Little Dip Conservation Park will be corrupted and fragmented. The corridor supports fauna activity to and from the Little Dip C P and links this large remnant to the privately owned Heritage Agreement property to the South; the site provides suitable habitat for a variety of threatened fauna species.

The development will have a MASSIVE impact on the aboriginal middens that are known, and many new sites that will certainly be unearthed during the construction. This area is of cultural and spiritual importance to the Bunganditj and Meintangk People and is located in a cultural and environmental sensitive area. The whole Coastal strip is considered a very high cultural place because of the many sites recorded and unrecorded. The Aboriginal people do not want their sites to be damaged. The spiritual unrest will be evident if this development is approved.

- The Isolated Coastal Beach is a Sanctuary for important EPBC migratory bird species of National Significance e.g. Hooded Plover.
- The Property is situated in a Coastal Protection Zone and the impacts are too significant.
- It is adjacent to a Marine Protected Area.
- It is contrary to recommendations in the Limestone Coast and Coorong Coastal Action Plan.
- An Extreme High risk to the sensitive coastal dunes potentially causing dune blow outs leading to a loss of critical habitat and Heritage Sites.
- An area of High Conservation and Biodiversity value with 8 vegetation associations which have been identified and are in excellent condition.
- A number of National and State threatened species.eg. Little Dip Spider Orchid, Orange Bellied Parrot, Southern Emu Wren etc.

The impacts of herbicides, pesticides and excess nutrient run off or spray drift could have toxic impacts. I am concerned with vineyard spray drift on to my property as the SE and SW prevailing winds will direct chemical spray drift onto my property and surrounding Conservation Park and Lake Systems. Coastal wetlands are situated lower in topography and could be contaminated by altered hydrology and excess nutrient run off from golf greens, vineyard, beef production and excess from storm water system. The Scanlon property and my property are surrounded by Lakes which are Underground Dependant Ecosystems and the land slopes from the Scanlon property to my property into Big Dip Lake and Lake Eliza and so is very vulnerable. I am very concerned with altered hydrology and the lower rainfall in the South East and the impacts on the last remaining wetland areas. I will not tolerate lakes drying up to accommodate the developments water usage and allocations.

There will obviously be increased potential for weed invasion into Little Dip CP and the Heritage Agreement area from the Northern and Southern Boundaries of the Scanlon property. The fragmentation of the corridor will also set up fringing affects throughout the property which will be vulnerable to weed spread.

Increased human access, traffic and activity. Traffic from Robe will be driving through the Little Dip CP to get to the Golf Course. Traffic on the Nora Creina Rd from Robe will be significantly increased and this will create direct impacts for Little Dip CP and surrounding properties. The Increased road kill will be devastating and effects from traffic hazards and noise are a major concern for fauna species and surrounding land owners. The peaceful surroundings will no longer exist.

The Impacts of machinery and traffic hazards during construction will be obvious including carparks (accommodating over 100 cars), roads, footpaths fencing, septic and building sites etc. Infrastructure of Power, Water and Communications, the Golf Course Development Course 1, Course 2, Club House, Reception and Accommodation will ultimately be established on a network of heritage sites and will fragment the ecological corridor.

Wombats and Kangaroos are very common in this landscape and will be averse to damaging the greens.

Economically it doesn't make sense. Kangaroo Island Golf Resort has been approved so please consider the fact that South Australia does not need two International Golf Courses. Robe has plans to expand their Golf Course and so we don't need two Golf courses. I question the \$100 a round fee, locals and tourist families certainly won't be able to afford to play on this course. Extravagance at the expense of Aboriginal Culture and the risks to this sensitive Coastal landscape.

The Jewel of the South East is being compromised by this development and we need to ask the important question of whether the tranquillity and balance will also be destroyed.

Please carefully consider the implications and impacts that this proposed development will bring to this important high value conservation area, sensitive coastal strip with significant Heritage sites and rare corridor landscape systems. I have nothing against Golf Courses but this development is inappropriately placed on such a unique and irreplaceable heritage and environmental landscape.

I went to the Community Consultation Event and was in disbelief that the developers did not have answers to detail or information on how they were going to build the fairways in the dunes and no details on how they were going to control erosion, runoff of nutrients into the wetlands and surrounding bushland and chemical drift from their vineyards and greens. I expressed my concerns and asked about the process of building the golf greens and freeway. I was told that they would be 40m wide by approx. 150-200m long with golfing and maintenance access tracks linking these, with no trials to see the best approach for this sensitive coastal strip. It would take a long time for the grass to establish and this is too great a risk. Look hard at how vulnerable and exposed these large areas are going to be, dune instability is a major problem and feature in this area. The risks associated with this seems extreme to high danger for damage with sand blowing away and exposing heritage sites and losing critical and significant dune habitat. These details are important and I would not want this Major Development to be given the go ahead in such a sensitive location.

If the Proposal is not given the approval two holiday homes will be built on the property. Zero impact.

Yours Sincerely

Kathryn Bell

PO Box 110

Millicent SA 5280

Major Development Application Nora Creina Golf Course Resort Submissions

Tell us what you think about the following aspects of the Public Environment Report.

Submissions may be made available for public inspection and would be included in the proponent's Response Document (that will be released for public information at a later date). Please indicate below if you object to your submission being made available in this way.

Name KEITH MARTIN Address PO BOX 46 KENSINGTON PARK 5068
Telephone 08 84314066 Email randj@adam.com.au

Overall, what do you think about the proposed Nora Creina Golf Course and Tourism Resort development?

ENVIRONMENT FAR TOO FRAGILE FOR ANTICIPATED TRAFFIC.
BOTH FLORA AND FAUNA WILL BE DESTROYED,
IF THE PROJECT FAILS, WHAT PLANS ARE THERE TO RETURN ENVIRONMENT
TO PRESENT STATE? WHO PAYS?

Do you have any specific comments on the following?

Tourism and economy (Tourist visitation, job creation, value adding to local business etc)

IF SUCCESSFUL, OBVIOUSLY WOULD HELP LOCAL BUSINESS

Environmental (native vegetation and animals, landscape, cultural heritage etc)

AS ABOVE. — VERY FRAGILE ENVIRONMENT.
I KNOW THE AREA VERY WELL. — TRAVELLED THE AREA MANY TIMES A YEAR
FOR THE PAST 60 YEARS.



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Transport and Infrastructure

Infrastructure and services (Power and water use, delivery of services to the site etc)

DEPLETION OF UNDER GROUND WATER.
SEWERAGE DISPOSAL A PROBLEM
SUPPLY TRUCKS MEANS FURTHER TRAFFIC ON DIRT ROAD.

Buildings and design (Building location, design and architecture, landscaping etc)

Traffic and access (access, car parking etc) AT PUBLIC MEETING IN ROBE, WE WERE TOLD NO ACCIDENTS ON NORA CREINA ROAD. I KNOW OF 3 ROLL OVERS (INCLUDING 1 FAMILY MEMBER + 1 POLICE CAR) + SEVERAL DEATHS. CURRENT ROAD COULD NOT HANDLE THEIR ESTIMATED 1 CAR / MINUTE!

Are there any other matters you would like to raise? PORT HUGHES, WIRRINA ARE JUST 2 RECENTLY PLANNED COURSES IN TROUBLE. PROPOSED NEW SITE IS VERY ISOLATED HOW WILL ANTICIPATED PLAYERS GET THERE?
PROPOSED H.I. COURSE WOULD BE KNOWN WORLD WIDE AND MAKES SENSE. GOLF IN AUS. IS DECLINING - FIGURES SHOW OVER 75,000 MEMBERS LOST IN LAST 10 YEARS.
NAME NORA CREINA IS WRONG. COURSE LOCATED AT 'THE GERMINIS' - NAME IT CORRECTLY

Please indicate your preference below:

Please make my submission public

Please do not make my submission public

Written submissions commenting on the PER are invited until 5pm, Monday 21 March 2016 addressed to:

Minister for Planning c/-
Robert Kleeman, Unit Manager
Major, Crown Development and Grants (Investment
Management)
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000

or via email to: DACadmin@sa.gov.au

Further information

Call - 1800 PLANNING - press option 1

Visit - sa.gov.au/planning/majordevelopments

Email - DACadmin@sa.gov.au

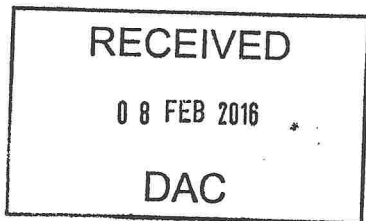


Government of South Australia

Department of Planning,
Transport and Infrastructure

Date 1/2/16

Hon. John Rau, MP
GPO Box 464
Adelaide SA 5001
Australia
agd@agd.sa.gov.au



Name Kylie Jarrett

Address 17 Gorge Road

BELLEUVE HEIGHTS

SA 5050

Dear Minister Rau,

Re: Development of the golf course resort and aquaculture next to Little Dip Conservation Park (Nora Creina Bay)

I am writing to express my concern and disappointment about a major development (including two golf courses) being proposed for a coastal dune site adjacent to Little Dip Conservation Park. We request that you exercise your power and say no to the development of a golf resort, and to instead ensure the integrity of Nora Creina for future generations. This beautiful and unique coastal habitat has enormous value for the following reasons:

- The Nora Creina coastal dunes have been the home for the original first nations Meintangk and Boandik peoples for thousands of years. Meintangk and Boandik midden and burial grounds are almost continuous in these dunes, and it is inconceivable that development as proposed would not cause destruction of these cultural and spiritual sites. Such destruction would cause immeasurable cultural and spiritual loss for the Meintangk and Boandik peoples, but it would also impact upon non-Aboriginal peoples of Australia and indeed citizens of other countries.
- Nora Creina remains an ecological corridor for many native species, some now endangered, including the orange bellied parrot, many migratory shorebirds and the Little Dip Spider Orchid.
 - The orange bellied parrot is known to be a critically endangered species, with an estimated 50 individuals left in the wild.
- The Nora Creina coastal lakes comprise part of only 6-8% of natural wetlands remaining in the south-east of South Australia.
- The coastal habitat - importantly the primary to tertiary dunes systems - makes it possible for rare species to survive, minimises fragmentation and its highly detrimental impacts, while making the region unique to visitors.
- Unmodified dunes allow the natural movement of sand, which prevents beach erosion. Very high costs could arise from the erosion caused by vegetation clearance and dune destabilisation as a result of the proposed development. Dune instability is a major problem in this region.

I am concerned about potential damage to the continuity of intact beaches and their associated dunes. In the referral to the Federal Government, the proponent developers failed to address how they will mitigate impacts on matters of national significance, including listed species or the very real threat of erosion. The referral said that there was no site of cultural significance, but the Wood Report (2006) recommended the registration of a number of Aboriginal-significant and important sites. I request that these be registered, and that a protection and management plan be developed for this site.

Thank you for considering my concerns.

Sincerely,

Alison Eggleston

Wendy Edr

KANE HENDY

Kylie Jarrett

DOUGLAS HOCKEY

Daniel Ham

Minister for Planning

Attention: Robert Kleeman

Unit Manager Major Crown Development and Grants

Dear Sir,

I have carefully studied the Public Environment Report for the Nora Creina Golf Course and Tourism Complex, spoken with the land owners, seen the public information display, talked to members of the public and potential neighbours of the development and to local Aboriginal people.

All things considered I have reached the conclusion that this development is not a good idea.

Firstly, there are Aboriginal places of cultural and spiritual significance all along these dunes. Disturbing these sites is a cause of genuine deep anxiety to people with connection to this land. If the Aboriginal people want it left alone it should be left alone. Haven't we taken enough from them already? Read our dark history and you will have no doubt about that.

Secondly, the SE Coastal Salt Lakes complex is a unique and important remnant of the former wetlands of which only about 6% remain. A large amount of water will need to be drawn from the aquifer (unconfined?) to water the exotic grasses on the golf course. I doubt this is the best use of our precious water. There is already over allocation of water for irrigation. If the water table is subsequently lowered where will our unique coastal lakes and the flora and fauna be then? Coastal fresh water springs are essential to sustain the flora and fauna in saline lakes habitats. Once these springs are disturbed it is known for them to disappear entirely. Under the land in the Limestone Coast there is a complex and largely unknown maze of caves and underground water courses. We interfere with these at our peril. Water pressure levels are declining and the greatest threat to the unconfined aquifer is increasing demand for its water in excess of sustainable limits.

This development is wholly within the Coastal Conservation Zone. According to Nora Creina Public Environment Report the objectives for the Coastal Conservation Zone are:

1. "To enhance and conserve the natural features of the coast including visual amenity, landforms, flora and fauna
2. Low intensity recreational uses located where environmental impacts on the coast will be minimal
3. Development that contributes to the desired character of the zone."

I see some problems with this. I think 60 apartments, a car park for 130 cars and all the rest cannot be said to improve visual amenity.

Flora may be able to be enhanced and conserved as long as the water table doesn't drop but fauna will definitely not be. Traffic on Nora Creina Road is estimated to be 45 to 49 vehicles on week days and 92 to 95 on Saturdays and Sundays. The peak hour traffic will be just over 1 vehicle / minute. How many wombats, kangaroos, wallabies, echidna and emus do you think will survive that? Most of the fauna the visitors will see will be flat on their backs on the road with their legs in the air.

Once the visitors arrive the activities could be low intensity, I believe, but there will be a long period of construction, earth works and land clearing that will be high intensity.

"Development that contributes to the desired character of the zone" is a tricky one. Desired by whom? No doubt there are various opinions about what the desired character is. Whose opinion will be finally accepted? My "desired character" is to see it free of weeds, revegetated and continuing to provide a corridor for fauna from the property with a heritage agreement to the south and the conservation park to the north. A couple of holiday houses would not be intrusive.

I work as a volunteer in the Beachport Museum and find it interesting how many visitors say they're staying in Robe but wished they'd stayed in Beachport because it's so quiet and peaceful. The likely change of character of the region is worth considering carefully. Do the locals want the character of their home town to change? I've heard Beachport people say, "Thank God we don't have good weather all year round or we'd be like the Gold Coast." Many people (except the traders, I guess) heave a sigh of relief when the tourist season is over and we get our town and our beaches back again.

Something for the developers to consider is that their property lies within Petroleum Exploration Tenement 154. This tenement is divided into 2 sections, one between Robe and Beachport and one west of Millicent extending southwards towards Mt. Gambier. To fulfil the terms of their licence Otway Energy will have to drill one well in this tenement this year. I don't know in which section of PEL 154 this will be but if the exploratory drilling has successful results the Golf Course etc. may end up in a gasfield where no one will want to spend their holidays and would certainly not want to go for "wellness". If I had to choose between a golf course and a gasfield I'd have the golf course any day but I hope it won't come to that.

If this development is a success thousands of vehicles a year will be driving in and if it's a great success we will see planes and helicopters landing there. After 2 courses are up and running other developers may want to cash in on it and we'll end up with a string of them along the coast as in the Gold Coast. That's the end of the coast as we know it. That's certainly not what I want here.

It would certainly pay the developers to familiarise themselves with the State Government's plan to fill the Limestone Coast with gasfields and the consequences this would have for their development. The Australia Institute, a responsible research company, estimates there will be 3,446 gas wells in the Otway Basin, most in South Australia. During the construction and development phase of a well total truck movements are estimated at 7,000 to 11,000 for a single 10 well pad. There is constant noise and during the fracking process lights are on

all day and all night. Then there is flaring of methane and fugitive methane to contend with and the toxic dams left behind. I could go on and on. If this complex ends up being in a gasfield it will fail. I do not know if the developers have factored in this possibility. For all of the above reasons I believe this massive , expensive project is in the wrong place.

Marcia Lorenz
85 Admella Drive
Beachport
SA 5280
Ph. 0887358418

Tell us what you think about the following aspects of the Public Environment Report.

Submissions may be made available for public inspection and would be included in the proponent's Response Document (that will be released for public information at a later date). Please indicate below if you object to your submission being made available in this way.

Name MAURICE HONNER Address P.O. Box 550 ROBE 5276
Telephone 0428 108365 Email maurice.honner@hotmail.com

Overall, what do you think about the proposed Nora Creina Golf Course and Tourism Resort development?

We think that the planned development can only be a good thing for the the region and the state of S.A. Golf tourism would add a 'non seasonal' aspect to our tourist trade.

Do you have any specific comments on the following?

Tourism and economy (Tourist visitation, job creation, value adding to local business etc)

see above

RECEIVED

22 MAR 2016

DAC

Environmental (native vegetation and animals, landscape, cultural heritage etc)

The site was devastated by early farming practices and would be far better off environmentally under the proposed development. Active management and care will control pest plants and animals, making the site more available to native birds & animals.



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Infrastructure and services (Power and water use, delivery of services to the site etc)

a 1,500 m all weather (gravel) airstrip near Robe would be handy!

Buildings and design (Building location, design and architecture, landscaping etc)

all looks fine.

Traffic and access (access, car parking etc)

Are there any other matters you would like to raise?

Please indicate your preference below:

Please make my submission public

Please *do not* make my submission public

Written submissions commenting on the PER are invited until 5pm, Monday 21 March 2016 addressed to:

Minister for Planning c/-
Robert Kleeman, Unit Manager
Major, Crown Development and Grants (Investment
Management)
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000

or via email to: DACadmin@sa.gov.au

Further information

Call – 1800 PLANNING – press option 1

Visit – sa.gov.au/planning/majorddevelopments

Email – DACadmin@sa.gov.au



Government of South Australia
Department of Planning,
Transport and Infrastructure



Native Orchid Society of South Australia Inc.

PO Box 565 Unley S.A. 5061

Email: nossa.enquiries@gmail.com

Secretary: Rosalie Lawrence

Telephone: (08)8294 8014

21st March 2016

Minister for Planning
Attn. Robert Kleeman
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000

Dear Sir,

In early September 2014 the Native Orchid Society of South Australia (NOSSA) sent letters to Minister Ian Hunter (SA Environment Minister), Hon Simon Birmingham (SA Senator) and Dr Simon Banks (Federal Environment Minister) objecting to the proposed development of a golf course and tourism facility at Nora Creina. Whilst NOSSA doesn't consider the proposal to be viable beyond profit to the consultants and developer, our main concern was for the nationally endangered orchid *Caladenia richardsiorum*.

C. richardsiorum grows in small, individually non-viable populations all along the sand dune coastline, from north of Kingston to Beachport. These populations form a corridor link with pollinators, their food plants and the underground fungal species on which *C. richardsiorum* is dependent for food and growth. Breaking this link at Nora Creina, either directly from the development, or indirectly from subsequent use of the sand dunes by increased tourism, will devastate the population. As this is the largest and central population a consequence with also be to further threaten the other populations all along the coast by reducing genetic diversity.

In mid-September 2014 nine NOSSA members together with DEWNR Mount Gambier staff searched from north of Kingston (Teeluk) to Beachport to record numbers of *C. richardsiorum*. NOSSA provided a full report to DEWNR on the search. At Nora Creina a total of 150 flowering plants were recorded with a total of 600 along the whole coastline. (Please contact DEWNR Mount Gambier for further details from the report). Climate change, particularly rainfall pattern change, is already affecting orchid species and numbers of *C. richardsiorum* were found to be far fewer than reported in a draft recovery plan (Craig & Pritchard, 20012) when a total of 1,000 flowering plants were recorded. NOSSA members had also assisted with this September 2000 count.

It appears Government departments do not communicate with each other, as in October 2014 a *C. richardsiorum* search was commissioned and conducted by Barron Environmental, unfortunately timed to miss most flowers. Listed as an appendix the report is not detailed within the current plan document.

NOSSA is currently financially supporting expensive recovery attempts on rare and threatened orchid species, which include *C. richardsiorum*, to raise plants for return to suitable sites to attempt to boost reducing populations. If such a development goes ahead this area will be totally unsuitable for re-establishing any native orchids. We can't believe the EPBC Act is not sufficient to protect and preserve the natural environment by preventing such an irresponsible development.

On behalf of future generations of South Australians wishing to enjoy natural environments, and the SA Government policy of no species loss, please reconsider this proposal.

Yours sincerely

Thelma Bridle
NOSSA Conservation Officer

Nora Creina golf course proposal

Submission from the Natural History Society of South Australia inc.

Peter R Clements PhD,

President. NHSSA.

Australia has the worst record of species extinctions on the planet. This is largely due to loss of habitat for those species. It is a sad indictment of our poor economic and social values that we put such a low store on our environment upon which we all depend for survival. This golf course may bolster the local economy but at what cost? The species loss and loss of biodiversity from such a proposal are incalculable and the detrimental sequelae from such a development to the local species is impossible to determine. Many people visit Robe and environs to experience the natural environment and any proposal which diminishes that is to be condemned. We would regard a golf course installation in this area of natural environment and beauty as nothing short of environmental vandalism.

This is an extremely sensitive area of biodiversity. The proposed golf course is immediately adjacent to the Little Dip conservation park which has a significant number of native species of interest. The most sensitive of these is the Little Dip spider orchid (*Caladenia richardsiorum*) which is critically endangered with only around 1500 plants left in the wild. The orchid has an ecological entanglement with other species in that it relies on a particular soil fungus, a micorrhizal species, for its seed germination, in addition the orchid is pollinated by a native wasp species which uses the larva of a local dung beetle as host for its developing young. The dung beetle feeds on and lays its eggs in the dung of local herbivore species including common wombats and wallabies. This ecological network (reference Dr MA Clements, National herbarium, Canberra ACT) is important to preserve in the protection of this rare orchid and therefore the whole habitat in which the orchid exists needs to be preserved in its entirety to allow this ecological chain to persist. It is not sufficient to merely cordon off small areas in which the orchids appear.

Reduction of biodiversity has recently been shown by University of Adelaide researchers (Prof Phil Weinstein, University of Adelaide) to be bad for human health and a golf course is perhaps one of the worst cases of biodiversity destruction that can be found in such a sensitive area of natural beauty. The Natural History Society owns nearby Cullen reserve close to Robe and some of these sensitive species relationships are known to us through the presence of the Little dip spider orchids on the reserve. Other native orchids occur on this reserve and are also very likely to occur on the area designated for the golf course.

A consequence of installing the golf course will be the interruption of a wildlife corridor in which wombat and other native species traverse through the area on route to or from the Little dip conservation park. The wombats in particular, being determined creatures of habit, are likely to continue to traverse the area even after the establishment of a golf course and will inevitably dig burrows, as is their natural tendency. Indeed wombats seem to find newly established and dug over areas very enticing places in which to establish new burrows. Our Society would take a dim view of any actions which would be used to deter wombats from this behaviour which is a normal wombat

activity. They have every right to use an area that they have always inhabited. If that is disruptive to golfing activities then so be it.

We therefore oppose the development of such a golf course as being detrimental to the biodiversity of the native flora and fauna of the area. However, if the planning minister is determined to allow this development then we propose an offset activity which the developers could be held to. This would be to reduce the load of invasive weeds in and around the habitat of the orchid species. Assistance with weed reduction programs would be very welcome in both the Little Dip conservation park and in Cullen reserve. This could be done in consultation with the Robe council weed officer or with members of the Natural History Society of SA or with members of Friends of Little dip conservation Park. We would expect this assistance to be continued over the life of the project. Assistance could be in the form of money to purchase weedicides and equipment to spray, or it could be in the form of manual help in eradicating weeds where spraying can not be used. A note of caution also is that plantings of exotic species, as is likely to occur in a golf course development, may result in the introduction of potentially new garden escapee species to the area. Most of the weeds we remove on Cullen reserve are garden escapees. Once released into the native environment they tend to spread because there are no natural predators that can keep them in check. We therefore ask that again if this undesirable project does go ahead that plantings are done in consultation with one of the above mentioned groups to reduce the likelihood of introducing yet more weed problems for the surrounding natural environment areas.

It is also our experience on Cullen reserve that some inconsiderate or merely lazy people being in the vicinity of such natural areas tend to regard them as no more than rubbish dumps. Increased public traffic will also inevitably bring more rubbish, weeds and even pets into these areas. This will inevitably impact on the once pristine environment of the neighbouring Little Dip conservation park and make its maintenance from such invasions more difficult for those that maintain the park.

Peter Clements



5 Milner Street,
Hindmarsh SA 5007

Phone: (08) 7127 4630

Email: ncssa@ncssa.asn.au

Website: www.ncssa.asn.au

ABN: 40 538 422 811

Hon. John Rau, MP
Minister for Planning

Attention: Robert Kleeman
Unit Manager
Major, Crown Development and Grants
Department of Planning, Transport and Infrastructure
GPO BOX 1815
Adelaide SA 5001

March 21, 2016

Re- Public Environmental Report for Nora Creina Golf Course and Tourism Resort

Dear Mr Kleeman,

The Nature Conservation Society of South Australia (NCSSA) welcomes the opportunity to provide comment on the Public Environmental Report (PER) for Nora Creina Golf Course and Tourism Resort. As South Australia's primary nature conservation advocacy organisation, NCSSA has been a long term advocate for the protection of native vegetation and biodiversity in South Australia with particular attention being paid to nationally and state listed threatened plants, animals and ecological communities, management of protected areas and remnant native vegetation.

We are particularly concerned that the proposed development will result in the clearance of a significant area of remnant native coastal vegetation and potentially impact upon matters of national and state environmental significance, including threatened plant and animal species listed under the *Environment Protection & Biodiversity Conservation Act 1999* and *National Parks & Wildlife Act 1972*. We do not consider the PER provides sufficient detail about the impacts of the proposed development on the biodiversity values of the area and strongly recommend that more comprehensive biological surveys are conducted to determine the actual biodiversity values given the size, extent and resultant impact of the proposal. We strongly believe that, due to limitations of the baseline vegetation surveys conducted at the site, high potential exists for additional EPBC and state listed species to occur in the project area that have gone undetected and therefore have not been addressed in the PER.

The Australian Government's Threatened Species Scientific Committee has identified the South East of South Australia as one of Australia's 15 biodiversity hotspots (AGDEH 2006). This listing indicates that the South East has a high number of endemic species and the current or predicted future level of threat to biodiversity is high. It also has less than 10% of the original pre-European native vegetation remaining due to clearance for agriculture (Taylor, 2006). Although we acknowledge that a small part of the proposed development is to be situated on already cleared agricultural land, most of the proposed development will

occur within remnant coastal vegetation that is currently within the Coastal Conservation Zone outlined in the District Council of Robe Development Plan. The development clearly does not meet the Objectives or Desired State for this Zone and, given the extent of vegetation recovery on the dunes over the past four decades, it would now be considered as intact vegetation and unlikely to be granted approval under the Native Vegetation Regulations.

We also strongly recommend that the PER requires more detailed consideration of the importance of the conservation values of the subject land to species to address the habitat requirements and broader landscape context particularly in relation to the importance of the remnant coastal vegetation as a dispersal corridor for the Orange-bellied Parrot (*Neophema chrysogaster*) listed as Critically Endangered under the EPBC Act.

If you would like to clarify or discuss any of the points raised in our comments please contact me on (08) 7127 4633 or via email at nicki.depreu@ncssa.asn.au

Yours sincerely,

A handwritten signature in blue ink that reads "Nicki de Preu". The signature is written in a cursive, flowing style.

Nicki de Preu

Conservation Ecologist

Nature Conservation Society of South Australia

NCSSA Comments on the Public Environmental Report for Nora Creina Golf Course and Tourism Resort

General Comments

NCSSA do not consider the proponents have demonstrated their commitment to meet conditions placed on any approval that may be given to avoid, mitigate or satisfactorily control and manage any potential adverse impacts of the development on the environment as stated in the PER Guidelines. The total extent and size of the impact on the vegetation completely lacks detail, rigour and supporting information that means an assessment of the likely impacts is not currently possible. The PER must provide significantly more and properly supported information regarding likely impacts. In particular, there needs to be clear delineation of all the areas of native vegetation that are likely to be impacted, the composition and condition of that vegetation and the matters of conservation significance located within those areas (e.g. threatened species and ecological communities). There is also currently a considerable amount of speculation and unsubstantiated statements about the impact of the proposed development and limited reference to supporting technical information, reports or relevant state and regional plans in the PER.

The information regarding the biodiversity conservation values of the areas in the PER is based largely upon a very limited environmental report by Barron Environmental that does not provide sufficient detail as the basis for sound decision making regarding the impacts of the proposed development for a number of reasons including:

- The insufficient time allocated to ecological surveys;
- Poor survey design and low survey effort; and
- The low number of species detected.

We strongly recommend that more comprehensive biological surveys are conducted to determine the actual biodiversity values given the size, extent and resultant impact of the proposal. In our opinion, due to the limitations of the baseline vegetation surveys conducted at the site, high potential exists for additional EPBC and state listed species to occur in the project area that have gone undetected and therefore have not been addressed in the PER.

5. PLANNING AND ENVIRONMENTAL LEGISLATION AND POLICIES

District Council of Robe Development Plan

We do not support the statements in the PER that the proposal will assist in achieving the implied aspirations of the Coastal Conservation Zone statement, including improving flora diversity and fauna habitats. The proposal does not meet either the Objectives or Desired State of the Development Plan and will result in unnecessary clearance of remnant native vegetation in an area where there has been extensive clearance and modification of native vegetation. Although golf may be viewed by some as a low intensity recreational use, the clearance of native vegetation to create a 36 hole course and associated accommodation and infrastructure is not low intensity nor in keeping with the any of the listed objectives of the Coastal Conservation Zone that are:

1. To enhance and conserve the natural features of the coast including visual amenity, landforms, fauna and flora.
2. Low-intensity recreational uses located where environmental impacts on the coast will be minimal.
3. Development that contributes to the desired character of the zone.

Furthermore the Desired Character clearly states that 'cliff tops and sand dunes will be excluded from development' while most of the proposed development is intended to occur within the sand dunes that occur on the property.

We contest the statement that the proposal meets the intent of the zone Principles with respect to providing either a sound basis for conservation work or the development being designed and sited to be compatible with conservation and enhancement of the coastal environment. The PER also implies that changes be made to the Development Plan to allow for tourist accommodation and tourism related ventures on the site and a new policy area or additional zone policy be added to enable the golf courses to function within the current policy framework. If the proposed development gains approval it should be required to operate within the existing framework rather than make changes to the Development Plan to suit its own objectives.

The PER repeatedly refers to the vegetation as being in poor condition and regrowth that is heavily impacted by weed invasion and a long history of disturbance. However, these conclusions are not well supported by the detailed vegetation assessment undertaken by EAC. Their assessment identified 8 different vegetation associations across the property and found that the associations were generally in either good or very good condition. They also identified 95 native species that is considered to be very high for this location. Although 41 weed species recorded, they were in relatively low cover throughout all vegetation associations. Even the report the Barron Environmental, which was generally less supportive of the environmental values of the vegetation, found that 80% of the site contained native vegetation with only 10% weed cover which is considered low for this region. The vegetation should therefore be considered as being of high conservation value and the PER must reflect those values adequately. Currently these values are generally dismissed or misrepresented in the PER. For example Section 7 (Page 33, final paragraph) of the PER states that 'Although a high flora species diversity for this area was detected in the latter survey (up to 95 species), a high proportion of these were introduced species (up to 41 or >40%)'. This interpretation of the report completed by EAC is incorrect as 95 native species were recorded, with an additional 41 introduced weed species also recorded.

The statement that 'The proposal will provide the means to improve this situation and introduce robust land management practices to improve and enhance the local environment, particularly native vegetation' needs further supporting evidence as required in the PER Guidelines. The statement that 'Locally indigenous species will be used for landscaping around the main building complex' does not demonstrate any real commitment by the proponents to restore or rehabilitate the native vegetation that will be impacted as a result of the proposal and cannot be used as justification for the proposed clearance of native vegetation.

South East Regional Natural Resources Management Plan (2010)

A.1 Improving Native Vegetation

We contest the statement that 'There is no doubt the project will be of net benefit to the improving the native vegetation on the subject land' given that, based on the limited information contained within the PER a minimum of 20-30% of the remnant native vegetation currently present will be cleared to create the golf courses and associated tourism infrastructure. The PER repeatedly makes the statement that the main infrastructure and development will occur within the existing cleared farming land however, this is completely inconsistent with the layout presented in the existing proposed Masterplan. The entire golf course development (including the associated infrastructure) with the exception of one hole, is located within the vegetated dune system that encompass some of the key biodiversity values of the subject land. The *Natural Resources Management Act 2004* requires landholders to control pest animals and plants that declared under the Act to prevent their establishment and spread to other landholders and minimise pest impacts on primary industries, natural environments and communities. The current landholders are not exempt from this requirement and need to take necessary control actions regardless of the size of the

landholding and costs involved. Justifying these actions, as part of the approval of the proposed development, is not in keeping with their duty of care under the NRM Act.

A.9 Managing Threatened Species

The statement that 'The subject land potentially contains only a small number of threatened species and recognition of those species (whether they have been sighted or not) and their requirements will assist in the project having minimal impact on habitat whilst assisting in improving biodiversity' requires further supporting evidence and validation. The report fails to mention the many known threatened species records (in official databases) for Nora Creina, with only the EPBC listed *Caladenia richardsiorum* found by surveyors. We strongly recommend more intensive ecological surveys are needed to fully identify species and ecosystems that occur across the entire property.

Section 3.2 of the Regional NRM Plan states that 'Many nationally threatened species are represented only in the South East region of South Australia and survive in isolated pockets of suitable habitat, highlighting the importance of conserving and managing the remaining habitat and linking remnant areas'. We recommend the PER acknowledge the Australian Government's Threatened Species Scientific Committee has identified the South East as one of Australia's 15 biodiversity hotspots (AGDEH 2006). This listing implies the South East has a high number of endemic species and the current or predicted future level of threat to biodiversity is high. Furthermore, The PER needs to further acknowledge the importance of the remnant habitat on the subject land as being of high conservation value as these are currently generally dismissed or down rated as a justification for project approval.

C.2 Reducing Key Invasive Species

The PER should acknowledge the existing provision under the *Natural Resources Management Act 2004* to prevent establishment and spread of declared animals and plants in South Australia, to minimise pest impacts on primary industries, natural environments and communities. Landholders with declared pest species on their land are required to take control actions to prevent spread of the pest to other landholders regardless of land tenure and size of the property.

C.8 Managing pests

Despite emphasis on the need for a 'new management regime' the proposed development will actually destroy and degrade habitat across the property, by effectively fragmenting a large continuous area of remnant habitat into smaller linear blocks. The NRM Plan clearly states that 'All remnant areas of native vegetation in the region can be considered important in conserving the region's biodiversity' and rightly acknowledges that smaller areas of remnant vegetation have a higher edge to area ratio that are more susceptible to threats to biodiversity. The vegetation clearance proposed through this development will result in significant habitat fragmentation and a reduction in connectivity between habitat both on the subject land and adjacent landholdings including Little Dip Conservation Park and the Heritage Agreement to the south. Based on current ecological research, these patches are less likely to continue to sustain their original diversity or composition of species and ecosystem condition is more likely to be compromised by pest plants and animals. Fragmented habitats are also subject to further incremental loss or a reduction in quality associated with edge effects. Fragmentation of habitats into small parcels causes degradation of the quality of the native vegetation through increased edge effects with other land uses, such as fertiliser drift, weed infestations, and higher pest animal populations (Croft et al. 1999).

C.12 Increasing perennial plant systems

The proposed clearance of extensive areas of native vegetation communities for the golf course and tourism resort will result in a significant reduction of perennial plant systems despite reassurances otherwise by the proponents.

C.17 Protecting land from erosion

The statement that 'Stabilisation of the dunes and foreshore areas will be improved by way of vegetation management (including revegetation) and the installation of fairways and greens for the golf course' requires further supporting evidence as required by the PER Guidelines. Replacing the functional binding capacity of deep rooted native vegetation with shallow rooted grassed areas will greatly increase the potential for erosion of fragile sand dunes.

D.6 Supporting biodiversity on private land

The PER needs to provide far more compelling evidence how the proposal will maintain or improve conservation of biodiversity on the subject land. The EAC Report found that the area of vegetation is significant in size (240 ha) for this region and provides a vital link between an existing Heritage Agreement area to the south and the Little Dip Conservation Park to the North. This report also recorded the presence of numerous species of conservation significance including the EPBC listed Little Dip Spider-orchid and four state listed flora species (Dune Fanflower, Squat Picris, Spiny Spear-grass and Sticky Daisy-bush) on the subject land and suitable habitat for the nationally listed (Orange-bellied Parrot) and four state listed fauna species (Hooded Plover, Swamp Wallaby, Swamp Antechinus and Swamp Rat).

The proposal seeks to remove large areas of native habitat from a fragile coastal ecosystem and is therefore in direct conflict with 'supporting biodiversity on private land', given that the development proposes clearance of natural areas that actually support biodiversity. The PER should provide more detailed evidence about how the proposal will support biodiversity on private land including rigorous and long-term monitoring programs to assess the wide ranging impacts of the proposed development on conservation values of the area.

D.9 Protecting habitats through formal arrangements

The statement that 'Once the final design of the golf course and other parts of the development are determined, it is likely parts of the site will be subject to heritage agreements to ensure protection in perpetuity' requires further supporting information. Although the PER refers to the protection of some areas (e.g. Scanlon's Lake) and additional vegetation within the dune system that will remain uncleared, given the levels of fragmentation of the vegetation that will occur as a result of the development and potential ongoing impacts, it is unlikely the areas would be considered suitable as either a Heritage Agreement or as an SEB offset area.

D.12 Planning for Climate Change

The PER needs to acknowledge the impact of climate change on native flora and fauna species and communities that already have a restricted distribution. Current habitats may become unsuitable due to temperature rises, and migration to new habitat areas may be impeded by fragmentation such as proposed through this development. The PER is currently focussed on the economic and business implications for the proponents and future operators of the site and needs to be broadened to incorporate predicted impacts on biodiversity values of the area as outlined in the PER Guidelines.

Native Vegetation Act 1991

We contest the statement that the proposed development will support the Objects of the Native Vegetation Act in particular the conservation, protection and enhancement of the native vegetation of the State. The proposed development will do little, if any, to support the Objects of the Native Vegetation Act and will result in unnecessary clearance of a significant area of native vegetation in a region where less than 10% remains and much of that is degraded and fragmented (Taylor, 2006). As outlined in our comments for the District Council of Robe Development Plan, the conservation value of the vegetation on the subject land and likely magnitude of the impacts need to be appropriately considered and quantified in the PER. This is

of critical importance to demonstrate that the proponents have addressed the mitigation hierarchy as required under the Native Vegetation Act, namely to:

- **Avoid** impacts on native vegetation from the outset, such as careful spatial or temporal placement of infrastructure, to completely avoid impacts to biodiversity.
- **Minimise** as far as practicable, the duration, intensity and/or extent of impacts on native vegetation (including direct, indirect and cumulative impacts) that cannot be avoided completely.
- **Rehabilitate/restore** the degraded ecosystems at the site of clearance if adverse impacts cannot be minimised or avoided completely.
- **Offset** to compensate for any significant residual (adverse) impacts that cannot be otherwise avoided, minimised and/or rehabilitated or restored, so that there is no net loss of biodiversity.

The PER should include further detail about how these matters have been addressed as currently limited evidence has been provided to demonstrate that such steps have been taken as part of the planning of the golf course and tourism development. For example, there appears to be cleared land between the vegetated dune system and the proposed vineyards that could accommodate a number of holes. This would reduce the amount of clearance required yet no evidence has been provided to explain why this has not been considered as a reasonable alternative.

Also, given that the coastal dune vegetation has recovered over a sufficient period of time (over more than 30 years) and to such an extent as demonstrated in the aerial photo images, it would now likely be considered as intact vegetation under the *Native Vegetation Act 1991*. It would therefore not be eligible or approved for clearance under either of the Native Vegetation Regulations relating to vegetation regrowth (Regulation 5(1)(zf) or Regulation 5(1)(zfa)).

In addition to the significant area proposed for clearance to develop the golf course and built infrastructure there will also be potential impacts on native vegetation from additional requirements for the development, such as internal roads, upgrade of existing roads, emergency access, walking trails, service provision for the site (e.g. electricity, water supply and sewage), wastewater and stormwater treatment, water storage areas and bushfire management. Many of these matters have only been given a superficial mention, without any real attempt to address or even consider the likely impacts on the conservation values of the area.

There is also a high likelihood for ongoing negative impacts on the native vegetation due to the proposed development of the golf course and tourism resort. There will be significant fragmentation of the vegetation, loss of connectivity in landscape and increased potential weed invasion, particularly of invasive grasses such as Pyp Grass (*Ehrharta villosa*) which are currently restricted to the edges of the tracks. Golf greens and fairways require considerable fertiliser and irrigation which, through processes of drift and stormwater runoff, will cause nutrients to move into remnants and promote weed invasion. These impacts have the potential to cause degradation to the remaining native vegetation and have not been sufficiently addressed in the PER.

Limestone Coast and Coorong Coastal Action Plan (2011)

We also challenge the statement that 'the subject proposal aligns with the intent and spirit of the coastal action plan' given the extensive clearance of native vegetation that is proposed. The PER needs to demonstrate and how the proposed development will address the key recommendations of habitat resilience and conservation of valuable areas and species identified in this plan.

EPBC Act 1999 (Commonwealth)

This section of the PER provides only a passing reference to the two EPBC listed species that the proposal is likely to have a *significant* impact on namely the critically endangered Orange-Bellied Parrot (*Neophema chrysogaster*) and endangered Little Dip Spider-orchid (*Caladenia richardsiorum*). PER Guidelines 5.3.5, 5.3.10 and 5.3.20 require the following information be addressed:

- Describe the ability of communities or individual species (especially those listed as uncommon or threatened under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the South Australian *National Parks and Wildlife Act 1972*) to recover, regenerate or be rehabilitated.
- Describe how the proposal is not inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans. For instance, the Recovery Plan for the Little Dip Spider Orchid (*Caladenia richardsiorum*).
- Describe how the proposal is not inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans. For instance, the National Recovery Plan for the Orange-bellied Parrot (*Neophema chrysogaster*).

Although Appendix K provides an overview of the conservation significance of the Little Dip Spider Orchid (*Caladenia richardsiorum*) and results of surveys conducted on the subject land, we recommend further information is included in the PER. The report by Barron Environmental acknowledges that other sub-populations of *C. richardsiorum* may exist that were not detected during the survey due to their cryptic nature and states that ‘some may still have been overlooked in the dense vegetation’. We strongly recommend that further survey effort is required to assess the extent of this sub-population and that the PER address how the proposal will mitigate the threat posed by vegetation clearance for coastal development and habitat fragmentation that has been identified as a key threat in the Recovery Plan.

The assessment of the impact of the proposal on conservation actions identified in the Recovery Plan for the Orange-bellied Parrot is even less complete. The PER mentions the occurrence of the species and potential roosting habitat however, demonstrates limited knowledge of the habitat requirements of the species or how the impact of the proposal will be mitigated. For example Section 7 of the PER (Page 35, first dot point) states that ‘the golf course will be maintained as exotic low grassland for greens and fairway – this in itself will maintain habitat connectivity and still have important open habitat value for native fauna, including as open feeding area for the Endangered Orange-bellied parrot and other species’. This statement is completely unsupported by any evidence and is highly questionable from an ecological perspective. We strongly recommend the proponents refer to the draft Recovery Plan and supporting technical documents for further information about the ecology and identified conservation priorities, for the Orange-bellied Parrot in its non-breeding range in South Australia. The PER requires more specific information about known records of the Orange-bellied Parrot on the subject land and assessment of the impact of the proposed development on food resources and habitat requirements.

Given that the proposed development has been assessed as a Controlled Action under the EPBC Act, the proponents are required to address the impacts of the proposal on EPBC listed matters in the PER before any approval will be considered. The inclusion of this information in an ‘anticipated’ Environmental Management and Monitoring Plan is clearly not acceptable as the proponents are required to provide more details about this and other specific issues included in the PER Guidelines (Refer to Table below).

We provide the following assessment of the PER against the Environmental Issues identified in Section 5.3 of the Guidelines developed by DPTI for the proponents as part of the development approval process.

ENVIRONMENTAL ISSUES	NCSSA Assessment of PER
5.3.1 Describe the impact of past and current land management practices on the environmental values of the site, especially any environmental problems or degrading factors that may need to be addressed.	Partially addressed. Further detail required.
Native Vegetation	
5.3.2 Quantify and detail the extent, condition and significance of native vegetation (individual species and communities) that currently exist on site (or affected by off-site infrastructure requirements) and would be preserved and, if appropriate, rehabilitated.	Partially addressed. Further quantification and much greater detail required.
5.3.3 Quantify and detail the extent, condition and significance of native vegetation (individual species and communities) that may need to be cleared or disturbed (directly or indirectly) during construction (including ancillary clearing for the proposed development of walking trails, shelters, areas required for bushfire safety and all infrastructure, such as the water supply pipeline and power transmission line). Describe the impacts of construction and operational activities on native vegetation (including coastal and marine communities) and proposed mitigation measures.	Further quantification and detail required.
5.3.5 Describe the ability of communities or individual species (especially those listed as uncommon or threatened under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> and the South Australian <i>National Parks and Wildlife Act 1972</i>) to recover, regenerate or be rehabilitated.	Not addressed.
5.3.6 Identify measures to minimise and mitigate vegetation clearance and disturbance, including incorporating remnant stands in the layout design, with particular reference to the total areas likely to be cleared and the extent to which such clearances would impact on the integrity and function of vegetation corridors and/or habitat fragmentation. Include details of strategies to compensate for the loss of native vegetation and habitat.	Not addressed.
5.3.7 Outline proposed revegetation works (including the location, densities and types of locally indigenous species to be planted) and how this relates to existing native vegetation, with particular reference to the capacity of revegetation works to mitigate habitat fragmentation and to facilitate the reestablishment of vegetation corridors.	Not addressed.
5.3.8 Describe the effect of introduced weed species and increased human habitation on native vegetation, before and after construction, especially species that may originate from the golf course or landscaped areas.	Not addressed.
5.3.9 Describe measures to deliver significant environmental benefit to the existing native vegetation, whether intact stratum or scattered patches/trees, as required by the <i>Native Vegetation Act 1991</i> .	Insufficient information provided in the PER. Given the quality of the vegetation as described in the EAC Report, depending on the final layout of the development, this could potential result in an SEB offset requirement in the order of 360 to 600 hectares. We are also aware that there are also existing SEB offset areas within the subject land that would increase the

	required area for a SEB offset if these were to be terminated either partially or wholly.
5.3.10 Describe how the proposal is not inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans. For instance, the Recovery Plan for the Little Dip Spider Orchid (<i>Caladenia richardsiorum</i>).	Not addressed. See comments above.
Native Fauna	
5.3.11 Quantify and detail the abundance, condition and significance of native fauna populations that currently exist or may depend on habitat on site or along the routes of infrastructure for the proposal. Any fauna surveys conducted must meet the requirements of any relevant EPBC Act survey guidelines.	Further quantification of abundance and significance of local populations on the subject land required in the PER.
5.3.12 Describe direct and indirect impacts to fauna associated with the proposal, the extent of expected fauna and/or habitat loss or disturbance during the construction and operation phases (both on and around site) and the ability of communities and individual species to recover, especially for resident or migratory birds and threatened or significant species (including those listed under the EPBC Act and the South Australian <i>National Parks and Wildlife Act 1972</i>).	Not addressed.
5.3.13 Detail appropriate buffer distances that would be required for the construction and operational phases between the proposed development (including coastal access points) and threatened species, especially feeding areas, nesting sites and roosting sites.	Not addressed.
5.3.14 Outline the effect of light and noise pollution on nocturnal animals.	Not adequately addressed.
5.3.15 Outline the risk of road-related fauna death and injury (including from construction vehicles) and the risk of bird strike associated with any large glass windows.	Not addressed.
5.3.16 Provide information on the expected levels of noise (and where relevant vibration) associated with the construction and operation of the facility, identifying all potential sources, and describe the extent to which emissions can be reduced and contained to acceptable levels to minimise effects upon the wider locality (especially native fauna populations that occur on and around the site).	Not adequately addressed.
5.3.17 Outline how native fauna that is likely to interact with the golf course development (such as kangaroos, wallabies, wombats and possums) and how this would be managed.	Not addressed.
5.3.18 Identify impact avoidance, minimisation and mitigation measures and their effectiveness, including measures to minimise access roads and subsidiary tracks acting as fauna barriers or as a corridor for feral animals.	Not adequately addressed.
5.3.19 Describe measures to address any displacement of native fauna or the isolation of metapopulations due to habitat fragmentation.	Not addressed.
5.3.20 Describe how the proposal is not inconsistent with any relevant EPBC Act guidelines, conservation advice and/or recovery plans. For instance, the National Recovery Plan for the Orange-bellied Parrot (<i>Neophema chrysogaster</i>).	Not adequately addressed.
5.3.26 Describe the effect on the coastal wetlands on the site (which form part of the Karinya Coastal Lake Complex), including from cattle grazing and vineyard management.	Not adequately addressed.

5.3.27 Describe the effect on the conservation values of the nearby Little Dip Conservation Park, Lake Eliza (which forms part of the South East Coastal Salt Lakes complex and is listed in the Commonwealth Department of the Environment Directory of Important Wetlands in Australia) and the Heritage Agreement area south of the site.	Limited information in the PER; Further detail required.
5.3.28 Describe the effect on the habitat value of on-site native vegetation that provides a wildlife corridor along the coast (including coastal Crown land), especially to link the Little Dip Conservation Park with the Heritage Agreement area south of the site.	Further detail required.

References

AGDEH (2006). 'Examples of Biodiversity Hotspots - National Biodiversity Hotspots'. (Australian Government Department of the Environment and Heritage. Accessible on line at: <http://www.environment.gov.au/biodiversity/conservation/hotspots/national-biodiversity-hotspots>)

Croft, T., Carruthers, S., Possingham, H., and Inns, B. (1999). Biodiversity Plan for the South East of South Australia. Department for Environment Heritage and Aboriginal Affairs, Adelaide.

Taylor, B (2006). Wetland Inventory for the Lower South East, South Australia. Department for Environment and Heritage. Mount Gambier, South Australia.

Major Development Application

Nora Creina Golf Course Resort

Submissions

This submission is submitted by the Executive Committee of the Nora Creina Shackowners Association on behalf of the Association (hereafter the NCSA) following a comprehensive review of the project documentation, attendance at the project open day in Robe, and assessment via email by members of the NCSA. This submission follows the format as set out by the Department of Planning, Transport and Planning. Later in this document we provide some background to the NCSA.

Submission contact – Russell Worland, 71 Ryot Street Warrnambool 3280, mobile 0407504384, watertight@ozemail.com.au

Overall, what do you think about the proposed Nora Creina Golf Course and Tourism Resort development?

The proposal involves a number of key risks which have not to date been given responsible attention by the Department of Planning, Transport and Infrastructure.

The State is, with the decline of long time manufacturing strength, facing an unprecedented challenge in reengineering its economy and refocussing on its asset strengths.

A key to the future is the maintenance by the State of a reputation for excellence in outcomes, a reputation of success and a reputation for environmental soundness. Should the next decade be cluttered with failed medium scale ventures which degrade natural systems and/or which follow upon increasingly desperate/hopeful investment scenarios then the Department as 'gatekeeper' to new investment will have damaged the overall reputation of the State. Hope will be frustrated and adverse spill over will affect other strategically important investments.

This submission is based on an assessment that adequate risk matrix processes will reveal fundamental flaws in the proposal. At the least this submission requires that adequate risk matrix processes be developed by the Department in respect of all medium level investments so that superficially exciting proposals might be calmly and rigorously considered.

Specific Comment – Tourism and Economy

The development has as its foundation projected demand by high end golf enthusiasts for a prestige golfing experience. Inspiration is drawn from the Barnbougle Golf Resort in northern Tasmania. A sustainable demand is estimated as being achievable with annual visitation of 30,000 players.

This benchmark for commercial viability has to be questioned as follows;

- Local use will not be sustainable. Local use will be sporadic and limited. The nearest urban node (Robe Township) is currently proceeding with a major golf course expansion along with a precinct catering for tourist accommodation and residential development (and with much lower green fees).
- The emerging prestige Kangaroo Island Golf Resort will intercept rather than multiply interest in a prestige golf experience in the south east. The KI 'package' is of a much higher order of attractiveness (convenience for International, national and Adelaide generated traffic, local transport, fine food image, natural features).
- No matter the centrality of the district to our emotions and cares the location of the proposed development, so far to the south east, makes for vulnerability. The decades of promotion of the nearby Coonawarra area, the unflagging efforts of small/large investors in developing a reputation for excellence, and the opportunities for an amazing wine experience has not resulted in the traffic from Adelaide and Melbourne that the area deserves.
- Expectations of significant international traffic will be disappointed. US golfers will have to fly over the attractions of New Zealand, the East Coast of Australia and the sand belt prestigious courses of Melbourne before arrival in Adelaide. Asian golfers are generally time poor and will make similar unforgiving discretionary judgments about where they spend their time in Australia. Golfers with partners will look for complimentary prestige experiences not a relatively arduous journey to the south east.

The proponents have sought to create project depth in diversity via modules additional to the proposed golf experience. The Waigu Cattle Farm and Vineyard modules may well encourage investment interest however the sight of abandoned vineyards some 40 km to the north and a struggling vineyard less than 10 km to the east are signs that module success needs to be self-contained if it is to contribute to the viability of the whole proposal. A well-established Waigu beef operation less than 40 km to the south would indicate that the grazing module of the resort is too small to be successful. The Department is requested to give particular focus to the economics of the proposed modules and to give particular attention to water and energy requirements (3 phase power access etc).

Economic outcomes in terms of full and part time employment will flow from the proposal. The Robe District Council recognises this opportunity for a better seasonal spread of tourism activity and of new employment to meet the needs of elite tourism.

The Council has to be concerned with the consequences of project failure. A failed development will leave the district with stranded commercial assets, a pocket of degraded environment and a string of second order challenges as investors/owners act to conjure up or cobble together related uses for the resort. While we support the desire of the Council to avoid the site ending up as a degraded informal coastal settlement and note that the Council would wish for site restoration to original commercial (agricultural) purposes there is nevertheless the prospect of recovery/restoration

responsibilities falling on the State (if consequences of failure are not tightly bound to the proponents).

All these risks could be better appreciated if the project had developed a comprehensive business plan. Where are the clear forecasts of segmented golfer demand, establishment costs, operating costs, and return on capital? The proponents can shelter from public gaze via commercial in confidence provisions but the Department must exercise clear responsibility in requiring the production of such forecasts and budgets. Even investors can be seduced by the 'sizzle' of a project rather than the 'meat' of a project. The Department has a high order of duty to satisfy itself of the commercial rigour of the development proposal.

Specific Comment – Environmental, Native Vegetation, Landscape, Cultural Heritage

Environmental – The resort site is adjacent to three sensitive zones being the coast to the west, National Park to the north and shallow aquifers beneath.

Marine – A Habitat Protection Zone bounds the west. Early concerns about a proposed Abalone Farm Module as part of the project are tempered by the abandonment of this module within the resort totality. It is still worth noting the risk that has now been avoided (see South West Victoria and its experience in improper waste water discharge from an abalone farm resulting in the collapse of the wild abalone population in about 2004). As well the decision to not proceed with a desalination plant is welcome given the issues of salt plumes being discharged to a pristine marine environment (putting to one side the massive electricity demand which would have been needed). The Government of South Australia had determined that the protection zone is created to protect algae, seagrass and shoreline habitat. We anticipate that the project proponents will ensure that nutrient requirements for the golf course and for more intensive agriculture will be controlled so as to not result in sub sand runoff into the ocean.

Please note that the forecast changes in sea level required to be built into planning proposals in South Australia need to be carefully considered. Erosion of the beach and the loss of public domain will result in shore encroachment onto the titled site. In the last three years volatile storm events have seen two localised but spectacular changes in the marine landscape (Nora Creina headland and Southport beach). Reef loss, sand loss and primary dune collapse as recently experienced can be expected to be greater in the future.

National Park – We have concern about the impact of the proposal on the designated National Park to the immediate north. New nutrient applications upwind of the National Park can be expected to drift into a pristine environment. There is concern about the impact of contraction of fringe habitat and concern that the manufactured environment of the resort will sustain introduced and unwelcome competitive pressure on indigenous birds and mammals.

Aquifers – The Golf Course design process has not yet produced a water budget forecasting seasonal and annual use of water or source of water. The design plans for the application of a mix of rainwater, groundwater and prospectively recycled water for greens and fairway management and

presentation. A detailed water budget is essential to understanding the impact of groundwater drawdown and to the design of an aquifer monitoring system (observation bores etc). Please note the Warrnambool Golf course experience as aquifer extraction in a coastal environment (with much higher rainfall than the resort proposal site) resulted in sea water intrusion into the shallow freshwater cell of the aquifer and progressive annual increase in salinity levels leading to the need to find alternative sources of water for ground presentation (and this on an 18 hole course only). Degraded aquifers rarely recover and an asset disappears. Sustainable aquifer use is possible but a credible plan is required along with a commitment to monitoring. It will be too late in the process for, five years after opening, a pattern of elevated aquifer salinity occurs requiring action in the construction of impermeable rainwater storage reservoirs (with the State then caught in a 'tar baby' scenario and having to sustain continuing investments to cover off on 'oops' moments).

Cultural Heritage – High end tourism has an appetite for engagement and understanding of cultural heritage. Looking at the views now outlined by the Traditional Owners of the area the project proponents have let slip an important opportunity. Right across Australia Traditional Owners are very interested in the development of a narrative that reflects truth and understanding as well as linkage between time and place. Traditional owners also have a finely tuned sense about sincerity and the emerging stand of the Meintangk – Boandik peoples has to be of concern to the Department. More than any facts in the submission of the Traditional Owners (outlining concern about the loss of habitat corridors, potential for the mobilisation of sand, and concern about the diminishing natural wetlands and degrading coastal lakes of the south east) is that potential high end visitors will be able to discover for themselves via the internet that this resort project constitutes a basis for hurt to Traditional Owners. How much better for an internet scan to involve a Traditional Owners welcome to country.

Specific Comment – Infrastructure and Services

Water Supply – The golf course needs for water are dealt with above. Water is unlikely to be produced on site to World Health Organisation standards. Has the SA Health Department been engaged on this matter? Non potable water, with proper warning is suitable for most uses (bathing etc) but drinking water may have to be imported.

Electricity – It seems improbable that anything less than 3 phase power will suffice for the pumping systems, workshop and tourism infrastructure. No doubt these costs will be borne by the proponents.

Waste Water – Treatment of waste water can result in a good useable product which can supplement both water and nutrient demands of vegetation. Issues include cost (for a relatively small community), and managed nutrient application which has regard for both the marine and aquifer environments.

Off Site Infrastructure – Resort visitors will look to convenient pleasurable 'out of resort' experiences. Robe Township offers high quality village experiences across food, cinema, built environment and seascape. The town infrastructure is designed for peak summer demands.

To the south Nora Creina Bay presents a very attractive beach and headland strolling experience. To date tourist traffic to the bay is weighted towards experienced four wheel drivers and other relatively self-contained visitors. The NCSA feels that an increase in inexperienced prestige travellers will bring new expectations regarding both amenity (access) and amenities (toilets). New expectations can lead to new demands. The Department is requested to factor this element of off-site infrastructure into its equations.

Specific Comment – Buildings and Design

No comment is submitted on the broad outline of building type and design. A reasonable balance between blending with the landscape and displaying design flair seems evident

Specific Comment – Traffic and Access

Nora Creina Road – The Robe District Council sees opportunity in channelling increases in road traffic via the sealing of this public road between Robe and the resort site. No doubt the proponents would like someone else to fund this part of the project as well as some on site roads and hard standing areas. Note that increased traffic will, in any construction, require road realignments in places with impact on existing National Park habitat. We are aware that the Department is able to support sustainable new investment by helping out with the cost of associated infrastructure.

Robe Air Strip – Currently limited to small aircraft. A light plane charter service might be possible to move a few visitors directly from Adelaide but assumptions would have to plan for transport via road from Adelaide or by air and road via Mt Gambier. The aerodrome size at Robe is constrained by geography (a highway at one end and a drainage channel at the other) as well as the political reality that the District Council is not encouraged to consider picking up the increased annual net costs of a more sophisticated aerodrome.

Highways – As projected international traffic will have to fly in and then drive via Mt Gambier there will be pressure for the upgrading of the southern approach to the site either via Bog Lane or Powells Road. This will at least double the length of road sealing as anticipated by the District Council. Has this prospective outcome and associated costs been considered? The highway from Mt Gambier to Robe and to either more southern turn off is in good condition meeting national standards of design and maintenance.

Other Matters

Name of the Development - While the name of the Nora Creina Golf Course Resort is possibly outside the immediate purview of the Department the following matters need to be considered. The NCSA does not support the use of the name Nora Creina for the following reasons;

- Historical and common use applies the name to the unincorporated settlement some 8 km to the south and to the associated small bay.
- Extending the name to non-contiguous zones will add to the confusion already experienced by first responders trying to navigate to the settlement (try googling the map site yourself).
- Common use linked to the Cullen family of Nora Creina

The selected name invites the failure of the resort development. Wealthy Asian investors are influenced by the concepts of feng-shui (the spirit influences, good and bad, applicable to landscape features). A project involving landscape and promoting a linkage to a shipwreck is just plain stupid marketing if the intention is to seek off shore investment.

Consultative Processes – The Department is congratulated on the processes which have seen extensive preliminary exposure of the project to the communities of the south east.

Past Experience – The failures of golf resorts at Wirrina Cove and at Port Hughes (The Dunes) must have some lessons attached. Has the Department sought out the facts behind these strongly promoted and originally attractive investment opportunities? What advantages does this project have that the failures lacked?

Generally

Who is the NCSA? - The Nora Creina Shackowners Association represents approximately 60 lease holding families which comprise the Nora Creina settlement located mid-way between Robe and Beachport on the south east coast of South Australia. The members of the NCSA have a keen interest in the immediate bays, reefs, beaches and coastal zones of the area. Collectively the members have a bank of knowledge regarding the natural systems of the area.

The NCSA has previously engaged closely, cooperatively and successfully with the Department of Environment, Water and Natural Resources (SA) as part of the defining of marine sanctuaries within the Upper South East Marine Park (zones and boundary outcomes finally settled October 2014).

The NCSA engaged in 2015 with the Department of Primary Industry and Regions South Australia (extension of zone for wrack harvesting licences).

The Nora Creina settlement is unincorporated and is subject to the municipal government of the Robe District Council. Public vehicular access to the settlement terminates with a gated private settlement track which is the only point of vehicular access to Nora Creina Bay and the northern end of Stinky beach.

Exposure of this Submission - The NCSA is relaxed about this submission moving into the public domain.

To: Minister of Planning,
Attention, Robert Kleeman, Unit Manager,
Major, Crown Development and Grants
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5000
Email: DACadmin@sa.gov.au

Friday 18 March 2016

Dear Minister for Planning

Re: Public Environmental Report - Proposed Nora Creina Golf Course and Tourism Resort

Today we went to Nora Creina and I saw the beach. There were rocks and little caves. We went through the caves. I wondered whether Aboriginal people used to camp there on hot days.

Standing on the beach I felt peaceful. I decided to go through the bush, over the sand dunes, to get back to the track. It was very fun!

I felt annoyed that they might make a golf course here, because it's so fun to climb amongst the rocks and to have adventures in the rocks. Other reasons I don't like the idea of a golf course in the sand dunes:

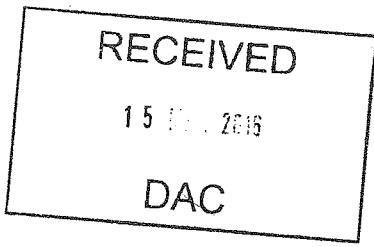
1. How are you supposed to hit the ball with all the soft sand around?
2. If they destroyed the sand, they would have to destroy all the bush as well
3. If they planted grass, they would have to use a lot of water – which they probably will
4. It's in the middle of nowhere, and no one would come
5. If it worked out well, they might do it to other beaches....and all of the other beaches in Australia could be destroyed
6. If it didn't work out well, all the sand dunes would be destroyed for nothing
7. If it was 30% cleared for the golf course with people, then it would be over 60% without animals because the people would scare the animals away
8. If it didn't work, and they decided to rip it up, then lots of weeds would grow there.

Please help keep our beach and sand dunes safe!!!!!!

By Orion Packer

D.O.B. 10/12/2006

Spoken by Orion, typed by Jasmin Packer.



Major Development Application

Nora Creina Golf Course Resort

Submission

Presented by:

Peter Waite 13 Karri Dve Dernancourt 5075

Phone 83370462

Email—pjwaite1@bigpond.com

(Please make my submission public)

During 1960s and 1970s my family owned the farmland from Lake Robe to the Long Gully Road. We quickly realised how sensitive the dune area was to even minor interference or attempted development. Lightly used walking and vehicle tracks were a major source of blowouts which develop quickly and expand rapidly destroying most vegetation in their path. Once the dunes are disturbed our experience suggests that the consequent erosion is very difficult to remedy. Revegetation in loose wind-swept sand is an exercise in frustration and netting, old tyres, concrete blocks, or other physical means of stabilisation are not always successful and not the look developers of "AN INTERNATIONAL STANDARD GOLF COURSE" are likely to deem suitable.

I would suggest that before final approval is given to this development detailed plans be publicly tabled that address the following:

1. How dune disturbance will be minimised during construction?
2. How the course will be maintained without a network of vehicular tracks?
3. How will patrons be controlled to prevent them wandering into the dunes?
4. How will patrons be controlled so they only use one or two access paths to the beach?
5. How will patrons be controlled so they don't enter and disturb the dunes abutting the beach?
6. How will the developers attempt to stabilise and regenerate the inevitable damage to the dune system during construction and operation of the resort?

We tried very hard to stabilise damaged dunes with limited success and were very pleased when the S.A. GOVERNMENT purchased much of our dune country to become part of the Little Dip Conservation Park.

WESTLEY DIGIORGIO

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OUR REF: PRW:MKM:

YOUR REF:

29 February 2016



Minister for Planning
c/- Mr Robert Kleeman
Major Projects Division
Department for Planning Transport
& Infrastructure
GPO Box 1815
ADELAIDE SA 5001

Dear Sir,

re: Nora Creina Golf Course and Tourism Resort

I have carried on business as a Legal Practitioner and Business Proprietor in the South East of South Australia for almost 40 years. I have been visiting the Township of Robe in both work and private capacities for most of that time.

I am a keen supporter of the Robe Golf Club and have undertaken significant work on a pro bono basis in relation to that Club's proposed development and expansion.

I recently attended the Public Meeting held by the Developers of the Nora Creina Golf Course and Tourism Resort and had the opportunity to discuss the impact of this development on the Town of Robe and the Region in general.

I have also had the opportunity to closely study the impact of a similar project developed near Bridport in Northern Tasmania.

I wish to express my strong support for the proposed Nora Creina Development and have taken into account :-

1. The positive impact the Development would have on the landscape at Nora Creina (which may otherwise deteriorate over time due to lack of resources and neglect).

"Liability limited by a scheme approved under the Professional Standards Legislation"

INCORPORATING THE FIRM OF MOTT LAWYERS

BRANCH OFFICES AT ROBE, PENOLA, BORDERTOWN, KEITH & KINGSTON

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2. The positive impact on the economy of the Township of Robe, its immediate surrounding area and the add-on benefits for the South East in general (Robe is close to the Coonawarra Wine Region, the world listed Naracoorte Caves and Mount Gambier).
3. Remote rural areas need development to support the maintenance of a working population, the maintenance and development of basic infrastructure (i.e., power, water and roads) and which have a flow-on impact maintaining schools, hospitals and other commercial services.

Having viewed the Bridport model in Tasmania, I see strong parallels.

I also see a positive flow-on impact and positive results for complimentary assets in the Region (i.e., the Robe Golf Club, the Kingston Golf Club, the Lucindale Golf Club - all within a three quarter hour drive of Nora Creina).

Any negativity must be looked at and balanced against the significant benefits that would flow to the Region.

The Development should be supported.

Yours faithfully,


Peter R. Westley



21 March 2016

Minister for Planning
Attention: Robert Kleeman, Unit Manager
Major Crown Development and Grants
Department of Planning, Transport & Infrastructure
GPO Box 1815
ADELAIDE SA 5000

Dear Robert

Re: Proposed Nora Creina Golf Course and Tourism Resort

The Robe Golf Club Inc. would like to extend its support to the proposed Nora Creina Golf Course and Tourism Resort.

The Robe Golf Club Inc. believes the proposed development is an exciting opportunity for the club to work with the developers to exploit operational synergies.

The Nora Creina Golf Course and Tourism Resort will provide significant benefits to both Robe and the South East. The Robe Golf Club Inc. can work with the developers and share golf course expertise with greenkeepers and associated golf course staff as well as numerous opportunities for tournaments in the quieter winter months.

Yours sincerely

Nick Brown
Secretary
Robe Golf Club Inc.

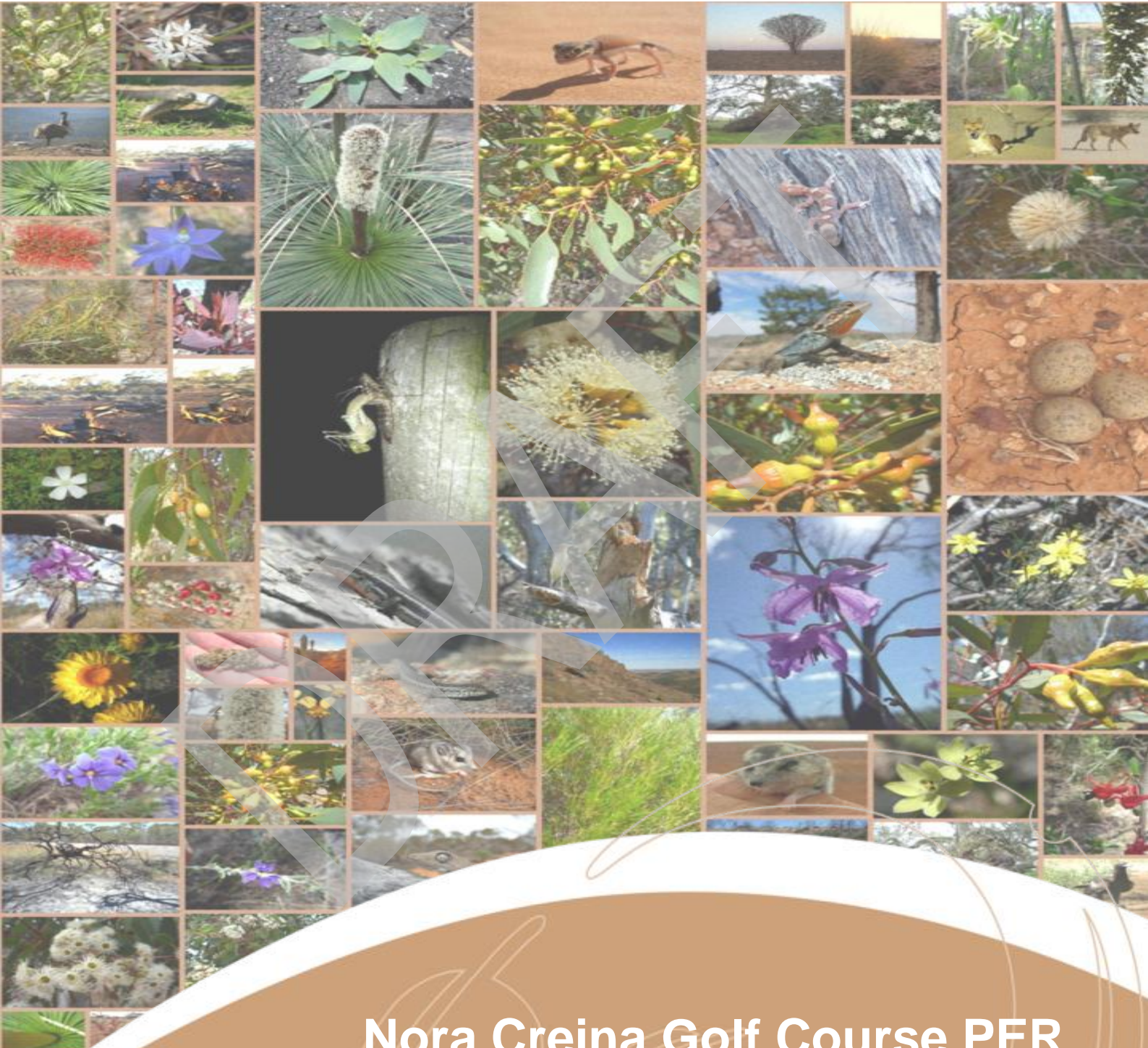
ATTACHMENT F

EBS ECOLOGY REPORT

(EPBC Matters)

AUGUST 2017

& OFFSET CALCULATORS



Nora Creina Golf Course PER Response – EPBC Comments

August 2017

Nora Creina Golf Course PER Response August 2017

02 August 2017

Version 3

Prepared by EBS Ecology for JA and DA Scanlon

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Table of Contents

1	INTRODUCTION.....	1
1.1	Location	1
1.2	Native vegetation in the project area	1
2	THE LITTLE DIP SPIDER-ORCHID (CALADENIA RICHARDSIORUM)	5
2.1	Commonwealth Status.....	5
2.2	Ecology	5
2.3	Presence within project area	7
2.4	Threats overview	9
2.5	Threats in project area.....	9
	2.5.1 Vertebrate grazing	9
	2.5.2 Visitor impacts.....	10
	2.5.3 Weed competition and invasion.....	10
	2.5.4 Fragmentation and edge effects	11
2.6	Avoidance Measures	12
	2.6.1 Visitor impacts.....	12
2.7	Mitigation Measures.....	12
	2.7.1 Control of vertebrate grazers	12
	2.7.2 Control of exotic weeds	14
	2.7.3 Management of potential indirect impacts	15
	2.7.4 Edge effects	16
	2.7.5 Discovery of new individuals.....	16
	2.7.6 Population Monitoring	16
2.8	Offset Measures	17
	2.8.1 Exclusion fencing	17
	2.8.2 Management of Coastal Wattle (<i>Acacia longifolia</i> ssp. <i>sophorae</i>).....	17
2.9	Contingency Measures	18
3	ORANGE-BELLIED PARROT (NEOPHEMA CHRYSOGASTER).....	19
3.1	Commonwealth Status.....	19
3.2	Ecology	19
3.3	Potential presence within project area.....	20
	3.3.1 Foraging habitat	20
	3.3.2 Roosting habitat	21
3.4	Threats overview	24
3.5	Threats in project area.....	24
	3.5.1 Vertebrate grazing	24
	3.5.2 Visitor impacts.....	24
	3.5.3 Weed competition and invasion.....	25

3.6	Mitigation measures.....	25
3.6.1	Control of vertebrate grazers	25
3.6.2	Exotic weed control.....	25
3.7	Offset measures	25
3.7.1	Management of Coastal Wattle (<i>Acacia longifolia</i> ssp. <i>sophorae</i>).....	25
4	OFFSETS.....	27
4.1	Offset calculation	27
4.1.1	Little Dip Spider-orchid	27
4.1.2	Orange-bellied Parrot	28
4.2	Offset area	30
4.2.1	Little Dip Spider-orchid	30
4.2.2	Orange-bellied Parrot	32
4.2.3	Significant Environment Benefit (SEB) under the Native Vegetation Act 1991.....	34
4.2.4	Heritage Agreement.....	36
4.2.5	Offset Monitoring	36
5	REFERENCES.....	37

List of Tables

Table 1. Locations and abundance of <i>C. richardsiorum</i> populations and the year of survey (Dickson <i>et al.</i> 2009)	5
Table 2. Habitat Associations and associated species within which <i>C. richardsiorum</i> has been recorded.	6
Table 3. The food plants within the vegetation associations present in the project area. The food plant species were sourced from Toslma <i>et al.</i> (2014) and Orange-bellied Parrot Recovery Team (2006). The species list for each vegetation association was documented in EAC (2014).	20
Table 4. Impact calculation for <i>Little Dip Spider-orchid</i>	27
Table 5. Offset calculation for <i>Little Dip Spider-orchid</i>	27
Table 6. Impact calculation for the Orange-bellied Parrot.....	28
Table 7. Offset calculation for the Orange-bellied Parrot	29

List of Figures

Figure 1. The location of the proposed Nora Creina golf course in relation to major towns in south eastern South Australia.	3
Figure 2. The Nora Creina suburb with respect to the proposed Nora Creina golf course project area, South Australia.....	4
Figure 3. Location of the subpopulation of <i>Caladenia richardsiorum</i> with respect to the proposed layout for development at Nora Creina.	8
Figure 4. The extent of Coastal wattle (<i>Acacia longifolia</i> subsp. <i>sophorae</i>) over the project area from 1987 to 2007.	11

Figure 5. Orange-bellied Parrot potential roosting habitat over the project area 22

Figure 6. Orange-bellied Parrot observations since 2010 in South Australia. 23

Figure 7. The proposed offset area (1.11 ha) for the Little Dip Spider Orchid within the Nora Creina project area..... 31

Figure 8. The proposed offset area (90 ha) for the Orange-bellied Parrot within the Nora Creina project area. 33

Figure 9. The proposed SEB, Little Dip Spider-orchid and Orange-bellied Parrot offset areas within the Nora Creina project area. 35

1 INTRODUCTION

The proposed Nora Creina Golf Course and Tourism Resort Major Development includes the development of two 18 hole golf courses, a club house, accommodation and associated infrastructure such as roads. The project also includes the development of a Wagyu Beef farm and vineyard. Following initial (Appendix J) and follow-up (Appendix L and Appendix K) vegetation surveys, modifications to the original project to reduce environmental impacts (COOE) were made. Environmental impacts were assessed and a proposed SEB was developed (EBS) in order to offset the proposed environmental impacts. A Public Environment Review (PER) was prepared for the project that describes the vegetation across the project site and ecological surveys that were previously undertaken. The PER details matters to be addressed in regards to assessment of the project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This report provides further information to facilitate assessment of the project in accordance with comments provided by the Department.

1.1 Location

The proposed Nora Creina Golf Course is located 17 km south east of Robe, South Australia (Figure 1). Within this report, the broader area will be referred to as Nora Creina and all references to matters within the area designated for development will be referred to as the project area (Figure 2).

1.2 Native vegetation in the project area

Historically, the project area has been extensively grazed with severe degradation occurring. The coastal sand dune area, as evidenced by aerial photos from 1987 (refer to Section 2.5.3), contained significant bare areas and blowouts. Since the mid 1990's, grazing was removed from the site and vegetation cover has improved significantly.

A previous landholder has established numerous small plantations of mostly introduced species, within the native vegetation, which are still surviving and, in some cases, spreading as woody weeds along with invading African Boxthorn, Aleppo Pine and Coastal Tea Tree. These woody weeds will continue to spread if left uncontrolled. Introduced Rabbits and European Fox were also recorded within the site and are also contributing to an ongoing biodiversity, soil and weed degradation threat to the wider area.

The plantations are often characterised by Norfolk Island Pine, Cypress Pines, Tuart Gums, among others, and are in varying degrees of condition and vigour. It was recommended to retain at least the larger trees as interim tall habitat structure (except spreading weeds).

A preliminary 'baseline' survey was completed by Barron Environmental for much of the site in May 2014 which revealed a relatively homogenous level of native vegetation which is dense in places but with a low level of diversity. More than 30 weed species (either planted or invaded weeds) were recorded within the site and just under 50 native species. For a site of this size within this region, the diversity of native flora species is considered to be at a relatively low level. The vegetation cover was characterised as follows:

- Coastal wattle (*Acacia longifolia sophorae*) dense shrubland– 80%;

- Coastal daisy bush (*Olearia axillaris*) & Ridged bush-everlasting (*Ozothamnus decurrens*) dense low shrubland – 10% (Coastal fore-dune & fringe);
- SA Swamp Paperbark (*Melaleuca halmaturorum*) and Dryland Teatree (*Melaleuca lanceolata*) Low Open Forest – 5% (eastern lake fringes);
- Cutting grass (*Gahnia lanigera*) sedgeland & Woolly Teatree (*Leptospermum lanigerum*) Shrubland – 5% (western inland wetland fringes); (Endangered in DEWNR provisional list).

As it can be seen from these figures, the Coastal Wattle shrubland community dominates the coastal dune area. Whilst this species is a native, it is not surprising as this species is a coloniser in disturbed environments, it produces high volumes of seed and can dominate disturbed areas quickly. Due to this dominance and a growth habit that can form dense thickets, it can adversely impact on the species diversity of areas as it will outcompete smaller more delicate species. Refer to Section 2.5.3 for more details on this species.

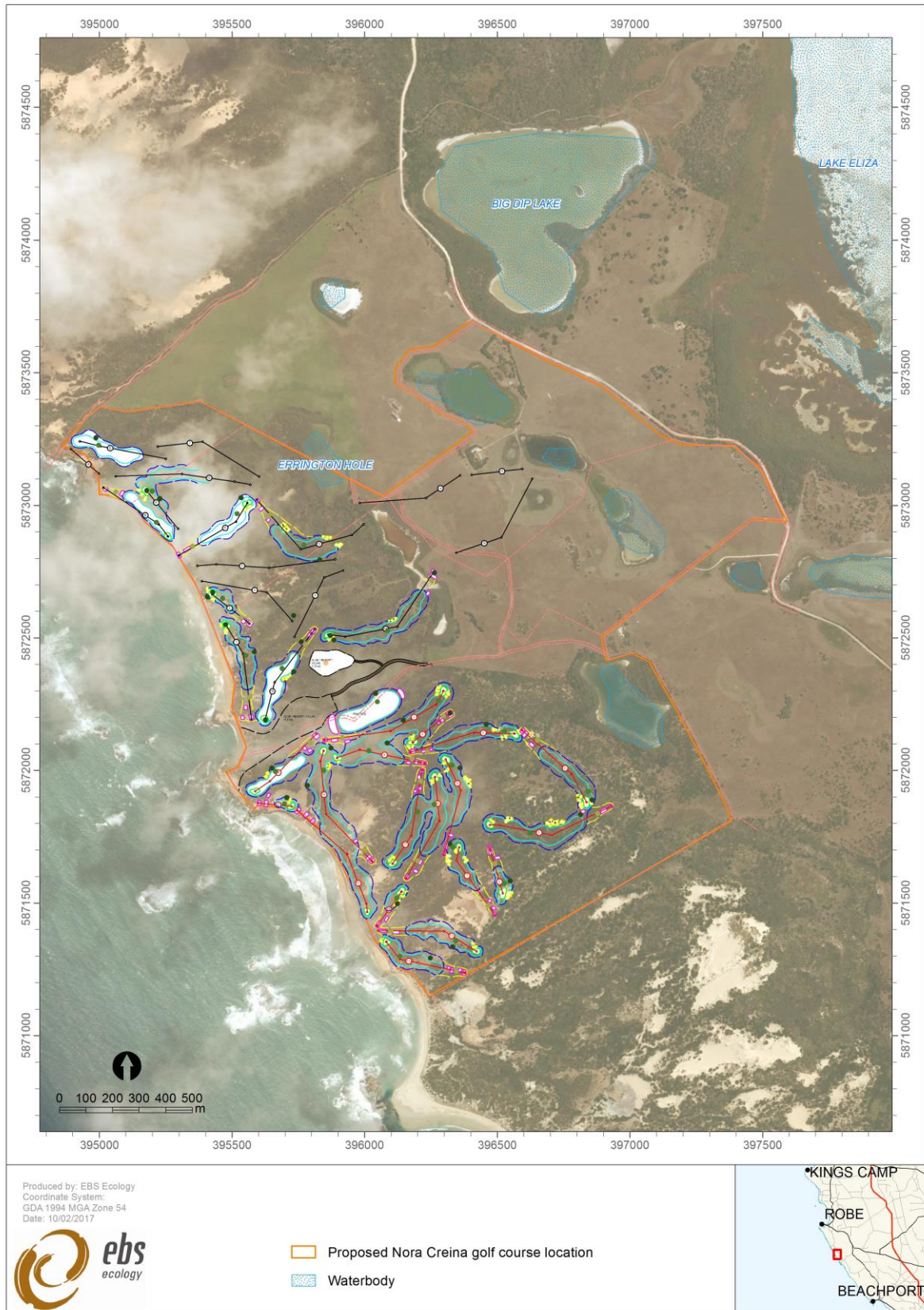


Figure 1. The location of the proposed Nora Creina golf course in relation to major towns in south eastern South Australia.

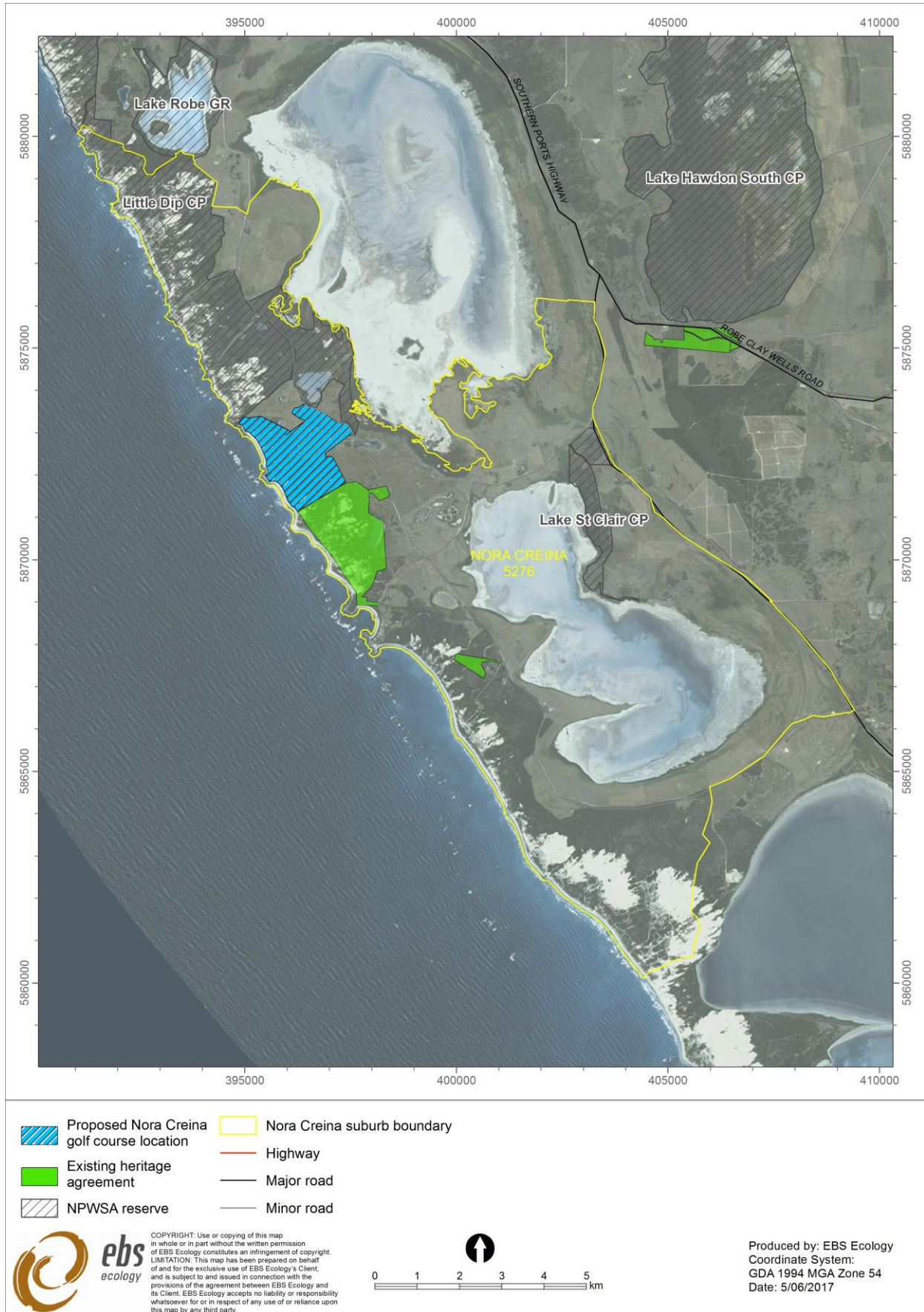


Figure 2. The Nora Creina suburb with respect to the proposed Nora Creina golf course project area, South Australia.

2 THE LITTLE DIP SPIDER-ORCHID (*CALADENIA RICHARDSIORUM*)

2.1 Commonwealth Status

The Little Dip Spider-orchid (*Caladenia richardsiorum*) is protected under the *Environment Protection and Biodiversity Conservation Act (1999)* where the species is listed as Endangered.

2.2 Ecology

The Little Dip Spider-orchid is a perennial spider-orchid that flowers from late September to early November, remaining dormant outside this period. The plant grows to 20-40 cm in height, and typically has a single yellow-green flower, up to 40 mm wide. The sepals have a prominent black clubs, and the labellum is green-cream with maroon spots and margins (SA Seed Conservation Centre 2017).

Little Dip Spider-orchids have a limited distribution of approximately 900 km², occurring only within South Australia between Kingston SE and Southend in coastal vegetation. The Recovery Plan identified 17 locations where Little Dip Spider-orchids occur. Across the 17 locations, there were a total of 37 subpopulations and 8170 individuals (Dickson *et al.* 2009). Within the Nora Creina region, there seven known subpopulations, and 6978 individuals, as determine by surveys in 2002/03 (Table 1) (Dickson *et al.* 2009). More recent sightings have been recorded in the Robe area by SA Flora (BDBSA) in 2013-2014 (ALA 2017).

Table 1. Locations and abundance of Little Dip Spider-orchid populations and the year of survey (Dickson *et al.* 2009)

Location	Manager	No. of individuals	No. of subpopulations	Year
Canunda National Park, Southend	DEWNR	117	3	2006
Little Dip CP, Robe	DEWNR	<107	7	2007
Coorong NP	DEWNR	200	1	2004
Nora Creina PP1	Private Property	1188	1	2003
Nora Creina PP2	Private Property	5	1	2002
Nora Creina PP3	Private Property	50	1	2002
Nora Creina PP4	Private Property	219	3	2002
Nora Creina PP5	Private Property	5400	6	2002
Sunland PP1	Private Property	49	4	2007
Robe Heritage Agreement	Private Property	97	1	2007
Beacon Hill Council Reserve, Robe	Robe District Council	<10	1	2004
Pool of Siloam, Beachport	Wattle Range District Council	30	1	2002
Lanky's Well, Beachport	Wattle Range District Council	189	2	2007
Rivoli Bay, Beachport	Wattle Range District Council	240	2	2007
Woolly Lake, Beachport	Wattle Range District Council	5	3	2006

Lake George, Nora Creina	Wattle Range District Council	49	1	2002
Roadside, Nora Creina	Wattle Range District Council	67	2	2002
Total		8170	37	

Little Dip Spider-orchids are found in a number of coastal and sub-coastal vegetation associations within 6 km of the coast (Dickson *et al.* 2009). The vegetation associations within which they occur include Coast Daisy-bush (*Olearia axillaris*) and Coast Bear-heath (*Leucopogon parviflorus*) shrubland, White Coast Mallee (*Eucalyptus diversifolia* ssp. *diversifolia*) mallee, and Dryland Tea-tree (*Melaleuca lanceolata*) Drooping Sheoak (*Allocasuarina verticillata*) low woodland (Table 2). The Recovery Plan (Dickson *et al.* 2009) considers all habitat within the species extent of occurrence to be critical habitat.

Table 2. Habitat Associations and associated species within which the Little Dip Spider-orchid has been recorded.

Habitat Associations	Location	Associated Species
Coast Daisy-bush (<i>Olearia axillaris</i>) – Coast Bear-heath (<i>Leucopogon parviflorus</i>) shrubland complex	Nora Creina and Canunda National Park	Thyme Riceflower (<i>Pimelea serpyllifolia</i>), Bower Spinach (<i>Tetragonia implexicoma</i>), Coast Swainson-pea (<i>Swainsonia lessertiifolia</i>) and Coast Velvet-bush (<i>Lasiopetalum discolor</i>)
White Coast Mallee (<i>Eucalyptus diversifolia</i> ssp. <i>diversifolia</i>) open mallee	Robe and Beachport regions	Coast Beard-heath, Old Man's Beard (<i>Clematis microphylla</i>), Stinking Pennywort (<i>Hydrocotyle laxiflora</i>) and Coast Velvet-bush
Dryland Tea-tree (<i>Melaleuca lanceolata</i>) Drooping Sheoak (<i>Allocasuarina verticillata</i>) low woodland	Beachport	Golden Wattle, Myrtle Wattle (<i>Acacia myrtifolia</i>), Coast Beard-heath (<i>Leucopogon parviflorus</i>), Sea Box (<i>Alyxia buxifolia</i>), Coast Cherry (<i>Exocarpus syrticola</i>), Coast Pomaderris (<i>Pomaderris paniculosa</i>), Pale Turpentine Bush (<i>Beyeria lechenaultii</i>), Muntries (<i>Kunzea pomifera</i>) and Blunt Leaf Ground-berry (<i>Acrotriche cordata</i>)
White Coast Mallee stunted mallee and Golden Wattle (<i>Acacia pycnantha/leiophylla</i>)	Potters Scrub, Coorong	sparse understorey dominated by the weed species Bridal Creeper (<i>Asparagus asparagoides</i>)

Caladenia species form a symbiotic relationship with a root fungus, called mycorrhizae (Dickson *et al.* 2009). The root fungus gains carbohydrates from the host plant, and the host plant receives increased nutrient and water uptake, which improves its resilience to stress, such as drought and disease (Reece *et al.* 2015). In addition to this, *Caladenia* species require infection by the root fungus to germinate (Warcup 1971). Therefore, if the mycorrhizal fungus of the species were to be adversely affected, the Little Dip Spider-orchid would be also (Dickson *et al.* 2009). The Nature Glenelg Trust has determined the symbiotic mycorrhizae fungus of the Little Dip Spider-orchid, which allowed them to propagate the species for translocation programs (NGT 2015).

Little Dip Spider-orchids have a highly specialised plant-pollinator relationship. The majority of pollination is achieved by a male thynnid wasp. The Little Dip Spider-orchid, as with other spider orchid species mimics the sexual pheromone of a female wasp to attract males. Males try to copulate with the flowers,

and in doing so, transfer pollen from the stamens (male sex organ) to the style (female sex organ) of other individuals, achieving cross-pollination (Dickson *et al.* 2009). The pollination rate of the Little Dip Spider-orchid is considered to be good at most sub-populations, and therefore, the species is not considered to be pollen limited (Dickson *et al.* 2009).

2.3 Presence within project area

At present, there is one site within the project area that contains approximately 100 individuals of Little Dip Spider-orchids (Figure 3). These individuals were patchily distributed in a 30 m x 10 m area, under planted non-local native *Eucalyptus gomphocephala* (Tuart Gum – native to WA) and *Leptospermum laevigatum* (Coast or Victorian Tea-tree), which is considered to be atypical habitat (UTM 54H 395437, 5872697).

There is very limited data for the sub-population of Little Dip Spider-orchids as the sub-population was only discovered as a result of flora surveys for this project. Therefore, it is unclear whether the population (number of individuals) is stable, increasing in number or decreasing in number. It is also unclear whether the extent (area occupied) of the species is stable, increasing in area or decreasing in area. All that is currently known is that the population size is approximately 100 individuals and the extent of the population is approximately 300m².



Figure 3. Location of the subpopulation of the Little Dip Spider-orchid with respect to the proposed layout for development at Nora Creina.

2.4 Threats overview

Threats to the Little Dip Spider-orchid are listed in the Recovery Plan include (Dickson *et al.* 2009):

- Clearance of vegetation within or near essential or potential threatened species habitat.
- Vehicle access through essential or potential threatened species habitat.
- Weed invasion in essential or potential threatened species habitat.
- Vertebrate pest invasion in essential threatened species habitat.
- Construction or maintenance of management tracks or recreational trails through essential or potential threatened species habitat.
- Activities that contribute to excessive foot traffic through essential or potential threatened species habitat.
- Activities that promote soil disturbance in or near areas of essential habitat susceptible to soil erosion.
- Activities that reduces the size and increases the isolation of threatened plant sub-populations further.
- Illegal collection.
- Inappropriate fire regimes.

2.5 Threats in project area

2.5.1 Vertebrate grazing

The current grazing intensity within the project area is low (EAC 2014), however grazing pressure from the Western Grey Kangaroo (*Macropus fuliginosus*) and rabbit (*Oryctolagus spp.*) are considered to be threatening processes to the Little Dip Spider-orchid in the region (Dickson *et al.* 2009). Orchids are highly palatable (Dickson *et al.* 2009), and therefore an increased risk of consumption could occur if grazing intensity within the project area were to increase. The grazing of orchids was identified to be significant in the Mount Lofty Ranges, South Australia, with up to 94% of flowers and 36% of seed capsules from *C. rigida* and *C. tentaculata* browsed (Faast and Facelli 2009). Currently, there is no management, control or monitoring of introduced grazers (rabbits, deer) or native grazers (kangaroos) at the site. It is also unclear whether grazers are currently having an impact on the population of Little Dip Spider-orchids as there is little information on the population and whether it is a stable population.

The development of the proposed golf course and accommodation is expected to increase the density of Western Grey Kangaroos and Rabbits. This would elevate the subsequent grazing pressure throughout the project area, due to the creation of an abundant food resource, matched with the cover offered by coastal scrub. Kangaroos and rabbits within this environment would be protected from nutritional stress year round, which would facilitate significant increases in their numbers (Government of South Australia 2005; Mayberry 2011).

2.5.2 Visitor impacts

If left unprotected the subpopulation of the Little Dip Spider-orchid could be subject to the impacts associated with visitors. For example, visitors may trampled individuals while retrieving balls or collect the flowers due to their unique appearance.

2.5.3 Weed competition and invasion

Weed invasion is listed as a primary threat to the Little Dip Spider-orchid in the Recovery Plan (Dickson *et al.* 2009). The two species cited that are of particular threat to populations of Little Dip Spider-orchids are Bridal Creeper (*Asparagus asparagoides*) and Coastal Wattle (*Acacia longifolia var. sophorae*), whilst Myrtle-leaf Milkwort (*Polygala myrtifolia*), Bluebell Creeper (*Billardiera heterophylla*), Italian Buckthorn (*Rhamnus alaternus*), Blue Periwinkle (*Vinca major*), Freesia (*Freesia sp.*) and Arum Lily (*Zantedeschia aethiopica*) are also of concern (Dickson *et al.* 2009).

Although Coastal Wattle is not technically a weed species, it is a species that colonises and dominates coastal areas that have had a history of disturbance. This species has significantly increased its extent and distribution within coastal environments (Dickson *et al.* 2009), as it has done within the project area (Figure 3) (Barron 2014). The extent and density of Coast Wattle over the project area rapidly increased following the removal of domestic grazers. There is currently no weed management or management of Coastal Wattle undertaken at the site.

The long-term invasion of Coastal Wattle significantly reduces the diversity of understorey plants, and favours a small group of shade tolerant shade tolerant, rhizomic grasses and sedges (Costello *et al.* 2000). As such, the species is known to compromise the survival of threatened orchids in the region (Carr 1993 in Dickson *et al.* 2009). For example, Coastal Wattle is considered to be the greatest threat to populations of Mellblom's Spider-orchid (*Caladenia hastata*) in south western Victoria. Therefore, the control of Coast Wattle has been initiated to ensure the viability of the threatened orchid (DEWHA 2009). The need for control of Coast Wattle to protect threatened understorey species was also identified by Costello *et al.* (2000). Costello *et al.* (2000) studied the relationship between Coastal Wattle and understorey vegetation, with a focus on the nationally threatened herb, *Thesium australe*. Their study concluded that “*without active ecosystem management, grassland plant diversity should continue to decline and the nationally threatened herb, Thesium australe, is likely to disappear*”. Therefore, it is likely that the population of Little Dip Spider-orchid is unviable without the control of Coastal Wattle, and that the threat is ever worsening given its increasing extent (Figure 4).

Bridal Creeper is a weed of national significance, and causes significant damage to native vegetation in south-east South Australia due to its climbing and smothering habit (DEE 2003). The smothering habit of Bridal Creeper prevents access to light by native plant species, which causes their decline (DEE 2003). Bridal Creeper has smothered vast tracts of coastal vegetation at Robe and in the Little Dip and Beachport Conservation Park and Coorong National Park, and is believed to have eliminated a sub-population of Little Dip Spider-orchids within this region (Dickson *et al.* 2009). This species is present in the project area, however, the distribution of the species has not been specifically mapped.

The development of the proposed golf course and accommodation may introduce new weed species to the project area and may facilitate the spread of weeds if not controlled. The increased supply of water

and nutrients matched with the creation of extensive edge and disturbance areas, would provide preferable habitat for a range of weeds species (Smith and Smith 2010).

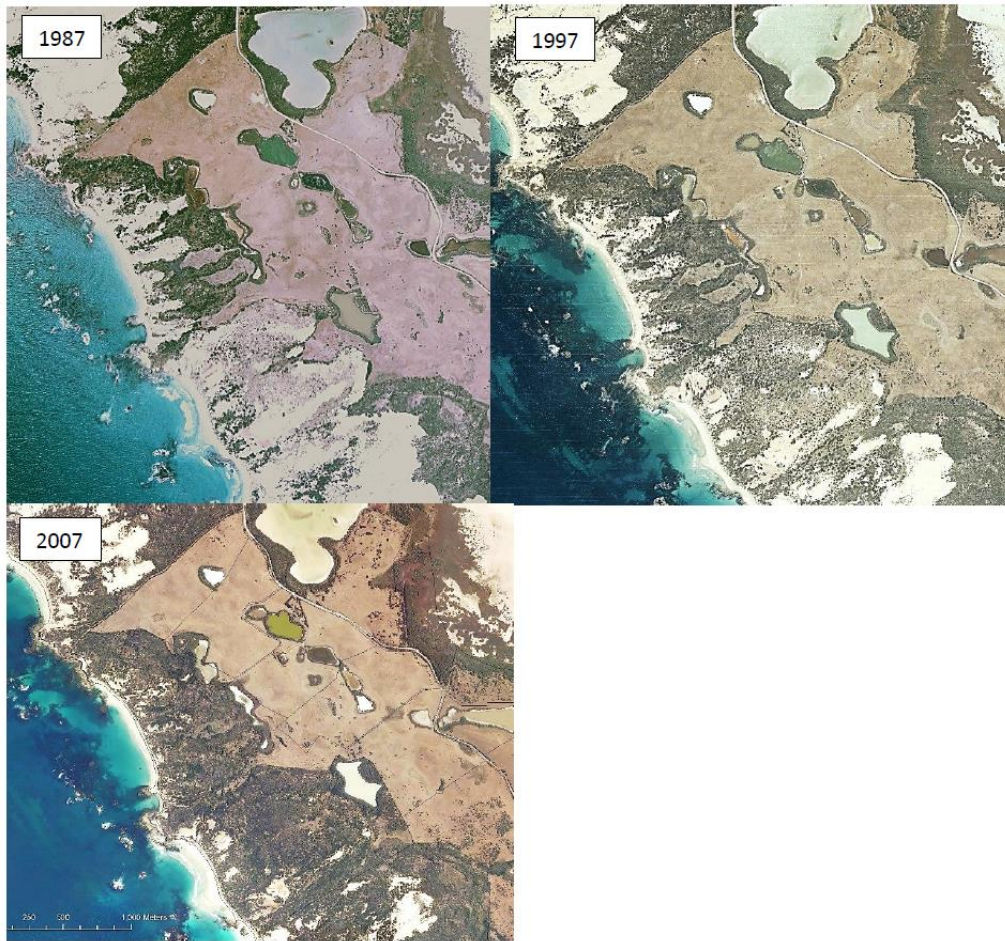


Figure 4. The extent of Coastal wattle (*Acacia longifolia subsp. sophorae*) over the project area from 1987 to 2007.

2.5.4 Fragmentation and edge effects

Fragmentation of the coastal vegetation surrounding the subpopulation would cause edge effects, and may disrupt plant pollinator dynamics and mycorrhizae. The size and shape of remnant vegetation surrounding orchid populations has been shown to influence seed and fruit set, and subsequent population viability (Donaldson *et al.* 2002; Newman *et al.* 2013).

Plant pollinator dynamics are often negatively influenced by fragmentation. At present, the pollination rate of Little Dip Spider-orchid subpopulations is good, and not considered to be pollen limited (Dickson *et al.* 2009). However, with the fragmentation of the coastal vegetation surrounding the subpopulation within the project area, the pollination rate and pollen quality may be adversely impacted. For example, the pollination rate and subsequent fruit set of the orchid *Pterygodium catholicum* was reduced as the patch size of remnant vegetation decreased (Donaldson *et al.* 2002). The receipt of pollen from other populations (out-crossed pollen) improves the viability of seed (Martin *et al.* 2002), which is important to the sustainability of populations (Faast *et al.* 2010). As such, the fragmentation of habitat in the project area could make

travelling to the subpopulation less attractive to pollinators, which would reduce the potential for the receipt of outcrossed pollen.

Edge effects are the changes in the abiotic and biotic conditions at the edge of two habitats, i.e. the golf green and coastal vegetation within the project area (Murcia 1995). The coastal vegetation adjacent to golf greens are expected to receive increased light, water and nutrients. The edge effects may lead to a decline in habitat condition, due to the facilitation of the spread and establishment of weeds (Dickson *et al.* 2009). To ensure that the subpopulation of Little Dip Spider-orchids are not adversely impacted by edge effects and other indirect impacts, a 50 m buffer will be established from the edge of golf greens and fairways to the subpopulation. A 50 m buffer matched with weed and run-off control mitigation measures (see section 2.7) is deemed suitable to permit the sustainable presence of the Little-dip Spider Orchid, as a population persists within roadside vegetation in the Nora Creina suburb (Dickson *et al.* 2009). As such, the population that persists in roadside vegetation would be closer to a disturbance boundary than the subpopulation in the project area following development.

2.6 Avoidance Measures

2.6.1 Visitor impacts

Potential direct visitor impacts will be avoided through the grazer exclusion fence and signage, which would ensure that visitors are unable to enter the extent of the Little Dip Spider-orchid sub-population within the project area. The height of the exclusion fencing will be 1.5 m, and will ensure that people are unable to jump the fence, e.g. to retrieve golf balls. In addition to this, signage on the fence will inform visitors that the fenced area is a conservation zone and no-go zone. The presence of the Little Dip Spider-orchid will not be mentioned or highlighted so that visitors do not search for the species or collect the species. A locked gate will be constructed, to permit access to the subpopulation by land managers.

2.7 Mitigation Measures

2.7.1 Control of vertebrate grazers

The control of Western Grey Kangaroo and Rabbit numbers across the project area is a mitigation measure, as it will address the expected increase in numbers following development.

Control of Western Grey Kangaroos

Western Grey Kangaroos may be controlled through culling. There are two methods of culling which are recognised, which are shooting and capture-darting, both of which are considered to be humane (DTMS 2010). To shoot kangaroos, a permit to destroy wildlife (non-commercial/damage mitigation) is required under section 53 (1) of the *National Parks and Wildlife Act 1972* (DEWNR 2013). This permit allows for the permit holder to destroy a specified number of kangaroos that are causing, or are likely to cause, damage to the environment, or to stock, crops or other property (DTMS 2010).

If shooting is an unsuitable practice within the project area due to concerns around the safety of patrons, then capture-darting could be performed. Capture-darting is a procedure whereby a captured kangaroo is tranquilised and subsequently injected with a lethal poison used for the euthanasia of cats and dogs. This

method of control is expensive, due to the number of trained personnel, veterinary involvement and specialised equipment and drugs (DTMS 2010).

Control of Rabbits

Rabbits may be controlled through a variety of measures, including warren ripping, fumigation, shooting and baiting. Warren ripping is considered to be the most effective control measure, and involves the destruction of warrens through the use of a tractor which traverses one or more sharp pronged implement(s) through the warren. The rip lines should reach a depth of at least 70 cm and be spaced no further than 50 cm apart (DAFF 2016). To ensure complete destruction, ripping should be performed in one direction and then once again at an angle of 90 degrees. Following ripping, the former warren should be back-filled and compacted to reduce the attractiveness of re-colonisation (DAFF 2016). Warren ripping is only appropriate in areas that do not contain native vegetation due to the potential impact of this method on vegetation.

Fumigation may be used as a secondary method of rabbit control or within areas where warren ripping is unsuitable (DAF 2016). To be effective, it is important that the greatest number of rabbits possible are present within the warren, when fumigation commences. As such, rabbits should be targeted in the middle of hot days when they have retreated to their burrows to avoid temperatures extremes. Likewise, rabbits may be chased in to their burrows by dogs (Just and Beardsell 2015). Fumigation is performed with phosphine tablets, which can be purchased from agricultural retailers. To fumigate with phosphine tablets, it is imperative that all warren entrances (active and inactive) are cut back at right angles with a shovel. Following this, the phosphine tablets should be wrapped in moistened absorbent paper and inserted deep in to the warren. Ensure that holes within which the phosphine tablets have been inserted are appropriately covered. The phosphine tablets react to the air and release a toxic gas. If leakages from the warren are detected through the smell of ammonia, they should be immediately blocked. To determine success, warrens should be checked a following fumigation to determine whether any entrances have been re-opened, and if so, re-fumigation should commence (Just and Beardsell 2015; DAF 2016; DAFF 2016).

Baiting using 1080 is not considered to be a viable method of reducing a rabbit population if not used in conjunction with other rabbit control methods. However, it may be useful as secondary method following warren ripping. To ensure a successful baiting program, rabbits must become acclimatised to taking the feed offered. Therefore, trails of poison free bait should be laid within their foraging area on three occasions over a week period before poison bait is used (Just and Beardsell 2015; DAFF 2016). The timing of the baiting program should coincide with the rabbit non-breeding season. During the non-breeding season adult rabbits forage over a small area, and breeding age individuals will be targeted. Whereas if baiting were to occur during the breeding season, animals not of breeding age, which forage closer to their warrens are more likely to be affected (Just and Beardsell 2015; DAFF 2016).

Shooting is another 'mop-up' method that can be used following warren ripping. This method is best practiced when rabbits are most active, i.e. at dawn and dusk (DAFF 2016).

2.7.2 Control of exotic weeds

The impacts of the predicted increase of exotic weed density and/or diversity following the development of the golf course will be mitigated through weed control. A baseline assessment will be undertaken prior to the commencement of the project to allow pre-existing weed levels to be measured and recorded. This will allow any increase in the diversity or density of weed species associated with the development to be identified. Control and management of the difference in weed density and diversity between the baseline and the measured level will be a mitigation measure.

The subpopulation of the Little Dip Spider-orchid within the project area was found under the Tuart Gum (*Eucalyptus gomphocephala*) and Coast Tea-tree (*Leptospermum laevigatum*) (Barron 2014). The Tuart Gum is a Western Australian species, and therefore, not indigenous to the project area, while the Coast Tea-tree was listed as a potentially threatening invasive weed species (Dickson *et al.* 2009). The discovery of this sub-population led Barron (2014) to postulate whether the species can be resilient to some level of disturbance and colonise under introduced species if conditions are suitable.

It would be recommended that the Tuart Gum is not removed, unless monitoring of the subpopulations has determined it to be detrimental to the subpopulation, as numerous subpopulations are associated with an eucalypt overstorey (see 2.2). Given that Coast Tea-tree is listed as a potentially threatening species in the Recovery Plan, it is recommended that there is staged removal of this species, in accordance with monitoring to determine the impact of this activity.

As a general rule, weed control should follow the performance criteria for action 4.1 in the Recovery Plan, which deems success at priority populations as establishing a weed free buffer, and at subpopulations as a decline in the extent of invasive weed species (Dickson *et al.* 2009).

The method for weed control is dependent on the growth habit and ecology of the threatening weed species, and therefore methods to control woody, herbaceous and bulbous weeds are described below (Just and Beardsell 2015). A detailed management plan will need to be developed for the management of the sub-population of Little Dip Spider-orchids within the project site.

Woody weed control

For woody weed species, the most effective method of control for young plants is removal by hands. For larger, older woody weeds, three methods may be used (Just and Beardsell 2015):

- Cut and paint;

Make a horizontal cut across the trunk, as close to the ground as possible. Following this, paint the cut with Glyphosate (Just and Beardsell 2015).

- Drill and fill; and

The stem or lignotuber is drilled, as deep as possible, with a 9 mm drill bit, with holes no further than 20 mm apart from each other. Each hole should be filled with a Glyphosate. This method is considered to be more effective than the cut and paint method, as the plant absorbs more Glyphosate. In the weeks following the drill and fill, the plant will lose its foliage, which will lead to its death in the subsequent months (Trees for Life 2012).

- Frilling.

Cuts into the sapwood are to be made at 5 cm intervals around the tree using a chisel or axe. Each hole should be filled with Glyphosate (AMLR n. d.).

Herbaceous weed control

The control of herbaceous weeds may be conducted through (Just and Beardsell 2015):

- Hand pulling; and
- Spot spraying

Spot spraying involves spraying Glyphosate on targeted weed species during the winter/spring period when the species is growing. This method should have limited off-target damage.

Bulbous weed control

Bulbous weeds are particularly difficult to control due to the presence of tubers, from which the plant can re-grow following above-ground damage to the plant. However, they can be controlled through (Just and Beardsell 2015):

- Hand pulling; and

Hand pulling will only be effective if the tuber association with the plant is removed. The depth of the tuber varies species to species.

- Spot spraying

To be performed when the target species is beginning to flower.

2.7.3 Management of potential indirect impacts

The two key indirect impacts to the Little Dip Spider-orchid from the development of the project is the management of water run off / irrigation and the use of herbicides / pesticides. The impacts of run-off on the Little Dip Spider-orchid subpopulation will be mitigated through the implementation of a 50m buffer from the edge of the golf greens and fairways to the subpopulation. During the detailed design phase of the project contouring of fairways to ensure that run-off is directed away from the subpopulation will be incorporated. In addition to this, the substrate will be comprised of sand, which will increase infiltration and reduce surface run-off.

The proponent is committed to ensuring that run-off will not be a threatening process and has committed to the following environment management plans, which relate to run-off, for approval prior to any construction works commencing:

- Integrated Stormwater Management Plan
- Stormwater Management Plan
- Irrigation Management Plan
- Soil Erosion and Drainage Management Plan

There will not be any use of pesticides for the project. Herbicides will be utilised but restricted to the areas developed as part of the golf course, except for weed control implemented as part of the management of the offset areas. The use of chemicals will be kept to a minimum with all chemicals applied using best practice methods. This includes ensuring they are only applied when weather conditions are suitable, using the minimum application rates to be effective and using high quality equipment that reduces the risk of overspray, spills and leaks.

2.7.4 Edge effects

A 50m buffer will be established from the edge of the golf greens / fairways to the subpopulation of the Little Dip Spider-orchid. The distance to which edge effects penetrate is highly variable between habitats, varying largely in response to the permeability of the habitat edge. Given the permeability of the habitat edge will be low due to the presence of dense Coastal Wattle shrubland, and that Little Dip Spider-orchids are able to persist within roadside vegetation (Dickson *et al.* 2009), a 50m buffer will ensure that edge effects on the subpopulation of the Little Dip Spider-orchid are negligible following weed and run-off management.

2.7.5 Discovery of new individuals

There is annual variability in the emergence of orchid species (Commonwealth of Australia 2013), with individuals remaining dormant in unsuitable conditions. Therefore, individuals or small sub-populations may persist outside of the proposed exclusion fencing for the known subpopulation within the project area. In addition to this, individuals may have been overlooked during the 2014 survey, given their presence in dense vegetation (Barron 2014). Therefore, due to the possibility that Little Dip Spider-orchids may appear outside the exclusion fencing, it is imperative that responsive action is taken to erect exclusion fences if individuals or further sub-populations are identified and that these new areas are managed and monitored in the same way as the known population. This approach, outcomes and actions will be documented in the management plan developed for the Little Dip Spider-orchid at the site.

2.7.6 Population Monitoring

A population monitoring program will be implemented for the Little Dip Spider-orchid at the project site. The details of the monitoring need to be developed as part of the management plan developed for the species at the site, however, as a minimum it would include:

- Annual population counts
- Annual mapping of extent of sub-population
- Year on year comparisons of number of individuals and extent of sub-population to determine trends
- Annual update of management plan / management requirements of the sub-population

The aim of the population monitoring is to ensure that the mitigation measures put in place for the project are effective and that the population of Little Dip Spider-orchid does not decline as a result of the proposed development.

2.8 Offset Measures

2.8.1 Exclusion fencing

The impact of grazing of the sub-population of Little Dip Spider-orchids within the project area is currently unknown. It is assumed that there is some grazing pressure on the sub-population as Kangaroos and Rabbits are present within the area and the orchids are a known palatable species. Therefore, exclusion fencing is considered to be an offset measure as all pre-existing impacts from large grazers will be eliminated. It is also partly a mitigation measure as it protects the population from potential increases to the grazing pressure as a result of the development.

Orchids are highly palatable (Dickson *et al.* 2009), and therefore the exclusion fencing will ensure that no individuals succumb to consumption. A case study at Nillumbik, Victoria, found *Caladenia parva* and *Pterostylis* spp. to significantly increase in number within fences, whilst those outside continued to face grazing pressure. These results were collected within four years of the erection of fencing (Just and Beardsell 2015). As such, it is expected that this offset measure will be beneficial to the sustainability of the subpopulation in the project area in the long-term.

The impact of grazing on orchids was also identified to be significant in the Mount Lofty Ranges, South Australia, with up to 94% of flowers and 36% of seed capsules from *C. rigida* and *C. tentaculata* browsed (Faast and Facelli 2009). It was determined that the orchids protected from grazers via mesh cages were almost three times more likely to produce seed than those exposed to grazers (Faast and Facelli 2009).

The extent of the Little Dip Spider-orchid subpopulation (10 m × 30 m) matched with the threat imposed by large grazers, mean that the most appropriate method from directly protecting the population is through 'post and wire fencing' (Just and Beardsell 2015). This method of protection is described in Just and Beardsell (2015) and comprised of:

- Wire strands to a height of 1500 mm, with chicken wire mesh extending to 1100 mm, to prevent access by macropods; and a
- 100 mm skirt to prevent rabbit access;
- Locked gate to facilitate access solely by land managers; and
- Signage identifying the area as a no-go conservation zone but with no reference to the Little Dip Spider-orchid.

2.8.2 Management of Coastal Wattle (*Acacia longifolia* ssp. *sophorae*)

Management of Coastal Wattle is considered to be an offset measure as there is clear evidence that the species has the ability to negatively impact on the Little Dip Spider-orchid. This species is not currently

managed within the property. It is unlikely that the proposed development will directly or indirectly cause an increase in the distribution or density of the Coastal Wattle. Therefore, management of this species is considered to be an offset measure.

Under the Native Vegetation Council Guidelines, Clearance of Coastal Wattle in the South East NRM Region is subject to Regulation 5(1)(zj). It is stated that “*approval for the control of Coastal Wattle in dunes is therefore subject to the regular processes for clearance of native vegetation as administered under the Native Vegetation Act 1991. A well-justified case to control Coastal Wattle in dunes may be permitted by the NVC within an approved management plan*”.

To abide by the NVC Guidelines, control of Coastal Wattle must not result in excessive soil disturbance, as it would likely damage indigenous flora and induce prolific germination of Coastal Wattle. Methods approved by the NVC, include removal of small plants by hand, and the cut and swab method of larger plants, using hand-held equipment, such as lopper or a chainsaw. It is recommended that land managers should leave cut Coastal Wattle where it falls, as the leaves and stems rot quickly and do not smother understorey vegetation.

Within the offset area, it is recommended that the dense Coastal Wattle shrubland be reduced to a mosaic of shrubland, through clearance of individual shrubs using the cut and swab method (further detailed in 2.7.2). Inside the extent of the subpopulation (fenced area), it is recommended that there be staged removal of Coastal Wattle to ensure that the subpopulation is not smothered and outcompeted. This will be performed in accordance with monitoring to determine the impact of this activity. Staged removal is also recommended to reduce soil disturbance. The provision of space and light associated the creation of a mosaic of Coastal Wattle shrubland, may allow for the regeneration of the Little-Dip Spider-orchid as suitable microhabitats would have been established. Elsewhere, intensive weeding has been shown to benefit orchids. For example, native orchids were found to regenerate at a small woodland remnant at Flagstaff Hill, South Australia, following intensive weeding of exotic bulbs (Currie 2012).

2.9 Contingency Measures

If the subpopulation is identified to be in decline following the creation of the golf course, a propagation / translocation program may be initiated. The Nature Glenelg Trust has determined the specific mycorrhizae fungus require for Little Dip Spider-orchids, which allowed them to propagate the species for translocation programs (NGT 2015). Therefore, Little Dip Spider-orchids can be grown and will be planted outside of the subpopulation within areas of suitable habitat, such as within the offset or off-site. Exclusion fencing would be established around these planted subpopulations, using the methods devised by Just and Beardsell (2015). Due to the possible variability of the number of individuals year to year, it is considered that the number of individuals would need to drop below 60% of the starting population number for three consecutive years before such a program would be initiated. This contingency measure will be outlined in detail in the Environmental Management and Monitoring Plan.

3 ORANGE-BELLIED PARROT (*NEOPHEMA CHRYSOGASTER*)

3.1 Commonwealth Status

The Orange-bellied Parrot (*Neophema chrysogaster*) is protected under the EPBC Act where the species is listed as Critically Endangered.

3.2 Ecology

The Orange-bellied Parrot is a small grass parrot (20-22 cm) that is predominantly green. The species has a prominent bright blue band above the beak which extends to their eye, and a blue band which extends the perimeter of their wing. The colour on their front softens from light green on their chest to pale yellow at their vents and a distinctive orange belly (Pizzey and Knight 2007).

The species is migratory, breeding in south west Tasmania, from November to March, and migrating to south-eastern Australia in the non-breeding season (Pizzey and Knight 2007). Pairs breed in hollows or artificial nest boxes, with a clutch size consisting of 4-6 eggs. Most nests produce young (DELWP 2016).

The habitat of the Orange-bellied Parrot in south-eastern Australia is comprised of coastal and sub-coastal (<10 km from coast) saltmarsh, vegetated sand dunes, heathland, grassland, and pasture (DELWP 2016). The preferred foraging habitat for the Orange-bellied Parrot is saltmarsh and adjacent pasture, where their primary food resources are Glaucus Goosefoot (*Chenopodium glaucum*), Southern Sea-heath (*Frankenia pauciflora*), Beaded Glasswort (*Sarcocornia quinqueflora*), Austral Seablite (*Suaeda australis*), Shrubby Glasswort (*Tecticornia arbuscula*), and the introduced Buck's-horn Plantain (*Plantago coronopus*), Winter Grass (*Poa annua*), Hogweed/Fireweed (*Polygonum spp.*) (Tolsma *et al.* 2014). Foraging observations on pasture predominantly occur within 500 m of saltmarsh (DEWLP 2016)

In South Australia, the distribution of saltmarsh is more limited than Victoria, constrained primarily to the Lower Lakes and Coorong region (DEWLP 2016). Therefore, within the southeast of South Australia, the foraging habitat is comprised of beach fronts and dune scrub (DELWP 2016). The relative lack of their preferred habitat is the likely cause of fewer records in South Australia (eight records) than Victoria (166 records) (Figure 6) (ALA 2017). As such, conservation measures of their winter habitat are most warranted in Victoria (Dreschler 1998).

The Orange-bellied Parrot is nomadic through its winter distribution, moving in response to the availability of food resources. Food resources on offer would vary in response to the inundation, and subsequent unavailability of saltmarsh, and the times of seed set by other feed species. It is therefore considered that the Orange-bellied Parrot “requires a range of winter feeding locations, at different elevations and in different catchments, with a wide variety of food plant species, to sustain them throughout the winter” (DELWP 2016).

3.3 Potential presence within project area

A total of eight observations of Orange-bellied Parrot have been recorded in South Australia since 2010 (ALA 2017). These observations have occurred primarily in the far south east of the state, however have also occurred on the southern Fleurieu Peninsula, Lake Alexandrina, and the Coorong (Figure 6). The last record of an Orange-bellied Parrot within the Nora Creina suburb occurred in 2007 (Figure 2) (Dickson *et al.* 2009). Extensive surveys of the Orange-bellied Parrot are conducted by Birdlife Australia along the South Australian coastline from May to September.

Given the population size and relatively few records of the Orange-bellied Parrot in South Australia over the past decade, it is unlikely that the species would occur within the project area. Furthermore, if the species were to occur, their presence would be temporal, due to their nomadic nature in their winter distribution (DELWP 2016).

The national recovery plan recognises that many locations are now no longer occupied by the Orange-bellied Parrot due to their very low population, however, considers that any habitat where Orange-bellied Parrots have been recorded since the year 2000, essential for the conservation of the species (DELWP 2016). This assertion, however, was made with no ecological basis. The Nora Creina project area does not constitute critical habitat due to their limited presence in South Australia and the lack of saltmarsh, which is their preferred foraging habitat during the non-breeding season.

3.3.1 Foraging habitat

In South Australia, the foraging habitat of the Orange-bellied Parrot are primarily beachfronts and dune scrub due to the relatively limited distribution of saltmarsh (DELWP 2016). The potential for foraging habitat was determined by comparing the species list for each vegetation association with the known food plant species of the Orange-bellied Parrot. It was determined that each of the eight vegetation associations had a minimum of one known food plant species, and a minimum of two species within the same genus as a known food plant species (Table 3). Therefore, the Orange-bellied Parrot has food resources well distributed over the project area. However, this does not necessary mean that the entire project area constitutes foraging habitat, as habitat structure is an important determinant in the suitability of foraging locations for birds (Murray *et al.* 2016). The Coastal Wattle shrubland has likely rendered the project area unsuitable for foraging due competition with understorey food plants (Costello *et al.* 2000), and reducing the ability of an Orange-bellied Parrot to access understorey vegetation for foraging.

Table 3. The food plants within the vegetation associations present in the project area. The food plant species were sourced from Toslma *et al.* (2014) and Orange-bellied Parrot Recovery Team (2006). The species list for each vegetation association was documented in EAC (2014).

Vegetation Association	Description	Food Plants	Size (ha)
1	<i>Ozothamnus turbinata</i> , <i>Olearia axillaris</i> Coastal Shrubland	<i>Apium postratum*</i> , <i>Sonchus oleraceus*</i> , <i>Senecio pinnatifolius</i> , <i>Senecio elegans*</i> , <i>Pimelea serpyllifolia</i>	7.87
2	<i>Acacia longifolia ssp. sophorae</i> , <i>Leucopogon parviflorus</i> , <i>Olearia axillaris</i> Closed Shrubland into swales, with open bare sand, possibly where sand has blown in from dune crest blowouts	<i>Senecio pinnatifolius</i> , <i>Senecio elegans*</i> , <i>Pimelea serpyllifolia</i>	27.98

3	<i>Olearia axillaris</i> , <i>Ozothamnus turbinatus</i> Open Shrubland. Tall dune slopes and crests	<i>Senecio pinnatifolius</i> , <i>Senecio elegans</i> *, <i>Pimelea serpyllifolia</i>	10.09
4	<i>Acacia longifolia</i> ssp. <i>sophorae</i> Tall Open Shrubland was a minor occurrence and was structurally similar to that of Areas 2 and 5. However this area was more open with a very high cover of the vines <i>Tetragonia implexicoma</i> , <i>Clematis microphylla</i> and <i>Cassytha pubescens</i>	<i>Acaena novae-zelandiae</i> , <i>Senecio elegans</i> *	7.76
5	<i>Acacia longifolia</i> ssp. <i>sophorae</i> , <i>Leucopogon parviflorus</i> Closed Tall Shrubland	<i>Plantago lanceolate</i> var., <i>Sonchus oleraceus</i> *, <i>Senecio elegans</i> *, <i>Pimelea serpyllifolia</i>	158.36
6	<i>Acacia longifolia</i> ssp. <i>sophorae</i> Tall Open Shrubland over sedges and grasses	<i>Acaena novae-zelandiae</i> , <i>Plantago lanceolate</i> var., <i>Poa labillardieri</i> var. <i>labillardieri</i> *, <i>Poa sieberiana</i> var. <i>sieberiana</i> *	9.36
7	<i>Leucophyta brownii</i> Open Shrubland on patches of exposed limestone with shallow sand to light reddish clay which naturally occur due to wind scars	<i>Senecio pinnatifolius</i> , <i>Pimelea serpyllifolia</i>	4.76
8	<i>Gahnia trifida</i> Sedgeland, with patchy <i>Melaleuca lanceolata</i> and <i>Leptospermum lanigerum</i> shrubland.	<i>Acaena novae-zelandiae</i> , <i>Samolus repens</i>	22.7

* Within genus of known food plant species

3.3.2 Roosting habitat

The Orange-bellied Parrot roosts within dense shrubs that are located within a few kilometres of foraging sites (Loyn *et al.* 1986; Emke 2009 in DELWP 2016). The potential roosting habitat for Orange-bellied Parrot within the project area was based upon the protection offered from wind and rain. Therefore, vegetation association which had an open structure, located on fore dunes, or within wind blow outs were deemed unsuitable for roosting. As such, it was determined that vegetation associations 4, 5 and 6 were suitable for roosting due to the high density of shrubs (Figure 5).

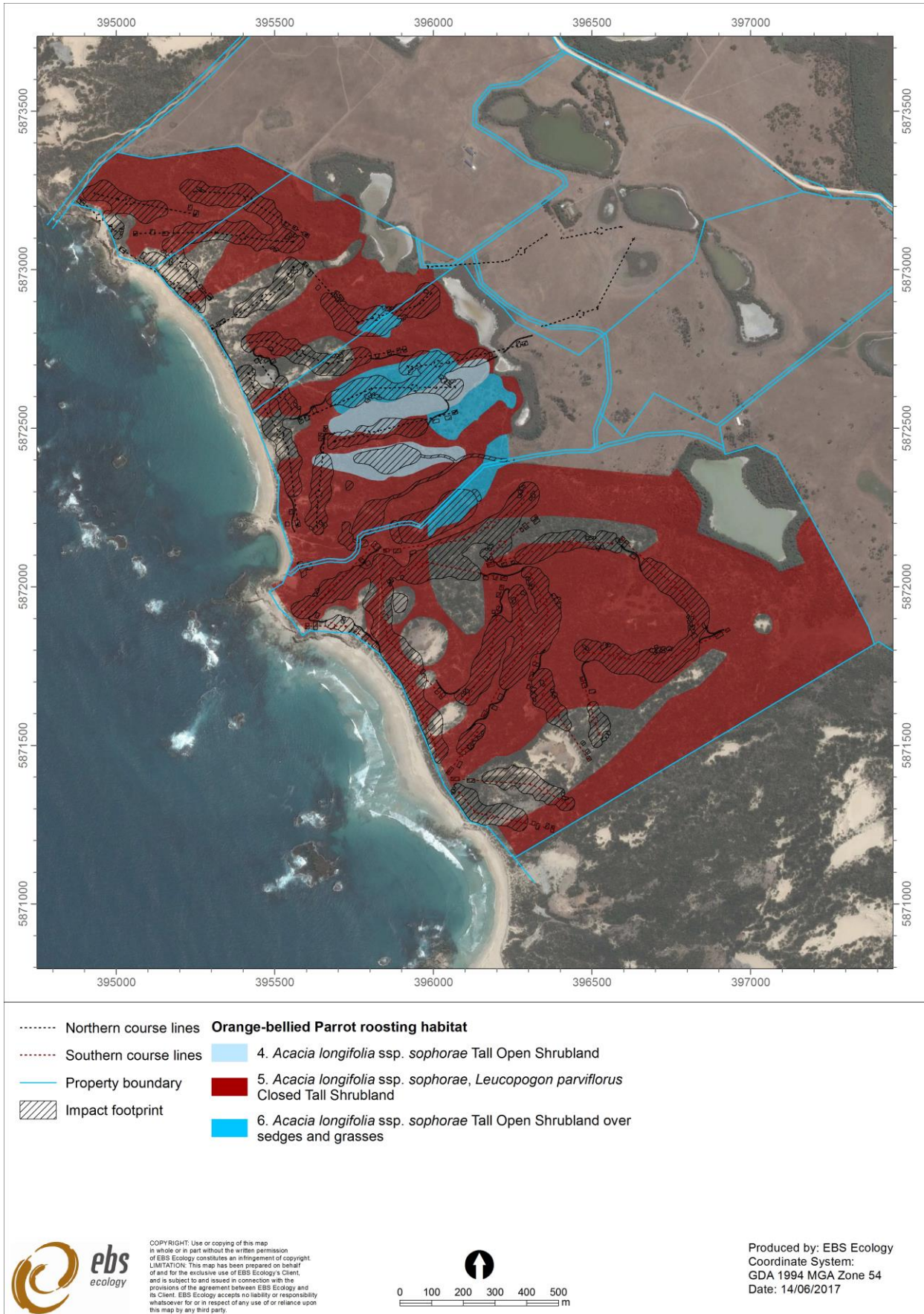


Figure 5. Orange-bellied Parrot potential roosting habitat over the project area

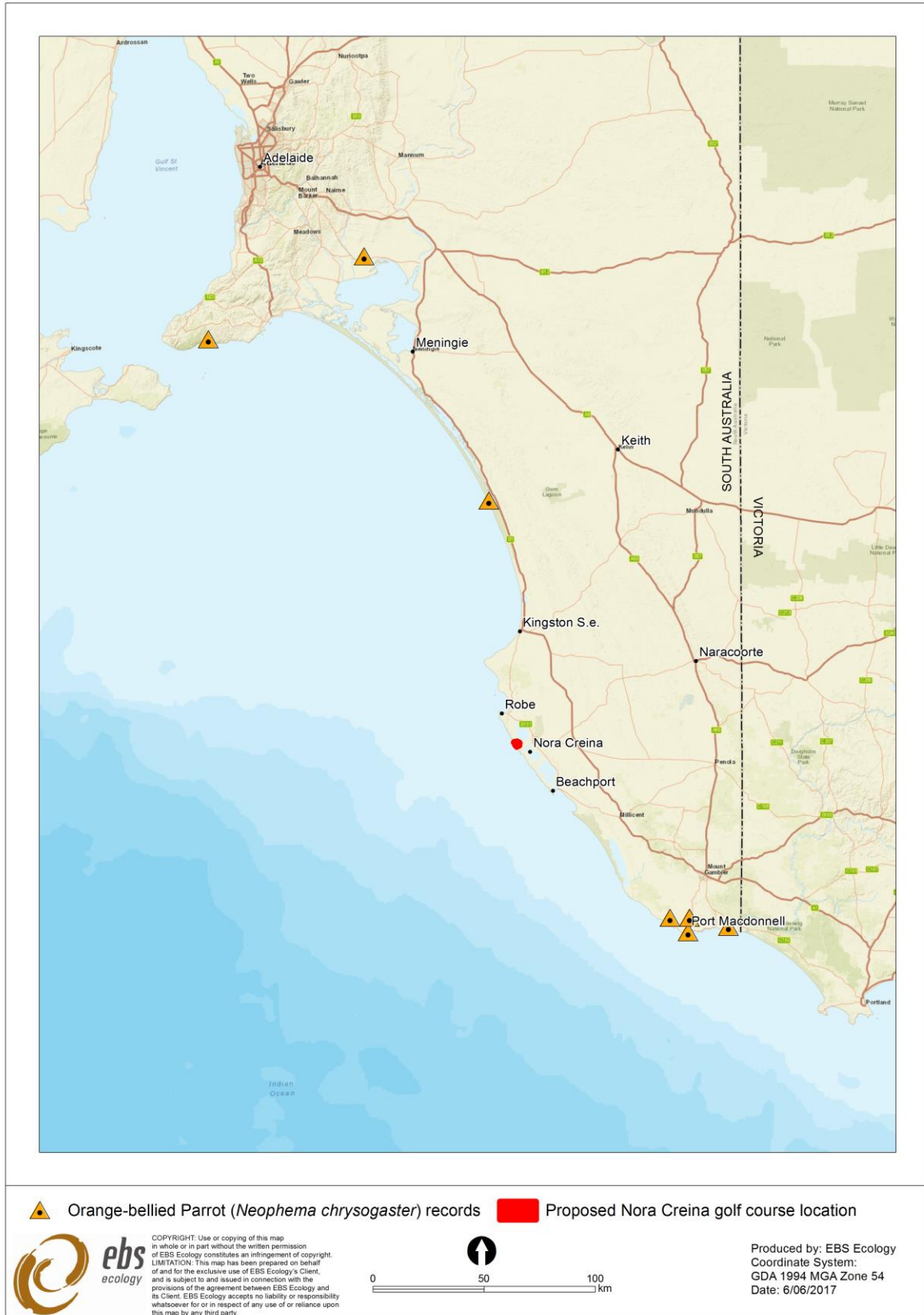


Figure 6. Orange-bellied Parrot observations since 2010 in South Australia.

3.4 Threats overview

The most recent population estimates of the Orange-bellied Parrot is 14 individuals (ABC News 2017). The historical decline was attributed to habitat loss and degradation in south-eastern Australia. The steep decline since 2000, when the population was 200 individuals, is attributed to low food availability associated with habitat loss, and Psittacine Beak and Feather Disease (PBFD) (DELWP 2016). At present, PBFD is the greatest threat, with the disease causing the mortality of most of the infected nestlings. In 2015, 19 of the 26 nestlings were found to have tested positive to PBFD (Birdlife Australia 2017).

The threatening processes which were assigned a risk rating of high or very high in the *National Recovery Plan 2016* were:

- Development and land use change;
- Inappropriate hydrological regimes;
- Inappropriate fire regimes;
- Invasive weeds;
- Loss of genetic diversity and inbreeding;
- Disease;
- Stochastic environmental events;
- Climate change; and
- Predators and competitors

3.5 Threats in project area

3.5.1 Vertebrate grazing

Increased grazing pressure is expected to occur following development of the golf course (See 2.5.1). The impact of grazing on Orange-bellied Parrots was listed as moderate in the Recovery Plan, based upon weak evidence (DELWP 2016). Grazing impacts on the Orange-bellied Parrot have only been stated to impact sensitive habitats, such as saltmarsh, which is not present within the project area (DELWP 2016). However, it is possible that increased grazers could impact on the regenerating understorey of the Orange-bellied Parrot offset (see 3.7) if not controlled.

3.5.2 Visitor impacts

Orange-bellied Parrots are known to inhabit golf courses (Orange-bellied Parrot Recovery Team 2006), however, the species is considered to be easily flushed by human disturbance (DELWP 2016). Therefore, their presence at golf courses may be associated with the level of foot traffic. For example, there is anecdotal evidence for a reduction in Orange-bellied Parrot use of the Swan Island golf course with an increase in the number of patrons (Orange-bellied Parrot Recovery Team 2006). However, it should be noted that the number of patrons at Nora Creina golf course is expected to be reduced during the winter months when the Orange-bellied Parrots are located in their non-breeding range.

3.5.3 Weed competition and invasion

In the Orange-bellied Parrot Recovery Plan 2016, invasive weeds were listed to have a very high threat risk, which is supported by strong evidence (DELWP 2016). Invasive weeds are known to alter the structure and productivity of non-breeding habitats, through significant changes to vegetation communities (Boon *et al.* 2011). Species of particular concern in the project area are the Coastal Wattle and Bridal Creeper (See 2.5.3 for further information on these species).

3.6 Mitigation measures

3.6.1 Control of vertebrate grazers

See 2.7.1.

3.6.2 Exotic weed control

The impacts of the predicted increase of exotic weed density and/or diversity following the development of the golf course will be mitigated through weed control. A baseline assessment will be undertaken prior to the commencement of the project to allow pre-existing weed levels to be measured and recorded. This will allow any increase in the diversity or density of weed species associated with the development to be identified. Control and management of the difference in weed density and diversity between the baseline and the measured level will be a mitigation measure.

Exotic weed control will alleviate the threat posed by the local presence of weeds of national significance (WONS), especially Bridal Creeper. Bridal Creeper poses the greatest threat of any weed species within south-east South Australia (Croft *et al.* 1999), and is known to be locally present (ALA 2017). Bridal Creeper smothers trees and shrubs (DEE 2003), and therefore would impact directly on the roosting habitat of Orange-bellied Parrots. In addition to Bridal Creeper, the weed; Coast Tee-tree (*Leptospermum laevigatum*) is spreading over the project area (Barron 2014). This species can form dense thickets, which outcompete subdominant native species, reducing the quality of coastal vegetation. The control of weeds may allow for competitive release of food plant species listed in 3.3.1 and promote a vegetation structure and community that may facilitate foraging opportunities.

For further information on methods of weed control see 2.7.2.

3.7 Offset measures

3.7.1 Management of Coastal Wattle (*Acacia longifolia ssp. sophorae*)

Prior to European settlement, the project area likely would have supported foraging habitat for the Orange-bellied Parrot, as the species is known to forage in coastal dune scrub (DELWP 2016). However, at present, Coastal Wattle dominates the project area, and due to its adverse impacts on understorey vegetation, matched with its dense structure, the project area has been rendered unsuitable for foraging. The offset for Orange-bellied Parrot aims to re-instate foraging opportunities and improve habitat quality in the project area, through the control and partial clearance of Coastal Wattle. Please refer to section 2.8.2 for the NVC Guidelines and methods for the clearance of Coastal Wattle.

It is proposed that the dense thickets of Coastal Wattle be reduced to a mosaic of Coastal Wattle shrubland. It is expected that understorey vegetation within the project area will benefit from a release of competition with Coastal Wattle, following its partial clearance and control (Costello *et al.* 2000). As the understorey vegetation over the project area includes Orange-bellied Parrot food plants (Table 3), it is expected that their abundance would increase. The opening of the vegetation structure may also allow Orange-bellied Parrots to access understorey food plants, which were otherwise covered by Coastal Wattle prior to the offset.

It is considered that the proposed development will not directly increase the density or distribution of Coastal Wattle. Therefore, all management activities related to this species are considered to be offset activities and not mitigation activities.

4 OFFSETS

In order to compensate for any potentially adverse impacts to the Orange-bellied Parrot and the Little Dip Spider-orchid, offsets that directly provide a measureable conservation gain will be put in place. As detailed in this report, avoidance and mitigation measures will be implemented for the project. However, it is considered that there are potentially residual impacts to both the Little Dip Spider-orchid and Orange-bellied Parrot that can not be adequately avoided or mitigated. Therefore, the Offset Calculator, as developed by the Department for Environment and Energy, has been utilised to determine an appropriate offset for each species.

4.1 Offset calculation

The proposed clearance of native vegetation for the project focused on areas which were cleared or had lower value. Detailed assessments of the native vegetation proposed to be cleared will be conducted prior to any clearance.

The calculated native vegetation clearance provides a provisional calculation for a native vegetation offset and is not necessarily the maximum area to be cleared. The architect of the golf course, however, has high confidence in the current design, though acknowledges there may be slight changes.

4.1.1 Little Dip Spider-orchid

Table 4. Impact calculation for Little Dip Spider-orchid

Parameter	Value	Reasoning
EPBC Act Status	E	See 2.1
Area	0.03 ha	Extent of sub-population following extensive search effort (47 hours) (Barron 2014).
Quality	8	High quality due to the presence of the subpopulation. However, the subpopulation is located within atypical habitat where woody weeds, especially Coastal Wattle are prominent and are a threat (Dickson <i>et al.</i> 2009; Barron 2014) (see 2.5.3).
Total quantum of impact	0.02 ha	

Table 5. Offset calculation for Little Dip Spider-orchid

Parameter	Value	Reasoning
Time over which loss is adverted	20 years	The proposal is for a permanent impact.
Time until ecological benefit	<4 years	A case study at Nillumbik, Victoria, found <i>Caladenia parva</i> and <i>Pterostylis</i> spp. to significantly increase in number within fences, whilst those outside continued to face high grazing pressure. These results were collected within four years of the erection of fencing (Just and Beardsell 2015)
Start quality	8	High quality due to presence of the Little Dip Spider-orchid. However, the subpopulation is located within atypical habitat where Coastal Wattle are prominent and a potential threat (Barron 2014; Costello <i>et al.</i> 2000)
Future quality without offset	6	There is a high likelihood that the quality of the species habitat would be substantially reduced by Coastal Wattle (Costello <i>et al.</i> 2000; Dickson <i>et al.</i> 2009). For example, Costello <i>et al.</i> (2000) studied the relationship between Coastal Wattle and understory vegetation, with a focus on the nationally threatened herb, <i>Thesium australe</i> . Their study concluded that “without active ecosystem management, grassland plant

		<i>diversity should continue to decline and the nationally threatened herb, Thesium australe, is likely to disappear</i> ". In addition to this, grazers such as western grey kangaroos and rabbits may consume individuals due to their high palatability (Dickson <i>et al.</i> 2009).
Future quality with offset	9	The offset measures to enhance the quality of the Little Dip Spider-orchid population and habitat are grazing exclusion fencing (see 2.8.1) and the control of Coastal Wattle (see 2.8.2). These offset measures address the primary threats to the species identified in the Recovery Plan (Dickson <i>et al.</i> 2009).
Risk of loss without offset	70%	The high risk of loss is attributed to: <ul style="list-style-type: none"> The ever-increasing extent and density of Coastal Wattle over the project area. The Coastal Wattle is a primary threat of the Little Dip Spider-orchid, as listed in the Recovery Plan (Dickson <i>et al.</i> 2009), and has been known to adversely impact other orchid species in south eastern Australia (Carr 1993 in Dickson <i>et al.</i> 2009; DEWHA 2009). As such, it is likely that Coastal Wattle would outcompete the subpopulation of the Little Dip Spider-orchid over time. The consumption of Little Dip Spider-orchid by rabbits and Western Grey Kangaroos, which are to known to threaten subpopulations in the region due to their highly palatably (Dickson <i>et al.</i> 2009). The offset would eliminate the threat of consumption by these grazers.
Risk of loss with offset	35%	Potential for adverse effects on the sole pollination and mycorrhizal fungus of the Little Dip Spider-orchid associated with the clearance of vegetation, fragmentation and edge effects (see 2.5.4). Edge effects are only expected within the extent of the subpopulation. The supplementary offset area will be 30 m from the edge of the nearest golf green, and therefore will be avoided (see Figure 7). The native vegetation will be protected under a perpetual Heritage Agreement (see 4.2.4).
Confidence in result	65%	The very high confidence that the proposed offset measures (see 2.8) will benefit the subpopulation is tempered by the potential for adverse effects on the sole pollinator and mycorrhizal fungus of the Little Dip Spider-orchid associated with the clearance of vegetation, fragmentation and edge effects (see 2.5.4).
Minimum direct (100%) offset requirement	0.111 ha	See Calculator attached.
Proposed offset	1 ha	See Calculator attached.

4.1.2 Orange-bellied Parrot

Table 6. Impact calculation for the Orange-bellied Parrot

Parameter	Value	Reasoning
EPBC Act Status	CE	See 3.1
Area	48.8 ha	See 3.3.2
Quality	4	Value based upon the high diversity of native species within the land to be cleared, which is tempered by the moderate diversity of weed species also present (Barron 2014). Saltmarsh is not present within the project area, which is the preferred non-breeding habitat of the Orange-bellied Parrot (DELWP 2016) (see 3.2). The project area is considered to only provide potential roosting habitat for the Orange-bellied Parrot, as dense Coastal Wattle shrubland dominates the project area, and has reduced access to, and likely out-competed, understorey food resources (Costello <i>et al.</i> 2000) (see 3.3.1).
Total quantum of impact	19.52 ha	

Table 7. Offset calculation for the Orange-bellied Parrot

Parameter	Value	Reasoning
Time over which loss is adverted	20 years	The proposal is for a permanent impact.
Time until ecological benefit	<3 years	The regeneration of indigenous species is considered to occur within 3 years following weed control in south-eastern South Australia (Tucker 2005).
Start quality	4	Value based upon the high diversity of native species within the land to be cleared, which is tempered by the moderate diversity of weed species also present (Barron 2014). Saltmarsh is not present within the project area, which is the preferred non-breeding habitat of the Orange-bellied Parrot (DELWP 2016) (see 3.2). The project area is considered to only provide potential roosting habitat for the Orange-bellied Parrot, as dense Coastal Wattle shrubland dominates the project area, and has reduced access to, and likely out-competed, understorey food resources (Costello <i>et al.</i> 2000) (see 3.3.1).
Future quality without offset	3	The long-term invasion of Coastal Wattle significantly reduces the diversity of understorey plants, and favours a small group of shade tolerant shade tolerant, rhizomic grasses and sedges (Costello <i>et al.</i> 2000). As such, the known and potential food plant species within the project area (Table 3), are expected to be negatively impacted by competition with Coastal Wattle.
Future quality with offset	6	The control and partial clearance of Coastal Wattle would prevent further out-competition of food plants, and provide space and light to permit their growth. As such, the dense vegetation structure of the project area, attributed the invasion of Coast Wattle, would be opened to allow for potential foraging opportunities (see 3.7.1). Invasive weeds, such as the Coast Wattle, are known to alter the structure and productivity of Orange-bellied Parrot non-breeding habitats, through significant changes to vegetation communities, which can reduce foraging opportunities (Boon <i>et al.</i> 2011; DELWP 2016).
Risk of loss without offset	10%	The risk of loss without an offset is moderate, due to the: <ul style="list-style-type: none"> • Minimal risk of fire • Protection of native vegetation under the <i>Native Vegetation Act 1991</i>.
Risk of loss with offset	5%	The risk of loss with an offset is low, due to the: <ul style="list-style-type: none"> • Minimal risk of fire • Protection of native vegetation under the <i>Native Vegetation Act 1991</i>. • Protected under a perpetual Heritage Agreement (see 4.2.4)
Confidence in result	95%	In the Orange-bellied Parrot Recovery Plan 2016, invasive weeds were listed to have a very high threat risk, which is supported by strong evidence (DELWP 2016). Invasive weeds, such as the Coastal Wattle, are known to alter the structure and productivity of Orange-bellied Parrot non-breeding habitats, through significant changes to vegetation communities, which can reduce foraging opportunities (Boon <i>et al.</i> 2011; DELWP 2016). The long-term invasion of Coast Wattle significantly reduces the diversity of understorey plants, and favours a small group of shade tolerant shade tolerant, rhizomic grasses and sedges (Costello <i>et al.</i> 2000). As such, the known and potential food plant species within the project area (Table 3), are expected to be negatively impacted by competition with Coast Wattle. The control and partial clearance of Coast Wattle would prevent further out-competition of food plants, and provide space and light to permit their growth. As such, the dense vegetation structure of the project area, attributed the invasion of Coast Wattle, would be opened to allow for potential foraging opportunities (see 3.7.1). Therefore, there is very

		high confidence that the offset will be beneficial for the Orange-bellied Parrot.
Minimum (100%) direct offset requirement	90 ha	See Calculator attached.
Proposed offset	90 ha	See Calculator attached.

4.2 Offset area

4.2.1 *Little Dip Spider-orchid*

The proposed area (1 ha) for the direct offset for the Little-dip Spider-orchid is displayed in Figure 7. The subpopulation (30 m × 10 m) is to be fenced to a height of 1.5 m and will be fenced separately to the main offset. All activities within the fenced area are considered to be mitigation measures, not offset measures.

The offset area will be located near the subpopulation, and within vegetation which share similar characteristics to that within the subpopulation. It occurs solely within Coastal Wattle shrubland, to ensure that the offset measures will be effective in benefiting the Little-dip Spider-orchid. The perimeter of the remaining offset (1 ha) will be 30 m from the edge of the project footprint, which in accordance with the control of runoff, will ensure that edge effects within the offset are negligible. The remaining offset area will not be fenced, however, signage informing visitors of a conservation zone will be installed (no specific reference will be made to the Little-dip Spider-orchid to ensure visitors do not go looking for the species or collecting it). The measures to improve the habitat and viability of the Little Dip Spider-orchid subpopulation are detailed in section 2.8 and will be the basis of the offset management plan. This area will also be utilised for any future translocation activities, if they are required.



Figure 7. The proposed offset area (1 ha) for the Little Dip Spider Orchid within the Nora Creina project area.

4.2.2 Orange-bellied Parrot

The proposed area (90 ha) for the direct (100%) offset for the Orange-bellied Parrot is displayed in Figure 8. This offset area encompasses the largest continuous area of native vegetation across the project area and is comprised of three vegetation communities:

- *Acacia longifolia* ssp. *sophorae*, *Leucopogon parviflorus* Closed Tall Shrubland;
- *Acacia longifolia* ssp. *sophorae* Tall Open Shrubland over sedges and grasses; and
- *Gahnia trifida* Sedgeland, with patchy *Melaleuca lanceolata* and *Leptospermum lanigerum* Shrubland.

The native vegetation within the offset will be enhanced through the measures detailed in section 3.7 and will form the basis for the offset management plan for this area. It is considered appropriate to establish an on-site offset for the OBP at this site. As the habitat within the project area is considered to be important habitat for the OBP, and the reason why an offset is required, it is appropriate that the larger portions of habitat across the site are managed as an offset. This provides an offset which is directly offsetting the potential lost habitat as a result of the proposed development. Therefore, if the species was to recover to a level where it is recorded again within the region, better quality habitat will be available for the species to utilise.

These offset measures (see 3.7) will also be applied to the SEB offset (offset associated with the *Native Vegetation Act 1991*), which covers all remaining vegetation in the project area outside of the offsets for the threatened species. As such, the benefit to the surrounding native vegetation, and subsequently, the Orange-bellied Parrot, is expected to surpass the minimum offset of 90 ha.

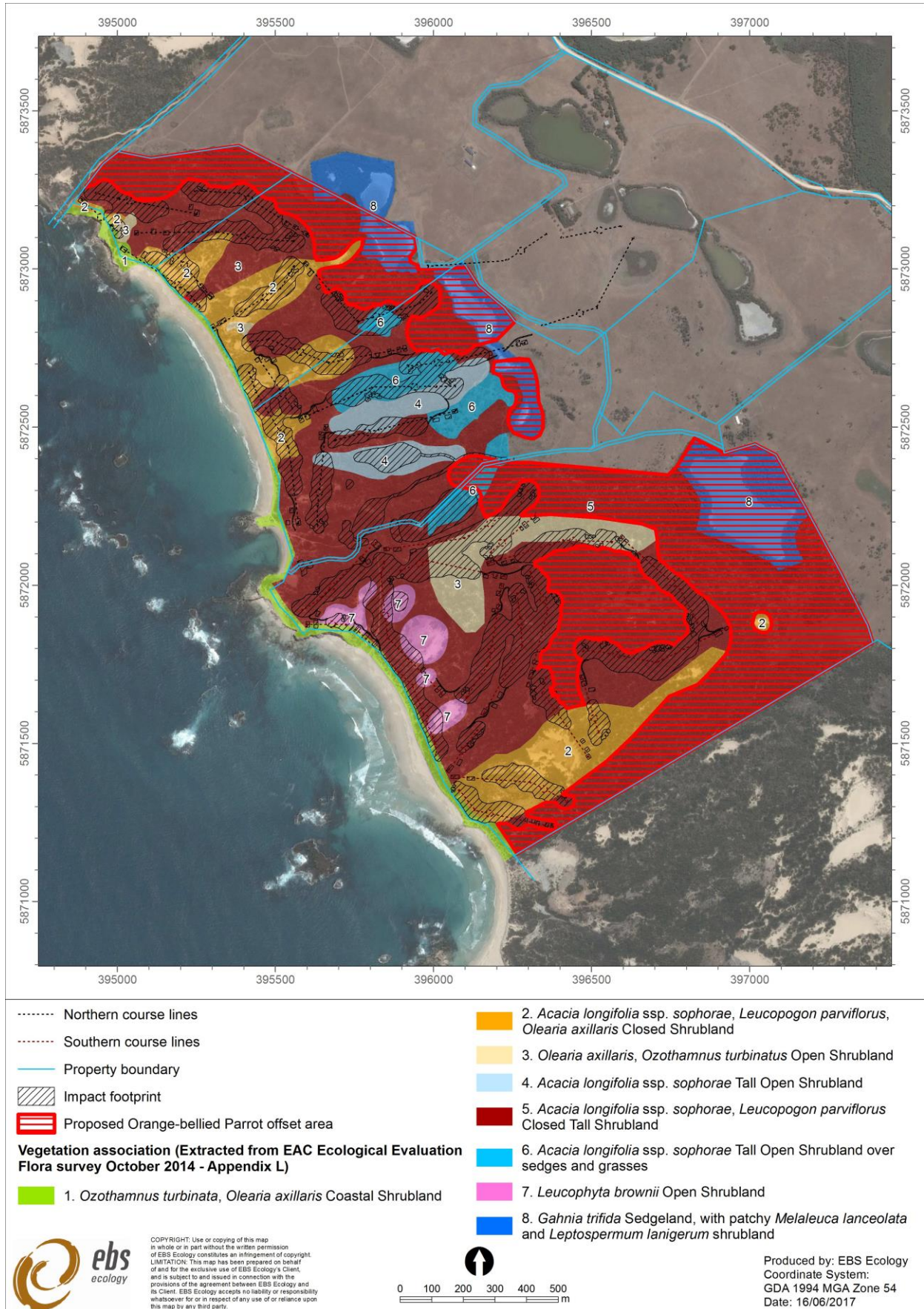


Figure 8. The proposed offset area (90 ha) for the Orange-bellied Parrot within the Nora Creina project area.

4.2.3 Significant Environment Benefit (SEB) under the Native Vegetation Act 1991

To compensate for the clearance of 66.37 ha of native vegetation within the project area, a Significant Environmental Benefit (SEB) offset that delivers a measureable conservation gain will be established under the *Native Vegetation Act 1991*. The SEB offsets were calculated according to the Native Vegetation Council SEB Ratio Policy (2005) to ensure that offsets are of a size and scale proportionate to the residual impacts. The suggested SEB offsets include the protection of 73.5 ha within the project area as well as at least 366.5 ha of land that is yet to be identified outside the project area (in addition to the any offsets under the *EPBC Act 1999*). The SEB offset of 73.5 ha within the project area consists of all native vegetation present following clearance of the project footprint within the project area, that is outside of the offsets for the Orange-bellied Parrot and Little Dip Spider-orchid.

To improve upon the quality of vegetation within the SEB offsets, Coastal Wattle will be controlled and partially cleared to allow for the regeneration of an indigenous understorey. SEB offsets located outside the project area may also be revegetated with indigenous flora species, including known Orange-bellied Parrot food species and shrubs with suitable structure for roosting. An initial 10 yr management plan for any revegetation undertaken and control of weeds and grazers in the offset areas will be prepared in accordance with the Guidelines for a Native Vegetation Significant Environmental Benefit Policy (DEWNR 2015). Consultation will be undertaken during the development of the management plans to ensure they meet regional priorities (eg target weed species). Any offset management plans for the SEB area will require the approval of the Native Vegetation Council (NVC).

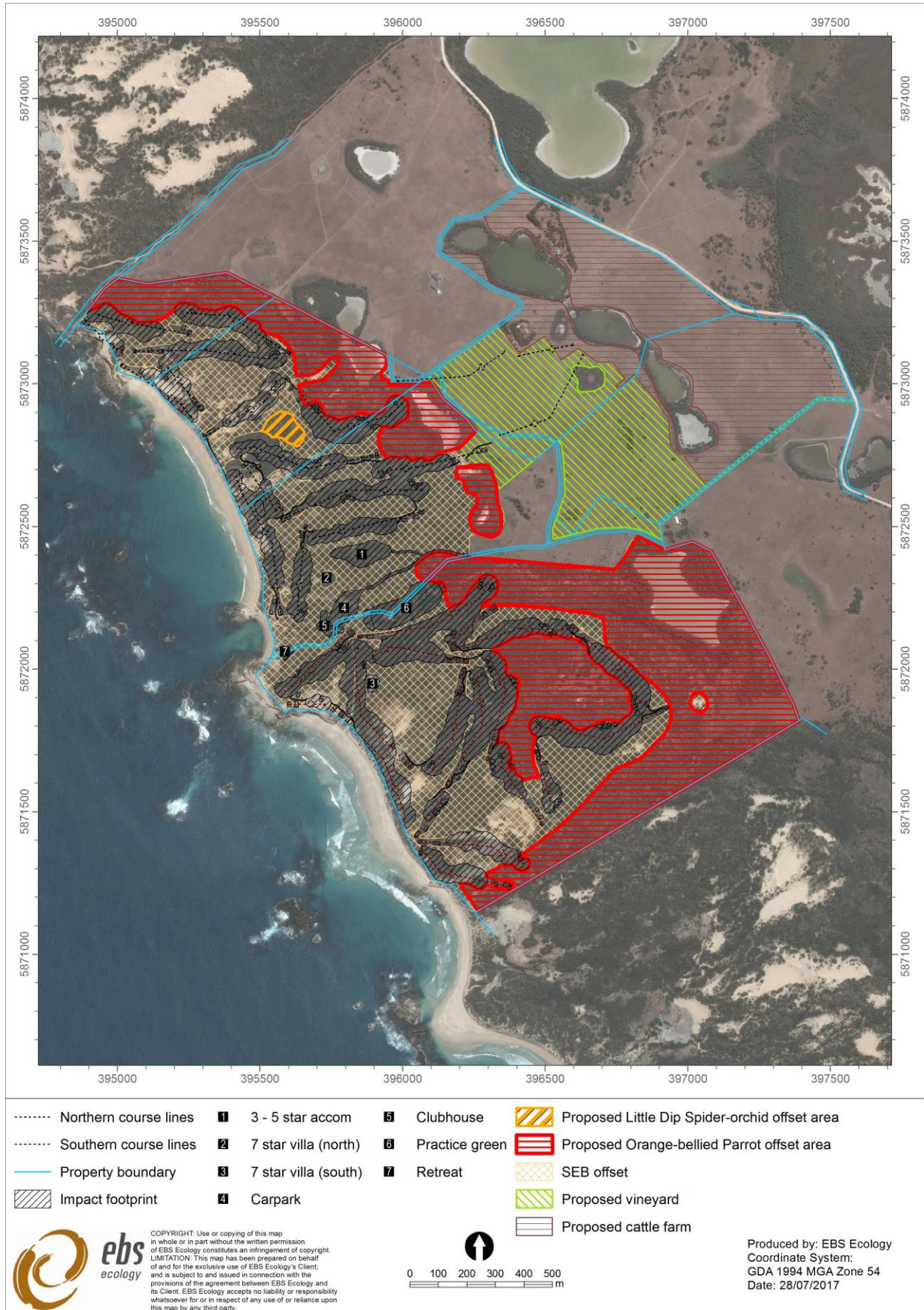


Figure 9. The proposed SEB, Little Dip Spider-orchid and Orange-bellied Parrot offset areas within the Nora Creina project area.

4.2.4 Heritage Agreement

The native vegetation present within the offsets for the two threatened species and SEB will be protected under a Heritage Agreement. Heritage Agreements are established between landholders and the Minister for Environment and Conservation. The native plants and animals within the specified Heritage Agreement area (easily defined by GPS) must be protected from the time the agreement is made. Heritage Agreements are binding and perpetual in nature. Therefore, even if the property is to be sold, the native plants and animals in the Heritage Agreement must be protected. For example, it will be responsibility of the new landholder to conduct weed and feral animal control, and they must abide by Acts such as the *Natural Resources Management Act 2004*.

If an activity, such as clearance for track or construction, could adversely impact native flora and fauna in a Heritage Agreement area, then the Minister will need to grant approval before it can be performed. In addition to this, the planting of vegetation, regardless of whether it is native or exotic, requires Ministerial approval. The Minister is likely to grant approval if an activity is to provide a net benefit for the conservation of the area. For example, the revegetation of degraded areas with indigenous species or the clearance of vegetation along a fenceline to ensure the fence will prevent the access of stock to the Heritage Agreement area.

If the area does not qualify as a Heritage Agreement, all offset areas will be recorded as offsets under the *Native Vegetation Act 1991* and placed on the relevant property titles.

4.2.5 Offset Monitoring

A monitoring program will be developed and implemented for all offset activities. Undertaken annually, the monitoring program will measure the success of the different management activities that are implemented within the offset areas. The monitoring will focus on the key parameters that directly relate the management outcomes. The management outcomes will be developed as part of the offset management plan. The monitoring will allow an adaptive management approach to be implemented and management activities can be updated to ensure the targets set for different parameters are met.

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Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Little Dip Spider-orchid
EPBC Act status	Endangered
Annual probability of extinction Based on IUCN category definitions	1.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator					
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source
<i>Ecological communities</i>					
Area of community	No		Area		
			Quality		
			Total quantum of impact	0.00	
<i>Threatened species habitat</i>					
Area of habitat	Yes		Area	0.03	Hectares
			Quality	8	Scale 0-10
			Total quantum of impact	0.02	Adjusted hectares
<i>Threatened species</i>					
Birth rate e.g. Change in nest success	No				
Mortality rate e.g. Change in number of road kills per year	No				
Number of individuals e.g. Individual plants/animals	No				

Offset calculator																												
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source												
<i>Ecological Communities</i>																												
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (%) without offset	Risk of loss (%) with offset																				
					Time until ecological benefit	Start quality (scale of 0-10)	Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0																		
							Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)																			
<i>Threatened species habitat</i>																												
Area of habitat	Yes	FALSE	Adjusted hectares		Time over which loss is averted (max. 20 years)	20	Start area (hectares)	1	Risk of loss (%) without offset	70%	Risk of loss (%) with offset	35%	Raw gain	0.35	Confidence in result (%)	65%	Adjusted gain	0.23	Net present value	0.18	% of impact offset	904.44%	Minimum (90%) direct offset requirement met?	Yes				
					Time until ecological benefit	4	Start quality (scale of 0-10)	8	Future area without offset (adjusted hectares)	0.3	Future area with offset (adjusted hectares)	0.7	Future quality without offset (scale of 0-10)	6	Future quality with offset (scale of 0-10)	9	Raw gain	3.00	Confidence in result (%)	65%	Adjusted gain	1.95	Net present value	1.86				
<i>Threatened species</i>																												
Number of features e.g. Nest hollows, habitat trees	No																											
Condition of habitat Change in habitat condition, but no change in extent	No																											
Birth rate e.g. Change in nest success	No																											
Mortality rate e.g. Change in number of road kills per year	No																											
Number of individuals e.g. Individual plants/animals	No																											

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0.024	0.22	904.44%	Yes	\$0.00	N/A	\$0.00
Area of community	0				\$0.00		\$0.00
					\$0.00	\$0.00	\$0.00

Drop-down list inputs

EPBC Status	Annual Probability of Extinction	Units	Factor relevant to case?	Quality	To Factor	Rank Options	MNES Ranking
Critically Endangered	0.068	Count	Yes	0	Population Viability	N/A	#REF!
Endangered	0.012	Adjusted hectares	No	1	Mortality Rate	1	#REF!
Vulnerable	0.002	% Benchmark		2	Number of individuals	2	#REF!
Other		%		3	Number of features	3	#REF!
		Hectares		4	Condition of habitat	4	#REF!
		Scale 0-10		5	Area of habitat	5	#REF!
				6	Area of community	6	#REF!
				7		7	#REF!
				8			
				9			
				10			

Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Orange-bellied Parrot
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator					
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source
<i>Ecological communities</i>					
Area of community	No		Area		
			Quality		
			Total quantum of impact	0.00	
<i>Threatened species habitat</i>					
Area of habitat	No		Area	48.8	
			Quality	4	
			Total quantum of impact	19.52	
<i>Threatened species</i>					
Birth rate e.g. Change in nest success	No				
Mortality rate e.g. Change in number of road kills per year	No				
Number of individuals e.g. Individual plants/animals	No				

Offset calculator																					
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source					
<i>Ecological Communities</i>																					
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (% without offset)	Risk of loss (% with offset)													
					0.0	0.0															
					Time until ecological benefit	Start quality (scale of 0-10)	Future quality without offset (scale of 0-10)	Future quality with offset (scale of 0-10)													
<i>Threatened species habitat</i>																					
Area of habitat	Yes	19.52	Adjusted hectares		Time over which loss is averted (max. 20 years)	20	Start area (hectares)	90	Risk of loss (% without offset)	10%	Risk of loss (% with offset)	5%	4.50	95%	4.28	1.15	19.64	100.61%	Yes		
					81.0	85.5															
					3	4	3	6	3.00	95%	2.85	2.34									
<i>Threatened species</i>																					
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g. Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	19.52	19.64	100.61%	Yes	\$0.00	N/A	\$0.00
Area of community	0				\$0.00		\$0.00
					\$0.00	\$0.00	\$0.00

Drop-down list inputs

EPBC Status	Annual Probability of Extinction	Units	Factor relevant to case?	Quality	To Factor	Rank Options	MNES Ranking
Critically Endangered	0.068	Count	Yes	0	Population Viability	N/A	#REF!
Endangered	0.012	Adjusted hectares	No	1	Mortality Rate	1	#REF!
Vulnerable	0.002	% Benchmark		2	Number of individuals	2	#REF!
Other		%		3	Number of features	3	#REF!
		Hectares		4	Condition of habitat	4	#REF!
		Scale 0-10		5	Area of habitat	5	#REF!
				6	Area of community	6	#REF!
				7		7	#REF!
				8			
				9			
				10			