NORA CREINA GOLF COURSE AND TOURISM RESORT

PROPONENTS: JUSTIN AND DAMIAN SCANLON

ASSESSMENT REPORT

OCTOBER 2017

Department of Planning, Transport and Infrastructure

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Executive Summary

Messrs Justin and Damian Scanlon (the proponent) propose to establish an international golf course and resort near Nora Creina on the South East coast between Robe and Beachport. The Nora Creina Golf Course Resort proposal was declared a Major Development by the Minister for Planning, pursuant to Section 46 of the South Australian *Development Act 1993*, on 4 March 2014. The Development Assessment Commission (DAC) determined that the assessment of the proposal be subject to a Public Environmental Report (PER) process and issued guidelines for the preparation of the PER in November 2014.

Following a referral made by the proponent under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the delegate of the then Commonwealth Minister for the Environment decided on 18 July 2014 that the 'proposed action' (i.e. the proposal) was a 'controlled action' that required assessment and a decision under that Act. This was due to the potential impacts upon nationally 'listed threatened species and communities', namely the Little Dip Spider-orchid (*Caladenia richardsiorum*) and the Orange-bellied Parrot (*Neophema chrysogaster*).

In accordance with the Bilateral Agreement (Assessment) between the South Australian and Commonwealth governments, a single assessment process was to be followed (i.e. the South Australian major development process) to minimise duplication. Under the Bilateral arrangement, following the conclusion of the State based assessment process, the South Australia Government would then provide an Assessment Report to the Commonwealth Minister for the Environment and Energy, who would then consider it and ultimately make a decision whether or not to approve the proposed action under the EPBC Act.

The PER underwent public consultation from 27 January until 21 March 2016, during which time a total of 31 submissions were received. Submissions were also provided by the District Council of Robe and relevant Government Agencies (including the Australian Government Department for the Environment and Energy). Following the public consultation period, and after significant additional dialogue and negotiations with State agencies and the Department for the Environment and Energy, the proponent prepared and lodged a Response Document in September 2017 that addressed the matters raised in the public, government agency and Council submissions. In response to concerns raised about the level of vegetation clearance (and habitat fragmentation), potential disturbance of Aboriginal heritage sites and implications for nationally threatened species, the golf course design was reviewed and modified to further avoid, minimise or mitigate impacts.

It is proposed to establish a high quality golfing and tourism experience consisting of two 18-hole international standard 'links style' golf courses (including practice range and greens). The courses are set within the coastal setting which creates the ambience and degree of difficulty. The proposal also includes a Clubhouse, Tourism and Function Centre, tourist accommodation and wellness retreat. Additional recreation opportunities (mainly marine based activities, such as diving, snorkelling, kayaking and fishing) and walking trails would also be provided (especially for non-golfers). A 'boutique' Wagyu beef farm and vineyard would also be established to complement the resort by enhancing the overall tourism experience (especially as an entrance feature) and providing a backdrop to parts of the golf course.

The subject site comprises four (4) allotments and totals 351 hectares, with frontages to Nora Creina Road and the coast. Access to the site is off the Nora Creina Road. The proposed site was chosen because of its magnificent coastal views and ability to provide a spectacular and challenging golfing experience. The site is strategically located between Adelaide and Melbourne (the main domestic markets and destination cities for international tourists) and is within close proximity of the Robe township.

The total capital expenditure for the golf course, associated infrastructure and tourist facilities is estimated at $20 million (over a 5 year period). The construction of the proposal is expected to generate 25 jobs per annum in the Limestone Coast Region and 33 jobs in South Australia overall. Once operational, the proposal is expected to create an additional 147 jobs in the region and 170 jobs for the State. It is expected to increase international and domestic visitors to the region and the State, with an increase spend in South Australia of $4.5 million per annum.

The proposed golf course and resort development would provide a key tourist destination for the South East Region (especially for interstate and overseas visitors) contributing towards meeting the strategic directions for South Australia. The need for a high profile tourist destination aligns with the strategic directions promoted by South Australia's Strategic Plan and the South Australian Planning Strategy. The proposal is consistent with the State's tourism and planning strategies and policies. In particular, the proposal would provide high quality, international standard attractions that the region does not currently have and opportunities to promote regional tourism and produce.

An upgrade of the existing power supply would be required and a new water supply would need to be established (i.e. through securing existing water allocations and the development of a borefield).

These would be supplemented by alternative sources (such as wastewater reuse, stormwater harvesting and solar power).

The proposal has been designed to meet local policy requirements of the Robe Council Development Plan, especially to be sympathetic with the natural coastal environment. Whilst the land is zoned for coastal conservation purposes, the proposal would be sympathetic to the coastal environment through minimisation of vegetation clearance as far as practicable, better management of remnant vegetation and landscaping or revegetation of areas of the site with local species. Coastal dune erosion would be stabilised and pest plants and animals controlled. Suitable land in the immediate region that supports native vegetation would be secured to provide an offset for vegetation clearance. The development would be designed, constructed and operated within a sustainability framework.

Whilst several species of National and State conservation significance have been identified as occurring on or near the site, areas of critical habitat would be preserved and improved (and impacts either mitigated or via suitable off-set measures). The proposal has been designed and would be managed to avoid or minimise impacts on the potential habitat for such species (including the establishment of buffer zones). A fauna survey would be conducted prior to construction commencing and monitoring would be undertaken during construction and operation to collect further data on all species that may use the site.

A golf course and resort would attract certain native wildlife, due to the provision of food, water and shelter. Some species may increase to 'nuisance' levels. Currently, populations of kangaroos and wombats inhabit the site and are likely to graze on introduced grassland. Whilst they would be an essential part of the visitor experience, the populations would need to be actively monitored and managed appropriately in order to maintain the course, revegetated/landscaped areas and remnant vegetation.

Known Aboriginal heritage sites have either be avoided through design or would be carefully managed during earthworks and excavations. During construction there is a potential that other sites may be uncovered. Protocols would be put in place to ensure any discoveries are reported to the appropriate authorities and suitably managed.

During construction, water and wind erosion (including dust) would be managed to prevent discharges to wetland, coastal and marine environments. The golf course would be designed and

irrigated to ensure the local hydrology would not be significantly affected, especially to avoid a groundwater mound developing. Bushfire risk would be managed using buffers to buildings, building design and contingencies for emergencies.

The area surrounding the proposed site is rural in nature and has a low population density. Few farming and rural living residences would be directly affected by the development, especially during the construction period. In particular, dust and noise emissions would be suitably controlled. Traffic volumes and frequencies would increase, during both construction and operation, but would not exceed the capacity of the existing road network (especially Nora Creina Road). Road upgrades would be undertaken to ensure efficient traffic movements and road safety, primarily around the main entrance.

The impacts from the construction and operation of the proposed development would be suitably addressed through an Environmental Management Plan framework, including a range of issue specific Management Plans. These plans would need to be prepared in consultation with a range of stakeholders, including the District Council of Robe and relevant State and Australian Government agencies and would be required as conditions of any approval.

1 Introduction

The Nora Creina Golf Course Resort proposal was declared a Major Development by the Minister for Planning in March 2014, as it was considered to be of State significance due to potential environmental, social and economic implications. The Development Assessment Commission determined that the proposal should be assessed via a Public Environmental Report process.

This Assessment Report (AR) assesses the environmental, social and economic impacts of a proposal by Justin and Damian Scanlon (the proponent) to develop a golf course and tourism resort at Nora Creina, proximate to the township of Robe in the South East Region of South Australia. The proponents' ambition is to create two world-renowned golf courses that would rank in the top 10 courses in the country and firmly focus attention on golfing tourism in South Australia.

The proponent proposes a high quality golf experience consisting of two 18-hole international golf courses (including practice range and greens). The courses are set within the coastal setting which creates the ambience and degree of difficulty. The proposal also includes a Clubhouse, Tourism and Function Centre (including an Aboriginal heritage education centre), a range of tourist accommodation, wellness retreat, beef farm, vineyard and walking trails.

The total capital expenditure for the golf course, associated infrastructure and tourist facilities is estimated at $20 million (over a 5 year period). The construction of the proposal is expected to generate 25 jobs in the Limestone Coast region (and 33 jobs in the State). Once operational, the proposal is expected to create an additional 147 jobs in the region (and 170 jobs in the State). It is expected to increase international and domestic visitors to the region and State with an increase spend of $4.5 million per annum.

2 Background

2.1 The Major Development Process

Under the provisions of the South Australian *Development Act 1993,* the Minister for Planning declared the proposal to be a 'Major Development' on 4 March 2014. Upon formal lodgement of the Development Application in June 2014, the Development Assessment Commission (DAC) determined that the assessment of the proposal be subject to a Public Environmental Report (PER) process and issued guidelines for the preparation of the PER in November 2014.

The proponent prepared a PER that addressed the matters set out in the Guidelines. This report was released by the Minister for Planning and placed on public exhibition from 27 January until 21 March 2016. During the 6 week consultation period, submissions were invited from the public. Submissions were also sought from the District Council of Robe and relevant Government Agencies.

2.2 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

Following a referral made by the proponent under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)[EPBC Reference number: 2014/7249], the delegate of the then Commonwealth Minister for the Environment decided on 18 July 2014 that the 'proposed action' (i.e. the proposal) is a 'controlled action' that requires assessment and a decision under the Act. This was due to the potential to impact upon 'listed threatened species and communities' (EPBC Act Sections 8 and 8A), namely the Little Dip Spider-orchid (*Caladenia richardsiorum*) and the Orange-bellied Parrot (*Neophema chrysogaster*).

In accordance with the Bilateral Agreement (Assessment) between the South Australian and Commonwealth governments, a single assessment process would be following (i.e. the South Australian Major Development process) to minimise duplication between both governments.

Following assessment, the South Australia Government will provide an AR to the Commonwealth Minister for the Environment and Energy, who will then make a decision whether or not to approve the proposed action under the EPBC Act. It should be noted any decision would specific to the two listed species.

The then Australian Government Department of the Environment had input into the preparation of the PER Guidelines in regard to issues related to the EPBC Act. The Department also provided advice and feedback on this AR.

2.3 Strategic Context

The proposal accords with the State Strategic Plan in that is seeks to help meet the goals and targets for making South Australia known world-wide as a great place to visit. In particular, it would assist in increasing visitor expenditure in South Australia's tourism industry to $8 billion by 2020. From a regional perspective, it would help reinforce the Limestone Coast Region as a preferred tourism destination.

The subject land is located wholly within the Coastal Conservation Zone of the Robe District Council Development Plan (consolidated 15 December 2016). The planning policy objectives for this zone are:

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

The 'Desired Character' for the zone seeks that land in the zone be retained in a natural state, with protection of coastal dunes, cliffs, geological features and associated native vegetation being paramount. Coastal areas are sensitive to human activity and are subject to the impacts of sea level rise and coastal erosion. As such, the zone requires careful and strict management practices. Agricultural activity should be limited to existing cleared areas and cliff tops and sand dunes should be excluded from development.

Broader policies for tourism development within the Council seek to ensure that such development contributes to local communities by adding vitality to neighbouring townships, regions and settlements (including increased opportunities for visitors to stay overnight). This needs to be

balanced with protecting areas of exceptional natural value, allowing for appropriate levels of visitation, and demonstrates an environmental analysis and design response that enhances environmental values. Tourism development should also sustain or enhance the local character, visual amenity and appeal of the area.

3 Proposal

3.1 Overview of the Proposed Development

The proposed development (Figure 1) is centred around the establishment of a world-class golfing destination with the construction of two 18-hole golf courses, which is modelled on the highly successful 'Barnbougle Dunes' golf course near Bridport on the north-east coast of Tasmania (which opened in 2004). Bridport is a small coastal town not dissimilar to Robe and is situated near the Tamar Valley, which is a region also famous for its food and wine.

The proposal at Nora Creina comprises the following components:

- Two international standard 18-hole 'links style' golf courses ('North' and 'South'), including a practice range and greens.
- Clubhouse and pro-shop.
- Tourism and Function Centre, including a reception facility, restaurant, bar, function facilities, general store, retail outlet (incorporating a cellar door and gourmet food sales outlet), Aboriginal heritage education centre and tourism promotion facilities.
- A range of on-site tourist accommodation, with the primary complex comprising a mixture of 3 – 5 star rated accommodation (up to 60 individual units). Two 7 star rated accommodation retreats would also be provided in more secluded locations.
- Wellness centre and associated swimming pool.
- Maintenance compound.
- Boutique vineyard and Wagyu beef farm.
- Recreational activities, such as walking trails and water sports.
- Associated infrastructure for energy / water supply and effluent treatment (supplemented by sustainability measures).

In the longer term, an upgrade of the Nora Creina Road (which is currently capable of accommodating the traffic generated by the proposal) and the local airstrip at Robe (or perhaps the establishment of an airstrip on the subject land, as has occurred at Barnbougle Dunes) may also be undertaken. It should be noted these do not form part of the application and separate approvals

and funding arrangements would need to be sought for such developments in the future should it be contemplated.

REVISED MASTERPLAN – APRIL 2017

Figure 1: Revised Layout Plan

The PER (Section 11) stated that the potential staging and timing of the development would depend on a number of issues, many of which cannot yet be accurately determined at this juncture. For example, it might be the case that a single golf course is initially constructed with the second course to follow once the first course is completed. This will directly affect the amount of accommodation required in the short to medium term, which has flow-on effects for infrastructure provision. Barnbougle Dunes, on which the Nora Creina project is based, commenced operation with a single golf course and limited accommodation but has since expanded to two courses (with a third planned) and significantly more on-site accommodation.

Factors that affect the staging include:

- Timing of the approval.
- Time taken for agreement to be reached with investors, which will directly impact on how much of the development is initially constructed and how much will follow.
- Time taken to prepare for construction.
- Timing of construction (i.e. for the golf course preferably would commence mid-year to allow for successful grass growth etc.).

In total, construction of an 18-hole golf course is likely to take around 9 - 12 months, plus a 'grow in' period for the grass before being open for play.

The PER also identified that it is not possible to state with any real certainty at this point what the long-term management agreements will be for the development, including the ownership of land and infrastructure. It is anticipated the resort component will be constructed, owned and operated by a third party (with expertise in operating such ventures) and potentially the golf course by another entity. However, until the approval for the project is granted it is not possible for any commitments to be made in this respect, as these will be the trigger point for serious discussions to commence with potential investors and service providers. It should be noted that any approval that may be granted would apply to all components of the proposed development / subject land and any current or future investors / constructors / owners.

The proposed development also includes the demolition of existing buildings and structures (primarily the collection of shacks and associated structures).

3.2 Site Description

The site is located on the Nora Creina Road (unsealed), approximately 15 kilometres south of Robe. The subject land consists of four freehold titled allotments (refer to Figure 2 and the table below) between the road and the coast, with a total size of approximately 351 hectares. The location is approximately 3.5 hours drive from Adelaide and about 1 hour from Mt Gambier, where domestic flight connections to Melbourne are available.

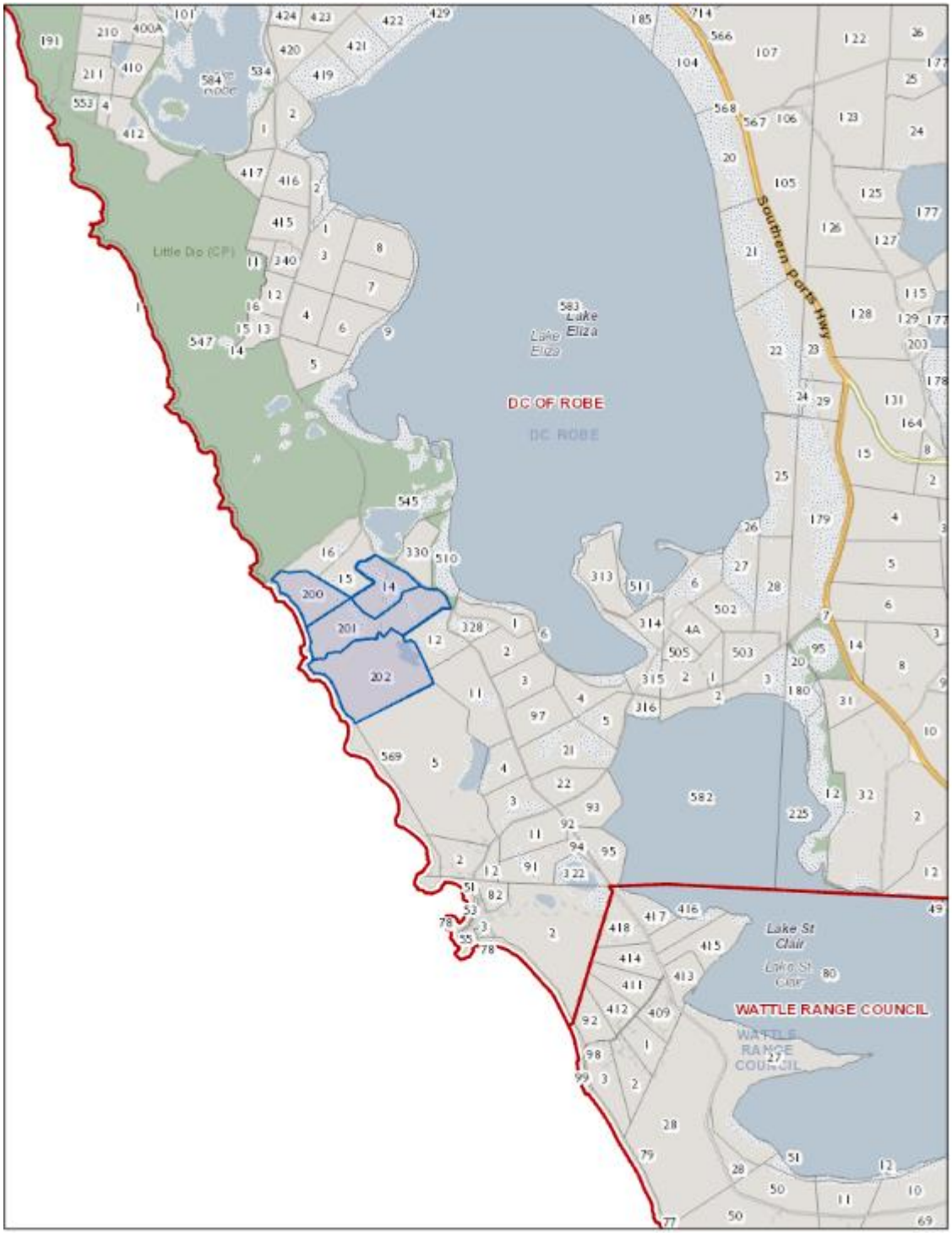


Figure 2: Site Location and Land Parcels

Lot/Plan	Street / Road	Suburb/ Locality	Hundred	Title
14	Nora Creina Road	Nora Creina	Waterhouse	CT 6058/185
200	Nora Creina Road	Nora Creina	Waterhouse	CT 6071/913
201	Nora Creina Road	Nora Creina	Waterhouse	CT 6071/914
202	Nora Creina Road	Nora Creina	Waterhouse	CT 6071/915

Allotment 14 includes an access easement to neighbouring allotments 15 and 16 to enable access to the beach from these properties. Allotment 15 also shares ownership of a lake that straddles the property boundary.

The Little Dip Conservation Park is located directly to the north of the site, whilst the private land to the south is under a (Native Vegetation) Heritage Agreement to protect its natural state. A Marine Park has recently been declared along the full extent of the coastal frontage, including a Habitat Protection Zone, and is separated from the site by a (Crown land) coastal reserve. On the other side of Nora Creina Road are a series of lakes, the largest being Lake Eliza. The lakes stretch along the coast towards Beachport and are part of the South East Coastal Salt Lakes Complex (as listed in the Australian Government Department of the Environment and Energy Directory of Important Wetlands in Australia). The lakes are surrounded by cleared farming land stretching back to the next set of dunes, some distance to the east. The coastal settlement of Nora Creina is approximately 4.4 kilometres to the south of the project site. Relevant site features are shown in Figure 3.

Figure 3: Site Features

4 Consultation

As mandated by the Major Development process, the proponent prepared a Public Environmental Report (PER) that was placed on public exhibition. The public consultation period was from 27 January until 21 March 2016. The availability of the PER was advertised in the *South Eastern Times,* the *Coastal Leader* and *The Advertiser* newspapers. The documents were made available at the front counters of the Robe Council and the Department of Planning, Transport and Infrastructure, plus online. During this period, the department received 31 formal submissions from the public.

Below is a summary of the issues raised in submissions.

4.1 Community

The main issues raised in submissions included:

- Economic benefits, especially job creation and investment (including multiplier effects for businesses in Robe and the region).

- Economic viability and realisation of economic benefits.
- Potential impacts on the environmental values of the site and surrounds, especially vegetation clearance and implications for threatened species (particularly the Little Dip Spider-orchid).
- Impacts on the coast (including the need to manage existing off-road vehicle use) and coastal wetlands.
- Potential effects on sites of Aboriginal heritage and the need to recognise the cultural significance of the site (especially in a regional context).
- Infrastructure requirements, especially the amount of water required and how it is to be sourced.
- Traffic impacts (including effects road safety and on wildlife) and the need to seal the surface of Nora Creina Road.
- Effects from the vineyard and beef farm.
- Implications for adjoining landowners.

4.2 Robe District Council

The Council provided a letter supporting the proposal, based on the potential economic and tourism benefits to the Robe Township and the wider Limestone Coast Region (especially during the tourism off-season). It considered the proposal would increase the number of permanent residents in Robe, which would help improve the viability of the town and the provision of social and community services (including potential expansion of the airstrip). The proposal would also provide an opportunity to improve the management of the coastal environment on the site.

4.3 Government Agencies

Comments on the PER were received from the following agencies:

- Department of Environment, Water and Natural Resources (DEWNR), including comments on behalf of the Native Vegetation Council.
- Coast Protection Board.
- Department of State Development – Aboriginal Affairs and Reconciliation (DSD-AAR).
- Environment Protection Authority.
- Australian Government Department of the Environment and Energy.

The main issues raised include:

- The level of investigations undertaken to describe the receiving environment and predict the likely impacts of the proposal. In particular, the need for a fauna survey to be undertaken (especially to identify the presence of threatened species).

- Implications for the nationally threatened Little Dip Spider-orchid and the Orange-bellied Parrot (species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*).
- Need to consider overall ecosystem level impacts, including regional implications (such as for surrounding coastal lakes).
- The amount of native vegetation and fauna habitat proposed to be cleared and the potential off-set that would be required.
- The need for further assessment of coastal aspects, especially coastal hazards (such as erosion and sand drift).
- Hydrological and water resource implications, including risks to surface water / groundwater and water use and supply options (especially access to water allocations).
- Measures to further avoid or mitigate impacts on Aboriginal heritage sites (including requirements under the Aboriginal Heritage Act 1988).
- The need for detailed Environmental Management Plans (and other associated plans, such as an Integrated Water Management Plan) for the construction and operational phases that detail how impacts would be mitigated.

4.4 Response Document

The proponent responded to the comments and issues raised in public, Council and Government Agency submissions in a Response Document (dated September 2017) that was released for public information in October 2017. The Response document should be referred to for a more detailed collation of comments and for copies of each submission received.

The above issues were all suitably addressed in the proponent's Response document. In particular, further investigations were undertaken and modifications were made to the layout of the golf course (refer to Section 3.3. of this AR).

4.4.1 Proposal Refinement

Following the conclusion of the consultation period on the PER, after review of the submissions received and further dialogue with agencies and further careful analysis of the land, the layout of the golf courses was further reviewed and subsequently redesigned, with a number of significant changes made. The proponent has addressed a range of concerns raised with the originally

submitted proposal and has made refinements to the design to reduce the extent of vegetation clearance and minimise implications for sites of environmental and Aboriginal heritage sensitivity.

Specifically, the following changes were made:

- Relocation of three holes of the northern golf course, onto 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 wetlands present (i.e. to protect their 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 Significant Environmental Benefit (SEB) offset under the Native Vegetation Act 1991, 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 centre of the southern golf course are very large areas, with tens of hectares of contiguous and undisturbed vegetation.
- Relocation of various holes to retain a wider and more contiguous north-south corridor between most of the golf course and the cleared grazing land, which aims to maintain the link between Little Dip Conservation Park and the land already under heritage agreement to the south. This link also incorporates the wetland system.
- Maximisation of 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.
- Updating the vegetation condition ratings based on further analysis of the site and more detailed mapping.

5 Assessment of the Main Issues

5.1 Justification

The PER identified that golf tourism is a growing phenomenon throughout the world (i.e. growth was 9.3% in 2013), but South Australia has experienced very little (if any) of that growth. The highest ranked golf courses in South Australia are not public courses and current public resort-type golf courses (such as McCracken, Links Lady Bay and Wirrina) are not highly ranked and attract few visitors outside South Australia. It considers that golf tourists are a very high yielding segment, spending up to double compared with the average tourist. The recently established courses, such as Barnbougle Dunes in Tasmania (the number 1 ranked public access course in Australia) and Cape Wickham on King Island, have become significant golf destinations and set a very high standard that the Nora Creina course seeks to achieve.

The proposal also includes accommodation, a restaurant, wellness retreat (a high yielding segment growing in popularity), the promotion of local produce, as well as a range of other recreational activities for those who don't play golf.

The AR concludes that the subject land at Nora Creina is quite unique in that it is a large, privately held parcel with direct frontage to a spectacular coastline. It is clear that the proposal needs to produce a compelling golf course experience in order to gain the level of recognition it requires to be successful in the national and international golfing tourism space. From an economic and market perspective, the subject proposal is a type of destination and product that is highly sought after by domestic and international visitors, for which there is a gap in the South Australian tourism market.

The aspiration for the project is to have the courses listed in the Top 10 courses in Australia within a short time. The centrepiece will be two 18-hole golf courses laid out over the dune area, so that 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. The proponent considers that having two courses from day 1 (which neither Kangaroo Island nor King Island have) 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.

5.2 Site Selection

The PER states that the proposed location has been chosen because the owners of the land have sought out different options for the use of the land, including residential and land-based aquaculture

opportunities in the past and now a golf course resort. The natural beauty of the coastal site provides an ideal backdrop for an international golf course and the proponent considers it an opportune time to tap into the golfing tourism market for the development of the land for such a use. As such, no other locations have been considered for the project as this is the only location under the control of the proponents. In particular, the location is within easy reach of Adelaide and Mount Gambier, being accessible to domestic and international visitors (especially from South Australia and Victoria).

From a strategic perspective, the AR considers that the site selected provides a suitable location for an attractive and challenging golf course (especially a links style course, similar to the Barnbougle course in Tasmania), which is close to the popular tourist town of Robe and accessible via Adelaide or Melbourne.

5.3 Economic Effects and Employment Opportunities

The PER (Section 8 and Appendix N) included an economic analysis of the project performed by Hudson Howells strategic management consultants, which has experience with golf course projects as well as tourism accommodation proposals. It utilised the 'accommodation food services' industry sector to approximate operational economic impacts for the project, based on generating a similar number of rounds that Barnbougle Dunes in Tasmania achieves (i.e. 30,000 golf rounds per annum). Once operational, it is projected the golf course complex would attract an additional 228 international visitors per annum and an additional 4,300 domestic visitors per annum for an increased spend of about $4.5 million per annum.

A number of submissions questioned the financial viability of the proposal, especially given financial difficulties experienced by other golf courses in the State. There were also differences of opinion as to whether the proposal would complement or compete with the approved golf course resort on Kangaroo Island (and other courses in Australia, especially 'Barnbougle Dunes' in Tasmania and the recently established Cape Wickham course on King Island).

5.3.1 Investment

It is anticipated the golf course complex would be constructed over a 5-year period with a total expenditure of around $20 million, with large component costs including the golf courses costing $10 M to establish and the Clubhouse and accommodation costing $5 M to develop. The power supply is the largest infrastructure cost at $3 M.

It should be noted that the Clubhouse and associated fitout would be undertaken by other parties (i.e. currently under negotiation with local and international investors). The tourist/function centre and tourist accommodation and wellness centre are also likely to be constructed by other parties/investors.

It is currently estimated that the project would break even on a cash basis by year 5 of the project, or year 4 of operations assuming a 1 year construction period. Income would be supported by the sale of accommodation units over 5 years, along with net golf course revenue (i.e. excluding golf operating costs, maintenance, staff, etc.) This was based on 10,000 rounds per annum, increasing over time to 30,000 rounds per annum (i.e. similar to Barnbougle Dunes in Tasmania), and an average gross green fee of $100 per round.

5.3.2 Job Creation

It is projected the construction phase would create 25 FTE jobs per annum in the Limestone Coast Region and 33 FTE jobs in South Australia overall, whilst during operation 147 FTE jobs will be created for the region and 170 FTE jobs for the State.

5.3.3 Multiplier Effect

During construction, it is predicted that investment and job creation would contribute $2.644 - 4.428 million to Gross State Product, whilst during operation it would add between $11.741 - 17.462 million per annum.

5.3.4 Tourism Benefits

The PER anticipates the proposal would be a major stimulus to tourism and investment in the Robe and the broader Limestone Coast Region. Tourism assets of this nature add value to the existing attractions of the region and it is expected that the project would attract and retain tourists who would normally visit Robe, plus new international and domestic visitors to the region. The scope of opportunities is expected to cover the needs of tourists and regional industries, including wine and food. The project is also timed well to coincide with the marketing of a range of self-drive itineraries between Melbourne and Adelaide.

The proposal will also seek to attract a broad tourist demographic, including those who do not play golf or stay on site. The restaurant is proposed to provide an appealing level of dining experience, the function centre will be an attractive option for groups or companies (given dining and golfing will be available on-site) and the wellness retreat recognises a growing and high-yielding tourist segment that is under-provided for in the South East Region.

In conclusion, the AR considers that the type and range of attractions the proposal provides would establish a unique international standard tourism attraction that would complement the features of the region and substantially increase visitor numbers (especially outside of the peak tourist season). The proponent has modelled the proposal on the Barnbougle Golf Course in Tasmania, which has proven to be an economically successful development.

The AR finds that on balance this approach provides a degree of confidence that the Nora Creina proposal has a number of key ingredients to also aid in its success. In addition, the proposal provides a package of tourism attractions for golfer (and their partners / families) and non-golfers to further enhance its viability. It should be noted that golf course development in South Australia over the past 10-15 years have been aimed at local and interstate markets, rather than international markets. The AR considers that the direct and indirect financial and employment benefits of the proposal would provide a significant boost to the economies of the region and State.

5.4 Built Form, Landscape Quality and Visual Amenity

The design intent has been based upon the premise of using the existing site contours and natural features of the site to ensure that the proposed development sits comfortably within the natural landscape. This is balanced with the need to obtain uninterrupted views over both the North and South Courses and the coastline.

The PER outlined the key design intent elements that informed the overall design including embracing the natural environment, establishing a unique form and creating views. A sustainable lifecycle and a holistic experience are the basis for the proposed design that aims to achieve a high quality tourism experience whilst ensuring minimal impact on the natural environment. The PER (Appendix O) includes conceptual plans for illustration purposes to show how this would be achieved.

The AR concludes that the buildings have been sited to ensure they are located below relevant ridge lines so as not to be a dominant feature in the existing landscape from key inland vantage points. Although the proposed buildings will be visible from the sea, buildings closer to the coastline, such as the retreat have been designed to morph in to the natural topography of the land with the incorporation of glazing and curved roof lines following the contours of the land.

This design approach also minimises the amount of earthworks and disruption of flora and fauna in this environmentally sensitive area, which in addition to the buildings, is also achieved by raising walkways where possible in a coastal boardwalk type style.

The proposed clubhouse is a higher set building which minimises its visual intrusion on the landscape through its greater setback to the coastline, significant portion of glazing, complementary materials / colours and curved roof structure.

Specific details of other buildings, such as the 7 star villa, have not been provided in the PER. If approved, these should be provided as a conditional requirement for more detailed plans that would be subject to further design detail assessment to ensure they are fully aligned and sympathetic to the natural coastal landscape.

Materials have been selected for their suitability in a coastal environment and ability to complement the landscape. Weathered steel (such as 'Corten'), glass and timber would be the predominate materials for the roof, façade & soffit of the Clubhouse. The oxidisation of the weathering steel would allow the clubhouse to sit comfortably against the dunes as it changes over-time.
The accommodation, and other services buildings, will be clad in a timber suitable for coastal conditions that will weather over time and reduce the lifetime maintenance requirements.
Where possible, all materials will be sourced locally and be environmentally sustainable.

The design also includes various Environmentally Sensitive Design (ESD) principles, such as water collection and filtration to be re-used within and around the resort, and locally sourced and low environmental impact quality building materials (where possible). It is expected that further specific details of these measures and materials would need to be provided, if approved.

A Landscaping design plan was not provided in the PER, but should be required as a condition requirement (if approved). Any such landscaping plan would need to include the use of locally indigenous plants and the use of berm / turf roofs (where possible).

At an overall conceptual level, the development is considered to be of a high quality design and designed to be sympathetic to the coastal landscape, whilst avoiding significant impacts on the environment.

Design quality is of high importance to the State. As such, given the conceptual nature of the plans and the more detailed design process to be undertaken for the clubhouse, wellness centre and tourist accommodation (and the absence of plans for other built form elements), it is considered that should the proposal be approved, the development of the final approved plans should be informed by the Office for Design and Architecture (2017) Principles of Good Design. If approved, such measures could easily be incorporated in a conditional requirement.

5.5 Effects on the Community

The site is a semi-remote location where agriculture (mainly broad acre grazing) and nature conservation are the predominant uses. Hence, population density is very low. Farming families, rural residents and tourists (especially nature based recreation) are the main demographic groups. There are only four residences (excluding the one on the site owned by the proponent) that are within a 5km radius of the site, with the closest located to the north and approximately 1.3km from the proposed clubhouse.

5.5.1 Construction and Operational Workforce

The PER (Section 11) anticipates that, due to the subject site's close proximity to Robe and Beachport and the relatively modest workforce required, that there would be no requirement for on-site accommodation for workers during the construction phase. It is expected that, contractually, it would be the constructor's responsibility to make such arrangements, including the transport of workers to and from the subject land. Thus, there would likely be demand placed on the Robe Township for temporary accommodation. This would provide economic benefits for accommodation providers, especially during the off-peak tourist season. Service providers would also benefit.

5.5.2 Surrounding Landowners and Land Uses

As the site is surrounded on three sides by natural environments, there is unlikely to be any significant impacts on primary production in the area, which is generally limited to grazing.

Existing sensitive receivers in the area are limited to the scattered dwellings, with the nearest residence being on the subject land (i.e. owned by the proponent). The next nearest is on the property immediately to the north, which is approximately 300 metres from the closest part of the proposal (golf hole and northern extent of the vineyard) and approximately 1.3 kilometres from the proposed location of the clubhouse/resort precinct. The next closest dwellings are approximately 3.7 km to the south and 6 km to the north. Thus, the PER considers that anticipated noise levels would not be a nuisance during construction or operation on a regular basis.

It should be noted that during the statutory public consultation period, none of the surrounding landowners expressed a written objection or concern with the proposal. The PER considers there is not expected to be any significant noise, dust, odour or light nuisance generated from normal operations. The PER did not specifically identify whether maintenance activities would be a nuisance noise source (especially the potentially early morning/early evening use of lawnmowers and edge-trimmers).

The AR concludes that the impacts on the few surrounding residents are expected to be limited to temporary minor impacts from traffic and periodic noise during construction and low levels of traffic during operation (including increased dust generation). Risks associated with fire, the spread of weeds and increased kangaroo numbers (especially grazing pressure and road safety) are also considered manageable. The impacts of maintenance activities would also need to be addressed in a suitably defined Golf Course Resort Management Plan, if any approval was granted.

The site includes an access easement for neighbouring landowners on the north-western boundary (i.e. allotments 15 and 16) to enable access to the beach through the site. The easement passes through parts of the proposed course and vineyard and close to the clubhouse and wellness retreat sites. Thus, the easement may not be compatible with the proposal and may need to be relocated. One of the landowners advised during the consultation process that the access is used for taking boats, quad bikes and families down to the beach. Whilst the owner is not opposed to the development, the proponent has not undertaken any consultation with them about this matter. The Response Document (Section 7) clarifies that if changes to rights-of-way or any other property related issues arise, they would be dealt with by negotiation at the relevant time. The proponent has advised that preliminary discussions have now commenced.

Allotment 15 also shares ownership the lake that straddles the property boundary, which may have implications for management of the golf course and the lake. If approved, this matter could be addressed by a Wetland Management Plan for the site (refer to Section 8).

5.5.3 Management of Public Access

Access to the beach (coastal reserve) is via a track along a public road reserve that leads to Errington Hole, which is located in the Little Dip Conservation Park (although very short section of the track does cross onto the proponents land). Refer to Figure 4.

Figure 4: Errington Hole Access Track

The PER considers that vehicle access needs to be prevented in order to control the impacts from erosion, vegetation damage, disturbance of shorebirds and damage to Aboriginal heritage sites. Despite requests in the past from the proponent (and others), the track has not been closed due to requests from the local community to maintain access to the beach (especially for fishing).

It is apparent that this matter cannot be solely addressed by the proponent, but would need to be investigated and resolved in consultation with relevant stakeholders. DEWNR considers that this should be addressed through the Environmental Management Plan framework. Specifically, it should be addressed in any Coastal Management Plan and a Golf Course Resort Management Plan (refer to Section 8). This approach is supported.

5.6 Physical Environment

The South East Region has a cool, moist climate (i.e. temperate), with long mild summers. Rainfall in the coastal zone shows a definite winter maximum, where precipitation averages 650-700mm per annum. The surface geomorphology can be described as low lying, with parallel dune limestone

ridges with intervening swamps. Soils around Nora Creina are described as deep, well-drained uniform sands (i.e. sand and silt, with shell grit fragments). These soils comprise high sea level marine deposits.

The Interim Biogeographical Regionalisation of Australia (IBRA) is a landscape based approach used by the Commonwealth Government for classifying the land surface across a range of environmental attributes, which is used to assess and plan for the protection of biodiversity. Land is classified into bioregions, which are further divided into subregions, and then environmental associations. The site is within the Naracoorte Coastal Plain IBRA Region, which is characterised by a broad coastal plain of Tertiary and Quaternary sediments, with a regular series of calcareous sand ridges separated by inter-dune swales, closed limestone depressions and young volcanoes at Mount Gambier. Vegetation is dominated by healthy woodlands and mallee shrublands with wet heaths in the inter-dune swales that have been extensively cleared for agriculture in the past. The site is within the Bridgewater IBRA Sub-region and the Beachport Environmental Association.

5.6.1 Landforms

The subject land totals 351 hectares in size, of which approximately 103 hectares is cleared, grazing land and 248 hectares of coastal dunes and beachfront land. The site consists of complex dune systems, with dune swales (some with underlying fresh water), large dune crests (both perpendicular and parallel to the coastline), dune plateaus (on large consolidated dunes) and coastal wetlands fringing farmland. There are also patches of exposed limestone with shallow sand, which naturally occur due to wind scars.

The dune system can be described as an active foredune, with occasional blowouts. The sand supply comes mainly from the present beach. Older consolidated dunes discontinuously underlie the active foredune, and where these are exposed along the shore, low cliffs have developed.

The Response Document (Attachment C) states the dune complex between Robe and Beachport has shown instability for at least 200 years. Within the coastal dunes damage to the vegetation cover occurs naturally, usually by storm damage to fore dunes 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 progressively recolonised by native vegetation. The Nora Creina area was de-vegetated by the 1970's (primarily due to grazing), with active sand movement directly inland taking place. Destocking and fencing in the 1980's led to a quick recovery. Grazing is now uncommon in the dunes, but off-road vehicle use (especially 4WD's and quad bikes) has increased over the years, causing physical damage to vegetation and spreading weeds. Other

pressures on the dunes include rabbits and weeds, together with the on-going threats of fire and drought.

Three beaches are found in the study area, namely Boundary Beach in the north, tiny Shelly Beach within the compound headland of German Head, and Southern Beach that stretches from German Head to the southern edge of the study area. The beaches show medium foreshore slope, although Shelly Beach is steeper than the other two. There are also several wetlands on the site that form part of the Karinya Coastal Lakes Complex , including Scanlons Lake near the Nora Creina Road (which is surrounded by cleared agricultural land) and Errington Hole Lake, Dolly Lake and Pud Lake along the landward edge of the coastal dune system.

The PER specifies that the conceptual layout of the golf course sought to use the existing landforms, to create a competitive and challenging course. The PER indicated that utilising the existing landforms will be a crucial element in the appeal, status and eventual ranking of the courses. Several of the proposed holes will have direct ocean frontage and views. Some limited modification will be required to accommodate flat areas, tracks and trails for vehicles and pedestrians.

The beef farm and vineyard would be located on agricultural land (i.e. previously cleared dunes), which is inland and separated from the sand dune area.

The concept plan proposes the golf course and resort as being centred on the coastal dune area away from the wetlands. However, six of the proposed golf course holes were to be in close proximity or immediately adjacent to two of the wetlands. The redesigned course layout now avoids all but one of the wetlands.

The AR acknowledges that the final detailed design is yet to be undertaken. If approved, the effect on the existing landforms would need to be considered to ensure the final layout of the golf course, associated structures and buildings is done in harmony with and complementary to the existing features of the site.

The AR concludes that the proponent is aware of, and has considered the landforms at the site, and has identified potential impacts to these landforms. The footprint of the golf courses and resort precinct has been designed to avoid substantial earthworks, to minimise vegetation clearance and to incorporate remnant habitat. The disturbance of sand dune communities along a relatively short stretch of this part of the South East coast (between Robe and Beachport) is considered reasonable in order to realise the economic and tourism benefits of the proposal. The AR concludes that these

impacts can be adequately monitored and managed through an Environmental Management Plan framework (refer to Section 8).

5.6.2 Coastal Processes

The coastline of the southeast corner of South Australia is a high energy environment with long sandy beaches interspersed with rocky headlands. The headlands at the site are low (i.e. below 20m in height) and there are many signs of active erosion, with collapsed calcarenite boulders at the base of the cliffs.

The site is exposed to a moderate wave climate following attenuation of high wave energy by an offshore-nearshore shallowing gradient and nearshore reef platforms. However, despite mitigation of wave activity, beach erosion and foredune scarping are common. The site is exposed to powerful swells (i.e. a south-west swell of over 2 metres can occur over long periods), strong winds and a low tidal range. Spring tide range is micro-tidal (i.e. 0.9m at Robe and Beachport), although tides can vary in height due to local winds, variations in atmospheric pressure and periodic oscillations in the level of the Southern Ocean. Strong south-westerly winds occur throughout the year, but most notably in winter and spring.

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

The PER indicates that although there are no activities proposed within the marine or coastal zone, the project may indirectly impact upon these environments through:

- Human access to and from (and encroachment on) the beach.
- Stormwater and run off (in particular from the use of fertilisers, herbicides and pesticides).
- Land based waste (i.e. entering the ocean, in particular plastic materials).
- Earthworks (in particular any dune modification).

The PER identifies that each of these issues and potential impacts would be avoided, minimised and managed through:

- Sign-posted, and clearly formalised beach access points.
- Removing vehicle beach access.
- Preparation of an irrigation and golf course management plan.

- Waste management.
- Fencing.
- Golf course design.
- Guest education.

The PER considered that the golf courses laid throughout the dune system to be a 'low-intensity recreational use', with minimal impact on the coast. The PER identified the need for construction and operational environmental management plans to address these matters.

Submissions from DEWNR and the public raised concerns about the effects of coastal processes on the proposal, including the implications of climate change. The Nora Creina Shack Owners Association indicated in its submission that in the last three years storm events have resulted in substantial localised changes to the coastal landscape (i.e. the nearby Nora Creina headland and Southern Beach).

The Response document (Section 4.2 and Attachment C) provided additional investigations of these matters. The geology, landforms and adjacent nearshore zone of the site (including indications of past changes), wind and wave processes, and projections of the effects of climate change and sea level rise were further examined.

The site shows evidence of past foredune erosion, though limited in extent. This was the case recently following the high swells and local storms of early May 2016. 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.

In regard to climate change, the southern coastal regions have experienced a slight drying trend since 1950. Whilst rainfall projections are more uncertain than temperature, they suggest a drying trend and 10 – 20% less rain by 2070.

Sea level rise was predicted to affect the Nora Creina shoreline in the following ways:

- A rise in mean water level will move sand offshore, leading to shoreline retreat.
- A 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.

- Even modest sea level rise will mean that storm events that were previously very rare will become commonplace.

The climate record at Nora Creina shows the area is gradually warming, becoming slightly drier, and sea level rise is accelerating. Sea level rise at all predicted amounts will increase storm damage to the beach and dunes. Climate change is bringing warmer and dryer conditions. 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. Maintenance of dune stability may well become more difficult over time as a dryer and warmer environment would slow natural recovery from blowouts and encourage weed invasion.

This AR concludes that the proponent is aware of, and has considered the coastal processes at the site, and has identified potential impacts to these processes and environment. The AR concludes that these impacts can be adequately monitored and managed through an Environmental Management Plan framework (refer to Section 8).

5.6.3 Marine Environment

The PER identified that the marine productivity of the region is high and that the marine communities of the area are relatively isolated from other systems along the southern Australian coastline, due to the oceanographic characteristics of the area (including the pattern of currents and bathymetry). The subject site is adjacent the Habitat Protection Zone of the Upper South East Marine Park.

The PER indicates that the proposed development would not likely impact on the Marine Park. Current levels of disturbance are described as being 'relatively low', with the beach being used by recreational fishers and others engaging in passive recreation (e.g. walking, swimming and snorkelling).

DEWNR is satisfied that the PER recognises the potential impacts on the marine environment (and the marine park) and that provided wastewater, stormwater and irrigation is appropriately managed, agrees that the proposal is not likely to impact the Park. Notwithstanding, DEWNR advises that the construction and operational aspects of the project would need to comply with the requirements of the *Marine Parks Act 2007* in relation to the general duty of care, zoning and management strategies. This could be managed through an Environmental Management Plan framework (refer to Section 8).

The AR supports this approach should the development be approved.

5.6.4 Surface Water

The PER (Appendix M) identified the main surface water features on the site as comprising the wetland complex on the landward side of the coastal dunes (including Errington Hole and Dolly Lake). Coastal salt lakes surround the site further afield, incorporating Lake Eliza, Lake St Clair and Lake George.

DEWNR advised that that wetlands should be buffered from developed areas (such as by maintenance of native vegetation buffer or by revegetation) to improve filtration of surface water runoff into wetlands. Sufficient separation distances are needed (especially from the vineyards). Impacts would need to be managed through an Environmental Management Plan framework.

The PER indicates that all roof runoff and stormwater would be captured, treated and reused on site. Details pertaining to this are intended to be provided during the design stage. Specific detail has not been provided to date on how it is intended to manage surface water runoff near the wetland areas. The effects of the potential creation of a groundwater mound under the site (i.e. due to potential excess irrigation) and groundwater discharges to the wetlands also need to be fully investigated.

The PER states that an Irrigation Management Plan would be developed during the detailed design stage. This will form part of a broader integrated water management strategy for the site and detail the measures proposed to manage and treat stormwater from hard surfaces not being used to harvest water.

The EPA position of requiring, prior to the commencement of construction works, the development of an Integrated Water Management Plan is supported. This Plan should include the following details:

- Water balance information, including:
    - total water requirements for all facets of the development, including tourist and staff accommodation and associated facilities, clubhouse, beef farm and irrigation areas (golf course, landscaping, vineyard, livestock pasture);
    - predicted wastewater volumes; and
    - predicted greywater volumes (if greywater is to be treated separately from wastewater, which the PER indicates is a potential option).

- How all wastewater will be collected, treated, stored and re-used at the site, encompassing planned expansions of the wastewater treatment system.
- How all greywater will be collected, treated, stored and re-used at the site, if greywater is to be collected separately from wastewater.
- An Irrigation Management Plan prepared in accordance with the EPA's Wastewater Irrigation Management Plans (WIMP) Guideline.
- Details of measures to mitigate impacts on surface water, groundwater and the marine environment (and associated ecosystems).

The proposal must also comply with the Environment Protection (Water Quality Policy) 2015 and the general environmental duty as contained in section 25 of the *Environment Protection Act 1993*.

This AR acknowledges and supports the provision of an Integrated Water Management Plan during the detailed design stage (refer to Section 8). This Plan would need to be developed in consultation with the EPA as a conditional requirement of any approval issued.

5.6.5 Groundwater

The PER (Appendix M) identified the aquifer of most relevance as being the upper unconfined Quaternary and Tertiary Limestone Aquifer (generally known as the Unconfined Aquifer). This aquifer consists of calcareous sandstone and limestone. The Unconfined Aquifer is potentially underlain by an aquitard, comprising marl and carbonaceous clay deposits. The underlying lower Tertiary Aquifer (generally known as the Confined Aquifer) is a confined sand aquifer that is likely to occur at depths greater than 290 m below ground surface. Groundwater salinity averages around 1,000 mg/L TDS in the Unconfined Aquifer and from 500 - 1,000 mg/L TDS in the Confined Aquifer. A desktop analysis indicates that local groundwater levels are likely to be less than 6 m below the surface.

The PER (Appendix M) states that, within the Unconfined Aquifer groundwater flow is likely to be complex, owing to localised flow paths towards coastal lakes and other low-lying surface water features. In general, shallow groundwater at Nora Creina likely flows towards the coastal lakes, which act as regional groundwater discharge features for shallow groundwater in the Unconfined Aquifer.

Groundwater is the major source of water in the South East. Groundwater is typically extracted from the Unconfined Aquifer for domestic, agricultural (esp. irrigation), industrial and recreational

(including the watering of golf courses), whilst the deeper Confined Aquifer provides township water supplies for six towns (including Robe).

The PER (Appendix M) identifies that there is an extensive lake and wetland complex close to the subject site (i.e. east of the Nora Creina Road), incorporating the salt lakes of Lake Eliza, Lake St Clair and Lake George. These lakes are classified as High Value Groundwater Dependant Ecosystems, and they are listed on the Directory of Important Wetlands of Australia. These lakes are below sea-level and are fed by groundwater from the Unconfined Aquifer and fringing springs.

The PER also identified that agricultural pollutants and sediments have the potential to impact the groundwater dependant ecosystems and coastal lakes, but not what the potential impacts would be, nor proposed mitigation measures. The PER considers that the risk of groundwater contamination from construction and ongoing operations is 'low'.

DEWNR advised that the potential impacts to the groundwater dependant ecosystems and coastal lakes can be adequately managed through Environmental Management Plans, which should be a condition of any approval and must be prepared to the satisfaction of State Agencies.

The EPA advised that an Irrigation Management Plan would be required as part of an Integrated Water Management Plan. If approval is granted, the development of this Plan, in consultation with the EPA, should be a conditional requirement.

The Response Document anticipates that between 300 – 400 ML of water per annum would be required to operate the golf courses and tourism complex once fully operational.

The PER indicates the intent of the proponent to purchase two existing water allocations (one of approximately 178ML and another of 52ML) which lie in the water management area for use on the subject site. A new licence will be required to fulfil the shortfall of water required. The PER outlines that conversation have already started with DEWNR in relation to this.

The subject site lies within the Lower Limestone Coast Prescribed Wells Area, which applies to all groundwater resources (including the Unconfined and Confined aquifers). The water resources of the Lower Limestone Coast Prescribed Wells Area must be sustainably managed and used in accordance with the Lower Limestone Coast Water Allocation Plan (including the issue and transfer of water allocations).

This AR supports the position of agencies with respect to groundwater use and also acknowledges the intent to purchase water licences to use on the subject site. The transfer and use of these licences is bound by the principles and guidelines of the Lower Limestone Coast Water Allocation Plan. A water licence to establish a water supply bore/borefield would need to be secured under the *Natural Resources Management Act 2004*. This process would also include the need for the proponent to undertake a preliminary hydrogeological assessment that would need to detail:

- 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 water can be transferred).
- Details of water quality for potable or non-potable use (and treatment as necessary).
- Impacts on Groundwater Dependent Ecosystems.

The establishment of a water supply (i.e. bore or borefield) would utilise the deeper Confined Aquifer, which is unlikely to affect the shallower Unconfined Aquifer due to a lack of connectivity. The PER (Appendix M) states that for the Unconfined Aquifer, groundwater is likely to discharge to the Southern Ocean via submarine discharge. The rates of discharge are unknown. The coastal barrier dunes potentially form a groundwater divide and as such, some groundwater beneath these coastal dunes potentially flows towards the Southern Ocean. In any event the extraction of the water would be appropriately managed through the current water licensing regime under the *Natural Resources Management Act 2004*.

5.6.6 Water Management

The PER (Appendix M) identified that agricultural pollutants and sediments have the potential to flow via catchment runoff from the regional drainage network and accumulate in drain water or discharge features such as coastal lakes. Potential contaminants may include suspended solids, nutrients, herbicides, pesticides and fertilizers.

The management of the golf course has the potential to impact upon groundwater, primarily through excessive irrigation and seepage to the groundwater system. Accumulated and evapo-concentrated nutrients and contaminants may also be mobilised from the unsaturated zone to the water table as a result of winter flushing.

A detailed technical understanding of the hydrogeological formations and depth to groundwater below the site is currently limited, due to a lack of detailed investigations (including existing drill hole data in the area). Groundwater monitoring wells would need to be installed to monitor groundwater levels and quality. The installation of monitoring wells, and on-going sampling, would improve the hydrogeological understanding of the site and allow for on-going groundwater monitoring identifying the potential transport of contaminants via the unconfined groundwater system. As part of the installation of the wells, detailed geological information would need to be collected to better understand the fate of any potential seepage (e.g. perching on low permeability layers, or infiltration to the water table, and the direction of local and regional groundwater flow). Following construction of the wells, baseline data would need to be collected, including groundwater levels and water quality.

Groundwater monitoring wells are not to be confused with the geotechnical surveys to be undertaken across the site as part of the preconstruction investigations (i.e. to verify subsurface conditions for the establishment of the golf course, building foundations and other related infrastructure). The depth of groundwater below the surface would need to be confirmed during the geotechnical surveys. Shallow observation wells (i.e. to a depth of 10 metres) would need to be installed, from which periodic sampling would be undertaken to verify water levels and quality. Groundwater wells should extend to the groundwater table, which may be deeper than 10 metres. Any perched watertables (i.e. localised groundwater lenses that discharge from the base of the dune as springs and may supply local wetlands) should also be identified.

Investigations would need to identify if any excess surface irrigation within the development site would be sufficient to infiltrate to the water table. Consequently, without proper management this could result in a local rise of groundwater levels or groundwater mounding, increased recharge to groundwater systems and discharges to receiving environments (especially local wetlands). The presence of permeable soils and limestone geology increases the risk that drainage of excess irrigation water could have the potential to infiltrate to the water table.

The proposed development has the potential to affect water quality in a number of ways, including:

- Generation of nutrient rich wastewater and its disposal has potential to impact on water resources, including surrounding wetlands/lakes and the marine environment.
- An increase in hard impermeable surfaces that could increase runoff and pollutants in stormwater.

- Land surfaces that may be left open and vulnerable to the erosive powers of water and wind, particularly during the construction phase.
- The use of chemicals and fertilisers on site.
- Increased groundwater recharge and discharge.

Studies on lake systems and coastal waters have shown how the cumulative discharge of treated wastewater and stormwater can contributed to significant degradation of the environment. Suspended solids from stormwater and nutrients from both stormwater and wastewater have been identified as two of the major causes of any degradation.
Having regard to the advice of agencies and the measures proposed in response, the AR finds that it is possible to manage potential off-site impacts to the receiving water environment with careful management. The high water needs of the development may, in part, be met by the use of recycled wastewater and stormwater. If appropriately managed, there should be no off-site discharge and impacts from the development can be minimised.

Water streams (i.e. wastewater, grey water and stormwater) would also need to be managed to minimise off-site impacts and ensure compliance with the Environment Protection (Water Quality) Policy 2015 and the General Environmental Duty of the *Environment Protection Act 1993* (particularly in relation to protecting freshwater and marine environments).

5.6.7 Irrigation Management, Chemical Use and Monitoring

The golf course watering system would need to be designed to meet the plants growth requirements and not infiltrate into the soil. The types of sprinklers used (i.e. with different spray patterns) and the layout pattern of the sprinkler network would need to be designed to be 'tailor made' to the size and shape of the greens, greens surrounds, fairways and tees. Irrigation should be undertaken at night (i.e. from 9pm – 5am) as the most economical and efficient time to water. This approach would also reduce wind effects (especially over-spray) and evaporative losses, which would reduce water usage.

The design of any irrigation system would need to be based on the following parameters:

- The operation of the system would be carried out by a central computer in conjunction with field decoders.

- Watering schedules would be governed by an onsite weather station that would adjust the pre-set sprinkler operating times in accordance with daily evapo-transpiration rates and wind speed / direction.
- The control system would have the capability to provide repeat cycles with soak times between repeats to avoid run off and puddling, as well as reactive programs to respond to wind speed / direction, rainfall and other factors.
- Moisture sensors located across the site would monitor areas that are receiving too much irrigation. Automatic adjustments made at the controller would then regulate the irrigation times in these areas to minimise overwatering.
- Sprinkler selections and spacing would be selected to ensure a high degree of distribution uniformity to avoid unnecessary over or under watered areas. This would also minimise over-spray to prevent the spread of turf, especially into existing vegetation.
- All equipment would be suitable for use with recycled water and be operated in accordance with the Environmental Protection and Heritage Council (2008) Australian Guidelines for Water Recycling: Managing Health and Environmental Risk.

During drought conditions, when the water supply needs to be conserved, irrigation may need to be scaled back on the fairways, with only the tees and greens being the priority for watering. It would be generally accepted by the golfing community that fairway condition would be reduced, with the tees and greens remaining at a suitable standard. The fairways are expected to be easily re-established within a relatively short period of time.

The Response Document states that an Irrigation Management Plan would be prepared that would include provisions requiring the monitoring of impacts of runoff. The Plan should also detail the design and operational measures that would be implemented to minimise impacts, including possible effects on groundwater.

The AR supports this approach and also concludes that a Nutrient Management Strategy would also need to be developed to ensure the supply of nutrients to the turf meets turf prerequisites, while minimising any environmental impacts. Slow release and controlled release fertilisers should be used as they decrease the risk of ground water and surface water contamination compared to soluble based fertilisers. As part of the course management, regular testing of the nutrient status of the soil should be carried out. Data on the quantities of essential elements for plant growth in the soil should be used to determine the exact quantities and types of ameliorants and fertilisers

required. In this regard soil and leaf testing would be critical tools for monitoring and matching turf grass requirements with fertiliser inputs.

An Integrated Pest Management Strategy should also be employed, as part of golf maintenance operations that would utilise a range of techniques to manage a particular pest problem. Such a system would involve having a detailed level of understanding about the life cycles of pests and finding means to control pests, which are effective, low hazard and use a range of control techniques. Pesticides should be used at recommended rates and intervals to avoid excessive application, with the practice of pesticide rotation being adopted (i.e. minimising any potential resistance build up). In addition, pesticides should be selected for low leaching potential and reducing irrigation after pesticides are applied would reduce the risk of groundwater contamination occurring. Pesticide use should also consider the potential impacts on native insect species, especially those that are important to the Little Dip Spider-orchid.

Implementation of such design and operational measures should ensure the risk of groundwater mounding and discharge to local wetlands and the marine environment is avoided. A monitoring program, comprising a network of observation wells across the site and a water level / quality testing regime, would need to be established to detect whether local hydrology has been affected by irrigation practices. Contingencies would need to be prepared to address any long-term impacts.

The AR considers that, as the Irrigation Management Plan, Nutrient Management Strategy and the Integrated Pest Management Strategy are inter-related, they should be included in an integrated document, such as a Golf Course Resort Management Plan (refer to Section 8). The Plan should address the design, construction and operational phases of the course.

5.7 Biological Environment

The main environmental issues identified for the proposal include the effects of human encroachment on a relatively undisturbed coastline, potential impacts on the local and regional hydrology from the long-term irrigation of the golf course (especially surrounding, groundwater dependent coastal lakes), vegetation clearance, habitat fragmentation and disturbance to local fauna populations (including the control of kangaroo and wombat populations). Thus, there will be effects on local and regional ecosystems. However, the proposal does provide opportunities to improve the condition of remaining remnant habitat and to revegetate parts of the site.

The PER characterised the vegetation as being poor condition regrowth that is heavily impacted by weed invasion (and an overabundance of the native Coastal Wattle) and a long history of disturbance. However, the detailed vegetation assessment that was undertaken identified eight different vegetation associations that were generally in either good or very good condition. This included 95 native species being present, which was considered to be very high for this location. There were also 41 weed species recorded that had a relatively low percentage of cover throughout all vegetation associations.

Additionally, one nationally listed threatened vegetation species (Little Dip Spider-orchid) and four State listed species were recorded. Suitable habitat for one nationally listed fauna species (Orange-bellied Parrot) and four State listed species is also present on the site (i.e. Swamp Wallaby *Wallabia bicolour*, Swamp Antechinus *Antechinus minimus* and Swamp Rat *Rattus lutreolus*, plus the Hooded Plover (Eastern) *Thinornis rubricollis rubricollis*, which is also nationally listed but restricted to the beach). One of these Associations is considered to be of State conservation significance, the non-saline Closed Shrubland wetland community.

The area of vegetation is significant in size (248 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 (both of which have similar high conservation vegetation communities).

The PER suggests the golf course development will have either a negligible impact on native vegetation or possibly even positive impacts (primarily through improved management). In particular, the golf course would be considered a low intensity recreational use and that there will be an improvement in connectivity in the landscape, regardless of the substantial clearance of vegetation (i.e. 66 ha or ~26% of remnant vegetation).

The PER and Response Document do not provide a thorough description of all coastal ecological assets and current levels of disturbance on and around the site (i.e. does not include any site specific information on local and regional coastal fauna and surrounding coastal lakes).

The AR considers that, whilst the removal of pest plants and better management of the site will be a focus, the statements made in the PER and Response Document need to be considered in light of the level of native vegetation clearance required, construction activities within the extensive sand dunes and the introduction of substantial areas of irrigated turf grass. Essentially, the proposal introduces a greater mix of recreational and agricultural uses to the site that could attract a large number of

visitors. The proposal would substantially increase the intensity of use of the site and a greater range of disturbance factors for the surrounding environment. It is also clear that the proposal also has the potential to provide the means by which this part of the coast can be enhanced and made more environmentally sustainable.

5.7.1 Coastal Environment and Habitat

The coastal environment is characterised by complex dune systems, comprising large dune crests (both perpendicular and parallel to the ocean), dune plateaus (on large consolidated dunes) inter-dunal swales (with underlying fresh water) and fringing wetlands. There are also patches of bare sand ('blow-outs') and exposed limestone (with shallow sand) that naturally occur due to wind erosion.

The northern boundary abuts the Little Dip Conservation Park, whilst the southern boundary abuts a Heritage Agreement Area. Lake Eliza lies to the east of the site. The coastline between Robe and Beachport has been identified as being of high conservation value. The proposal would affect a 2.6 kilometre long stretch of this coastline.

The PER considers that the site is of lower conservation value, as it represents a regenerating environment due to being degraded by grazing over 20 years ago, which resulted in substantial dune erosion and sand drift (i.e. as evidenced by many dunes running at right angles to the coast). The PER used past aerial photographs to demonstrate this. The photos also indicate that dunes within the Little Dip Conservation Park (established in 1975) existed in a similar state, which indicates dry conditions may also have been a key factor (i.e. resulting in reduced understory vegetation cover to protect the dunes from erosion).

Whilst the site is described as largely degraded in the main PER document, the ecological studies in the Appendices indicate that the site contains sizeable areas of moderate-high quality. Currently degraded areas are focussed along access tracks and around patches that have been disturbed or cleared in the past. There have also been some exotic plantings along the coast and weed infestation is also a common disturbance factor.

DEWNR advised that the Robe Range dunes of Nora Creina are transgressive dunes that 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 dune system 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.

The PER (Appendix H) shows the capacity for sand dune drift in this location and in recent history. DEWNR advised this is contrary to the statement that the perpendicular nature of the dunes is a primary result of previous clearance and disturbance. Transgressive dunes and areas of sand drift are natural coastal features that can be exacerbated by anthropogenic causes (especially grazing). Generally they pose no threat and evolve naturally, except when they are impacting on human development or infrastructure.

Significant transgressive dune movement occurred from 1945-1975, with extensive movement of individual lobes of sand, threatening the lakes, and some internal revegetation and partial stabilisation also occurring. Assisted by the removal of stock and the installation of fencing, this natural revegetation and stabilisation has continued to today, with only minor foreshore blowouts any evidence of the extensive drifting sand seen only decades ago.

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.

The vegetation survey results indicate the dune system has achieved a successful level of regeneration, although further recovery is affected by weed invasion. In addition, the Response Document considers the native Coastal Wattle (*Acacia longifolia* var *sophorae*) to be a 'problem species' that has reached an overabundance and is hindering the regeneration of other species (especially the understorey). Off-road vehicle activities are also causing erosion problems along the beach, headlands and foredunes. The site currently has a low-moderate level of disturbance, mainly from sporadic recreational uses (i.e. due to access to the beach) and vehicle movements associated with farming activities (mainly on the cleared land) and the on-site shacks/dwelling.

The dune system is largely uncleared due to human activity, except for scattered sites for the existing shacks, access tracks and those sites previously identified for aquaculture and dwellings. The widely cleared parts of the site are mainly inland from the dunes on the coastal hinterland surrounding the lakes. Inland from the coastal dune system, the sites comprised cleared land used for grazing. Several small remnant coastal wetlands occur, with fringing vegetation still intact.

Access to beach/coast reserve by off-road vehicles occurs via the 'Errington Hole Track' through the Little Dip Conservation Park and an unmade road reserve

The PER identified the potential for indirect impacts on Lake Eliza and for increased weed invasion into Little Dip Conservation Park and the Heritage Agreement Area. Whilst the PER identifies the impact on the wildlife corridor value of on-site habitat, it does not quantify the potential impacts on the conservation values of adjacent land, especially hydrological implications for local and regional wetlands/lakes.

The PER states that 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. 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 noted however that the benefits need to be considered against the level of environmental disturbance resulting from the proposal. The suggested improvements to the size, shape and permeability of the north-south corridor would also not explicitly enhance the corridor, but would minimise impacts on an already significant stretch of habitat.

The PER considers that unrestricted off-road vehicle access to Boundary Beach (i.e. through the Little Dip Conservation Park) is the key cause of damage to the beach, headland and dunes. 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 also considers it would allow greater enjoyment of the public domain (i.e. the beaches, which are on Crown Land and are public).

The level of impact is not quantified in the PER, especially the numbers of vehicles. Nor has the level of damage been calculated (such as erosion, vegetation/habitat loss or disturbance to Aboriginal Heritage sites). Damage to the Errington Hole midden is however well documented. It is difficult to quantify what improvements could be made solely by the proponent given that access comes from adjoining land which is not under their control (although a very small section of the track does cross onto the proponents land). Public submissions (including from the Friends of Little Dip Conservation Park and Nora Creina Shack Owners Association) indicates there may be very little beach traffic from Errington Hole through to Nora Creina and access is mainly by experienced drivers (or local visitors who know the area). In addition, the establishment of a golf course is likely to lead to a reduction in traffic due to the fact that a private development is in operation (i.e. no longer a secluded location).

If there remains a desire to maintain public access to the beach (coastal reserve), then it may be appropriate to not only block vehicle access, but to also consider the option of establishing a carpark to ensure the desire to "enhance enjoyment of the public domain". This could encourage the public to only access the beach by foot. However, such a measure may restrict access to local fishing spots further to the south (which is only possible by using access tracks on the proponents land). This could be a contentious matter and the benefits and costs of potential options would need to be further investigated with relevant stakeholders. This matter could possibly be further considered through the Environmental Management Plan framework (primarily in a Coastal Management Plan).

5.7.1.1 Coastal Dune System

The PER states there is no desire to modify the existing landforms to any great extent. While there will be some requirements to have flatter areas or tracks and trails for vehicles and pedestrians, such is the amount of land available and the ethos of the golf course layout, the design will work with the existing landforms to lay the golf course out in harmony with the natural topography. It is noted that the dune system has some very large dunes, with steep sides and narrow swales. Thus, it is likely that some reshaping of dunes (i.e. cut and fill) may be required. A balance would be needed between achieving a natural, but challenging course, and ensuring the course is not too difficult or physically demanding to navigate.

Coastal dune habitat would be fragmented for a 2-3 km stretch of the coastline, which would result in an interruption to the coastal habitat corridor. This fragmentation could open up the habitat to predators and result in increased potential for weed invasion (especially edge effects). The effect of fragmentation of habitat on the site itself and in the broader context of vegetation to the north and the south, would be dependent on the characteristics of each species, with ground-dwelling mammals potentially affected the most. The PER considers that, depending upon the types of fauna species that could be effected, the impact on habitat values due to fragmentation is considered to be a manageable environmental issue.

Natural dune erosion processes, without proper management, could be exacerbated by the proposal, particularly during the construction stage. In addition, the fairways could create a 'wind tunnel' effect (especially where perpendicular to the coast) which may pose an erosion risk along the fairway edges, around bunkers and bordering dune slopes. Erosion could also occur around exposed tees and pathways linking holes. The risk of creating or exacerbating existing blow-out areas would need to be addressed. This risk could be increased by a drying climate and during drought

conditions (especially through a loss of groundcover/understorey). This could also make stands of remnant vegetation more susceptible to weed invasion (including turf grasses).

There also exists the potential for increased weed invasion into the adjoining Little Dip Conservation Park and also Heritage Agreement area. This will be dependent upon the extent of weed control during and after construction and can be addressed through an Environmental Management Plan framework.

5.7.1.2 Coastal Wetlands

Along this part of the coast, the constituent parts of the Robe to Beachport Coastal Lakes Complex are classified as key Groundwater Dependent Ecosystems (GDEs), while those of the more extensive lake complex incorporating Lake Eliza, Lake St Clair and Lake George are classified as High Value GDEs. These lakes are listed on the Directory of Important Wetlands of Australia and are identified as GDE's due to surface expression of groundwater. The Atlas of Groundwater Dependent Ecosystems considered the nature of groundwater connection as permanent or near permanent. Consequently, depending on the local groundwater regime, there may be the potential for indirect impacts on Lake Eliza in terms of water quality.

The wetlands found on or around the property (Scanlon Lake, Dolly Lake, Pud Lake, Errington Hole Lake, Karinya Wetland and Waterhouse Wetland) form part of the Karinya Lakes Complex and have high ecological value. The vegetation fringing these wetlands (especially silky tea tee and cutting grass habitats) are relatively rare in the region and are recognised on the Provisional list of Threatened Ecosystems of South Australia. Scanlon Lake already has a level of protection under the current Management Plan (dated 2010) regime.

The original proposal included six of the proposed golf course holes in close proximity or immediately adjacent to two of the coastal wetlands. One of the wetlands would also had been crossed to link holes 5 and 6, while hole 7 directly crossed over another wetland.

The Response Document includes a modified course layout that relocates some of the holes away from some wetlands. However, the tee for hole 13 still crosses a wetland (including a pathway to the fairway).

The beef farm, vineyard and recreational facilities (e.g. nature trails) would be located on the cleared agricultural land close to the coastal lake complex. Thus, there is potential for direct and indirect

impacts, which will depend on the final design, as well as construction methods employed. However, some of the golf holes, vineyard and beef farm are still relatively close to the wetlands and expose them to interface effects. This will need to be considered and, if the development is approved, included in any environmental management plans where relevant.
The wetlands would also need to be managed within the context of sensitive eco-tourism activities, such as walking, bird watching (including board-walks/hides) and possibly kayaking. However, such activities could affect wetland associated fauna (especially threatened species, such as the Painted Snipe – listed as Endangered/Marine under EPBC Act, the Australasian Bittern and the Swamp Antechinus).

The PER states there is a low risk of any direct or indirect impacts on the coastal lakes and considers the primary issue will be that of protecting the wetlands during the construction phase (i.e. through measures to be detailed in an Environmental Management Plan - refer to Section 8).

Whilst the wetlands have been protected and fenced off from sheep/cattle grazing, the golf course, recreational activities and intensive agricultural uses would pose the potential for new impacts (especially disturbance and water quality risks). The PER does not provide detailed assessment of the potential impacts on the native vegetation, fauna or water quality of the groundwater dependent permanent coastal springs and the temporal saline lakes. It is not specifically demonstrated in the PER how the wetlands are to be protected, including from direct human impacts and measures to manage runoff and groundwater discharge (especially nutrient input) into the wetlands.

The PER states that, depending on the local groundwater regime, there may be the potential for some indirect impacts on Lake Eliza. However, the level of impact and the implications for the conservation values of the lake have not been specifically addressed (nor the impact on other smaller wetlands within the potential area of groundwater influence).

Given the conservation value of the wetlands, further risk analysis should be undertaken to identify threatening processes from the development and appropriate mitigation strategies. Suitable buffer treatments would need to be established to minimise disturbance from human activities (especially golfers and maintenance activities), to minimise edge-effects and to act as a surface water filter to maintain water quality. The buffers could also improve the habitat value of each wetland. The AR concludes, that should approval be granted, a specific Wetland Management Plan for the affected

wetlands should be prepared, which takes into consideration the current Management Plan for Scanlon Lake (refer to Section 8).

5.7.2 Native Vegetation

Approximately 70% of the site is covered by intact native vegetation (i.e. 248 ha on the 351 ha site), with the remainder being cleared farmland that has mainly been used for grazing. The remnant vegetation is predominantly associated with the coastal dune system. Within the farmland there are several coastal wetlands that retain intact fringing vegetation. The dune vegetation communities have regenerated over the past 20-30 years, after experiencing a period of substantial dune erosion, reshaping and inland migration due to natural processes (and exacerbated by previous grazing and burning practices). Degrading factors that affect the condition of remnant stands mainly include weed invasion (including exotic plantings of pines and Tuart Gums), edge effects along access tracks and the selective clearing of small patches in the past.

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*.

The PER (Section 7 and Appendix J) included a preliminary baseline survey for much of the site. A two day 'ramble' style (i.e. observational) survey was conducted in autumn 2014 as an initial assessment of the type and condition of the vegetation on site. Two follow-up surveys were conducted in the spring to specifically search for the Little Dip Spider-orchid. A Bushland Rapid Assessment Technique ('BushRAT') survey was also undertaken to assess the biodiversity value of patches of native vegetation. Sites were assessed and given scores for flora and fauna, depending on whether they were recorded during the time of the survey (or nearby) or whether it was deemed that there is suitable habitat. The condition attribute scores were assessed against scores from benchmark communities (i.e. that represent each vegetation community in a relatively undisturbed state). During the surveys, eight (8) vegetation associations were identified, many of them in good-very good condition.

The surveys also identified several species of State significance, including Spiny Spear-grass (*Austrostipa echinata*), Sticky Daisy-bush (*Olearia passerinoides ssp. glutescens*) and Squat Picris (*Picris squarrosa*) – all listed as 'Rare' and the Dune Fanflower (*Scaevola calendulacea*) – 'Vulnerable'. Species of regional significance include Porcupine Grass (*Triodia compacta)* - previously not recorded for the region, Spoon-leaf Logania (*Logania minor*), Coast Bush Everlasting (*Ozothamnus turbinatus*), Jagged Groundsel (*Senecio biserratus*), Rusty Spear-grass (*Austrostipa*

eremophila) and Short-stem Sedge (*Carex breviculmis*). One vegetation association considered to be of State conservation significance, the non-saline Closed Shrubland wetland community of *Gahnia trifida* Sedgeland / *Leptospermum lanigerum* (Endangered in SA), was also recorded.

The PER approximated that no greater than 25-30% of remnant vegetation would be cleared, so that habitat would remain relatively connected and unfragmented (refer to Figure 5). However, the predicted amount of clearance for each community type was not calculated at the time.

The Response Document states that, as a result of issues raised in submissions on the PER, particularly the comments 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 be maintained through the site and the remaining areas of vegetation are generally larger and more contiguous, greatly reducing the impact on flora and fauna.

An initial estimate (i.e. for the original plan) for clearance of vegetation was in order of 84 hectares, which included not only the two golf courses but the areas required for the clubhouse, accommodation etc. The modified layout reduces the amount of vegetation clearance to around 66 hectares, which represents a reduction of approximately 21%. Whilst the desktop analysis undertaken to estimate this has greatly increased the confidence about the amount of clearance proposed, the Response acknowledged that some on-ground checking and verification will be required prior to any clearance commencing.

Figure 5: Condition of vegetation affected by the proposal, based on the SEB framework.

Under the *Native Vegetation Act 1991,* all clearance of intact vegetation requires a suitable 'Significant Environmental Benefit' (SEB) to be achieved through a suitable offset. The proponent has negotiated an agreed offset approach with the Native Vegetation Management Unit (DEWNR), including the steps required to devise an on-ground solution (size and location to be determined if

the proposal is approved). If approval is granted, the final SEB would need to be endorsed by the Native Vegetation Council, prior to any clearance occurring.

To offset the proposed 66 hectare clearance, further analysis showed that an offset area of approximately 440 hectares would be 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 hectares, leaving a deficit of approximately 275 hectares. The remaining vegetation would be used as an on-site offset by ensuring this vegetation is protected and better managed to improve its ecological value (refer to Figure 6).

Figure 6: Remaining remnant vegetation to be retained with improved management.

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 (i.e. within about 25-50 kms of the site). Although no 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 achieved.

Additional work was also completed for the Little Dip Spider-orchid, with respect to Australian Government requirements pursuant to the EPBC Act. This resulted in a greater level of detail around the potential threats, mitigation measures required, the relationship with the species recovery plan and appropriate potential offset being calculated.

Under the *Native Vegetation Act 1991* a Native Vegetation Management Plan would need to be prepared, especially to provide detailed information on the proposed SEB and management measures to improve the condition of retained vegetation (especially). It is considered that a whole-of-site approach is needed for the management of native vegetation and weed species (including the control of weed species, revegetation and encouraging natural regeneration). A risk assessment detailing the projected impacts to each matter of ecological significance should be developed (including appropriate mitigation measures). A comprehensive vegetation survey of the proposed clearance area would be required to correctly and accurately calculate the final SEB offset. Finalisation of the SEB, including an associated Management Plan, would be required prior to any clearance of native vegetation.

The AR concludes that a holistic, whole-of-site approach should be adopted for the preparation of a management plan that addresses the interrelated aspects comprising vegetation clearance, the management of native remnant vegetation (including protection measures and regeneration), revegetation, weed control, grazing control and fire management. It is considered that the Native Vegetation Management Plan should include remnant vegetation rehabilitation measures (both natural regeneration and plantings/direct seeding) and site revegetation in an expanded Plan - a Native Vegetation Management, Rehabilitation and Revegetation Plan (refer to Section 8). The Plan should also address the control of grazing pressure (especially kangaroos) and current / future degrading factors (especially dune erosion).

Landscaping around the built components should complement the retention and rehabilitation of native vegetation, with a focus on local species that have an 'ornamental' value, are low

maintenance and present a low fire risk. Water sensitive design measures for managing and using stormwater (and possibly reusing greywater or wastewater) should also be incorporated into landscaping. A Landscaping Plan should also be prepared as a separate document (refer to Section 8).

5.7.3 Native Fauna

The main threats to local and regional fauna from this type of development is generally from habitat loss (or fragmentation) and disturbance. Whilst much of the remnant vegetation that supports habitat for significant species would be protected, human encroachment and 'edge effects' from the development may have an impact on native fauna. In the long-term, some fauna may become acclimatised to human activity and even benefit from the development, especially as a result of revegetation/landscaping and weed/pest control. Bird species and other fauna may be attracted to water storages and irrigated parts of the course (especially waterbirds) or sources of food and shelter (including pests, such as foxes, and common species, such as Seagulls and Ibis). Some fauna (especially nocturnal species) may also be affected by human disturbance and lighting during construction and operation. Pedestrian access to intact vegetation patches would need to be controlled to minimise disturbance. Walking trails and access to beaches / headlands and lakes will also increase human disturbance. Construction activities may also affect fauna in the short-term, including direct injury/mortalities, entrapment in excavations (i.e. exposure or predation) and the risk of 'road kill' along transport routes.

The PER (Section 7) does not specifically address the potential impact on local and regional fauna populations, but concentrates on effects of vegetation clearance and habitat fragmentation (as a necessary precursor to likely fauna impacts). The PER does not include a comprehensive fauna survey. The BushRat survey undertaken collected observational data only. In particular, it 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 affected habitat. 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 would be managed.

The Response Document (Section 6.1) states that a fauna survey would be undertaken during spring (i.e. as a requirement of any approval).

The PER (Appendix L) does identify that the *Gahnia trifida* sedgeland fringing the on-site wetlands provides suitable habitat for the Swamp Antechinus (*Antechinus minimus*) and Swamp Wallaby (*Wallabia bicolor*). It should be noted the Swamp Antechinus was listed as 'Vulnerable' under EPBC

Act in May 2016 (i.e. after the PER was released for public consultation). It should be noted this species was not part of the proponent's EPBC Act referral and cannot be considered in the assessment by the Australian Government Department of the Environment and Energy. The Response Document states that the wetland habitat would be protected during construction or operation. It is noted that species utilising the wetlands are not just restricted to this habitat and would use the coastal dunes as a corridor for access to other suitable areas (especially during the breeding season).

DEWNR advised 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 (all listed threatened species under the *National Parks and Wildlife Act 1972*). The Limestone Coast and Coorong Action Plan (2011) indicates that White-bellied Sea-eagle, Eastern Osprey, Powerful Owl, Little Tern, Fairy Tern and a range of shorebirds (some of which are migratory) may be present in the locality. A range of threatened butterfly species were also identified. The Biodiversity Plan for the South East (1999) previously recorded the Beautiful Firetail, Olive Whistler and Southern Emu-wren.

The Hooded Plover (Eastern) (*Thinornis rubricollis rubricollis*), listed as 'Vulnerable' under the EPBC Act, has been recorded along local beaches and is sensitive to human disturbance during the breeding season. It is noted the removal of vehicle access to the beach could assist in this regard. This species was not part of the EPBC Act referral, as the proponent considered it would not be affected by the proposal. On-going fox baiting is currently undertaken by DEWNR to assist in protecting the birds from predation. The proposal could encourage an increase in fox numbers (and possibly feral cats and dogs) if they are attracted to the site and not adequately controlled.

The PER states that no threatened or listed ground-dwelling fauna species are likely to exist on the subject land and that habitat fragmentation is considered to be a manageable environmental issue. However, this statement cannot be fully substantiated in the absence of detailed fauna survey data. Thus, it is difficult to determine at this juncture the full effects on fauna populations using the site, local biodiversity or regional populations (especially for species that may use the land as a wildlife corridor/migration path or as part of a wider feeding/breeding territory). Additional factors are likely to be of relevance, including increased traffic along the Nora Creina Road where it passes by the Little Dip Conservation Park and other habitat areas could conceivably lead to increased road kill of native species. The provision of a detailed fauna survey will provide the necessary baseline data

upon which impacts and mitigation measures (of which there are a likely number) can be fully assessed.

In addition, some native species, such as kangaroos and wombats, would benefit from the artificial 'grassland' habitat created by the golf courses and are likely to have potentially significant impacts on the condition of grassed areas if not managed appropriately (as noted in golf courses throughout Australia). Possums could also increase in numbers, as they are likely to be attracted to built components of the development. A range of native bird species would also be attracted to various sources of food, water and shelter provided by the development

The AR concludes that, based on the finding of the fauna survey committed to in the Response Document, a risk assessment detailing the projected impacts to each matter of ecological significance should be developed with the appropriate mitigation measure and the responsible person/agency identified. These should be detailed in a Native Fauna Management Plan (refer to Section 8). The Plan should consider any existing management plans and any proposed mitigation measures should be determined in consultation with DEWNR and Natural Resources South East. It is considered that the Plan should include a comprehensive monitoring program for developing a data base on local fauna populations and to detect any possible impacts that may need to be managed. The Plan should also include strategies to address 'nuisance' native species.

5.7.3.1 Native Species Management

The establishment of permanent water sources and the introduction of irrigation and new grassed areas would attract a greater number of some native fauna species, especially the Common Wombat (*Vombatus ursinus*), Western Grey Kangaroo (*Macropus fuliginosus*) and possibly Eastern Grey Kangaroo (*Macropus giganteus*). Such species would need to be controlled over the site, as grazing pressure would affect the maintenance of the golf course to an international standard and would hinder landscaping, revegetation works and natural regeneration of native vegetation. The local kangaroo and wombat populations would be an essential tourism attraction of the proposal, so the control of populations would need to be undertaken in a sensitive manner. Increased kangaroo numbers could also affect surrounding properties (especially conservation areas).

Prior to construction, the location of wombat burrows would need to be undertaken, to ensure they are appropriately protected (i.e. through golf course design and management) or individuals relocated to suitable habitat if burrows are affected.

It should be noted a permit is required under the *National Parks and Wildlife Act 1972* for the capture, handling or destruction of any native species.

On this basis, the AR concludes that a Kangaroo and Wombat Management Strategy should be developed, as part of the Native Fauna Management Plan (and referenced in the Construction EMP and Operational EMMP) to ensure responsible and sustainable management, including monitoring of population numbers and a range of control measures (such as fencing and physical barriers around the golf course perimeter, around native vegetation patches to be protected/restored or around revegetation areas). The Plan would need to be prepared in consultation with DEWNR.

5.8 Nationally Threatened Species

Following a referral made by the proponent under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the proposal was deemed a 'controlled action' that requires assessment and a decision under the Act. This was due to the potential impacts upon nationally 'listed threatened species and communities', including the Little Dip Spider-orchid (*Caladenia richardsiorum*) and the Orange-bellied Parrot (*Neophema chrysogaster*). In accordance with the Bilateral Agreement (Assessment) between the South Australian and Commonwealth governments, the potential impacts and mitigation measures (including offsets) for these species would be assessed in this AR (i.e. in consultation with the Australia Government Department for the Environment and Energy). Following assessment, the AR would be used by the Commonwealth Minister for the Environment, who will then make a decision whether or not to approve the proposed action under the EPBC Act. It should be noted this decision would be an environmental decision specific to the listed threatened species under the EPBC Act.

There is a known location of a significant Little Dip Spider-orchid (LDSO) population that is strategically located in the region between nearby populations in the Little Dip Conservation Park (LDCP) and a Heritage Agreement (H.A.) area, especially along the 'flight path' for pollinating wasp populations. There is a level of uncertainty as to whether the full extent of distribution known or whether other populations may exist, due to the relatively 'cryptic' nature of the species. The population is proposed to be surrounded by golf holes and access pathways.

There is known coastal habitat on the site for the Orange-bellied Parrot (OBP) that is along a migratory pathway, with records of sightings in the locality (but not on the site). The species is slowly recovering (primarily through a breeding and reintroduction program), so that actual or former habitat is critical for species to become re-established. Coastal dune habitat is proposed to

be removed or fragmented and a higher level of human activity / disturbance introduced. The golf course itself is unlikely to provide suitable feeding or roosting habitat. The species is susceptible to human disturbance and is likely to avoid the site in preference for suitable habitat in the locality (such as the LDCP and H.A.).

The PER indicated the current condition of native vegetation communities (and habitat), including areas of medium to high quality, with few degrading factors. Thus, the status-quo is likely to maintain sustainable populations of flora and fauna (i.e. a regenerated coastal dune system).

When determining the potential impacts on threatened species, the following hierarchy needs to be considered:

- Level of **Avoidance**: Direct impacts from clearance (quantifiable level of habitat loss for OBP). Indirect impacts from edge-effects and fragmentation that can potentially reduce the condition of existing OBP habitat and threaten the population of LDSO, especially from weed invasion (including turf species), dune erosion, altered hydrology (including promoting weed invasion), increased kangaroo grazing pressure and herbicide/pesticide spray drift (including impact on wasp populations). Disturbance of OBP from human activities (both visitors and maintenance operations).

- Level of **Mitigation**: Potentially improved condition of habitat due to proposed management of current threatening processes, primarily the control of weeds and pests (and exclusion of kangaroo grazing pressure for LDSO). Potential control of off-road vehicles along beach. Degree of threat abatement not quantified in the PER. However, proposed improvements need to be weighed up against the introduction of additional threats (or escalation of current threats), as listed above. Thus, a greater level of threats are likely to be introduced that may not be avoided or minimised to an acceptable level.

- **Residual** Impacts: The potential impacts substantially outweigh the potential improvements likely to result from the proposed management measures. If the level of mitigation and residual impact is acceptable, then an off-set is required to compensate for the level of residual impact. The value of mitigation measures (and a greater level of avoidance) could be achieved if a greater buffer area was proposed around the LDSO population.

- **Off-sets**: On-site off-set can be achieved if proposed mitigation measures outweigh residual impacts (i.e. an environmental benefit arises from addressing current threatening processes).

Otherwise, an off-site off-set is required to compensate for impact through other measures (such as improving local populations or habitat). For the LDSO, options could include increasing population numbers in the region (such as in LDCP and/or H.A.) through replanting (and possibly translocation). The purchase of suitable land of conservation value could also be an option. For the OBP, the purchase of suitable land of conservation value could be an option or a financial contribution for actions identified in the current recovery program (noting that the Australian Government has advised the Recovery Plan for the species will be undergoing review in November 2017).

The PER and Response Document provided an analysis for each species using this hierarchy. It should be noted that additional work was completed, in consultation with the Commonwealth Government, to provide a greater level of detail around the potential threats to the species, the mitigation measures required, the relationship with the relevant species recovery plans and the appropriate offsets being calculated.

5.8.1 Little Dip Spider-orchid

The Little Dip Spider-orchid (*Caladenia richardsiorum*) was recorded within the project site with approximately 100 individuals found growing under non-local native species established at the site, near parts of the proposed northern golf course (between holes 14 and 15, as shown below). These individuals were patchily distributed in a 30 m x 10 m area, under *Eucalyptus gomphocephala* (Tuart Gum – native to WA) and *Leptospermum laevigatum* (Coast or Victorian Tea-tree), which is considered to be atypical habitat. 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. This location has now been fully incorporated into the layout of the golf course with the entire population being avoided.

Figure 7: Approximate Location of the Little Dip Spider Orchid (indicated by the red dot)

The species is listed as 'Endangered' under the Commonwealth *Environment Protection and Biodiversity Conservation Act (1999)* and has a limited distribution of approximately 900 km^2, occurring in coastal vegetation only within the South East Region of South Australia (i.e. between Kingston and Southend).

The Native Orchid Society of SA advised in its submission that the population is considered to be the largest and most central of the species distribution. A 2014 DEWNR co-ordinated survey recorded 150 plants at Nora Creina out of a total of 600 individuals found along the whole coastline from Kingston – Beachport. Due to the scattered nature of populations, it is important that corridor links be maintained with pollinators, their food plants and the underground fungal species on which the orchid is dependent upon.

Threats to the Little Dip Spider-orchid, as identified in the National Recovery Plan for the species, include:

- 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 by rabbits threatens some sub-populations in the Canunda region; Grazing by Western Grey Kangaroo (Macropus fuliginosus) has the potential to be a problem in the Nora Creina area - potential significant impact because of likely increases in herbivore numbers.
- 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.

A calculation of an offset area in accordance with EPBC Act requirements has been completed and the proposed offset area mapped (calculated to be 1.11 hectares). This proposed offset is yet to be formally accepted by the Australian Government Department for the Environment and Energy. This offset is separate, but may overlap with any SEB offset required for the project pursuant to the *Native Vegetation Act 1991.*

The Little Dip Spider Orchid would also be protected by the following measures:

- Exclusion fencing of a suitable construction and height to prevent access by vertebrate grazing and access by visitors.
- A 50 metre buffer from the edge of the golf greens / fairways.
- Control of run-off and fertiliser (i.e. so that they do not become a 'threatening process'), which would be addressed in various management plans.
- 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 species.
- The implementation of an offset area.

A program of regular monitoring, in line with recommendations in the Recovery Plan, would provide 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. Measures to mitigate and manage impacts in the orchid would need to be detailed in a Threatened Species Management Plan (i.e. if approval is granted), which would need to be prepared in consultation with DEWNR and the Australian Government Department of the Environment and Energy (refer to Section 8). References to the Plan should also be made in the Native Vegetation Management, Rehabilitation and Revegetation Plan, where relevant.

5.8.2 Orange-bellied Parrot

The Orange-bellied Parrot (*Neophema chrysogaster*) is a migratory species that breeds in south-west Tasmania (November - March) and migrates to south-eastern Australia in the non-breeding season. The species is listed as 'Critically Endangered' under the EPBC Act.

The habitat in south-eastern Australia is comprised of coastal and sub-coastal saltmarsh, vegetated sand dunes, heathland, grassland, and pasture (generally within 10 km of the coast). Within the South East Region, the foraging habitat is comprised of beach fronts and dune scrub. The species roosts within dense shrubs that are located within a few kilometres of foraging sites

Threats to the Orange-bellied Parrot, as identified in the National Recovery Plan for the species, include:

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

The Recovery Plan recognises that many locations are now no longer occupied by the species, due to their very low population. However, any habitat where Orange-bellied Parrots have been recorded since the year 2000 is considered essential for the conservation of the species. A total of eight observations of the species have been recorded in South Australia since 2010. These observations have occurred primarily in the lower South East, with the last record at Nora Creina (although not on the project site) occurred in 2007. The Response notes it has been many years since this species 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.

Given the population size and relatively few records of the species in South Australia over the past decade, the PER considered it unlikely that the species would occur within the project area. Furthermore, if the species were to occur, their presence would be temporal, due to the nomadic nature of their winter distribution. Whilst food resources were identified as being well distributed over the site, this does not necessary constitute foraging habitat, as habitat structure is an important determinant in the suitability of foraging locations. Certain vegetation associations were identified as being suitable for roosting, primarily due to a high density of shrubs.

The Response Document calculated that 48.8 ha of potential roosting habitat could be lost and that an offset would be required. The proponent considers that clearance of potential roosting habitat was predicted to have a minor impact on the Orange-bellied Parrot, given that 43.9 ha of already cleared land is to be converted in to grassed tees, practice greens and fairways, which may create foraging habitat for the species (as has occurred at a golf course in Queenscliff, Victoria), although the increased presence of people on site may make this habitat undesirable. A proposed offset area has been calculated to total 90 hectares and would encompass the largest continuous area of native vegetation across the site (and comprise three vegetation communities). The condition of native vegetation within the proposed offset would be improved through weed control, while effects of grazing would be mitigated through the control of rabbits and Western Grey Kangaroos (i.e. which could lead to the subsequent regeneration of native species/communities). The Australian Government Department of the Environment and Energy has yet to determine the acceptability of the proposed offset.

Measures to mitigate and manage potential impacts on the Orange-bellied Parrot would need to be detailed in a Threatened Species Management Plan, which would need to be prepared in consultation with DEWNR and the Australian Government Department of the Environment and Energy (i.e. if approval is granted). References to the Plan should also be made in the Native Fauna Management Plan, where relevant (refer to Section 8).

The AR concludes that the avoidance and mitigation measures proposed to reduce potential impacts to threatened species and communities have been well considered (or will be adequately addressed by management plans) in regards to the Little Dip Spider Orchid and Orange Bellied Parrot. However, some residual significant impacts to these species still exist. Offsets have been proposed by the

proponent though their suitability is yet to be formally accepted by the Department of Environment and Energy. Further negotiation of offsets will need to occur with the Department of Environment and Energy, before a decision on the project's acceptability under the EPBC Act can be finalised. This does not prevent the South Australian Government from making a decision.

In regard to the environmental record of the proponent, which is a separate requirement of the EPBC assessment framework, it should be noted the proponent has not previously undertaken the type / scale of development proposed in a relatively sensitive environment. However, the proponent has previously undertaken an assessment process and the construction of an Abalone Farm at Smith Bay on Kangaroo Island, which is the largest such aquaculture facility in the southern hemisphere. It is also located adjacent a sensitive marine environment. In addition, as the landowner, the proponent has undertaken some environmental restoration measures, such as removing stock grazing from the dunes and protecting the Scanlon Lake wetlands (including the preparation of a management plan and fencing).

For the preparation of the PER and Response document, the proponent employed suitably qualified environmental experts to undertake investigations (especially coastal processes and ecology). It is expected that, if approval is granted, a range of experienced experts / professionals would be employed to undertake the preparation of the Environmental Management Plan framework and during construction and operation to ensure adequate impact mitigation and environmental protection measures are implemented. On-going monitoring and remediation would also be required.

5.9 Aboriginal Heritage

The proposed site lies within country belonging to the Bunganditj people who are recognised as the traditional spokespeople for this country. The Bunganditj lived along the coast from Guichen Bay to the Glenelg River and inland to Reedy Creek. This part of the South East was occupied in a seasonal manner with Aboriginal people tending to be concentrated along the coast in the summer months and then retreating inland to more sheltered locations on higher ground when weather conditions deteriorated and abundant rain filled the coastal swamps.

Shell middens located adjacent to rocky shores and reef platforms are the most common type of sites found in the region. The diverse array of edible molluscs available, meant the coast was the richest resource zone and exploited accordingly. Other sites can include stone artefact scatters, rock shelters, art sites, burial grounds and quarries located on the coast and adjacent hinterland.

The PER (Section 13 and Appendix R) states that a portion of the development area had been the subject of an investigation undertaken in 2006 for an Abalone farm proposal, which identified five new sites (German Point Sites 1-5) and the relocation of one previously recorded site (Errington Hole Midden). Refer to Figure 8 for the location of the sites and Figure 9 for the spatial extent of each site. A cultural heritage survey was undertaken in conjunction with the South East Aboriginal Focus Group (SEAFG) for those parts of the site not previously investigated. Twelve new areas containing cultural material (Nora Creina Sites 1-12) were identified. All of these sites have now been entered onto the State Government Central Archive (Register of Aboriginal Heritage Sites and Objects).

Most of the 'German Point' (GP) sites on the North Course comprise low density middens (with some scattered stone artefacts) located in dune swales and are considered to be of low archaeological significance. One site (GP2) is an extremely dense midden of moderate-high significance, due to stratified deposits and a large number of stone artefacts. The 'Nora Creina' (NC) sites on the South Course comprise middens and scattered stone artefacts predominantly located immediately on the coast (i.e. the cliff or foredune swales) and vary in density and significance from low-high. The figures below show the location/numbering and extent of all sites identified.

Figure 8: Locations of recorded Aboriginal heritage sites (as identified and numbered by previous and current heritage surveys)

Figure 9: Spatial extent of Aboriginal heritage sites.

It should be noted the Errington Hole Midden is only partly contained on the subject land, the coastal reserve (Crown) and the Little Dip Conservation Park. It is identified as a large area, which appears to be a group of discrete sites grouped together, with the golf course layout affecting about one-third of the total site area. It consists of a broad scatter of shell material (and some scattered stone artefacts) on the headland that has been damaged by natural erosion and vehicle / pedestrian access to the beach.

No sites of mythological significance were identified and the land is not subject to any Native Title claims.

The original golf course layout was designed to avoid the most significant sites (i.e. NC Sites 3, 6 and 9 and the Errington Hole Midden). The PER survey report (Appendix R) recommended that all attempts be made to preserve the other sites and that, in the event that some of the sites would be disturbed, site mitigation works be undertaken prior to construction. Sites that would be affected should have their details recorded, prior to disturbance. Cultural materials could be collected (or relocated) and archaeological test excavations be undertaken to collect samples for radiocarbon dating (i.e. provided appropriate authorisations are granted under the *Aboriginal Heritage Act 1988*).

The Response Document (Section 4.3) states that the courses have now been redesigned to further avoid affecting sites as much as possible. It is considered suitable efforts have been made to identify sites of Aboriginal heritage significance on the subject land, to avoid them wherever possible or to minimise impacts on them through design changes.

Prior to construction, a Cultural Heritage Management Plan would be prepared that would detail mitigation measures and protocols for the preservation of the locations identified above, and any damage or destruction (or otherwise) to the remaining locations (including any applications necessary under section 23 of the *Aboriginal Heritage Act 1988*). The PER acknowledged that the coastal dunes are more likely to contain ancestral burial sites and this elevated risk would be addressed in the Plan. The Plan would provide a framework for engagement between the interested parties (especially the SEAFG) regarding the treatment of Aboriginal heritage on the land. It will also assist in the identification and development of the walking trails as well as informing the development of the education and cultural centre. The PER states the Tourist and Function Centre would include an area set aside for the display of Aboriginal heritage and education, which recognises the importance of the land and the wider area.

Contingency plans would also form part of the Construction Environmental Management Plan to ensure that, if any Aboriginal artefacts or remains are discovered during the construction phase, an appropriate process to deal with such an event is in place. This should include construction works being monitored by Traditional Owners.

The AR finds that sufficient investigations have been undertaken to identify Aboriginal heritage site that could be affected, with the proposal designed to avoid such sites as much as possible.

5.10 Land Management

During construction, the site would be affected by widespread vegetation clearance, earthworks and cut/fill activities to establish the golf courses and associated buildings and infrastructure. Disturbance to land forms and soils could result in soil erosion (especially dune 'blowouts') and altered drainage. Exposed surfaces could also lead to weed infestation. During operation, fragmentation of native vegetation cover (i.e. to establish the course) would increase the amount of 'edge effects', which could also lead to increased erosion and weed invasion (Including turf grasses).

5.10.1 Pest, Plants and Animals

A substantial number of introduced plant species were identified for the site, although weeds form a low percentage of overall vegetation cover. Weeds are a degrading factor for remnant vegetation, especially along interfaces with agricultural land, access tracks, fence lines and cleared areas. A golf course would present a risk of increased pest plant and weed species abundance and cover, but also an opportunity for better control of them

The PER indicates that as 25% of the site will be dedicated to the golf course, the remainder can be focussed on revegetation and rehabilitation, including pest and weed management. The PER proposes the removal of weeds and pests, protection of the majority of the site and revegetation and restoration programs. In particular, the PER identifies that invasive weeds and pests, such as African Boxthorn, Gazania, Pyp Grass, Coastal Tea-tree and European Rabbits (as well as uncontrolled human traffic), would be controlled in retained native vegetation as part of an impact mitigation and offsets package. The PER states that procedures to avoid the transfer of weeds, pests and pathogens onto the site via plant, equipment and people would also be implemented as part of a weed control plan for the site.

The PER provided a list of weed species and their percentage of cover, as part of the vegetation survey. It considered that weeds are having a significant impact on the condition of remnant native vegetation. Numerous small 'plantations' have previously been established within the native

vegetation, mostly introduced species (such as Norfolk Island Pine, Cypress Pines, Aleppo Pines and Tuart Gums) that are still surviving and, in some cases, spreading as woody weeds (along with invading African Boxthorn). It should be noted that such 'plantations' do not cover a substantial area, mainly comprising 'plantings' of individuals. Rabbits and the European Fox were also observed and are also contributing to an ongoing biodiversity, soil and weed degradation threat to the wider area.

However, the PER did not provide adequate baseline information or description of the potential impacts on existing ecosystem (or the potential for exacerbation of current impacts as a result of the proposal). In addition, the PER does not consider the potential for common species to become overabundant due to changes in the ecosystem arising due to the development.

The Response Document considers the native Coastal Wattle (*Acacia longifolia* var *sophorae*) has also become a 'problem species' that has reached an overabundance and is hindering the regeneration of other native species. It should be noted that the species is a natural colonising plant and a key species in the regeneration of coastal dune communities (especially to reduce erosion / sand drift and to provide a suitable micro-climate for the growth of other species). The proponent considers that selective removal of Coastal Wattle plants may be a suitable option for encouraging natural regeneration or assist with targeted revegetation.

The development would require active weed control, with an emphasis on invasive species, but also measures for controlling fairway grass. Turf grass types selected should be non-invasive. The layout of the irrigation network should be designed to result in controlled watering patterns that would restrict grass growth to the fairways and greens. It is considered that native species (either remnant or revegetated) should be used alongside and between fairways (i.e. the 'rough') to establish a ground cover that not only suppresses the spread of turf grass and weeds, but also provides habitat. It is considered the Golf Course Resort Management Plan should address the on-going management of turf species, such as couch (refer to Section 8).

The Response document identified that weed and pest management would need to be managed though Management Plans. DEWNR advised that there is a need to undertake further studies to identify current pests, weeds and invasive species and to outline proposed management strategies. The Plans also would need to address the need for selective weed control to retain vegetation that may provide habitat for threatened species.

The AR concludes that weed and pest management can adequately be managed via the development of specific pest plant and animal management strategies and actions under the Environmental Management Plan framework (refer to Section 8).

5.10.2 Erosion and Drainage

The site is exposed to the Southern Ocean, and as such is routinely exposed to severe wind and wave conditions. Wind-blown movement of sand is predominant along this coastal region, with blow-outs (i.e. significant events related to wind-blown sand) evident and common. The PER outlines measures that can be taken to reduce this impact, including revegetation of the dunal system, dune fencing (to trap wind-blown sand), pest management and appropriately located access paths across the dunes.

The PER indicates that land management practices would be undertaken to improve and enhance the existing native vegetation on site to enhance dune stability. The proposal does not involve any infrastructure that would cross the beach. However it is expected that pedestrian access to the beach will occur, and is envisaged at limited locations. The PER acknowledges that pedestrian damage to dunes can be controlled through the use of appropriately located and designated access paths, fencing and landscaping (to encourage use of the access paths).

The PER indicates that if any parts of the golf course are affected by erosion, then repairs and stabilising works would be undertaken. DEWNR advised that any repairs or stabilisation works would be the responsibility of the proponent to fund and undertake (i.e. as a conditional requirement, if approved). In addition, any proposed future coastal protection works required to protect private property from coastal erosion would require a separate development application process to be undertaken (i.e. as the works would occur on Crown land that is not within the ambit of the major development declaration). An assessment of the potential impacts of protection works on the beach, foreshore and coastal processes would be required.

Whilst the golf course is intended to be 'laid' over the natural topography, the application of irrigation could result in additional surface water drainage (especially to swales and low-lying depressions). The buildings, carparks and access roads would introduce substantial areas of impervious surfaces that would generate runoff and concentrated drainage flows. Such areas would need to be designed and maintained to minimise water erosion or localised flooding. Water sensitive design features would need to be adopted.

This AR concludes that the proponent is aware of measures to protect the dunes from damage, especially from excessive wind-blown movement, whilst still enabling the natural function of the system to continue. The use and maintenance of appropriate sand dune /sand drift measures would also need to be addressed, especially during the construction period (such as in a Soil Erosion and Drainage and Management Plan). The use and maintenance of access paths, signage, fencing and landscaping would also need to be further addressed. Management measures and monitoring requirements would need to be detailed in a Coastal Management Plan as part of the Environmental Management Plan framework (refer to Section 8).

5.10.3 Land Contamination

The PER included a preliminary site assessment (i.e. in accordance with National Environmental Protection Measures requirements) that concluded:

- No observable evidence of site contamination associated with the current uses.
- The potentially contaminating activities associated with the site are not considered to pose a current risk to the site, as they either occurred a long time ago (e.g. weed spraying) or not at all.

The PER (Appendix M) states that given the site geology is limestone, it is considered highly unlikely that acid sulfate soils are present. An Acid Sulfate Soil Management Plan would be prepared, if the excavation of soils in the north east portion of the site occurs (i.e. which has the most potential for acid sulfate soils). Typically, lime is be used to neutralise potential acid sulphate soils.

Whilst no sampling of soil or groundwater was undertaken to inform the PER, the EPA Site Contamination Public Register does not contain any notifications or site contamination audits for Nora Creina. In addition, there is no record of dangerous substances being licensed for use at the site. The EPA advises that the investigations report in the PER (Appendix M) is generally adequate. The EPA would need to be consulted on the preparation of Environmental Management Plans to ensure the proposed controls to minimise potential site contamination are adequate.

This AR concludes that appropriate consideration has been given to land contamination at the site and that this can be effectively managed via conditions, should approval be granted.

5.11 Waste Management

The proposal would generate a number of different waste streams during the construction and operational phases. These could include waste packaging, building materials, waste materials (including some that are contaminated)/products (such as soils and plant material), organics

(including `grass clippings and food), refuse (especially litter and scavenging by native or feral species) and recyclable materials. Effluent, greywater and stormwater would need to be suitably treated and disposed of or re-used (including any residues from water filtration). Waste would also be generated by the demolition of existing shacks, buildings and structures, which would need to be segregated and reused or disposed of.

The PER states that waste management would have a focus on recycling and resource recovery wherever possible, but it is likely there will be a need for some waste to be removed from the site. The details of how this would operate would be considered during detailed design phase. The PER does not specifically detail the likely waste streams that would be generated by the proposal, nor measures to manage waste (especially for waste minimisation and recycling). The capacity of existing local and regional collection and disposal facilities is not discussed. It is envisaged that present capacities would be able to absorb the expected waste generated.

The AR finds that the issue of waste management is a known matter and can be controlled by standard conditions. Accordingly, it is considered that a Waste Management Plan would need to be implemented for the proposal that would:

- Assess the wastes being generated.
- Determine current disposal options.
- Identify options for waste management that are economically and environmentally suitable.
- Includes a component of staff education so that all employees are aware of waste minimisation and recycling.

The Plan should also include recycling initiatives for materials, such glass, cardboard/paper, scrap metal and batteries (refer to Section 8). With regard to recycling initiatives, food waste could potentially be one of the largest sources from the resort. The Plan should make reference to alternatives to waste management, such as composting and the recycling of plastics. Motor oil and hydraulic fluid should be treated (such as via a 'WaterStax' system or similar) to be reused on the course.

Any waste soil or construction and demolition (C&D) waste that is imported for reuse on the site as waste derived fill (WDF) must be consistent with the EPA *Standard for the Production and Use of Waste Derived Fill* (updated 2013). The management of such waste would need to be further detailed in the Plan.

Importantly, the Waste Management Plan should consider the Waste Hierarchy and the Waste Strategy and demonstrates compliance with the *Environment Protection (Waste to Resources) Policy 2010*.

5.11.1 Waste Hierarchy

The waste management objective in the *Environment Protection (Waste to Resources) Policy 2010* aims to achieve sustainable waste management by applying the waste management hierarchy consistently with the principles of ecologically sustainable development. The hierarchy describes the least preferable method of waste management as being disposal, and the most preferable being to avoid waste. There are also a number of options in between, including re-use and recycle. *South Australia's Waste Strategy 2011-2015* (Zero Waste SA, 2011), combined with targets for specific waste streams, aims to achieve the State's vision of South Australia being clean, green and sustainable.

5.12 Emissions

5.12.1 Noise

The PER indicates that there are a limited number of sensitive receivers in the area (i.e. residents). The closest dwelling is located approximately 1.3 km from the proposed Clubhouse / Resort precinct. The next closest dwellings are approximately 3.7 km and 6 km away.

The PER identified that noise impacts may occur during parts of the construction phase (including heavy vehicle movements) and from traffic during operation, although it was anticipated these impacts would be minimal.

The development would introduce new sensitive receivers in the form of visitors using the on-site accommodation, the clubhouse and wellness retreat. It was anticipated there would be minimal noise impacts on these new receivers. The PER acknowledged the need for compliance with the requirements of all relevant environmental legislation, specifically the *Environment Protection (Noise) Policy 2007.*

The EPA advised that noise during operation is generally unlikely to have off-site impacts. However, the EPA notes that from the concept design, it appears that the access road could potentially pass within relatively close proximity of the nearest noise sensitive receiver (i.e. the residence north of the site). It should be noted the location of the site access road was not identified in the PER. Given the anticipated level of vehicle movements, especially on Saturdays (expected 181 trips) and during

peak hours, unacceptable nuisance may arise for the residents of the closest house. To address this, the EPA requires that the alignment of the site access road 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. If approved, this should be a conditional requirement (i.e. addressed through the provision of final detailed designs).

This AR concludes that the management of potential noise impacts from the construction of the development and use of the access road can be adequately addressed through design measures and an Environmental Management Plan framework (refer to Section 8).

5.12.2 Air Quality

The PER identified that air quality impacts (i.e. dust) may occur from traffic during parts of the construction phase and from traffic during operation, although it was anticipated these impacts would be minimal.

The development would introduce new sensitive receivers in the form of the on-site accommodation, clubhouse and wellness centre. It is expected that there will be minimal air quality impacts on these new receivers.

The PER acknowledged the need for compliance with the requirements of all relevant environmental legislation, and specifically identifies the need to comply with the *Environment Protection (Air Quality) Policy 2016*. The PER considered that the size, location and type of cattle farm makes it unlikely to cause any odour impacts to the nearest sensitive receivers. The EPA is satisfied that a small grazing farm would not cause any odour issues.

This AR concludes that dust generated from the construction and operation of the development is unlikely to have any unreasonable off-site impacts. Management of potential air impacts (especially dust) from the construction of the development and use of the access road could be adequately addressed by an Environmental Management Plan framework (refer to Section 8).

5.13 Traffic and Access

A new entry point would be created off Nora Creina Road to provide the main access for vehicular traffic to/from the proposed development. The PER did not specifically identify the location of the access road (or construction access routes). The design of the new connection and its intersection with Nora Creina Road would be undertaken as required by relevant Australian Standards and Austroads Guidelines (including the requirements of road widths, lighting, and signage and road

surface treatments). The design and construction of the new access road would also need to minimise impacts on the nearby residence, including through an Environmental Management Plan framework.

The PER (Section 10 and Appendix Q) states there is no existing traffic data available for Nora Creina Road, which has a 100 km/hr speed limit and is unsealed for most of its length. The traffic report has assumed Nora Creina Road experiences low levels of traffic as it is primarily catering for local traffic movements. No crashes have been recorded along this section of Nora Creina Road. Having considered the land uses and accommodation types associated with the proposed development, the traffic and parking assessment concludes that the site will not function like a 'standard' (i.e. metropolitan or outer- metropolitan) golf course as it will attract people for multiple-night stays in the on-site accommodation.

The PER envisages the proposal would generate peak hour demands of 45-59 vehicles on weekdays and 92-95 vehicles on weekends, with maximum daily trips likely to occur on Saturday (181 vehicles per day). The peak hour traffic is expected to be just over a vehicle per minute. The PER considers that the proposed development is not expected to adversely impact on the surrounding road network and the Nora Creina Road has the capacity to accommodate the additional traffic generated by the development. The delivery and waste collection vehicles associated with the proposal are likely to be typical delivery/waste trucks and would occur outside the busy periods of the day (e.g. early mornings).

Thus, the PER considers there are no changes or upgrades required to other junctions or roads outside the subject land apart from Nora Creina Road. There is also no traffic-based requirement to seal Nora Creina Road although this would be highly desirable from a tourism perspective. The Response Document states the proponent has held discussions with the Council about sealing the road. The AR concludes that upgrading of the access point alone is required, with the impact of the development on Nora Creina Road to be the subject of ongoing review and future dialogue with Council.

The proposed golf course resort facility will have 112 parking spaces, which is considered to be acceptable for the site, the land use type and functionality of the proposal.

The detailed design of the golf course will also allow for emergency services vehicles to access parts of the development not normally open for vehicular traffic. To enable this, an all-weather access

road would be required. There will also adequate areas on site where a helicopter can land in the event of the need for a medical evacuation. The AR supports this approach.

5.14 Infrastructure Requirements

The proposed site is relatively remote from existing mains water supply, electricity supply, gas, sewer, stormwater and telecommunication networks, with the closest connection points being located at Robe (i.e. approximately 15 km from the site). Although, a low voltage powerline does service the site. It is not anticipated that mains water, sewer or gas will be brought to the site. Thus, new or upgraded infrastructure would need to be provided to meet demand generated by the proposal.

The design and location of infrastructure has not been identified, including:

- Water storage and supply pipelines.
- Electricity supply lines (if an extension is required).
- Stormwater management measures (esp. for collection, storage and supply).
- Improvements to telecommunications (especially wireless and/or mobile phone services).

5.14.1 Power Supply

Whilst the site has a limited mains power supply connected (i.e. a low voltage SWER line), it has no connection or close access to a high voltage electricity supply. The PER states a new 33kV transmission line would need to be connected to the site. An upgrade of the existing line to 33kV would also be required. The works would require easements over both the subject land and other land. It is likely the power route would be overhead across the grazing land and underground in the dune section, potentially at the location of the wastewater treatment plant. The indicative cost is $2.3 million.

5.14.2 Water Supply

The PER states that mains water is not available to the subject land and it is not cost-effective to extend such infrastructure to the site.

The PER states that arrangements are already in place to purchase water licences for groundwater extraction. All roof catchment stormwater would be captured for use and careful consideration would also be given to the re-use of grey water generated by the development. As such, it appears a sufficient and fit-for-purpose water supply could be made available for the purposes of the establishing and maintaining the golf course and operating the resort.

The location of the potential water source (i.e. bore or borefield) and route of the supply pipeline have not been identified. Thus, assessment of this component cannot be undertaken. The PER states the precise nature of the requirements for water storage are also unknown at this stage. Water loss through evaporation from any storage dams should be minimised, such as through the use of a surficial polyethylene membrane (i.e. floating cover). It will also be necessary to store a sufficient amount of water for fire-fighting purposes.

5.14.3 Effluent Treatment and Disposal

The PER states that a mains sewer is not available to the subject land and does not consider it feasible to service the land in such a way. Thus, all wastewater treatment would need to be undertaken on-site using a packaged, modular treatment plant appropriately dimensioned and sited to avoid nuisance to the normal operations of the golf course and resort (as well as minimise any potential for environmental harm). The precise size and nature of the plant would be determined at the detailed design stage (i.e. when approximate volumes can be determined), including a staging process where additional modules can be added as demand increases.

The PER anticipates that the wastewater treatment plant, as well as water storage more generally, would be located on the flatter ground at the back of the dune system, between the proposed practice green and grazing land. This places the infrastructure roughly at a mid-point between the two golf courses as well as reasonable proximity to the vineyard and beef farm, where re-use water could also be used. However, this would require vegetation clearance and it may be more appropriate to locate such infrastructure on nearby cleared agricultural land (especially if it is closer to potential wastewater irrigation areas).

Such a treatment plant is likely to require an EPA licence with its specifications and on-going operation managed through conditions of any such licence.

5.14.4 Stormwater Management

The PER envisages that most (if not all) of the accommodation areas will be serviced through rainwater harvesting, so a key objective is to capture as much roof runoff as possible for re-use. Stormwater capture from hardstand areas (such as carparks and access roads) and its treatment and re-use (particularly for irrigation) would also be carefully considered during the detailed design stage. It is anticipated that roof run-off would not be allowed to mix with stormwater contaminated by hardstand areas.

In conclusion, the proponent has demonstrated that all necessary infrastructure to support the development can be suitably provided to meet the relevant standards and legislative requirements. All infrastructure would be provided at the proponent's cost.

5.15 Construction and Operational Effects

The PER (Section 11) states that for the conceptual stage, all possible and reasonable care has been taken to identify the constraints of the site, as well as attributes that should be preserved or rehabilitated, with the proposal designed around them. In particular, the golf course has been planned (at conceptual level) to avoid areas of Aboriginal heritage importance and dense vegetation, whilst also having regard for the land forms (dunes and swales), lakes and surrounds.

The clubhouse, retreat and accommodation are planned for a large, fairly flat and partly cleared area between the two golf courses to achieve commanding views of the ocean. Existing track alignments and already cleared or degraded areas will be used wherever possible. The vineyard and cattle farm are located on the already cleared grazing land at the rear of the property and the on-site lakes are already fenced and protected.

The PER notes that a detailed design process will be required to determine specific detail in relation to:

- Cut and fill requirements.
- Sourcing of construction materials.
- Use of recycled materials (including for road construction).
- The amount, location and handling of excavated material, vegetation and general construction waste that would need to be disposed of.

The PER identifies the need for an Environmental Management and Monitoring Plan to ensure that environmental management best practices are employed during the operation of the development.

Staging of construction has not been detailed in the PER. The PER identifies that the total construction time for a single (18 hole) golf course is 9-12 months, plus a 'grow in' period for the grass prior to the course being made available for play. The PER also indicates that it is likely that the resort component would be constructed, owned and managed by a third party. However, this is yet to be determined. This would not hinder the ability to commence preparation of course construction.

This AR acknowledges that Construction and Operational Environmental Management Plans would need to be prepared to ensure the implementation of environmentally acceptable work practices and methods for monitoring, reporting and auditing construction impacts and practices. The Construction Environmental Management Plan would also need to include a Soil Erosion and Drainage Management Plan.

This AR also acknowledges that the ownership and management of the golf course and resort components has not yet been determined. However, the Environmental Management Plan framework would apply to all components of the development, regardless of ownership and management arrangements.

This AR notes that, if approved the construction of the proposal would need to be substantially commenced within 2 years and completed with 5 years. Essential infrastructure works (especially power and water supplies) would need to be the first component commenced. Commencement of golf course construction should not occur until the essential infrastructure has been completed. The Clubhouse, tourist accommodation options, Tourism and Function Centre and wellness retreat should be commenced shortly after the course has been completed. It is expected the tourist accommodation would be built in stages, in response to demand.

6 Hazard and Risk Management

The PER (Section 12) states that hazards and risks would need to be identified and documented for both the construction and operational phases, along with contingencies and action plans should any of the hazards or risks arise. A risk management analysis was not undertaken. The PER considers the two main risks to the public, once the golf course is operational, to be associated with the cliff edges and snakes.

The main risk associated with the proposal is considered to be the risk posed by bushfire, especially for the safety of visitors. Other risks that need to be suitably managed include public risks (such a public safety and road safety along Nora Creina Road) and environmental risks (such as beach / dune erosion, sand drift, cliff stability, ground water mounding, pest plants/animals, bio-security, pollution and chemical storage and handling).

The AR finds that these risks can be managed in accordance with established protocols and appropriate management plans.

The site is currently not open to the public and as such there is no risk to public safety during the construction phase, particularly as the site is set-back a considerable distance from the main road. Signage ensuring that the presence of construction activities would further minimise this risk.

In terms of risks the most significant elements are considered to include the following.

6.1 Fire

The Robe Council Development Plan (2016) identifies the western part of the site, comprising the sand dune system, as being within a 'High' risk Bushfire Protection Area, whilst the eastern part of the site, which is mainly cleared grazing land, is within a 'General' risk area. Large expanses of remnant vegetation to the north and south of the site would also pose a significant bushfire risk to the development.

The siting of buildings within areas of native vegetation would pose a significant bushfire threat (unless additional vegetation clearance is required). Adequate separation distances from adjacent remnant vegetation and landscaping or vegetation treatments would need to be considered to address bushfire risk. Depending on the overall fuel hazard of the vegetation community, differing setback distances would be required. These would need to be considered when siting and designing buildings, structures and infrastructure.

The PER states that on-going management of bushfire risk will be a key part of management of the site, incorporating appropriately sited buildings and infrastructure (i.e. that minimises vegetation clearance and land disturbance) and adequate separation from adjacent vegetation. At the time of operation, fire-fighting facilities, including an appropriately dimensioned and located water supply, would be available. The on-going requirements would be documented in a suitable management plan, with the ability for continuous improvement.

However, the PER does not detail the inherent bushfire risk to visitors and staff, nor to the golf course and associated buildings and structures. In addition, there is no analysis of the capability of local or regional emergency services to deal with such a risk. Rather, it defers addressing this risk to the Environmental Management Plan framework.

The AR concludes that the final design of the proposal would need to include a combination of passive and active bushfire management strategies, especially to comply with mandatory standards and to minimise vegetation clearance. Measures could include:

- Design features that use modified vegetation, car parking and the access roads as buffers that act as a fire reduction zone. The grassed areas of the golf course could provide a buffer from coastal dune vegetation.
- Buildings constructed in accordance with the principles of Australian Standard AS3959-1999 (Level 3 Construction), as recommended for Extreme Fire Risk.
- Butterfly sprinklers, raised above the height of the vegetation and located within 10 metres of all buildings, to saturate the vegetation immediately adjacent to the buildings.
- Roof mounted sprinklers located above gutters and near roof ridgelines to limit spark and ember attack and reduce radiant heat impact.
- Hose reels located around all buildings and the maintenance compound to provide additional firefighting infrastructure to control spot fires and ember attack.
- All sprinklers and hose reels served by a continuous main line controlled by a pump, with back up diesel powered generators.
- Minimum supply of 150,000 litres maintained at all times to supply this system, with water being stored in a combination of the main irrigation dam and storage tanks in and around the resort precinct.
- In emergency situations using the golf course environs (particularly the many tees located throughout the course) as temporary helipads. The driving range could also be used as a key location point for emergency access/egress.
- On site firefighting capability (i.e. infrastructure, equipment and trained staff).

Design and operational measures would need to be detailed in a Fire Management Plan, prepared in consultation with the CFS and Council (refer to Section 8). The Plan would also need to be prepared in accordance with:

- Building Code of Australia (in accordance with AS 3959 – Construction of buildings in bushfire prone areas to identify the expected level of bushfire attack).
- Minister's Code (as amended 2012) Undertaking development in Bushfire Protection Areas.
- Ministers Specification SA 78 (2011) Additional requirements in designated bushfire prone areas.

6.2 Beach/dune erosion

The western part of the development (i.e. golf holes and associated infrastructure along the seaward edge of the dune system) would be at risk from wind erosion and dune/ cliff erosion from wave action and storm events (especially at high tide). Climate change (including increased wind

strength/duration) and associated sea-level rise would increase erosion risks. The development could also be subject to coastal flooding in the future (mainly low-lying areas, such as swales), due to sea-level rise and increased storm surge. The PER indicated that horizontal erosion due to sea level rise of 0.3 m by 2050 would be in the order of 15 m. By 2100, horizontal erosion due to a 1.0 m sea level rise would be in the order of 50 m. The low cliffs around German Point are also be susceptible to erosion, especially undercutting and slumping.

The beach and coastal dune system would be most susceptible during construction, when large scale earthworks would be undertaken. Extensive vegetation clearance would leave substantial areas vulnerable to erosion, especially for golf holes along the foredunes or on steep dune slopes/crests. The erosion risk would remain high until an adequate cover of turf was established (or until remediation measures become effective). There would also be substantial movements of vehicles and machinery that could cause erosion problems.

The AR concludes that appropriate management plans could effectively manage such risks. These risks and management strategies would need to be addressed in a Coastal Management Plan, as part of an Environmental Management Plan framework (refer to Section 8).

6.3 Chemical Storage, Handling and Use

The establishment and maintenance of a golf course would require the management of a range of chemicals (especially herbicides, pesticides and fertilisers). Maintenance vehicles and equipment would also require the storage and use of fuels and oils. Management of the swimming pool, which is part of the wellness retreat, would also involve the use of chemicals and the disposal of chemically treated water or residues. The Wagyu beef farm and vineyard would also require the use of a range of chemicals, including fungicides. Spray drift would need to be managed to protect human health and the environment.

Chemicals and other hazardous materials would need to be appropriately stored in bunded areas, as per the EPA Guidelines for Bunding and Spill Management (2007). The use of pesticides (including herbicides) should be conducted in accordance with the EPA Guidelines for Responsible Pesticide Use (2005) and the EPA Safe and Effective Pesticide Use: A Handbook for Commercial Spray Operators. The use of herbicides should be similarly managed. Application of fertilisers should be at recommend rates and irrigation after application should be managed so there is no runoff and drainage to groundwater is minimised. The AR supports this approach.

Procedures for the storage and use of all chemicals should be outlined in a Golf Course Resort Management Plan (refer to Section 8).

7 Sustainability

The PER states that the principles of green star rated buildings underpins the design of the conceptual proposal. Examples of best practice sustainability features to be adopted include:

- Materials specified that will patina and age with purpose, further integrating development within the landscape (and that can be maintained by the local community).
- Maximising cross ventilation within all building types.
- Mono-roof planes, allowing generous overhangs to reduce summer solar gain.
- Building form broken up, with anti-spaces to allow patron protection from all weather conditions.
- Berm/ turf roof to building form increases insulation properties.
- Materials would be selected that are low-tech, such as steel, timber and stone (preferably locally sourced).
- Recycled material will be utilised, where possible.

A number of sustainability initiatives would be considered during the detailed design phase to achieve water and power supplies and efficiencies (particularly savings to reduce demand), whilst minimising the development's carbon footprint. The sustainability measures proposed could include:

- An opportunity to use solar power to supplement mains supply (i.e. on both the main buildings and the accommodation). Building orientation will be important, both in terms of energy efficiency and the ability to efficiently orient solar collectors, which will need to be balanced with taking in views of the ocean and surrounds.
- An opportunity to use small-scale wind turbines.
- Reuse or rainwater and stormwater run-off, such as for toilet flushing, machinery cleaning, for irrigation use and for watering landscaped areas (i.e. using vegetated swales and other water sensitive design measures).
- Reuse of grey water and waste water for irrigation.
- Landscaping with local native species (i.e. that are adapted to on-site rainfall and have low water requirements).
- Minimisation and recycling of waste.

The AR finds that a Sustainability Plan should be prepared and implemented to ensure a wide range of sustainability measures are detailed and adopted (refer to Section 8). The Plan would need to detail the proponent's philosophy for achieving sustainability and reducing the carbon footprint of the development, including measurable objectives and targets. This approach should also be implemented for components of the proposed development that may not be constructed by the proponent (such as the resort).

A Smart Energy Management System that controls power supply and usage in occupied/unoccupied accommodation buildings, various areas of the clubhouse/guest areas and staff quarters should be considered. Energy saving lighting and appliances should be used wherever practicable. The Plan should also include monitoring of water, energy and waste management efficiencies. Relevant aspects of the Waste Management Plan should be incorporated into the Sustainability Plan.

8 Management, Mitigation and Monitoring

For 'Major Development' proposals, the mitigation of impacts and monitoring of their effectiveness (including contingencies for further mitigation) is generally undertaken via an Environmental Management Plan framework for the construction and operational phases. For consistency with other proposals, the title of the EMP's should be a Construction Environmental Management Plan - CEMP (i.e. which is often a requirement under the *Environment Protection Act 1993*) and an Operational Environmental Management and Monitoring Plan - OEMMP (i.e. to reflect the importance of ongoing monitoring). These plans provide the 'umbrella' documents, under which issue specific Management Plans sit.

There are various details about mitigation measures and management procedures that have not been addressed in detail in the PER. These matters have largely been deferred to the Environmental Management Plan framework. However, the PER did not include a draft Environmental Management Plan or outline the framework for such a document (including protocols and the types of matters that would be addressed). Nor did it identify whether the proposal would be developed and operated under a quality assurance approach, such as through the ISO 9000 group of standards. The ISO 14000 standards are often adopted for managing environmental responsibilities, including audits, communications, labelling, life cycle analysis and dealing with issues such as climate change. The majority of work on the site is likely to be undertaken by suitably qualified contractors who would need to implement their own adopted quality assurance systems.

To ensure consistency of approach (especially if various components are to be constructed and/or operated by other parties and at different stages), the proponent or the contractors would need to be responsible for preparing an Environmental Management Implementation Plan (EMIP) that would document how the management requirements outlined in the PER and any approval requirements would be implemented during construction and operation. This Plan can be considered a 'transition' document that demonstrates how the commitments made by the proponent (and/or the requirements of development approval) would be implemented.

After the design phase, a detailed CEMP would need to be prepared by the appointed contractor(s), which would be regularly reviewed and updated during construction (such as on a quarterly basis or when there is an incident or a change in scope). A detailed OEMMP would also need to be prepared by any intended operators (i.e. if not operated by the proponent), which would also be regularly updated.

There is expected to be a process of progressive refinement of the Plans as more detailed investigations and plans are produced. In addition, the Plans would be dynamic plans that adapt to varying site conditions and activities being undertaken at a given point in time, with modifications made should controls prove to be ineffective.

The PER (section 11) states that, (if approved) following the detailed design process, a Construction and Environmental Management Plan would be prepared to address (amongst many other issues):

- Measures to ensure the implementation of environmentally acceptable work practices.
- Methods for monitoring, reporting and auditing construction impacts and practices, along with contingencies and corrective plans (should issues arise) and continuous improvement processes.

An Environmental Management and Monitoring Plan (EMMP) would also be devised by experts as an on-going, 'living' document to ensure environmental management on the site remains a priority and that rehabilitation and revegetation plans are properly implemented. This will also be important during the 'grow in' period for the golf course. Other management plans likely to be required (which might be subsets of either the CEMP or EMMP) include an Irrigation Management Plan, a Wastewater Irrigation Management Plan, a Stormwater Management Plan and a Soil, Erosion and Drainage Management Plan. The PER considers it is not appropriate that these plans are prepared at this time, but they should be conditioned as part of any approval.

It is considered that the proponent would need to establish the fundamental quality assurance standards that would need to be met in relation to work practices/protocols, strategies and measures to manage issues identified through the assessment process, monitoring requirements and follow-up contingencies. These commitments would initially be addressed in the Environmental Management Plan framework for the construction and operational phases.

The Plans should address:

- Objectives for environmental management.
- Performance criteria to be met.
- Relevant legislative requirements and standards, codes and guidelines (especially those prepared by the EPA).
- Management actions, including responsibilities and timing.
- Monitoring regimes and corrective actions.
- Requirements for reporting and auditing.
- Incident and emergency response processes.

The Construction EMP and Operational EMMP would need to include (or incorporate references to) the following management plans/strategies, where relevant:

- Golf Course Resort Management Plan.
- Beef Farm and Vineyard Management Plans.
- Sustainability Plan.
- Integrated Water Management Plan.
- Native Vegetation Management, Rehabilitation and Revegetation Plan.
- Fauna Management Plan.
- Threatened Species Management Plan.
- Cultural Heritage Management Plan.
- Coastal Management Plan.
- Wetland Management Plan.
- Landscaping Plan.
- Soil Erosion and Drainage Management Plan
- Weed and Pest Management Plan.
- Fire Management Plan.
- Waste Management Plan.

The CEMP and OEMMP would be used to guide detailed design, site establishment, construction and operation of the proposal. In order to detect any changes to the site or the surrounding environment and to measure the effectiveness of mitigation measures, targeted monitoring should be addressed in the Plans.

Whilst the full details are not provided at this stage, the PER demonstrated the proponent's commitments to sound environmental management. Prior to construction commencing, these aspects would need to be further detailed, with input from technical experts within relevant Government agencies (and possibly Council). Some monitoring requirements would need to be commenced in advance of construction (or existing data collection continued), in order to establish an adequate baseline upon which to measure the impact of any changes to the environment.

If the proposal is approved, the preparation and implementation of the CEMP and OEMMP (and associated Management Plans and Environmental Management Implementation Plan) would be a conditional requirement. These plans would need to be satisfactorily completed in consultation with relevant Government agencies (and where relevant Council), prior to works commencing on the site or before operation (i.e. for each component under a staged approach). The CEMP and OEMMP would need to incorporate relevant aspects related to design, construction and operational matters from the range of management type plans prescribed in the PER, Response document and this assessment. A more detailed description of the Environmental Management Plan framework that would be required is provided below.

Plan Type	**Matters to be addressed in the Plan (but not limited to).**	**a) Timing** **b) Prepared in consultation with.** **c) Prepared primarily in accordance with.**
Construction Environmental Management Plan (CEMP)	Outline the methodology and sequencing of site preparation and construction works (including periods and hours of construction). Relevant issues and risks to be managed and monitored, such as: • occupational health and safety; • traffic and access (including the construction of the access road to minimise impacts on the adjoining resident and maintaining existing rights-of-way for adjoining landowners); • noise and air quality (including odour and dust); • soil erosion, sand drift and sediment control (including rehabilitation and stabilisation of land as construction progresses); • soils (including fill importation and stockpile management); • soil contamination and remediation (such as from chemical use and storage); • coastal erosion and remediation; • surface water quality (especially for wetland protection); • Aboriginal heritage sites; • native vegetation and fauna;	a) Prior to construction. b) Environment Protection Authority (EPA), the Department of Environment, Water and Natural Resources (DEWNR), Natural Resources South East (NRSE) and the Robe District Council (Council). c) EPA (2016) *Construction Environmental Management Plans (CEMP) Guideline*. Australian Government Department of the Environment (2014) *Environmental Management Plan Guidelines*. EPA environment protection policies (especially the Environment Protection (Noise) 2007) and the 'general environmental duty' under section 25 of the *Environment Protection Act 1993*.

	• pest plants, animals and pathogens, including bio-security (such as wash down procedures to minimise the transfer of pests / pathogens); • stormwater management (i.e. prior to implementation of permanent measures); • groundwater (including prevention of groundwater contamination); • waste management (for all waste streams) and overall site clean-up (including demolition of existing shacks and structures); • use and storage of chemicals, oil, construction-related hazardous substances and other materials that have the potential to contaminate the environment; • emergency responses; and • site security, fencing and safety (including the management of public access and local traffic). The Plan should also include a public notification and complaints register / resolution procedures.	
Soil, Erosion and Drainage Management Plan (SEDMP)	Detail temporary measures to be implemented during construction to: - minimise the erosion of soils due to the action of wind and water; - control water movement into and around the site; - stabilise all disturbed areas as quick as possible; - capture sediment and retain soil (and other pollutants) on-site; - minimise impacts on wetlands and the marine environment; and	a) Prior to construction. b) EPA. c) International Erosion Control Association (2008) *Best Practice Erosion and Sediment Control*.

	- inspection and maintenance of all control measures. The SEDMP would need to be incorporated into the CEMP.	
Golf Course Resort Management Plan	Management of activities that have an impact on the environment or the community, including: - operational aspects (including the management of golfing and tourism related events to minimise impacts on the environment and the community); - maintenance aspects; - visitor safety; - visitor management, especially measures to protect the environment (such as control of access and education/awareness); - management of other recreational activities; - an Integrated Pest Management Strategy; - management of chemical and hydrocarbon storage, handling and use (especially herbicides and pesticides); - a Nutrient Management Strategy; - management of course irrigation , including design measures to monitor soil moisture levels and to minimise over-spray and runoff). These aspects should be addressed in an Irrigation Management Strategy (including for drought conditions).	a) During construction, but prior to operation. b) Department of Planning, Transport and Infrastructure (DPTI).

Beef Farm Management Plan	Management of activities that have an impact on the environment or the community, such as erosion, runoff, effluent/nutrient control (especially to protect nearby wetlands), chemical use and odour.	a) During construction, but prior to operation. b) Primary Industries and Regions SA (PIRSA).
Vineyard Management Plan	Management of activities that have an impact on the environment or the community, such as the use of fertilisers and chemicals (especially to protect nearby wetlands).	a) During construction, but prior to operation. b) PIRSA.
Integrated Water Management Plan	The Plan should address all water resource and supply aspects related to the design and operational phase for all components of the development, including: • A site plan identifying all water related features and infrastructure for the storage, treatment and/or reuse of potable water, stormwater, wastewater and irrigation water. • Water balance information, including: - the total water requirements for all components of the development (and each stage, where applicable); - predicted wastewater volumes; - predicted greywater volumes (if greywater is to be managed separately from wastewater); and - predicted evaporative losses from water and wastewater storages. • How all wastewater would be collected, treated, stored and re-used (including staged expansions of the wastewater treatment system). • How all greywater would be collected, treated, stored and re-used at	a) Prior to construction. b) EPA and DEWNR. c) EPA (2009) *Wastewater Irrigation Management Plan (WIMP) Guideline*. Environment Protection (Water Quality Policy) 2015 and the 'general environmental duty' under section 25 of the *Environment Protection Act 1993*. National Water Quality Management Strategy (2006) *National Guidelines for Water Recycling: Managing Health and Environmental Risks*.

	the site (if greywater is to be managed separately from wastewater). • A Reclaimed Water / Wastewater Irrigation Management Plan. • Details of measures to mitigate impacts on groundwater, surface water and the marine environment. • A Groundwater Management and Monitoring Strategy, including: - installation of a network of monitoring wells; - periodic recording of groundwater levels; - periodic water sampling; and - analysis of data collected. • A Stormwater Management Strategy for the operational phase, including: - water sensitive design measures; - harvesting and reuse; - control of runoff (especially to protect environmental assets); - erosion and drainage; and - maintenance requirements (especially to ensure performance).	
Native Vegetation Management, Rehabilitation and Revegetation Plan	The Plan should address the management of both retained native vegetation and any areas that are revegetated, including: - vegetation clearance practices; - protection and maintenance of remnant vegetation, including restoration measures (such as natural regeneration or plantings/direct seeding) and the control of current / future	a) Prior to construction. b) DEWNR, NRSE and the Australian Government Department of the Environment and Energy (DotEE).

	degrading factors (especially dune erosion); - revegetation strategy and methodology; - weed and Coastal Wattle control; - grazing control (especially kangaroos); and - fire management.	
Fauna Management Plan	The Plan would need to detail protection and maintenance measures for habitat (beach/foredune, coastal dune and wetland) that supports fauna that permanently inhabits the site or uses the site on a transitional basis (especially species of conservation significance), including: • threatening processes; • habitat restoration; • measures to control over-abundant or nuisance native species, including a Kangaroo and Wombat Management Strategy; and • pest animal control (especially predator species).	a) Prior to construction. b) DEWNR, NRSE and DotEE. c) *National Parks and Wildlife Act 1972*.
Threatened Species Management Plan	• The Plan would primarily need to address the Little Dip Spider-orchid and the Orange-bellied Parrot, but should also consider Nationally threatened species identified in fauna surveys or by future monitoring (or known to occur in the area), including the Hooded Plover (primarily in relation to human disturbance from activities undertaken along the beach / foreshore zone) and the Swamp Antechinus (primarily associated with wetland habitat).	a) Prior to construction. b) DEWNR and DotEE. c) Recovery Plan 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. National Recovery Plan for the Orange-bellied Parrot

	Species of State and Regional conservation significance (especially those listed under the National Parks and Wildlife Act) should also be addressed in the Plan.	(*Neophema chrysogaster*). EPBC Act *Environmental Offsets Policy*.
Cultural Heritage Management Plan	The Plan should detail: - mitigation measures and protocols for the preservation of heritage sites to be protected; - protocols for the damage or destruction (or otherwise) of sites to be affected by construction (including any applications necessary under section 23 of the *Aboriginal Heritage Act 1988*). - Protocols for the identification of potential sites uncovered during construction (especially as coastal dunes may contain ancestral burial sites); - design and construction of walking trails; - opportunities for education and promotion of Aboriginal heritage; and - a framework for engagement between the interested parties regarding the treatment of Aboriginal heritage on the land.	a) Prior to construction b) Department of State Development (Aboriginal Affairs and Reconciliation) and the South East Aboriginal Focus Group. c) *Aboriginal Heritage Act 1988*
Coastal Management Plan	The Plan would need to address the management of coastal issues during the operation phase of the development, including: • Dune and beach erosion, due to storm damage and winds. • Sand dune blowouts.	a) Prior to construction. b) DEWNR and NRSE. c) Coast Protection Board policies.

	• Beach access, including the establishment of access points and walking trails. • Control of traffic (including off-road vehicle activities).	
Wetland Management Plan	The Plan would need to address the management of wetland related issues during the construction and operational phases of the development, including: • Construction activities and impacts. • Golf course maintenance and beef farm / vineyard operational activities. • Buffer requirements. • Surface and groundwater (including water quality monitoring). • Native vegetation and fauna (especially threatened species). • Weeds and pest animals. • Human disturbance. • Fire risk.	a) Prior to construction. b) DEWNR, RNSE and DotEE.
Operational Environmental Management and Monitoring Plan	Relevant issues and risks to be managed and monitored, such as: - general operational noise management, such as from machinery; - noise from live and/or recorded music and public address systems for events; - air quality, especially dust and odour (including from the beef farm and vineyard operations);	a) During construction, but prior to operation. b) EPA, DEWNR, NRSE and DotEE. c) Australian Government Department of the Environment (2014) *Environmental Management Plan Guidelines*. EPA environment protection policies (especially the

	- waste management, such as implementation of a Waste Management Strategy detailing the collection, storage and disposal of waste (for all waste streams); - wastewater collection and treatment ; - traffic management associated with general visitation and the conduct of golfing and tourism related events; - coastal management (especially coastal erosion and remediation); - wetland management; native vegetation and fauna management; - landscaping maintenance; - fire risk management; - emergency and evacuation procedures; - ongoing sustainability initiatives;; and - details of proposed methods for ongoing monitoring and reporting.	Environment Protection (Noise) Policy 2007, the Environment Protection (Waste to Resources) Policy 2010) and the Environment Protection (Water Quality) Policy 2015) and the 'general environmental duty' under section 25 of the *Environment Protection Act 1993*.
Sustainability Plan	The Plan would need to outline the philosophy, objectives and targets for the sustainability of the whole development (even for components that the proponent may not construct).	a) Prior to construction. b) Office of Green Industries SA

	Detail a wide range of sustainability measures to be adopted, including (but not limited to): • Smart Energy Management System that controls power supply and usage in occupied/unoccupied accommodation buildings, various areas of the clubhouse/guest areas and staff quarters should be considered. • Energy saving measures, especially lighting and appliances (wherever practicable). • Water saving measures. • Monitoring of water, energy and waste management efficiencies. • Recycling initiatives (including for organic waste).	
Landscaping Plan	Landscaping around the built components should aim to: - complement the retention and rehabilitation of native vegetation; - focus on local species that have an 'ornamental' value, are low maintenance and present a low fire risk; - incorporate water sensitive design measures for managing and using stormwater (and possibly reusing greywater or wastewater); and - be maintained to minimise fire and weed related risks.	a) During construction, but prior to operation. b) EPA, DEWNR and NRSE.
Weed and Pest Management Plan	• The Plan would need to address management strategies for the prevention, control and eradication of introduced plant / animal species and nuisance native species during the operation phase of the development.	a) Prior to construction. b) DEWNR, NRSE and DotEE.

	• Further studies should be undertaken to identify current levels of pests, weeds and invasive species. • The Plan would also need to address selective weed control to retain introduced vegetation that may provide habitat for threatened species. • Control measures should consider the impact on threatened plant species, especially the use of herbicides near Little Dip Spider-orchid habitat (and the habitat of pollinating wasp species).	
Fire Management Plan	The Plan should address the risk of fire sources within the site and the control of fire sources from adjacent land and would need to detail: - design measures to be incorporate into all buildings (including retained native vegetation, landscaping and any revegetation areas close to buildings); - firefighting infrastructure for the overall site; and - operational protocols and procedures. .	a) During construction, but before operation. b) Country Fire Service (CFS) and Council. c) Building Code of Australia (in accordance with AS 3959 – Construction of buildings in bushfire prone areas to identify the expected level of bushfire attack); Minister's Code (as amended 2012) *Undertaking development in Bushfire Protection Areas*; and Ministers Specification SA 78 (2011) *Additional requirements in designated bushfire prone areas*.
Waste Management Plan	The Plan would need to establish the overall philosophy and objectives for the whole of the development, regardless of whether each components of the development is constructed by the proponent or another party.	a) Prior to construction. b) EPA and Council. c) Zero Waste SA/Office of Green Industries SA (2015) *South*

	More specifically, the Plan should include: • details of the likely waste streams that would be generated; • measures to manage waste that are economically and environmentally suitable (especially for waste minimisation); • recycling initiatives for a range of materials, such glass, cardboard/paper, scrap metal, hydrocarbons and batteries; • measures to manage green waste (i.e. from course and landscaping maintenance) and organics, including composting of food waste. • consider the capacity of existing local and regional collection and disposal facilities; and • staff and visitor education to ensure awareness of waste minimisation and recycling.	*Australia's Waste Strategy 2015-20*; EPA Waste Strategy and Waste Hierarchy and the Waste Strategy; *Environment Protection (Waste to Resources) Policy 2010*; EPA *Standard for the Production and Use of Waste Derived Fill* (updated 2013).
Environmental Management Implementation Plan (EMIP)	• The Plan should document how the management requirements outlined in the PER and any approval requirements would be implemented during construction and operation by contractors. • The Plan could be prepared by either the proponent or the contractor.	a) Prior to the construction of each component. b) DPTI.

9 Conclusion

The proposed golf course and resort development would provide a key golfing and tourist destination for the South East Region and the State (especially for interstate and overseas visitors) that would meet the strategic needs of South Australia. Importantly, the need for a high profile tourist destination aligns with the strategic directions promoted by South Australia's Strategic Plan and the South Australian Planning Strategy. The proposal is consistent with the State's tourism and planning strategies and policies. In particular, the proposal would provide two international standard public golf courses (which the State/region does not currently have), a clubhouse (including a top level restaurant), a tourism and function centre (including conference facility and opportunities to promote Aboriginal heritage, regional tourism and local produce), wellness retreat and a range of high quality tourist accommodation options. The boutique Wagyu beef farm and vineyard would complement the tourism appeal and provide an interesting backdrop to the golf course and entrance to the resort precinct. Such rural activities are consistent with the farming uses of the locality and region.

The proposed site was chosen because of its magnificent coastal views and ability to provide a spectacular and challenging golfing experience. The site is strategically located between Adelaide and Melbourne (the main domestic markets and destination cities for international tourists) and is within close proximity of the Robe Township, with convenient access off the Nora Creina Road. An upgrade of the existing power supply would be required and a new water supply would need to be established (i.e. through securing existing water allocations). These would be supplemented by alternative sources (such as wastewater reuse, stormwater harvesting and solar power).

Outside views of the site, primarily from Nora Creina Road, are restricted by distance and topography (i.e. vegetated dunes). Remnant vegetation and the undulating topography of the site would be used to minimise the visual impact of buildings and structures on the landscape. Quality design and the use of natural materials and colours would help buildings blend with the environment.

The proposal has been designed to meet local policy requirements of the Robe Council Development Plan, especially to be sympathetic with the natural coastal environment. Whilst the land is zoned for coastal conservation purposes, the proposal would be sympathetic to the coastal environment through minimisation of vegetation clearance as far as practicable, better management of remnant vegetation and landscaping or revegetation of areas of the site with local species. Coastal dune

erosion would be stabilised and pest plants and animals controlled. Suitable land in the immediate region that supports native vegetation would be secured to provide an offset for vegetation clearance. The development would be designed, constructed and operated within a sustainability framework.

Whilst several species of National and State conservation significance have been identified as occurring on or near the site, especially the nationally endangered the Little Dip Spider-orchid and the Orange-bellied Parrot, areas of critical habitat would be preserved and improved (with potentially suitable offsets proposed). The proposal has been designed and would be managed to avoid or minimise impacts on the potential habitat of such species (including the establishment of buffer zones). The investigations, impact analysis, formulation of mitigation measures and calculation of potential offsets have been undertaken in accordance with the requirements of the Australian Government Department of the Environment and Energy. Further surveys and monitoring would be undertaken to collect data on all species that may use the site.

The suitability of the above measures are yet to be formally accepted by the Department of Environment and Energy. Further negotiation of offsets will need to occur before a decision on the project's acceptability under the EPBC Act can be finalised. This does not prevent the South Australian Government from making a decision.

A golf course and resort would attract certain native wildlife, due to the provision of food, water and shelter. Some species may increase to 'nuisance' levels. Currently, populations of kangaroos and wombats inhabit the site that are likely to graze on introduced grassland. Whilst they would be an essential part of the visitor experience, the populations would need to be managed appropriately in order to maintain the course, revegetated/landscaped areas and remnant vegetation.

Known Aboriginal heritage sites have either be avoided through design or would be carefully managed during earthworks and excavations. During construction there is a potential that other sites of Aboriginal heritage may be uncovered. Protocols would be put in place to ensure any discoveries are reported to the appropriate authorities.

During construction, water and wind erosion (including dust) would be managed to prevent discharges to the coastal, marine and wetland environment. The golf course would be designed and irrigated to ensure the local hydrology should not be significantly affected, especially to avoid a

groundwater mound developing. Bushfire risk would be managed using buffers to buildings, building design and contingencies for emergencies.

The area surrounding the proposed site is rural in nature and has a low population density. Few farming and rural living residences would be affected by the development, especially during the construction period. In particular, dust and noise emissions would be suitably controlled. Traffic volumes and frequencies would increase, during both construction and operation, but not beyond the capacity of the road network. Road upgrades would be undertaken to ensure efficient traffic movements and road safety, primarily around the main entrance.

The impacts from the construction and operation of the proposed development would be suitably addressed through an Environmental Management Plan framework, including a range of issue specific Management Plans. These plans would need to be prepared in consultation with a range of stakeholders, including the District Council of Robe and relevant Government agencies.

The AR concludes the proposal is worthy of approval, subject to additional information requirements and conditions set out in Section 10 of this AR. Consistent with approvals for other golf course resort and tourism developments, a maximum 5 year period for completion of the development is prescribed.

10 Recommendations

Should the Governor grant a provisional development authorisation, the approval should be based on the following requirements –

10.1 Planning Conditions

General

1. For the purposes of Section 48(11)(b) of the *Development Act 1993*, the proponent shall commence the development by substantial work on the site of the development within two years of the date of this authorisation, failing which the authorisation may be cancelled.

2. The proponent shall have completed the development within five years of the date of this authorisation, failing which the authorisation may be cancelled.

3. In accordance with conditions 1 and 2 above, the development once commenced shall be completed in accordance with the following:

a) Essential infrastructure works, including power and water supply to the site, shall commence prior to any other works.
b) Works on the golf course shall commence within 6 months of the completion of infrastructure works.
c) The Clubhouse, tourist accommodation, Tourism and Function Centre and Wellness Retreat must be commenced within 6 months of completion of the golf course, excluding land division for that purpose.
d) All external and internal road upgrades, including car parking areas, shall be commenced and completed prior to the commencement of the uses hereby approved.

4. Should the project cease during the period between the commencement of earthworks and final completion the proponent shall undertake all necessary steps to reinstate the land and make good any damage or disturbance.

5. That except where minor amendments may be required by other relevant Acts, or by conditions imposed by this application, the development shall be established in strict accordance with the details and plans provided in the Public Environmental Report Public Environmental Report, prepared by S K Planning Pty Ltd on behalf of Justin Scanlon and Damian Scanlon, dated January 2016; and the Response Document prepared by S K Planning Pty Ltd on behalf of Justin Scanlon and Damian Scanlon, dated September 2017.

Prior to the Commencement of Construction Works

The following information, where relevant, shall be submitted for further assessment and approval by the Minister for Planning, prior to the commencement of construction works for each component or stage:

6. Final detailed plans for the golf course layout, all buildings, structures, car parking and access for each component of the development (including site plans, floor plans, elevations, cross-sections, rendered perspectives and other relevant specifications). Design development for the Clubhouse, Tourism and Function Centre, tourist accommodation and Wellness Retreat should be undertaken in accordance with the Office for Design and Architecture (2017) Principles of Good Design.
7. Final detailed plans and designs for all infrastructure (including for firefighting purposes), roads, car parking tracks and walking trails. The design and location of the entrance road

must ensure safe and convenient vehicle access and minimise impacts on the adjoining resident. Roads and car parking must be designed in accordance with relevant Australian standards. The location of infrastructure should be located on cleared land or minimise vegetation clearance as far as practicable.

8. Final detailed plans for the beef farm and vineyard (and associated infrastructure).

9. Building Rules compliance, following assessment and certification by a private certifier, the Robe District Council or by a person determined by the Minister for Planning, as complying with the provisions of the Building Rules (or the Building Rules as modified according to criteria prescribed by the Development Regulations 2008). For the purposes of this condition 'building work' does not include plant and equipment or temporary buildings that are not permanently attached to the land (refer to relevant Advisory Notes below).

10. Final plans, drawings, specifications and financial and maintenance arrangements (including Deeds of Agreement) associated with road infrastructure upgrades for the site access point from Nora Creina Road, prepared in consultation with the District Council of Robe.

11. A Construction Environmental Management Plan (CEMP), prepared in consultation with the District Council of Robe, the Environment Protection Authority and the Department of Environment, Water and Natural Resources. The CEMP must incorporate measures to address (but not be limited to) the following matters:
    a. traffic and access management for the duration of any site works and construction activities;
    b. construction and works noise management;
    c. management of air quality (including odour and dust);
    d. sequencing of development (including construction timelines for works on site, as well as periods and hours of construction);
    e. occupational health and safety matters;
    f. fire risk and emergency responses;
    g. pest plants, animals and pathogens, including bio-security risks (such as wash down procedures to minimise the transfer of pests and pathogens);
    h. soils (including fill importation), stockpile management and prevention of soil contamination (such as from chemical use and storage, pest plants and pathogens);

i. soil erosion, sand drift and sediment control (including rehabilitation and stabilisation of land as construction progresses);
j. coastal erosion and remediation;
k. native flora and fauna (especially wombat burrows);
l. stormwater management, prior to implementation of a permanent solution (including the preparation and implementation of a Soil Erosion and Drainage Management Plan);
m. surface water and groundwater (including prevention of groundwater contamination);
n. site contamination and remediation (where required);
o. waste management for all waste streams and overall site clean-up (including any demolition waste);
p. use and storage of chemicals, oil, construction-related hazardous substances and other materials that have the potential to contaminate the environment (including proposed emergency responses);
q. site security, fencing and safety (including the management of public access and local traffic); and
r. Aboriginal Heritage sites to ensure compliance with the *Aboriginal Heritage Act 1988*.

12. An Integrated Water Management Plan (IWMP), prepared in consultation with the Environment Protection Authority and the Department of Environment, Water and Natural Resources. The plan must incorporate measures and actions to address (but not be limited to) the following issues:
    a. a site plan identifying all water related features and infrastructure for the storage, treatment and/or reuse of potable water, stormwater, wastewater (with details of the wastewater storage lagoon liners, prepared in accordance with the EPA Guideline 'Wastewater Lagoon Construction', November 2014) and irrigation water;
    b. water balance information, detailing the total water requirements of all components of the development (and for each stage of the development, where applicable), including predicted total wastewater generation from the development (based on projected wastewater volumes per day), predicted greywater generation volumes and predicted evaporative losses from water and wastewater storages;
    c. a description of how all greywater will be collected, stored and re-used on site (if greywater is to be collected separately to wastewater);

d. a description of how all wastewater will be collected, stored and re-used on site (including the capacity of the system);
e. a Reclaimed Water Irrigation Management Plan, prepared in accordance with the EPA Guideline 'Wastewater Irrigation Management Plan – a Drafting Guide for Wastewater Irrigators' (June 2009);
f. predicted stormwater generation volumes and details of stormwater quality improvements, including the location and sizing of any bio-retention swales and basins, anticipated quality improvements and details of any other proposed stormwater quality treatment features (which should be included in a Stormwater Management Strategy);
g. management of the potential impacts from nutrient and chemical runoff from the golf course, including details regarding the management of pesticides and herbicides, in accordance with the EPA 'Guidelines for Responsible Pesticide Use' (December 2005) and the EPA 'Safe and Effective Pesticide Use: a Handbook for Commercial Spray Operators';
h. contingencies to address any detrimental effects, especially on local hydrology; and
i. a Groundwater Management and Monitoring Strategy, including a network of observation wells and a water level and water quality monitoring program;

13. A Cultural Heritage Management Plan, prepared in consultation with the Department of State Development (Aboriginal Affairs and Reconciliation) and the South East Aboriginal Focus Group. The plan must incorporate measures and actions to address (but not be limited to) the following:
    a. A framework for engagement with interested parties regarding the treatment of Aboriginal heritage on the land;
    b. measures to protect, avoid or minimise disturbance or damage to identified Aboriginal Heritage sites;
    c. protocols for the identifying and recording any potential Aboriginal Heritage sites uncovered during construction (including 'observers' who are suitably qualified archaeologists, accompanied by Traditional Owners with knowledge of and responsibility for the sites);
    d. procedures for disturbing or damaging Aboriginal Heritage sites (including approvals under the *Aboriginal Heritage Act 1988* ; and
    e. Opportunities for promoting cultural heritage.

14. A Coastal Management Plan, prepared in consultation with the Department of Environment, Water and Natural Resources. The Plan should address the management of coastal issues during the operation phase of the development, including:
    a. Dune and beach erosion, due to storm damage and winds.
    b. Sand dune blowouts.
    c. Beach access, including the establishment of access points and walking trails.
    d. Control of traffic (including off-road vehicle activities).

15. A Native Vegetation Management, Rehabilitation and Revegetation Plan prepared in consultation with the Department of Environment, Water and Natural Resources (including the Native Vegetation Council and Natural Resources South East). The plan also should include details on the management of both retained native vegetation and any areas that are revegetated, including:
    a. vegetation clearance practices;
    b. protection and maintenance of remnant vegetation, including restoration measures (such as natural regeneration or plantings/direct seeding) and the control of current / future degrading factors (especially dune erosion);
    c. revegetation strategy and methodology;
    d. weed and Coastal Wattle control;
    e. grazing control (especially kangaroos); and
    f. fire management.

16. A Fauna Management Plan, prepared in consultation with the Department of Environment, Water and Natural Resources and Natural Resources South East. The plan should detail protection and maintenance measures for habitat that supports fauna that permanently inhabits the site or uses the site on a transitional basis, including:
    a. threatening processes;
    b. habitat restoration;
    c. measures to control over-abundant or nuisance native species, including a Kangaroo and Wombat Management Strategy; and
    d. pest animal control (especially predator species).

17. A Wetland Management Plan, prepared in consultation with the Department of Environment, Water and Natural Resources (including the Native Vegetation Management Unit and Natural

Resources South East). The Plan should address the management of wetland related issues during the construction and operational phases of the development, including:

a. Construction activities and impacts.
b. Golf course maintenance and beef farm / vineyard operational activities.
c. Buffer requirements.
d. Surface water and groundwater (including water quality monitoring).
e. Native vegetation and fauna (especially threatened species).
f. Weeds and pest animals.

18. A Threatened Species Management Plan, prepared in consultation with the Department of Environment, Water and Natural Resources and the Australian Government Department of the Environment and Energy. The Plan should primarily need to address the Little Dip Spider-orchid and the Orange-bellied Parrot, but should also consider Nationally threatened species identified in fauna surveys or by future monitoring (or known to occur in the area), including the Hooded Plover (primarily in relation to human disturbance from activities undertaken along the beach / foreshore zone) and the Swamp Antechinus (primarily associated with wetland habitat). Species of State and Regional conservation significance (especially those listed under the National Parks and Wildlife Act 1972) should also be addressed in the Plan.

19. Environmental Management Implementation Plan that documents how the management requirements outlined in the PER and any approval requirements would be implemented during construction and operation by contractors.

During Construction Works and Prior to Operation of the Development

20. All works shall be undertaken in accordance with the approved plans, drawings, specifications and other documentation provided (and approved by the Minister for Planning where required) in accordance with conditions listed above.

21. That all external lighting of the site, including car parking areas and buildings, shall be designed and constructed to conform with Australian Standards and must be located, directed and shielded and of such limited intensity that no nuisance or loss of amenity is caused to any person beyond the site.
22. That all stormwater design and construction shall be in accordance with Australian Standards and recognised engineering best practices to ensure that stormwater does not adversely affect any adjoining property or public road.

23. That all vehicle car parks, driveways and vehicle entry and manoeuvring areas shall be designed and constructed in accordance with the relevant Australian Standards and be constructed, drained and paved with bitumen, concrete or paving bricks in accordance with sound engineering practice and appropriately line marked.

24. That Council infrastructure should be reinstated as appropriate if damaged.

The following information, where relevant, shall be submitted for further assessment and approval by the Minister for Planning, prior to the commencement of operations:

25. An Operational Environmental Management and Monitoring Plan (OEMMP), prepared in consultation with the Environment Protection Authority, the Department of Environment Water and Natural Resources and the District Council of Robe. The OEMMP must incorporate measures to address (but not be limited to) the following matters:
    a. general operational noise management (such as from machinery noise), to ensure compliance with the Environment Protection (Noise) Policy 2007;
    b. a Waste Management Strategy detailing the collection, storage and disposal of waste (for all waste streams) to comply with the Environment Protection (Waste to Resources) Policy 2010;
    c. wastewater collection and treatment to comply with general obligations of the Environment Protection (Water Quality) Policy 2015;
    d. traffic management associated with general visitation and the conduct of golfing and tourism related events;
    e. noise from live and/or recorded music and public address systems for events;
    f. air quality, especially dust and odour (including from the beef farm and vineyard operations);
    g. coastal management;
    h. wetland management;
    i. fauna management;
    j. weed and pest management;
    k. fire risk management;
    l. landscaping maintenance;
    m. emergency and evacuation procedures; and

n. ongoing sustainability initiatives (including power, water, flora and fauna management); and

o. details of proposed methods for ongoing monitoring and reporting.

26. A Golf Course Resort Management Plan that addresses the management of activities that have an impact on the environment or the community, including:
    a. operational aspects (including the management of golfing and tourism related events to minimise impacts on the environment and the community);
    b. maintenance aspects (especially the control of the spread of turf species);
    c. visitor safety;
    d. visitor management, especially measures to protect the environment (such as control of access and education/awareness);
    e. management of other recreational activities;
    f. an Integrated Pest Management Strategy;
    g. management of chemical and hydrocarbon storage, handling and use (especially herbicides and pesticides);
    h. a Nutrient Management Strategy; and
    i. management of course irrigation , including design measures to monitor soil moisture levels and to minimise over-spray and runoff). These aspects should be addressed in an Irrigation Management Strategy (including for drought conditions).

27. A Fire Management Plan, prepared in consultation with the Country Fire Service and the Robe District Council. The plan should detail bushfire protection strategies for the site, in accordance with the Building Code of Australia (in accordance with AS 3959 – Construction of buildings in bushfire prone areas to identify the expected level of bushfire attack), the Minister's Code (as amended 2012) 'Undertaking development in Bushfire Protection Areas' and the Ministers Specification SA 78 (2011) Additional requirements in designated bushfire prone areas, including the establishment and maintenance of an Asset Protection Zone (include a vegetation management zone that would be maintained within 20 metres of each building).

28. A Waste Management Plan, prepared in consultation with the Environment Protection Authority. The plan must incorporate measures and actions to address (but not be limited to) the following:
    a. details of the likely waste streams that would be generated;

b. measures to manage waste that are economically and environmentally suitable (especially for waste minimisation);
c. recycling initiatives for a range of materials, such glass, cardboard/paper, scrap metal, hydrocarbons and batteries;
d. measures to manage green waste (i.e. from course and landscaping maintenance) and organics, including composting of food waste;
e. consider the capacity of existing local and regional collection and disposal facilities; and
f. staff and visitor education to ensure awareness of waste minimisation and recycling.

29. A Landscaping Plan, prepared in consultation with the Department of Environment, Water and Natural Resources and Natural Resources South East, that considers the use of locally endemic species, species that assist in bushfire risk management, the use of berms / turf roofs for buildings and water sensitive design measures for managing stormwater as a resource.

30. A Weed and Pest Management Plan, prepared in consultation with the Department of Environment, Water and Natural Resources and Natural Resources South East, that addresses management strategies for the prevention, control and eradication of introduced plant / animal species and nuisance native species during the operation phase of the development. The Plan should include:
    a. further studies to identify current levels of pests, weeds and invasive species;
    b. selective weed control to retain introduced vegetation that may provide habitat for threatened species; and
    c. control measures that consider the impact on threatened plant species, especially the use of herbicides near Little Dip Spider-orchid habitat (and the habitat of pollinating wasp species).

31. A Beef Farm Management Plan, prepared in consultation with Primary Industries and Regions SA, that addresses the management of activities that could have an impact on the environment or the community, including noise, odour, erosion, runoff, effluent/nutrient control (especially to protect nearby wetlands) and chemical use.

32. A Vineyard Management Plan, prepared in consultation with Primary Industries and Regions SA, that addresses the management of activities that could have an impact on the environment or the community, such as noise, odour, erosion, runoff and the use of fertilisers and chemicals (especially to protect nearby wetlands).

33. A Sustainability Plan, prepared in consultation with the Office of Green Industries SA, that outlines the philosophy, objectives, targets and measures for the sustainability of all components of the development.

During Operation of the Development

34. Operations on the site shall be undertaken in accordance with all plans and details submitted as part of the Major Development Application, and where provided (and endorsed by the Minister for Planning where required).

35. The development/site shall be maintained in a serviceable condition and operated in an orderly manner at all times consistent with conditions of approval.

36. Undeveloped areas prepared for future development hall be maintained in a neat and tidy condition at all times, with soil surfaces stabilised to minimise erosion.

37. Recycled water (wastewater, greywater and stormwater) must be stored separately from the main water supply storage.

38. All liquids that have the ability to cause environmental harm must be stored within a bunded compound that has a capacity of at least 120% of the volume of the largest container, in accordance with the EPA 'Bunding and Spill Management Guidelines' (2007).

10.2 Advisory Notes

1. Further approvals will be required for the following conceptually designed components of the development not hereby approved in their final form, including:

    a) clubhouse building and associated facilities;
    b) tourism and function centre;
    c) tourist accommodation buildings;
    d) wellness retreat;
    e) maintenance facility;
    f) storage sheds and other storage structures;
    g) water storage dams; and
    h) any land division to create certificates of title for separate allotments.

    In respect of land division documentation, surveyed plans sufficient to satisfy Lands Titles Office procedure should be provided.

2. The site access road must be designed to ensure safe and convenient entry and exit to and

from the site. Internal roads must be designed to minimise dust and noise and to manage stormwater run-off. Existing access rights for adjoining landowners must be maintained.

3. Pursuant to Development Regulation 64, the applicant is advised that the District Council of Robe or private certifier conducting a Building Rules assessment must-
   a. provide to the Minister a certification in the form set out in Schedule 12A of the Development Regulations 2008 in relation to the building works in question; and
   b. to the extent that may be relevant and appropriate-
      (i) issue a Schedule of Essential Safety Provisions under Division 4 of Part 12; and
      (ii) assign a classification of the building under these regulations; and
      (iii) ensure that the appropriate levy has been paid under the *Construction Industry Training Fund Act 1993*.

   Regulation 64 of the Development Regulations 2008 provides further information about the type and quantity of all Building Rules certification documentation for Major Developments required for referral to the Minister for Planning.

4. The District Council of Robe or private certifier undertaking Building Rules assessments must ensure that the assessment and certification are consistent with this provisional development authorisation (including any Conditions or Advisory Notes that apply in relation to this provisional development authorisation).

5. Should the applicant wish to vary the Major Development or any of the components of the Major Development, an application may be submitted, provided that the development application variation remains within the ambit of the Public Environmental Report and Assessment Report referred to in this provisional development authorisation. If an application variation involves substantial changes to the proposal, pursuant to Section 47 of the *Development Act 1993*, the applicant may be required to prepare an amended Public Environmental Report for public inspection and purchase. An amended Assessment Report may also be required to assess any new issues not covered by the original Assessment Report and a decision made by the Governor pursuant to Sect*ion 48 of the Development Act 1993*.

6. The applicant's CEMP, OEMMP and other management plans should be prepared taking into consideration (and with explicit reference to) relevant EPA policies and guideline documents, including, but not limited to:
   a. the Environment Protection (Air Quality) Policy 2016;
   b. the Environment Protection (Noise) Policy 2007;
   c. the Environment Protection (Water Quality) Policy 2015;
   d. the Environment Protection (National Pollutant Inventory) Policy 2008;
   e. the Environment Protection (Waste to Resources) Policy 2010;
   f. the Standard for the Production and Use of Waste Derived Fill (if applicable) (2013);
   g. the Bunding and Spill Management Guidelines (2012);
   h. the Wastewater Irrigation Management Plan (WIMP) Guideline (2009);
   i. the Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry (1999);
   j. Handbooks for Pollution Avoidance; and
   k. any other legislative requirements, Guidelines and Australian Standards requiring compliance.

7. The applicant is reminded of its obligations under the *Aboriginal Heritage Act 1988*, whereby any 'clearance' work that may require permission to disturb, damage or destroy Aboriginal Sites, must be undertaken with the full authorisation of the Minister for Aboriginal Affairs

and Reconciliation, according to Section 23 of the Act.

8. The applicant, and all agents, employees and contractors, such as construction crews, must be conversant with the provisions of the *Aboriginal Heritage Act 1988*, particularly the requirement to immediately contact the Department of Aboriginal Affairs and Reconciliation in the event that archaeological items (especially skeletal material) are uncovered during earthmoving.

9. All works and activities must be undertaken in accordance with the General Environmental Duty as defined in Part 4, section 25(1) of the *Environment Protection Act 1993* (which requires that a person must not undertake any activity, which pollutes, or may pollute; without taking all reasonable and practical measures to prevent or minimise harm to the environment), relevant Environment Protection Policies made under Part 5 of the *Environment Protection Act 1993* and other relevant publications and guidelines.

10. The applicant is reminded of its obligations under the *Native Vegetation Regulations 2003* whereby any native vegetation clearance must be undertaken in accordance with a management plan that has been approved by the Native Vegetation Council that results in a significant environmental benefit on the property where the development is being undertaken, or a payment is made into the Native Vegetation Fund of an amount considered by the Native Vegetation Council to be sufficient to achieve a significant environmental benefit in the manner contemplated by Section 21(6) of the *Native Vegetation Act 1991*, prior to any clearance occurring.

11. The applicant is reminded of its obligations under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), not to undertake any activity that could have a significant impact on any matter of National Environmental Significance, without first referring it to Commonwealth Minister for the Environment for consideration under the Act.

12. The applicant is reminded that a water license to establish a water supply for the development (i.e. bore or borefield) would need to be secured under the *Natural Resources Management Act 2004*. The transfer and use of a license is bound by the principles and guidelines of the Water Allocation Plan for the Lower Limestone Coast Prescribed Wells Area. The licensing process would include the need for the proponent to undertake a preliminary hydrogeological assessment that would have to detail:
    a. the volume of water required based on the current design;
    b. the primary water source intended for the project (i.e. confined or unconfined aquifer (noting limits to how far can transfer water);
    c. Details of water quality for potable or non-potable use, and treatment as necessary; and
    d. impacts on Groundwater Dependent Ecosystems.

13. The applicant is reminded that, under the *National Parks and Wildlife Act 1972*, permits are required for the 'taking of protected animals', such for the capture and relocation of animals during construction and the destruction or relocation of animals during operation.

14. The Minister for Planning has a specific power to require testing, monitoring, auditing and

reporting under Section 48C of the *Development Act 1993*.

11 Appendix 1

11.1 The Governor as the Relevant Authority

Section 48(5) of the *Development Act 1993* requires that before the Governor considers a proposal that has been declared a Major Development, the Governor must have regard to (amongst other things) the provisions of the appropriate Development Plan and the Development Regulations, the Building Rules, the Planning Strategy, the Environment Protection Act 1993, and any other matters considered relevant.

In respect of applications being assessed as Major Developments under the Act, the appropriate Development Plan and Planning Strategy are those current at the time of the decision, as Section 53 of the Act does not apply to the Major Development provisions of the Act.

11.2 South Australia's Strategic Plan

When making a decision, the Governor has regard to any other matters considered relevant to the proposal. In this regard, the assessment has also been carried out with reference to the State Strategic Plan. The State Strategic Plan (Government of South Australia 2011) seeks to widen opportunities for all South Australians through the pursuit of seven strategic priorities:

- Premium Food and Wine from our Clean Environment.
- Growing Advanced Manufacturing
- Realising the Benefits of the Mining Boom
- Creating a Vibrant City
- Safe Communities, Healthy Neighbourhoods
- Every Chance for Every Child
- An Affordable Place to Live

The relevant South Australian Strategic Plan Goals and Targets include:

Goal: We are known world-wide as a great place to live and visit

Target 4: Increase visitor expenditure in South Australia's total tourism industry to $8 billion by 2020

Goal: South Australia has a resilient, innovative economy

Target 35: Exceed the national economic growth rate over the period to 2020

Target 36: Exceed Australia's average labour productivity growth rate through to 2020

Goal: We develop and maintain a sustainable mix of industries across the State

Goal: All South Australians have job opportunities.

Goal: We reduce our greenhouse gas emissions.

Goal: We care for our oceans, coasts and marine environments

Goal: South Australia has reliable and sustainable water resources and is a leader in wastewater, irrigation, stormwater and groundwater management.

Goal: We are physically active.

11.3 Planning Strategy

The District Council of Robe and the subject site is located within the area covered by the Limestone Coast Region Plan (a volume of the Planning Strategy for South Australia) which sets out the strategies, policies and directions for the region and is used to guide future land use and development within the region.

The area is recognised a tourist destination and seeks to promote economic growth for the region whilst protecting and enhancing the natural assets of the region, in particular the coastal areas.

Relevant principles and policies of the region plan include:

Principle

1. Recognise, protect and restore the region's environmental assets

8. Reinforce the region as a preferred tourism destination

Policies

1.2 Encourage water harvesting initiatives where ecologically appropriate (that is, where it can be shown that the water requirements of dependent ecosystems are being met).

1.3 Pursue best practice water use efficiency in the built form (at both individual dwelling and town scales) drawing on WSUD techniques.

1.4 Protect coastal, marine and estuarine areas of conservation, landscape and environmental significance by limiting development in these areas. In limited circumstances where development may require such a location—such as a development of state significance—the social and economic benefits must be demonstrated to outweigh any adverse environmental and amenity impacts. If development cannot be avoided, the impacts should be minimised and offset where possible.

1.5 Recognise areas of high biodiversity value, and locate and design development to prevent the loss, degradation and/or fragmentation of native vegetation and any loss of species and/or ecological communities

1.6 Acknowledge, protect and manage areas of significant landscape and amenity value, including landscapes that form attractive backgrounds and entrances to towns and tourist developments

1.7 Protect, enhance and promote those assets that attract tourists and are of value to the community

1.8 Support the role of the coast in providing adventure, nature-based and ecotourism experiences, including in national and conservation parks, as well as for food and wine experiences

1.9 Facilitate sustainable tourist accommodation in suitable locations throughout the region.

1.10 Facilitate tourism-related developments, such as restaurants, specialist retail and accommodation, that add value to existing enterprises.

1.11 Promote the region as a culinary and coast/nature based destination.

11.4 Development Plan

The Robe Council Development Plan (consolidated 15 December 2016) sets out the 'rules' (i.e. on-the-ground planning policies) for what can be done on any piece of land and the detailed criteria against which development applications are assessed.

The Development Plan includes a Strategic Setting to reflect the relevant Planning Strategy (i.e. the Limestone Coast Region Plan) and Council's own local strategic investigations. It also includes a suite of general provisions (i.e. policies) that apply across the whole Council area that relate to a range of environmental, social and economic development issues.

Each parcel of land is identified within a specific Zone, where more detailed policies give greater certainty and direction about where certain forms of development should be located. Generally, envisaged forms of development are identified (especially through the vision expressed in Desired Character Statement for the Zone).

It should be noted that the assessment of a Major Development proposal only has to have regard to the policies of the Development Plan, unlike a standard development application that has to be in general accordance with the policies (especially for the Zone). The application has been considered in the context of the planning policies contained within the Robe Council Development Plan (consolidated 15 December 2016). The AR has considered the intent of the Development Plan in the 'Assessment of the Main Issues'

11.4.1 Council Wide Provisions

Relevant Council wide provisions include the following:

Animal Keeping

Objectives

1. *Animals not kept at a density beyond the carrying capacity of the land or water.*
2. *Animal keeping development sited and designed to avoid adverse effects on surrounding* development.

Principles

1. *Animal keeping and associated activities should not create adverse impacts on the environment or the amenity of the locality.*

Coastal Areas

Objectives

1. *The protection and enhancement of the natural coastal environment, including environmentally important features of coastal areas such as mangroves, wetlands, sand dunes, cliff tops, native vegetation, wildlife habitat shore and estuarine areas.*

3. *Preservation of areas of high landscape and amenity value including stands of vegetation, shores, exposed cliffs, headlands, islands and hill tops, and areas which form an attractive background to urban and tourist areas.*

4. *Development that maintains and/or enhances public access to coastal areas with minimal impact on the environment and amenity.*

5. *Development only undertaken on land which is not subject to or that can be protected from coastal hazards including inundation by storm tides or combined storm tides and stormwater, coastal erosion or sand drift, and probable sea level rise.*

6. *Development that can accommodate anticipated changes in sea level due to natural subsidence and probable climate change during the first 100 years of the development.*

7. *Development which will not require, now or in the future, public expenditure on protection of the development or the environment.*

8. *Management of development in coastal areas to sustain or enhance the remaining natural coastal environment.*

9. *Low intensity recreational uses located where environmental impacts on the coast will be minimal.*

Principles

1. *Development should be compatible with the coastal environment in terms of built form, appearance and landscaping including the use of walls and low pitched roofs of non-reflective texture and natural earth colours.*

2. *The coast should be protected from development that would adversely affect the marine and on-shore coastal environment, whether by pollution, erosion, damage or depletion of physical or biological resources, interference with natural coastal processes or any other means.*

3. *Development should not be located in delicate or environmentally-sensitive coastal features such as sand dunes, cliff-tops, wetlands or substantially intact strata of native vegetation.*

4. *Development should not be undertaken where it will create or aggravate coastal erosion, or where it will require coast protection works which cause or aggravate coastal erosion.*

5. *Development should be designed so that solid/fluid wastes and stormwater runoff is disposed of in a manner that will not cause pollution or other detrimental impacts on the marine and on-shore environment of coastal areas*

8. *Development should be designed and sited so that it does not prevent natural landform and ecological adjustment to changing climatic conditions and sea levels and should allow for the following:*

    (a) the unrestricted landward migration of coastal wetlands

    (b) new areas to be colonised by mangroves, samphire and wetland species

(c) sand dune drift

(d) where appropriate, the removal of embankments that interfere with the abovementioned processes.

9. *Development should maintain or enhance public access to and along the foreshore.*

12. *Development that abuts or includes a coastal reserve should be sited and designed to be compatible with the purpose, management and amenity of the reserve, as well as to prevent inappropriate access to the reserve.*

13. *Development, including marinas and aquaculture, should be located and designed to ensure convenient public access along the waterfront to beaches and coastal reserves is maintained, and where possible enhanced through the provision of one or more of the following:*

(a) pedestrian pathways and recreation trails

(b) coastal reserves and lookouts

(c) recreational use of the water and waterfront

(d) safe public boating facilities at selected locations

(e) vehicular access to points near beaches and points of interest

(f) car parking

15. *Public access through sensitive coastal landforms, particularly sand dunes, wetlands and cliff faces, should be restricted to defined pedestrian paths constructed to minimise adverse environmental impact.*

16. *Access roads to the coast and lookouts should preferably be spur roads rather than through routes, other than tourist routes where they:*

(a) do not detract from the amenity or the environment

(b) are designed for slow moving traffic

(c) provide adequate car parking

29. *Development along the coast should be in the form of infill in existing developed areas or concentrated into appropriately chosen nodes and not be in a scattered or linear form.*

Design and Appearance

Objectives

1. *Development of a high architectural standard that responds to and reinforces positive aspects of the local environment and built form*

Principles

1. *The design of a building may be of a contemporary nature and exhibit an innovative style provided the overall form is sympathetic to the scale of development in the locality and with the context of its setting with regard to shape, size, materials and colour.*

Energy Efficiency

Objectives

1. *Development designed and sited to conserve energy*

Principles

1. *Development should provide for efficient solar access to buildings and open space all year around.*
2. *Buildings should be sited and designed:*

    (a) to ensure adequate natural light and winter sunlight is available to the main activity areas of adjacent buildings

    (b) so that open spaces associated with the main activity areas face north for exposure to winter sun.

Hazards

Objectives

2. *Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards*
5. *Development located to minimise the threat and impact of bushfires on life and property*

Principles

1. *Development should be excluded from areas that are vulnerable to, and cannot be adequately and effectively protected from, the risk of hazards.*
2. *There should not be any significant interference with natural processes in order to reduce the exposure of development to the risk of natural hazards.*
8. *Buildings and structures should be located away from areas that pose an unacceptable bushfire risk as a result of one or more of the following:*

    (a) vegetation cover comprising trees and/or shrubs

    (b) poor access

    (c) rugged terrain

    (d) inability to provide an adequate building protection zone

    (e) inability to provide an adequate supply of water for fire fighting purposes.
9. *Residential, tourist accommodation and other habitable buildings should:*

    (a) be sited on the flatter portion of allotments and avoid steep slopes, especially upper slopes, narrow ridge crests and the tops of narrow gullies, and slopes with a northerly or westerly aspect

    (b) be sited in areas with low bushfire hazard vegetation and set back at least 20 metres from existing hazardous vegetation

    (c) have a dedicated and accessible water supply available at all times for fire fighting
14. *Vehicle access and driveways to properties and public roads created by land division should be designed and constructed to:*

    (a) facilitate safe and effective operational use for fire fighting and other emergency vehicles and residents

(b) provide for two-way vehicular access between areas of fire risk and the nearest public road

Infrastructure

Objectives

1. *Infrastructure provided in an economical and environmentally sensitive manner.*
4. *The visual impact of infrastructure facilities minimised.*

Principles

1. *Development should not occur without the provision of adequate utilities and services, including:*
   (a) electricity supply
   (b) water supply
   (c) drainage and stormwater systems
   (d) waste disposal
   (e) effluent disposal systems
   (f) formed all-weather public roads
   (g) telecommunications services
   (h) social infrastructure, community services and facilities
   (i) gas services.
2. *Development should only occur where it provides, or has access to, relevant easements for the supply of infrastructure.*
6. *In areas where no reticulated water supply is available, buildings whose usage is reliant on a water supply should be equipped with an adequate and reliable on-site water storage system and, in the case of dwellings, a capacity equivalent to 15 000 litres per bedroom should be provided.*
7. *Urban development should not be dependent on an indirect water supply.*
8. *Electricity infrastructure should be designed and located to minimise its visual and environmental impacts.*
10. *Utilities and services, including access roads and tracks, should be sited on areas already cleared of native vegetation. If this is not possible, their siting should cause minimal interference or disturbance to existing native vegetation and biodiversity.*
11. *Utility buildings and structures should be grouped with non-residential development where possible.*
12. *Development in proximity to infrastructure facilities should be sited and be of a scale to ensure adequate separation to protect people and property*

Landscaping, Fences and Walls

Objectives

1. *The amenity of land and development enhanced with appropriate planting and other landscaping works, using locally indigenous plant species where possible.*

Natural Resources

Objectives

1. *Retention, protection and restoration of the natural resources and environment*
3. *The ecologically sustainable use of natural resources including water resources, including marine waters, ground water, surface water and watercourses.*
5. *Development consistent with the principles of water sensitive design.*
6. *Development sited and designed to:*
    - *(a) protect natural ecological systems*
    - *(b) achieve the sustainable use of water*
    - *(c) protect water quality, including receiving waters*
    - *(d) reduce runoff and peak flows and prevent the risk of downstream flooding*
    - *(e) minimise demand on reticulated water supplies*
    - *(f) maximise the harvest and use of stormwater*
    - *(g) protect stormwater from pollution sources.*
7. *Storage and use of stormwater which avoids adverse impact on public health and safety.*
8. *Native flora, fauna and ecosystems protected, retained, conserved and restored.*
9. *Restoration, expansion and linking of existing native vegetation to facilitate habitat corridors for ease of movement of fauna.*
10. *Minimal disturbance and modification of the natural landform.*
13. *Protection of the scenic qualities of natural and rural landscapes*

Principles

1. *Development should be undertaken with minimum impact on the natural environment, including air and water quality, land, soil, biodiversity, and scenically attractive areas.*
2. *Development should ensure that South Australia's natural assets, such as biodiversity, water and soil, are protected and enhanced.*
3. *Development should not significantly obstruct or adversely affect sensitive ecological areas such as creeks, wetlands, estuaries and significant seagrass and mangrove communities.*
4. *Development should be appropriate to land capability and the protection and conservation of water resources and biodiversity.*
5. Development should be designed to maximise conservation, minimise consumption and encourage reuse of water resources.
6. Development should not take place if it results in unsustainable use of surface or underground water resources.

7. Development should be sited and designed to:

(a) capture and re-use stormwater, where practical

(b) minimise surface water runoff

(c) prevent soil erosion and water pollution

(d) protect and enhance natural water flows

(e) protect water quality by providing adequate separation distances from watercourses and other water bodies

(f) not contribute to an increase in salinity levels

(g) avoid the water logging of soil or the release of toxic elements

(h) maintain natural hydrological systems and not adversely affect:

(i) the quantity and quality of groundwater

(ii) the depth and directional flow of groundwater

(iii) the quality and function of natural springs.

26. Development should retain existing areas of native vegetation and where possible contribute to revegetation using locally indigenous plant species.

27. Development should be designed and sited to minimise the loss and disturbance of native flora and fauna, including marine animals and plants, and their breeding grounds and habitats.

28. Native vegetation should be conserved and its conservation value and function not compromised by development if the native vegetation does any of the following:

(a) provides an important habitat for wildlife or shade and shelter for livestock

(b) has a high plant species diversity or includes rare, vulnerable or endangered plant species or plant associations and communities

(c) provides an important seed bank for locally indigenous vegetation

(d) has high amenity value and/or significantly contributes to the landscape quality of an area, including the screening of buildings and unsightly views

(e) has high value as a remnant of vegetation associations characteristic of a district or region prior to extensive clearance for agriculture

(f) is growing in, or is characteristically associated with a wetland environment.

29. Native vegetation should not be cleared if such clearing is likely to lead to, cause or exacerbate any of the following:

(a) erosion or sediment within water catchments

(b) decreased soil stability

(c) soil or land slip

(d) deterioration in the quality of water in a watercourse or surface water runoff

(e) a local or regional salinity problem

(f) the occurrence or intensity of local or regional flooding.

30. Development that proposes the clearance of native vegetation should address or consider the implications that removing the native vegetation will have on the following:

(a) provision for linkages and wildlife corridors between significant areas of native vegetation

(b) erosion along watercourses and the filtering of suspended solids and nutrients from runoff

(c) the amenity of the locality

(d) bushfire safety

(e) the net loss of native vegetation and other biodiversity.

31. Where native vegetation is to be removed, it should be replaced in a suitable location on the site with locally indigenous vegetation to ensure that there is not a net loss of native vegetation and biodiversity.

32. Development should be located and occur in a manner which:

(a) does not increase the potential for, or result in, the spread of pest plants, or the spread of any nonindigenous plants into areas of native vegetation or a conservation zone

(b) avoids the degradation of remnant native vegetation by any other means including as a result of spray drift, compaction of soil, modification of surface water flows, pollution to groundwater or surface water or change to groundwater levels

(c) incorporates a separation distance and/or buffer area to protect wildlife habitats and other features of nature conservation significance.

Siting and Visibility

Objectives

1. *Protection of scenically attractive areas, particularly natural, rural and coastal landscapes*

Principles

1. *Development should be sited and designed to minimise its visual impact on:*

   (a) the natural, rural or heritage character of the area

   (b) areas of high visual or scenic value, particularly rural and coastal areas

   (c) views from the coast, near-shore waters, public reserves, tourist routes and walking trails

   (d) the amenity of public beaches.

2. *Buildings should be sited in unobtrusive locations and, in particular, should:*

   (a) be grouped together

   (b) where possible be located in such a way as to be screened by existing vegetation when viewed from public roads

3. *Buildings outside of urban areas and in undulating landscapes should be sited in unobtrusive locations and in particular should be:*

   (a) sited below the ridgeline

   (b) sited within valleys or behind spurs

   (c) sited in such a way as to not be visible against the skyline when viewed from public roads

   (d) set well back from public roads, particularly when the allotment is on the high side of the road.

4. *Buildings and structures should be designed to minimise their visual impact in the landscape, in particular:*

   (a) the profile of buildings should be low and the roof lines should complement the natural form of the land

   (b) the mass of buildings should be minimised by variations in wall and roof lines and by floor plans which complement the contours of the land

   (c) large eaves, verandas and pergolas should be incorporated into designs so as to create shadowed areas that reduce the bulky appearance of buildings.

5. *The nature of external surface materials of buildings should not detract from the visual character and amenity of the landscape.*

6. *The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land*

7. *Driveways and access tracks should be designed and surfaced to blend sympathetically with the landscape and to minimise interference with natural vegetation and landforms.*

Tourism Development

Objectives

1. *Environmentally sustainable and innovative tourism development.*
2. *Tourism development that assists in the conservation, interpretation and public appreciation of significant natural and cultural features including State or local heritage places.*
3. *Tourism development that sustains or enhances the local character, visual amenity and appeal of the area.*
4. *Tourism development that protects areas of exceptional natural value, allows for appropriate levels of visitation, and demonstrates an environmental analysis and design response which enhances environmental values.*
5. *Tourism development in rural areas that does not adversely affect the use of agricultural land for primary production.*
6. *Tourism development that contributes to local communities by adding vitality to neighbouring townships, regions and settlements.*
7. *Increased opportunities for visitors to stay overnight.*
8. *Ensure new development, together with associated bushfire management*

Principles

1. *Tourism development should have a functional or locational link with its natural, cultural or historical setting.*
2. *Tourism development and any associated activities should not damage or degrade any significant natural and cultural features.*
3. *Tourism development should ensure that its scale, form and location will not overwhelm, over commercialise or detract from the intrinsic natural values of the land on which it is sited or the character of its locality.*
4. *Tourism development should, where appropriate, add to the range of services and accommodation types available in an area.*
5. *Any upgrading of infrastructure to serve tourism development should be consistent with the landscape and the intrinsic natural values of the land and the basis of its appeal.*
9. *Tourist developments should demonstrate excellence in design to minimise potential impacts or intrusion on primary production activities and on areas of high conservation, landscape and cultural value.*
10. *Tourism developments in rural areas should be sited and designed to minimise impacts and have a functional or locational link with either of the following:*

    (a) the surrounding agricultural production or processing

    (b) the natural, cultural or historical setting of the area.

11. *Tourism developments in rural areas should primarily be developed in association with one or more of the following:*

(a) agricultural, horticultural, viticultural or winery development

(b) heritage places and areas

(c) public open space and reserves

(d) walking and cycling trails

(e) interpretive infrastructure and signs.

12. *Where appropriate, tourism developments in areas outside townships should:*

    (a) adapt and upgrade existing buildings of heritage value

    (b) seek to improve conditions in disturbed or degraded areas on the site.

14. *Tourism development in rural areas should occur only where it:*

    (a) incorporates a separation distance or buffers to avoid conflict with existing rural industries or agriculture or otherwise is designed to overcome the potential impacts associated with the adjoining land use (such as noise, dust, spray drift, odour and traffic)

    (b) will not give rise to demands for infrastructure and services, especially on public lands, that are inappropriate to the primary purpose of the zone and/or policy area.

15. *Tourism development, particularly in remote areas should be designed to minimise energy and water demands and incorporate alternative, sustainable technologies that use renewable energy sources and/or treat and reuse stormwater and wastewater to minimise reliance on mains services.*

16. *Natural features, signs and walkways should be used to manage and minimise potential risks of visitors damaging areas of cultural or natural significance, fragile areas, and areas of highest environmental value.*

17. *The visual and ambient impact of vehicles should be minimised by placing roadways and parking areas in unobtrusive locations.*

Waste

Objectives

1. *Development that, in order of priority, avoids the production of waste, minimises the production of waste, reuses waste, recycles waste for reuse, treats waste and disposes of waste in an environmentally sound manner.*

2. *Development that includes the treatment and management of solid and liquid waste to prevent undesired impacts on the environment including, soil, plant and animal biodiversity, human health and the amenity of the locality*.

Principles

1. *Development should be sited and designed to prevent or minimise the generation of waste (including wastewater) by applying the following waste management hierarchy in the order of priority as shown below:*

    (a) avoiding the production of waste

    (b) minimising waste production

    (c) reusing waste

    (d) recycling waste

    (e) recovering part of the waste for re-use

    (f) treating waste to reduce the potentially degrading impacts

    (g) disposing of waste in an environmentally sound manner.

2. *The storage, treatment and disposal of waste materials from any development should be achieved without risk to health or impairment of the environment.*

3. *Development should avoid as far as practical, the discharge or deposit of waste (including wastewater) onto land or into any waters (including processes such as seepage, infiltration or carriage by wind, rain, sea spray, stormwater or by the rising of the water table).*

4. *Untreated waste should not be discharged to the environment, and in particular to any water body.*

5. *Development should include appropriately sized area to facilitate the storage of receptacles that will enable the efficient recycling of waste.*

6. *Development that involves the production and/or collection of waste and/or recyclable material should include designated collection and storage area(s) that are:*

    (a) screened and separated from adjoining areas

    (b) located to avoid impacting on adjoining sensitive environments or land uses

    (c) designed to ensure that wastes do not contaminate stormwater or enter the stormwater collection system

    (d) located on an impervious sealed area graded to a collection point in order to minimise the movement of any solids or contamination of water

    (e) protected from wind and stormwater and sealed to prevent leakage and minimise the emission of odours

    (f) stored in such a manner that ensures that all waste is contained within the boundaries of the site until disposed of in an appropriate manner.

10. *Development that produces any sewage or effluent should be connected to a waste treatment system that complies with (or can comply with) the relevant public and environmental health legislation applying to that type of system.*

12. *Waste treatment should only occur where the capacity of the treatment facility is sufficient to accommodate likely maximum daily demands including a contingency for unexpected high flows and breakdowns.*

13. *Any on-site wastewater treatment system/ re-use system or effluent drainage field should be located within the allotment of the development that it will service.*
14. *A dedicated on-site effluent disposal area should not include any areas to be used for, or could be reasonably foreseen to be used for, private outdoor open space, driveways, car parking or outbuildings*

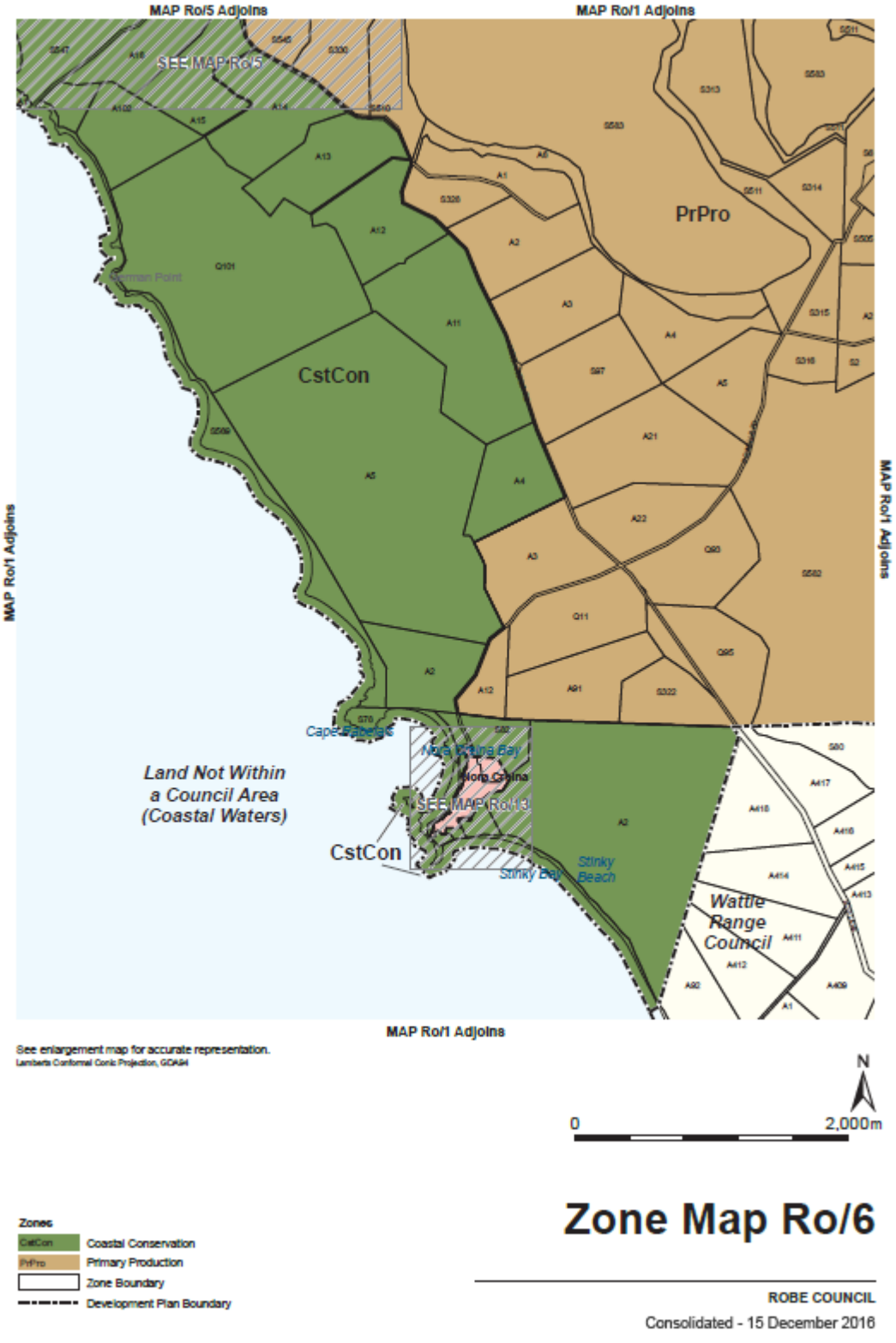
11.4.2 Zoning

The site is wholly contained within the Coastal Conservation Zone. The following summarises the nature and intent of this Zone, together with a short assessment of the proposals consistency with the policy contained therein.

Coastal Conservation Zone

The objectives of the Coastal Conservation Zone 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



Site Zoning

The 'Desired Character' for the zone states:

Because of the level of human intervention in clearing land for agriculture, the coastal areas and dunes systems remain in a largely natural state and provide an important source of habitat and plant diversity.

The coastal areas are sensitive to human activity and are subject to the impacts of sea level rise and coastal erosion. As such, the zone requires careful and strict management practices.

Land in the zone will be retained in a natural state with protection of coastal dunes, cliffs, geological features and associated native vegetation being paramount. Agricultural activity will be limited to existing cleared areas and cliff tops and sand dunes will be excluded from development.

The siting of buildings associated with farming pursuits will be limited to existing cleared areas and the replanting of native vegetation common to the area will be required.

The Desired Character also makes specific reference to limited infrastructure associated with the existing Robe Golf Course located in the adjacent Open Space Zone.

The policies within the Coastal Conservation Zone generally relate to, and envisage, coastal protection and conservation works along with limited tourism/visitor facilities (excluding accommodation).

Specific policies that relate to the form and character of development within the Zone include:

PDC 7 *Development should not be undertaken unless it is consistent with the desired character for the zone.*

PDC 8 *Development should be designed and sited to be compatible with conservation and enhancement of the coastal environment and scenic beauty of the zone.*

PDC 9 *Development should:*

(a) not adversely impact on the ability to maintain the coastal frontage in a stable and natural condition and, in any case, should be setback at least 100 metres from the coastal frontage

(b) minimise vehicle access points to the area that is the subject of the development

(c) be landscaped with locally indigenous plant species to enhance the amenity of the area and to screen buildings from public view

(d) utilise external low reflective materials and finishes that will minimise glare and blend in with the features of the landscape.

PDC 10 *Where public access is necessary in sensitive locations, walkways and fencing should be provided to effectively control access*

Whilst the proposal does not specifically meet the policies within the Zone, components of the proposal may satisfy the intent of the Zone, including:

- undertaking conservation and rehabilitative works and landscaping
- enhancing the coastal environment and beauty of the area
- minimising, and some cases, removing vehicle access point to the beach
- controlling public access to the coast (through walkways and fencing)
- providing public educational facilities and opportunities

In addition the form and character of what is proposed is mostly compatible, subject to final detailed design, with the preferred form and character of development for the Zone.

Conclusion

The Robe Council Development Plan balances both the need for economic development and growth (particularly tourism) with the need to preserve the regions natural environment (especially in sensitive coastal locations). The proposed golf course, associated facilities, tourist complex, wellness retreat, beef farm and vineyard is generally considered to be sympathetic to this balance, in that it offers new opportunity for tourism and economic growth, in particular jobs, for the region whilst seeking to preserve the environmental and landscape characteristics of the site. A key aim of the proposal is to provide a world class golfing experience in a natural setting with spectacular oceanfront dunal views. The proposal aims to build a golf course that will rank within the top 10 courses in Australia.

11.5 Building Rules Consent

This AR does not include an assessment of the proposal against the provisions of the Building Rules under the *Development Act 1993*. If the Governor grants a development authorisation, further assessment of the proposed development against the Building Rules will be required. The proponent may choose to seek building rules consent from the Robe District Council or by a private building rules certifier.

Full development authorisation (equivalent to a development approval under Part 1 of the Act) would only be made by the Governor *after* the Council or a private certifier has assessed and certified that any 'building work' under the Act, complies with the Building Rules (and has supplied this information to the Minister, as required by Regulation 64 of the Development Regulations 2008). The Building Rules certification must of course be consistent with the development authorisation.

The following structures would need Building Rules Consent (and Certificate of Occupancy) to be obtained, prior to the commencement of operations on the site:

- Clubhouse building.
- Tourist accommodation buildings.
- Wellness Centre and associated swimming pool.
- Function and Tourism Centre buildings.
- Golf course associated structures (where relevant)

In addition, several components of the development (including signage, stormwater management, management/monitoring programs and operational protocols) would be required to meet the relevant Australian Standards, EPA Guidelines/Codes and other relevant engineering and management standards.

11.6 Environment Protection Act 1993

Based on the information provided, the only activity of environmental significance, as defined in Schedule 1 of the *Environment Protection Act 1993* (EP Act) would be associated with the Wastewater Treatment Plant (i.e. with a capacity >100 persons/day). An EPA licence would be required for this component.

The Governor, before making a decision on the proposed development, would need to have regard to the objects of the Act, the general environmental duty and any relevant environment protection policies.

The objects of the Act are:

- *To promote the principles of ecologically sustainable development.*
- *To ensure that all reasonable and practicable measures are taken to protect, restore and enhance the quality of the environment having regard to the principles of ecologically sustainable development, and to prevent, reduce, minimise and, where practicable, eliminate harm to the environment.*

In addition, proper weight should be given to both long and short term economic, environmental, social and equity considerations in deciding all matters relating to environmental protection, restoration and enhancement. The Environment Protection Authority (EPA) is required to apply a precautionary approach to the assessment of risk of environmental harm and ensure that all aspects of environmental quality affected are considered in decisions relating to the environment.

The following Environment Protection Policies are applicable:

- Environment Protection (Water Quality) Policy 2015.
- Environment Protection (Air Quality) Policy 2016.
- Environment Protection (Noise) Policy 2007.
- Environment Protection (Waste to Resources) Policy 2010.
- Environment Protection (National Pollutant Inventory) Policy 2008.

Other relevant EPA documents include:

- Standard for the Production and Use of Waste Derived Fill (if applicable) (2013).
- Bunding and Spill Management Guidelines (2012).
- Wastewater Irrigation Management Plan (WIMP) Guideline (2009).
- Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry (1999).
- Handbooks for Pollution Avoidance.
- Construction Environmental Management Plans (CEMP) Guideline (2016).

11.7 Glossary

The Act	*Development Act 1993* (and associated Regulations 2008)
AHD	Australian Height Datum
AR	Assessment Report
DAC	Development Assessment Commission
DEWNR	Department of Water, Environment & Natural Resources
DPTI	Department of Planning, Transport & Infrastructure
EMP	Environmental Management Plan
EPA	Environment Protection Authority
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
FTE	Full Time Equivalent
PER	Public Environmental Report