**LONSDALE GOLF COURSE REDEVELOPMENT PROJECT**

**ASSESSMENT**

**under**

***ENVIRONMENT EFFECTS ACT 1978***

**Minister for Planning**

**October 2012**

**GLOSSARY**

AAV Aboriginal Affairs Victoria

AH Act *Aboriginal Heritage Act 2006*

CASS Coastal Acid Sulfate Soils

CEMP Construction Environmental Management Plan

C&LP Act *Catchment and Land Protection Act 1994 (Vic.)*

CM Act *Coastal Management Act 1995 (Vic.)*

CHMP Cultural Heritage Management Plan, prepared under *Aboriginal Heritage Act 2006*

CoGG City of Greater Geelong

DPCD Victorian Department of Planning and Community Development

DSE Victorian Department of Sustainability and Environment

EE Act *Environment Effects Act 1978 (Vic.)*

EES Environment Effects Statement

EMF Environmental Management Framework

EMP Environmental Management Plan

EMS Environmental Management System

EP Act *Environment Protection Act 1970 (Vic.)*

EPA Victorian Environment Protection Authority

EPBC Act *Environment Protection and Biodiversity Conservation Act 1999*

ESD ecologically sustainable development

EVC Ecological Vegetation Class

FFG Act *Flora and Fauna Guarantee Act 1988 (Vic.)*

ha, hha hectares, habitat hectares

HCS high conservation significance (native vegetation)

LGC Lonsdale Golf Club

LGCR Lonsdale Golf Course Redevelopment

LPPF Local Planning Policy Framework

m, m3 metres, cubic metres

ML megalitres

NVFHMP Native Vegetation and Fauna Habitat Management Plan

NVMF Victoria’s Native Vegetation Management Framework

OBP Orange-bellied Parrot

P&E Act *Planning and Environment Act 1987*

PEMP Project Environmental Management Plan

SEPPs State Environment Protection Policies

SPPF State Planning Policy Framework

VCS Victorian Coastal Strategy

VHCS very high conservation significance (native vegetation)

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# Introduction

## Purpose of this Document

This document is the assessment of environmental effects (“Assessment”) under the *Environment Effects Act 1978* (EE Act) for the proposed Lonsdale Golf Course Redevelopment (LGCR) project. It represents the final step in the Environment Effects Statement (EES) process under the EE Act by providing advice to decision-makers on the likely environmental effects of the proposal, their acceptability and how they should be addressed in relevant statutory decisions. The Assessment is largely informed by the Inquiry Report and EES, together with public submissions.

This Assessment will inform the decisions required under Victorian law for the proposal to proceed, in particular approvals under the *Planning and Environment Act 1987* (P&E Act). It will also inform the approval decision required under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), as this EES process is accredited as the necessary assessment under the EPBC Act.

## Project Description

The existing Lonsdale Golf Club is located at 69 Fellows Road within the coastal township of Point Lonsdale on the Bellarine Peninsula, approximately 30 kilometres (km) east of Geelong and 105km from Melbourne. The Point Lonsdale township is located approximately 6km from central Queenscliff.

The golf course currently occupies an area of 45.7 hectares (ha), 36.8ha of which is owned by the Club and 8.9ha is under lease arrangements. It has a frontage to Fellows Road on the south-east side and is partially bounded by the existing residential developments to the north-east (Emily Street) and south-west (Gills Road), as well as rural land to the south-west nested against the Buckley Foreshore Reserve. To the north-west the proposed development site is adjacent to Lake Victoria, part of the Lonsdale Lakes State Nature Reserve, which is located within 3.5km of the Swan Bay Ramsar area, an important site for many threatened and migratory species, including the Orange-bellied Parrot (OBP).

Most of the subject land is elevated, with the exception of the north-western section adjacent to the Lonsdale Lakes State Nature Reserve, which is low lying land previously used for shell grit mining.

Lonsdale Golf Club Inc. (LGC) (the proponent) proposes a major redevelopment of the Lonsdale Golf Course, and associated facilities onto rural land to the north and south of the current course, around the edges of Lake Victoria. It also proposes a residential subdivision of approximately 100 lots on the existing golf course land fronting Fellows and Gills Roads (refer to Figure 1).

The initial works proposed to be completed for the development include: construction of new golf fairways, course maintenance facilities, water storage basins, and a new course irrigation system. To enable the detailed design and construction of a proposed new clubhouse, car parking, associated facilities, as well as the development of the residential area, a further planning process or approval needs to occur (refer to section ).

The masterplan of the proposed development, as exhibited in the EES, is shown in over the page. A detailed project description is provided in Chapter 6 of the EES. However, during the Inquiry hearing, two significant changes to the proposed masterplan were made by the proponent. The LGC tabled a Revised Landscape Masterplan at the hearing to further reduce the clearance of native vegetation around hole 15 - this amended Landscape Masterplan is shown in . Further to this, the LGC tabled further revisions to the proposal (i.e. golf course layout), as set out below (also refer to Figure 3)[[1]](#footnote-2):

* Relocation of the 12th tee to a minimum distance of 27m from the southern shore of Lake Victoria;
* The relocation of the 13th tee to a minimum distance of 45m from the southern shore of Lake Victoria; and
* An area to the west of the land being acquired by the LGC to be secured by a conservation covenant in perpetuity.



Figure 1. Lonsdale Golf Club Redevelopment Proposal – as exhibited in the EES (April 2011)

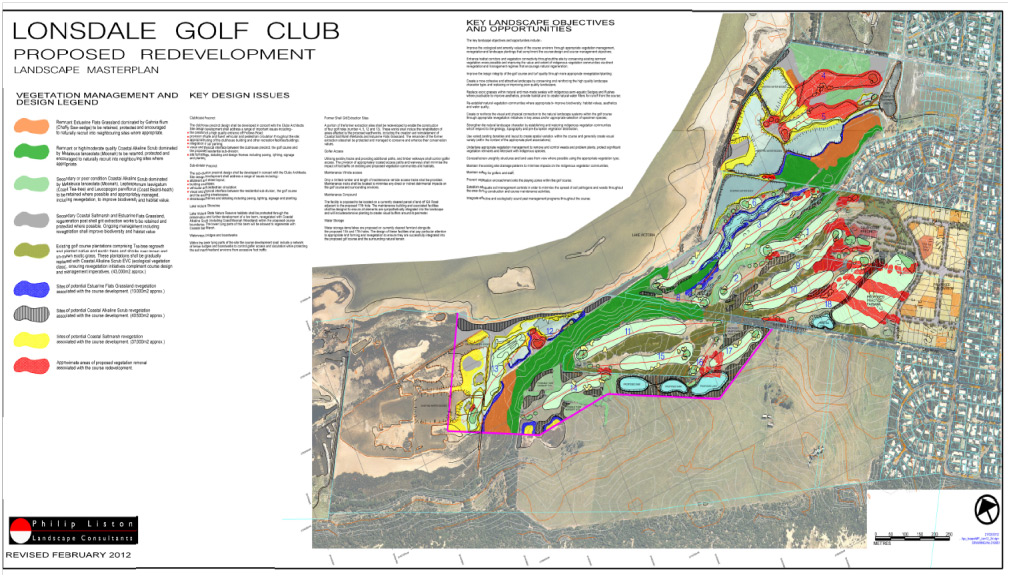


Figure 2. Lonsdale Golf Club Redevelopment – Revised Masterplan presented at the Inquiry Hearing (22 February 2012)



Figure 3. Lonsdale Golf Club Redevelopment - Revised golf course layout presented at the Inquiry Hearing (22 February 2012). NB - covenanted land marked in yellow cross hatch.

## Project History

The proposal for redeveloping the Lonsdale Golf Course was put forward by the LGC to the City of Greater Geelong (CoGG) in early 2003 in the form of an application to rezone land owned by the Club to Residential use. This application was accompanied by a planning permit for the proposed residential subdivision and for removal of native vegetation within this subdivision. An EES was also required for this project in May 2003.

In May 2006, the Council received a letter from the former Minister for Planning regarding an earlier application by Stockland to extend the Residential 1 Zone at Point Lonsdale. In this letter the Minister advised that this proposed amendment is contrary to his earlier advice provided to Coastal Councils, because “*it proposes to extend the Residential 1 Zone in the absence of an approved Structure Plan for Point Lonsdale. I strongly discourage outward growth of coastal settlements unless it is supported by strategic policies in the Planning Scheme*” [[2]](#footnote-3).

Having regard to the Minister’s advice, Council advised the LGC that their planning application was not able to be considered until the Point Lonsdale Structure Plan was prepared and approved. Consequently, the Club withdrew its application on 21 June 2006.

The proposal was also delayed by changes to the Government’s Victorian Coastal Strategy directions announced in the *Coastal Spaces Inception Report (May 2005)* and the subsequent *Coastal Spaces Recommendations Report (April 2006).* The *Victorian Coastal Strategy 2008* (VCS) provides an integrated management framework for the coasts of Victoria that seeks to assist local governments in managing development pressures in coastal settlements*.* The VCS sets key coastal and land use policies that need to be considered by local governments in determining any Planning Scheme Amendment.

The Point Lonsdale Structure Plan was jointly prepared by the CoGG and the Borough of Queenscliffe, in the context of the VCS, and released for public consultation in September 2008. The Structure Plan was adopted by the CoGG in April 2009 and by the Borough of Queenscliffe in July 2009. Following this, the LGC reviewed and updated its proposal and then submitted a new application for the proposed redevelopment of the Lonsdale Golf Course to the CoGG on 18 November 2009. The Club’s current proposal is described in section 1.2 of this Assessment.

The Point Lonsdale Structure Plan provides for a defined settlement boundary of the Point Lonsdale township. It was formally introduced into the relevant Greater Geelong and Queenscliff Planning Schemes through Amendments C165 and C22 on 26 July 2012, at the request of both Councils. Both amendments did the following:

* included land use and policy directions for Point Lonsdale in the Municipal Strategic Statements of each council; and
* recognised the Point Lonsdale Structure Plan (April 2009) as a reference document.

## Structure of this Assessment

Section 2 of this Assessment outlines both the EES process and statutory approvals required for the proposed development.

The core part of this Assessment is found in section 3, which provides findings on the environmental effects of the project and an integrated assessment of the proposal and its acceptability, within the context of the applicable legislation and policy. Section 4 provides responses to the recommendations of the Inquiry.

# Statutory Processes

## Environment Effects Act 1978

On 16 May 2003, the former Minister for Planning determined that an EES was required for the LGCR project. In October 2003, the Minister issued Assessment Guidelines that specified the range of matters to be addressed in the EES for the LGCR project.

The EES was prepared by the LGC and then placed on public exhibition from 18 August until 3 October 2011. One hundred and sixty eight submissions were received, many of which were pro-forma submissions in support of the project (140), and five were from State and local government bodies.

On 19 July 2011, the Minister for Planning appointed an Inquiry under the EE Act to review submissions and inquire into the environmental effects of the proposal, in accordance with its terms of reference. The Inquiry held a directions hearing on 8 December 2011, followed by public hearings which were held from 7 to 22 February 2012. The Inquiry provided its report to the Minister for Planning on 30 May 2012. In their report, the Inquiry noted that amendments were made to the proposal by the proponent during the hearings.

The next step under the EE Act is for the Minister for Planning to provide an Assessment of the environmental effects of the LGCR project to decision-makers under Victorian law (i.e. this document). The decision-makers must then consider the Assessment before deciding whether to allow the proposal to proceed. This Assessment will also inform the approval decision by the Australian Government Minister for Sustainability, Environment, Water, Population and Communities required under the EPBC Act.

## Statutory Approvals

**Victorian Approvals**

The proposed LGCR project requires a number of statutory approvals under Victorian law, including:

* An amendment to the Greater Geelong Planning Scheme and associated planning permit under the *Planning and Environment Act 1987* (P&E Act) to provide for extension of the golf course to the north and south around the edges of Lake Victoria and for future residential development, and
* An approved Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006.*

Amendment C67 to the Greater Geelong Planning Scheme proposes to:

* Rezone part of the existing golf course (approx. 7.7 ha) to Residential 1 Zone (R1Z) to facilitate residential development;
* Rezone part of the existing golf course (0.8 ha) to Public Park and Recreation Zone (PPRZ), to provide public open space for the new residential development;
* Rezone land adjacent to the existing golf course (currently Farming Zone and Rural Conservation Zone) to Special Use Zone (SUZ3) to facilitate the extended boundaries and redevelopment of the golf course; and
* Apply a new Development Plan Overlay (DPO) to the whole of the subject land, to ensure that the land is developed in accordance with an approved Development Plan.

The amendment is accompanied by a planning permit. The proposed planning permit seeks:

* A two lot subdivision of part of the existing golf course to enable the proposed future residential subdivision/ development (in conjunction with the residential zoning); and
* The subdivision of rural land adjacent to the existing golf course, to enable it to form part of the proposed extension.

A Section 173 Agreement was prepared and exhibited concurrently with the amendment to address issues such as the provision and development of public open space, upgrading the Fellows Road intersection and implementation of recommendations of the EES and approved development plan. The Section 173 Agreement also requires a contribution of $900 per residential lot to go toward the provision of community infrastructure.

Exhibition of the relevant statutory notices was coordinated so that the following documents were exhibited concurrently at the same locations:

* The EES Main Report, Technical Reports and Summary Brochure for the LGCR project;
* Amendment C67 to the Greater Geelong Planning Scheme; and
* Planning Permit Application (CP09/005), together with Draft Planning Permit (CP09/005).

Elements of the project require further detailed approval under the planning scheme in the future, including to enable the construction of a new clubhouse, car parking and associated facilities. Further detailed planning approvals required also encompass:

* A planning permit to remove native vegetation under Clause 52.17 of the Greater Geelong Planning Scheme;
* A planning permit for the residential subdivision; and
* A Development Plan for the residential development and extended golf course.

Given that a number of detailed reports would be required to support the Development Plan, not all matters are fully be resolved as part of this EES and Inquiry process[[3]](#footnote-4).

**Commonwealth Approval**

The LGCR project also needs approval under the EPBC Act. The controlling provisions under the EPBC Act applying to the LGCR project are:

* Sections 18 and 18A (listed threatened species and communities); and
* Sections 20 and 20A (listed migratory species).

The Australian Government accredited the EES process on 23 July 2003 as the required environmental assessment process under the EPBC Act to assess matters relevant to the Minister for Sustainability, Environment, Water, Population and Communities’ decision whether to approve the project under this Act.

# Environmental Assessment

## Approach to this Assessment

In assessing the environmental effects of the LGCR project relative to its likely benefits, this Assessment under the EE Act takes into account relevant legislation and policy, including applicable provisions, objectives and standards. This legislative and policy framework underpins the consideration of the proposal, its effects and their acceptability, in order to effectively inform statutory approval decisions.

The *Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Ministerial Guidelines), made under section 10 of the EE Act, specifically require the assessment of the proposal and its effects to be in the context of the principles and objectives of ecologically sustainable development (ESD) and environmental protection. Moreover, applicable legislation, including the P&E Act and *Environment Protection Act* 1970 (EP Act), incorporate objectives and principles of ESD and environmental protection.

To provide a coherent and integrated structure for this Assessment of environmental effects and likely benefits, the key aspects of relevant legislation, policy and wider ESD considerations have been synthesized into a set of evaluation objectives that are pertinent to the proposed LGCR. A draft set of evaluation objectives included in the Assessment Guidelines for this EES was used by the proponent and the Inquiry Panel. Table 1 lists the final set of evaluation objectives used throughout this Assessment, together with the set of core legislation that underpins them. Specific aspects of applicable legislation and related policy will be highlighted in the discussion under individual evaluation objectives.

Table 1. Assessment Evaluation Objectives

|  |  |
| --- | --- |
| **Evaluation Objectives** | **Key Statutes** |
| **Socio-Economic Outcomes**  To provide clear overall social and economic benefits, in particular for the Point Lonsdale-Queenscliff area. | P&E Act |
| **Biodiversity**  To avoid and minimise adverse effects on biodiversity, in particular for species and communities listed under the *Flora and Fauna Guarantee Act 1988 (Vic)* andthe *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*  Toavoid and minimise adverse effects on native vegetation, by complying with requirements under the *Victorian Native Vegetation Management – A Framework for Action 2002*. | P&E Act  FFG Act  EPBC Act |
| **Hydrology and Water Quality**  To avoid and minimise adverse effects on surface water and groundwater environments and their beneficial uses, and to protect water quality of Lake Victoria and surrounding wetlands. | P&E Act  EP Act  C&LP Act  CM Act |
| **Cultural Heritage**  To protect Aboriginal and non-Aboriginal cultural heritage values. | AH Act  Heritage Act  P&E Act |
| **Landscape Character** **and Local Amenity**  To minimise impacts on the landscape character and local amenity. | P&E Act  EP Act |
| **Environmental Management Framework**  To provide a transparent framework with clear accountabilities for managing environmental effects and risks associated with the project in order to achieve acceptable outcomes. | P&E Act  EP Act  CM Act  AH Act |
| **Ecologically Sustainable Development**  To achieve economic, social and environmental outcomes of the project that are consistent with the principles and objectives of ecologically sustainable development and environmental protection. | EE Act  P&E Act  EP Act |

## Socio-Economic Outcomes

**Evaluation Objective** - *To provide clear overall social and economic benefits, in particular for the Point Lonsdale-Queenscliff area.*

**Statutory and Policy Context**

The evaluation objective considers the capacity of the proposal to contribute to the socio-economic sustainability of the area, without resulting in adverse socio-economic impacts. This assists in the overall evaluation of the proposal, in terms of the acceptability of its potential environmental effects relative to the likely benefits and outcomes.[[4]](#footnote-5)

Potential social and economic effects are also a relevant consideration in relation to the required planning scheme amendments and planning permits under the P&E Act.

The State Planning Policy Framework (SPPF) provides a range of policies applicable to the LGCR, including those relating to open space and recreation planning[[5]](#footnote-6), business and entertainment opportunities[[6]](#footnote-7), and tourism, social and cultural activities[[7]](#footnote-8). In particular, Clause 11.02 of the SPPF sets a goal of ‘integrating environmental, social and economic factors in the interests of net community benefit and sustainable development’.

The Local Planning Policy Framework (LPPF) includes a number of objectives relevant to the proposal, including in the context of tourism and economic development[[8]](#footnote-9), community infrastructure provision[[9]](#footnote-10), and ensuring new residential development occurs around places of activity[[10]](#footnote-11).

**Key Issues**

In the context of the relevant legislation and policy, the key issues for the assessment of the proposed LGCR’s socio-economic outcomes are:

* Whether the development will contribute to the social and economic sustainability of the Point Lonsdale-Queenscliff area, particularly in its context as a private development; and
* Whether there is any potential for significant adverse social or economic impacts to arise as a result of the proposal.

**Discussion and Findings**

The EES and a number of submissions, including that of the CoGG, suggest that the proposed redevelopment will have a number of positive social and economic effects, including:

* The provision of enhanced community and recreation facilities for local residents and visitors to the area;
* The provision of additional housing opportunities within the Point Lonsdale township and the associated economic multiplier effects of increased population on local regional businesses; and
* The creation of employment opportunities, including 331 direct construction jobs[[11]](#footnote-12) over a 5 year construction period.

Perceived disbenefits identified in the EES[[12]](#footnote-13) include:

* Population increase; and
* Changes to amenity and character.

As described in the EES[[13]](#footnote-14), the proposed residential development is considered necessary to raise funds to expand and enhance the golf course. The LGC contend that unless there are significant improvements to the golf course, it will be unable to attract sufficient members and players for the golf club’s financial viability. Further, the LGC suggest that the numerous submissions received in support of the proposal illustrates the importance of the LGC to the community, although it is acknowledged that a large portion of the submitters were members of the club.

However, a view expressed by some submitters was that the proposal will only benefit the club and its members. Although it is fair to say that the redeveloped course will certainly benefit members in the first instance, it will be available to visitors and the wider community as an important recreational and social facility. Indeed CoGG supports the view that the proposal will further strengthen the role of the club as a community focal point. Additionally, golf tourism is recognised as a growing market, as confirmed by the Inquiry’s conclusion that the proposal would attract both new and return visits and longer stays, assisting in the extension of tourism in the area to a year-round activity, with flow on expenditure to other areas of the local economy.[[14]](#footnote-15)

In relation to employment opportunities arising from the proposal, some submitters argued that this was unlikely to be of benefit to the local community given the current demographics. However, the Inquiry concluded that construction activities will provide much needed employment opportunities regardless of where the workforce is sourced from, and securing the viability of the club will be of benefit in terms of some ongoing operational roles.

While the concerns from some submitters that the proposed residential development could result in changes to the social fabric and character of Point Lonsdale are understandable, the proposal is founded on sound design concepts (refer to Masterplan in Figure 2), which will enable a residential environment that reflects the existing character of Point Lonsdale. The proposal also offers benefits in terms of additional housing availability and diversity.

Further, as the residential component of the development is essentially ‘infill’ in nature and the EES indicates that the likely increase in the permanent population is in the order of approximately 175 residents, or 4 percent of the combined Point Lonsdale-Queenscliff community[[15]](#footnote-16), any impacts associated with demographic change are likely to be very minor in the context of other developments in the local area.[[16]](#footnote-17) Ongoing monitoring of community service networks is proposed, to determine whether there is additional demand for services. This will enable appropriate longer-term planning for expansion of community and social infrastructure.

In terms of infrastructure pressures experienced during peak summer periods, the EES anticipates that only 20 percent of proposed residences would be holiday homes, resulting in a one percent increase in peak visitor numbers in Point Lonsdale-Queenscliff[[17]](#footnote-18), which again is unlikely to exacerbate current conditions.

The proposal involves the removal of two parcels of rural land (adjacent to the existing golf course) from productive agriculture, although as outlined below this should not result in any detrimental impact upon the agricultural capacity of the land holdings.[[18]](#footnote-19)

The south-west parcel of rural land is approximately 20 ha, and forms part of a larger agricultural land holding. This is the only rural land holding located between Lake Victoria and the township of Point Lonsdale and is entirely isolated agricultural land. Assessment undertaken for the proponent identified only 54.8 ha of the 98 ha agricultural land holding (44 percent) as viable farm land. The remaining 56 percent is significantly constrained by environmental values and features, in particular Moonah tree belts and coastal scrub, as well as former shell grit extraction areas. Of the 20 ha of the lot proposed to be incorporated into the development, only 6.80 ha is viable farm land and therefore its loss would not significantly affect the agricultural productivity of the whole land holding.

In addition to the minor degree of viable grazing lost through the development, both of these parcels of rural land are within a land system (Class 5) classified as land unsuited to agriculture, due to environmental constraints.[[19]](#footnote-20) As such, their loss to grazing could be considered an acceptable approach to managing the environmental sensitivities.

### Conclusions

Having regard to the EES and the Inquiry’s findings, it is my assessment that the LGC proposal:

* Adds to housing availability and diversity in the Point Lonsdale area without significant adverse social impacts;
* Offers broad social and recreational benefits to the community despite being a private facility;
* Provides immediate employment opportunities, particularly during construction, whilst also securing the long-term viability of the facility with flow-on benefits for tourism and related businesses in the area; and
* Presents no economic disbenefits.

## Biodiversity

**Evaluation Objectives:**

* To avoid and minimise adverse effects on biodiversity and habitat, in particular for species and communities listed under the *Flora and Fauna Guarantee Act 1988* (Vic) and the EPBC Act(Commonwealth).
* To avoid and minimise adverse effects on native vegetation by complying with the requirements of the *Victorian Native Vegetation Management – A Framework for Action 2002.*

**Key Issues**

In the context of all the relevant biodiversity related legislation and policy (refer to Appendix A), the LGCR project raises a number of biodiversity issues, the key ones being:

* Whether there are any significant long term impacts on terrestrial and aquatic habitat for native plants and animals, particularly on feeding and roosting areas for threatened (e.g. Orange-bellied Parrot, Hooded Plover) and migratory species of avifauna listed under the FFG Act and/or EPBC Act.
* Whether the removal of native vegetation of very high and high conservation significance, as a result of the proposed golf course extension and in-fill residential development, is acceptable in the context of the NVMF.

### Native Vegetation

**Discussion and Findings**

The EES described the existing conditions of the proposed LGCR site as supporting both remnant and some regenerated native vegetation with significant conservation and habitat values.[[20]](#footnote-21) The vegetation located within the current golf course is a mixture of mature exotic and native species, and some indigenous regrowth scattered throughout. The parcels of land where the proposed golf course is to be located contain some higher ground (largely produced by previous shell grit mining) and low-lying areas. This land contains coastal scrub and saltmarsh, Moonah tree belts, as well as some alluvial flats containing grassland currently used for grazing, some of which is regrowth from the last 50 years.[[21]](#footnote-22) Whilst significant disturbance has occurred since European settlement, through shell grit mining, agriculture and development of the existing golf course, the project site retains significant ecological values due to the remnant native vegetation and habitats it supports.

The native vegetation recorded in the EES[[22]](#footnote-23) included: 20.98 ha of Coastal Alkaline Scrub (EVC 858)of very high conservation significance (VHCS) and high conservation significance (HCS); 11.82 ha of Coastal Saltmarsh (EVC 9)of VHCS and 7.94 ha of Estuarine Flats Grassland (EVC 914) of HCS – refer to Figure 4. EVC 858 and EVC 9 have an endangered conservation status in the Otway Plains bioregion, whereas EVC 914 is not listed as occurring in the Otway Plains bioregion, although in the adjacent bioregion (Victorian Volcanic Plains) it has an extinct conservation status.

The project site also supports 292 scattered trees[[23]](#footnote-24) mostly located within the proposed residential subdivision, of which 218 are proposed to be cleared.

The Inquiry noted that these EVCs of VHCS and HCS have mostly been cleared from the project site and therefore now occur largely as remnant or secondary patches.[[24]](#footnote-25) However, the Coastal Alkaline Scrub is still a very prominent feature of the landscape, particularly along the dune escarpment, south of the Lake Victoria Shoreline and shores of the saline waterbodies created by shell grit extraction. The original LGCR proposal intended to retain the majority of remnant native vegetation within the project site: approximately 85 percent of EVC 858, 80 percent of EVC 914 and 90 percent of EVC 9. The revised layout retains further native vegetation, as discussed below.

A number of submissions, including from the Department of Sustainability and Environment (DSE), had some criticisms of the original golf course layout exhibited in the EES (refer to ). The key concern related to the need for exploration of alternative options, such as acquiring more adjoining farmland to the south west, to better meet the “avoid” step under the NVMF. However, the changes made by the proponent in the amended proposal were favourably received, with DSE stating that the revised proposal “*goes some way to avoiding and minimising the removal of native vegetation*”. [[25]](#footnote-26)

The Inquiry undertook a comprehensive analysis of the original and amended proposal to the golf course layout (refer to Figure 1 and Figure 3 respectively) in order to assess the differences for native vegetation outcomes.[[26]](#footnote-27) This comparative analysis is summarised below in Table 2.



Figure 4. Native vegetation within the project area (EES Main Report, page 175)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EVC  (Conservation significance) | Coastal Alkaline Scrub  (VHCS) | | Coastal Alkaline Scrub  (HCS) | | Coastal Saltmarsh  (VHCS) | | Estuarine Flats Grassland  (HCS) | | Total to be removed in hectares (and hha) |
| Area of EVC / native vegetation to be removed in hectares (& habitat hectares(hha)) | | | | | | | | |
| Original Proposal | | 2.30 (1.24) | | 0.98 (0.37) | | 1.38 (0.94) | | 1.54 (1.05) | 6.2 (3.62) |
| Amended Proposal (Calculation 1) | | 1.41 (0.75) | | 0.62 (0.18) | | 1.38 (0.94) | | 1.11 (0.75) | 4.52 (2.62) |
| Offset target (Calculation 1) | | (1.50) | | (0.27) | | (1.88) | | (1.50) | (5.18) |
| Amended Proposal (Calculation 2) | | 0.09 (0.07) | | 0.62 (0.17) | | 0.07 (0.05) | | 0.03 (0.02) | 0.81 (0.31) |
| Offset target (Calculation 1) | | (0.14) | | (0.26) | | (0.10) | | (0.54) | (0.54) |

Table 2. Removal of native vegetation (EVCs) required for the original and amended proposals

**Note:** Two calculations were provided for the amended proposal by the proponent’s expert witness Mr Lane under NVMF. Calculation 1 included assessment of all remnant vegetation. Calculation 2 excluded vegetation present on the modified landform (i.e. land mined for shell grit).

The proposal exhibited in the EES required removal of 6.2 ha of native vegetation, which equates to 3.6 habitat hectares (hha) under the NVMF criteria, whereas the amended proposal reduces the extent of native vegetation removal to 4.52 ha, which corresponds with 2.62 hha. If the criteria in the DSE Technical Information Sheet[[27]](#footnote-28) (relating to artificial substrates, temporary loss and areas of regeneration) are applied, the habitat hectare assessment calculation is a total loss of only 0.81 ha or 0.31 hha. Overall the amended proposal presented to the Inquiry (refer to Project Description in section ) has the following consequences for native vegetation[[28]](#footnote-29):

* Clearance of 4.52 ha of native vegetation across the site, including 1.41ha of VHCS Coastal Alkaline Scrub and 1.38 ha of VHCS Coastal Saltmarsh EVCs;
* 48.24 ha of vegetation (native and non-native) will be retained;
* A net loss of 8.5 ha of non-native vegetation, primarily close to the Fellows Road end of the subject site; and
* A long term net increase of 4.53 ha in native vegetation across the area (i.e. net increases of 2.02 ha of Coastal Alkaline Scrub, 2.32 ha of Coastal Saltmarsh and 0.19 ha of Estuarine Flats Grasslands)[[29]](#footnote-30).

The proponent proposes that the removal of native vegetation would be offset through improved management in the retained areas of native vegetation.[[30]](#footnote-31) The Inquiry supported this commitment and further concluded that the LGC would need to allocate sufficient resources and employ necessary expertise to maintain a significant environmental asset.[[31]](#footnote-32)

The offset options identified by the proponent meet more than the minimum requirements calculated under the “net gain” formula. The total available offset gains of 7.88 hha are: 4.08 hha of Coastal Alkaline Scrub (VHCS); 0.40 hha of Coastal Alkaline Scrub (HCS); 1.99 hha of Coastal Saltmarsh (VHCS); and1.41 hha of Estuarine Flats Grassland (HCS).[[32]](#footnote-33) Provided the offsets from habitat enhancement and protection are assured and the retained saltmarsh is managed effectively, there would only be a limited reduction in habitat at the site in the short term before a net gain is readily achieved in the medium term.

The Inquiry was satisfied that native vegetation losses have been avoided and minimised to the extent practicable, particularly given the further retention of some of all three remnant EVCs through the amended proposal. This change in the removal of native vegetation made during the Inquiry process “*demonstrates a substantial shift towards meeting the ‘avoid’ principle under the NVMF*”[[33]](#footnote-34).

DSE also questioned whether the project should be considered as being of ‘state significance’, in terms of justifying consideration of the removal of VHCS native vegetation. The clearance of VHCS EVCs is generally not permitted unless ‘exceptional circumstances’ apply in the context of the project’s significance and benefits.[[34]](#footnote-35) The redevelopment of a private golf course alone may not provide such justification, although the proposed retention and protection of most of the native vegetation on the site (all of which is of HCS or VHCS), and the assurance of offsets exceeding the minimum requirements, would contribute to considerations required for the Minister for Environment and Climate Change to approve clearance of VHCS vegetation.

The Inquiry’s view was that it should only assess whether or not the proposal is environmentally acceptable, rather than assess its significance to the state or the potentially available alternatives for the project (e.g. acquisition of adjoining farmland[[35]](#footnote-36)). In doing so, the Inquiry concluded that the impact of the amended proposal on native vegetation is acceptable as the proposed vegetation clearance is relatively minor and will be more than adequately offset[[36]](#footnote-37), as outlined below. Indeed the revised Masterplan tabled at the hearings provides a good overall conservation outcome by retaining and improving a significant amount of important native vegetation in this location. Furthermore, the Minister for Environment and Climate Change will need to approve the removal of VHCS native vegetation prior to the required planning permit application.[[37]](#footnote-38)

### Protected Flora

**Discussion and Findings**

The EES identified five flora species listed under the EPBC Act and/or FFG Act that had some potential to occur on site, although only three of these species (Curly Sedge, Leafy Greenhood and Maroon Leek-orchid) were considered likely to occur. The targeted botanical field surveys did not observe any EPBC Act or FFG Act listed threatened flora species on the site.[[38]](#footnote-39) However, seven species from DSE’s Advisory List of Rare or Threatened Plants in Victoria were recorded. These included Salt Lawrencia, Marsh Saltbush, Yellow Sea-lavender, Tiny Arrowgrass, Prickly Arrowgrass, Coast Bitter-bush and Coast Wirilda.

The Inquiry concluded that, although the listed species have not been found on the site and impacts on protected threatened flora are considered unlikely, “*the protection and enhancement of the Coastal Alkaline Scrub is likely to be the most appropriate way of providing a habitat for the species.”[[39]](#footnote-40)*

Coastal Alkaline Scrub is part of the *Coastal Moonah Woodland* plant community, which is listed as threatened under the FFG Act.

One of the submissions raised an issue of lack of botanical surveys in spring, where the plant species listed above are most likely to be found due to the presence of some suitable habitat on the project site. For example typical habitat for the Leafy Greenhood is considered to be “*stabilised sand dunes under open to closed scrub of Coast Tea-tree or Moonah with an open ground stratum. The Maroon Leek-orchid is described as occurring in grassland or grassy woodland*.”[[40]](#footnote-41) The Inquiry agreed with this and considered it important that such surveys be carried out in spring, to enable appropriate management measures to be incorporated in the Environmental Management Plan (EMP).[[41]](#footnote-42)

### Protected Fauna

**Discussion and Findings**

Both the remnant native vegetation and wetlands on the project site provide suitable habitats for significant fauna, especially avifauna. Key fauna habitats identified by the EES at or near the site included: coastal woodland, sedgeland, saltmarsh, natural wetland, artificial wetland, planted trees and shrubs and introduced grassland. The site’s very close proximity to the shoreline of Lake Victoria (a significant component of the Lonsdale Lakes Nature Reserve managed by Parks Victoria[[42]](#footnote-43)) also introduces habitat for some significant threatened avifauna.

The EES states that the wetlands are the most important fauna habitats, including Lake Victoria and its shoreline, as well as man-made wetlands in the areas previously mined for shell grit. Lake Victoria and its surrounds (especially Coastal Saltmarsh vegetation) provide habitat for a range of birds of national significance, including for the OBP listed as Critically Endangered under the EPBC Act and FFG Act.

The Inquiry noted that key impacts on the avifauna species due to the project include direct loss of habitat through removal of vegetation (in particular Coastal Saltmash), and disturbance arising from closer human access and activities to areas frequented by birds sensitive to such disturbance.[[43]](#footnote-44)

*Orange-Bellied Parrot*

The OBP breeds in south-west Tasmania, but it migrates across Bass Strait during winter to Coastal Saltmarsh and related habitats along the south-eastern coast of Australia between Adelaide and the Gippsland Lakes. The population of this species has declined drastically since European settlement, with latest counts indicating a wild population of less than fifty birds.

No OBPs were observed in Coastal Saltmarsh around Lake Victoria during the targeted surveys undertaken for the EES - the last known occurrences within the project area were recorded in 1989. A database managed by Birds Australia indicates that in 2006 there were two records of OBP at Lonsdale Lakes, an area close to the project site[[44]](#footnote-45), which suggests that the OBP has visited the general area in recent times.

The EES Report and proponent’s expert witness[[45]](#footnote-46) statement asserted that the key habitat areas for OBP in Victoria does not include the saltmarsh in the project area as there is only evidence of infrequent use of this area.[[46]](#footnote-47) The key Victorian habitats are the Spit Nature Conservation Reserve, Swan Island, Lake Connewarre and the Werribee Treatment Plant. However, the Inquiry did not completely concur with this view, reiterating the value of any remaining saltmarsh habitat near coastal wetlands, given the diminishing extent of OBP winter habitat along the Victoria and South Australia coastlines[[47]](#footnote-48). Furthermore, the lack of any recent records within the actual project area does not indicate that habitat provided by Coastal Saltmarsh EVC in this area may not be important for the OBP in the future.

The Inquiry undertook an analysis of the potential impacts of the original and amended proposals against the EPBC Act Significant Impact Criteria for critically endangered species. The analysis is presented in . The total area of Coastal Saltmarsh EVC (primary habitat for OBP) within the project site is 11.82 ha, of which 1.38 ha is proposed to be cleared. The offset for the removal of this will provide additional habitat and there is other suitable habitat available for this species nearby (outside the study area). As a result, the proponent’s expert witness concluded that the risk to this species from the proposed development is not significant and therefore acceptable.[[48]](#footnote-49)

The Inquiry also noted that the proposed conservation covenant on private property located to the south west from the project area (the covenant is to control land use in perpetuity), provides a significant contribution to support the conservation efforts for the OBP in the long term. It will ensure a substantial additional area for the protection and enhancement of suitable habitat for this species. Overall, the Inquiry concluded that there is potential for the project to have a degree of short-term impact on suitable winter foraging habitat for OBP (e.g. the new golf holes in the south west ponds), given the clearance of 1.38 ha of Coastal Saltmarsh (refer to section 3.3.1). However, it concluded that with the additional OBP habitat values to be achieved on adjacent private property in the south west, through habitat enhancement and protection (under the conservation covenant), the minor loss of some habitat should be fully offset. Further to this, the project would not affect the potential for this area to provide significant winter foraging habitat for the OBP and thus be consistent with conservation of the species into the long term.[[49]](#footnote-50) The Inquiry also concluded that the amended proposal does not generate significant risks or unacceptable impact on the OBP.[[50]](#footnote-51)

**Table 3. Inquiry’s Assessment against *EPBC Act Significant Impact Criteria* for the Orange-bellied Parrot.[[51]](#footnote-52)**

|  |  |  |  |
| --- | --- | --- | --- |
| Significant Impact Criteria | Initial Proposal | Revised Proposal | Management Measures |
| Lead to a long term decrease in the size of the population.  Adversely affect habitat critical to the survival of a species.  Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.  Interfere with the recovery of the species.  Reduce the area of occupancy of the species. | *Potential to be part of a cumulative loss of severely depleted foraging habitat along the SA and VIC coastline and contribute to long term decline in population size.*  *Although the OBP has not been seen recently, past sightings provide evidence that the area does provide suitable foraging habitat for the OBP that is in close vicinity to and situated between the known key habitats of Lake Connewarre and Swan Bay.* | *Provides for regeneration of saltmarsh vegetation on the subject site and protection and enhancement in perpetuity of potential habitat on private land immediately to the west of the subject site.* | *Provision for protection and regeneration of remnant Coastal Saltmarsh vegetation as part of the EMF.*  *Establishment of a conservation covenant on private land with known habitat values for the OBP immediately abutting the western boundary of the proposed golf course expansion and part of the south west ponds complex.* |
| Fragment an existing population into two or more populations. | *There is no existing population on the subject site.* |  |  |
| Disrupt the breeding cycle of a population. | *The OBP breeds in Tasmania.* |  |  |
| Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species’ habitat. | *The main issue here was the potential for increased human disturbance by golfers and course maintenance. There is provision for screening of the new holes from Lake Victoria to reduce the potential for disturbance. The other issue was the potential for generally increased public access. The design does not allow for any construction of public vehicular or pedestrian access.* | *Provides for protection and enhancement in perpetuity of potential habitat on private land immediately to the west of the subject site.*  *Along with the proposed screening, the new holes 12 and 13 have been modified to increase their distance for the lake shoreline.* | *Establishment of a conservation covenant on private land with known habitat values for the OBP immediately abutting the western boundary of the proposed golf course expansion and part of the south west ponds complex.*  *New holes 12 and 13 have been modified to increase their distance from the lake shoreline.* |
| Introduce disease that may cause the species to decline. | *There was no evidence of this presented at the Inquiry hearing.* |  |  |

*Other Threatened Fauna and Migratory Species*

Lake Victoria provides habitat for a substantial number of waterbird and shorebird species protected as threatened or migratory species under Commonwealth and/or State legislation. Many of these species are listed under international treaties (JAMBA, CAMBA, ROKAMBA), which are intended to further the conservation of these species by protecting specific habitat/environments important to annual migrations.

The EES surveys reported that the shores of Lake Victoria are used by a large number of waterbirds, with the highest numbers recorded in summer and autumn, as opposed to the south east and south west pond areas that provided habitat to a smaller percentage of waterbirds. Approximately 34 listed threatened migratory bird species have been assessed as likely to occur in the study area due to both the presence of suitable habitat along Lake Victoria and historical records. The EES included targeted migratory bird surveys in Lake Victoria (undertaken in 2003-2004), during which 38 waterbird species were identified, including six EPBC Act listed migratory species: Red-necked Stint, Sharp-tailed Sandpiper, Curlew Sandpiper, Red Knot, Common Greenshank and Eastern Great Egret. The survey also identified five FFG listed species: Fairy Tern, Hooded Plover, Little Egret, Eastern Great Egret and Caspian Terin. The most abundant migratory and threatened species were Red-necked Stint, Sharp-tailed Sandpiper, Curlew Sandpiper, Common Greenshank and Hooded Plover.

Lake Victoria might also support other species such as the Baillon’s Crake (FFG listed), Gull-billed Tern (FFG listed), Blue-billed Duck (FFG listed) and White-bellied Sea-eagle (listed migratory, FFG listed). Habitat at Lake Victoria might also support other significant species of fauna, such as Australian Painted Snipe (EPBC and FFG listed), and Lewin’s Rail (FFG listed).

The proponent’s expert witness statement noted that Lake Victoria is internationally significant habitat for two migratory species in particular, Red-necked Stint and Banded Stilt, and is of national, state and regional significance for over 25 waterbirds or wetland dependent migratory species.[[52]](#footnote-53) On the pond areas, the Red-necked Stint and Banded Stilt were recorded as 9 percent and 0.04 percent respectively of the total bird count for the lake as a whole.

The EES also confirmed that Lake Victoria is very important habitat for the Hooded Plover in the non-breeding season, as well as a key flocking site and refuge for juvenile birds. This species was observed in the 2003 field surveys. It is also worth noting that of the 68 records of Hooded Plover in the Birds Australia Atlas, 60 were at Lake Victoria (from 1998-2010). As highlighted by the Inquiry, key impacts on the listed threatened and migratory species of fauna (noted above) are associated with direct loss of habitat, through removal of vegetation (in particular Coastal Saltmarsh - refer to section 3.3.1). Indirect impacts are also associated with potential reduced feed quality from stormwater runoff affecting wetland water quality, as well as disturbance arising from closer or more frequent human access and activity in areas used by fauna (birds in particular), including predation from domestic pets from the proposed residential development.[[53]](#footnote-54)

The EES concluded that the habitat loss for threatened and migratory avifauna would be very limited given the significant extent of available habitat around Lake Victoria and its environs. The EES also determined that during peak migratory periods shorebird activity will be approximately 200m from the project site and associated construction area. In light of this the project’s encroachment on existing habitat and disturbance to threatened and migratory species of avifauna should be quite limited. As such, the EES concluded that the project would not have a significant impact on listed migratory and threatened species.[[54]](#footnote-55)

A number of submitters did not agree with this conclusion based on their review of the original proposal and the EES. Indeed the Inquiry did agree “*that the southern parts of Lake Victoria and its foreshore provide important habitat for threatened and listed species of avifauna where it is proposed to extend the golf course... [W]hile it may be only a relatively small part of the entire Lake... its significance should not be underestimated. ...[T]he modified pond areas resulting from the former shell grit mining activities provide important habitat as it is clear that these areas have naturally regenerated over the past 40 years with Coastal Saltmarsh and Estuarine Flat Grasslands*.”[[55]](#footnote-56)

In relation to the potential reduced feed quality for migratory birds, the Inquiry was satisfied that, with implementation of the proposed best practice stormwater and turf management by the proponent, water quality of the wetland system should not be adversely affected (refer to section 3.4 of this Assessment).

In addition to the potential for direct impacts on habitat values, the EES also noted the potential for construction and other human-related disturbance during the construction and operation of the course to cause an increase in avoidance behaviour of avifauna. The EES proposes the erection of screens around the construction areas in order to mitigate such impact on natural shorebirds. However, the provision of fencing between works areas and the lake shore, and later between the golf course and the conservation area, does raise the potential for adverse impacts itself (offsetting the intended benefits of the fences).

While fences might exclude pests and predators and insulate birds from disturbance from human activity, some shorebirds are accustomed to open, flat areas with unobstructed views, and therefore might find a fence disturbing. The alternative of a transparent or chain-mesh fence would introduce a collision hazard and should also be avoided. On balance, the permanent use of fences should be minimised.

As highlighted by the Inquiry, the potential increase in disturbance from human activities during construction and operation could lead to impacts on migratory birds in the absence of appropriate controls and management. However, these impacts can be readily addressed through the Environmental Management Framework (EMF) and management plans to be implemented for the project. This includes seasonal timing of the construction works in or adjacent to sensitive areas in the short term, as well as proposed berms and screening vegetation in the project design to mitigate longer-term disturbance of protected species of avi-fauna that utilise Lake Victoria and environs.

The Inquiry had the benefit of considering the EES together with the identified impacts of the amended proposal presented at the hearing, which importantly reduced the area of habitat to be removed to a small amount and reduced fragmentation of Coastal Alkaline Scrub. This, together with proposed measures to limit human disturbance to avifauna (e.g. revised siting of holes 12 and 13, proposed berm and screening vegetation, possible relocation of hole 15 further away from the adjacent pond), enabled the Inquiry to provide an overall conclusion that the project “*will not seriously threaten an ecologically significant proportion of the populations of these migratory birds using Lake Victoria*”, and “*there was no evidence provided that suggested that the south east and south west ponds were critical to the survival of ecological populations of migratory waterbirds*”.[[56]](#footnote-57)

The Inquiry did not consider that there was any evidence that the LGCR project will:

* “*Substantially modify, destroy or isolate an area of important habitat for a migratory species;*
* *Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species; or*
* *Seriously disrupt the lifecycle of an ecologically significant proportion of the population of migratory species”.*[[57]](#footnote-58)

### Proposed Mitigation and Management

The Inquiry noted that the future planning process would require preparation of the detailed Development Plan for COGG approval, together with associated detailed design and supporting EMPs. With this process in mind, the Inquiry concluded that it is unlikely that the construction and occupancy phases of the residential subdivision would have any significant environmental effects, provided appropriate environmental management measures are implemented.

However, the Inquiry also recommended that the EMF include a Native Vegetation and Fauna Habitat Management Plan to address, among other things: protection of the OBP habitat in the area of the south west ponds; protection and enhancement of saltmarsh and waterbird habitat; and protection and enhancement of the connectivity of the existing areas of Coastal Alkaline Scrub.

Further to this, the native vegetation in the additional land to the west of the project site is proposed to be improved and protected in perpetuity as habitat for avifauna as part of the required offset arrangements under both the NVMF and EPBC Act. Further discussions with the owners of the land will help resolve how that is achieved, either through a Trust for Nature covenant (LGC’s preferred mechanism), or a Section 173 Agreement under the P&E Act. The Inquiry supported this proposed offset approach and concluded that “*this will require the Club to ensure its mindset is not simply about maintaining a recreational facility but managing a significant environmental asset. This means the Club will need to allocate sufficient financial resources and employ the necessary expertise as well as develop transparent reporting mechanisms. Accordingly, the EMP will be a critical mechanism in ensuring the NVMF objectives are met.*[[58]](#footnote-59)”

### Conclusions

Having regard to the EES and Inquiry’s findings, it is my assessment that:

* The amended proposal (22 February 2012) sufficiently avoids and minimises adverse effects on native vegetation and would have an acceptable impact, provided that appropriate offsets and environmental management measures are implemented to the satisfaction of DSE and the Commonwealth.
* The amended proposal, although resulting in some degree of impact on habitat for protected avifauna species, would not have a significant impact on these species, particularly as substantial opportunities for enhancement of important avifauna habitat in the area is proposed, including acquiring, improving and protecting further habitat in perpetuity through a conservation covenant.
* The amended proposal would not significantly affect the availability of winter foraging habitat for the Orange-bellied Parrot in this area, and does not represent unacceptable risk to the OBP, including in light of the protection and enhancement of further habitat in the adjacent land.
* Overall, I consider the impacts of the amended proposal on flora and fauna of State and National significance at the site to be acceptable.

Further, having regard to the Inquiry’s recommendations, it is my assessment that:

* Hole 5 on the redeveloped golf course be relocated 15m north from the adjacent pond to reduce the impact on the Coastal Saltmarsh and associated bird habitat.
* The Lonsdale Golf Club’s Revised Landscape Masterplan, provided by the proponent on 22 February 2012, be adopted as the basis for further detailed plans.
* A Native Vegetation and Fauna Habitat Management Plan (NVFHMP) be prepared to the satisfaction of DSE prior to any vegetation being removed for the project.
* The Minster for Environment and Climate Change consider the proposed removal of EVCs of VHCS together with the endorsed NVFHMP.
* The CoGG, as Planning Authority, ensures the future approval of the LGCR project be subject to the creation of a private conservation reserve in perpetuity involving an agreement between the Lonsdale Golf Club and the Estate of Marjorie Susan McNaught, being part of land described in Lot 1 on TP822391, and that the agreement include a management plan to exclude stock, undertake rabbit, vermin and weed control, and other appropriate measures to improve habitat.

Sufficient resources and expertise be allocated in consultation with Parks Victoria to protect and enhance remnant vegetation and habitat and further refine mitigation measures to minimise impacts on threatened and migratory species listed under the EPBC Act and international treaties.

## Hydrology and Water Quality

**Evaluation Objective** - *To avoid and minimise adverse effects on surface water and groundwater environments, and their beneficial uses, and to protect water quality of Lake Victoria and surrounding wetlands.*

**Key Issues**

Having regards to the applicable legislation and policy (refer to Appendix A), as well as the above evaluation objectives, the key issues for the LGGR in relation to hydrology and water quality are:

* Potential impacts on beneficial uses and hydrological conditions of surface water and groundwater.
* Potential effects from golf course operation (i.e. fertilisers and pesticides usage) on water quality of Lake Victoria and surrounding wetlands.
* The potential impacts of the proposed LGCR on land contamination, including mobilisation of acid sulfate soils.

### Surface Water

**Discussion and Findings**

The LGCR area is situated on a dune system developed on the Swan Bay Coastal Plain. Topography of the golf course undulates from near sea level, at the northern boundaries of the course abutting Lake Victoria, to more than 20m AHD at the central part of the course. The local surface water catchment is divided by the dune system into two sections. The northern side of the divide drains towards Lake Victoria, while runoff from the central part of the existing golf course is directed into localised closed basins formed in the swales between dunes.

The EES established that the LGCR area has a high rainfall infiltration rate (about 3 percent) through sandy sediments underlying the elevated parts of the golf course, which significantly limits the potential for surface water runoff from the project area.

The LGCR project’s irrigation needs (estimated in the EES to be a maximum 40 megalitres per year (ML/y)) will be met by the construction of five water storage basins with a total operational storage of 20ML. The storage basins are expected to provide for most irrigation needs of the golf course. Additional needs would be met by groundwater extraction or town water supply sources. The existing golf course has a current licence for the extraction of 92 ML/y of groundwater from five on-site bores.

The proposed storage basins are designed to capture stormwater runoff from the whole site to primarily provide for irrigation of the golf course. A secondary function of these basins would bet to manage stormwater runoff across the project site to prevent both peak rainfall discharge and nutrient discharge to Lake Victoria.

Key issues raised in the public submissions included the potential for degradation of water quality in Lake Victoria and surrounding wetlands by nutrient-based fertilisers and pesticides used to maintain the golf course turf; as well as the potential for increase of water levels in the sensitive water environments due to stormwater runoff. These aspects of the golf course operation were seen as main exposure pathways to transport residual fertilisers and pesticides to surface water bodies, potentially resulting in algal bloom or other adverse water quality impacts (e.g. pesticides affecting bird food sources).

The proponent’s expert witness submitted to the Inquiry that there would be no net increase in nutrient discharge to Lake Victoria, as increase in the nutrient discharge from fertilisation of the new golf holes would be offset by a decrease in runoff from the existing holes area that is to be redeveloped for the proposed residential development (runoff from residential development would be captured in the stormwater storage basins.

In relation to the potential for water level increase, the expert stated that there will be no increase in overall volume of stormwater runoff to Lake Victoria. Also, the maximum flood level increase in Lake Victoria of 0.05m, due to fill used to create the new golf holes, would be inconsequential.[[59]](#footnote-60)

Further, the expert was satisfied that that the stormwater management measures proposed in the EES,[[60]](#footnote-61) for both the golf course and residential development, are more than adequate.

The Inquiry accepted the expert opinion and concluded that it is highly unlikely that the proposed stormwater management would result in either reduction in water quality or any significant increase in flood levels for Lake Victoria.

### Groundwater

**Discussion and Findings**

The groundwater system underlying the existing golf course is part of the Bridgewater Formation Aquifer. The groundwater is supplied (or ‘recharged’) by rainfall and irrigation of the golf course. The high rainfall infiltration rate, through sandy soils, has resulted in the formation of a freshwater lens above the lower layer of saline groundwater. The site specific hydraulic conditions minimise the amount of groundwater flow that can reach Lake Victoria because, as groundwater flows towards the lake, its freshwater layer is forced to the ground surface by the pressure of deeper saline groundwater.

The EES estimated that, overall, the groundwater recharge from the LGCR project would increase by 1.3 percent (or 3 millimetres per year). This very small change to the groundwater recharge is mainly due to a relatively moderate increase in the maximum irrigation requirements for the LGCR project (i.e. increase of 7 ML/y from 33 ML/y required by the existing golf course). The EES concluded that groundwater recharge of 1.3 percent, resulting from the project operation, would have a negligible impact on the groundwater system. Further, the LGCR project has an extremely low risk of increased surface water runoff to groundwater (as well as associated increase in nutrient levels), as the proposed storage basins are designed to capture stormwater and irrigation runoff from the project area.

The EES characterised the quality of groundwater underlying the higher parts of the golf course, where the majority of the existing fairways are located. The collected data showed relatively low salinity, alkaline pH (indicative of calcium buffering capacity of coastal soils) and low nutrient levels (expressed as low phosphate and nitrate concentrations).

Key issues raised in the submissions on the EES included the impact of the golf course operation on hydraulic conditions (e.g. increased recharge) and related water quality (e.g. increased nutrient levels, increased groundwater salinity due to extraction of groundwater) that could affect beneficial uses of groundwater or groundwater dependent surface water environments.

The expert evidence to the Inquiry stated that the LGCR would have a small to negligible impact on groundwater recharge condition, with the main impact being the changed distribution of surface water runoff across the site. Groundwater extraction, if required, could balance any additional recharge of groundwater.[[61]](#footnote-62)

In response to concerns about groundwater quality and its effect on Lake Victoria, the expert was of the opinion that the proposed stormwater and irrigation management methods would not increase nutrient levels in the groundwater. He also confirmed the EES findings that Lake Victoria is hyper-saline and has high nutrient levels. These lake conditions, in combination with high salinity of the groundwater to the north of the site, as well as the site specific hydraulic conditions that limit flow from the groundwater freshwater layer to the lake, would result in the LGCR project not having any measurable effect on the Lake Victoria water quality.

Having regard to the EES and the expert evidence, the Inquiry concluded that the LGCR project would have a small to negligible impact on groundwater conditions, and that these effects are likely to have negligible off-site impacts or modification to the existing water environments. The Inquiry also concluded that the proposed irrigation management methods will result in a lower (or at worst equal) nutrient load input to the groundwater.[[62]](#footnote-63)

### Acid Sulfate Soils

**Discussion and Findings**

The activities that might pose a risk of mobilisation of coastal acid sulfate soils (CASS) are: soil excavation that can expose the acid soils to the air (enabling subsequent oxidation and formation of sulphuric acid), as well as import of contaminated fill to the site.

The EES acknowledged a likely presence of CASS at the LGCR project site. Further to this, the proponent’s expert witness considered that the likelihood of CASS occurrence at the LGCR project site in relation to geography as:

* ‘Likely’ for the alluvial flood plain and swamps;
* ‘Possible’ for the transition zone between swamps and dunes; and
* ‘Unlikely’ for the higher section of the site situated on the aeolian dunes.

However, as no significant soil excavations are proposed in the low lying area of the site, it is not expected that these soils will be encountered during the construction works. Yet the risk associated with CASS disturbance was rated ‘high’ in the EES[[63]](#footnote-64) due to the major consequences of any exposure of sensitive water environments to acidic runoff.

No detailed field investigations on the presence of CASS were undertaken for the EES. The preferred management strategy for dealing with CASS (as outlined in the EES) is avoidance through design and construction measures. Further, where CASS could be present within the construction zone, appropriate testing by a suitably qualified person is proposed. Where the presence of CASS is confirmed, a specific site management plan would be prepared to manage CASS that can’t be avoided.[[64]](#footnote-65)

Although the expert was not prepared to rate the risk of CASS mobilisation, due to the lack of field data, he recommended that the proponent undertake a *Stage A - Preliminary Hazard Assessment for CASS,* in accordance with the DSE best practice guidelines[[65]](#footnote-66), prior to the commencement of works. This assessment would determine the level of risk, including the need for a more detailed *Stage B - Detailed soil assessment of CASS.*

The Inquiry accepted the expert evidence and supported a recommendation for the need to undertake a CASS Hazard Assessment prior to commencement of works.

### Conclusions

Having regard to the EES and the Inquiry’s findings, it is my assessment that:

* The LGCR project would not result in any significant impacts on groundwater or surface water hydrology, or any changes to water levels in Lake Victoria.
* The LGCR project would not have any significant impacts on groundwater quality, or surface water quality, particularly given the stormwater management system to be installed and operated.
* Any residual impacts on hydrological conditions and water quality can be adequately managed through strengthening of the EMF and the finalisation of the project EMPs.

Further, having regard to the Inquiry’s recommendations on these matters, it is my assessment that:

* The proponent undertakes a detailed CASS Hazard Assessment to establish the extent of areas with likely presence of acid sulphide soils, as well as testing of any fill to be imported to the site, in consultation with the relevant authorities, prior to commencement of any works.
* The EMF and project EMPs be amended to provide for:
  + monitoring of groundwater quality and triggering of mitigation measures;
  + a Stormwater Drainage Masterplan prepared to the satisfaction of CoGG (as the Responsible Authority) and in accordance with the requirements of the Environment Protection Authority’s (EPA) *Environmental Guidelines for Major Construction Sites* (Publication 480); and
  + a Nutrient and Irrigation Management Plan prepared to enable a systematic management response to the outcomes of surface and groundwater monitoring to the satisfaction of the relevant authorities, including EPA and DSE.

## Cultural Heritage

**Evaluation Objective** - *To protect Aboriginal and non-Aboriginal cultural heritage values.*

**Key Issue**

In the context of the relevant legislation and policy (refer to Appendix A) and the evaluation objective above, the key issue in relation to potential impacts on cultural heritage is the significance of potential direct and indirect impacts on Aboriginal and non-Aboriginal cultural heritage values and places due to the proposed development and associated uses of the site.

### Aboriginal Cultural Heritage

**Discussion and Findings**

The EES outlines the investigations that have been undertaken for Aboriginal heritage places, including review of the relevant heritage databases and previous archaeological assessments. These investigations include searches of the Victorian Aboriginal Heritage Register and other relevant records (i.e. previous archaeological assessments), as well as field surveys to support the preparation of a comprehensive CHMP under the AH Act.[[66]](#footnote-67)

Ten sites (shell middens and artefacts) and two Aboriginal burials listed on the Victorian Aboriginal Heritage Register are located within the vicinity of the LGCR project, with one of these being in the southern part of the Lonsdale Golf Course site.[[67]](#footnote-68)

Field surveys for a ‘Standard Assessment’ under the AH Act identified two new Aboriginal archaeological sites within the LGCR area containing a shell midden and two quartz artefacts. Further ‘Complex Assessment’ (i.e. sub-surface testing of the golf course site in 2010 and the proposed residential development in 2011) resulted in the discovery of further stone artefacts and a shell midden.

The EES acknowledged that, due to the discovery of some artefacts within the proposed residential development site, as well as the invasive nature of the proposed earthworks in this area, further sub-surface testing would be necessary to confirm the extent of archaeological values that require management.

A draft CHMP for the LGCR was prepared for the EES in consultation with the Wathaurong Aboriginal Co-operative (Registered Aboriginal Party (RAP) for this area) and Aboriginal Affairs Victoria (AAV). The CHMP is yet to be completed and approved. Once approved, the CHMP will establish the appropriate measures necessary to ensure both protection of the known Aboriginal values and the contingency plans for addressing the discovery of any news values/sites during the implementation of the project.

The Inquiry concluded that residual risks for aboriginal cultural heritage values will be adequately addressed through the completion and approval of the CHMP required for the LGCR project under the AH Act.[[68]](#footnote-69)

### Non-Aboriginal Cultural Heritage

**Discussion and Findings**

The EES outlines the investigations that have been undertaken for non-Aboriginal heritage places. The investigations included searches of the Victorian Heritage Register, Victorian Heritage Inventory, and other relevant records as well as field surveys.

There are no recorded historical sites within the LCGR area, although the EES did identify 36 places or objects that occur in the vicinity of the project area. The project will not have any direct impact on these[[69]](#footnote-70).

The impact on the broader cultural heritage values of the project area is likely to be relatively minor and acceptable upon consideration of the land use policy and history of the area.

The Greater Geelong Planning Scheme Schedule to the Heritage Overlay also protects heritage in the area, although upon examination no heritage places listed there were relevant to the LGCR site.

The Inquiry did not make any findings about these matters.

### Conclusions

Having regard to the EES and the Inquiry’s analysis, it is my assessment that:

* The risks to aboriginal cultural heritage values at the site are not significant in light of the CHMP to be approved under the AH Act, as it would provide for appropriate protection and management of known and undiscovered Aboriginal cultural heritage values.
* Both the potential direct and broader indirect effects of the project on non-Aboriginal cultural heritage values of the area are very minor and acceptable, particularly given that the proposal is consistent with the existing and historical use of the area.

## Landscape Character and Local Amenity

***Evaluation Objective -*** *To minimise impacts on the landscape character and local amenity.*

**Key Issues**

In the context of the relevant legislation and policy (refer to Appendix A) and the evaluation objective above, the key issues to be considered for the assessment of landscape, visual, noise and traffic related effects are:

* Whether the visual and landscape impacts of the proposed development are significant in the context of relevant planning policy objectives and the existing setting, and have therefore been minimised to protect significant views and vistas of the landscape (including outviews across waterbodies from main roads and settlements).
* Whether there is potential for significant impacts on local amenity and land-uses from the construction and operation of the development, including from associated traffic and noise impacts.

### Visual and Landscape Values

**Discussion and Findings**

The proposal largely integrates with the existing use and character of the area. However, the open and undeveloped landscape that currently exists immediately to the north of the existing golf course will be considerably altered from open space to residential infill as a result of the proposed LGCR project. Undeveloped landscape to the south of the existing golf course would change somewhat with the proposed golf course extension. The EES characterises the significance of these changes as largely minimal, particularly given that the existing landscape is affected by the remnants of past shell grit mining and the extension of golf course boundaries will improve this.

The EES highlights the proponent’s intention to retain and protect most areas of high landscape and ecological value through the golf course development, as well as to enhance the environmental and habitat values of areas previously degraded by shell grit extraction near the Lonsdale Lakes Nature Reserve.[[70]](#footnote-71) Landscaping for the proposed residential development is intended to generally match the “*unstructured forms of the natural coastal environs*”16. The EES concludes that the proposed development enhances the area’s environmental and landscape values by responding to these characteristics of the surrounding landscape. In doing so, it asserts that the existence of a course at the site (in differing forms) since 1921 is an important aspect of the local landscape and that the main vistas from Lake Victoria and Lonsdale Lakes Nature Reserve will not change dramatically.[[71]](#footnote-72)

A number of the submissions from residents adjoining the club’s northern boundary or opposite and nearby in Fellows and Gills Roads raised concerns about impacts on their local landscape character and views across existing open space, including along Fellows and Gills Roads. Both Councils’ submissions also acknowledged that the proposed residential component of the development would result in a significant change in local appearance and character of this immediate area, as use of some land would change from open space to residential. Whilst the CoGG submission noted there would be a degree of impact on existing views, it also highlighted that very few houses were designed to incorporate an outlook across the golf course either along the northern boundary or opposite in Fellows Road. Further to this, it noted that there are a number of provisions and conditions in the DPO Schedule (and Section 173 Agreement) that would help minimise adverse visual impacts.

The Inquiry also concluded that there would be changes to the local landscape and views adjacent to the boundaries of the golf course and the residential development.[[72]](#footnote-73) The Inquiry noted that the proponent has nominated a number of measures (including the changes to design and layout of the residential development) to mitigate these adverse effects, so that ultimately the new residential development will reflect the character of the existing Point Lonsdale residential area.

While the proposed development will not protect all local views and vistas, it will have minimal overall visual impact and will not adversely affect the landscape character of the area, such as the extensive and scenic out-views across waterbodies from main roads and settlements. The proposed golf course development should also strengthen the presence of vegetation elements in the area that contribute to the area’s landscape values, particularly adjacent to waterbodies and roadsides.

### Local Amenity

**Discussion and Findings**

The EES assessed the potential effects of the development on local amenity from construction and development activities at the site. There will be short-term impacts associated with construction activities, including noise and some potential for dust. However, these issues should be readily managed and be insignificant, provided that appropriate best practice guidelines and controls are applied as recommended in the EES. As set out in the EES[[73]](#footnote-74), the construction will be restricted to specific operating hours and days in accordance with a Construction Management Plan and vegetation strips retained around the site will help reduce noise, dust and disturbance to nearby residences during the construction period.

The longer term impacts on amenity were also assessed in the EES.[[74]](#footnote-75) The predicted noise and disturbance resulting from vehicular traffic in the new residential area is likely to be minimal, particularly given the internalisation of the proposed road network and vegetation enhancement incorporated into the development. The noise generated from vehicle movements within and around the car parking area and Clubhouse precinct is also predicted to be minimal. The proposed Clubhouse precinct will be setback approximately 90m from existing residents to the northeast of the current golf course. This, together with the retention and planting of vegetation near the car park, will ensure the existing amenity of these adjacent dwellings is essentially maintained and the impacts on amenity of the general area from the development of the Clubhouse facility are suitably minimised.

A number of public submissions objected to or raised issues about the impacts of proposed rezoning and residential development along Fellows Road on the amenity of the existing Point Lonsdale area. The submissions (largely from residents adjoining the club’s northern boundary or nearby in Fellows and Gills Roads), raised concerns about the change in local amenity, given the land-use change from an attractive golf course to a residential area. The Inquiry agreed that there will be changes to local amenity, in particular along these boundaries of the proposed residential development where it interfaces with existing residential areas.[[75]](#footnote-76) However, the Inquiry also highlighted the proponent’s proposed measures for mitigating the impacts on local amenity (in order to integrate the new residential area with the existing Point Lonsdale residential environment), though this will take time to complete. Notwithstanding this, it did accept that the new residential development will result in some change to the amenity of the existing residential area where open space will change to housing.

In the EES, the proponent put forward the potential benefits for the amenity of the local area likely to result from enhancement of the environment, particularly due to both the improved open space and the functional leisure facility to be located adjacent to existing homes. In particular, residents to the southwest of the revised golf course will enjoy a new enhanced access to this recreation facility and the open space to be incorporated within the development.

As noted in the CoGG submission, there would be further opportunity to confirm a residential layout and design, which accords with the existing character of the Point Lonsdale area, after the proposed rezoning (to residential) occurs. More detail will need to be confirmed for this development through an approved Development Plan and other plans required under the DPO. The Clubhouse buildings would also need further approval from CoGG, in accordance with the DPO, to address the details of this component of the development.

The Inquiry also recommended there be amendments to the DPO schedule to ensure informal consultation with adjoining property owners regarding the detailed provisions for inclusion in the various plans required under the DPO. This would help ensure that the best outcomes are achieved with the final layout and design of the new residential subdivision, as well as for the details of the Clubhouse precinct (e.g. landscaping, built form, car park layout). This will help minimise impacts on the amenity of the local area.

### Traffic and Parking

**Discussion and Findings**

The proposed development includes three separate points for vehicles to access the site, including an improved roundabout intersection where Kirk Road meets Fellows Road. Under this proposed scenario, the EES predicts that increased vehicle movements are likely to occur along Gills and Fellows Roads due to the development, although the number of proposed lots directly accessing these roads has been limited to ensure minimal effects on existing traffic conditions.[[76]](#footnote-77) The traffic engineering assessment also concluded that the existing road network, in combination with one roundabout located at the Fellows Road and Kirk Road intersection, can readily accommodate the total traffic expected from all elements of the proposed development.[[77]](#footnote-78) Furthermore, ample car parking is able to be provided within the project site to meet the peak demands of both residential and golf club aspects of the development.

The Inquiry supported the inclusion of a roundabout at the Fellows Road and Kirk Road intersection, considering it an effective traffic treatment for dealing with all new and existing vehicle movements in the area. It also agreed with the proposal of some submitters that only one vehicular entrance to the development be required (at the proposed roundabout).[[78]](#footnote-79) There seems to be no benefit in having a secondary entrance on Fellows Road or a secondary access for residential purposes along Gills Road, and the proponent’s traffic expert did not oppose the removal of these entrances. However, the Inquiry did consider that a secondary ‘emergency’ access point at Gills Road would be particularly beneficial in the event that traffic was blocked at the roundabout.

The Inquiry did not agree with concerns about new properties’ driveways permitting direct access to Fellows and Gills Roads or the suggested need for a service road. Instead, it agreed with the proponent’s traffic expert’s assessment that there would be minimal effects on local traffic from allowing direct access from these new residential properties along Fellows and Kirk Roads, to the extent that such direct access to these properties would benefit the safety of local conditions by slowing through-traffic down.

### Conclusions

Having regard to the EES and the Inquiry’s analysis, it is my assessment that:

* There will be some local visual changes and amenity impacts associated with the development, although through appropriate planning and design measures these impacts should be minimal, resulting in appropriate integration with the visual character of the area.
* The proposed development will not adversely affect the landscape character of the locality, such as the scenic outviews across waterbodies from main roads and settlements.
* The potential effects of the development on local amenity and traffic conditions from construction and development at the site will be short-term and should be readily minimised and managed.

Further, it is my assessment that:

* The detailed design and configuration of the development be completed in consultation with CoGG, to further reduce and mitigate impacts on local amenity and neighbourhood character, prior to final approvals being granted under the P&E Act. This should include consultation with nearby landowners and occupiers.

## Environmental Management

***Evaluation Objective*** *- To provide a transparent framework with clear accountability for managing environmental effects and risks associated with the project in order to achieve acceptable environmental outcomes.*

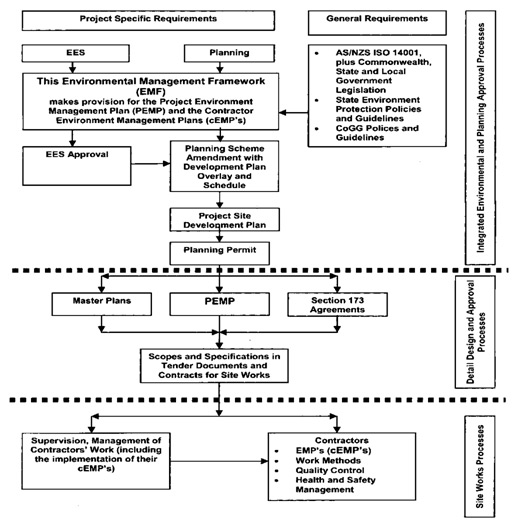
### Proposed Environmental Management

A number of legislative and policy provisions applicable to the project require preparation of an EMP and framework for managing the environmental effects and risks of the project. As outlined in both the Ministerial Guidelines and Assessment Guidelines for this EES, the framework in the EES needs to:

* ensure that the future authorisation decisions for the proposed development are informed by a rigorous assessment of the project’s environmental aspects, largely based on the EES process;
* ensure a consistent approach to EMPs required by the relevant statutory approvals;
* provide appropriate certainty regarding likely environmental outcomes and any potentially directly affected parties; and
* provide sufficient flexibility for the proponent to address issues that may arise from the finalisation of the project’s detailed design.

The EES outlined the project’s EMF, which will guide the preparation of the Project Environmental Management Plan (PEMP) and Construction Environmental Management Plans (CEMPs). These management plans would need to be prepared in conjunction with the detailed design and prior to commencement of the construction works. The EMF establishes the performance requirements for managing and mitigating the residual environmental effects of the project, which are informed by the outcomes of an integrated risk assessment of the project’s effects undertaken during the EES. The EES also includes a draft EMP[[79]](#footnote-80) prepared for the project, which was further reviewed and tabled at the public hearings.[[80]](#footnote-81) The EMP provides a list of specific environmental management commitments prepared by the proponent as part of the EES.[[81]](#footnote-82)

Figure 5[[82]](#footnote-83) below shows an example of the usual components of environmental management documentation (i.e. EMF, PEMP, CEMP) prepared as part of a project’s assessment, approval and implementation phases.



**Figure 5. Project specific and general requirements for environmental management (Golders Associates for Stockland)**

The Inquiry found the proponent’s draft project EMP (as tabled at the hearings) to be quite comprehensive, but the structure of the document was confusing and would not provide a clear framework for the preparation of detailed PEMP and CEMPs.[[83]](#footnote-84) The CoGG recommended improvement to the EMP that could be guided by the EMF prepared for the Stockland Point Lonsdale Residential and Waterways Project (refer Figure 5). The Inquiry agreed that an EMF modelled on the Stockland example would enable sound implementation of the project via the planning approvals.

CoGG also noted that a schedule to the Development Plan Overlay 26 (DPO26) would contain a full list of requirements for permits (including a number of plans addressing environmental requirements) to ensure the mitigation and management measures proposed for the LGCR project are adequately addressed through the PEMP and CEMPs. A revised schedule for DPO26 was tabled by the Council during public hearings.[[84]](#footnote-85)

The EPA emphasised the need for the PEMP and CEMPs to better address both the construction (e.g. sediment control) and operation (e.g. stormwater runoff) impacts, as well as ongoing environmental control measures (i.e. water and soil testing).[[85]](#footnote-86)

The Inquiry concluded that there is a need for additional requirements to be included in the PEMP and CEMPs, including:

* a NVFHMP, in particular to minimising risks to the OBP habitat, as well as disturbance of avifauna on the shoreline of Lake Victoria and man-made wetlands;
* a water quality monitoring program for groundwater and surface water (EPA recommendation); and
* a scheduled audit program, including performance criteria for non-compliance (DSE recommendation).

The Inquiry recommended that the proponent engage an environmental warden (or manager) to be responsible for all ongoing environmental control measures and programs.[[86]](#footnote-87) Further, the Inquiry recommended that the proponent involve the local community environmental groups (e.g. the Geelong Field Naturalist Club) to use their local knowledge and expertise in managing conservation aspects of the project.

### Conclusions

Having regard to the EES and the Inquiry’s findings, it is my assessment that:

* The proposed EMF and draft EMP presented to the Inquiry are relatively comprehensive, although they require some revision to ensure a clear framework is established for accountability and management of environmental effects and risks associated with the project construction and operation.

Further to this, it is my assessment that:

* The proposed EMP presented to the Inquiry be amended to address the issues and recommendations of the Inquiry, consistent with the findings of this Assessment.
* Planning Permit CP09/005, with associated DPO26, provide for the relevant environmental components of the PEMP and CEMPs to be reviewed and endorsed by DSE, Parks Victoria, EPA and the Responsible Authority (CoGG), prior to approval of works under the provisions of Amendment C67.
* The proponent implements performance and monitoring requirements outlined in this Assessment, in addition to those proposed in the EES, to the satisfaction of the relevant regulatory authorities. This includes a NVFHMP to minimise risks to the OBP habitat; and specific groundwater and surface water quality monitoring programs, to minimise risk to environmental values of Lake Victoria and man-made wetlands on the former shell grit area, and to guide appropriate mitigation and management actions.
* An independent, qualified environmental auditor be appointed by the proponent, with the agreement of the relevant regulatory authorities (i.e. EPA, DSE), to carry out quarterly audits of the proponent’s compliance with environmental commitments during the implementation of the project and EMPs.

## Ecologically Sustainable Development

***Evaluation Objective*** *- To achieve economic, social and environmental outcomes of the project that are consistent with the principles and objectives of ecologically sustainable development and environmental protection, as well as the achievement of a net community benefit over the long-term.*

### Consistency with ESD

This section focuses on the overall acceptability of the proposal and its environmental effects in the context of ESD and relevant legislation and policy, and the proposed environmental management measures to address residual environmental effects and risks.

This Assessment notes that there are likely to be social and economic benefits from the project, such as broad social and recreational benefits, additional housing availability and employment opportunities, which are generally consistent with ESD. The preceding sections of this Assessment have also established that the proposal would give rise to some adverse environmental effects that are acceptable and mostly at the local scale, which can be further minimised and mitigated through the detailed design and related offset requirements to be addressed through related approvals.

In relation to the relevant aspects of ESD outlined above, the Assessment has found that:

* The local area and region are likely to be enhanced through the provision of the improved golfing facility and additional housing, and related economic development, as well as through the project’s overall contribution to the enhancement of open space and adjacent conservation areas.
* Environmental effects of the LGCR project on the maters of state and national environmental conservation significance are acceptable, provided that a conservation covenant on private land to the south west of the project site be implemented in perpetuity to both offset and mitigate impacts on environmental values and habitats of Lake Victoria and surrounds.
* The community has been able to be involved through the EES and Inquiry processes and has informed the consideration of key issues that potentially affect the community.

### Overall Conclusion

Having regard to the EES and the Inquiry’s analysis, it is my overall assessment that:

* The potential environmental effects of the proposed development are acceptable and generally of minor significance, providing that identified management and mitigation measures consistent with the findings of this Assessment and the Inquiry’s recommendations are implemented, in particular the creation of a protected conservation reserve. Further reduction of impacts and improved mitigation will also be addressed through the detailed design phase.
* The proposed LGCR project, with some minor modifications in accordance with the findings of this Assessment, will provide improved golfing facilities and an infill residential development that are consistent with the Point Lonsdale

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# Response to Inquiry recommendations

The Inquiry’s recommendations are reproduced in the left column below. The Minister for Planning’s general response to the recommendations is included in the table together with references to the relevant section(s) in this document that include the detailed analysis and response(s) on the matter(s).

|  |  |  |
| --- | --- | --- |
| **Key Issue**  (section of Assessment) | **Inquiry Recommendation** | **Response** |
| **Socio-economic outcomes**  (section 3.2)  **Ecological sustainable Development**  (section 3.8) | 1. Subject to the recommendations in this report, Amendment C67 to the Greater Geelong Planning Scheme be adopted and a permit issued for Planning Permit Application 1313/2009. | It is my assessment that this recommendation be *supported.* |
| **Landscape character and local amenity**  (section 3.6) | *Amenity impacts*   1. CoGG undertakes an informal consultation process with adjoining property owners in relation to the detailed provisions to be included in the various plans required under the DPO Schedule to ensure that mutually beneficial outcomes are achieved for the design of the new residential subdivision. 2. The amendments to the DPO Schedule proposed by the CoGG (as presented in the version presented to the Inquiry on 7 February 2012) should be incorporated into the final version of this Schedule. 3. The following wording be included in the DPO Schedule in relation to the Golf Course Layout and Landscape Masterplan:  * A detailed layout plan of the clubhouse precinct and car parking area and related landscaping and proposed built form of the clubhouse. * Prior to the approval of the Development Plan, CoGG should conduct informal consultation with nearby landowners and occupiers.   *Traffic impacts*   1. The vehicular access point to the proposed residential subdivision from Gills Road be deleted and a pedestrian/cycle and potentially emergency access point be provided at this location in a manner that respects the existing vegetated character of Gills Road.   *Subdivisions*   1. The reference to the endorsed plans in any Planning Permit issued be updated to reflect the most up to date plans. 2. An amendment be made to Amendment C67 to include a site specific reference in Schedule 11 to the Rural Conservation Zone to Lot 2 in the Rural Subdivision Plan as being exempt from the minimum subdivision size. | It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.* |
| **Biodiversity**  (section 3.3) | *Flora and fauna impacts*   1. Approval of the Lonsdale Golf Club proposal be subject to the creation of a private conservation reserve in perpetuity involving an agreement between the Lonsdale Golf Club and the Estate of Marjorie Susan McNaught, being part of land described in Lot 1 on TP822391, and that the agreement include a management plan to exclude stock, undertake rabbit/vermin and weed control, and other appropriate measures to improve habitat. 2. The Lonsdale Golf Club’s Revised Landscape Masterplan, as tabled at the Inquiry Hearing on 22 February 2012 be adopted as the basis for further detailed project planning. 3. The mitigation measures as presented by Mr Brett Lane in expert evidence be incorporated into the development of the Environment Management Framework. 4. The Lonsdale Golf Club allocate sufficient resources and employ the necessary expertise to protect and enhance remnant vegetation and habitat and further refine mitigation measures for avifauna for screening to minimise disturbance of avifauna for the proposed golf course redevelopment and the proposed private conservation reserve. 5. Hole 5 on the redeveloped golf course be located 15m north from the adjacent pond to reduce the impact on the coastal saltmarsh and bird habitat. | It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.* |
| **Hydrology and water quality**  (section 3.4) | 1. The following elements be added to the to the Environmental Management Framework for the proposed Lonsdale Golf Course redevelopment:  * Groundwater monitoring of water quality be undertaken and mitigation measures identified to address any decrease in water quality; * A Stormwater Drainage Masterplan be prepared and approved; * A Coastal Acid Sulfate Soil Hazard Assessment be undertaken in accord with DSE’s *Victorian Best Practice Guide for Assessing and Managing Coastal Acid Sulfate Soils* (October 2010); * A Nutrient and Irrigation Management Plan be prepared that will enable a systematic response to any surface and groundwater monitoring that indicates any increase in nutrients load to the ponds and Lake Victoria; and * Any fill to be imported to the site be subject to the approval of DSE and EPA. | It is my assessment that this recommendation be *supported.* |
| **Biodiversity**  (section 3.3) | *Commonwealth matters*   1. In relation to the Orange-bellied Parrot, approval of the proposal should be subject to:  * Completion of a conservation covenant on land abutting the south west boundary of the expanded golf course; * Documentation of the proposed mitigation measures for protection and enhancement of Orange-bellied Parrot habitat; * Inclusion in the Environmental Management Framework of mitigation measures for the protection and regeneration of Coastal Saltmarsh vegetation as habitat for the Orange-bellied Parrot, introduction of screening between the new Holes 4, 5, 12 and 13 and Lake Victoria to reduce potential for disturbance by golfers, and exclusion of public access to the south west ponds area. | It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.* |
| **Cultural heritage**  (section 3.5) | No recommendation |  |
| **Environmental management**  (section 3.7) | 1. An Environmental Management Framework structure generally consistent with that shown in Appendix B be adopted by the Proponent. 2. The Environmental Management Framework for the proposed Lonsdale Golf Course redevelopment include a Native Vegetation and Fauna Habitat Management Plan based on DSE’s Native Vegetation Precinct Plan that includes the incorporation of mitigation measures from the EES technical reports and expert witness reports and during the Inquiry hearing in relation to:  * Protection and enhancement of the connectivity of the Coastal Alkaline Scrub from Emily Street in the north to the coastal dunes in the south. * Protection and enhancement of salt marsh and waterbird habitat within the golf course redevelopment area. * Reduction of potential disturbance to waterbirds on the former shell grit ponds and Lake Victoria. * Protection of the Orange-bellied Parrot habitat on the south west ponds. * Development of a monitoring program and reporting procedures for flora and fauna management.  1. The Environmental Management Framework include a monitoring program for water quality that also sets performance indicators and mitigation procedures in the event of non-compliance. 2. The Environmental Management Framework include a programmed audit including timing and triggers for non-compliance. 3. The Proponent be encouraged to involve and use the local detailed knowledge and expertise from community environmental groups such as the Geelong Field Naturalists Club. | It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.*  It is my assessment that this recommendation be *supported.* |

# Appendix A: Statutory and Policy Context

**Biodiversity - Statutory and Policy Context**

Key statutes, policies and strategies related to the protection of biodiversity, flora and fauna in Victoria are:

* *Flora and Fauna Guarantee Act 1988* (FFG Act), *Victoria’s Biodiversity Strategy* and the *Victorian Native Vegetation Management Framework* (NVMF).
* *Planning and Environment Act 1987* (P&E Act).
* Commonwealth *Environment Protection and Biodiversity Conservation Act 2009* (EPBC Act).

The purpose of the FFG Act is to enable and promote the conservation of Victoria's native flora and fauna. Its objectives include: “*to manage potentially threatening processes*”; and “*to ensure that the genetic diversity of flora and fauna is maintained*”. Further to this, *Victoria’s Biodiversity Strategy* made under the FFG Act includes two related goals:

* *“the present diversity of species and ecological communities and their viability is maintained or improved across each bioregion*”, and
* *“there is no further preventable decline in the viability of any rare species or of any rare ecological community”.*

One of the objectives for planning in Victoria under Section 4(1) of the P&E Act is: *“to provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity”.* SPPF clause 15.09, “Conservation of native flora and fauna”, complements this.

The NVMF is the principal document that sets out Victorian Government policy for the protection of native vegetation. The principles and requirements of the NVMF are implemented primarily through the P&E Act under Clause 52.17 of planning schemes. The “net gain” approach set out in the NVMF adopts a hierarchy of avoidance, minimisation and offset principles. The first priority is the avoidance of clearing and therefore losses of existing native vegetation.

The NVMF also includes specific guidance on when clearance should not be permitted for different classifications of ecological vegetation classes (EVCs)[[87]](#footnote-88). In particular, for very high conservation significance EVCs, clearing would not be permitted unless exceptional circumstances apply, based on considerations of the environmental, social and economic values from a statewide perspective. The approval of the Minister for Environment and Climate Change is required.

The Greater Geelong Planning Scheme provides specific protection for areas of flora and fauna habitat and of geological and natural interest, through an Environmental Significance Overlay (ESO) that applies to large sections of the project site[[88]](#footnote-89). Its purpose is to conserve and protect these areas and ensure development is compatible with their environmental values. ESO Schedule 1 applies to a section in the south west of the site ESO Schedule 1 applies to a section in the south west of the site (farmland between the Foreshore Reserve and the Lonsdale Lakes Wildlife Reserve with scattered remnant vegetation) and ESO Schedule 2 applies to the northern western and south western sections of the site adjacent to the Ramsar wetland.

The ESO1 applies to farmland located between the Foreshore Reserve and the Lonsdale Lakes Wildlife Reserve (ESO1) with small area of scattered remnant vegetation, whereas ESO2 relates to high value wetlands (i.e. of regional, state, national and international significance) and associated habitat protection, and has environmental objectives that include[[89]](#footnote-90):

* To maintain the ecological character of Ramsar wetlands.
* To protect and ensure the long-term future of terrestrial and aquatic habitat for native plants and animals, including shorebird feeding areas and roosts and species and communities listed under the FFG Act.
* To encourage ecological restoration, regeneration and revegetation with indigenous species within the site and in adjoining areas.
* To maintain the function of the wetland or habitat area as part of the broader natural system, including maintenance of natural flows and flooding regimes.
* To prevent further loss of wetland habitat.

**Hydrology and Water Quality - Statutory and Policy Context**

Key Victorian legislation and policies relevant to the protection of surface water and groundwater environmental values during the construction and operation of the LGGR project are:

* The *State Environmental Protection Policy (Waters of Victoria)* (SEPP-WoV), made under the *Environment Protection Act 1970* (EP Act), sets the legislative framework for the protection of uses and values of Victoria’s water environments. The policy identifies beneficial uses of water environments and specifies water quality objectives to protect them.
* The *State Environment Protection Policy (Groundwaters of Victoria)*, also made under the EP Act, which provides for the maintenance or improvement of groundwater quality to protect the existing and future beneficial uses of groundwaters. The policy classifies groundwater into five ‘segments’ based on the background concentration of total dissolved solids (TDS) and defines the beneficial uses in each segment;
* The *Water Act 1989,* which provides for allocation, conservation and management of surface water and groundwater resources in Victoria. This Act is administered in the project area by Southern Rural Water (groundwater) and the Corangamite Catchment Management Authorities (surface water).
* The *Catchment and Land Protection Act 1994,* which provides Catchment Management Authorities with statutory powers to manage floodplain and drains.

Of particular relevance is *Schedule F6 (Waters of Port Phillip Bay)* of SEPP (WoV), which specifically identifies the beneficial uses and values of the Bay’s water environments (including Lake Victoria), as well as the water quality objectives to protect them. The proposed development falls within the inshore segment of Port Phillip Bay as defined in Schedule F6, for which the protected beneficial uses include: substantially natural ecosystems with some modification, primary (e.g. swimming) and secondary (e.g. boating) contact recreation, and navigation and shipping.

The *Coastal Management Act 1995 (*CM Act) and VCS also provide for the protection of natural and modified water environments in Victorian waters. The purpose of the CM Act is to enable and promote the sustainable management and conservation of Victoria's coastal processes. The VCS aims to protect and manage the coastal and marine environment, using a hierarchy of principles and an array of polices to guide decisions and planning, use and management of the coast (see section ).

Lastly, one objective for planning in Victoria under Section 4(1) of the P&E Act is: “to provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity”. The SPPF also requires conservation of the coastal and marine environments. Clause 14.02 objectives include protecting the marine environment and water quality and clause 12.02 aims to protect the values of natural coastal resources.

In addition, the 2008 VCS includes a relevant statement - i.e.: ‘’Avoid disturbing coastal acid sulfate soils (CASS) and ensure any development proposed near or on CASS demonstrates that it will avoid any disturbance’’.

The EPA ‘*Environmental Guidelines for Major Construction Sites’*, (Publication Number 480, 1996) provides guidance on the best practice environmental management of construction works.

**Aboriginal and Non-aboriginal Cultural Heritage - Statutory and Policy Context**

Aboriginal and non-Aboriginal cultural heritage are primarily protected under the *Aboriginal Heritage Act 2006* and the *Heritage Act 1995* respectively. Under the AH Act, a proponent must not commence works on a project subject to an EES unless a CHMP has been approved under the Act. A CHMP is based on an assessment of a proposal’s impacts on Aboriginal cultural heritage values and outlines management recommendations, including contingency plans.

The main purpose of the *Heritage Act 1995* is “to provide for the protection and conservation of places and objects of cultural heritage significance…”. This Act provides the statutory context for the assessment of impacts on non-Aboriginal post-settlement heritage.

The most pertinent objective of planning in Victoria, under Section 4(1) of the P&E Act, is: “*to conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest or otherwise of special cultural value*”. Clause 15.11 ‘Heritage’ of the SPPF addresses both Aboriginal and non-Aboriginal cultural heritage.

Clause 22.04 of the LPPF, ‘Cultural Heritage Places’, applies to the assessment of the proposed development. This clause requires consideration of heritage values of places to broadly encompass “precincts, places, landscapes and features” beyond the identified places in the scheme. The Heritage Overlay within the Greater Geelong Planning Scheme is also relevant – it aims to protect and enhance the cultural heritage values and places of significance by ensuring development does not impact upon them.

**Landscape Character and Local Amenity - Statutory and Policy Context**

One specific legislative basis for considering these types of effects of development is the objective of the P&E Act: “to secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria”[[90]](#footnote-91). SPPF clause 12.04 addresses landscape values explicitly, requiring the protection of landscapes and significant open spaces that contribute to character, identity and sustainable environments. SPPF clause 13.04 addresses the potential impacts on amenity associated with noise and air quality. It aims to ensure community amenity is not reduced by noise emissions and that air quality is protected and improved.

The project area is covered by a Significant Landscape Overlay (SLO) within the Greater Geelong Planning Scheme. Schedule 11 to the SLO notes the regional significance of the landscape of the Lake Victoria to Yarram Creek area, which includes the project site:

*The landscape of Lake Victoria to Yarram Creek is regionally significant. It includes a visually important escarpment and landscape edge that also forms a rural backdrop to the settlements of Ocean Grove, Point Lonsdale and Queenscliff. It also includes lakes that form part of an important wetland coastal environment, and the attractive enclosed valley of the Yarram Creek. The significant landscape extends from the western township edge of Ocean Grove, across Lake Victoria, incorporating a shallow ridge to the north and the Bellarine Railway (including rail trail), Yarram Creek Valley, and includes the slopes of the hill north of Suma Park visible to the coast. The landscape is visually important for a number of highly scenic views. Views are available from both the entrances to Point Lonsdale along Shell Road and the Bellarine Highway, as well as from the topographically higher areas to the west and south.*

Schedule 11 also outlines landscape character objectives to be achieved through this SLO, including:

* To protect locally significant views and vistas that contribute to the landscape, including extensive and scenic outviews across waterbodies from main roads and settlements.
* To strengthen the presence of indigenous vegetation throughout the area, particularly adjacent to lakes and waterbodies, at roadsides, and in settlements and riparian strips.
* To protect cultural vegetation elements that positively contribute to the character of the landscape, including exotic wind breaks and feature planting around homesteads.

The EP Act provides the statutory framework for the protection and maintenance of environmental quality sufficient to protect existing and anticipated beneficial uses of the environment. This includes protecting both ambient air quality and amenity from noise impacts. *SEPP (Ambient Air Quality)* and *SEPP (Air Quality Management)* (SEPP (AQM) are the subordinate legislation for the protection of beneficial uses (in particular public health related to air quality).

Guidance on managing construction noise is provided in *Best Practice Environmental Guidelines for Major Construction Sites* (EPA, 1996). In October 2008, EPA published the *Noise Control Guidelines - EPA Publication 1254* (EPA, 2008); it provides some guidance for noise from construction sites and replaces the former noise control guidelines EPA Publication TG302/92 (1992).

**Ecologically Sustainable Development - Statutory and Policy Context**

The Ministerial Guidelines made under section 10 of the EE Act specifically require the assessment of the proposal and its effects to be in the context of the principles and objectives of ESD and environmental protection.

The National Strategy for Ecologically Sustainable Development defined and articulated objectives and guiding principles of ESD. This framework for ESD has been adopted in the Ministerial Guidelines and has informed the definition and objectives of ESD in Victorian legislation, in particular within Section 4 of the *Commissioner for Environmental Sustainability Act 2003*. The proposal’s overall consistency with ESD needs to be considered in the context of the following:

* objectives:
  + To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
  + To protect biological diversity and maintain essential ecological processes and life-support systems;
* guiding principles:
  + Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equity considerations; and
  + The need to facilitate community involvement in decisions and actions on issues that affect the community.

The principles of environment protection are set out in sections 1B to 1L of the EP Act. Those potentially relevant to the assessment of this project are:

1B. Principle of integration of economic, social and environmental considerations

1C. Precautionary principle

1D. Principle of intergenerational equity

1E. Principle of conservation of biological diversity and ecological integrity

1. Inquiry Report, pages 12 and 14. [↑](#footnote-ref-2)
2. Coastal Spaces Recommendations Report (April 2006), Appendix 1: Minister for Planning’s Letter to Coastal Councils. [↑](#footnote-ref-3)
3. Inquiry Report, page 2. [↑](#footnote-ref-4)
4. Ministerial Guidelines, page 27. [↑](#footnote-ref-5)
5. State Planning Policy Framework, Clause 11.03-1. [↑](#footnote-ref-6)
6. State Planning Policy Framework, Clause 17.01-1. [↑](#footnote-ref-7)
7. State Planning Policy Framework, Clause 17.03. [↑](#footnote-ref-8)
8. Local Planning Policy Framework of City of Greater Geelong, Clause 21.07 Economic Development and Employment. [↑](#footnote-ref-9)
9. Local Planning Policy Framework of City of Greater Geelong, Clause 21.08 Development and Community Infrastructure. [↑](#footnote-ref-10)
10. Local Planning Policy Framework of City of Greater Geelong, Clause 21.06-2 Urban Growth. [↑](#footnote-ref-11)
11. EES Main Report, page 254. [↑](#footnote-ref-12)
12. EES Main Report, page 269. [↑](#footnote-ref-13)
13. EES Main Report, page 31. [↑](#footnote-ref-14)
14. Inquiry Report, page 77. [↑](#footnote-ref-15)
15. EES Main Report, page 254. [↑](#footnote-ref-16)
16. For example, ‘The Point’ (Stockland) residential development. [↑](#footnote-ref-17)
17. EES Main Report, page 270. [↑](#footnote-ref-18)
18. Planning Assessment Report (exhibited with EES), page 34. [↑](#footnote-ref-19)
19. Within Class 5 land, the *City of Greater Geelong Rural Land Use Study (1997)* identifies that environmental stability is best achieved through “isolating areas and strictly controlling, or eliminating agricultural land uses”. [↑](#footnote-ref-20)
20. EES Main Report, page 174. [↑](#footnote-ref-21)
21. EES Technical Appendix D (*Flora and Fauna),* Brett Lane & Associates (2011), pages 17 -20. [↑](#footnote-ref-22)
22. EES Technical Appendix D (*Flora and Fauna),* Brett Lane & Associates (2011), page 32. [↑](#footnote-ref-23)
23. A large tree component is not defined in the EVC 858 benchmark, so based on the NVMF there would not be an additional large old trees (LOT) offset component for these scattered trees. However, in the Corangamite Catchment Management Authority Native Vegetation Plan, scattered trees other than those define in the VNMF are to be considered. [↑](#footnote-ref-24)
24. Inquiry Report, page 83. [↑](#footnote-ref-25)
25. Inquiry Report, page 87. [↑](#footnote-ref-26)
26. Inquiry Report, pages 14, and 84 to 85. [↑](#footnote-ref-27)
27. *Native Vegetation – Technical Information Sheet – Artificial substrates, temporary loss and areas of regeneration* (DSE) April 2010; and *Native Vegetation – Technical Information Sheet (Defining protected, retained or lost scattered trees – Assessment of modified wetlands – Clarifying like-for-like requirements of the Framework* (DSE) November 2011. [↑](#footnote-ref-28)
28. Based on estimates prepared by the Landscape Architect, Mr Liston. [↑](#footnote-ref-29)
29. The Inquiry noted that “*the calculation of the increase of native vegetation do not include any planting on the proposed conserved habitat to the west or the vegetation buffer strip on the northern boundary, within the residential subdivision*”, Inquiry Report, page 15. [↑](#footnote-ref-30)
30. Inquiry Report, page 85. [↑](#footnote-ref-31)
31. Inquiry Report, page 101. [↑](#footnote-ref-32)
32. Inquiry Report, pages 85 and 86. [↑](#footnote-ref-33)
33. Inquiry Report, page 99. [↑](#footnote-ref-34)
34. *Victoria’s Native Vegetation Management; A Framework for Action -* Table 6, Appendix 4 (page 54), DSE, (2002). [↑](#footnote-ref-35)
35. Inquiry noted that the proponent was unsuccessful in acquiring this land, Inquiry Report page 118. [↑](#footnote-ref-36)
36. Inquiry Report, pages 100 and 101. [↑](#footnote-ref-37)
37. Inquiry Report, page 101. [↑](#footnote-ref-38)
38. EES Main Report, page 172. [↑](#footnote-ref-39)
39. Inquiry Report, page 101. [↑](#footnote-ref-40)
40. Inquiry Report, page 89. [↑](#footnote-ref-41)
41. Inquiry Report, page 101. [↑](#footnote-ref-42)
42. Technical Series no.10 – Fauna Values of Lake Victoria, Freshwater Lake and St Leonards Salt Lagoon, Parks Victorian (2003). [↑](#footnote-ref-43)
43. Inquiry Report, pages 101 and 103 [↑](#footnote-ref-44)
44. EES Technical Appendix D (*Flora and Fauna),* Brett Lane & Associates (2011), page 66. [↑](#footnote-ref-45)
45. Brett Lane [↑](#footnote-ref-46)
46. EES Main Report, page 197. [↑](#footnote-ref-47)
47. Inquiry Report page 103 [↑](#footnote-ref-48)
48. EES Technical Appendix D (*Flora and Fauna),* Brett Lane & Associates (2011), page 4. [↑](#footnote-ref-49)
49. Inquiry Report, page 103. [↑](#footnote-ref-50)
50. Inquiry Report, page 126. [↑](#footnote-ref-51)
51. Inquiry Report, page 121. [↑](#footnote-ref-52)
52. Inquiry Report, page 117. [↑](#footnote-ref-53)
53. Inquiry Report, pages 101 and 103. [↑](#footnote-ref-54)
54. EES Main Report, page 200. [↑](#footnote-ref-55)
55. Inquiry Report, page101. [↑](#footnote-ref-56)
56. Inquiry Report, page 122. [↑](#footnote-ref-57)
57. Inquiry Report, page 122. [↑](#footnote-ref-58)
58. Inquiry Report, page 101. [↑](#footnote-ref-59)
59. Inquiry Report, page 108. [↑](#footnote-ref-60)
60. EES Technical Report (Appendix G) - *Lonsdale Golf Course: Residential Development Point Lonsdale – Draft Site Stormwater Management Plan.*  [↑](#footnote-ref-61)
61. Inquiry Report, page 106. [↑](#footnote-ref-62)
62. Inquiry Report, page 112. [↑](#footnote-ref-63)
63. EES Chapter 9, Table 9-1, page 145. [↑](#footnote-ref-64)
64. EES Chapter 9, page 144. [↑](#footnote-ref-65)
65. *The Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils,* DSE (October 2010). [↑](#footnote-ref-66)
66. EES Chapter 12, page 208. [↑](#footnote-ref-67)
67. EES Chapter 12, page 210. [↑](#footnote-ref-68)
68. Inquiry Report, page 35. [↑](#footnote-ref-69)
69. EES Chapter 12, pages 221-223. [↑](#footnote-ref-70)
70. EES Main Report, page 289. [↑](#footnote-ref-71)
71. EES Main Report, page 298. [↑](#footnote-ref-72)
72. Inquiry Report, page 63. [↑](#footnote-ref-73)
73. EES Main Report, page 301. [↑](#footnote-ref-74)
74. EES Main Report, pages 295 and 297. [↑](#footnote-ref-75)
75. Inquiry Report, page 63. [↑](#footnote-ref-76)
76. EES Main Report, page 297. [↑](#footnote-ref-77)
77. EES Main Report, page 318. [↑](#footnote-ref-78)
78. Inquiry Report, page 69. [↑](#footnote-ref-79)
79. EES Appendix C – Draft EMP 2011 by Phillip Liston [↑](#footnote-ref-80)
80. Draft EMP Guidelines by Phillip Liston (January 2012) [↑](#footnote-ref-81)
81. EES Chapter 17, pages 326 to 335 [↑](#footnote-ref-82)
82. Inquiry Report, Appendix B – EMF prepared for the Stockland Residential and Waterways Project, page 153. [↑](#footnote-ref-83)
83. Inquiry Report, page 130. [↑](#footnote-ref-84)
84. Inquiry Report, Table 4, page 129. [↑](#footnote-ref-85)
85. Inquiry Report, page 130. [↑](#footnote-ref-86)
86. Inquiry Report, page 145. [↑](#footnote-ref-87)
87. *Victoria’s Native Vegetation Management; A Framework for Action -* Table 6, Appendix 4, page 54 (DSE, 2002) [↑](#footnote-ref-88)
88. *Lonsdale Golf Course Re-establishment Planning Report*, CPG Australia (June 2011) [↑](#footnote-ref-89)
89. Greater Geelong Planning Scheme – Schedule 2 to Environmental Significance Overlay (2006) [↑](#footnote-ref-90)
90. Under s.4(1)(c) of the P&E Act. [↑](#footnote-ref-91)