

## **MINUTES**

### **1. PRESENT**

Cr. Chris Smith (Mayor)  
Cr. Joe Di Cecco  
Cr. Tony Graham  
Cr. Fran Lehmann  
Cr. Peter Mercer  
Cr. Warren Riches  
Cr. Carol Wilmink

Tracey Slatter, Chief Executive Officer  
Jack Green, General Manager Sustainable Planning and Development  
Gary Dolan, General Manager Infrastructure  
Colin Hayman, General Manager Corporate and Community Services  
Doug McNeill, Manager Planning and Building  
Bronwyn Keenan, Executive Officer Sustainable Planning and Development

### **2. APOLOGIES**

NIL

**The Mayor advised that there will be no audio recording of the meeting due to the equipment being repaired.**

### **3. DECLARATION OF INTEREST**

NIL

### **4. VERBAL SUBMISSIONS FROM APPLICANTS/OBJECTORS**

Item PC080802 - 2 Bernie Noy

### **5. CONFIRMATION OF MINUTES**

- Planning Committee Meeting of the Colac-Otway Shire Council held on the 11/03/08.

#### **Recommendation**

***That the Planning Committee confirm the above minutes.***

#### **Resolution**

***MOVED Cr Graham seconded Cr Di Cecco that the Planning Committee confirm the above minutes.***

**CARRIED 7:0**

## **OFFICERS' REPORTS**

### **Sustainable Planning and Development**

PC080804-1 PLANNING PERMITS FOR THE MONTH OF MARCH 2008  
PC080804-2 DEVELOPMENT OF ONE SHOP, FIVE OFFICES AND SEVEN  
DWELLINGS, WAIVING OF CAR PARKING AND 13 LOT SUBDIVISION  
AT 32 PASCOE STREET, APOLLO BAY

**PC080804-1 PLANNING PERMITS FOR THE MONTH OF MARCH 2008**

AUTHOR: Stefanie Riches                      ENDORSED: Jack Green  
DEPARTMENT: Sustainable Planning and      FILE REF: GEN00450  
Development

**Recommendation(s)**

***That Council's Planning Committee note the March 2008 statistical report.***

**Resolution**

***MOVED Cr Riches seconded Cr Di Cecco that Council's Planning Committee note the March 2008 statistical report.***

**CARRIED 7:0**

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**PC080804-2 DEVELOPMENT OF ONE SHOP, FIVE OFFICES AND SEVEN DWELLINGS, WAIVING OF CAR PARKING AND 13 LOT SUBDIVISION AT 32 PASCOE STREET, APOLLO BAY**

AUTHOR: Doug McNeill  
DEPARTMENT: Sustainable Planning and Development

ENDORSED: Jack Green  
FILE REF: PP198/07

**Recommendation (s)**

*That Council's Planning Committee resolve to issue a Notice of Decision to Grant a Planning Permit for Planning Permit Application PP198/07 for the development of one shop, five offices and seven dwellings, waiving of car parking and 13 lot subdivision subject to the following conditions:*

1. *Before the development start(s), amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. The plans must be generally in accordance with the plans submitted with the application but modified to show:*
  - a. *The upper level front wall of the dwellings fronting Pascoe Street to be setback 1.6m to allow private open space to be contained within the title boundary.*
  - b. *The width of the accessway from Pascoe Street between the northern boundary increased to a minimum 5m to allow two vehicles to pass one another.*
  - c. *Modifications to the design of the street elevation to improve the verandah appearance.*
  - d. *Modifications to the northern elevation of the building to provide increased articulation of the wall and higher definition of the individual tenancies at both levels.*
  - e. *The street elevation modified at the ground floor level to incorporate glazing rather than a plain blank wall.*
  - f. *Modified subdivision design to reflect changes to the plans in accordance with this condition, with a single car space specifically allocated to each dwelling and the balance of parking within common property.*
  - g. *Planting of two street trees in the naturestrip at the front of the property.*
2. *Prior to commencement of the development, the owner/applicant must enter into an agreement with the Responsible Authority under Section 173 of the Planning and Environment Act 1987 stating that the owner will:*
  - a. *Make a payment to the Colac Otway Shire of \$100,000, representing payment in lieu of 10 parking spaces not provided on-site as part of the development.*
  - b. *Make the full payment prior to commencement of the development.*

***Evidence of lodging of this agreement in accordance within Section 181 of the Planning and Environment Act 1987 must be submitted to the Responsible Authority. All costs associated with the agreement will be met by the owner/applicant.***

3. ***The use and development must be managed so that the amenity of the area is not detrimentally affected, through the:***
  - (a) ***transport of materials, goods or commodities to or from the land***
  - (b) ***appearance of any building, works or materials***
  - (c) ***emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil***
  - (d) ***presence of vermin***
4. ***All run off from stormwater must be taken to a legal point of discharge to the satisfaction of the Responsible Authority, and the hard stand areas of the development shall be designed to incorporate water sensitive urban design principles to the satisfaction of the responsible authority. Drainage plans shall be submitted to the responsible authority for approval prior to commencement of the development.***
5. ***The landscaping shown on the endorsed plan shall be established within 3 months of completion of the development hereby permitted and shall be maintained to the satisfaction of the Responsible Authority.***
6. ***External lighting must be designed, baffled and located to the satisfaction of the Responsible Authority to prevent any adverse effect on adjoining land.***
7. ***Provision shall be made for waste receptacles for each of the occupancies within the development to the satisfaction of the responsible authority.***
8. ***Loading and unloading of all goods, materials and items must be carried out on the site to the satisfaction of the Responsible Authority.***
9. ***Driveways and car parking areas shall be constructed in an all weather surface to the satisfaction of the responsible authority.***
10. ***Vehicular crossing(s) must be constructed to the road to suit the proposed driveway(s) to the satisfaction of the Responsible Authority.***
11. ***The use and or development as shown on the endorsed plans must not be altered without the written consent of the Responsible Authority.***
12. ***This permit will expire if one of the following circumstances applies:***
  - ***The development and use are not started within two (2) years of the date of this permit.***
  - ***The development is not completed within four years of the date of this permit.***

***The Responsible Authority may extend the periods referred to if a request is made in writing before the permit expires, or within three months afterwards.***

13. ***The applicant or owner must pay to Council the equivalent of three per cent of the site value of all land in the subdivision. This payment must be made before a Statement of Compliance is issued and is varied under Section 19 of the Subdivision Act 1988, as amended.***
14. ***The Statement of Compliance will not be issued prior to all conditions in relation to subdivision on the subject Planning Permit being complied with to the satisfaction of the Responsible Authority.***

15. *The developer must mark street numbers for all lots in the subdivision in accordance with the Shire's street numbering scheme to the satisfaction of the Responsible Authority.*
16. *The subdivision as shown on the endorsed plan must not be altered save, with the written consent of the Responsible Authority.*
17. *Easements in favour of Colac Otway Shire must be created on the plan to the satisfaction of the Responsible Authority.*

#### **CONDITIONS REQUIRED BY BARWON WATER**

##### **GENERAL**

18. *Any plan submitted under the Subdivision Act 1988 must be forwarded to Barwon Water under Section 8 of the Act.*
19. *The creation of a Body Corporate to encumber all lots within the subdivision.*

##### **WATER**

20. *The provision and installation of individual water services including meters to all lots in the subdivision in accordance with Barwon Water's requirements and Victorian Plumbing Regulations. A dimensioned plan showing location of all meters relative to the allotment boundaries, and its number(s), is to be submitted. Note that tapplings and services are not to be located under existing or proposed driveways.*
21. *The payment of New Customer Contributions for each additional lot created and/or each additional metered connection for water supply within the subdivision.*
22. *An additional tapping(s) is to be supplied to service the proposed development. A dimensioned plan showing location of all new tapplings relative to the allotment boundaries, and its number(s), is to be submitted, where a meter is not being fitted. Note that tapplings and services are not to be located under existing or proposed driveways.*
23. *Barwon Water's records indicate that an existing water service and meter is located on this property. A dimensioned plan showing the location of existing meters, and the location of the meter relative to the existing boundaries, and its number, is to be submitted. Private water service pipes are not permitted to cross allotment boundaries and must be plugged and abandoned at the boundaries of such allotments.*

##### **SEWER**

24. *The provision of sewerage services to all lots in the subdivision in accordance with Barwon Water's requirements and Victorian Plumbing Regulations. Individual allotment house connection drains are to be provided for and extend into each allotment.*
25. *The payment of New Customer Contributions for sewer for each additional lot created and/or each additional metered connection within the subdivision.*
26. *The provision of a separate sewer connection branch to all lots in the subdivision in accordance with Barwon Water's requirements, Victorian Plumbing Regulations, and all relative statutory regulations.*

**27. Any existing house connection branch that is to be utilised for additional connections or altered to serve the development is to be CCTV inspected with the report and/or video submitted to Barwon Water for condition assessment. If it is deemed by Barwon Water that the branch is unsatisfactory for use, it is to be removed and replaced at the developer's expense. Also, any existing house connection drain that traverses through the proposed allotments shall be relocated so not to inhibit future development.**

**NOTE:**

**The developer is to apply to Barwon Water for details relating to costs and conditions required for the provision of water supply and sewerage services to the subdivision.**

**It would be appreciated if all communication between the developer/agent and Barwon Water quote Barwon Water reference number 60-066-08123.**

**CONDITIONS REQUIRED BY POWERCOR**

**28. The plan of subdivision submitted for certification under the Subdivision Act 1988 shall be referred to Powercor Australia Ltd in accordance with Section 8 of that Act.**

**29. The applicant shall:-**

- **Provide an electricity supply to all lots in the subdivision in accordance with Powercor's requirements and standards (A payment to cover the cost of such work will be required). In the event that a supply is not provided the applicant shall provide a written undertaking to Powercor Australia Ltd that prospective purchasers will be so informed.**
- **Where buildings or other installations exist on the land to be subdivided and are connected to the electricity supply, they shall be brought into compliance with the Service and Installation Rules issued by the Victorian Electricity Supply Industry. You shall arrange compliance through a Registered Electrical Contractor.**
- **Set aside on the plan of subdivision for the use of Powercor Australia Ltd reserves and/or easements satisfactory to Powercor Australia Ltd where any electric substation (other than a pole mounted type) is required to service the subdivision.**

**Alternatively, at the discretion of Powercor Australia Ltd a lease(s) of the site(s) and for easements for associated powerlines, cables and access ways shall be provided. Such a lease shall be for a period of 30 years at a nominal rental with a right to extend the lease for a further 30 years. Powercor Australia Ltd will register such leases on the title by way of a caveat prior to the registration of the plan of subdivision.**

- **Provide easements satisfactory to Powercor Australia Ltd, where easements have not been otherwise provided, for all existing Powercor Australia Ltd electric lines on the land for any new powerlines required to service the lots and adjoining land, save for lines located, or to be located, on public roads set on the plan. These easements shall show on the plan an easement(s) in favour of "Powercor Australia Ltd" for "Powerline Purposes" pursuant to Section 88 of the Electricity Industry Act 2000.**
- **Obtain for the use of Powercor Australia Ltd any other easement external to the subdivision required to service the lots.**
- **Adjust the position of any existing easement(s) for powerlines to accord with the position of the line(s) as determined by survey.**

- **Obtain Powercor Australia Ltd's approval for lot boundaries within any area affected by an easement for a powerline and for the construction of any works in such an area.**
- **Provide to Powercor Australia Ltd, a copy of the version of the plan of subdivision submitted for certification, which shows any amendments which have been required.**

#### **NOTES FROM TELSTRA**

30. **Approval does not cover alterations to existing Telstra Plant or Network. Locations of existing network can be obtained from Dial Before You Dig – Ph: 1100.**
31. **For co-ordinated Telstra plant reticulation in this development, please refer to [www.telstrasmartcommunity.com](http://www.telstrasmartcommunity.com) to Register your Development and Apply for Reticulation.**

#### **Resolution**

**MOVED Cr Di Cecco seconded Cr Riches that Council's Planning Committee resolve to issue a Notice of Decision to Grant a Planning Permit for Planning Permit Application PP198/07 for the development of one shop, five offices and seven dwellings, waiving of car parking and 13 lot subdivision subject to the following conditions:**

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**CARRIED 6:1**

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**COLAC OTWAY PLANNING SCHEME  
AMENDMENT C29  
GREAT OCEAN GREEN DEVELOPMENT**

**PANEL REPORT**

**July 2007**

**COLAC OTWAY PLANNING SCHEME  
AMENDMENT C29  
GREAT OCEAN GREEN DEVELOPMENT**

**PANEL REPORT**



.....  
Lester Townsend, Chair



.....  
Michael Kirsch, Member



.....  
Pat Meehan, Member

**July 2007**

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## 1. Summary

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As originally exhibited this proposal was flawed, and submissions and technical expert reports quite rightly identified the flaws. As part of the hearing process these flaws have been comprehensively addressed.

As revised, the Great Ocean Green proposal has a number of community and environmental benefits. The proposal provides the following direct benefits:

- increases public open space areas from 12.2 percent of the site to 34.8 percent, an increase of 38.6 hectares (excluding the public golf course),
- delivers an 18 hole championship public golf course,
- delivers a golf club house,
- revegetates currently degraded land within 50 metres of the Barham River,
- restores Anderson Creek,
- delivers the geologically significant and ecologically sensitive backwater into public ownership, and
- constructs trail networks linking Apollo Bay and Marengo.

The proposal also has indirect benefits of:

- relocating the existing golf course from Point Bunbury freeing this land for uses more in keeping with the foreshore, while maintaining a golf course, and
- providing for local employment.

To deliver these benefits the proposal:

- constructs 537 houses on fill up to 2.5 metres within the flood plain, and
- proposes tourism, commercial and serviced apartment development (subject to a planning permit) on K farm.

The proposal will decrease slightly the area that is inundated when the estuary mouth is blocked, but does not have any other direct adverse environmental impacts.

However, development of the site is not a straightforward matter and the development will need to manage a number of sensitive issues.

A range of technical reports and detailed assessments has been undertaken in relation to the proposal. A number of submitters opposed to the amendment raised various issues associated with the technical assessments provided.

We believe that a fair reading of these investigations makes it clear that planning ought to proceed to the next detailed level. It is not sensible to carry out this further detailed work without the rezoning in place.

Apollo Bay does not have a secure source of potable water, and increased storage is needed. This issue will need to be resolved before development can begin, but it is not appropriate to delay the rezoning of the land pending resolution of this issue.

The proposal is supported by local and state planning policy and there are no policy reasons for not proceeding with the amendment. In particular the proposal is consistent with the Great Ocean Road Region Strategy and the Coastal Spaces Strategy. The risks to the proposal from rising sea levels due to global warming have been assessed and are within acceptable limits.

The Amendment provides the first step in a detailed approval process that also involves:

- the preparation of detailed management plans covering a range of environmental issues, and
- the application for a planning permit.

On balance the proposal represents a significant net community benefit for Apollo Bay and is a creative solution to a number of issues confronting the town. We are confident that the development can deliver significant environmental benefits and will improve an ecologically degraded landscape. It is appropriate that the land is rezoned to allow for more detailed planning and investigation work to be undertaken.

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## 2. Introduction

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### 2.1 The proposal

The subject land is described as the Barham River flats which comprise approximately 170 ha between the settlements of Marengo and Apollo Bay. The land is generally bound by the Great Ocean Road to the east, Seymour Crescent to the north, Otway foothills to the west and residential development to the south. The site is bisected by Barham Valley Road and the Barham River.

The Amendment (as revised) proposes to:

- Amend the Municipal Strategic Statement to provide a strategic framework for the future use and development of the land for an integrated recreation and residential development,
- Rezone land from Environmental Rural Zone and Public Park and Recreation Zone to Comprehensive Development Zone and incorporate a Comprehensive Development Plan,
- Apply an ESO to manage the impact of acid sulfate soils on infrastructure,
- Schedule permitted works within a Public Conservation and Resource Zone to enable revegetation and access works to be undertaken along land adjoining the Barham River Flats,
- Schedule exclusions to the provisions of the Land Subject to Inundation Overlay so that no permit is needed for dwellings built 600 mm above the 1 in 100 year flood level and which have flood free access,
- Schedule exemptions from the removal of native vegetation if they are in accordance with an approved Environmental Management Plan, and
- Remove the Erosion Management Overlay from the Great Ocean Green Development Area.

### 2.2 The Panel

This Panel was appointed under delegation on 29 November 2005 pursuant to Sections 153 and 155 of the *Planning and Environment Act 1987* to hear and consider submissions in respect of the Amendment.

The Panel consists of:

- Chairperson: Lester Townsend,
- Member: Michael Kirsch, and
- Member: Pat Meehan.

## 2.3 Hearings and inspections

Following a directions hearing on 20 December 2005 a hearing was set to commence on 27 February 2006.

On 3 February 2006 the proponent sought a deferral of the hearing until July or August 2006. On 9 February 2006 we wrote to all submitters who had lodged a request to be heard form asking whether they objected to a delay. A second directions hearing was held on 14 March 2006 and new dates were set for the hearing.

Panel hearings were held between 5 June and 16 June 2006 in Apollo Bay. It was commonly accepted at the close of the hearing that the exhibited form of the Amendment was inadequate.

At the close of the hearings the Panel was adjourned pending a decision on whether, and how, changes to the documentation of the proposal might be effected.

Following consideration of the issues around the Amendment we concluded there was a need to revise the incorporated plan and the proposed planning scheme provisions to address issues raised in the hearing.

A further directions hearing was held on 17 August 2006 in Melbourne.

We advised at the hearing that the revisions required were substantial, and that we would provide a detailed set of directions in relation to this work if redrafting was to proceed. Those directions were issued in September 2006, and a further Directions Hearing was held 18 December 2006 in Geelong to clarify aspects of the directions.

In February 2007 the proponent finalised the redrafted documentation. It was made available for parties and submitters.

Further hearings were held between 10 and 17 April 2007 in Apollo Bay. At the close of the hearing on 17 April 2007 we directed that we would provide an opportunity for parties to comment on the Preliminary Cut and Fill Plan and the Flood Velocity Plans. These plans were not exhibited by the proponent and were not provided until late in the hearing. A number of further written submissions were received.

The Panel hearing was formally closed on 4 June 2007 and parties notified in writing.

The Panel heard the parties listed in Tables 1 and 2 below.

**Table 1: Submitters to 2006 hearing**

| Submitter  | Represented By  |
|--|---|
| Colac Otway Council  | Jeff Morgan assisted by Paul Boyd and Kelly Grigsby, who called the following witness: <ul style="list-style-type: none"> <li>• Matt Ainsaar, town planner and land economist.</li> </ul>   |
| Urban Property Group   | Mr. Adrian Finanzio instructed by Yvonne Maglitto of the firm Maddocks, who called the following witnesses: <ul style="list-style-type: none"> <li>• Nevan Wadeson, town planner,</li> <li>• Andrew Biacsi, town planner,</li> <li>• Chris Dance, landscape designer,</li> <li>• Anna Swanapoel, acid sulfate soils expert,</li> <li>• John Leonard, hydrogeologist,</li> <li>• Kevin Hunter, civil engineer,</li> <li>• Mark Jempson, hydrologist, and</li> <li>• Brett Lane, ecologist.</li> </ul> The additional witness statement was also supplied: <ul style="list-style-type: none"> <li>• Brian Haratsis, economist and planner.</li> </ul> |
| Department of Sustainability and Environment   | Grant Hull, Manager Land Use Planning and Coasts South West Region  |
| Apollo Bay - Kennett River Public Reserves Committee of Management                   | Andrew Buchanan and Neil Longmore   |
| Apollo Bay Golf Club Inc   | Carolyn Webster, Colin Coleman, Mavon Lennie, Don Wagstaff and John Verey   |
| Apollo Bay Pony Club   | Mick Heland   |
| Barwon Water   | Paul Northey, Manager Strategic Planning and Sustainability assisted by Adam Lecher, Senior Water Engineer  |
| Colac Otway Residents and Ratepayer Association                                      | Stephen Hart  |
| Corangamite CMA  | Tony Jones  |
| Friends of Otway National Park   | Judi Forrester and Philip Lawson  |
| Western Coastal Board  | Steve Blackley  |
| John Lindsey and Jenny Holmes  | John Lindsey  |
| John Spencer, Janine Coles, Allen Hokin, Russell Dawe, Ted Stuckey and Carol Wilmink |   |
| Philip and Margaret Lawson   | Philip Lawson   |
| Tim Godfrey, Sally McPhee and Dave Rose  |   |
| Hans Fankhanel   |   |

|                    |              |
|--------------------|--------------|
| Peter Fillmore     |              |
| Roger Taylor       |              |
| Robyn Gray         |              |
| Catherine Cousland |              |
| Tony Webber        |              |
| Sylvia Churchill   |              |
| Joyce Biddle       |              |
| Carol Barnes       | Janine Coles |
| Mary Cockerell     |              |
| Claire Smith       |              |
| Merna Dwyer        |              |
| Malcolm Cockerell  |              |
| Stuart Hart        |              |

**Table 2: Submitters to 2007 hearing**

| Submitter  | Represented By  |
|--|---|
| Colac Otway Council  | Jeff Morgan   |
| Urban Property Group   | Mr. Adrian Finanzio instructed by Yvonne Maglitto of the firm Maddocks who called the following witnesses: <ul style="list-style-type: none"> <li>• Chris Dance, landscape designer,</li> <li>• Brett Lane, ecologist,</li> <li>• Brendan Marshall and John Hyett, cultural heritage expert,</li> <li>• Kevin Hunter, civil engineer,</li> <li>• John Glossop, town planner, and</li> <li>• Mark Jempson, hydrologist.</li> </ul> |
| Barwon Water   | Paul Northey  |
| Corangamite CMA  | Tony Jones  |
| Western Coastal Board  | Neil Longmore   |
| Friends of Otway National Park                                   | Judi Forrester  |
| Carol Wilmink  |   |
| Apollo Bay Kennett River Public Reserves Committee of Management | Gary McPike and Andrew Buchanan   |
| John Spencer   |   |
| Hans Fankhanel   |   |
| Peter Fillmore   |   |
| Janine Coles   |   |
| Dorothy Garrett  |   |

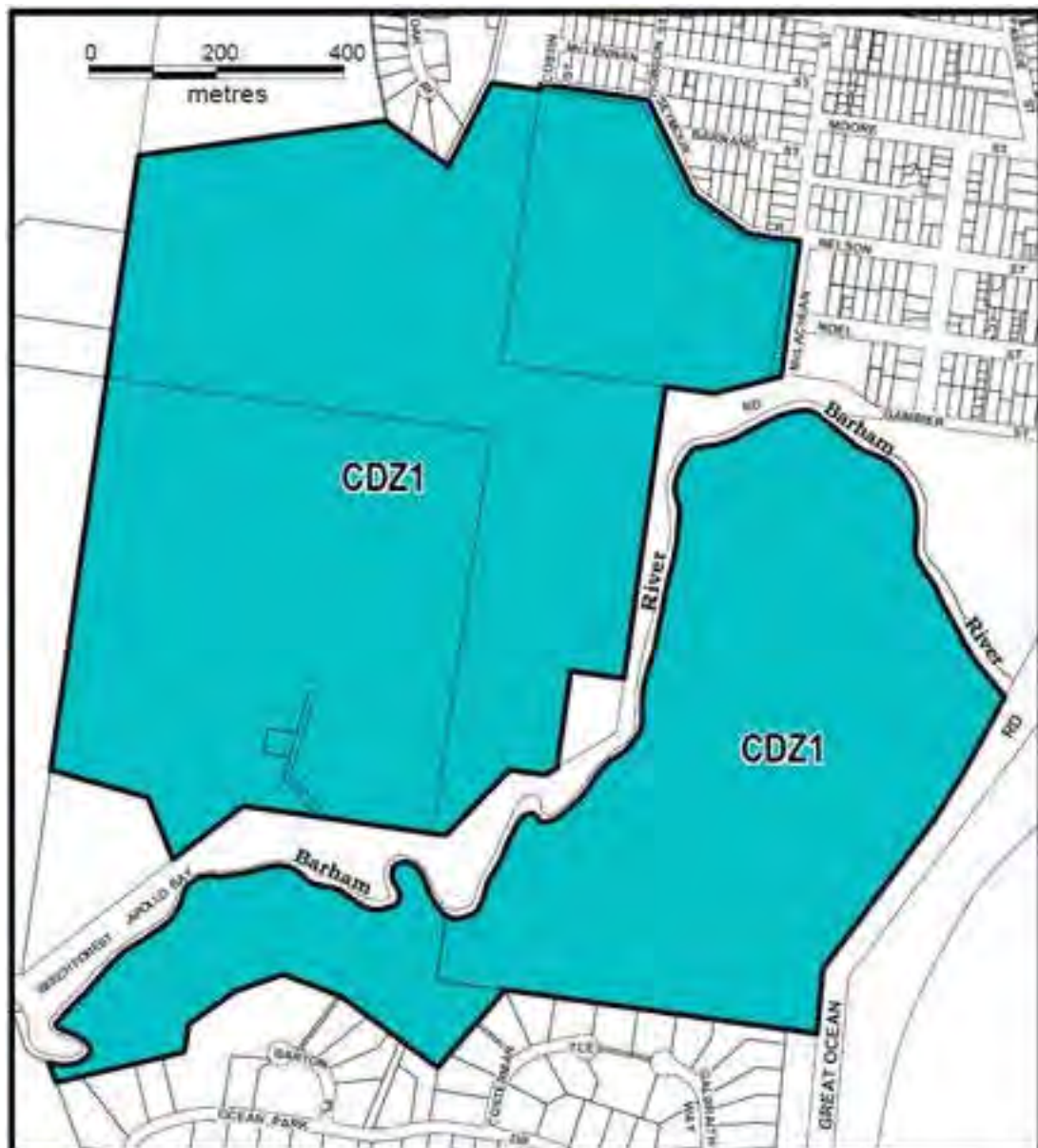


### 3. What is proposed

#### 3.1 The site and surrounds

The subject land is part of the Barham River flats together with some adjoining higher land. The site is bisected by the Barham Valley Road (Beech Forest Apollo Bay Road) and the Barham River.

Figure 1: Site area as shown on rezoning plan



The flood plain has been cleared and is used for grazing. To the east of the subject land on the other side of the river the Apollo Bay recreation reserve has been created (it appears by filling part of the flood plain).



The subject land would have originally consisted mainly of a mix of estuarine swamp scrub, swamp scrub across the flood plain, riparian forest along the Barham River and wet forest on the hill sides. The proponent has developed a plan showing indicative pre-1750 vegetation and this has been broadly supported by the Department of Sustainability and Environment.

The Great Ocean Road runs along the dune between the ocean and the backwater – the longest section of abandoned tidal meanders in Victoria. To the south the Highfield Estate has been constructed. Again it appears that part of the estuary has been filled (it has certainly had its native vegetation removed).

Though visually attractive the area has a significantly degraded habitat.

## 3.2 The proposed development

The proposal encompasses:

- a championship standard, 18 hole golf course available to the public. It is intended that this course will replace the existing Point Bunbury course,
- associated new clubhouse and associated facilities including pro shop, conference and restaurant facilities,
- a 4–5 star residential hotel and resort facilities including serviced apartments,
- up to 537 residential lots,
- extensive earthworks,
- revegetation of site frontage to the Great Ocean Road and along the Barham River embankments, and
- new cycle and pedestrian paths between Marengo and Apollo Bay.

### **Golf course, open space and residential development**

The 18 hole golf course, 59.3 hectares of open space and 537 houses on filled land are proposed on the main part of the site. Significant earthworks are proposed with excavations proposed on the elevated western part of the site to win soil to construct the elevated housing pods on the eastern part of the site. The housing pods are up to 2.5 metres high.

Substantial revegetation is proposed, generally in accordance with a landscape design based on indigenous vegetation. Because much of the vegetation has been removed by the existing uses this necessarily involves some conjecture.

### **Precinct 3 development**

It is proposed to construct the golf club house and a tourism and hotel/serviced apartment development on the elevated south portion of the site adjacent to the Highfield Estate. The proposed uses in this precinct are to be subject to a permit and third party objection rights would apply.

### 3.3 The exhibited zone and Comprehensive Development Plan

The exhibited proposal was to apply the Comprehensive Development Zone to facilitate development and at the same time approve a precinct plan and concept plan for the development. The precinct plan was of a very broad nature essentially only identifying housing and tourism facility locations. The concept plan provides only a schematic overview of the development.

### 3.4 Revised zone and Comprehensive Development Plan

The revised documentation is a clear improvement on the exhibited material and is generally well-conceived and drafted.

#### The subject land

The subject land is in a mix of private land ownerships, together with an area of Council open space. A strip of Crown land adjacent to the Barham River will be revegetated, but will remain Crown land.

#### Zone

The key features of the revised zone schedule (as further modified in the course of the hearing) are as follows:

The table of uses provides for as of right residential uses within the residential precinct (Precinct 2) and for the golf course development in accordance with the Comprehensive Development Plan. A range of uses associated with the tourism development in Precinct 3 are subject to a permit. The use of land must be generally in accordance with the Comprehensive Development Plan.

A permit is required to subdivide land. Each lot must be supplied with:

- a potable water supply,
- reticulated sewerage,
- reticulated Class A recycled water, and
- reticulated underground supply of electricity.

A subdivision application that is generally in accordance with the Comprehensive Development Plan is exempt from third party notice and appeal provisions.

The zone provisions have been structured so that a series of management plans must be approved before construction can begin. These are:

- Land Management Plan,
- Flood and Inundation Management Plan,
- Cultural Heritage Management Plan,
- Golf Course and Open Space Management Plan,
- Landscape Management Plan,
- Infrastructure Management Plan,
- Urban Design Guidelines, and

- Construction Management Plan.

Each plan must be generally in accordance with the requirements of the Great Ocean Green Comprehensive Development Plan. A permit is not required for the development of the residential lots provided the lot is developed in accordance with Urban Design Guidelines approved by an Urban Design Panel. Dwellings must not exceed 8.5 metres. The zone includes requirements for a Section 173 Agreement that specifies the establishment of the Urban Design Panel.

Buildings and works within the residential or golf course/open space precincts (precincts 1 and 2) and generally in accordance with the Comprehensive Development Plan are exempt from third party notice and appeal provisions.

The zone requires that a Section 173 Agreement be entered into prior to the granting of any permit. This agreement sets out responsibilities for development and ongoing maintenance. Land owners will contribute to the maintenance of the open space areas.

### **Comprehensive Development Plan**

The Comprehensive Development Plan consists of text and diagrams setting out:

- the development concept,
- guiding principles,
- design objectives, and
- objectives and requirements for various components of the development.

While some of the statements in the plan seem ambiguous or flowery, an overall reading of the plan communicates a clear idea of what is to be achieved.

## 4. What are the issues?

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### 4.1 Approvals needed

The development of a project such as this can be characterised as needing four levels of approval:

- support in broad policy and structure planning,
- support in the application of an appropriate zone,
- approval of a master plan or concept plan, and
- approval of detailed design and management plans.

It is usual that the permission for such a development will proceed in a number of stages. When the Comprehensive Development Zone is used the master plan or concept plan is introduced at the same time as the zone.

### 4.2 Issued raised by submitters

There were submissions in favour of the development, and submissions opposed to the development. The submissions opposed to the amendment have questioned practically every aspect of the proposal. These submissions include:

- no strategic justification for the proposal and lack of policy support for the growth of Apollo Bay beyond its current boundaries,
- no need to relocate the current Apollo Golf Course from Point Bunbury,
- an Environment Effects Statement was not carried out,
- a Councillor had a declared conflict of interest,
- there was no demand for the proposal,
- there is not an adequate water supply in Apollo Bay,
- there is a need to find a suitable location for the new water storage required for Apollo Bay,
- the development is within the flood plain,
- there were flaws in the flood modelling,
- the flood impacts on adjoining properties and the landscape are unacceptable,
- in times of low water flow the river mouth closes over and the estuary inundates,
- the development would expose potentially acid sulfate soils to air, by excavating or draining the soils and hence cause significant adverse environmental damage,
- infrastructure and in-ground structures such as water tanks or swimming pool bottoms would be corroded by the acid sulfate soils,
- the soil across the site is not stable or suitable for development,
- the amount of imported fill will have unacceptable adverse impacts,
- the potential for coastal recession to impact on the development,

- the potential for storm tides to wash into the estuary and to flood parts of it,
- the development could expose Council to a range of liabilities,
- wildfire issues were not addressed,
- Apollo Bay suffers from 'brown outs' and power failure,
- the effect of the development on flora and fauna,
- the need to protect the estuary from the adverse impacts of storm water runoff,
- the treatment of Anderson Creek,
- the use of recycled water,
- the use of open space,
- the development of the tourism proposal in Precinct 3, including:
  - the potential height and noise issues associated with the Apollo Bay airfield,
  - the possible presence of Aboriginal archaeological sites,
  - the ability of the site to accommodate all of the proposed activities given its size and configuration,
  - the need to manage the interface with residential development to the south,
  - whether vehicular access can be safely provided from the Great Ocean Road, and
  - the visibility of the proposed activities from the Great Ocean Road and its impacts on the landscape values of the area,
- the future location of the Great Ocean Road between Marengo and Apollo Bay,
- the existence of heritage sites within the subject site,
- the provision of adequate capacity and accessibility to the road network for generated traffic from the development,
- the orientation of lots on to the public open space,
- the visual impact of the proposal including:
  - the desirability of retaining a green break between Apollo Bay and Marengo, and
  - the impacts on views from the Great Ocean Road including proposed height of buildings,
- the overarching landscape design philosophy for the site, and
- issues with revegetation including the species lists and ensuring the correct growing conditions are provided.

## 4.3 Approach of the Panel

### 4.3.1 Net community benefit

In assessing the proposal we have considered whether the proposal would present a net community benefit to Apollo Bay. In making this assessment we have had to determine whether a range of environmental risks can be properly managed. The simple presence of an environmental risk (and development of this site presents and must address a number of risks) is not a reason to reject a development, though we were urged to do so by some submitters. The issue is whether the risks can be managed so that they fall within acceptable parameters. In making this assessment we have adopted the precautionary principle.

### 4.3.2 Precautionary principle

The precautionary principle is an approach to decision making that states that where there may be serious or irreversible environmental damage if a certain course is followed (or no action is taken) complete scientific certainty of the adverse outcome is not required.

A number of submitters raised concerns about the sites vulnerability to sea level rise in the context of climate change. There is the inherent uncertainty as to the effect climate change will have on rising sea levels, these uncertainties relate to:

- impacts on flood level across the site,
- impacts on coastal recession, and
- impacts on higher inundation levels from the river backing up when the estuary mouth closes.

It is appropriate to adopt the precautionary principle and ensure the proposal can manage changes within the range of sea level rises predicted by the IPCC. It is worth noting however, that the submissions concerned with climate change were concerned primarily about the impact of rising sea level on the development – not about the effect of the development on the environment. As will be clear in this report the development will have a significant positive effect on the environment and will return a substantial area of land to public ownership and protect sensitive environments from inappropriate land management practices.

The precautionary principle is discussed in *Re De Brett Investments Pty Ltd and Australian Fisheries Management Authority* (2004) 82 ALD 163 at 198–208; [2004] AATA 704 at [133]–[162]. The tribunal said at [162]:

*At the practical level for us, the precautionary principle means that we must assess whether there is an indication that there will be some serious or irreversible environmental damage if a certain course is followed, including the course of taking no action at all. That means that we must assess the possible consequences and gravity of those courses being followed together with the risk of those consequences occurring. That assessment must be carried out having regard to all sources of evidence;*

*it is not limited to scientific evidence. If the assessment leads us to conclude on the balance of probabilities that there is a threat of serious or irreversible damage to the environment that is not a bare possibility, full scientific certainty in the sense we have explained that concept should not be used as a reason for postponing measures to prevent environmental degradation. Caution should be exercised. The outcome of our assessment in applying the precautionary principle must be weighed with the other objectives in ... the Act and a decision reached.*

In *Greentree v Colac Otway SC* (Red Dot) [2005] VCAT 815 (27 April 2005), the Tribunal made the following observation about the proper application of the principle:

45 *Ms Macindoe made reference to the precautionary principle and we have adopted the precautionary principle in making our assessment. The precautionary principle is not a prohibition, but is more about balancing competing interests and assessing the probability or risk of some irreversible environmental damage occurring.*

The key issue in this case is identifying what the environmental risks of this project are that we should be cautious about. Broadly we might conceive of three classes of risk:

- the impacts of the proposal on the environment or adjoining development,
- impact of the environment on the proposal, and
- limiting the scope for environmental improvement or adaptation to climate change.

### **The impacts of the proposal on the environment or adjoining development**

The key potential adverse environmental impacts are from:

- acid sulfate soils,
- changes to flooding, and
- changes to inundation.

These issues are all addressed in the body of this report. In all cases the precautionary principle has been applied. The proponent has not argued that in the absence of complete scientific certainty of an adverse outcome no impediments should be placed on the development. On the contrary the design layout and management strategies have been developed to avoid environmental damage.

### **Impact of the environment on the proposal**

In terms of exposing new residents to danger of property destruction we believe the current proposal has taken prudent steps within current planning policy to guard against the predicted effects of climate change.

Mr Finanzio submitted:

*In the main, submitters have sought to persuade the Panel that the newest comments concerning climate change are a basis to revisit the*

*Panel's earlier findings. This issue has arisen principally in the context of sea level rise, flooding and inundation.*

*The submissions are misconceived.*

*First, the submissions seem to spring from the assumption that nobody around the table, the Panel, the proponent's witnesses or anybody else has ever heard of global warming before this reconvened hearing when in fact this issue loomed large at the hearing in June last year.*

*It is true that the media has in recent times given the climate change issue more consistent and credible exposure. That is not to say that planning professionals and policy makers have not been aware of the issues and that they have not been at play in policy decision making.*

*Second, many of the submissions lack perspective. Rather than engage in the balancing process that the "precautionary principle" requires, the submissions seek to identify "potential" negative environmental outcomes and then argue that the only solution in the circumstances is no development.*

*The evidence is that the issues do have solutions.*

While it is clear that private impacts on the public environment is something decision makers need to be cautious about, the impact of the environment on private development is a somewhat different case. We do not think that decision makers should ignore these impacts, but the role of the developer and future purchasers (and their insurance companies) in making their own assessment of these risks should be given a much higher weight.

The issue of coastal recession is dealt with later in this report.

### **Limiting the scope for environmental improvement or adaptation to climate change**

The site is currently degraded ecologically. The proposal will deliver a range of ecological benefits: we do not see these benefits being transformed into disbenefits by the effects of climate change.

There seems to be a notion in some people's minds that the current state of the area is in some way 'natural'. We were asked in submissions to consider 'whose garden was this?'

Mr Finanzio submitted:

*When we ask ourselves "whose garden was this?" we can in some instances look around the room to find the answer? Some are farmers who have grazed the floodplain within an inch of its life, others are committees of management who are the present successors of decisions to substantially fill the flood plain with a football ground and semi permanent caravan accommodation. None of these current groups are offering the solution to the existing problem of the floodplain. Nor are they offering the solution required for the reclamation of the existing golf course land (a project with its own environmental benefits).*



This statement drew a response from a number of submitters. But the facts remain: the existing environment is degraded, and there seems to be no real effort or momentum to do anything about its current poor state. Farmers have not fenced off the low lying areas to allow for revegetation. We were advised that the recreation reserve master plan does not contemplate revegetation or restoration of a riparian strip.

Restoration of the flood plain in the absence of development could potentially achieve better environmental outcomes (though not necessarily a better social or economic outcome) than the current proposal. However, such restoration has not happened and there is currently no commitment for it to happen.

The proposal represents a significant environmental benefit over the current situation. The scale of repair and restoration contemplated in the Barham Valley has been achieved elsewhere using housing development to drive the restoration works, and we can see no reason why similar environmental benefits cannot be delivered in this case. This is not to say that achieving those improvements will be easy, without risk, or will not need careful management.

## 4.4 Issues considered

The following chapter of this report sets out our conclusions and reasons for directions under the issues of:

- Strategic justification for the amendment,
- Development feasibility,
- Environmental issues,
- Planning issues,
- Site layout and development issues, and
- The structure of revised provisions.

## 5. Is there strategic justification for the Amendment?

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This chapter deals with the broad policy and planning process issues related to the proposal.

### 5.1 Policy support

#### 5.1.1 Growth of Apollo Bay

##### What is the issue?

The first issue to consider in terms of the strategic justification of the proposal is whether the growth of Apollo Bay beyond its current boundaries is supported in local and state policy.

##### Discussion

###### Municipal Strategic Statement

The Colac Otway strategic framework in the MSS identifies two 'Key principle towns where future growth and development will occur': Colac and Apollo Bay.

A specific objective is included for Apollo Bay.

*21.04-10 Apollo Bay – Key objective*

*To develop Apollo Bay as an attractive residential community which provides high quality environment as a significant tourist centre.*

Under this key objective the MSS sets out a number of strategies and implementation methods, including:

*Strategies to achieve the objective:*

*Provide a range of opportunities for residential development to match the needs of the local community and visitors.*

*Implementation will be achieved by:*

- *Encouraging the development of a range of house sizes and types.*
- *Concentrating residential development within existing zoned areas.*
- *Providing for adequately zoned land for approximately 10 years growth.*
- *Limiting further subdivision and development in the low-lying area between Apollo Bay and the surrounding hills.*

- *Facilitating limited rural residential development only in those areas immediately adjoining the city which meet the criteria contained in Ministerial Guideline No 6 and which are consistent with the Apollo Bay Framework Plan.*
- *Providing for a limited range of high quality visitor accommodation which is sympathetic to the residential environment.*

The implementation of the strategy makes it clear that while increased development within the existing boundaries is supported, so too is providing new residentially zoned land. All towns and cities typically grow by a combination of increasing development in existing areas and outward expansion. The MSS anticipates both these mechanisms of growth.

There is no doubt that future growth is intended for Apollo Bay under the policies and strategies in the MSS, and that rezoning land to cater for this growth is anticipated. Policy support for some expansion of Apollo Bay does not automatically translate to policy support for development of the subject land – this is discussed below.

### **Coastal Spaces (DSE, April 2006)**

The Coastal Spaces report generally limits development along the coast except in a few specific locations. It is clear from the details of the policy that growth in Apollo Bay/Marengo is supported within limits. The Coastal Spaces recommendations identify Apollo Bay/Marengo as a District Town.

*District Towns have a large and diverse population base. All essential services are provided. Access to services is generally high such as police stations, medical/hospital facilities and variety of educational facilities. A variety of accommodation stocks are available comprising of a number of hotel/motels, often multiple caravan parks and other boutique establishments. A dominant business district with moderate employment base. Settlements of this type located on the coast are popular visitor destinations in summer. Settlements located closer to metro-Melbourne are popular retirement destinations which offer employment opportunities. Hinterland settlements of this type provide important service support role for coastal settlements and other rural activities.*

The population of a District Town is proposed as 2,000 to 10,000. Apollo Bay/Marengo has a current population of approximately 2,000 people.

The Draft 'Coastal Settlement Framework: Spatial Growth Management' identifies Apollo Bay/Marengo as having:

*Moderate growth capacity: Some potential beyond existing urban zoned land or through infill but within defined settlement boundaries, in accordance with Strategic Planning undertaken for the particular settlement.*

The critical issue that flows from an implementation of the Coastal Spaces recommendations is that development should be directed to strategically identified areas.

**Great Ocean Road Region Strategy (DSE, August 2004)**

The SPPF states:

*Great Ocean Road Region*

*Planning for the Great Ocean Road Region should:*

- *Protect the landscape and environment by:*
  - *Protecting public land and parks and identified significant landscapes.*
  - *Ensuring development responds to the identified landscape character of the area.*
  - *Managing the impact of development on catchments and coastal areas.*
  - *Managing the impact of development on the environmental and cultural values of the area.*
- *Manage the growth of towns by:*
  - *Respecting the character of coastal towns and promoting best practice design for new development.*
  - *Directing urban growth to strategically identified areas.*
  - *Encouraging environmentally sustainable development.*
- ...

*Planning for the Great Ocean Road Region should have regard to the Great Ocean Road Region - A Land Use and Transport Strategy (Department of Sustainability and Environment, 2004)*

The critical issues that flow from the implementation of the Great Ocean Road Region Strategy are that:

- landscapes should be protected, and
- development should be directed to strategically identified areas.

**Hasn't the Government said no more golf course developments?**

Concern has been expressed in the past at golf course residential developments being presented as 'tourism developments' and seeking to establish outside established town boundaries. There have been statements that these types of developments are not supported by current policy.

The current proposal is clearly intended as a residential expansion of Apollo Bay (though it has obvious tourism components). There is no suggestion that the proposal is not a residential subdivision, and it relies for its policy support on explicit policies that recognises the growth potential of Apollo Bay.

**Image of the town**

A number of submissions addressed the issue of the potential change in character of Apollo Bay that the development would bring about and feared that the change would destroy the character of the town. We accept that the development will change the character of the town but observe that this change is an obvious consequence of the policies that identify Apollo Bay for growth. Having said that,

we believe that the change won't be as dramatic as some submitters put to us, and will occur over a number of years.

## **Panel conclusion**

Having considered this issue we conclude that:

**The policy framework invites a consideration of growth of Apollo Bay – there is no overriding policy prohibition on the expansion of the town.**

**Development may well change the character of Apollo Bay but this change in character is supported by the planning policies that identify Apollo Bay for growth.**

### **5.1.2 Fit with structure plan**

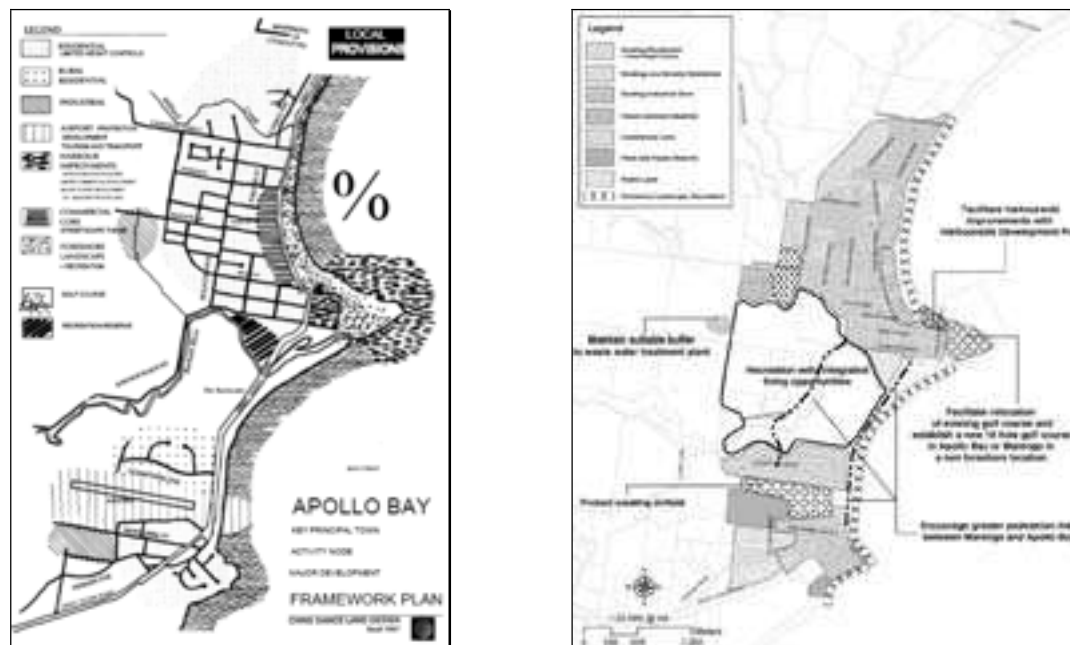
#### **What is the issue?**

Development needs to be in accordance with strategically identified areas. In terms of the way the Colac Otway MSS is structured this translates to the land being identified on the Apollo Bay Structure Plan at Clause 21.04-10 in the MSS. The Amendment proposes to revise this structure plan. Following the preparation of the original Amendment a detailed review of the Apollo Bay structure plan was carried out by the consulting firm Planisphere for the Colac Otway Council.

#### **Evidence and submissions**

There are three relevant versions of the Apollo Bay Structure Plan:

- the Structure Plan in the Scheme,
- the plan exhibited as part of the Amendment, and
- the draft Apollo Bay Structure Plan prepared in 2006 by Planisphere.

**Figure 2: Existing and proposed MSS Structure Plan**

Current Structure Plan in MSS

Structure plan originally proposed in Amendment C29

## Discussion

The Planisphere Structure Plan is the result of an extensive strategic planning process. It is instructive to compare how the subject land is treated in the originally exhibited plan compared to the Planisphere draft.

The most significant difference is that the exhibited plan delineates the subject land as:

*Recreation with integrated living opportunities,*

whereas the Planisphere draft delineates the land as:

*Possible future open space, recreation (golf course) and residential area subject to improvements to the Barham River valley and maintaining a landscape dominated break between Apollo Bay and Marengo.*

*(from: The 'Size of settlements' map activity and 'Existing Land Use' plans)*

The critical point of difference between the two plans is the issue of maintaining a 'green break'. This is discussed in section 9.2 of this report.

It is appropriate to look to the draft structure plan for some overall guidance on the growth and development of Apollo Bay, given the amount of strategic planning work it entails. In this regard the draft structure plan indicates that some form of development is appropriate on the land.

We recognise that we are dealing with a structure plan that has not been formally approved and does not form part of the planning scheme. This means that the draft structure plan cannot simply be accepted at face value and we need to be sure that the

recommendations and proposals in the structure plan are well founded in terms of existing policy.

It is fair to say that, to date, the responsibility for the detailed assessment has been left with the proponent. In this regard we need to be confident that the specific requirements over development on the site that are set out in the draft structure plan flow properly from the broad objective to be achieved and pay proper attention to the specific issues on the land. We have considered the structure plan as it applies to the subject land and conclude that while the general categorisation of the land is appropriate there are a number of specific recommendations or map notations that require review in the light of the detailed assessment of the site.

We note that the draft structure plan does not deal explicitly with the issue of the location of the water supply for Apollo Bay. We were advised by Barwon Water that it is continuing to liaise closely with the Council regrading the water supply situation and the final Apollo Bay structure plan, and is also working cooperatively with the proponent to identify viable alternatives that meet the objectives of both parties.

### **Panel conclusion**

Having considered this issue we conclude that:

**The development of the land for recreational purposes and housing is supported by the strategic planning work undertaken for Apollo Bay.**

Having considered this issue we recommend:

**The revised amendment include a revised structure plan for Apollo Bay.**

## **5.2 Golf Course relocation**

### **What is the issue?**

One justification for the proposal is that there is a need to relocate the current Apollo Golf Course from Point Bunbury.

Part of the stated community benefit of the proposal is that it frees up the current site for a use that better relates to its prime coastal location. However, the ultimate use of the Point Bunbury land is not governed by this Amendment.

### **Evidence and submissions**

The existing Golf Course is on land zoned Public Park and Recreation. It is public land leased to the Apollo Bay Golf Club, and it is clear that the Golf Club has sought to relocate from Point Bunbury for some time. The Golf Club owns a portion of the subject land.

Members of the Apollo Bay Golf Club submitted that the current 9 hole course, which has been operated by the Golf Club for 80 years, is located on leased Crown land at Point Bunbury adjacent to the foreshore and port area. The course is bisected by the port access road, has risk management and litigation issues associated with

residential properties being hit by wayward golf balls and the general public wandering on the course to access the port and headland areas. Requests to install protective fencing have been rejected by DSE. The current lease expires in 2016, but the Club has recently sought an extension.

As there is no land available to extend the existing course, the Club is purchasing 100 acres of the Garrett land, which forms part of the proposed development site, for the construction of an 18 hole championship standard course in future years. The Club has entered into an agreement with the proponent for the construction and operation of a new course, together with a clubhouse and associated facilities. We understand that the relocation from Point Bunbury would occur on the completion of construction of the first 9 holes.

Others submitters, including Council, State Government and other bodies, support the relocation.

## Discussion

The Golf Club, with 470 members, is viewed as an important part of both the social fabric of the local community and the tourism industry for the township. The relocation from the current site is strongly supported by all previous and current strategic studies relating to the future of Apollo Bay. It would provide the opportunity to use the land currently occupied by the golf course for port related or tourist activities.

If the proposed development does not proceed it is understood that the Golf Club would not be able to finance the construction of a new 18 hole course on the land it owns for many years (unless funding becomes available from another source).

If the Golf Course does relocate the current zoning would protect the public open space nature of the exiting golf course area.

There are clear benefits to having an improved golf course and this is relevant to the assessment of the proposal, but the reuse of Point Bunbury is not part of this Amendment and the benefit that flows from the removal of the golf course will depend on precisely how the land is used. In the absence of detailed plans for Point Bunbury we are reluctant to ascribe a significant community benefit to any supposed improvements that might take place at Point Bunbury. We think a better characterisation is that the removal of the golf course presents an opportunity for community benefit at Point Bunbury, but the removal of the existing course cannot be characterised as a benefit in and of itself.

It should be noted that the *Caravan and Camping Parks on Coastal Crown Land* Reference Group Report recommends:

*Recommendation 4.3.1*

*Opportunities for increased usage of existing coastal Crown land caravan and camping sites should be considered. Priorities include:*

- *Identifying opportunities for summer-time peak expansion of existing facilities and development of new facilities in high-use locations, including ... the Great Ocean Road ....*



*Recommendation 4.3.2*

*Opportunities for additional caravan and camping parks on both Crown land and private land, on or near the coast, should be considered in consultation with the community.*

**Panel conclusion**

Having considered this issue we conclude that:

**There is broad community benefit in relocating the Golf Course from Point Bunbury.**

**The current zoning of the existing course would maintain its use as public open space. The use of Point Bunbury will be subject to a separate decision process, and the consideration of any purported community benefit from the reuse of Point Bunbury needs to be weighted by this fact.**

**5.3 Planning process****5.3.1 Need for EES****What is the issue?**

The *Environment Effect Act* 1978 provides for the assessment of proposed projects that are capable of having a significant effect on the environment. The Act does this by enabling the Minister for Planning to decide that an Environment Effects Statement should be prepared.

The Minister for Planning considered the subject proposal and determined that the preparation of an Environment Effects Statement was not warranted.

**Evidence and submissions**

A number of submitters stated that an Environmental Effects Statement should have been required for the development.

**Discussion**

An Environment Effects Statement is required at the determination of the Minister for Planning. We have specific obligations under the *Planning and Environment Act* 1987 to consider submissions referred to us in relation to the Amendment. We have no power to review the Minister's decision in relation to the preparation of an EES.

In practical terms we are satisfied that the potential environmental impacts associated with the proposal have been identified and considered.

## Panel conclusion

Having considered this issue we conclude that:

**The potential environmental impacts associated with the proposal have been identified and considered.**

### 5.3.2 Conflict of interest and lack of representation

#### What is the issue?

Submissions were made:

*Given that a Councillor has a declared conflict of interest and therefore has no vote on matters concerning the relevant developments, there is a resulting diminution of our local representation on Council, particularly in a matter of such great importance.*

#### Discussion

This is a matter wholly beyond the scope of this Panel. Our concern is whether procedures under the *Planning and Environment Act 1987* have been followed. The purpose of the Panel process is to provide an independent recommendation to Council on the Amendment. The processes under the *Planning and Environment Act 1987* provide a clear opportunity for local representation.

#### Panel conclusion

Having considered this issue we conclude that:

**The Amendment process has followed the requirements of the *Planning and Environment Act, 1987*.**

## 6. Is development feasible?

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This chapter addresses the servicing and site constraints that might make development of the land impossible, heavily constrained or contrary to specific planning policies.

### 6.1 Market demand and timing of development

#### What is the issue?

Concern was expressed that there was no demand for the proposal.

The SPPF sets out an objective (14.01-1):

*To ensure a sufficient supply of land is available for residential, commercial, industrial, recreational, institutional and other public uses.*

Under the implementation strategies for this objective it states:

*Planning authorities should plan to accommodate projected population growth over at least a 10 year period, taking account of opportunities for redevelopment and intensification of existing urban areas as well as the limits of land capability and natural hazards, environmental quality and the costs of providing infrastructure.*

The critical issue is that the strategy states at least a 10 year period.

#### Evidence and submissions

Mr Ainsaar presented evidence that there was currently a 12.5 year supply of residential land. Evidence circulated by Mr Haratsis indicated a 3 year supply. Table 4 shows how these different figures were arrived at.

**Table 4: Land supply evidence compared**

| Demand                                 | Ainsaar    | Haratsis | Panel comment  |
|--|------------|----------|--|
| Underlying land adsorption             | 54         | 76       | The difference is explained by the different data sets used. Mr Ainsaar has corrected data errors in the official data set.  |
| Golf Course residential demand         | –          | 15       | Based on 25 percent of sales in the development being purchasers attracted to the golf course location   |
| Other growth factors                   | –          | 10       |  |
| Total                                  | 54         | 101      |  |
| Total used                             | 54         | 91       |  |
| Supply                                 |            |          |  |
| In fill lots                           | 227        | –        | The critical difference is whether supply should include land already subdivided and sold. Assuming either that <b>all</b> infill lots are part of the supply or that <b>no</b> infill lots are part of the supply are equally problematic. Policy requires planning authorities to take account of opportunities for redevelopment and intensification of existing urban areas and an estimate of these opportunities should be made. |
| Being subdivided in 2005               | 38         | –        |  |
| Being subdivided                       | 276        | 276      |  |
| Remaining broad hectare                | 130        | –        |  |
| Total                                  | 671        | 276      |  |
| Supply                                 |            |          |  |
| Surplus (shortfall) for 10 year supply | 131        | (634)    |  |
| Current supply                         | 12.5 years | 3 years  |  |

A number of submissions addressed the issue of market demand stating that there was no demand for the proposed development. Submissions that raised this issue claimed:

- there was a shift from single houses to multi-unit developments and this meant that infill lots will cater for much more supply than predicted by Mr Ainsaar,
- it was incongruous that with a predicted household size of 2.1 persons the projected growth in dwellings was essentially the same as the projected growth in persons,
- there are many holiday homes that are expected to become permanent homes as their owners retire,
- there are no large employers to attract new residents, and
- there was a surfeit of lots currently on the market in Apollo Bay.

## Discussion

Following the evidence of Mr Ainsaar we concluded that there was no need to hear from Mr Haratsis. We made this decision based on our judgement that if the supply was as 'great' as Mr Ainsaar predicted (compared to Mr Haratsis' estimate) this was still sufficient to justify the proposal in terms of residential demand, and there was no need to explore whether the supply was in fact less than Mr Ainsaar calculated – the issue is whether it might be more.

The opportunities for the expansion of Apollo Bay are limited. Essentially the opportunities are the subject land and land to the north of Apollo Bay identified as Mariners Vue, with the possible extension of this land further to the north.

It is difficult to predict the long term growth pattern of Apollo Bay because a range of pressures might change the pattern, or increase or decrease the rate of new development. The State Planning Policy Framework makes it clear that planning schemes should maintain at least 10 years supply of residential land.

We do not think that development pressure in Apollo Bay will decrease. While there may be an increase in infill development with a greater proportion of apartments it is by no means clear whether this will be at the expense of, or in addition to, the demand for housing.

It is important to note that the relevant policy is for at least a 10 year supply of lots. We accept the evidence of Mr Ainsaar that:

*Action will need to be taken in the near future to ensure an adequate supply of residential land is maintained into the future given the time involved in obtaining approval for rezoning of land.*

### **Panel conclusion**

Having considered this issue we conclude that:

**The rezoning of the land is appropriate to ensure that an adequate supply of residential land is maintained.**

## **6.2 Water**

### **6.2.1 Potable water supply**

#### **What is the issue?**

State Planning Policy states:

*18.09 Water supply, sewerage and drainage*

*18.09-1 Objective*

*To plan for the provision of water supply, ... services that efficiently and effectively meet State and community needs and protect the environment.*

The main supply of water for Apollo Bay (together with Marengo and Skenes Creek) is from a weir on the West Barham River that feeds an off line storage at Marengo of 125 mega litres (ML).

The towns have access to approximately 1 ML of water per day, or 364 ML per annum, from the West Barham River. The water supply to the weir is limited by the water levels in the river and the existing water main, which has a capacity of 1 ML per day. Barwon Water advised that the entitlement of 365 ML could not be

harvested in summer due to low water levels. The existing water supply provides about 300 ML per annum.

Current demand exceeds 300 ML per annum and 80 ML has been pumped directly from the Barham River.

Apollo Bay urgently needs to increase its access to a sustainable and reliable water supply. The town has experienced water restrictions for a number of years. Amendment C31 sought to rezone land to facilitate the development of an off stream water storage area to provide water to Apollo Bay township.

The Panel for C31 that considered a new water storage for Apollo Bay reported:

*During the hearing, Barwon Water also conceded that the authority had not been as prepared in its infrastructure planning as it could have been, and has been embarrassed by the need for restrictions.*

Amendment C31 was abandoned following detailed geotechnical investigations.

## **Evidence and submissions**

In its submission at the hearings Barwon Water advised that there was insufficient capacity to service the proposed development. We accept Barwon Water's submissions in this respect.

The revised Amendment documentation includes a provision in relation to the subdivision of the land that:

*Each lot must be provided with a potable water supply.*

## **Discussion**

It would be contrary to orderly and proper planning to develop this site without adequate water supply, but this is not a likely outcome given the checks and balances of the Victorian planning system.

The critical issue for us to determine is, at what stage should the development proposed by the Amendment be stopped pending resolution of water supply issues.

Apollo Bay has been identified as a growth node and it is expected that the town will grow. Providing water to the town presents difficulties but these do not appear to be insurmountable. We think that there is merit in continuing to consider the Amendment on the proviso that final approval might be delayed pending resolution of the water supply issues.

## **Panel conclusion**

Having considered this issue we conclude that:

**Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until water supply issues are resolved.**

## 6.2.2 Location of the new potable supply

### What is the issue?

There is a need to find a suitable location for the new water storage required for Apollo Bay. Barwon Water has suggested the subject land as a location for that storage.

### Evidence and submissions

Barwon Water presented the following background in relation to water supply issues:

- Jul 2003 Preliminary investigations commence, 4 sites identified.
- Jul 2004 Preferred site selected, Amendment C31 initiated.
- Oct 2005 Geotechnical investigation over a larger area identifies further risks with C31 proposal. Barwon Water withdraws C31.
- Nov 2005 Two additional potential sites are identified.
- Jan 2006 Detailed geotechnical investigations at each site completed. Preferred site selected.
- Jun 2006 Draft functional design report received.

Barwon Water submitted at the April 2007 hearings that it was currently reinvestigating one final site that was previously discounted due to prohibitive cost and other factors. If this site is unsuitable for a 250 ML storage then Barwon Water will conclude that no site can accommodate the required storage except a site within the Amendment area.

In response to questions Barwon Water advised that it had considered a full range of supply options including options other than storage of water from the Barham River.

### Discussion

If it transpires that the only site for a new storage facility in Apollo Bay is on the subject site, then the development proposal will require considerable revision.

There will need to be a public process to test whether the site identified by Barwon Water is indeed the only or best site possible when all factors are considered. There may also need to be discussions on whether an alternative design is required so that the water storage could fit better with the use of the balance of the land. It is not our role to determine any of these matters.

If the water storage is ultimately constructed on the land then compensation to the land owners and, if it was submitted, the proponent will be required. A critical aspect of determining this compensation will be the development potential of the land, that is, whether or not the current proposal (or a variation on it) ought to be approved. In this case it would not be fair for us to retreat from judging the current proposal on its merits.

If the water storage is ultimately constructed elsewhere in Apollo Bay then there is no impediment to judging the current proposal on its merits.

## Panel conclusion

Having considered this issue we conclude that:

**Consideration of the Amendment should continue with the expectation that a further separate process will determine the appropriate location for an expanded water storage in Apollo Bay.**

## 6.3 Flooding and inundation

The following reports were submitted by the applicant addressing hydrology, flooding and water quality:

- Great Ocean Green Golf Course Hydrological and Water Quality Considerations, WBM Oceanics Australia, 2003.
- Great Ocean Green Water Cycle Management Options, WBM Oceanics Australia, 2003.
- Great Ocean Green – Additional Information Request Flooding and Water Quality, WBM Oceanics Australia, 2005.

The following expert witness reports have also been prepared:

- Great Ocean Green Apollo Bay Hydrogeological Assessment, John Leonard Consulting Services, 2006.
- Great Ocean Green Hydrologic and Water Quality Considerations Supplementary Report, WBM Engineering and Environmental Consultants, 2006.
- Great Ocean Green Hydraulic and Hydrologic Considerations. Expert Witness Statement response to September 2006 Directions Hearing. WBM February 2007.

At the reconvened hearing the CCMA presented:

- Barham River Flood Study (Report number FPM-2007-1 Date: 5 April 2007).

The flood modelling was re-run based on this report.

There is a need to distinguish between flooding of the land (caused by storm events) and inundation caused by closure of the river mouth when water flow is low.

Flooding is modelled using conventional flood modelling techniques. Inundation areas can be mapped based on knowledge of the height of the river mouth closure.

### 6.3.1 Flood modelling and use of the flood plain

#### What is the issue?

A number of submissions were opposed to the development on the basis that it was within the flood plain.



## Evidence and submissions

Many submitters tendered photographs and anecdotal evidence of the extent of flooding in the river flat.

Mr Finanzio submitted:

*We know it's a floodplain. We know that development in this area will be difficult and will require a level of control and attention that is not usual. The approach that has been taken to date is to identify what those constraints will be and analyse whether there will be engineering solutions for the problems.*

*The flood modelling captures a pretty clear picture of what happens in an extreme event. It also makes clear that the difference between the impacts of the existing extreme event and the developed case are marginal. The characteristics of those extreme events that have been modelled are sufficient to account for the current thinking (which includes quite an extraordinary range) about the predictions for sea level rise. The CCMA agree.*

It was clear from submissions that a number of submitters did not understand or did not accept the results of the flood modelling. Concern was also expressed about the impacts of debris in the flood waters, including trees and the like and silt on the flood model.

Development within floodplains, though not unusual has to be approached with caution. The State Planning Policy Framework states:

### **Objective**

*To assist the protection of:*

- *Life, property and community infrastructure from flood hazard.*
- *The natural flood carrying capacity of rivers, streams and floodways.*
- *The flood storage function of floodplains and waterways.*
- *Floodplain areas of environmental significance.*

### *15.02-2 General implementation*

...

*Emergency facilities (including hospitals, ambulance stations, police stations, fire stations, transport facilities, communications facilities, community shelters and education centres) must be located outside the 1 in 100 year floodplain and, where possible, at levels above the height of the probable maximum flood.*

*Developments and uses which involve the storage or disposal of environmentally hazardous industrial and agricultural chemicals or wastes and other dangerous goods (including piggeries, poultry farms, feedlots and sewage treatment plants) must not be located on floodplains unless site design and management is such that potential contact between such substances and floodwaters is prevented, without affecting the flood carrying and flood storage functions of the floodplain.*

## Discussion

The fact that the river flats flood on a regular basis is not disputed. The extent of flooding anticipated in a 1 in 10 year event is significant.

The impact of the development on the flood plain has been modelled using accepted modelling procedures. The flood modelling shows the changes in flooding from the existing case compared to the developed case. This modelling provides the basis on which to decide whether development in the flood plain is acceptable. The photographs, video and anecdotal evidence tendered by submitters generally accords with the results of the flood modelling.

There was concern expressed about the reduction in flood storage capacity of the flood plain. This was a reoccurring theme in submissions and questions with concerns about 'where would the water go'? The purpose of flood modelling is to answer this point. In general terms it goes downstream; reducing the storage capacity of the flood plain at a particular point tends to have down stream impacts as more flood water is sent downstream. In the case of the subject land, reduction in flood storage capacity means that water flows out to sea more quickly than it would otherwise.

The potential impact of debris in the flood waters was addressed in responses to questions. We are satisfied that the flood modelling provides sufficient data at this stage to determine the broad effects of flooding and hence whether development of the scale proposed is appropriate in this flood plain from a flood management point of view.

Submitters raised the issues of onshore currents or wave action holding up the flood waters. Dr Jempson advised that in a flood event these effects are likely to be negligible compared with the momentum of water coming down the river.

The impacts of the proposed development can be compared to the existing situation or the likely future situation if revegetation works proposed for the river are carried out. The action plan for the river calls for a revegetation strip along each side of the Barham River. Including this vegetation raised the base case flood height along the river slightly around the vegetation.

## Conclusion

Flood modelling is an established science that uses sophisticated computer analysis to predict the height, duration and flow velocity of flood events. We are satisfied that the modelling has been carried out in accordance with established practices – the critical issues are the inputs used in the model, and what the model predicts will be the off-site impacts.

The proposed planning provisions provide an appropriate mechanism to review and refine flood impact analysis as the project progresses. It is clear at this stage that the overall concept of the development is feasible in terms of dealing with flood impacts. The characteristics of the location – a broad flood plain, with a relatively steep hydraulic gradient under flood flows – means that the flood plain can absorb the development proposed without undue off site effects.

Having considered this issue we conclude that:

**The flood modelling presented by the proponent is the appropriate method to assess impacts of the development.**

### 6.3.2 Inputs to the flood model

#### What is the issue?

Concerns were expressed that:

- the rainfall data did not align with records from individual records,
- the flood modelling did not properly address issues of rising sea levels from climate change, and
- the model did not adopt appropriate assumptions for a 1 in 100 year event.

#### Evidence and submissions

##### Rainfall data

A critical aspect of any flood model is the estimation of the 100 year design flow, or in lay terms the amount of water that would be discharged in a 1 in 100 year rainfall event over the entire catchment. This flow may be achieved with steady rain over several days or heavy rain over a shorter period of time.

The 100 year design flow has been estimated on a number of occasions depicted in Table 5. This demonstrates that the 100 year design flow estimates had been fairly consistent since 1958, with the flow utilised by WBM Oceanics in their original study being the highest, representing the greatest amount of rainfall in the catchment, until the recent calibrated study by the Catchment Management Authority.

**Table 5:-100 year flow rates for Barham River**

| Data source                           | Reason for study   | 100 year flow         |
|---------------------------------------|--|-----------------------|
| Otway Shire Divisional Engineer, 1958 | Design information for Great Ocean Road Bridge over Barham River | 184 m <sup>3</sup> /s |
| CCMA, Rational Method, 2000           | CCMA estimates   | 195 m <sup>3</sup> /s |
| WBM Oceanics, Rational Method, 2001   | Great Ocean Green development                                    | 193 m <sup>3</sup> /s |
| WBM Oceanics, RORB Method, 2001       | Great Ocean Green development                                    | 196 m <sup>3</sup> /s |
| CCMA, Calibrated method               | Great Ocean Green development                                    | 250 m <sup>3</sup> /s |

The CCMA has reviewed these figures and ‘calibrated’ the model of the catchment with rainfall and river flow data from storm events. The storms modelled were October 1976, June 1978, March 1983 and February 2006. This calibration has required a number of assumptions at different points. As a result of these calibrations the CCMA requested that modelling be run with an input flow of 250 cubic metres per second.

## Sea level conditions

A critical component of the flood model is the model boundary conditions, or the features that will cause floodwaters to back up into the Barham Valley.

In simple terms the 1 in 100 year sea level will be made up of a number of components:

- sea level rises due to global warming,
- astronomical tide,
- an up rise of water due to low atmospheric pressure, and
- wind and wave setup.

There is a further issue in the approach the model takes to the sea boundary condition:

- whether the model maintains the sea boundary at a constant high level for the duration of the flood or varies it as the tide ebbs and flows.

The initial boundary conditions used in the original model were:

- Sea level rise of medium, 50 year scenario of 0.2m,
- Extreme (King) tidal level of 1.4m AHD (unabated over 24 hours),
- Atmospheric pressure allowance of 0.3m,
- Wind and wave setup of 0.2m.

This gave a total ocean water design level of 1.9 metres plus 0.2 metres for global warming without any allowance for the tide ebbing during the duration of the flood – a total of 2.1 metres.

These boundary conditions were initially considered a conservative estimate, assuming the tide is at an extreme level for 24 hours, an extreme low pressure system has developed, a storm event is occurring and sea levels have risen by 0.2m. The WBM expert witness report included a revision of the allowance made for sea level rise to 50 cm, taking the total ocean water design level to 2.4m.

In the April hearing the CCMA revised its estimation of sea boundary conditions.

For the astronomical and meteorological tide components for the 1 in 100 year event it adopted a level derived by the consulting firm GHD for the City of Greater Geelong, which gives a 1 in 100 peak of 2.20 metres before an allowance for climate change.

In respect of climate change the CCMA submitted that it:

*Believes that the IPCC (2007) worst case scenario (A1F1) with ice sheet mass balance is reasonable to accept at this time. The work predicts that sea level rise for the next 100 years will range between 26 – 79 cms with a mid point 53 cms. This also concurs with other modelling along the Victorian coast.*

Council sought the advice of Dr Benjamin Preston of the CSIRO on appropriate assumptions for sea level rises. Dr Preston advised:

*If one is looking for an answer that is robust over the largest number of potential futures, that suggests the use of at least 1 metre as a guide ... . However if one is looking for the 'best guess' of 21<sup>st</sup> century sea level rise, then 50 cm would be sufficient to cover at least the IPCC ranges.*

There is a need to strike a balance between the 'best guess' estimate and the estimate that would cover worst case scenarios. The CCMA submitted that a maximum value of 80 cms be used in the formation of sea boundary conditions. This gives a total sea boundary height for a 1 in 100 year event of 3.00 metres.

### **What is the 1 in 100 event?**

It was submitted that the metrological set up component of the high tide would occur at the same time as the heavy rain fall that causes the 1 in 100 year flood and so the two factors should be modelled together.

## **Discussion**

### **Rainfall data**

A number of submitters raised concerns over the weather data used to project flood flows and drew our attention to a range of rainfall results collected at different points in the catchment. Flood modelling uses established techniques to estimate the 1 in 100 year return event and planning policies seek to protect houses and infrastructure against this level of flooding. Clearly more intense events than the 1 in 100 event are possible and such events would require more intense rainfall over the catchment.

We are satisfied that the calibrated model approach is the best practice approach to determining likely stream flows. We note that while it has identified a larger flow compared to earlier studies this larger flow has not resulted in proportionately higher flood levels.

### **Sea boundary conditions**

There is no doubt that sea levels will rise as a result of global warming, but the extent of this rise will depend in part on the community's response to halting greenhouse gas emissions. For different assumed CO<sub>2</sub> concentrations in the atmosphere, sea level changes are still only estimates derived from climate modelling. We accept that the CCMA's use of 80 cm is a reasonable and prudent estimate.

A critical issue in understanding the flooding regime of the site is that the river flats are separated from the ocean by the Great Ocean Road and that restrictions at the bridge on the Great Ocean Road determine flood levels across the site. In this respect the flood levels across the site are not particularly sensitive to the sea boundary conditions.

### **1 in 100 year event**

Flood protection is based on determining the likely flood event that will occur once in 100 years and designing to provide protection from this event. This is common practice across Victoria, not just for flood events from streams but also from the 'overtopping' of local drainage systems. It seems to us that where there is a 1 in 100

chance of a certain flood level there will necessarily also be a lesser chance of a more severe event. Adopting a more severe event for this development (while other development in Victoria is constrained by the 1 in 100 event) would be inequitable.

It is not the case that development needs to be protected for the maximum probable flood, or events that are less likely than to reoccur every 100 years.

If the 1 in 100 year tide, and the 1 in 100 year storm were independent of each other then the chance of them both occurring at once would be 1 in 10,000. If the 1 in 100 year storm relied on a 1 in 100 year tide then both would occur in the 1 in 100 year event.

The issue is the extent to which the up rise of water due to low atmospheric pressure, and the wind and wave setup will coincide with the 1 in 100 storm event.

The 1 in 100 year flood will occur as the result of a 12 hour rainfall event. The flood waters take up to 10 hours to reach the river mouth and so it is not true to say that the storm event and the flood event must coincide.

The issue is whether a storm event less than 1 in 100 combined with a flood less than 1 in 100 produces a flood level significantly higher than the 1 in 100 flood. The CCMA considered that a number of scenarios should be modelled to explore this. They considered that these scenarios would not increase flood height above the flood the results from the 1 in 100 rainfall event.

It seems to us that the Catchment Management Authority is the correct body to make these judgements. Our role is to determine in a broad sense whether development on this flood plain is acceptable.

## **Panel conclusion**

The housing areas will be filled to bring them above the 1 in 100 year flood level with an additional freeboard of 600 mm. There will need to be an iterative process between detailed earthwork design and final flood modelling.

Even with the higher rainfall estimate and higher sea boundary condition the development remains feasible from a flood protection perspective. A prudent approach to climate change has been adopted by locating housing 600 mm above the 1 in 100 year flood event – an additional 300 mm on the typical requirement. The outcome of more stringent assumptions about sea level rises and a calibrated catchment model have not meant that more fill is required because of the relatively steep hydraulic gradient across the site. We are satisfied that the development can protect the new housing development from flooding.

Having considered this issue we conclude that:

**The flood model inputs determined by the Corangamite Catchment Management Authority should form the basis of flood modelling for the development.**

**The development can provide adequate protection against flooding.**

### 6.3.3 Impact of flood on adjoining properties and landscape

#### What is the issue?

Having discussed the flood modelling methodology, and the inputs to the model this section deals with the changes in the flood regime as predicted by the modelling on adjoining properties and the landscape. These potential impacts relate to the depth of the flood and the velocity of the flood waters.

#### Evidence and submissions

The Lindsey property is a freehold title in the middle of the subject land. It is proposed to undertake flood protection works so the Lindsey property is not adversely affected by the development.

The recreation reserve floods and there were submissions and issues raised about the impact of the development on inundation levels in the recreation reserve.

#### Discussion

The Land Subject to Inundation Overlay has the following objectives (among others):

*To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.*

*To protect water quality ....*

A potential concern is the impact of the development on increasing inundation on the recreation reserve. The development does not markedly increase the area of the reserve that will be flooded with a 1 in 100 event. In this event all the flat land of the reserve is flooded. The development will increase the flood height by 8 cm on an existing flood level of 97 cm. There will be some increase in height in flood level with more frequent events, but the general characteristic of the reserve as flood prone land will not change. Importantly, those parts of the reserve hosting semi-permanent caravans currently flood with a 1 in 10 event, and the proposal will not dramatically change this situation.

We are satisfied that the proposal can be constructed with minimal additional impact on adjoining property owners, but recognise that this proposition will need to be retested following any changes to the layout of the proposal. We believe that it is appropriate that development achieve the outcomes set out in the Land Subject to Inundation Overlay.

There is a range of issues that need to be addressed in terms of the ongoing management of the area to respond to flooding issues and a management plan that addresses flooding issues will be prepared. The management plan will also address inundation which is discussed in the next section.

### Panel conclusion

Having considered this issue we conclude that:

**The revised amendment documentation contains appropriate mechanisms to manage flood issues.**

### 6.3.4 Inundation

#### What is the issue?

In times of low water flow the river mouth closes over and the estuary inundates. The development needs to respond to this periodic inundation.

#### Evidence and submissions

DSE submitted that the natural wetting and drying cycle should be maintained.

A critical issue is the average height of the inundation water. Council (and the proponent) relied on a report presented at the first hearings by Mr Tim Godfrey to establish a height of 1.95 m AHD of the water level of inundation. At the April 2007 hearing more details of the inundation regime were presented by Mr Godfrey. Levels up to 2.2 metres AHD were reported by Mr Godfrey. However at this level the caravan park is inundated and the river mouth is artificially opened.

#### Discussion

The seasonal inundation of the low lying areas of the Barham River is an important mechanism in the ecology of the site. Some areas of land that are currently inundated will be filled for housing – this is not a fatal flaw in the proposal provided it is balanced with an improvement in the habitat of areas that will continue to be inundated.

Inundation is a natural process and can result in a layer of oxygen depleted water under the oxygenated top layer. The mouth opens when water levels gradually build up. If the mouth is artificially opened, without a flush of fresh water, the estuary can be left containing only oxygen depleted water; this can be deadly to marine life. Artificial opening of the estuary mouth is a real environmental risk and is managed by DSE. The need to artificially open the estuary can be minimised by planning the development so that recreation trails and the golf course are minimally affected by inundation events, however, while the caravan park remains in an area subject to this inundation there will always be pressure to open the mouth.

### Panel conclusion

Having considered this issue we conclude that:

**The development will allow for the continuation of the natural cycle of estuarine wetting and drying.**



**The reduction in the extent of estuarine inundation is acceptable considering the improvement to the habitat values of the land that will be inundated.**

**The development can function when the estuary is inundated.**

## 6.4 Acid sulfate soils

The following report was submitted by the applicant addressing Acid Sulfate Soils (ASS):

- Preliminary Acid Sulphate Soils Assessment, Proposed Great Ocean Green Development, Apollo Bay, Victoria, Environmental Resources Management Australia, 2005.

The following expert witness report has also been prepared:

- Acid Sulfate Soil Management Plan, Proposed Great Ocean Green Development, Apollo Bay, Victoria. Environmental Resources Management Australia, 2006.

### Potential and actual acid sulfate soils

Acid Sulfate Soils (ASS) are soils that contain iron sulfides (mainly pyrite) which can generate large amounts of sulfuric acid when exposed to air. These soils formed naturally over the last 10,000 years, and are safe unless dug up or drained.

Large scale drainage of coastal flood plains for flood mitigation, urban expansion and agriculture has exposed large areas of ASS, particularly in NSW and Queensland. Acid leachate, plus the aluminium, iron and the heavy metals which it releases from soils, can cause significant environmental and economic problems.

The term acid sulfate soils includes both actual and potential acid sulfate soils.

Potential acid sulfate soils:

- often have a pH close to neutral (6.5–7.5),
- contain unoxidised iron sulfides,
- are usually soft, sticky and saturated with water,
- are usually gel-like muds but can include wet sands and gravels, and
- have the potential to produce acid if exposed to oxygen.

Actual acid sulfate soils:

- are already acidic and have a pH of less than 4,
- contain oxidised iron sulfides,
- vary in texture, and
- often contain jarosite (a yellow mottle produced as a by-product of the oxidation process).

Actual and potential ASS often occur in the same soil profile. Actual ASS usually occur above potential ASS.

### **Acidification process**

When ASS are exposed to air (that is, no longer in a waterlogged anaerobic state), the iron sulfides in the soil react with oxygen and water to produce a variety of iron compounds and sulfuric acid that are detrimental to the environment. Initially a chemical reaction, the process is accelerated by bacteria.

These soils are then called actual ASS; they have become acidic.

The problem is exacerbated as the generated acid attacks the fine clay particles present in the soil, resulting in the release of soluble forms of aluminium which can then move into groundwater, drains and water bodies. The acid can also solubilise manganese and other heavy metals, resulting in a toxic brew being released into the environment.

## **6.4.1 Environmental impact of ASS**

### **What is the issue?**

Exposing potentially ASS soils to air, by excavating or draining the soil will cause significant adverse environmental damage.

### **Evidence and submissions**

#### **Site conditions**

ASS are not always a problem. Under the anaerobic conditions maintained by permanent groundwater, the iron sulfides are stable and the surrounding soil pH is often weakly acid to weakly alkaline.

The ASS assessment comprised the excavation of 12 test pits to a depth of 4.0 metres across the proposed development site. The deepest excavation for the development is expected to be approximately 3.0 metres. Samples were taken at 0.5 metre intervals and 19 samples were selected for analysis to determine the presence of ASS.

Initial field testing of the soils identified that there is a low to moderate potential for ASS to exist at the site below 3.5 metres. Testing reported on in the 2006 ERM expert witness report indicates that potential or actual ASS occur across a significant portion of the site, and particularly on the western side below 0.5 metres. This is a significant change from the initial report of a low to moderate probability below 3.5 metres.

### **Discussion**

The *Environment Protection Authority (EPA) Industrial Waste Management Policy (Waste Acid Sulfate Soils) (EPA 1999)* sets out Victorian Policy for the management of ASS.

## Avoiding disturbance

Avoiding disturbing ASS does not mean avoiding development altogether but rather designing development so that ASS is not disturbed.

There was considerable discussion about the possibility of developing a more accurate picture of the distribution of acid sulfate soils on the site and modifying the site layout to avoid disturbance. Ms Swanepoel advised that in her experience such exercises did not provide an accurate enough picture to be sure that redesign work would in fact avoid the ASS, and that a process of detailed testing where excavation was required was the most appropriate course of action.

The design and layout of the proposal has been substantially modified to avoid the disturbance of Acid Sulfate Soils, and ornamental lakes proposed as part of the original proposal have been deleted.

The EPA Bulletin 655: *Acid Sulfate Soil and Rock (August 1999)* recommends a testing rate set out in the following table.

**Table 6: EPA Sampling frequency for acid sulfate soil assessment**

| Size of Sample area  | Sampling frequency  |
|----------------------|---|
| Less than 5 hectares | At least 8–10 sampling locations<br>AND<br>Samples collected at each change in soil horizon or every 0.5m to a total depth of 1m below the proposed development or 2m below the surface (whichever is the greater)          |
| More than 5 hectares | At least 2 sampling locations per hectare<br>AND<br>Samples collected at each change in soil horizon or every 0.5m to a total depth of 1m below the proposed development or 2m below the surface (whichever is the greater) |

Mr Finanzio submitted that the ASS Management Plan proposed by Ms Swanepoel had a more detailed testing regime in areas that had the potential to disturb ASS.

## Management

The ASS management plan identifies a range of management requirements to mitigate the impact of ASS. A major component of the management plan is the treatment of excavated soils with lime, with liming rates up to 100 kg per cubic metre.

The opportunities and constraints plan in the Comprehensive Development Plan could be improved by including a plan showing the broad occurrence of acid sulfate soils.

## Panel conclusion

Having considered this issue we conclude that:

**The presence of Acid Sulfate Soils does not prevent development of the site, though it poses a significant constraint on proposed earthworks and services installation.**

**The proposed earthworks in the revised plan respond to the probable location of Acid Sulfate Soils.**

**The revised amendment contains appropriate mechanisms to manage Acid Sulfate Soils.**

Having considered this issue we recommend that that:

**The revised Comprehensive Development Plan be further amended so that:**

- **The opportunities and constraints map identify or refer to Acid Sulfate Soils.**

### 6.4.2 Potential impact on infrastructure

#### What is the issue?

ASS have the potential to corrode infrastructure and in-ground structures such as water tanks or swimming pool bottoms. While a relatively large disturbance is required to trigger adverse environmental impacts a relatively small excavation could have adverse impacts on infrastructure.

#### Evidence and submissions

In its closing submission to the 2006 hearings Council stated:

*A further issue to resolve is, if the amendment proceeds, post subdivision works. As explored during cross examination [of Ms Swanepoel] there may be circumstances where excavation for buildings and works (eg swimming pools, a shelter structure on the golf course) may expose Acid Sulfate Soils and cause risk to the works ...*

*To adequately address ASS in a planning permit it is recommended that an ESO be introduced for the subject land requiring a planning permit for excavation below a certain level – eg below natural ground level. This needs considerable thought to ensure planning permits are not triggered unnecessarily in the future.*

## Discussion

We agree that an ESO over the land to ensure that ASS are managed in the future is appropriate. While the provisions of the zone could deal with ASS management issues (and need to deal with them for the main construction works) the zone will not provide a transparent way of letting future land owners know about the risks of ASS.

The revised Amendment documentation includes a draft ESO to protect future infrastructure and in-ground works from adverse impacts from ASS, and to allow the impact of potential ASS disturbance on the environment to be assessed. This is shown in Appendix B.

Council could develop an appropriate 'pro forma' plan for typical works including simply setting a maximum depth of works where the excavation is known to be above the level of the ASS.

## Panel conclusion

Having considered this issue we recommend that:

### **The revised amendment documentation include:**

- **An ESO to manage the impact of acid sulfate soils on infrastructure.**

## 6.5 Site Capability and Geotechnical Issues

### What is the issue?

A number of issues were raised about the stability of the soil across the site.

### Evidence and submissions

The following reports were submitted by the applicant addressing site capability and geotechnical issues:

- Preliminary Site Capability Assessment Barham Valley Project Apollo Bay, Victoria, Golder Associates, 2002.
- Geotechnical Assessment of Aspects of the Proposed Barham Valley Recreational Development, Apollo Bay, Black Geotechnical on behalf of Environmental Resources Management, July 2003.
- Proposed Golf Course and Residential Development Barham Valley Apollo Bay Preliminary Geotechnical Investigation, Black Geotechnical, July 2004.

In addition to these reports, Colac Otway Shire Council engaged GHD to review geotechnical aspects of the proposed development, including a review of the Golder Associates and Black Geotechnical reports.

- Barham Valley Project, Apollo Bay Review of Geotechnical Issues, GHD (Tony Miner), May 2004.

- Great Ocean Green, Barham River Road, Apollo Bay, Review of Black Geotechnical Pty Ltd Preliminary Geotechnical Report, GHD (Tony Miner), August 2004.

The GHD report in May 2004 highlighted various geotechnical and environmental concerns that were raised in the Golder Associates 2002 report. Of particular concern was that the conclusions and recommendations had been determined without the implementation of a detailed intrusive site investigation.

The May 2004 GHD report recommended that a number of geotechnical and groundwater issues should be resolved prior to any consideration for rezoning of the proposed site. These include:

- Issues related to drainage and flooding:
  - Provision of final ground level and the determination of maximum flood height that meets the requirements of the Colac Otway Shire Planning scheme (assumed to be analysed via a 1% AEP flood design).
  - The frequency and extent of future flooding of the Barham River system.
  - The determination of scour and water flow conditions during flood and the associated potential for impact on the development.
  - The nature of surface water drainage patterns.
- Beach stability
  - The determination of the long-term stability of the dunes at the foreshore and the effect of the construction of the proposed development on erosion rates through alteration to wave, current and/or longshore drift.
- Nature and extent of the deposits at the site
- Construction issues
  - Bearing capacity of the soil.
  - Compressibility of the soil and long term settlement characteristics.
  - Suitability for embankment construction.
  - Long term stability of proposed excavations and fill embankments.
  - Depth to groundwater.
  - Nature of construction under wet conditions.
- Landslip
  - The determination of whether the site could be a potential run out area for flowing landslide material from the highlands of the Otways.

The May 2004 GHD report concluded that:

*Whilst it is envisaged that engineering solutions exist to technically overcome these issues, they may have significant economic impacts on the development. ...*

*Although these issues are not necessarily considered to be a technical impairment to the development, it is considered prudent for the Colac Otway Shire to seek assurances from the developer prior to any consideration for rezoning that such issues will not cause the abandonment of the proposed development for economic reasons.*

The July 2004 Black geotechnical report addressed sub-surface conditions, stability of fill, and slope stability. It involved some field and laboratory testing.

## Discussion

Other sections of this report address:

- Issues related to drainage and flooding,
- Beach stability, and
- Nature and extent of the deposits at the site.

## Construction issues

The Black Geotechnical investigation in July 2004 to assess sub-surface conditions consisted of six geoprobe push tube boreholes and six cone penetration tests (CPT) to maximum depths of 8.4m and 27m. An additional 2 boreholes and 5 CPTs were proposed to be undertaken but had not been performed at the time of reporting.

Black Geotechnical estimate soil settlements in the order of 100 to 300mm and consider that good engineering practice during the design and construction will prevent any risk to the project.

The GHD August 2004 report, reviewing the second Black geotechnical report, highlights that settlement needs to be fully assessed and catered for in the final design.

GHD August 2004 concludes that:

*The Black Geotechnical report addresses the key geotechnical issues in a preliminary manner based on an as yet limited use of the investigation data. More assessment of both existing and newly obtained investigation data is still possible but is yet to be undertaken. Whilst the report is of a preliminary nature, it does not highlight any major issues which Black Geotechnical advise cannot be overcome by good engineering design and appropriate construction techniques.*

*The assessment of these key issues is considered appropriate for this stage of the approval process (ie exhibition) but further work and assessment will be required in the next phase. Advice on some aspects of future work has been provided however the final scope of works and detailed engineering design and assessment will be dependant on the ongoing analysis of the available data and the final details of the proposed development.*

*There is little doubt long-term settlement of compressible soils will occur at the site given the nature of the soil and the loading from the imported fill and construction. This settlement needs to be fully assessed and catered for in the final design. Technical solutions exist to cater for such settlement but have not yet been finalised in the Black Geotechnical report. Similarly the long-term stability of embankments including bearing capacity considerations must also be fully assessed in the final design.*

*It must be noted that the overall technical viability of the development cannot be fully assessed based on the limited details of the final development and the preliminary findings of the current Black Geotechnical report. However it is expected the geotechnical issues discussed can be technically resolved once further information is available and detailed assessment has been completed.*

*As such, there are no significant impediments contained within the Black Geotechnical report, which precludes the development from proceeding to the next phase of the planning process.*

While there are no significant geotechnical impediments that preclude the development from proceeding to the next phase of the planning process, there are a range of detailed geotechnical issues that need to be resolved including settlement.

The proponent submitted that it accepts CCMA's recommendation that:

*The CDP provide that the fill for the residential pods must be engineered to ensure that the maximum settlement with time does not exceed 5cm.*

*A trial fill site be setup at early design stage to demonstrate that maximum settlement rates will not be exceeded.*

### **Landslip run out**

The July 2004 Black Geotechnical considered the issue of slope stability:

*In an earlier report Golder and Associates Pty Ltd (April 2004) commented that 'the site is generally flat and low lying, however, the area is surrounded by higher ground and the possibility of slope slippage affecting the site needs to be assessed. The site could be a potential run out area for lowing landslide material from the highlands of the Otways.' The land upslope from the site has been inspected. A number of slips on steep (45° or steeper) slopes were observed within a 5 km, or so radius of the site. The slips are all in shallow overburden soil with bedrock exposed along the slip surface 2m, or so, below the original slope surface. It is considered that slides of this nature could not generate the volume of slide debris necessary to cause flowing landslide material that would affect the site.*

We accept the conclusions of the Black report.

### **Panel conclusion**

Having considered this issue we conclude that:

**There are no significant geotechnical impediments that preclude the development from proceeding to the next phase of the planning process.**

Having considered this issue we recommend that:

**The requirements for the Land Management Plan include:**

- **details of how the fill for the residential pods will be engineered to ensure that the maximum settlement with time does not exceed 5 cm.**



- requirements that a trial fill site be established at early design stage to demonstrate that maximum settlement rates will not be exceeded.

## 6.6 Importing fill

### What is the issue?

Concern was expressed that the amount of imported fill, and the adverse impacts associated with bringing that fill to the site, means that the proposal should be rejected.

### Evidence and submissions

One issue raised during the hearing related to the need for imported fill for the construction of the proposed residential 'pods' and the impact of construction traffic on the existing road network.

The preliminary cut and fill plan shows the broad scope of the earthworks proposed. It provides an indication of the likely amount of cut and fill and approximate location of cut and fill. Higher ground on the west of the site will be removed and used to fill the low lying land.

The quantity estimates are shown as follows:

|                |                               |
|----------------|-------------------------------|
| Total cut      | 703,535 m <sup>3</sup>        |
| Total fill     | 976,899 m <sup>3</sup>        |
| <b>Balance</b> | <b>-273,364 m<sup>3</sup></b> |

This means that:

- over 70 per cent of the fill can be obtained on site, but
- over 270,000 cubic metres of fill will need to be imported onto the site.

In this regard the estimates prepared by Mr Spencer broadly accord with the proponent's estimates, and the amount of fill to be imported is not a trivial task.

### Discussion

It will be important that the importation of fill is properly managed in terms of the route trucks use to access the site (haul routes) and the timing of any deliveries. These are matters that can be addressed in a construction management plan.

We believe that prior to the commencement of construction, and when the source and extent of the imported fill requirements are known, the proponent should undertake, in conjunction with the Council and VicRoads, an evaluation of the locations and conditions of the 'haul' roads, together with the potential traffic impacts.

We do not think that the adverse impacts associated with the importation of fill to the site are so great that the proposal needs to be redesigned to reduce the amount of imported fill. We note that this importation will occur over many years.

The revised documentation addresses this issue in the Construction Management Plan. We think, however, VicRoads should have input into determining the haul routes for fill.

### **Conclusion**

Having considered this issue we conclude that:

**The proposal has appropriate mechanisms to manage the importation of fill.**

Having considered this issue we recommend that:

**Haul routes for fill be to the satisfaction of VicRoads.**

## **6.7 Coastal recession**

### **What is the issue?**

The issue of climate change on the flood characteristics of the site has been discussed. Concern was also raised on the potential for coastal recession to impact on the development.

### **Evidence and submissions**

There is no doubt that climate change presents a range of issues for coastal development, including established development. A particular concern is coastal recessions where higher sea levels or altered weather patterns will mean that what is currently considered dry land will become part of the sea. A particular concern is that coastal dune systems will wash away.

A number of submitters were concerned that the dune supporting the Great Ocean Road and separating the site from the sea was washing away. Photographs to this effect were supplied to us. The erosion appears to be the result of poor coastal management practices. We were referred to the *Apollo Bay Sand Study*. This study identified the main cause of the erosion that was shown to us:

*... the stone that has previously been placed on the beach (to protect a toilet block, which no longer exists) needs to be removed because it is a catalyst for erosion on both the northern and southern side of the stone.*

The sand study identified options for protecting Mounts Beach. Concern was expressed that rising sea levels might mean the loss of the dune and hence the sea entering the estuary. Constructing the development will not alter whether or not, or at what rate, the fore dune will be eroded.

### **Discussion**

Rising sea levels do not automatically translate to receding dunes, though this is a common belief, and is something that one might be cautious about. However, there is no suggestion that this development will increase the rate of erosion of Mounts

Beach<sup>1</sup>. We are not relying on a lack of scientific certainty to recommend a development where that development might have an adverse environmental impact.

If coastal recession is an issue it is because of the potential impact of the coast on this development, not the impact of this development on the coast.

In relation to the effect of rising sea levels on coastal recession we were not presented with any evidence or analysis of the effect of rising sea levels on coastal recession in this area. It is disappointing that the Western Coastal Board did not call any evidence on this issue.

Our attention was drawn to the Bruun Rule. The Bruun rule does not nominate a ratio for coastal recession to sea level rise, but rather hypothesises that the rate of shoreline retreat is directly proportional to the rate of sea level rise. It follows that the ratio of future shoreline retreat rate to present day shoreline retreat rate (the shoreline retreat rate multiplier) will be the same as the ratio of future sea level rise rate to present day sea level rise rate. We were presented with no evidence of what this might be for Mounts Beach and note that the causes of the erosion currently observed are most likely the result of some localised interventions and not general sea level rise.

In any case, the Bruun Rule does not apply in all coastal situations, most notably where the coast is a mix of rock and sand and where long shore drift is an important feature of the coast – conditions that appear to apply in this situation. We also note that sand beaches can be limited by headlands or other fixed points. In time, such beaches may reach a form of static equilibrium and cease to erode further (providing conditions do not change and no sediment is lost by processes other than longshore drift).

We think there are too many assumptions (beyond the reasonable assumptions of sea level rise) that have to be adopted to reject this proposal on the grounds of the potential impacts of coastal recession. These are:

- that the beach position at Mounts Bay is not the result of an equilibrium formed by wave action deflected by nearby headlands or the underlying geology of the beach,
- the proposed development will be more exposed to coastal recession than other parts of Apollo Bay,
- rising sea levels will cause the dune system along Mounts Bay to wash away (rather than remain in place, alter shape or move inland by a more limited distance),
- there will be no public response to preserve the dune system and the Great Ocean Road by protection works or beach renourishment,
- that without the proposed development the Great Ocean Road would be relocated and not protected, and

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<sup>1</sup> It would seem that the only possible mechanism to increase the rate of erosion of Mounts Beach is by increased flood velocity breaking through the sand spit. This has happened in the past and the river has returned to its current location. Even if breakthroughs were more regular they would still be relatively rare events and there is no suggestion that natural process would not return the river to its current conditions. We note that the river mouth blocks up far more frequently than it breaks through.

- there will be no way to provide protection works at some point inland if the dune system washes away.

It is one thing to be cautious, but to suggest, as the Western Coastal Board does in a copy of a letter sent to us, that a 1m rise in sea level could result in a 100-150m retreat in coast in this location is without any basis. The Board's letter seems to confuse the Bruun Rule with a sometimes quoted 'rule of thumb' that is, as far as we can tell, without foundation and undermines the credibility of the Board.

## Conclusion

Having considered this issue we conclude:

**The proposal will not increase coastal recession and is not directly exposed to immediate threats from coastal recession.**

## 6.8 Other environmental risks

Risks associated with flooding are dealt with in Section 6.3.

### 6.8.1 Storm tides

#### What is the issue?

There is the potential for storm tides to wash into the estuary and to flood parts of it.

#### Evidence and submissions

There was concern expressed in some submissions that the effect of climate change and storm tides might ultimately be that the primary dune protecting the estuary (and supporting the Great Ocean Road) would be washed away.

#### Discussion

If the primary dune is washed away, this of itself would have a significant adverse impact on the environment. It would also sever the Great Ocean Road and presumably also impact on the Barham Valley Road which is at a lower level than the Great Ocean Road.

It would be drawing a long bow to reject this development on the basis that the primary dune was one day going to be washed away. In any case the need to maintain road access would seem to guarantee the retention of the Great Ocean Road.

#### Panel conclusion

Having considered this issue we conclude that:

**The risks associated with severe changes to land form from storm tides are not sufficient reason to reject the development.**

## 6.8.2 Insurance

### What is the issue?

Concern was expressed that the development could expose Council to a range of liabilities.

### Evidence and submissions

Council sought advice from Civic Mutual Plus. A letter from Civic Mutual Plus tendered in submission stated:

*Two questions were asked:*

- 1 Is Council exposed, if those that purchased house lots took action if their houses are flooded in the future?*
- 2 Also, if the development causes flooding in the surrounding area, would this bring about potential claims against Council*

The letter went on to advise:

*If in hindsight, in the event that a loss did occur, it was proven that all precautions were taken, all professional advice and opinions were sought and acted on, all calculations and computations were taken into account, and therefore believed flooding would not occur, then CMP's Liability Policy would respond to protect Council, subject to the policy terms and conditions.*

### Discussion

The issue of the liability of Council (should an adverse event occur) is not a planning issue and not something we can consider. However, the prospect of an adverse event occurring is a planning issue. Section 11.03-1 of the SPPF states (in part):

*Planning is to recognise the need for, and as far as practicable contribute towards:*

- *Health and safety.*

There are clearly risks associated with development in a flood plain. The issue is whether those risks can be appropriately managed. For example, an appropriate approach to managing risk is to ensure that there is access to all dwellings that is above the 1 in 100 year flood event (this is not shown on the documentation).

A key issue in ensuring the health and safety of the future inhabitants of the proposed development is ensuring the structural stability of the fill platforms on which the housing will be built (the 'pods'). Detailed design is required to ensure that these will not be eroded by stormwater or flood flows. This is a situation that is typical of a number of successful developments in Victoria and Australia.

## Panel conclusion

Having considered this issue we conclude that:

**The proposal does not raise issues of public risk that are not, or cannot be, adequately addressed.**

### 6.8.3 Wildfire Risk

#### What is the issue?

The following report was submitted by the applicant addressing wildfire risk:

- Wildfire Risk Assessment and Overview of Fire Protection Requirements for Great Ocean Green Development Apollo Bay, Community Safety Services Pty Ltd, 2002

#### Evidence and submissions

Council submitted that:

*Given that the land is predominantly open grassland wildfire is not expected to pose an unacceptable risk to the proposed development.*

*It is expected that wildfire risk can be appropriately managed by ensuring the following:*

- *Dwellings to be constructed according to requirements for the construction of buildings in designated bush-fire prone areas (this is in light of future revegetation planned for the site)*
- *Residential development Nodes will utilise fairways and the Barham River to prevent entry or spread of wildfire.*
- *New roads serving the residential nodes will meet the requirements of Planning Conditions and Guidelines for Subdivisions, CFA, 1991.*
- *Residential nodes will be reticulated with fire hydrants with water for fire fighting also available from the Barham River.*
- *Education resources in relation to preparing for and dealing with wildfire will be made available to residents.*

#### Discussion

The development will be predominantly urban in nature and we do not think that it will be a higher fire risk than other areas in Apollo Bay. Fire management considerations are part of normal subdivision procedures.

#### Panel conclusion

Having considered this issue we conclude that:

**Development will not face an above average wildfire risk.**

## 6.9 Power

### What is the issue?

It was submitted that Apollo Bay suffers from 'brown outs' and power failure.

### Evidence and submissions

Powercor is the power distributor for the subject site. No submissions have been received from Powercor and it is not clear whether Powercor are aware of the proposal.

No detailed factual information was presented on the frequency or cause of the interruptions to power supplies.

### Discussion

Apollo Bay has been identified as a growth node and it is expected that the town will continue to grow. Improving the capacity (and security) of the power supply will need to be addressed to support that growth. While interruptions to power supplies are clearly a concern for a number of local residents there is no evidence that this presents an insurmountable problem.

### Panel conclusion

Having considered this issue we conclude that:

**Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until power can be supplied.**

## 7. Environmental impacts

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### 7.1 Flora and fauna

#### What is the issue?

The site is significantly degraded and many of the flora and fauna values have either been lost or continue to be threatened. While the proposal provides an opportunity to address these issues, it also has the potential to further exacerbate the current situation.

#### Evidence and submissions

The following reports were submitted by the applicant addressing flora and fauna:

- Proposed Barham Valley Development Apollo Bay: Flora and Fauna Existing Conditions, Ecology Australia, 2001.
- Great Ocean Green Matter of National Environmental Significance, Brett Lane and Associates, 2002.
- Great Ocean Green Aquatic Fauna Study of the Barham River and Anderson Creek, Apollo Bay, Streamline Research, 2005.

The following expert witness reports were also submitted:

- Great Ocean Green Flora and Fauna Report, Brett Lane and Associates, 2006.
- Great Ocean Green Apollo Bay Hydrogeological Assessment, John Leonard Consulting Services, 2006.

Streamline Research Pty Ltd completed an assessment of aquatic fauna in May 2005 which comprised a three day field study and literature review. The report found that the Barham River estuary is of high value for several estuarine fish species. Ten native fish species and one exotic fish species were recorded during the field study which was the first undertaken in the freshwater reaches in five years and the first undertaken in the Barham River Estuary in 20 years.

The report indicated that seasonal inundation of the low lying areas may be an important mechanism in the recruitment of species like estuary perch and black bream, and that the breakdown of grass material was potentially important for the recruitment of larval fish. The report also found that the flooded shallow backwaters offer protection for small fish to avoid predatory fish in the main channel of the River. The report concluded that the constructed wetlands and reinstated riparian fringe will provide compensatory habitat for the loss of temporary aquatic habitat that exists at times of seasonal inundation.

The report also indicated a potential relationship between the saline intrusion of groundwater and the maintenance of salinity levels in the estuary. The report



recommended that further investigation of groundwater movement and salinity is needed. This work was subsequently carried out.

In addition, the report identified a number of development considerations and mitigation measures that should be addressed in the Construction and Environmental Management Plans for the site.

The report included the following recommendations:

- *Monitoring of water quality will be necessary during the construction and operational phase of the development to ensure that poor water quality is not entering the Barham River estuary, and therefore, not adversely impacting on aquatic values.*
- *Regular fish surveys of the Barham River and Anderson Creek (yearly) should be undertaken to show that aquatic fauna is remaining unaffected by development.*

Mr Lane's evidence summarised the impacts of the development on flora and fauna as follows.

*The proposed Great Ocean Green development is located on a site from which most of the native vegetation has long been removed. Remnant native vegetation persists on the edges of the site, in dune and river environments that will be retained as part of the development. Therefore there will be no significant impacts on native vegetation and flora, or on fauna habitats and populations.*

*The removal of grazing from the banks of the river within the development site, combined with the revegetation of a 50m wide buffer separating development and works from the river will lead to a permanent improvement in runoff quality reaching the river from the site and in the aquatic habitat quality of this section of the river. [During questioning from the Panel Mr Lane clarified that the recommended buffer included 50m either side of the river channel.]*

*The incorporation of stormwater wetlands into the design of the development will significantly improve runoff water quality from the development before it reaches the river.*

*The implementation of an Environmental Management Plan for the construction and operational phases of the development (to the satisfaction of the responsible authorities) is expected to reduce the potential impacts of construction-related erosion and sedimentation, and potentially contaminated runoff from residential and golf course areas of the development once operations commence.*

*As a consequence of the forgoing actions, the proposed Great Ocean Green Development is not expected to prejudice the future survival of any threatened species or communities listed on relevant legislation or on the DSE's Advisory Lists.*

*In conclusion, provided that the development is constructed and managed in accordance with recent best practice stormwater runoff guidelines then it is anticipated that significant impacts on the Barham River and estuary can be avoided. The advent of restored riparian*

*vegetation and the removal of stock from the banks of the Barham River estuary is expected to result in a significant improvement in aquatic habitat quality in the adjacent parts of the river and estuary.*

A number of submissions highlighted the environmental significance and sensitivity of the Barham River estuary and hinterland, and raised potential issues associated with the environmental impacts of the development, including:

- degradation of the River's environmental values,
- the loss of habitat,
- impacts during construction,
- increased saltation and sediment, and
- stormwater runoff.

## Discussion

The evidence and submissions all highlight the significant extent to which the site is currently degraded. In our view this is unlikely to be addressed under the current ownership and land use regime. In this context we believe that appropriate development can provide an opportunity and a mechanism to restore and enhance the flora and fauna values of the site. It would be advantageous to begin protection works of sensitive environmental areas as part of the first phase of development.

The SPPF provides an unambiguous policy context for seeking to environmentally remediate the site, including the following key objectives:

- *To assist the protection and, where possible, restoration of catchments, waterways, water bodies, groundwater, and the marine environment. Clause 15.01 (Protection of catchments, waterways and groundwater),*
- *In coastal areas, to protect and enhance the natural ecosystems and landscapes of the coastal and marine environment, ensure sustainable use of natural coastal resources and achieve development that provides an environmental, social and economic benefit enhancing the community's value of the coast. Clause 15.08 (Coastal areas), and*
- *To assist the protection and conservation of biodiversity, including native vegetation retention and provision of habitats for native plants and animals and control of pest plants and animals. Clause 15.09 (Conservation of native flora and fauna).*

The issue for us is the extent to which the proposal achieves an adequate balance between development, and the protection and restoration of flora and fauna values. In our view, the exhibited concept failed to achieve or document an appropriate balance and needed revision. In forming this view, we had regard to the background material and expert evidence that identified the need for further investigations, proposed changes to the concept, or recommended the application of various standards or conditions.

We also note the numerous submissions on these matters including Council's observation in its closing submission that the potential impacts on aquatic fauna have not been adequately assessed. DSE also indicated that it supported the recommendations of the *Great Ocean Green Aquatic Fauna Study of the Barham River and Anderson Creek, Apollo Bay*.

We also note DSE's request that it have the opportunity to endorse the environmental management plan prior to it being approved for implementation. The revised Amendment introduces this requirement as well as a similar role for the Corangamite Catchment Management Authority.

We directed that the revised proposal include a 50 metre setback from the Barham River and this has generally been provided apart from the location of a number of golf holes. We accept the proponent's submissions and evidence about the likely impact of the golf holes on the environmental values of the river, and the constraints on site layout.

### **Ground water**

The Streamline report identified the possibility of an important relationship between the saline intrusion of groundwater and the maintenance of salinity levels within the estuary. The low lying areas may play a role in accepting freshwater overflow and allowing the maintenance of salinity levels within the main channel of the estuary. Groundwater may be the source supply of salinity when the estuary is closed to the ocean. The report identifies the need for groundwater investigations so that processes of localised groundwater movement are understood as these may be important to aspects of any development and the mechanisms which regulate the salinity of the estuary.

John Leonard Consulting Services undertook a detailed assessment of the ground water recharge/discharge regime to assess whether the concerns identified in the Streamline report were well founded. The expert witness report of John Leonard Consulting Services makes the following key findings:

- The proposed development will not significantly change the local recharge/discharge regime or the local hydrochemical environment.
- The proposed development will not change the local groundwater hydrochemical environment provided that the measures described in the Acid Sulfate Soils Management Plan are implemented.
- The proposed development will therefore not impact on beneficial uses of local groundwater and will not have adverse impacts on groundwater dependent ecosystems.

### **Panel conclusion**

Having considered this issue we conclude that:

**The revised proposal will have a positive impact on flora and fauna.**

**The revised documentation provides for fish surveys and water quality monitoring.**

## 7.2 Stormwater Quality

### What is the issue?

Stormwater from urban areas carries dust and dirt (suspended solids) and a range of pollutants. Many of these pollutants are washed into the storm water system during the first few minutes of a rain event. This is referred to as the 'first flush'.

There is a need to protect the estuary from the adverse impacts of storm water runoff.

### Evidence and submissions

Storm water can be treated by passing it through reed beds or garden areas. These can take the form of:

- rain gardens,
- swales,
- wetlands, or
- ponds.

Concern was raised on the implications of reducing the volume and size of wetlands on the nutrient stripping abilities of the wetlands – for example, reduced residence times before discharge into waterways has not been investigated and hence the effectiveness of the proposed Water Sensitive Urban Design solutions is unknown.

### Discussion

The detailed application of water quality management measures is not confirmed and detailed modelling is required to quantify the impact of development and ensure mitigation measures are designed to minimise adverse impacts.

The Schedule to the Comprehensive Development Zone requires the Land Management Plan to address:

- Details of how the development will address waterway management, including the protection of flooding and enhancement of water quality including treatments required during flooding events.
- Details of how the development will address sediment control, salinity, nutrient control and pollution control.

The use of Water Sensitive Urban Design (WSUD) techniques is now well established and we do not see any particular difficulty in incorporating these techniques into the proposed development.

It is recognised that water bodies in golf courses can be exposed to significant nutrient inputs and that residential areas contribute relatively high levels of pollutants to stormwater runoff. The protection of water quality associated with a development adjacent to a waterway is largely dependent on the successful application of best practice management measures and maintenance of these systems into the future.

## Panel conclusion

Having considered this issue we conclude that:

**The proposal includes appropriate measure to protect stormwater quality.**

## 7.3 Anderson Creek

### What is the issue?

Anderson Creek is a substantially modified watercourse that generally flows from outside the north western boundary of the subject site to its confluence with the Barham River within the site. We were advised that the Creek is a perennial watercourse that is fed by rainwater and underground springs in its catchment. Sections of the upper reaches of the Creek have been revegetated.

The Creek is not identified in the Master Plan and was originally included within one of the proposed water bodies that were part of the stormwater treatment/flood retention regime.

Anderson Creek is substantially degraded and represents an opportunity to contribute to the reinstatement of the site's environmental features and values. In doing so, this will also make a contribution to the health of the Barham River.

The revised proposal provides for the reinstatement of Anderson Creek.

### Evidence and submissions

There was no specific evidence or submissions in relation to the environmental values of the Anderson Creek, although it was raised in relation to flooding and other issues.

There was some debate as to whether an appropriate cross section for Anderson Creek could be achieved while maintaining the need to raise residential development out of the flood plan and minimise the slope of batters.

### Discussion

It is evident that Anderson Creek received little, if any, regard in the development of the original concept – it is in a significantly degraded condition and warrants remedial action. As discussed in relation to the Barham River, the SPPF provides an unambiguous policy context for restoring waterways and providing habitat for flora and fauna.

We directed that:

*The Comprehensive Development Plan provide:*

- *reinstatement of the course and function of Anderson Creek.*
- *a 10 metre vegetated buffer on either side of Anderson Creek.*
- *revegetation using appropriate pre-1750 EVCs.*

The revised Comprehensive Development Plan provides for a 10 metre buffer to Anderson Creek. The revised concept gives Anderson Creek greater prominence and the development provides a mechanism for it to be appropriately reinstated.

### Panel conclusion

Having considered this issue we conclude:

**The revised Comprehensive Development Plan provides for the reinstatement of Anderson Creek.**

## 7.4 Water reuse

### What is the issue?

The following report was submitted by the applicant addressing water reuse options:

- Barham Valley Estate Project, Report on Water Reuse and Alternative Energy Options, Apollo Bay's Best Opportunity for a Green Environment, Water Recycle Group Pty Ltd, 2002.

The following expert witness report was also prepared:

- Great Ocean Green – Apollo Bay Expert Witness Report Water Cycle Management and Wetland System. Coomes Consulting Group 2006.

The reports provide a comprehensive assessment of available technologies for water reuse and alternative energy options.

There are significant opportunities to implement a sustainable environmental water system for a development of this scale.

Concern was raised about the quality of recycled water and about the potential impact of Endocrine Disrupting Compounds in the recycled water.

### Evidence and submissions

The State Planning Policy Framework states:

*18.09-2 General implementation*

*The re-use of wastewater including urban run-off, treated sewage effluent and run-off from irrigated farmland should be encouraged where appropriate, consistent with the Guidelines for Wastewater Re-use (EPA 1996).*

Given the limitations on potable water supply and the inability of annual rainfall to supply consistent and required water volumes for the development it will be necessary to reuse treated effluent from the nearby sewage treatment plant. This water will be treated to an appropriate standard in terms of reducing nutrient load.

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## Discussion

Treated effluent will be used for watering the golf course and for certain uses within dwellings. The reuse of treated effluent is a positive feature of the project.

The critical issue is whether such reuse is practical in terms of the water demands of the development and the available water supply. Mr Hunter has calculated that there is sufficient water, but that some water will need to be stored over summer. An advantage of the situation in Apollo Bay is that the increase of holiday makers during summer means that treated water availability will increase over summer when it is most needed.

In respect of Endocrine Disrupting Compounds from the recycled water Mr Hunter responded to questions on this issue and advised that where EDC had been a problem they were the result of industrial processes and not the use of recycled water.

## Panel conclusion

Having considered this issue we conclude that:

**The reuse of treated effluent is a positive feature of the development.**

## 8. Planning issues

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### 8.1 Open space

#### What is the issue?

There are currently two public open space areas within the development site:

- The municipal reserve in the south west corner of the site, currently zoned Public Park and Recreation Zone, and
- Land between the Barham River and the Barham River Road, currently zoned Public Conservation and Recreation Zone.

The proposal will take over the municipal reserve and in exchange will provide other public open space. The area of Public Conservation and Recreation Zone between the road and the river will remain in that zoning, but will be revegetated by the proponent. A number of road crossings will be required across this land.

Part of the land currently zoned as Environmental Rural Zone contains the Barham River, the Backwash and wetlands.

The exhibited documentation did not specify the precise areas that would be available for public open space after the development is completed, although the documentation lodged with the rezoning request does, even though it is at a small scale and was almost impossible to read.

#### Evidence and submissions

The main submissions in terms of open space were submissions from the Pony Club on the basis that the existing reserve had been earmarked for Pony Club use.

#### Discussion

##### Appropriateness of land swap

The land currently zoned for Public Park and Recreation Zone will form part of Precinct 1 designated for 'Golf recreation with public open space landscape and associated works'. It appears that the land swap will increase the area and usability of open space in the area. Table 3 shows the open space areas. It is clear that there will be a substantial increase in open space areas, and that important ecological areas such as the backwash will be brought into public ownership. Over two thirds of the site will be dedicated to public open space or golf course (on which the public will be permitted to play).

Once completed we expect that the open space and trail network will become a valued feature of Apollo Bay.



**Table 7: Open space areas**

|  | Existing    |                                    | Proposed     |                                    |
|--|-------------|------------------------------------|--------------|------------------------------------|
|  | ha          | As a percentage of total site area | ha           | As a percentage of total site area |
| Public open space                              |             |                                    |              |                                    |
| POS Reserve                                    | 11.9        | 7.0%                               | 6            | 3.5%                               |
| Riparian strip along Barham River (Crown land) | 8.8         | 5.2%                               | 8.8          | 5.2%                               |
|  |             |                                    | 11           | 6.5%                               |
| Backwater                                      | 0           |                                    | 16.8         | 9.9%                               |
| Western open space                             | 0           |                                    | 11.5         | 6.8%                               |
| Northern including wetland                     | 0           |                                    | 5.2          | 3.1%                               |
| Total open space                               | 20.7        | 12.2%                              | 59.3         | 34.9%                              |
| Golf course                                    | 0           | 0.0%                               | 56.1         | 33.0%                              |
| <b>Total</b>                                   | <b>20.7</b> | <b>12.2%</b>                       | <b>115.4</b> | <b>67.9%</b>                       |

The concept plan for the development identifies potential visitor areas for the public parkland, but leaves the design of these facilities to latter stages. This is appropriate.

### **Pony Club**

The proposal includes public land adjacent to Marengo that will be ‘swapped’ for other land as part of the proposal. The public land at Marengo had been ‘promised’ to the Pony Club, but the proposal means that this promise could not be honoured.

It is clear from the correspondence presented in submissions that there was a clear expectation that the Pony Club would relocate to part of the subject land.

The Pony Club relocation has not been addressed in the Apollo Bay Draft Structure Plan 2006. The *Response to submissions report* recommends that the issue of the location of the Pony Club be dealt with by the Apollo Bay recreation study.

In an ideal world the current proposal would address the needs of the Pony Club, however, the broader community benefits that would accrue from relocating the Pony Club are less than those that flow from the golf club relocation.

### **Panel conclusion**

Having considered this issue we conclude that:

**The proposed development provides improved open space facilities for Apollo Bay.**

## 8.2 Commercial development (Precinct 3)

### What is the issue?

Precinct 3 is located in the south east of the subject site and has been identified as the location for the proposed club house and resort. The characteristics of the site and the nature of the proposed uses raise a number of issues that potentially affect its suitability for the proposed activities.

In the September 2006 directions we identified a number of issues. These issues were:

- the potential height and noise issues associated with the Apollo Bay airfield,
- the possible presence of Aboriginal archaeological sites,
- the ability of the site to accommodate all of the proposed activities given its size and configuration,
- the need to manage the interface with residential development to the south,
- whether vehicular access can be safely provided from the Great Ocean Road, and
- the visibility of the proposed activities from the Great Ocean Road and its impacts on the landscape values of the area.

The revised proposal addresses these issues in part and presents a concept plan for Precinct 3. The fundamental purpose of presenting the concept plan was to confirm that Precinct 3 can appropriately accommodate the range of activities proposed for the site. A secondary purpose is to include a suitable concept plan (specifically for this precinct) as part of the Amendment documentation so that there is some certainty about how this area is to be developed.

### Evidence and submissions

A number of submissions raised issues associated with the development of this area and proposed, for example, that detailed plans should have been prepared for the site to confirm that all of the proposed uses and associated car parking can be accommodated.

### Discussion

The Rezoning Request contains the following references under the heading 'Residential Hotel and Resort Site'.

*An area to the south-east of the site has been reserved for the provision of a resort type facility. This area comprises approximately 2.15 ha and represents approximately 1% of the total land area. The provisions of the Comprehensive Development Plan (CDP) and planning scheme controls require that further planning permits for this part of the development be sought, once detailed plans have been developed. This will enable the Responsible Authority and the community to review and approve detailed design closer to construction. The CDP does direct general design criteria including a maximum building height of 9 metres for a resort development. Permit applications will need to accord with the CDP directions.*

### *Proposed Resort Complex*

*While no definitive plans have been developed for the resort component, the following general features and facilities are likely to be incorporated:*

- *Restaurant and bar*
- *Conference facility*
- *Associated ancillary retail*
- *Leisure facilities including tennis courts a swimming pool and gymnasium*
- *Serviced apartments and terrace-house style accommodation in association with the resort/hotel.*

*Given the terrain and height restrictions the general form of the building will be linear with a series of fully serviced interconnected apartments grouped around the central facilities. It is envisaged that there may also be demand for a terrace style serviced housing units in a garden setting.*

While it is not uncommon to address detailed design issues at the planning permit stage, we have to be satisfied that the various elements of the concept are achievable before we support the Amendment.

### **Apollo Bay Airfield**

We were not satisfied that there had been adequate analysis of the issues associated with the future operation of the airfield and the possible impacts on various elements of the proposal. This is particularly so in relation to Precinct 3, which because of its proximity to the airfield, its elevation and proposed uses is potentially affected by noise and height restrictions.

The proponent has undertaken further discussion with the airport manger and included referral requirements in the revised documentation.

### **Aboriginal Archaeological Sites**

As discussed in Section 8.5, we had concerns about the extent to which the Precinct is potentially affected by Aboriginal archaeological sites.

In forming this view we note the finding of the Terra Culture investigations (July 2002) that:

*The site of the proposed hotel contains a larger scatter of Aboriginal stone artefacts. The full lateral and vertical extent of this scatter is unknown. Further archaeological investigation will be required in this area to establish the significance of the artefact scatter and the likelihood of insitu deposits and human burials.*

We note that the controls over protection of Aboriginal heritage have recently changed and believe the new controls provide an appropriate framework to deal with the issues on this site.

## **Residential interface**

Precinct 3 adjoins a developed low density residential estate along its southern boundary. Any development of the Precinct should seek to minimise amenity impacts on this area. This might be done through setbacks, the location and orientation of particular activities, landscaping, or a combination of these approaches. The concept plan provides a layout that potentially manages the residential interface in an acceptable way, although there will need to be more discussion at the permit application stage.

## **Vehicular access**

Vehicular access to the Precinct is to be provided from the Great Ocean Road. We believe that the ability to provide a point of access has been confirmed with VicRoads.

## **Visual impact**

As discussed in Section 8.2, the visual impact of the proposal (particularly from the Great Ocean Road) is a fundamental issue that has not been adequately addressed. This is particularly so in relation to Precinct 3, which because of its elevation, is one of the more prominent sites within the development.

Concern was expressed that the site could not be adequately screened using indigenous species. We do not think that this will prove to be the case, but in any event it can be determined through the planning permit process.

## **The size and configuration of the site**

The Rezoning Request indicates that the Precinct 3 has an area of approximately 2.15 ha, and acknowledges that its configuration would necessitate a linear style of development. The Rezoning Request also indicated that an extensive range of activities have been proposed for the Precinct.

We also note that reasonably substantial areas of the Precinct are affected by the LSIO and ESO 2, and that the eastern portion is relatively low lying. These constraints restrict the area of land available for development. In recognition of these factors and from its inspection of the site, it seems to us that only the western portion of the Precinct might be suitable for development.

The concept layout addresses these issues.

## **Panel conclusion**

The concept plan presented does not show a lot of detail. At this stage we are satisfied that some form of development of the nature proposed can be fitted on the site in a way that is not obviously inappropriate. The proponent has determined that they wish to resolve the detailed planning aspects of this site by way of a planning permit. Consideration of such an application will determine the ultimate intensity and form of development that is appropriate.

Having considered this issue we conclude that:

**Precinct 3 is broadly suitable for the proposed activities, but the form and extent of activities will need to be subject to a planning permit.**

### 8.3 Great Ocean Road

#### What is the issue?

It was submitted that there is a need for a possible relocation of the Great Ocean Road between Marengo and Apollo Bay.

#### Evidence and submissions

The Western Coastal Board has raised, in its submission to the hearing, the concern that the current draft structure plan does not address the Great Ocean Road Regional Strategy (GORRS) recommendation to investigate an alternative route for the Great Ocean Road (where it is located on a narrow strip of unstable sand dunes) and that the proposed Amendment if approved may preclude the consideration of the most appropriate alternative routes. The nature and extent of the unstable dunes between the Barham River mouth and Marengo were also outlined by the Apollo Bay – Kennett River P.R.C. in its presentation.

#### Discussion

We recognise that the GORRS recommended that an investigation of a possible long-term alternative route for through traffic for Apollo Bay. This does not necessarily imply that any such route would pass through the subject land, but may only be for a local by-pass of the current main shopping centre. The option of connecting to the Barham Valley Road from Marengo may be a viable option. No party, including VicRoads, has presented advice on possible study areas for alternative routes. With the advance of technology, and given that there has not been any other major relocations of this road in other townships or locations along the shoreline, it would be expected that VicRoads would maintain the current alignment for the foreseeable future. The cost of a lengthy relocation is also likely to be a prohibitive factor. We believe that any resolution of possible study areas should not prohibit a decision on the proposed development.

#### Panel conclusion

Having considered this issue we conclude that:

**A decision to proceed with this Amendment should not depend on a resolution of study areas for possible long term alternative alignments for the Great Ocean Road in the Apollo Bay Township.**

## 8.4 Apollo Bay Airfield

### What is the issue?

The Apollo Bay Airfield is located to the south of the subject land and consists of a grassed runway on a northwest–southeast alignment. The Airfield is protected by the Airport Environs Overlay 2 (AEO2), which extends over the southern area of the subject site. The AEO2 is principally concerned with protecting sensitive uses (such as housing) from the impacts of aircraft noise.

In addition to noise related issues, the proximity of the Airfield to the subject site potentially raises issues associated with the height of development. This is particularly so in relation to Precinct 3 in the event that it involves multi storey development.

### Evidence and submissions

The material submitted with the revised proposal includes an explicit assessment of the potential issues associated with the proximity of the Airfield to the development.

A number of submissions also raised issues associated with the potential impacts of the Airfield on the development.

### Discussion

Clause 18.04 of the SPPF includes the objective:

*To facilitate the siting of airfields and extensions to airfields, restrict incompatible land uses and development in the vicinity of airfields, and recognise and strengthen the role of airfields as focal points within the State's economic and transport infrastructure.*

In support of this objective the Clause requires that planning for areas around airfields should:

- *Preclude any new use or development which could prejudice the safety or efficiency of an airfield.*
- *Take into account the detrimental effects of aircraft operations (such as noise) in regulating and restricting the use and development of affected land.*

The SPPF clearly highlights the need to assess the potential impacts of the development on the current and future operation of the Airfield, as well as the potential impacts of aircraft movements on sensitive uses within the development. There have been extensive discussions documented between the Airfield Manager and the proponent's town planner Mr Glossop.

As discussed elsewhere, an element of the development that is of particular concern is the site of the proposed resort and clubhouse (Precinct 3). This elevated site is on the southern boundary of the subject land and is the closest development site to the Airfield. The Comprehensive Development Plan provides for an expansive range of possible activities and proposes that: *Generally, buildings should not exceed 9 m*

*above ground level.* The Amendment does not restrict building height in this precinct.

The revised documentation provides:

*An application for buildings and works that exceeds a height of 9 metres in Precinct 3 of the Great Ocean Green Comprehensive Development Plan must be referred to Apollo Bay Airport Owner pursuant to Section 55 of the Act.*

## **Panel conclusion**

Having considered this issue we conclude that:

**The proximity to the airport does not prevent the development of Precinct 3.**

**The revised documentation has appropriate mechanisms to address issues associated with the airport.**

## **8.5 Heritage**

### **What is the issue?**

The existence of heritage sites within the subject site potentially affects the proposed location of various elements of the development and the planning controls that might be applied to the land.

### **Evidence and submissions**

The following reports were submitted by the applicant:

- An Archaeological Investigation Barham Valley Development Apollo Bay, TerraCulture, April 2002.
- Subsurface Testing at Barham Valley, TerraCulture, July 2002.
- Cultural heritage Assessment: Great Ocean Green, TerraCulture, February 2007.

The purpose of the first investigation by Terra Culture was to document any Aboriginal archaeological sites visible on the ground's surface and the identification of any landforms that may contain subsurface archaeological deposits. At the time of the survey there was effectively no ground visibility, with thick grass cover and very few natural or artificial exposures. The conditions did not allow a proper survey of the area and the field investigation was limited to the identification of landforms potentially sensitive for surface or subsurface sites.

The report concluded that the development area contains sensitive landforms where there is a high likelihood of Aboriginal archaeological sites and that this should be investigated in a second stage of fieldwork involving subsurface testing.

In relation to 'Aboriginal Archaeology' the report recommended that:

- *The landforms and areas identified in the accompanying map be tested for archaeological sites that may be present either on the*

*grounds surface and obscured by grass, or buried beneath the surface;*

- *That this subsurface testing be designed to adequately sample each landform;*
- *That this subsurface testing be designed to adequately sample these areas where there will be greatest ground disturbance;*
- *That this subsurface testing be designed to adequately sample for buried Aboriginal archaeological deposits at various depths beneath the surface.*

The report also highlighted the need to consult with the Framlingham Aboriginal Trust and outlined the various consultation and approval mechanisms.

In relation to 'European Archaeology' the report recommended that subsurface testing of the former tramway across the site be undertaken.

Subsequent subsurface testing was undertaken in July 2002 although weather conditions meant that several areas could not be accessed. As a result of this testing Terra Culture identified a number of 'implications':

- *The result of artefacts located on the higher ground is not unexpected given the local pattern of site distribution and the proximity of the study area to the river and coastline.*
- *The site of the proposed hotel contains a larger scatter of Aboriginal stone artefacts. The full lateral and vertical extent of this scatter is unknown. Further archaeological investigation will be required in this area to establish the significance of the artefact scatter and the likelihood of insitu deposits and human burials.*
- *Aboriginal archaeological material is also located on high ground in the north-eastern and eastern portions of the study area, where development is also proposed.*
- *The floodplain appears to be devoid of Aboriginal archaeological material.*
- *Under the heritage acts consent from the Framlingham Aboriginal Trust will be required to disturb those areas where artefacts have been located. There will be conditions attached to these consents. The Framlingham Aboriginal Trust will also require that a representative of the Trust monitor any ground disturbance within the development area.*

Council supported the Terra Culture recommendations, subject to the agreement of Framlingham Aboriginal Trust.

Other submissions expressed concerns about the lack of conclusive investigation of Precinct 3 and raised the possibility of non-Aboriginal heritage sites on the site of the Coles property associated with the earlier Cawood settlement of the area.



We directed that before revising the concept:

- Further discussions be held with the Framlingham Aboriginal Trust (possibly further subsurface testing) to confirm that Precinct 3 is suitable for the proposed activities.
- Further investigations (possibly including subsurface testing) of the tramway and associated infrastructure be undertaken to confirm the extent of material that remains and as a basis for developing any protection strategies that may be required.
- Further investigations (possibly including subsurface testing) of the Cole property be undertaken to identify any significant sites associated with the Cawood settlement of the area and as a basis for developing any protection strategies that may be required.

Further investigations were carried out and reported in the February 2007 report of TerraCulture. This report concluded:

#### *Historical*

- *All traces of the Apollo Bay Co tramway roadbed and track through the Cole's Property and into the K-farm appear to have been destroyed over the years.*
- *There are remnants of the bridge across the Barham River into the recreation reserve. These remnants have been registered with HV and the site will not be affected by the proposed development.*
- *There is a possibility that traces of the mill site and associated works still exist, but these will be unlikely to be disturbed by the development as shown on the concept plan. The need for further investigation of the mill site will depend on the final concept plan.*
- *The Barham River Timber Company tramway should have been confined within the road reserve and has probably been long destroyed by road works. It may be necessary to have a closer inspection of areas where road crossings and entrances off the Beech Forest-Apollo Bay Road are planned. Discovery of any traces in these areas are unlikely to stop work. Some recording may be necessary.*
- *It would appear that John Cawood, the original land owner, did not live on this land. Two houses have been built on the land, possibly by Cawood's sons (therefore probably late 1800s – early 1900s).*
- *The area identified as a previous house site on the K-farm may not be a site. The mounds appear to be consistent with dumping of fill from another area. This interpretation may change after further investigation.*
- *Heritage Victoria may require excavation and recording of some areas, specifically the area in and around the existing buildings on the ridge overlooking The Backwater as a condition of a Consent to Disturb, in the event that this site will be removed.*

*Aboriginal*

- *There are three registered Aboriginal sites over the development area – 7620-0203, 0204 and 0205.*
- *The two sites in the Noseda properties north of the Barham River are low-density scatters of low scientific significance.*
- *The scatter on the high ground on the K-farm still requires further investigation. Existing conditions prevented investigation under the terms of the current Excavation permit.*
- *It is considered, taking into account site distribution patterns and landform that the densest concentration of artefacts is likely to be under the present house site.*
- *To properly assess the site will require careful demolition of the house prior to test excavations taking place. The need for and extent of such investigations will depend upon the construction footprint and the design of the final concept plan.*
- *Negotiations should occur with Framlingham Aboriginal Trust, as the statutory body, as to whether this may occur and under what conditions. The applicant should seek an agreement, protocol or MOU with Framlingham that specifies how the Aboriginal archaeology is to be managed during the development.*

**Discussion**

The examination of the historical archaeology of the site makes it clear that there is no need for any further work at this stage, and a low likelihood that any archaeology will be disturbed. There are some potential issues remaining on Precinct 3, but these can be resolved in the more detailed planning approval for this part of the project.

The Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations came into force on 28 May 2007. Both the Act and the regulations introduce a more thorough and transparent regime for the protection of Aboriginal cultural heritage.

A central component of the new Act and regulations is the preparation of Cultural Heritage Management Plans. A CHMP must be prepared where a 'high impact activity' is proposed in areas of cultural heritage sensitivity.

The development proposed is classed as a high impact activity. Areas within 200 metres of waterways and prior waterways are deemed to be areas of cultural heritage sensitivity unless they have been subject to significant ground disturbance. Ploughing is not considered to be significant ground disturbance.

It is our understanding that a Cultural Heritage Management Plan will be required as part of the proposal. A CHMP is usually prepared by a heritage advisor engaged by the proponent of a development, although Council, the government or the local registered Aboriginal party could prepare the plan.

We acknowledge the investigations that have been undertaken and generally support the recommendations of the Terra Culture reports. We note the finding that the floodplain appears to be devoid of Aboriginal archaeological material.

In relation to Precinct 3, the site will need to be subject to a cultural heritage plan, and this is the appropriate mechanism to resolve any outstanding issue of Aboriginal cultural heritage on this site.

### **Panel conclusions**

Having considered this issue we conclude that:

**There are no non-Aboriginal cultural heritage issues with the development.**

**A Cultural Heritage Management Plan will be required under the *Aboriginal Heritage Act 2006*, and the investigations to date have not identified any issues that prevent the proposed rezoning.**

## **8.6 Contributions**

### **What the development will provide**

The exhibited rezoning request documentation stated:

*Aside from the usual costs associated with land subdivision which includes roads, stormwater and sewer services, power and water supplies, the following extraordinary items have to be funded ...*

- *Golf Course and Clubhouse construction to an agreed time frame*
- *tertiary treatment plant for recycling water from the sewage treatment plant*
- *the creation of reserves around the river and backwater ...*
- *the creation of water storage bodies for flood plain management and irrigation storage for the golf course*
- *restoring the riparian environment along the Barham River banks and the reserve created around the backwater*
- *filling to form building platforms in the flood ways. This will involve extensive shaping and grading to ensure free flow for flood waters in a 1 in 100 year event*
- *the construction of two road bridges and one pedestrian bridge over the river.*

It was not clear from the original Comprehensive Development Plan or zone controls that all these items will be provided by the developer.

The revised zone gives a detailed statement of the form that a Section 173 Agreement will need to take. This provides an appropriate mechanism for addressing these issues.

## **Parking in town centre**

Submissions were made that there is a shortfall of parking in the town centre during peak holiday periods, and that the development should contribute to additional parking in the town centre.

The planning system in Victoria places the onus of providing car parking on the use that is generating the demand for parking. There is no basis for expecting that the proposed development should contribute to parking in the shopping street. Parking that would, of course, be available to all drivers, not just those who paid for the development.

## **Panel conclusion**

Having considered this issue we conclude that:

**The revised zone provisions document the development contribution arrangements to be achieved under a Section 173 Agreement in an appropriate fashion.**

**The notion that new households provide for parking in local shops has no basis in the Victorian planning system.**

## **8.7 Community infrastructure**

Concern was expressed about the capacity or availability of a range of community infrastructure in addition to physical infrastructure issues. As any town grows, or the demands of its citizens change, there can be shortfalls (or surpluses) of capacity in community infrastructure. Apollo Bay is no exception.

It is important to recognise that the normal expectation is that community infrastructure is delivered to communities, and that as communities grow extra infrastructure is sometimes required. It is not common practice to provide infrastructure in anticipation of growth. The current lack of infrastructure cannot be seen as an impediment to growth. No arguments were put to us that the community infrastructure could never be provided. Physical infrastructure issues are discussed above.

## **Panel conclusion**

Having considered this issue we conclude that:

**There are no overwhelming gaps in community infrastructure that mean that the development cannot proceed.**

## 9. Site layout and development issues

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### 9.1 Access

#### 9.1.1 Vehicular access

##### What is the issue?

The provision of adequate capacity and accessibility to the road network for generated traffic from the development.

##### Evidence and submissions

We have reviewed the *Traffic Impact Report, April 2004* prepared by Ratio Consultants Pty Ltd for the concept development plan as exhibited.

##### Discussion

The analysis of the traffic generation and distribution, car parking requirements and traffic management measures proposed in the Ratio 2004 report are generally supported, and similar findings will apply to the revised proposal. We agree with the need for a roundabout intersection treatment on Barham Valley Road at the main access points to the proposed residential precincts. Clearly further details on specific traffic and parking provisions will be provided for Council approval at the detailed design phase.

With regard to the access to the Great Ocean Road from the proposed golf clubhouse, ancillary facilities and the accommodation, the details provided in the above report indicate that a Type C Treatment is required at the entry point: however the exact requirements cannot be determined until the details of the actual proposed buildings are known. The actual intersection location (taking into account the sight distance requirements) and type must be determined in conjunction with VicRoads. VicRoads have provided preliminary advice on acceptable layouts to this intersection.

In relation to flood free access to the residential precincts, such access would be provided by the Barham Valley Road and internally linked roads and the level of the road will be raised across the floodplain adjacent to the development to provide flood free access to all residential areas.

##### Panel conclusion

Having considered this issue we conclude that:

**The access and parking provisions for the development are adequate but will need to be reviewed during the detailed design phase.**

**The revised proposal makes adequate provision for flood free access to lots.**

### 9.1.2 Lot orientation

#### What is the issue?

The lots of the exhibited proposal 'backed onto' the open space area and golf course. It is accepted best practice that lots front onto public open space.

#### Evidence and submissions

It is proposed that the subdivision comply with Clause 56 of the Planning Scheme; this clause is about to be revised. The revised Clause 56.04 provides:

*Standard C10*

*Subdivision should increase visibility and surveillance by:*

- *Ensuring lots front all roads and streets and avoid the side or rear of lots being oriented to connector streets and arterial roads.*
- *Providing lots of 300 square metres or less in area and lots for 2 or more dwellings around activity centres and public open space.*
- *Ensuring streets and houses look onto public open space and avoiding sides and rears of lots along public open space boundaries.*
- *Providing roads and streets along public open space boundaries.*

#### Discussion

Providing roads and streets along public open space boundaries is considered the appropriate design approach as it provides for better arrangement of the open space. This is particularly the case along waterways. The Golf Course itself is not public open space and it is acceptable that lots 'back' onto the golf course. Access to the golf course is restricted and the golf course itself is actively managed.

#### Panel conclusion

Having considered this issue we conclude that:

**The lot orientation in the revised proposal is appropriate.**

### 9.1.3 Trail network

There is currently an existing pedestrian and cycle link on the east side of the Great Ocean Road between Apollo Bay and Marengo.

The 2006 Draft Structure Plan identifies four 'new or improved linkages' through the site:

- on the north west side of Barham River,
- on the south east side of Barham River,
- on the west side of the backwash continuing across the southern edge of the site, and

- between the backwash and the Great Ocean Road.

The proposal includes a trail network generally in accordance with the one proposed in the structure plan except:

- the proposal includes an additional trail to the west of the site, and
- does not include a trail between the Great Ocean Road and the backwash.

Inclusion of the trail along the west of the site will add to the recreational opportunities provided by the development.

It is not clear that there is sufficient room between the Great Ocean Road and the backwash for an additional trail. The trail proposed in the structure plan also crosses the backwash where it joins with the Barham River. We think that a trail in this location is likely to have too great an environmental impact and consider that the trail network proposed in the Open Space Pedestrian Plan of the proposal is superior.

The development proposes a significant length of recreational trails. These trails will use the local access roads in places. We think that the low traffic volumes of these roads makes them eminently suitable to this form of shared use, but we do not think that it is reasonable to categorise these roads as trails.

The proposed network will provide significant trail links between Apollo Bay and Marengo. The proposed trail links will be an asset to the community. There is a need to ensure that the trail links are not under water during periods of estuarine inundation. This will require attention to their precise location.

There is also a need to refine the trail access from the Precinct 3 development to the Great Ocean Road.

## **Panel conclusion**

Having considered this issue we conclude that:

**The development will provide an improved public trail network that will be of benefit to the community.**

**There is a need to refine some details of trail location as part of the detailed design process.**

## 9.2 The 'green break'

### What is the issue?

The visual impact of the proposal raised a number of issues including:

- the desirability of retaining a green break between Apollo Bay and Marengo, and
- the impacts on views from the Great Ocean Road including proposed height of buildings.

### Evidence and submissions

At the hearings in 2006 Mr Dance provided expert evidence on behalf of the proponent. The evidence included a landscape assessment of the development concept and outlined the rationale for the landscape design approach. More significantly, Mr Dance provided commentary and further plans in response to specific issues that were raised in the course of the Hearing.

Council's submission raised a number of concerns, including the proximity of residential development to the Great Ocean Road.

A number of other submissions raised issues associated with the visual impact and landscaping of the site, often in support of retaining a 'green break' between Marengo and Apollo Bay.

### Discussion

The visual impact of the proposed development is a fundamental consideration.

A significant weakness of the original exhibited proposal was the lack of a coherent and explicit landscape design philosophy for the site. In forming our views about these matters we note the strong policy context attached to the Great Ocean Road region and the significant body of work relating to landscape issues that has been undertaken in recent years.

Clause 15.08-3 (Geographic strategies) of the SPPF includes the following in relation to the Great Ocean Road Region:

*Planning for the Great Ocean Road Region should:*

*Protect the landscape and Environment by:*

- *Protecting public; land and parks as identified as significant landscapes.*
- *Ensuring that development responds to the identified landscape character of the area.*

Although this Clause is a recent inclusion in the SPPF, it reflects a body of earlier strategic work including the *Great Ocean Road Region - A Land Use and Transport Strategy* (2004). Part of this project included the *Great Ocean Road Region Landscape Assessment Study* (2003) that provides a comprehensive analysis of landscape issues within the region, including the subject site.



The subject land is within Precinct 2.4 (Apollo Bay Coastal Valleys and Hills), within which the landscape setting is described as being of ‘...national significance’. The Panel was disappointed that the Landscape Assessment Study was not referred to or relied upon in the original Amendment documentation or the expert evidence. Without needing to repeat the detail of this material, we note the following landscape objectives for the Precinct:

- *To increase the use of indigenous vegetation to highlight natural features within the precinct.*
- *To retain the contrasts between landscape elements within the precinct.*
- *To ensure that development that occurs on hill faces or in other prominent locations is not highly visible.*
- *To minimise the visual impact of signage and other infrastructure, particularly in coastal areas, hill faces and ridges.*
- *To protect the clear, sweeping views to the ocean available from the precinct.*
- *To retain the dominance of an indigenous natural landscape in coastal areas between townships, particularly from the Great Ocean Road.*

While not all of these objectives are equally applicable to the site, they at least provide some context for considering landscaping issues. With these objectives in mind we directed that the Comprehensive Development Plan was to provide revegetation that reinstates appropriate pre-1750 EVCs.

The 2007 hearing raised a number of issues in relation to how this direction was met. These are discussed below.

### **Green Break between Marengo and Apollo Bay**

We support the concept of maintaining a ‘green break’ between Marengo and Apollo Bay as a means of retaining the separate identities of the settlements. This does not preclude development in this area, but it does mean that the location and configuration of development and landscaping should provide a distinct visual experience that emphasises a predominantly natural rather than man made environment between the two settlements. We believe that this can be achieved within the broad context of the overall concept.

We note that the ‘Landscape setting plan’ in the draft Planisphere structure plan says in relation to the subject land:

*Area that can include some residential subdivision subject to improvements to the Barham River valley and maintaining a landscape dominated break between Apollo Bay and Marengo.*

*Revegetate Barham River Valley and enhance public access.*

*Ensure landscape-dominated outlook from Great Ocean Road.*

It should be noted that on this plan part of the area identified for residential development is between the Barham River and the Great Ocean Road.

The draft structure plan also states:

*Maintain an undeveloped view corridor from the Great Ocean Road and/or Gambier Street across the Barham River and flood plain to the foothills, to ensure the meandering path of the river can be interpreted from these viewing point/s and to maintain a 'green' break between the settlements of Apollo Bay and Marengo*

A number of submissions to the original proposal raised issues with the proximity of development to the Great Ocean Road and the visual impacts resulting from this. In this context Council expressed the view that the northern most residential area (to the east of the River) should be removed or relocated.

We directed that a 350 metre set back be created from the Great Ocean Road and the revised plan provides for this. We made the exception however for Precinct 3, which has insufficient depth and area to achieve this setback. As discussed in Section 8.2, Precinct 3 presents a range of specific issues.

In making these observations, we should make it clear that we do not support a design approach that seeks to comprehensively screen views of the site along the Great Ocean Road frontage. Discussions at the hearing indicated that a preferred approach, consistent with the pre European vegetation on the site, would typically include lower vegetation along the Great Ocean Road frontage, progressively increasing in height to the west of the site.

In submission Council stated that housing between the Barham River Road and the Great Ocean Road should be limited to one storey to better achieve the objectives of maintaining a green break. This is discussed below.

## **Conclusion**

Having considered this issue we conclude:

**The revised development proposal provides for a suitable 'green break' between Apollo Bay and Marengo**

## **9.3 Landscape treatment**

### **What is the issue?**

We believe that there should be an overarching landscape design philosophy for the site and that this should be clearly expressed as part of the Comprehensive Development Plan.

As discussed, we believe that development of the site provides an opportunity to restore its environmental values. In this context, revegetation should seek to reinstate appropriate pre-1750 EVCs within the Golf Course, public open space and in association with the reinstatement of riparian vegetation along the Barham River

and Anderson Creek. We also believe that the development should seek to encourage the use of indigenous vegetation on privately owned land.

This philosophy has been articulated in the revised documentation, however a number of issues were raised in relation to these revised plans. There was concern that:

- the pre-1750 EVCs had been wrongly applied in the landscape concept,
- the species lists for the EVCs were inaccurate, and
- the growing conditions for plants could not be properly managed in term of:
  - soil texture and consistency for the nominated plant species
  - sub soil conditions
  - salt spray on plants.

### **Evidence and submissions**

Brett Lane and Associates reviewed the site and prepared a plan of indicative pre-1750 EVCs. The Department of Sustainability and Environment submitted:

*The Department supports the assumption by Brett Lane and Associates that the pre-1750 EVCs from the Department Interactive Mapping do not reflect the true make up of the EVCs of the proposed development site. The Department agrees the characteristics of the area are more consistent with the Otway Plan Bioregion.*

*The EVCs identified in the report of Swamp Scrub, Riparian Forest, Coastal Dune Scrub and Wet Forrest, are a more accurate reflection of what ecological vegetation communities would have formed the pre-1750 EVCs of the is area prior to European settlement.*

We are confident that the Brett Lane Plan is a reasonable estimation of pre-1750 EVCs on the site. The issues are how this is translated by way of the landscape concept and the species used.

DSE submitted:

*The Department recommends:*

- *Species consistent with Riparian Forest EVC should be used for all replanting of elevated housing cells across the floodplain zone.*
- *Mountain Ash (Eucalyptus regans) should not form any part of the revegetation works across the flood plain.*
- *Lower reaches of the ridge lines on the western side of the development site as identified as Zone 2 in the Independent Landscape Evidence are planted with species consistent with Riparian Forrest EVC.*

A number of submitters questioned the species lists of the EVCs. The lists presented were based on DSE material.

Mr Filmore submitted that the site is difficult due to coastal exposure and salt spray. Questions were raised about the species proposed, particularly Swamp Paperbark and

Blackwood and their ability to screen development. Further questions were raised about the ability to procure fill that has properties conducive to revegetating with the selected pre-1750 EVC's.

Council submitted:

*There clearly remains doubt about the ability to successfully revegetate this site with the species proposed, particularly for the purpose of screening residential development.*

## Discussion

The natural landscape of the estuary needs to be largely 'reconstructed'. There is little land-based flora remaining. As the development proceeds there is ample scope to refine the landscape concept and the species lists, based on a more thorough understanding of what species might be present in the local variation of the EVC.

We do not accept the argument that there are no suitable species in the local variation of the EVCs to achieve the landscaping necessary to ensure visual amenity outcomes are achieved and hence the proposal should not proceed. This approach is not supported. It turns its back on the substantial environmental benefits this proposal delivers on the basis that an 'accurate reconstruction' of the species mix is not possible.

We think that the emphasis placed on supposed 'local' conditions by several submitters including Mr Pike, Mr Buchanan, Mr Fankhanel and Mr Lawson is misplaced. We find it difficult to identify specific issues with this site that somehow prevent revegetation.

In any case, we think that some submitters have formed a view that total screening of development facing the Great Ocean Road is required whereas we are firmly of the view that filtered screening is a preferred approach.

There is certainly the need to ensure that the civil works and fill create suitable conditions in terms of soil type and drainage to support the proposed species and the revised amendment documentation provides for this.

## Conclusion

Having considered this issue we conclude:

**The assessment of pre-1750 EVCs and the landscape concept is broadly appropriate.**

**Species consistent with the pre-1750 EVCs on the land can provide adequate screening of development.**

## 9.4 Building Design

### What is the issue?

#### Evidence and submissions

The originally exhibited Comprehensive Development Zone required that 'Design guidelines for residential development' be submitted with an application for subdivision.

The revised Comprehensive Development Zone requires that Urban Design Guidelines be approved by the Responsible Authority.

The Urban Design Guidelines would apply to the residential component of the development and address the following matters:

- The method of establishment, membership and operation of the Great Ocean Green Design Panel for all the land and the mechanisms by which the Panel will be required to approve the design of any building or works proposed on any residential lot where the use of a dwelling is as of right.
- Ecological sustainable design principles to be incorporated into any development.
- Planning and design objectives for each component of the development.
- Specific design criteria for each component of the development.
- Appropriate design criteria which are consistent with the objectives of Clause 54, 55 and 56 of the scheme.

A permit would not be required for buildings located on a designated residential lot provided the lot is:

- connected to potable water, sewerage and drainage, and
- developed with a building designed in accordance with any urban design guidelines required by this clause and approved by the Great Ocean Green Design Panel if one has been appointed.

This exemption does not apply to two or more dwellings on a lot. Developments of two or more dwellings on a lot must meet the requirements of Clause 55.

The Comprehensive Development Zone also provides that a dwelling must not exceed 8.5 metres in height above finished ground level in Precinct 2 of the Comprehensive Development Plan. Council submitted that in Precinct 2 east of the Barham River, dwelling height should be limited to 4.5 metres in height above finished ground level.

#### Discussion

The revised documentation makes it clear how the residential development guidelines will be approved and how they will be implemented. The issue is the height of development.

The Draft Structure Plan includes a strategy:

*Require any new subdivision and development between Apollo Bay and Marengo [among other things]:*

- *Limits building heights to 7.5 metres, with substantial building articulation in the upper level.*

The revised amendment proposes an 8.5 metre height limit for residential development and 9 metre limit for the Tourism proposal. We think that these heights are appropriate and will ensure a scale of development generally in keeping with Apollo Bay and avoid unacceptably high development. We can see no benefit in adopting a 7.5 metre limit.

The remaining issue is the height of dwellings between the Barham River and the Great Ocean Road. We do not think that it is concern if some development is visible because:

- development is in the context of Apollo Bay and Marengo which are already built up,
- development will be screened in part by landscaping,
- development will be 350 metres away from the Great Ocean Road,
- development will be a narrow visual band between the revegetated river flats and the rising hills behind.

Further we do not think that a restriction in height from two to one storey would lessen the visual impact of the dwellings, and may have the reverse effect if it means a larger foot print and less opportunity for landscaping between the buildings.

## **Conclusion**

Having considered this issue we conclude that:

**The Amendment documentation provides a clear and unambiguous role for the Residential Design Guidelines.**

**A height limit of 8.5 metres is appropriate for all the residential areas.**

## 10. The structure of the revised provisions

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As originally exhibited the Amendment included:

- Policy changes:
  - Amend Clause 21.04-3 of the Municipal Strategic Statement.
  - Replace the Apollo Bay Local Structure Plan.
  - Introduce a Local Planning Policy.
- Rezoning:
  - Rezone land from Environmental Rural Zone and Public Park and Recreation Zone to Comprehensive Development Zone.
  - Incorporate a Comprehensive Development Plan.
- Consequential changes
  - Schedule permitted works within a Public Conservation and Resource Zone to enable revegetation and access works to be undertaken along land adjoining the Barham River Flats.
  - Schedule exclusions to the provisions of the Land Subject to Inundation Overlay.
  - Schedule exemptions from the removal of native vegetation if they are in accordance with an approved Environmental Management Plan.
  - Remove the Erosion Management Overlay from the Great Ocean Green Development Area.

The revised proposal proposes the same types of changes to the planning scheme save that a Local Planning Policy is no longer proposed. The provisions of the Comprehensive Development Zone and Comprehensive Development Plan have been substantially revised.

As revised, the proposal includes:

- Policy changes:
  - Amend Clause 21.04-3 to the Municipal Strategic Statement to provide a strategic framework for the future use and development of the land for an integrated recreation and residential development.
  - Replace the Apollo Bay Local Structure Plan in the Colac Otway Municipal Strategic Statement with a new Structure plan.
- Rezoning:
  - Rezone land from Environmental Rural Zone and Public Park and Recreation Zone to Comprehensive Development Zone.
  - Incorporate a Comprehensive Development Plan.
- Consequential changes:
  - Schedule permitted works within a Public Conservation and Resource Zone to enable revegetation and access works to be undertaken along land adjoining the Barham River Flats.

- Schedule exclusions to the provisions of the Land Subject to Inundation Overlay.
- Schedule exemptions from the removal of native vegetation if they are in accordance with an approved Environmental Management Plan.
- Remove the Erosion Management Overlay from the Great Ocean Green Development Area.

## 10.1 Policy changes

### **Municipal Strategic Statement (MSS) and Apollo Bay Local Structure Plan**

There is clearly a need to update the Structure Plan in the MSS as well as the text of the MSS. The MSS needs to provide a clear context for the Comprehensive Development Zone, particularly as the proposed Local Planning Policy is deleted from the Amendment.

Having considered this issue we conclude that:

**The proposed changes to the MSS in the revised Amendment documentation are appropriate.**

### **Local Planning Policy**

The original amendment included a Local Planning Policy. It is not clear to us why a Local Planning Policy was required in addition to the Comprehensive Development Zone.

As far as we can see:

- the LPP does not respond to an explicit need,
- the LPP does not relate to a specific discretion in the scheme that cannot be addressed in the Comprehensive Development Zone, and
- the LPP does not usefully add to the Comprehensive Development Zone.

Having considered this issue we conclude that:

**The deletion of the proposed Local Planning Policy is appropriate.**



## 10.2 Comprehensive Development Zone

### 10.2.1 Use of the zone

There was some discussion in the hearings whether the Comprehensive Development Zone was the best zone for the proposal.

In the Victorian Planning System zone and overlay controls are viewed as tools to achieve a particular policy or planning outcome. The selection of the tool depends on the task to be achieved.

The Comprehensive Development Zone is a tool for providing the comprehensive development of an area in **accordance with an incorporated plan**. Without a suitable plan for incorporation the Comprehensive Development Zone cannot be used.

A number of submitters took issue with the use of this zone based more on its name 'comprehensive development' than any analysis of the nature of the zone proposals. The zone is not a *carte blanche* for development. It is (in its revised form) a detailed set of controls that will allow a particular development under a tight set of management plans.

The proponent has submitted that the Comprehensive Development Zone is appropriate. We reiterate that the zone choice is a matter of choosing the 'right' tool for the job and we are satisfied that the Comprehensive Development Zone is appropriate.

The revised provisions were subject to detailed discussion over precise wording at the 2007 hearing. The refined revised zone provisions are attached as Appendix 1.

Having considered this issue we conclude that:

**The use of the Comprehensive Development Zone is appropriate.**

**The revised provisions as amended and presented in Appendix 1 of this report are appropriate.**

### 10.2.2 Extent of zone

In the course of the hearing it became apparent that Mrs Garrett who owns one of the original farm houses on a relatively small lot did not want to be part of the rezoning. There are no practical consequences to the development of excluding the Garrett land.

Having considered this issue we recommend:

**The rezoning (and application of overlays) exclude the Garrett and Lindsey properties.**

### 10.2.3 Precinct plan

The provisions depend on knowing whether a proposal is within Precinct 1, 2 or 3 of the proposal, but no clear precinct plan is presented in the Comprehensive Development Plan. This is a drafting oversight and there is no confusion at this stage as to the extent of the precincts. However, statutory interpretation of the zone would be assisted with the additions of a clear precinct plan in the Comprehensive Development Plan.

Having considered this issue we recommend:

**The Comprehensive Development Plan be amended to include an unambiguous plan depicting the extent of each precinct.**

### 10.2.4 Sunset provisions

The issue of a sunset provision was canvassed at the hearing. There are a number of issues that require refinement as part of the ongoing design of this proposal and it is not guaranteed that the development will proceed. In these circumstances it is appropriate that a sunset clause be inserted into the provisions so that development must be commenced within a certain time frame. If development did not commence within this time a further planning scheme amendment would be required to determine the future use of the land.

Having considered this issue we recommend:

**A sunset provision specifying that development must commence within 10 years be included in the revised Comprehensive Development Zone.**

### 10.2.5 Approval of management plans

All the management plans must be approved by the Responsible Authority (Colac Otway Shire Council). The Department of Sustainability and Environment has requested that its approval be required for:

- Land Management Plan,
- Construction Management Plan, and
- Golf Course Management Plan.

This was provided for in the revised documentation except for the Golf Course Management Plan.

Having considered this issue we recommend that:

**The zone provisions require that the Golf Course Management Plan be approved by the Department of Sustainability and Environment in addition to the Responsible Authority.**

## 10.3 Comprehensive Development Plan

The level of detail presented in the initial concept plan was deficient in a number of ways. The revised Concept Plan is a significant improvement but could be further improved by removing vague expression and improving the graphic quality of the plans.

These changes will assist in the use of the plan in the future, but are not considered significant refinements and should not alter the content or provisions of the plan.

Having considered this issue we recommend that:

**The Comprehensive Development Plan be reviewed to tighten expression and to improve the legibility of maps reducing the prominence of the golf course layout on the base plan.**

## 11. Conclusions and recommendations

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For the reasons set out in this report, we have reached the following conclusions:

1. The policy framework invites a consideration of growth of Apollo Bay – there is no overriding policy prohibition on the expansion of the town.
2. Development may well change the character of Apollo Bay but this change in character is supported by the planning policies that identify Apollo Bay for growth.
3. The development of the land for recreational purposes and housing is supported by the strategic planning work undertaken for Apollo Bay.
4. There is broad community benefit in relocating the Golf Course from Point Bunbury.
5. The current zoning of the existing course would maintain its use as public open space. The use of Point Bunbury will be subject to a separate decision process, and the consideration of any purported community benefit from the reuse of Point Bunbury needs to be weighted by this fact.
6. The potential environmental impacts associated with the proposal have been identified and considered.
7. The Amendment process has followed the requirements of the *Planning and Environment Act, 1987*.
8. The rezoning of the land is appropriate to ensure that an adequate supply of residential land is maintained.
9. Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until water supply issues are resolved.
10. Consideration of the Amendment should continue with the expectation that a further separate process will determine the appropriate location for an expanded water storage in Apollo Bay.
11. The flood modelling presented by the proponent is the appropriate method to assess impacts of the development.
12. The flood model inputs determined by the Corangamite Catchment Management Authority should form the basis of flood modelling for the development.
13. The development can provide adequate protection against flooding.
14. The revised amendment documentation contains appropriate mechanisms to manage flood issues.
15. The development will allow for the continuation of the natural cycle of estuarine wetting and drying.
16. The reduction in the extent of estuarine inundation is acceptable considering the improvement to the habitat values of the land that will be inundated.

17. The development can function when the estuary is inundated.
18. The presence of Acid Sulfate Soils does not prevent development of the site, though it poses a significant constraint on proposed earthworks and services installation.
19. The proposed earthworks in the revised plan respond to the probable location of Acid Sulfate Soils.
20. The revised amendment contains appropriate mechanisms to manage Acid Sulfate Soils.
21. There are no significant geotechnical impediments that preclude the development from proceeding to the next phase of the planning process.
22. The proposal has appropriate mechanisms to manage the importation of fill.
23. The proposal will not increase coastal recession and is not directly exposed to immediate threats from coastal recession.
24. The risks associated with severe changes to land form from storm tides are not sufficient reason to reject the development.
25. The proposal does not raise issues of public risk that are not, or cannot, be adequately addressed.
26. Development will not face an above average wildfire risk.
27. Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until power can be supplied.
28. The revised proposal will have a positive impact on flora and fauna.
29. The revised documentation provides for fish surveys and water quality monitoring.
30. The proposal includes appropriate measure to protect stormwater quality.
31. The revised Comprehensive Development Plan provides for the reinstatement of Anderson Creek.
32. The reuse of treated effluent is a positive feature of the development.
33. The proposed development provides improved open space facilities for Apollo Bay.
34. Precinct 3 is broadly suitable for the proposed activities, but the form and extent of activities will need to be subject to a planning permit.
35. A decision to proceed with this Amendment should not depend on a resolution of study areas for possible long term alternative alignments for the Great Ocean Road in the Apollo Bay Township.
36. The proximity to the airport does not prevent the development of Precinct 3.
37. The revised documentation has appropriate mechanisms to address issues associated with the airport.
38. There are no non-Aboriginal cultural heritage issues with the development.
39. A Cultural Heritage Management Plan will be required under the *Aboriginal Heritage Act 2006*, and the investigations to date have not identified any issues that prevent the proposed rezoning.

40. The revised zone provisions document the development contribution arrangements to be achieved under a Section 173 Agreement in an appropriate fashion.
41. The notion that new households provide for parking in local shops has no basis in the Victorian planning system.
42. There are no overwhelming gaps in community infrastructure that mean that the development cannot proceed.
43. The access and parking provisions for the development are adequate but will need to be reviewed during the detailed design phase.
44. The revised proposal makes adequate provision for flood free access to lots.
45. The lot orientation in the revised proposal is appropriate.
46. The development will provide an improved public trail network that will be of benefit to the community.
47. There is a need to refine some details of trail location as part of the detailed design process.
48. The revised development proposal provides for a suitable 'green break' between Apollo Bay and Marengo.
49. The assessment of pre-1750 EVCs and the landscape concept is broadly appropriate.
50. Species consistent with the pre-1750 EVCs on the land can provide adequate screening of development.
51. The Amendment documentation provides a clear and unambiguous role for the Residential Design Guidelines.
52. A height limit of 8.5 metres is appropriate for all the residential areas.
53. The proposed changes to the MSS in the revised Amendment documentation are appropriate.
54. The deletion of the proposed Local Planning Policy is appropriate.
55. The use of the Comprehensive Development Zone is appropriate.
56. The revised provisions as amended and presented in Appendix 1 of this report are appropriate.

Amendment C29 to the Colac Otway Planning Scheme should be adopted generally as revised in February 2007, subject to the following recommendations:

1. The Comprehensive Development Zone schedule be amended to reflect Appendix 1 of this report, including:
  - The requirement for the Land Management Plan to include:
    - details of how the fill for the residential pods will be engineered to ensure that the maximum settlement with time does not exceed 5cm.
    - requirements that a trial fill site be established at early design stage to demonstrate that maximum settlement rates will not be exceeded.
  - The requirement for the Construction Management Plan to include haul routes for fill and that these be to the satisfaction of VicRoads.

- 
- A sunset provision specifying that development must commence within 10 years.
  - The requirement that the Golf Course Management Plan be approved by the Department of Sustainability and Environment in addition to the Responsible Authority.
2. The revised amendment documentation be amended to include:
    - A revised structure plan for Apollo Bay.
    - An ESO to manage the impact of Acid Sulfate Soils on infrastructure as presented in Appendix 2.
  3. The rezoning (and application of overlays) exclude the Garrett and Lindsey properties.
  4. The revised Comprehensive Development Plan be further amended:
    - To include an unambiguous plan depicting the extent of each precinct.
    - So that the opportunities and constraints map identifies or refers to Acid Sulfate Soils.
    - To tighten expression.
    - To improve the legibility of maps reducing the prominence of the golf course layout on the base plan.

## Appendix 1: Recommended CDZ schedule

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### SCHEDULE 1 TO THE COMPREHENSIVE DEVELOPMENT ZONE

Shown on the planning scheme map as **CDZ1**.

#### GREAT OCEAN GREEN DEVELOPMENT PLAN

##### Land

The land is known as Great Ocean Green, which comprises 170 ha on the Great Ocean Road, Apollo Bay. The land is shown and described in the *Great Ocean Green Comprehensive Development Plan*, February 2007.

##### Purpose

To establish an integrated recreational, residential, tourism and resort use and development focused on a high quality golf course within a restored natural environment generally in accordance with the Great Ocean Green Comprehensive Development Plan.

To establish a framework for the approval of use and development on the land which will facilitate the creation of the desired mix of land uses, ensure that buildings and works are thoroughly investigated and carried out in a manner that ensures the protection of the environment, creates a regime for the long term maintenance and management of the recreational and environmental assets created by the project, and which provides for the creation of a Design Review Committee to review and approve the architectural form of the each individual house built on the residential lots in Precinct 2.

### 1.0

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#### Table of uses

##### Section 1 - Permit not required

| USE  | CONDITION   |
|--|---|
| <b>Bed and Breakfast</b>                           | <p>Must be located in Precinct 2 of the Great Ocean Green Development Plan.</p> <p>No more than 6 persons may be accommodated away from their normal place of residence.</p> <p>At least 1 car parking space must be provided for each 2 persons able to be accommodated away from their normal place of residence.</p> |
| <b>Animal keeping (other than Animal boarding)</b> | Must be no more than 2 animals.   |
| <b>Apiculture</b>                                  | Must meet the requirements of the Apiary Code of Practice, May 1997.  |
| <b>Carnival</b>                                    | Must meet the requirements of 'A Good Neighbour' Code of Practice for a Circus or Carnival, October 1997.   |



|  |  |
|--|--|
| <b>Circus</b>                                  | Must meet the requirements of 'A Good Neighbour' Code of Practice for a Circus or Carnival, October 1997.  |
| <b>Dependent Persons Unit</b>                  | Must be located within Precinct 2 of the Great Ocean Green Comprehensive Development Plan and must be the only dependent person's unit on the lot.                     |
| <b>Display Home</b>                            | Must be located within Precinct 2 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Dwelling (other than Bed and Breakfast)</b> | Must be located within Precinct 2 of the Great Ocean Green Comprehensive Development Plan.<br><br>The total number of dwellings within Precinct 2 must not exceed 537. |
| <b>Golf course</b>                             | Must be generally in accordance with the Great Ocean Green Comprehensive Development Plan.   |
| <b>Golf driving range</b>                      | Must be located within Precinct 1 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Home Occupation</b>                         |  |
| <b>Informal outdoor recreation</b>             |  |
| <b>Mineral exploration</b>                     |  |
| <b>Mining</b>                                  | Must meet the requirements of Clause 52.08-2 of this Scheme.   |
| <b>Minor utility installation</b>              |  |
| <b>Natural systems</b>                         |  |
| <b>Railway</b>                                 |  |
| <b>Restricted recreation facility</b>          | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Road</b>                                    |  |
| <b>Search for stone</b>                        | Must not be costeaning or bulk sampling.   |
| <b>Telecommunications facility</b>             | Buildings and works must meet the requirements of Clause 52.19.  |
| <b>Tramway</b>                                 |  |

## Section 2 - Permit required

| USE  | CONDITION   |
|--|---|
| <b>Animal keeping (other than Animal boarding)</b> | Must be no more than 5 animals.   |
| <b>Art and craft centre</b>                        | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.      |
| <b>Caretaker's house</b>                           | Must be located within Precincts 2 & 3 of the Great Ocean Green Comprehensive Development Plan. |

|   |  |
|---|--|
| <b>Car park</b>   | Must be located in Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Convenience shop</b>   | Must not be located in Precinct 2 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Dwelling</b>   | If Section 1 condition is not met.<br><br>Must not be located in Precinct 1 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Exhibition centre</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Function centre</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Food and drink premises</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Group accommodation</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Office</b>   | Must be associated with leisure and recreation or accommodation facilities of the Great Ocean Green development.<br><br>Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan. |
| <b>Place of assembly (other than Cabaret, Carnival, Cinema, Circus, Drive-in theatre and Nightclub)</b>                       | Must be associated with leisure and recreation or accommodation facilities of the Great Ocean Green development.<br><br>Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan. |
| <b>Mineral, stone, or soil extraction (other than Extractive Industry, Mineral exploration, Mining, and Search for stone)</b> |  |
| <b>Residential hotel</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Shop</b>   | The combined leaseable floor area for all shops must not exceed 500 square metres.<br><br>Must not be located in Precinct 2  |
| <b>Utility installation (other than minor utility installation and Telecommunications facility)</b>                           |  |

**Any use in Section 1 if the condition is not met**

### Section 3 - Prohibited

#### USE

**Any use not listed in Section 1 or 2**

## 2.0

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### *Use of land*

A use must be generally in accordance with the Great Ocean Green Comprehensive Development Plan.

Development must commence within 10 years of the date of approval of this zone.

### **Application Requirements**

In addition to any other material submitted with an application to use land, an application must be accompanied by the following information, as appropriate:

- The purpose of the use and the type of activities which will be carried out.
- The likely effects, if any, on adjoining land, including noise levels, traffic, the hours of delivery and dispatch of goods and materials, hours of operation and light spill, solar access and glare.
- The means of maintaining land not required for immediate use.

### **Management Plans**

Land must not be used for the purpose of a hotel or tavern until a Management Plan has been approved by the Responsible Authority. The Management Plan must include, but is not limited to, measures to manage patron behaviour, security and measures to ensure that the operation of the use does not detrimentally affect the amenity of the locality. The use must operate in accordance with the approved Management Plan to the satisfaction of the Responsible Authority.

## 3.0

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### **Subdivision**

Subdivision of land must generally be in accordance with the Great Ocean Green Comprehensive Development Plan and any plan prepared in accordance with Clause 4.0.

Subdivision of lots may occur in stages.

Subdivision of the land must provide for the creation of not more than 537 residential lots.

Each lot created for a dwelling in Precinct 2 must be at least 300 square metres.

Each lot must be provided with:

- A potable water supply;
- Reticulated sewerage;
- Reticulated Class A recycled water supply; and
- Reticulated underground supply of electricity.

Flood free vehicular access to all residential lots during a 1 in 100 year flood event must be provided to the satisfaction of the Responsible Authority and the Corangamite Catchment Management Authority. This is to be achieved by:

- An all weather raised Barham Valley Road over the floodplain adjacent to the proposed development with dimensions adequate to accommodate emergency vehicles;
- Alternative access to the existing street network; or
- A combination of the two.

Prior to a statement of compliance for any subdivision creating a residential lot, design guidelines for residential development must be prepared to the satisfaction of the Responsible Authority.

#### **Application Requirements**

An application for subdivision must be accompanied by the following information:

- A plan drawn to scale which shows:
  - The boundaries and dimensions of the site.
  - Adjoining roads.
  - Relevant ground levels.
  - The layout of existing and proposed allotments, including any areas of common property.
  - Landscape areas and their proposed treatment.
  - The purpose or purposes for which each lot is intended to be used.
  - Details of all drainage works and cross over points to all lots.
  - The constructed level of any road to provide all weather safe access and egress to all allotments.
  - The location and staging of road works to be undertaken.
  - The stages by which development of the land is proposed to proceed.
  - The proposed internal road layout pattern and traffic management measures.
  - The location and nature of all pedestrian trails within the development including the separation of pedestrian and vehicular traffic movements.
  - The provision of all necessary infrastructure including access to surrounding roads.

#### **Exemption from notice and review**

An application that is generally in accordance with the Great Ocean Green Comprehensive Development Plan is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

#### **Decision guidelines**

Before deciding on an application to subdivide land, the Responsible Authority must consider, as appropriate:

- The Great Ocean Green Comprehensive Development Plan.
- The views of the Department of Sustainability and Environment, the Corangamite Catchment Management Authority and the Barwon Region Water Authority.

#### **4.0**

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#### **Buildings and works**

A permit is not required to construct a building or to construct or carry out works where those buildings or works to be constructed are:

- associated with a Section 1 use; and

- located on a designated residential lot in Precinct 2 of the Comprehensive Development Plan provided the lot is:
  - connected to potable water, sewerage and drainage; and
  - developed with a building designed in accordance with any urban design guidelines required by this clause and approved by the Great Ocean Green Design Panel if one has been appointed.

This exemption does not apply to two or more dwellings on a lot. Developments of two or more dwellings on a lot must meet the requirements of Clause 55.

A dwelling must not exceed 8.5 metres in height above finished ground level in Precinct 2 of the Great Ocean Green Comprehensive Development Plan.

### **Requirements**

A planning permit for buildings and works must not be granted until the following plans and guidelines have been approved by the authorities specified as approval authorities for each plan.

- Land Management Plan
- Flood and Inundation Management Plan
- Cultural Heritage Management Plan
- Golf Course and Open Space Management Plan
- Landscape Management Plan
- Infrastructure Management Plan
- Urban Design Guidelines
- Construction Management Plan

Each plan must be generally in accordance with the requirements of the Great Ocean Green Comprehensive Development Plan.

Each of these plans may be prepared in stages.

A Land Management Plan and a Flood and Inundation Management Plan for any stage must be approved before any other plan for that stage listed in this schedule or at the same time as all of the other plans for that stage listed in this schedule.

Subject to the other provisions of this clause all plans for any stage should be submitted and approved in the order that appears in the following sections of this schedule unless otherwise agreed by the Responsible Authority.

An application for buildings and works that exceeds a height of 9 metres in Precinct 3 of the Great Ocean Green Comprehensive Development Plan must be referred to Apollo Bay Airport Owner pursuant to Section 55 of the Act.

### **The Plans**

#### **1. Land Management Plan**

The Land Management Plan must identify any environmental constraints and opportunities on the land, and the appropriate strategies and solutions to address these based on best land management practice.

The Plan must be approved by the Department of Sustainability and Environment and the Responsible Authority and must address the following matters:

- A flora and fauna assessment of the land.
- Actions to be taken to ensure that any environmental and amenity impacts are minimised and that environmental threats are reduced.
- Details of the layout of the land, including works related to the golf course, open spaces, roads, car parking, pedestrian links and proposed buildings.

- Broad details of the methods of construction of any housing pod to ensure their long term stability.
- Details of how the fill for the residential pods will be engineered to ensure that the maximum settlement with time does not exceed 5 cm.
- Requirements that a trial fill site be established at early design stage to demonstrate that maximum settlement rates will not be exceeded.
- Details of the soil and fill material to be imported onto the land.
- Details of the types of soils to ensure compatibility with the proposed vegetation.
- Details of the selection of species of trees, grasses and other vegetation to be planted on the land with an emphasis on indigenous plant species.
- Details of how the development will manage and enhance native vegetation of the land, including an assessment of how the plan addresses:
  - “Victoria’s Native Vegetation Management – A Framework for Action” and the achievement of net gain outcomes as defined in the framework.
  - The native vegetation strategy on any relevant catchment management strategy.
- Details of how the development will address waterway management, including the protection of flooding and enhancement of water quality including treatments required during flooding events.
- Details of how the development will address sediment control, salinity, nutrient control and pollution control.
- Details of annual fish monitoring in the Barham River and Anderson Creek.
- Measures taken to identify and treat Acid Sulfate Soils.
- Details of pest plant and animal control.

## **2. Flood and Inundation Management Plan**

The Flood and Inundation Management Plan must be approved by the Corangamite Catchment Management Authority and the Responsible Authority and must address the following matters:

- How water quality systems will be capable of recovery after flood events.
- Measures to ensure flood protection with a 600mm freeboard to dwelling floor levels for new residential development. The Lindsey property is to be protected from flood waters with a suitable bund which has a 600mm freeboard.
- How the development will maintain the free passage and temporary storage of flood waters, will minimise flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.
- A continuation of the natural cycle of estuarine wetting and drying.
- How the development will function when the estuary is inundated.
- The affects of the development on environmental values such as natural habitat, stream stability, erosion, water quality and sites of scientific significance.
- The potential flood risk to life, health and safety associated with the development.

## **3. Cultural Heritage Management Plan**

The Cultural Heritage Management Plan must be approved by the Responsible Authority and must provide for the following:

- The identification, protection and management of Aboriginal cultural heritage values.
- The identification, protection and management of post contact cultural heritage values.

- A report from a suitably qualified archaeologist demonstrating that the impacts of proposed development on Aboriginal cultural heritage have been addressed, including subsurface testing and appropriate mitigation in Precinct 3.
- A report from a suitably qualified archaeologist demonstrating that the impacts of proposed development on post contact cultural heritage have been addressed.
- Representatives of the local Aboriginal communities be involved in making recommendations about the management of sites of Aboriginal cultural significance.
- The views of Aboriginal Affairs Victoria and Heritage Victoria as appropriate.

#### **4. Golf Course and Open Space Management Plan**

The Golf Course and Open Space Management Plan must be approved by the Department of Sustainability and Environment and the Responsible Authority and must provide for the following:

- Measures for the protection and enhancement of indigenous vegetation.
- Measures for the eradication of environmental weed species, particularly adjacent to waterways.
- The selection of grass and other drought tolerant plant species appropriate to the locality.
- Methods of controlling untreated runoff into nearby waterways.
- The storage and use of pesticides, fungicides and fertilisers.

#### **5. Landscape Management Plan**

The Landscape Management Plan must be approved by the Responsible Authority and must address the following matters:

- The establishment of landscaping works as provided for in the Landscape Concept Plan forming part of the Comprehensive Development Plan.
- The maintenance of all landscaped areas in Precincts 1 and 3.
- Details outlining the person or persons responsible for maintaining landscape buffer areas on private land.

#### **6. Infrastructure Management Plan**

The Infrastructure Management Plan must be approved by the Corangamite Catchment Management Authority and the Responsible Authority, must be based on the Land Management Plan, and must address the following matters:

- The proposed source of all water required for each component of the development.
- The location and nature of infrastructure services to be provided.
- Environmentally sustainable design principles for all infrastructure, where appropriate, including the use of treated effluent.
- How the stormwater management system, golf course irrigation system and the sewerage system responds to principles of water sensitive design.
- Details of any reticulated sewerage system.
- Details of any storm water management system.
- How it is proposed to supply potable water to the land.
- The staging and timing of any proposed infrastructure.

#### **7. Urban Design Guidelines**

The Urban Design Guidelines must be approved by the Responsible Authority.

The Urban Design Guidelines apply to Precinct 2 of the Comprehensive Development Plan and must contain and address the following matters:

- The method of establishment, membership and operation of the Great Ocean Green Design Panel for all the land and the mechanisms by which the Panel will be required to approve the design of any building or works proposed on any residential lot where the use of a dwelling is as of right.
- Ecological sustainable design principles to be incorporated into any development.
- Planning and design objectives for each component of the development.
- Specific design criteria for each component of the development.
- Appropriate design criteria which are consistent with the objectives of Clause 54, 55 and 56 of the scheme.
- Mechanisms to achieve vegetation and landscaping outcomes on private land that are consistent with the landscape design objectives of the Land Management Plan and Landscape Management Plan.

The Urban Design Guidelines must be generally in accordance with any design or siting objective contained in the Great Ocean Green Comprehensive Development Plan.

The Urban Design Guidelines may be amended with the approval of the Responsible Authority as required.

### **8. Construction Management Plan**

The Construction Management plan must be approved by the Corangamite Catchment Management Authority, the Department of Sustainability and Environment and the Responsible Authority and must address the following matters:

- How all works will be carried out in accordance with EPA Publication No. 272 "Construction Techniques for Sediment Pollution Control" and EPA Publication No. 480 "Guidelines for Major Construction sites in Victoria".
- The methods by which the construction of buildings and works carried out on the land will comply with the requirements of the *Heritage Act* 1995 (Vic), the *Aboriginal Heritage Act* 2006 (Vic) and the Cultural Heritage Management Plan approved under this schedule, in particular the procedures to be followed for the identification and preservation of any archaeological material discovered during construction.
- The truck routes to be used for the importing of fill and for other construction activities.
- The proposed methods of dust control during construction.
- Noise abatement to the EPA requirements during the construction phase.
- A protocol for the identification and treatment of Acid Sulfate Soils (ASS) if exposed during construction or pre-construction works.
- Any other matters required by the Responsible Authority.

The truck routes to be used for the importing of fill must be to the satisfaction of VicRoads.

### **Exemption from notice and review**

An application for buildings and works located within Precinct 1 and 2 and generally in accordance with the Great Ocean Green Comprehensive Development Plan is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

### **Decision Guidelines**

Before deciding on an application, the Responsible Authority must consider, as appropriate:

- The Great Ocean Green Comprehensive Development Plan
- Any plan prepared under Clause 4.0 for the site..
- Any design guidelines approved by the Responsible Authority.



- Where relevant, the views of the Department of Sustainability and Environment and the Corangamite Catchment Management Authority.
- The effect of the development on the natural environment and character of the area.
- The extent to which the proposal improves or maintains the environmental values of the area.
- The availability of and connection to services.
- How the design responds to the site topography through the layout of roads, living spaces and open space.
- The impact of cut and fill on the natural environment.

## 5.0 Section 173 Agreement

Prior to the granting of any planning permit, an agreement under Section 173 of the Act must be entered into to provide for:

- The availability of a potable water supply and reticulated power supply prior to the commencement of any buildings and works.
- Details of the timing and construction standards to be undertaken in establishing the golf course including that:
  - Prior to a Statement of Compliance being issued for any residential lot, the first nine holes of the golf course and clubhouse must be constructed or bank guarantee of \$4.75 million be held by the Responsible Authority. The bank guarantee will be returned upon the completion of the construction of the first nine holes and clubhouse.
  - Prior to a Statement of Compliance being issued for the 250th or greater lot the remaining nine holes of the golf course must be constructed or a bank guarantee of \$2.45 million be held by the Responsible Authority. The bank guarantee will be returned upon the completion of the construction of the second nine holes.
- Provision for the construction and continuous maintenance of open space to a suitable standard satisfactory to the Responsible Authority.
- A requirement for each residential lot created through the development to include a covenant that requires each subsequent land owner to contribute toward the ongoing cost of open space maintenance.
- The timing and transfer of open space associated with the development to Council including a provision that development of the open space be undertaken at a rate of 1000 square metres per residential lot until all the open space is constructed.
- An annual fish survey be conducted to determine the present status of the Australian Grayling and to determine the nature of any management measures that may be needed as a result of the survey.
- A requirement that the owner of the land must establish the Great Ocean Green Design Panel. The agreement must describe the method by which any residential development in Precinct 2 will be assessed, to the satisfaction of the Responsible Authority by:
  - The owner of land preparing plans to an appropriate standard in accordance with the approved urban design guidelines; and
  - The submission for approval of these plans to the Great Ocean Green Design Panel.
- The establishment of legal strategies to create entities responsible for the ongoing maintenance and management of the golf course, waterways and landscape on public land to the satisfaction of the Responsible Authority. The object of any legal strategy is to create legally enforceable obligations on the entity responsible for the particular matter and may include an agreement under Section 173 of the Act and the creation of unlimited bodies corporate.

Prior to a statement of compliance being issued to create a residential lot, an agreement under Section 173 of the Act must be entered into to provide for:

- Any contribution through monetary contribution, construction or provision of land for roads, drainage or physical infrastructure as reasonably required by the Responsible Authority. This may include the provision of pedestrian access between the land and the Great Ocean Road as well as pedestrian access within the areas zoned Public Park and Recreation, adjoining the land.

## 6.0

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### ***Advertising signs***

Advertising signs requirements are at Clause 52.05.

Category 4 applies to Precinct 1

Category 3 applies to Precincts 2 and 3

## Appendix 2: Draft ESO

### SCHEDULE 6 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

Shown on the planning scheme map as **ESO6**.

#### **GREAT OCEAN GREEN – ACID SULFATE SOILS**

##### 1.0

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##### **Statement of environmental significance**

Acid Sulfate Soils are defined as *'a soil or soil horizon which contains sulphides or an acid soil horizon affected by oxidation of sulphides'*. The oxidation of sulphides in the presence of moisture generates sulphuric acid which may lower the pH of receiving waters, increasing levels of metals in the receiving waters (particularly iron and aluminium) and strip the natural neutralising capacity of from the receiving waters. Heavy metals mobilised in an acidic environment can become toxic to aquatic life. The quantity of sulphides required to constitute a hazard depends on the nature of the soil properties and sensitivity of the receiving environment.

Actual Acid Sulfate Soils (AASS) are soils that have undergone some degree of oxidation, resulting in the release of sulphuric acid. Potential Acid Sulfate Soils (PASS) are soils that have not yet been oxidised but still present a potential environmental hazard if disturbed or managed incorrectly.

The Great Ocean Green site is located on the flood plain of the Barham River and an intertidal area located behind the beach area of Mounts Bay. The general elevation of area is between 1.9m to 5.5m AHD, rising to a maximum of 12.2 AHD in the north-western corner of the Site. The level of the majority of the site is below the 5m AHD threshold level, which is associated, or may have the potential to have developed AASS and PASS.

The Barham River has been identified as a river of ecological significance, providing habitat for a number of protected freshwater fish, such as the Australian Grayling. Recent restoration programs along the Barham River have concentrated on restoring the Barham River estuary habitat for native fish such as estuary perch and for Australian water birds such as Cormorants and Herons.

Acidic leachate formed from Acid Sulfate Soils can also pose a risk to underground services and facilities such as reticulated water, sewer and drainage mains and in ground swimming pools. Infrastructure comprised of concrete and paving materials are particularly susceptible to acidic corrosion that can reduce the integrity and lifespan of associated structures.

##### 2.0

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##### **Environmental objective to be achieved**

- To encourage development that is responsive to the physical characteristics and constraints of the land.
- To identify land that is subject to risks associated with the presence of Acid Sulfate Soils.
- To prevent detrimental impacts on the Barham River and nearby groundwater caused by the lowering of pH levels resulting from exposure to sulphuric acid.
- To prevent detrimental impacts to the environment through careful development planning and site specific management procedures.

- To avoid the disturbance of Acid Sulfate Soils wherever possible.
- To ensure Best Practice Environmental Management techniques that minimise short and long term environmental impacts caused by the disturbance of Acid Sulfate Soils are implemented.
- To ensure Best Practice Environmental Management techniques and strategies in the neutralisation of Acid Sulfate Soils are implemented.

### 3.0

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#### Permit requirement

A permit is not required to construct a building, or construct or carry out works that, either:

- Are to be carried out in accordance with an Acid Sulfate Soils Management Plan prepared by a suitably qualified Environmental Scientist to the satisfaction of the Responsible Authority, generally in accordance with the Great Ocean Green Comprehensive Development Plan February 2007.
- Meet the following requirements:
  - Are only above finished ground level, or
  - Require less than 0.6 metres of excavation below finished ground level on a residential pod within Precinct 2 as defined in schedule ## of the Comprehensive Development Zone, or
  - Require less than 0.5 metres of excavation below finished ground level in any other location.

A permit is not required to subdivide land.

A permit is not required to remove, destroy or lop any vegetation.

### 4.0

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#### Decision guidelines

Before deciding on an application, the Responsible Authority must consider as appropriate:

- The effect, if any, on the environmental values of the area.
- An Acid Sulfate Soil Management Report from a suitably qualified Environmental Scientist that addresses the suitability of the site for the proposed development and any measures required to ensure the neutralisation of Acid Sulfate Soils.



**Colac Otway**  
S H I R E

*‘Naturally Progressive’*

**COLAC OTWAY PLANNING SCHEME**

**PROPOSED AMENDMENT C29**

**Great Ocean Green, Apollo Bay**

**Consideration of Panel Report &**

**Officer Assessment**

**October 2007**

(updated April 2008)

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## Introduction

The purpose of this report is to:

- Form the basis of Council's consideration of the Panel report as required by section 27(1) of the *Planning and Environment act 1987*
- Provide a critical review of each section of the Panel report
- Provide a critical review of each conclusion and recommendation contained in the Panel report
- Identify concerns raised by Council in submission to the Panel hearing and review whether these concerns have been addressed by the Panel and if not, any implications.
- Conclude by providing advice to Council as to any additional information and / or modifications to the proposed planning provisions required before making a decision about the amendment; or if no additional information is required, provide a recommendation to adopt, adopt with changes or abandon the amendment.

## Chapter 1: Summary

The list of community and environmental benefits is accurate. These are indeed community and environmental benefits that would be delivered by the proposal.

More detailed comment on environmental impacts of the development and on the development is provided later in this report.

More detailed comment on whether planning ought to proceed to the next detailed level is provided later in this report.

More detailed comment on whether a secure source of potable water is required before the rezoning proceeds is provided later in this report.

The summary states that the proposal is supported by local and state planning policy and there are no policy reasons for not proceeding with the amendment. This is discussed in more detail in the section of this report that discusses Chapter 5.

## Chapter 2: Introduction

This chapter is an accurate description of the proposal, the Panel and hearings and inspections that occurred.

## Chapter 3: What is proposed

This chapter is an accurate description of what is proposed



## **Chapter 4: What are the issues**

This chapter accurately identifies the issues raised in submissions and discussed at the Panel hearing.

This chapter also discusses the approach of the Panel, including reference to net community benefit and the precautionary principle.

The approach of the Panel in considering whether the proposal would have a net community benefit to Apollo Bay is supported, as is the approach of determining whether a range of environmental risks can be properly managed. Whether environmental risks can be properly managed is one of the most significant issues in considering whether this amendment should be adopted or not.

Although the Panel's definition of the precautionary principle is a little confusing, it essentially states that lack of scientific certainty is no reason to postpone implementing measures to protect the environment or protect a development from risks posed by the environment. In this regard, the proposal identifies and attempts to quantify (eg flood levels) risks to and from the environment and implements precautionary measures to ameliorate these risks – eg 600mm freeboard to the 1 in 100 year flood level.

This approach differs from the view of some submitters who claimed that if there is any uncertainty about environmental impacts on the development, the only possible precaution to ameliorate such risks is no development. If this view were supported, then there could be no development in coastal locations in Apollo Bay due to climate change and due to the risk of earthquakes in the Otways (submitted by 1 submitter) then all new buildings should be constructed to withstand earthquakes.

The Panel report provides a discussion of the application of the precautionary principle including reference to VCAT decisions. The Panels view as to the application of the precautionary principle is supported and backed up by VCAT. The key issue for consideration is whether the precautionary measures proposed to ameliorate risk actually reduce risk to acceptable levels, which the Panel essentially conclude has occurred.

This chapter also identifies that the site is clearly degraded, not a pristine 'natural' floodplain. The Panel notes that restoration has not occurred to date and there is no commitment for restoration to occur moving forward in the absence of the proposed development. The proposal represents a significant environmental benefit over the current situation. This view is supported.

## **Chapter 5: Is there strategic justification for the Amendment?**

This chapter deals with the broad policy and planning process issues related to the proposal.

## Section 5.1: Policy support

This section looks at two issues:

1. Whether the growth of Apollo Bay beyond its current boundaries is supported in local and state policy; and
2. Whether the C29 site is a strategically identified area.

### Section 5.1.1: Growth of Apollo Bay

Council's position on the growth of Apollo Bay, submitted to the June 2006 hearing stated:

*The broad strategic direction from the Great Ocean Road Region Strategy is that the State government expects Apollo Bay to grow outside of its current boundaries. This expectation is clearly dependant upon structure planning occurring for Apollo Bay. The draft Apollo Bay Structure Plan identifies that development between Apollo Bay and Marengo that respects landscape character, maintains the 'green break' between the town and does not include residential development south of the Barham River may be appropriate, depending on environmental impacts.*

In terms of the first issue, this section of the Panel report correctly concludes that the growth of Apollo Bay beyond its current boundaries is supported in local and state policy, with references limited to consideration of the Coastal Spaces report and GORRS.

The Draft 'Coastal Settlement Framework: Spatial Growth Management' within the Coastal Spaces report identifies Apollo Bay/Marengo as having:

*Moderate growth capacity: Some potential beyond existing urban zoned land or through infill but within defined settlement boundaries, in accordance with Strategic Planning undertaken for the particular settlement.*

The critical issue that flows from an implementation of the Coastal Spaces recommendations is that development should be directed to strategically identified areas.

#### Panel conclusions

**The policy framework invites a consideration of growth of Apollo Bay – there is no overriding policy prohibition on the expansion of the town.**

This conclusion is supported. It is clear through State policy (GORRS and Coastal Spaces) and local policy (MSS) that there is an expectation that Apollo Bay will grow beyond its current boundaries, to strategically identified areas.

**Development may well change the character of Apollo Bay but this change in character is supported by the planning policies that identify Apollo Bay for growth.**

This conclusion is supported and there are clear policy directives in the SPPF and Apollo Bay Structure Plan that require protection of landscape character and green breaks between Apollo Bay and Marengo which the proposal responds to.

## Section 5.1.2: Fit with structure plan

In terms of the second issue, this section identifies that development needs to be in accordance with strategically identified areas. Following detailed discussion of the structure plan map proposed by C29 and the draft Planisphere structure plan (2006), the Panel concludes that the development of the land for recreational purposes and housing is supported by the strategic planning work undertaken for Apollo Bay.

It is important to note that the Panel has considered the draft Apollo Bay Structure Plan (2006) in reaching its conclusions. Council resolved at its ordinary meeting held on 24 May 2006 to forward the Apollo Bay Structure Plan and recommended changes report to the Panel for consideration. The final structure plan, adopted by Council in April 2007 was not forwarded to the Panel and hence did not influence the Panel's conclusions, although it is similar in terms of supporting an expansion of Apollo Bay.

As stated in section 5.1.1, there is clear state and local policy support for Apollo Bay to expand beyond its current boundaries, to strategically identified areas. In considering whether this site is a strategically identified area, it is necessary to consider the state planning policy framework and strategic planning work undertaken for Apollo Bay.

Clause 15.08 of the SPPF (Coastal areas) is the most relevant section of state policy for this amendment. This clause was modified in October 2006 to give effect to the land use and development strategies of the *Victorian Coastal Strategy 2002*. Relevant parts of this clause state that:

Planning for coastal areas should:

- Identify a clear settlement boundary around coastal settlements to ensure that growth in coastal areas is planned and coastal values protected. Where no settlement boundary is identified, the extent of a settlement is defined by the extent of existing urban zoned land and any land identified on a plan in the planning scheme for future urban settlement.
- Direct residential and other urban development and infrastructure within defined settlement boundaries of existing settlements that are capable of accommodating growth.
- Identify and avoid development in areas susceptible to flooding (both river and coastal inundation), landslip, erosion, coastal acid sulfate soils, wildfire or geotechnical risk
- Avoid development within the primary sand dunes and in low lying coastal areas.
- Avoid disturbance of coastal acid sulfate soils.

More detailed parts of this clause relate specifically to the Great Ocean Road Region and state that:

Planning for the Great Ocean Road Region should:

- Protect the landscape and environment by:
  - Ensuring development responds to the identified landscape character of the area.
  - Managing the impact of development on catchments and coastal areas.
  - Managing the impact of the development on the environmental and cultural values of the area.

- Manage the growth of towns by:
  - Directing urban growth to strategically identified areas.

In considering state policy, there appears to be an internal conflict. Firstly, the overarching state policy is that Apollo Bay is expected to grow beyond its current boundaries, to strategically identified areas. Yet detailed policy says linear sprawl along the coastal edge should be avoided, areas between settlements should be preserved for non-urban use, visually significant landscapes should be protected, avoid development in areas susceptible to flooding and coastal acid sulfate soils, avoid development in low lying coastal areas and avoid disturbance of coastal acid sulfate soils. These policy objectives translated to the local Apollo Bay context essentially state that development to the north (linear sprawl, area between settlements), west (visually significant landscape) and south (area between settlement, low lying coastal area, flooding and coastal acid sulfate soils) of Apollo Bay should be avoided, yet over arching state policy is that Apollo Bay is expected to grow beyond its current boundaries – into these areas.

To thoroughly reconcile the various state policy objectives and determine whether the C29 site can be considered a strategically identified area for growth to occur, the Panel has considered the technical issues behind each policy – eg response to flooding, ability to protect the green break with landscaping and the ability to avoid and / or manage acid sulfate soils. By concluding that the development has addressed and responded to the technical issues behind the policy objectives (see detailed discussion in other sections of this report) and giving consideration to the strategic planning work undertaken for Apollo Bay (draft Apollo Bay Structure Plan) it follows that the Panel has concluded that the proposal is both consistent with state policy and a strategically identified area.

The Panel has acknowledged that:

*It is appropriate to look to the draft Apollo Bay structure plan for some overall guidance on the growth and development of Apollo Bay, given the amount of strategic planning work it entails. In this regard the draft structure plan indicates that some form of development is appropriate on the land.*

*We recognise that we are dealing with a structure plan that has not been formally approved and does not form part of the planning scheme. This means that the draft structure plan cannot simply be accepted at face value and we need to be sure that the recommendations and proposals in the structure plan are well founded in terms of existing policy.*

Given this statement of the Panel and the fact that the Panel is of the opinion that the proposal is supported by existing policy, it is clear that the Panel's opinion is that the recommendations of the structure plan are well founded in terms of existing policy. The Panel's assessment of C29 is not based solely on the recommendations of the draft structure plan but is based on the provisions of state policy and supporting documents such as GORRS and Coastal Spaces.

Furthermore, the Panel has also identified that the environmental improvements to the Barham estuary that will flow from the proposal clearly implement other state policy, specifically:

*The SPPF provides an unambiguous policy context for seeking to environmentally remediate the site, including the following key objectives:*

*To assist the protection and, where possible, restoration of catchments, waterways, water bodies, groundwater, and the marine environment. Clause 15.01 (Protection of catchments, waterways and groundwater),*

*In coastal areas, to protect and enhance the natural ecosystems and landscapes of the coastal and marine environment, ensure sustainable use of natural coastal resources and achieve development that provides an environmental, social and economic benefit enhancing the community's value of the coast. Clause 15.08 (Coastal areas), and*

*To assist the protection and conservation of biodiversity, including native vegetation retention and provision of habitats for native plants and animals and control of pest plants and animals. Clause 15.09 (Conservation of native flora and fauna).*

### **Panel conclusion**

**The development of the land for recreational purposes and housing is supported by the strategic planning work undertaken for Apollo Bay.**

Agreed. The draft and final Apollo Bay Structure Plan identifies the land as suitable for residential, recreational and open space development. This is consistent with state policy that identifies an expectation that Apollo Bay will grow beyond its current boundaries into strategically identified areas and also responds to the localised application of state policy that guides the identification of where the most appropriate location is.

### **Panel recommendation**

**The revised amendment include a revised structure plan for Apollo Bay.**

Agreed. If the amendment is adopted it will be necessary to update the exhibited plan with a plan that aligns with Council's adopted structure plan (for the subject land only).

## **Section 5.2: Golf Course relocation**

Council's position on this matter, submitted to the June 2006 hearing stated:

*It is likely that the cost of acquiring a site and constructing a new golf course and necessary facilities is such that it is unlikely to be achievable in the absence of significant return from the development site such as, in this case, from the sale of residential lots. This is an important issue as it also relates to the objective of relocating the current Apollo Bay Golf Course at Pt Bunbury to create public open space at that site. Relocation is consistent with a number of state and local policies, including the Victorian Coastal Strategy and Coastal Action Plans.*

There has been no dispute at the Panel hearing that the Apollo Bay golf course needs to relocate. Indeed many objectors to C29 have stated they do not object to the golf course being located on the C29 site. The Apollo Bay Golf Club does own land at the site for the purpose of building an 18 hole golf course. The amendment C29 is not required for the new course to be built, however the Panel (and Council's endorsed submission to the June 2006 Panel hearing) have noted that the objective of relocating

the golf course from its current site cannot be achieved without financing it through an associated development. Indeed the same can be said for much of the open space development (revegetation and walking trails).

### **Panel conclusions**

**There is broad community benefit in relocating the Golf Course from Point Bunbury.**

Agreed. Furthermore it clearly contributes towards implementing a number of state policy objectives by facilitating the relocation of a non-foreshore dependant use to a non-foreshore location.

**The current zoning of the existing course would maintain its use as public open space. The use of Point Bunbury will be subject to a separate decision process, and the consideration of any purported community benefit from the reuse of Point Bunbury needs to be weighted by this fact.**

Agreed.

## **Section 5.3: Planning process**

### **Section 5.3.1: Need for EES**

Council's position on this matter, submitted to the June 2006 hearing stated:

*The Minister of Planning is responsible for the Environmental Effects Act 1978 and an Environmental Effects Statement (EES) may be required by the Minister. In correspondence dated 24 January 2003 (Attachment 2), the Minister for Planning advised the Urban Property Corporation that an EES was not required as the potential environmental impacts of the project are not of a magnitude or significance that would necessitate an EES. The Minister also advised that key environmental impacts of the project can be adequately documented and assessed through the planning scheme amendment process under the Planning and Environment Act 1987.*

*The absence of an EES is a concern raised in 144 submissions. While an EES has not been required, any environmental effects that would normally be considered in an EES are considered by Council, the Panel and the Minister for Planning as part of the planning scheme amendment process.*

The Minister for Planning considered the proposed development and determined an EES was not required. The Panel and Council have no ability to reverse this decision.

The Panel report states that in practical terms, the Panel is satisfied that the potential environmental impacts associated with the proposal have been identified and considered.

### **Panel conclusion**

**The potential environmental impacts associated with the proposal have been identified and considered.**

Agreed. The fact that an EES was not required has not reduced the robustness of the assessment of environmental effects related to this proposal. Further detailed comment on specific environmental issues is provided later in this report.

## **Section 5.3.2: Conflict of interest and lack of representation**

The Panel have stated this issue is beyond the scope of the Panel. The Councillor in question has clearly declared his interest at every stage this development has come before Council.

### **Panel conclusion**

**The Amendment process has followed the requirements of the *Planning and Environment Act, 1987*.**

Agreed.

## **Chapter 6: Is development feasible?**

### **Section 6.1: Market demand and timing of development**

Council's position on this matter, submitted to the June 2006 hearing stated:

*.... given the State and local policy direction of directing urban growth to Apollo Bay and the relocation of the existing golf course, it is considered appropriate that a land supply sufficient to accommodate a greater than 10 year projected population growth is appropriate.*

The Panel has identified that the critical issue is that Planning authorities should plan to accommodate for growth over at least a 10 year period. Expert evidence was presented by Council (Matt Ainsaar, Urban Enterprises) that existing supply (as at April 2006) was 12.5 years.

The Panel accepted the evidence of Mr Ainsaar that:

*Action will need to be taken in the near future to ensure an adequate supply of residential land is maintained into the future given the time involved in obtaining approval for rezoning of land.*

The Apollo Bay Structure Plan, adopted by Council in April 2007, in response to the need to accommodate growth for at least a 10 year period included a strategy to:

*Limit any further extension of the current residential boundaries of Apollo Bay within the coastal settlement boundary until there is a recognised need for additional greenfield land, in terms of demand and declining land availability, affordability and opportunities for medium and high density infill development.*

The growth scenarios 2 and 3 in the Apollo Bay Structure Plan recommend, in relation to the C29 land:

*Extend coastal settlement boundary following a 50% take up of area 2 (C17 – Mariners Vue site).*

To ensure that any residential subdivision on the C29 site is staged in accordance with this growth scenario of the Apollo Bay Structure Plan, it will be necessary to include in the schedule to the Comprehensive Development Zone a decision guideline relating to the Growth Scenarios in Apollo Bay. This will require the applicant to demonstrate that the staging of C29 is consistent with the Apollo Bay Structure Plan, or provide an

explanation as to why it is not but why it should be approved out of sequence – eg benefits relating to golf course construction.

## **Panel conclusion**

**The rezoning of land is appropriate to ensure that an adequate supply of residential land is maintained.**

Agreed, subject to the schedule to the Comprehensive Development Zone being amended to ensure that any residential subdivision on the C29 site is considered within the context of the growth scenarios of the Apollo Bay Structure Plan. Specifically insert an additional decision guideline into clause 3 of the schedule to the CDZ that “*Whether the staging of the proposed subdivision is consistent with the residential growth scenarios envisaged by the Apollo Bay Structure Plan.*”

## **Section 6.2: Water**

### **Section 6.2.1: Potable water supply**

Council’s position on this matter, submitted to the June 2006 hearing stated:

*The water supply for Apollo Bay urgently requires augmentation to cater for both existing and projected development of the township. Given the recent failure of amendment C31 to provide additional water supply infrastructure to Apollo Bay, it is unclear how Barwon Water propose to meet existing and future water supply needs. This is a major issue that may preclude the identification of additional residential land in the short term. Council expects Barwon Water will clarify this issue in their presentation to the Panel Hearing.*

The Panel report states that:

*It would be contrary to orderly and proper planning to develop this site without adequate water supply, but this is not a likely outcome given the checks and balances of the Victorian planning system.*

*The critical issue for us to determine is, at what stage should the development proposed by the Amendment be stopped pending resolution of water supply issues.*

*Apollo Bay has been identified as a growth node and it is expected that the town will grow. Providing water to the town presents difficulties but these do not appear to be insurmountable. We think that there is merit in continuing to consider the Amendment on the proviso that final approval might be delayed pending resolution of the water supply issues.*

The Apollo Bay Structure Plan, adopted by Council in April 2007, in response to lack of certainty regarding water storage availability and location, identified several growth scenarios to cater for outcomes in relation to water supply. A strategy in the adopted structure plan in relation to capacity of existing infrastructure is:

*In consultation with Barwon Water, ensure that an adequate water supply capacity is available prior to the consideration or approval of rezoning applications for further expansion of urban areas within the identified coastal settlement boundary.*



The schedule to the Comprehensive Development Zone requires that each lot must be provided with a potable water supply and that prior to the granting of a planning permit, a Section 173 agreement must be entered into requiring that a potable water supply must be available prior to the commencement of any buildings and works.

## **Panel conclusion**

### **Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until water supply issues are resolved.**

Agreed, however the schedule to the CDZ does not appear to adequately make this clear. This conclusion is understood to mean that a permit for subdivision to create residential lots should not be granted until water supply issues are resolved. The Panel Chairman, Lester Townsend, verbally confirmed this understanding. This needs to be articulated clearly in clause 3 (Subdivision) of the schedule to the CDZ as a decision guideline. The use of a 173 agreement in the manner articulated in section 5 of the schedule to the CDZ is supported as this ensures that buildings and works cannot commence until a potable water supply is available.

To implement the conclusion that “*Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until water supply issues are resolved*”, a sentence should be added to clause 3 (Subdivision) of the schedule to the CDZ that states: “*No subdivision creating residential lots shall occur until a reticulated potable water supply capable of servicing the lots is fully investigated and resolved to the satisfaction of the Responsible Authority and the Barwon Region Water Corporation.*”

## **Section 6.2.2: Location of the new potable supply**

The Panel has identified that there is a need to find a suitable location for the new water storage required for Apollo Bay. The previous section, potable water supply, clearly indicates that water supply is an issue for this development.

The Panel has stated that:

*“There will need to be a public process to test whether the site identified by Barwon Water is indeed the only or best site possible when all factors are considered. There may also need to be discussions on whether an alternative design is required so that the water storage could fit better with the use of the balance of the land. It is not our role to determine any of these matters.”*

The Panel has also stated that if the water storage is ultimately constructed on the C29 land, the development proposal will require substantial revision, but also that if it is constructed elsewhere, there is no impediment to judging the current proposal on its merits.

## **Panel conclusion**

### **Consideration of the Amendment should continue with the expectation that a further separate process will determine the appropriate location for an expanded water storage in Apollo Bay.**

Agreed. The planning provisions discussed in the previous section (6.2.1) and the recommended changes provide the necessary checks and balances to ensure that development does not proceed until a potable water supply is available, effectively

stating that there is little or no development potential of the land until a potable water supply becomes available. The most suitable location for a water storage facility will be determined through a further separate process.

## **Section 6.3: Flooding and Inundation**

The following reports were submitted by the applicant addressing hydrology, flooding and water quality:

- Great Ocean Green Golf Course Hydrological and Water Quality Considerations, WBM Oceanics Australia, 2003.
- Great Ocean Green Water Cycle Management Options, WBM Oceanics Australia, 2003.
- Great Ocean Green – Additional Information Request Flooding and Water Quality, WBM Oceanics Australia, 2005.

The following expert witness reports have also been prepared:

- Great Ocean Green Apollo Bay Hydrogeological Assessment, John Leonard Consulting Services, 2006.
- Great Ocean Green Hydrologic and Water Quality Considerations Supplementary Report, WBM Engineering and Environmental Consultants, 2006.
- Great Ocean Green Hydraulic and Hydrologic Considerations. Expert Witness Statement response to September 2006 Directions Hearing. WBM February 2007.

At the reconvened hearing the CCMA presented:

- Barham River Flood Study (Report number FPM-2007-1 Date: 5 April 2007).

The flood modelling was re-run based on this report.

The Panel has distinguished between flooding of the land (caused by storm events) and inundation caused by the closure of the river mouth when water flow is low. The Panel has also referenced seven reports submitted at various stages of the amendment process that address hydrology, flooding and water quality.

### **Section 6.3.1: Flood modelling and use of the flood plain**

The issue identified by the Panel is that a number of submissions were opposed to the development on the basis that it was within the flood plain.

Council's position on this matter, submitted to the June 2006 hearing stated:

*Pending the presentation of the CCMA regarding submissions and flood modelling, and consideration by the CCMA and Panel whether an adequate allowance for impacts due to climate change has been built into flood modelling, Council requests the advice of the CCMA and Panel as to whether the flood modelling undertaken for the proposal provides a reasonable estimate of flooding impacts of and on the proposed development and whether Council has taken all reasonable steps to avoid legal liability and exercised its obligations in a responsible manner.*

In terms of the flood model boundary conditions and rising sea level, Council's position on this matter, submitted to the June 2006 hearing stated:

*This can be considered a conservative estimate (except for sea level rise), assuming the tide is at an extreme level for 24 hours, extreme low pressure system has developed, a storm event is occurring and sea levels have risen by 0.2m. The parameter that could be questioned is sea level rise. The 2002 CSIRO report estimates that sea level will rise between 7 to 55cm by 2070. The allowance made for sea level rise by the proponent was based on work undertaken in 1996. It may be more prudent to undertake an assessment against the worst case scenario, being 55cm. This would add an additional 35cm height to the flood modelling and would increase the total ocean water design level to 2.45m.*

Furthermore, following the release of the IPCC Forth Assessment Report – Summary for Policy Makers (February 2007), Council officers further reviewed sea level rise predictions (and accompanying impacts such as increases in storm surge) and sought the advice of Dr Benjamin Preston of the CSIRO in relation to appropriate allowance for sea level rise. Dr Preston's summary suggested that a 1 metre allowance for sea level rise may be a more robust estimate for the largest number of potential futures, however, if the proposed development is only to be protected for a 50 year period, a 50cm sea level rise allowance would be sufficiently conservative.

This information was passed on to the Corangamite Catchment Management Authority (CCMA) with the request that they consider the advice when preparing their submission to the April 2007 Panel hearing.

This demonstrates that climate change, while only recently given significant media coverage, has been at the fore front of Colac Otway Shire Council's consideration of this proposal.

Expert evidence has been presented to the Panel in the form of flood models. The CCMA also presented a calibrated flood model to the Panel hearing, in their role as the responsible authority for floodplain management. The Panel has stated that:

*“It was clear from submissions that a number of submitters did not understand or did not accept the results of the flood modelling. Concern was also expressed about the impacts of debris in the flood waters, including trees and the like and silt on the flood model.”*

It is important to note that the fact that the river flats flood on a regular basis was common ground, shared by the proponent and objectors. It was not disputed that the flood plain floods. As identified by the Panel:

*“The photographs, video and anecdotal evidence tendered by submitters generally accords with the results of the flood modelling.”*

The Panel has been satisfied, by expert evidence, that:

*“... the flood modelling provides sufficient data at this stage to determine the broad effects of flooding and hence whether development of the scale proposed is appropriate in this flood plain from a flood management point of view.”*

The Panel concluded that:

*“Flood modelling is an established science that uses sophisticated computer analysis to predict the height, duration and flow velocity of flood events. We are satisfied that the modelling has been carried out in accordance with established practices – the critical issues are the inputs used in the model, and what the model predicts will be the off-site impacts.”*

## **Panel conclusion**

**The flood modelling presented by the proponent is the appropriate method to assess impacts of the development.**

Agreed.

## **Section 6.3.2: Inputs to the flood model**

Council’s position on this matter, submitted to the June 2006 hearing stated:

*Given increased intensity of rainfall events is likely to occur, or at least is a prediction that must be factored into responsible decision making by local and state government, it is considered reasonable to allow for this influence in preparing flood models and specifically in determining the 100 year design flow.*

and

*The allowance made for sea level rise by the proponent was based on work undertaken in 1996. It may be more prudent to undertake an assessment against the worst case scenario, being 55cm.*

As stated previously, Council sought the advice of Dr Benjamin Preston on an appropriate allowance for sea level rise. This was passed on to the CCMA and considered by the Panel.

In terms of rainfall data, CCMA reviewed previous 100 year flow estimates and prepared a calibrated model of the catchment with rainfall and river flow data from storm events. As a result of calibrations, the CCMA have requested modelling be undertaken with an input flow of 250 cubic metres per second. The Panel has stated:

*We are satisfied that the calibrated model approach is the best practice approach to determining likely stream flows. We note that while it has identified a larger flow compared to earlier studies this larger flow has not resulted in proportionately higher flood levels.*

It is important to note that the revised flood model, increasing input flow from 200 to 250 cubic metres per second (25% increase) only resulted in a 2 – 4cm increase in flood levels.

In terms of sea boundary conditions, including sea level rise and storm surge (which has been allowed for in the flood model), the Panel has stated:

*There is no doubt that sea levels will rise as a result of global warming, but the extent of this rise will depend in part on the community’s response to halting greenhouse gas emissions. For different assumed CO<sub>2</sub> concentrations in the atmosphere, sea level changes are still only estimates derived from climate*

*modelling. We accept that the CCMA's use of 80 cm is a reasonable and prudent estimate.*

*A critical issue in understanding the flooding regime of the site is that the river flats are separated from the ocean by the Great Ocean Road and that restrictions at the bridge on the Great Ocean Road determine flood levels across the site. In this respect the flood levels across the site are not particularly sensitive to the sea boundary conditions.*

In terms of what constitutes a 1 in 100 year event, the Panel has stated:

*It seems to us that the Catchment Management Authority is the correct body to make these judgements. Our role is to determine in a broad sense whether development on this flood plain is acceptable.*

The Panel has concluded that:

*Even with the higher rainfall estimate and higher sea boundary condition the development remains feasible from a flood protection perspective. A prudent approach to climate change has been adopted by locating housing 600 mm above the 1 in 100 year flood event – an additional 300 mm on the typical requirement. The outcome of more stringent assumptions about sea level rises and a calibrated catchment model have not meant that more fill is required because of the relatively steep hydraulic gradient across the site. We are satisfied that the development can protect the new housing development from flooding.*

#### **Panel conclusion:**

#### **The flood model inputs determined by the Corangamite Catchment Management Authority should form the basis of flood modelling for the development.**

Agreed. On balance, the evidence presented at the hearing has led to this conclusion. Council has expressed concern in relation to the parameters used for sea level rise and rainfall estimates. These concerns have been addressed and responded to by raising the allowance for sea level rise and rainfall.

#### **The development can provide adequate protection against flooding.**

Agreed. Council's initial submission to the June 2006 Panel hearing stated:

*Pending the presentation of the CCMA regarding submissions and flood modelling, and consideration by the CCMA and Panel whether an adequate allowance for impacts due to climate change has been built into flood modelling, Council requests the advice of the CCMA and Panel as to whether the flood modelling undertaken for the proposal provides a reasonable estimate of flooding impacts of and on the proposed development and whether Council has taken all reasonable steps to avoid legal liability and exercised its obligations in a responsible manner.*

The CCMA and Panel have clearly advised that the flood modelling undertaken for the proposal provides a reasonable estimate of flooding impacts of and on the proposed development. The Panel has been unable to advise specifically on whether Council has discharged its duties in a responsible manner, however previous advice from Council's insurers, Civic Mutual Plus, was:

*If in hindsight, in the event that a loss did occur, it was proven that all precautions were taken, all professional advice and opinions were sought and*

*acted on, all calculations and computations were taken into account, and therefore believed flooding would not occur, then CMP's Liability Policy would respond to protect Council, subject to the policy terms and conditions.*

Clearly Council has endeavoured to seek and act on all professional advice and opinions, has put forward to the Panel and CCMA concerns regarding flood model inputs which have resulted in revised flood model “calculations and computations” to the point where the Panel and CCMA are of the opinion that the development can provide adequate protection against flooding. There has clearly been no “contributory negligence” on behalf of the Panel, CCMA or Council.

Furthermore, in March 2008 the proponent rerun the flood model allowing for a sea level rise of 1.4m, increased from 0.8m. This model was provided to the CCMA who assessed the results and concluded that:

*‘The analysis confirms that the design levels of the residential pods proposed by the Great Ocean Green developer can with stand a sea level rise of at least 1.4m over the next 100 years assuming that the Great Ocean Road and bridge is maintained in its current form over this period.’*

### **Section 6.3.3: Impact of flood on adjoining properties and landscape**

This section of the Panel report considered based on the flood model, changes in the flood regime caused by the development and impacts on adjoining properties and the landscape in terms of flood depth and velocity.

The Panel has identified that in a 1 in 100 year flood event, all the flat land in the recreation reserve is flooded with a flood depth of 97cm. The development will add an additional 8cm of depth to the existing flood level in the 1 in 100 year event. There will be some increase in flood depth with more frequent floods, but the Panel identified that those parts of the reserve that host semi- permanent caravans currently flood in a 1 in 10 year event and this would not change dramatically if the development proceeds.

The Panel has stated that:

*We are satisfied that the proposal can be constructed with minimal additional impact on adjoining property owners, but recognise that this proposition will need to be retested following any changes to the layout of the proposal. We believe that it is appropriate that development achieve the outcomes set out in the Land Subject to Inundation Overlay.*

*There is a range of issues that need to be addressed in terms of the ongoing management of the area to respond to flooding issues and a management plan that addresses flooding issues will be prepared. The management plan will also address inundation which is discussed in the next section.*

#### **Panel conclusion:**

**The revised amendment documentation contains appropriate mechanisms to manage flood issues.**

Agreed. Importantly, the amendment documentation requires preparation of a flood and inundation management plan to address specific issues at the time of considering a planning permit application.

## Section 6.3.4: Inundation

At times of low water flow the river mouth closes over and the estuary inundates. The key issue identified by Council in relation to this issue was the potential ecological impacts of altering the inundation regime.

The following ecological studies have been undertaken:

- *Proposed Barham Valley Development Apollo Bay: Flora and Fauna Existing Conditions*, Ecology Australia, 2001.
- *Great Ocean Green Matter of National Environmental Significance*, Brett Lane and Associates, 2002.
- *Great Ocean Green Aquatic Fauna Study of the Barham River and Anderson Creek, Apollo Bay*, Streamline Research, 2005
- *Great Ocean Green Flora and Fauna Report*, Brett Lane and Associates, 2006
- *Great Ocean Green Supplementary Report (2) on Revegetation*, Brett Land and Associates, 2007.

In May 2005 Council requested a comprehensive assessment of aquatic fauna be undertaken after review of the Brett Lane and Associates 2002 report revealed that it had not considered all available previous studies and a field assessment of the Barham River estuary had not been undertaken. It was considered that there was a poor understanding of the biota of the Barham River.

Streamline Research Pty Ltd completed an assessment of aquatic fauna in late May 2005 which comprised a three day field study and literature review. This report and Council assessment identified that seasonal inundation of the low lying areas of the Barham River may be an important mechanism in the recruitment success of species including estuary perch and black bream. The flooding of estuary backwaters is expected to provide habitat and food for larval fish and offer protection for small fish to avoid predatory fish in the main estuary channel.

The report concludes that aquatic fauna will be protected by adopting appropriate mitigation measures under the EMP for the proposed development. The information presented by the applicant indicates that there is significant aquatic fauna in the Barham River which may be impacted if low lying areas of the floodplain that are regularly inundated are lost.

This issue was the subject of extensive discussion at the April 2007 Panel hearing with cross examination of the expert witness (Mr Lane) by submitters and submissions made to the Panel. It has been explored thoroughly.

DSE submitted that the natural wetting and drying cycle should be maintained.

The Panel has identified that the seasonal inundation of the low lying areas of the Barham River is an important mechanism in the ecology of the site. Some areas of land that are currently inundated will be filled for housing – this is not a fatal flaw in the proposal provided it is balanced with an improvement in the habitat of areas that will continue to be inundated.

**Panel conclusion:**

**The development will allow for the continuation of the natural cycle of estuarine wetting and drying.**

Agreed. The development will reduce the total area subject to inundation, but importantly there will be significant areas where the natural cycle of estuarine wetting and drying will continue. The flood and inundation management plan, required by the Schedule to the Comprehensive Development Zone to be prepared to the satisfaction of Council at the time of a planning permit application specifies that the plan must address continuation of the natural cycle of estuarine wetting and drying. The issues of concern raised by Council in relation to this issue have been addressed.

**The reduction in the extent of estuarine inundation is acceptable considering the improvement to the habitat values of the land that will be inundated.**

Agreed. The area subject to inundation will be reduced, however areas that will continue to be inundated will come into public ownership and their habitat value substantially improved. On balance, this is a positive impact on the ecology of inundated areas. The issues of concern raised by Council in relation to this issue have been addressed.

**The development can function when the estuary is inundated.**

Agreed. The need to artificially open the estuary is minimised by planning the development so that recreation trails and the golf course are minimally affected by inundation events, however, while the caravan park remains in an area subject to this inundation there will always be pressure to open the river mouth. The flood and inundation management plan, required by the Schedule to the Comprehensive Development Zone to be prepared to the satisfaction of Council at the time of a planning permit application specifies that the plan must address how the development will function when the estuary is inundated. The issues of concern raised by Council in relation to this issue have been addressed.

## **Section 6.4: Acid sulfate soils**

The following report was submitted by the applicant addressing Acid Sulfate Soils (ASS):

- Preliminary Acid Sulphate Soils Assessment, Proposed Great Ocean Green Development, Apollo Bay, Victoria, Environmental Resources Management Australia, 2005.

The following expert witness report has also been prepared:

- Acid Sulfate Soil Management Plan, Proposed Great Ocean Green Development, Apollo Bay, Victoria. Environmental Resources Management Australia, 2006.

Council's position on this matter, submitted to the June 2006 hearing stated:

*The severity of potential / actual acid sulfate soils at the site, including the extent of coverage and depth of occurrence, and the potential failure of treatment strategies is concerning.*

and that



*risks associated with acid sulfate soils was an outstanding environmental issue for the Panel to consider.*

## **Section 6.4.1: Environmental impact of ASS**

Evidence presented by the proponent indicated that potential or actual acid sulfate soils occur across a significant portion of the site, and particularly on the western side below 0.5 metres.

The Panel has identified that avoiding disturbing ASS does not mean avoiding development altogether but rather designing development so that ASS is not disturbed. The design and layout of the proposal has been substantially modified to avoid the disturbance of Acid Sulfate Soils, and ornamental lakes proposed as part of the original proposal have been deleted.

Expert evidence has demonstrated that ASS on the site can be avoided or managed. The schedule to the Comprehensive Development Zone requires preparation of a Land Management Plan to the satisfaction of Council that includes *measures taken to identify and treat acid sulfate soils*.

### **Panel conclusions:**

**The presence of Acid Sulfate Soils does not prevent development of the site, though it poses a significant constraint on proposed earthworks and services installation.**

Agreed.

**The proposed earthworks in the revised plan respond to the probable location of Acid Sulfate Soils.**

Agreed. Significant changes have been made to the proposal to avoid, where possible, disturbance of potential acid sulfate soils.

**The revised amendment contains appropriate mechanisms to manage Acid Sulfate Soils.**

Agreed. Expert evidence has demonstrated management of acid sulfate soils is possible and the planning provisions have been drafted to ensure this is addressed to Council's satisfaction at the planning permit stage. Expert evidence and the planning provisions have allayed concerns about the severity of acid sulfate soils and this is no longer considered an outstanding environmental issue.

### **Panel recommendation:**

**The revised Comprehensive Development Plan be further amended so that:**

- **The opportunities and constraints map identify or refer to Acid Sulfate Soils.**

Agreed.

## **Section 6.4.2: Potential impact on infrastructure**

The Panel has identified that ASS have the potential to corrode infrastructure and in-ground structures such as water tanks or swimming pools. This issue is not applicable to infrastructure installed as part of the subdivision, as the Land Management Plan will address ASS and ensure there is no impact on infrastructure. This issue applies to

development that will not require a planning permit, such as future swimming pools etc.

The issue is that if excavation occurs and exposes PASS turning them into AASS, corrosion may occur.

The revised amendment documentation includes a draft schedule to the Environmental Significance Overlay to manage this issue. This will require a planning permit for future buildings and works where excavation below a certain depth is proposed.

**Panel conclusion:**

**The revised amendment documentation include:**

- **An ESO to manage the impact of acid sulfate soils on infrastructure.**

Agreed.

## **Section 6.5: Site Capability and Geotechnical Issues**

The following reports were submitted by the applicant addressing site capability and geotechnical issues:

- Preliminary Site Capability Assessment Barham Valley Project Apollo Bay, Victoria, Golder Associates, 2002.
- Geotechnical Assessment of Aspects of the Proposed Barham Valley Recreational Development, Apollo Bay, Black Geotechnical on behalf of Environmental Resources Management, July 2003.
- Proposed Golf Course and Residential Development Barham Valley Apollo Bay Preliminary Geotechnical Investigation, Black Geotechnical, July 2004.

In addition to these reports, Colac Otway Shire Council engaged GHD to review geotechnical aspects of the proposed development, including a review of the Golder Associates and Black Geotechnical reports.

- Barham Valley Project, Apollo Bay Review of Geotechnical Issues, GHD (Tony Miner), May 2004.
- Great Ocean Green, Barham River Road, Apollo Bay, Review of Black Geotechnical Pty Ltd Preliminary Geotechnical Report, GHD (Tony Miner), August 2004.

Council's submission to the Panel hearing on this issue relied on the reports prepared for Council by GHD which raised a number of issues to be resolved prior to the determination of the rezoning. Furthermore, Council's response to submissions on the cut and fill and flood velocity maps, submitted to the Panel on 28 May 2007 again drew the Panel's attention to these issues and requested that the Panel look closely at these issues to determine whether they have been resolved and provide advice to Council.

Council's submission to the June 2006 Panel hearing also identified that outstanding environmental issues for the Panel to consider were:

*Geotechnical issues and the ability of the site to accommodate the proposed development given the amount of fill required and the risks associated with placing water and sewer infrastructure in potentially unstable, shifting soil.*

In considering the Panel report and making a decision about the amendment, it is necessary for Council to consider the advice of GHD regarding matters that must be resolved prior to determining the rezoning and then considering whether these matters have been resolved or not.

The August 2004 GHD report identified that the following geotechnical issues remained outstanding:

1. Surface drainage
2. Maximum flood heights
3. Nature and extent of flooding
4. Dunal stability
5. Potential wave erosion
6. River scour issues

Issues related to maximum flood height, nature and extent of flooding, surface drainage and river scour issues have been addressed and resolved as part of the Panel process. The schedule to the comprehensive development zone contains requirements for the preparation of specific plans (eg land management plan, flood and inundation management plan) that will address these issues in more detail at the planning permit application stage.

The issue of dunal stability is associated with the issue of coastal recession which is discussed in section 6.7 of the Panel report.

**Panel conclusion:**

**There are no significant geotechnical impediments that preclude the development from proceeding to the next phase of the planning process.**

Agreed. Outstanding issues to be resolved have either been resolved through the Panel process or the requirement to be addressed in management plans as part of the planning permit application process, to the satisfaction of Council.

**Panel recommendation:**

**The requirements for the Land Management Plan include:**

- **details of how the fill for the residential pods will be engineered to ensure that the maximum settlement with time does not exceed 5 cm.**

Agreed. As presented in expert evidence, 100 – 300mm of settlement is expected during compaction of the fill in the subdivision construction phase. The maximum settlement with time refers to settlement after the initial 100-300mm, after construction of dwellings. This requirement enables anyone preparing the engineering specifications to make provision for maximum settlement not exceeding 5cm. With knowledge that maximum settlement will not exceed 5cm, this standard can be provided to those preparing designs for dwellings which will enable them to accommodate a maximum settlement not exceeding 5cm.

Appropriate changes must be made to the comprehensive development plan and design guidelines specifying that each dwelling requires engineer designed footings / slab and infrastructure services should be designed to ensure long term structural integrity in compressible soils.

- **requirements that a trial fill site be established at early design stage to demonstrate that maximum settlement rates will not be exceeded.**

Agreed.

## **Section 6.6: Importing fill**

Council's submission to the June 2006 Panel hearing identified that outstanding environmental issues for the Panel to consider were:

*Geotechnical issues and the ability of the site to accommodate the proposed development given the amount of fill required and the risks associated with placing water and sewer infrastructure in potentially unstable, shifting soil.*

Many submitters expressed concern that the amount of imported fill, and the adverse impacts associated with bringing that fill to the site, means that the proposal should be rejected.

The cut and fill maps presented at the Panel hearing show that 70 % of fill will be obtained on site and that over 270,000 cubic metres of fill will need to be imported onto the site. The Panel has identified that:

*It will be important that the importation of fill is properly managed in terms of the route trucks use to access the site (haul routes) and the timing of any deliveries. These are matters that can be addressed in a construction management plan.*

The Panel believes that:

*Prior to the commencement of construction, and when the source and extent of the imported fill requirements are known, the proponent should undertake, in conjunction with the Council and VicRoads, an evaluation of the locations and conditions of the 'haul' roads, together with the potential traffic impacts.*

*We do not think that the adverse impacts associated with the importation of fill to the site are so great that the proposal needs to be redesigned to reduce the amount of imported fill. We note that this importation will occur over many years.*

*The revised documentation addresses this issue in the Construction Management Plan. We think, however, VicRoads should have input into determining the haul routes for fill.*

### **Panel conclusion:**

**The proposal has appropriate mechanisms to manage the importation of fill.**

Agreed.

### **Panel recommendation:**

**Haul routes for fill be to the satisfaction of VicRoads.**

Agreed, however it has been identified that it will also be necessary for the planning provisions to cover any necessary maintenance, management or upgrading of the existing local road network in response to importing fill and other construction activities.

## **Section 6.7: Coastal recession**

Council's position on this matter, submitted to the June 2006 hearing and based on the August 2004 GHD report commissioned by Council stated that the determination of the long-term stability of the dunes at the foreshore is an issue that must be resolved prior to determining the rezoning and identified an outstanding environmental issue for the Panel to consider being the impact of climate change and associated effects on the proposed development. Coastal recession falls within the broad purview of "*climate change and associated effects on the proposed development*".

The Panel has identified that concern was raised about the potential for coastal recession to impact on the development. There were two elements to this concern, firstly the risk posed by erosion that is currently occurring and secondly the risk posed by coastal recession associated with rising sea level.

In terms of the first risk, erosion currently occurring, the Panel identified that the erosion appears to be the result of poor coastal management practices and was discussed in the *Apollo Bay Sand Study*. This study identified the main cause of the erosion at Mounts Bay was:

*... the stone that has previously been placed on the beach (to protect a toilet block, which no longer exists) needs to be removed because it is a catalyst for erosion on both the northern and southern side of the stone.*

The Apollo Bay and Kennett River Public Reserves Committee of Management dispute this interpretation, but regardless of which interpretation is correct, the stone referred to has been removed and the Apollo Bay Sand Study indicates erosion at Mounts bay is cyclical.

In relation to the second risk, the effect of rising sea levels on coastal recession, the Panel was not presented with any evidence or analysis of the effect of rising sea levels on coastal recession in this area. The Panel stated that it was disappointed that the Western Coastal Board did not call any evidence on this issue.

The Panel expressed its opinion that there are too many assumptions (beyond the reasonable assumptions of sea level rise) that have to be adopted to reject the proposal on the grounds of the potential impacts of coastal recession. Furthermore, the Panel states that the content of the Western Coastal Board's submission and a subsequent letter confuses the theory behind coastal recession to the point where the credibility of the Board is undermined.

As stated previously, the GHD report of August 2004 commissioned by Council advised that the determination of the long-term stability of the dunes at the foreshore was an issue that must be resolved prior to determining the rezoning. This issue can be resolved in one of two ways.

Firstly if coastal recession is unlikely to occur as a result of geomorphologic processes then the fore dune would be considered stable and this issue would be resolved. The Panel has correctly concluded that no evidence was presented that indicated coastal recession would occur because of coastal processes and there was too much uncertainty to refuse the application based on such an assumption. However this does not resolve whether coastal recession is likely to occur or not.

Secondly, if it can be determined that the fore dune can be managed to ensure its stability, this issue would be resolved. The most comprehensive body of work on the issue of coastal erosion in Mounts Bay is the *Apollo Bay Sand Study* (2005). This study was prepared for Colac Otway Shire, the Department of Sustainability and Environment and the Apollo Bay – Kennett River Public Reserves Committee of Management, all of whom were represented on the project steering committee.

This study looked at the mechanics behind sand transport and coastal erosion in Mounts Bay. There are several conclusions of the study in relation to managing erosion.

The preferred management approach identified in the report to maintain the beach and dune in Mounts Bay is to back-pass sand from the Point Bunbury groyne to Mounts Bay beaches to build the beach up and maintain it. The report considers this an economically viable method of management in the short to medium term that would ensure the stability of the dune.

The report also identified a range of hard engineering approaches that could be implemented but concluded that:

*At this stage these options with rock structures are not recommended. They are not necessary for the present day sea levels and the extent of erosion occurring. They may need to be considered when sea level rise eventuates to the extent that the beach cannot be managed by recycling sand – suggested to be of the order of 50 years away.*

*If sea level rise occurs as predicted, there may be a need in the future (> 50 years) to revisit this option in order to protect The Great Ocean Road.*

Therefore this report, which was forwarded to the Panel and available to other parties to the hearing is a clear indicator that the impact of sea level rise and associated storm events on the stability of the Mounts Bay beach and dune has been at the fore front of Council's consideration for several years prior to recent media and community focus on climate change. The report is the only body of evidence that has looked at coastal erosion processes, stability of the fore dune, factored in sea level rise and associated storm events and identified soft engineering management responses that will protect the fore dune for the next 50 years and hard engineering solutions that will protect the fore dune and Great Ocean Road alignment beyond the 50 year period.

**Panel conclusion:**

**The proposal will not increase coastal recession and is not directly exposed to immediate threats from coastal recession.**

Agreed. It is clear that the proposal will not increase coastal recession. In terms of the impact of coastal recession on the development, the *Apollo Bay Sand Study* indicates

that with beach nourishment and factoring in sea level rise and associated storm events the fore dune can be protected for at least the next 50 years and beyond this there are hard engineering solutions that will protect the fore dune and Great Ocean Road alignment beyond the 50 year period. In terms of the August 2004 GHD report that stated that the determination of the long-term stability of the dunes at the foreshore is an issue that must be resolved prior to determining the rezoning, this issue is considered to have been resolved.

## **Section 6.8: Other environmental risks**

### **Section 6.8.1: Storm tides**

The issue discussed is the potential for storm tides to wash into the estuary and to flood parts of it and the concern expressed in some submissions that the effect of climate change and storm tides might ultimately be that the primary dune protecting the estuary (and supporting the Great Ocean Road) would be washed away.

This issue relating to storm tide / storm surge eroding the shoreline and washing away the primary dune has been discussed and resolved in the previous section – 6.7: Coastal recession.

#### **Panel conclusion:**

**The risks associated with severe changes to land form from storm tides are not sufficient reason to reject the development.**

Disagree – in part – but the issue has been resolved. As demonstrated in section 6.7: Coastal recession, the Apollo Bay sand study identifies that there are soft engineering solutions (beach nourishment) to protect the beach and dune for the next 50 years and hard engineering solutions to protect the beach and dune after that. These protection measures have factored in sea level rise and storm surge. Therefore the conclusion is not that the risks are not sufficient to reject the development, the conclusion is that management responses have been identified to ensure severe change to land form from storm tide is unlikely to be a risk to the development.

### **Section 6.8.2: Insurance**

Concern was expressed that the development could expose Council to a range of liabilities.

In the lead up to the June 2006 Panel hearing, direct enquiries were made to Council's Insurers in relation to possible liability on Council if housing development was flooded in the future and/or if the development was the cause of flooding to the surrounding area. The response from the insurers has previously been provided to Councillors and in summary suggests that Council addresses the matter as though it had no insurance and asks *"provided all was done, that could be done to prevent flooding would Council back their own decision to allow the Amendment, and be personally responsible for all damages/loss, assuming there was no insurance."* If, in the event that a loss did occur and it was proven that all precautions were taken, all professional advice and opinions were sought and acted on, all calculations and computations were taken into account, and therefore believed flooding would not occur, then Council's Insurers would respond to protect Council, subject to the policy

terms and conditions. The Insurers strongly advised that Council should refer the matter to its legal advisers to assist in the decision making whether to proceed,

The letter was referred to Council's Solicitor for comment who advised:

*“To the extent that submissions on the amendment raise matters relevant to flooding which have not demonstrably been considered by WBM Oceanics Pty Ltd and Corangamite Catchment Management Authority the Council, acting prudently, should refer those matters back to WBM Oceanics Pty Ltd through the proponent, and directly to the Corangamite Catchment Management Authority seeking comment on the additional material raised by the submissions.”*

Council's position on this matter, submitted to the June 2006 Panel hearing stated:

*Pending the presentation of the CCMA regarding submissions and flood modelling, and consideration by the CCMA and Panel whether an adequate allowance for impacts due to climate change has been built into flood modelling, Council requests the advice of the CCMA and Panel as to whether the flood modelling undertaken for the proposal provides a reasonable estimate of flooding impacts of and on the proposed development and whether Council has taken all reasonable steps to avoid legal liability and exercised its obligations in a responsible manner.*

The detailed response to flooding and inundation is discussed in section 6.3 with a range of conclusion that flooding has been addressed adequately and development can provide adequate protection against flooding.

### **Panel conclusion:**

**The proposal does not raise issues of public risk that are not, or cannot be, adequately addressed.**

Agreed. Clearly Council has endeavoured to seek and act on all professional advice and opinions, has put forward to the Panel and CCMA concerns regarding flood model inputs which have resulted in revised flood model “calculations and computations” to the point where the Panel and CCMA are of the opinion that the development can provide adequate protection against flooding. There has clearly been no “contributory negligence” on behalf of the Panel, CCMA or Council.

Council has obtained legal advice and advice directly from our insurers and when combined with the peer assessment of the Panel report and officer assessment, additional comment from Council's legal advisor and final review by Council's insurer this indicates all steps have been taken to ensure that the consideration of this amendment has been undertaken in a responsible manner.

### **6.8.3: Wildfire Risk**

The following report was submitted by the applicant addressing wildfire risk:

- Wildfire Risk Assessment and Overview of Fire Protection Requirements for Great Ocean Green Development Apollo Bay, Community Safety Services Pty Ltd, 2002

Council's position on this matter, submitted to the June 2006 Panel hearing stated:



*Given that the land is predominantly open grassland wildfire is not expected to pose an unacceptable risk to the proposed development.*

*It is expected that wildfire risk can be appropriately managed by ensuring the following:*

- *Dwellings to be constructed according to requirements for the construction of buildings in designated bush-fire prone areas (this is in light of future revegetation planned for the site)*
- *Residential development Nodes will utilise fairways and the Barham River to prevent entry or spread of wildfire.*
- *New roads serving the residential nodes will meet the requirements of Planning Conditions and Guidelines for Subdivisions, CFA, 1991.*
- *Residential nodes will be reticulated with fire hydrants with water for fire fighting also available from the Barham River.*
- *Education resources in relation to preparing for and dealing with wildfire will be made available to residents.*

The Panel is of the opinion that:

*The development will be pronominally urban in nature and we do not think that it will be a higher fire risk than other areas in Apollo Bay. Fire management considerations are part of normal subdivision procedures.*

**Panel conclusion:**

**Development will not face an above average wildfire risk.**

Agreed.

## **Section 6.9: Power**

It was submitted that Apollo Bay suffers from ‘brown outs’ and power failure.

The Panel is of the opinion that:

*Apollo Bay has been identified as a growth node and it is expected that the town will continue to grow. Improving the capacity (and security) of the power supply will need to be addressed to support that growth. While interruptions to power supplies are clearly a concern for a number of local residents there is no evidence that this presents an insurmountable problem.*

**Panel conclusion:**

**Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until power can be supplied.**

Agreed. The schedule to the Comprehensive Development Zone provides for this.

## **Chapter 7: Environmental Impacts**

A significant body of work has been prepared addressing environmental impacts. The Panel report has distilled the contents of the numerous reports prepared, expert evidence and the submissions presented into a succinct summary of the issues and ultimate conclusions and recommendations of the Panel. The fact that the Panel report devotes 8 pages to Chapter 7: Environmental Impacts is not an indication that the

Panel has treated this subject lightly. The majority of the Panel report, including Chapters 5, 6, 8 and 9 contains significant discussion and conclusions in relation to environmental issues. A Panel report is not a regurgitation of previous reports and expert statements but is effectively an assessment of such reports and submissions to arrive at a recommendation that is put to Council.

## Section 7.1: Flora and Fauna

The following reports were submitted by the applicant addressing flora and fauna:

- Proposed Barham Valley Development Apollo Bay: Flora and Fauna Existing Conditions, Ecology Australia, 2001.
- Great Ocean Green Matter of National Environmental Significance, Brett Lane and Associates, 2002.
- Great Ocean Green Aquatic Fauna Study of the Barham River and Anderson Creek, Apollo Bay, Streamline Research, 2005.

The following expert witness reports were also submitted:

- Great Ocean Green Flora and Fauna Report, Brett Lane and Associates, 2006.
- Great Ocean Green Supplementary Report (2) on Revegetation, Brett Lane and Associates, 2007.
- Great Ocean Green Apollo Bay Hydrogeological Assessment, John Leonard Consulting Services, 2006.

The Panel identifies that:

*The evidence and submissions all highlight the significant extent to which the site is currently degraded. In our view this is unlikely to be addressed under the current ownership and land use regime. In this context we believe that appropriate development can provide an opportunity and a mechanism to restore and enhance the flora and fauna values of the site. It would be advantageous to begin protection works of sensitive environmental areas as part of the first phase of development.*

*The SPPF provides an unambiguous policy context for seeking to environmentally remediate the site.*

*The issue for us is the extent to which the proposal achieves an adequate balance between development, and the protection and restoration of flora and fauna values. In our view, the exhibited concept failed to achieve or document an appropriate balance and needed revision. In forming this view, we had regard to the background material and expert evidence that identified the need for further investigations, proposed changes to the concept, or recommended the application of various standards or conditions.*

The Panel report states:

*We also note the numerous submissions on these matters including Council's observation in its closing submission that the potential impacts on aquatic fauna have not been adequately assessed. DSE also indicated that it supported the recommendations of the Great Ocean Green Aquatic Fauna Study of the Barham River and Anderson Creek, Apollo Bay.*

This statement was taken from the September 2006 Directions Report and refers to Council's closing statement at the June 2006 Panel hearing. Since that time, the Panel has directed that changes to the proposal occur to resolve issues related to impact on aquatic fauna including a 50 metre setback from the Barham River and the Schedule to the CDZ requiring a Flood and Inundation Plan that must address "*A continuation of the natural cycle of estuarine wetting and drying*". While the area of natural inundation is to be reduced, the environmental improvements to such a degraded site will more than balance this out to have a net positive impact on aquatic fauna.

**Panel conclusions:**

**The revised proposal will have a positive impact on flora and fauna.**

Agreed.

**The revised documentation provides for fish surveys and water quality monitoring.**

Agreed.

## **Section 7.2: Stormwater Quality**

The following report was submitted by the applicant addressing water reuse options:

- Barham Valley Estate Project, Report on Water Reuse and Alternative Energy Options, Apollo Bay's Best Opportunity for a Green Environment, Water Recycle Group Pty Ltd, 2002.

The following expert witness reports were also prepared:

- Great Ocean Green – Apollo Bay Expert Witness Report Water Cycle Management and Wetland System. Coomes Consulting Group 2006.
- Great Ocean Green – Apollo Bay Expert Witness Report Water Cycle Management and Wetland System. Coomes Consulting Group 2007

The impact of stormwater runoff on the estuary has been identified as an issue, as it is for any urban development (in terms of storm water management).

The Panel has identified that the use of Water Sensitive Urban Design (WSUD) techniques is now well established and they do not see any particular difficulty in incorporating these techniques into the proposed development.

The Schedule to the Comprehensive Development Zone requires the Land Management Plan to address:

- Details of how the development will address waterway management, including the protection of flooding and enhancement of water quality including treatments required during flooding events.
- Details of how the development will address sediment control, salinity, nutrient control and pollution control.

**Panel Conclusion:**

**The proposal includes appropriate measure to protect stormwater quality.**

Agreed.

## Section 7.3: Anderson Creek

The Panel has identified that it is evident that Anderson Creek received little, if any, regard in the development of the original concept – it is in a significantly degraded condition and warrants remedial action. As discussed in relation to the Barham River, the SPPF provides an unambiguous policy context for restoring waterways and providing habitat for flora and fauna.

The Panel, in its September 2006 Directions Report directed that the Comprehensive Development Plan provide:

- reinstatement of the course and function of Anderson Creek.
- a 10 metre vegetated buffer on either side of Anderson Creek.
- revegetation using appropriate pre-1750 EVCs.

The revised Comprehensive Development Plan provides for each of these points and will effectively lead to the transformation of an agricultural drain into a rehabilitated, natural creek.

### **Panel conclusion:**

**The revised Comprehensive Development Plan provides for the reinstatement of Anderson Creek.**

Agreed.

## Section 7.4: Water reuse

The following report was submitted by the applicant addressing water reuse options:

- Barham Valley Estate Project, Report on Water Reuse and Alternative Energy Options, Apollo Bay's Best Opportunity for a Green Environment, Water Recycle Group Pty Ltd, 2002.

The following expert witness report was also prepared:

- Great Ocean Green – Apollo Bay Expert Witness Report Water Cycle Management and Wetland System. Coomes Consulting Group 2006.

Council's position on this matter, submitted to the June 2006 Panel hearing stated:

*The reports provide a comprehensive assessment of available technologies for water reuse and alternative energy options.*

*There are significant opportunities to implement a sustainable environmental water and energy system for a development of this scale. By using a combination of renewable energy and reuse of existing resources provides the potential for the development to achieve a high environment standard in these areas.*

The State Planning Policy Framework states:

### *18.09-2 General implementation*

*The re-use of wastewater including urban run-off, treated sewage effluent and run-off from irrigated farmland should be encouraged where appropriate, consistent with the Guidelines for Wastewater Re-use (EPA 1996).*

The Panel has identified that treated effluent will be used for watering the golf course and for certain uses within dwellings and that the reuse of treated effluent is a positive feature of the project.

**Panel conclusion:**

**The reuse of treated effluent is a positive feature of the development.**

Agreed.

## Chapter 8: Planning Issues

### Section 8.1: Open space

The exhibited documentation did not specify the precise areas that would be available for public open space after the development is completed, although the documentation lodged with the rezoning request does, even though it is at a small scale and was almost impossible to read.

Following directions from the Panel, the proponent provided detailed information as to areas of public open space pre and post development.

There are currently two public open space areas within the development site:

- The municipal reserve in the south west corner of the site (Heathfield Reserve), currently zoned Public Park and Recreation Zone, and
- Land between the Barham River and the Barham River Road, currently zoned Public Conservation and Recreation Zone.

The proposal will take over the Heathfield Reserve and in exchange will provide other public open space. The area of Public Conservation and Recreation Zone between the road and the river will remain in that zoning, but will be revegetated by the proponent.

The Apollo Bay Pony Club submitted that the existing Heathfield Reserve had been earmarked for Pony Club use.

Council's position on this matter, submitted to the June 2006 Panel hearing stated:

*Review of this correspondence indicates that at no stage did Council commit to providing new pony club grounds on the subject land, but rather advised the Pony Club that Council will inform the club when Council calls for a Committee of management to manage the reserve within the Heathfield Estate (subject land).*

The Panel has identified that the development will result in a substantial increase in open space areas, and that important ecological areas such as the backwash will be brought into public ownership. Over two thirds of the site will be dedicated to public open space or golf course (on which the public will be permitted to play). Once completed the Panel expects that the open space and trail network will become a valued feature of Apollo Bay.

|  | Existing    |                                    | Proposed     |                                    |
|--|-------------|------------------------------------|--------------|------------------------------------|
|  | ha          | As a percentage of total site area | ha           | As a percentage of total site area |
| Public open space                              |             |                                    |              |                                    |
| POS Reserve                                    | 11.9        | 7.0%                               | 6            | 3.5%                               |
| Riparian strip along Barham River (Crown land) | 8.8         | 5.2%                               | 8.8          | 5.2%                               |
|  |             |                                    | 11           | 6.5%                               |
| Backwater                                      | 0           |                                    | 16.8         | 9.9%                               |
| Western open space                             | 0           |                                    | 11.5         | 6.8%                               |
| Northern including wetland                     | 0           |                                    | 5.2          | 3.1%                               |
| Total open space                               | 20.7        | 12.2%                              | 59.3         | 34.9%                              |
| Golf course                                    | 0           | 0.0%                               | 56.1         | 33.0%                              |
| <b>Total</b>                                   | <b>20.7</b> | <b>12.2%</b>                       | <b>115.4</b> | <b>67.9%</b>                       |

In terms of the Pony Club, the Panel is of the opinion that:

*it is clear from the correspondence presented in submissions that there was a clear expectation that the Pony Club would relocate to part of the subject land.*

The Panel is also of the opinion that:

*In an ideal world the current proposal would address the needs of the Pony Club, however, the broader community benefits that would accrue from relocating the Pony Club are less than those that flow from the golf club relocation.*

Given the significant amount of public open space that will be made available by the development, there is opportunity to cater for the Apollo Bay Pony Club. The north west corner of the site has a large, contiguous area of public open space that could potentially be landscaped into a suitable venue / terrain for the Pony Club. A pony club falls within the definition of “outdoor recreation” in the planning scheme, which is a prohibited use in the Schedule to the Comprehensive Development Zone as exhibited. To enable the Apollo Bay Pony Club to secure a future site within the public open space area and apply for a planning permit application, it is recommended that the planning provisions be altered to include “outdoor recreation” as a “permit required” use. Note that discussions have been held with the Pony Club and applicant regarding this matter. Neither party objects to this recommendation.

**Panel conclusion:**

**The proposed development provides improved open space facilities for Apollo Bay.**

Agreed.

## Section 8.2: Commercial development (Precinct 3)

Precinct 3 is located in the south east of the subject site and has been identified as the location for the proposed club house and resort. The characteristics of the site and the nature of the proposed uses raise a number of issues that potentially affect its suitability for the proposed activities.

A number of submissions raised issues associated with the development of this area and proposed, for example, that detailed plans should have been prepared for the site to confirm that all of the proposed uses and associated car parking can be accommodated.

It has always been proposed that the detailed planning for this component of the development be subject to a future planning permit application. The Panel has advised that they have to be satisfied that the various elements of the concept are achievable before they support the Amendment.

The Panel has identified that:

*At this stage we are satisfied that some form of development of the nature proposed can be fitted on the site in a way that is not obviously inappropriate. The proponent has determined that they wish to resolve the detailed planning aspects of this site by way of a planning permit. Consideration of such an application will determine the ultimate intensity and form of development that is appropriate.*

### **Panel conclusion:**

**Precinct 3 is broadly suitable for the proposed activities, but the form and extent of activities will need to be subject to a planning permit.**

Agreed. The planning provisions give certainty to the developer and the community that commercial development on this site (Precinct 3) is appropriate, however a planning permit application will be required to determine the exact form and nature of development. There are no notice or review exemptions for development in this precinct so any planning permit application would be advertised and could be commented on by members of the community. This is an appropriate way to manage development of this site.

## Section 8.3: Great Ocean Road

It was submitted that there is a need for a possible relocation of the Great Ocean Road between Marengo and Apollo Bay.

The Western Coastal Board raised in its submission to the hearing the concern that the Apollo Bay Structure Plan does not address the Great Ocean Road Regional Strategy (GORRS) recommendation to investigate an alternative route for the Great Ocean Road (where it is located on a narrow strip of unstable sand dunes) and that the proposed Amendment if approved may preclude the consideration of the most appropriate alternative routes. This was also outlined by the Apollo Bay Kennett River Public Reserves Committee of Management in its presentation.

The Apollo Bay Structure Plan and the Apollo Bay Sand Study (which the Apollo Bay Kennett River Public Reserves Committee of Management was represented on the project steering committee) have responded to and resolved this issue. The Apollo Bay Structure Plan has concluded that a ring road or bypass to the rear of Apollo Bay is inappropriate but local accessibility needs improvement. The Apollo Bay Sand Study was discussed in detail in Section 6.7 of this report and concluded that that beach nourishment can protect the fore dune for at least the next 50 years and beyond this there are hard engineering solutions that will protect the fore dune and Great Ocean Road alignment beyond the 50 year period.

**Panel conclusion:**

**A decision to proceed with this Amendment should not depend on a resolution of study areas for possible long term alternative alignments for the Great Ocean Road in the Apollo Bay Township.**

Agreed, however the issue of alternative alignments of the Great Ocean Rd has been resolved by the Apollo Bay Structure Plan and the Apollo Bay Sand Study.

## **Section 8.4: Apollo Bay Airfield**

The Panel has identified that in addition to noise related issues, the proximity of the Airfield to the subject site potentially raises issues associated with the height of development.

The material submitted with the revised proposal includes an explicit assessment of the potential issues associated with the proximity of the Airfield to the development.

**Panel conclusions:**

**The proximity to the airport does not prevent the development of Precinct 3.**

Agreed.

**The revised documentation has appropriate mechanisms to address issues associated with the airport.**

Agreed. The schedule to the Comprehensive Development Zone requires that an application for buildings and works that exceeds a height of 9 metres in Precinct 3 of the Great Ocean Green Comprehensive Development Plan must be referred to the Apollo Bay Airport owner for comment.

## **Section 8.5: Heritage**

The following reports were submitted by the applicant:

- An Archaeological Investigation Barham Valley Development Apollo Bay, TerraCulture, April 2002.
- Subsurface Testing at Barham Valley, TerraCulture, July 2002.
- Cultural heritage Assessment: Great Ocean Green, TerraCulture, February 2007

Council's position on this matter, submitted to the June 2006 Panel hearing stated:

*Council acknowledges and accepts the points raised and recommendations of Terra Culture, subject to the agreement of Framlingham Aboriginal Trust.*



The Panel has identified that:

*The examination of the historical archaeology of the site makes it clear that there is no need for any further work at this stage, and a low likelihood that any archaeology will be disturbed. There are some potential issues remaining on Precinct 3, but these can be resolved in the more detailed planning approval for this part of the project.*

The *Aboriginal Heritage Act 2006* and *Aboriginal Heritage Regulations* came into force on 28 May 2007. Both the Act and the regulations introduce a more thorough and transparent regime for the protection of Aboriginal cultural heritage. The development proposed is classed as a high impact activity under this legislation and therefore a Cultural Heritage Management Plan will be required as part of a future planning permit application.

**Panel conclusion:**

**There are no non-Aboriginal cultural heritage issues with the development.**

Agreed.

**A Cultural Heritage Management Plan will be required under the *Aboriginal Heritage Act 2006*, and the investigations to date have not identified any issues that prevent the proposed rezoning.**

Agreed.

## **Section 8.6: Contributions**

The Comprehensive Development Plan and the Schedule to the Comprehensive Development Zone clearly articulate the various contributions of the development, primarily open space and associated infrastructure and golf course related facilities. Section 5 (173 Agreement) of the schedule to the CDZ outlines the legal mechanism that will address this issue.

Having considered this issue, the Panel has concluded the following:

**Panel conclusions:**

**The revised zone provisions document the development contribution arrangements to be achieved under a Section 173 Agreement in an appropriate fashion.**

Agreed, however in relation to the Section 173 Agreement providing for details of the timing and construction standards of the golf course and club house, this is addressed in the Officer Assessment Report Addendum February 2008.

**The notion that new households provide for parking in local shops has no basis in the Victorian planning system.**

Agreed.

## **Section 8.7: Community infrastructure**

Concern was expressed about the capacity or availability of a range of community infrastructure in addition to physical infrastructure issues.

The Panel identified that

- the normal expectation is that community infrastructure is delivered to communities, and that as communities grow extra infrastructure is sometimes required; and
- the current lack of infrastructure cannot be seen as an impediment to growth. No arguments were put to us that the community infrastructure could never be provided.

**Panel conclusion:**

**There are no overwhelming gaps in community infrastructure that mean that the development cannot proceed.**

Agreed.

## Chapter 9: Site layout and development issues

### Section 9.1: Access

#### Section 9.1.1: Vehicular access

The following reports were submitted by the applicant addressing traffic:

- *Apollo Bay Golf Course and Residential Subdivision Development Traffic Impact Report*, Ratio Consultants Pty Ltd, 2004.

Council's position on this matter, submitted to the June 2006 Panel hearing stated:

*Council is satisfied that the amendment adequately addresses the issue of traffic impact.*

Vic Roads provided detailed advice on 26 October 2006, tabled at the April 2007 Panel hearing outlining their detailed design and construction requirements for roads and intersections.

**Panel conclusions:**

**The access and parking provisions for the development are adequate but will need to be reviewed during the detailed design phase.**

Agreed, however it is further recommended that the application requirements of the Schedule to the CDZ be amended to further clarify that upgrades of existing intersections may be required because of the development.

**The revised proposal makes adequate provision for flood free access to lots.**

Agreed.

#### Section 9.1.2: Lot orientation

It was identified during the hearing that the lots in the exhibited proposal 'backed onto' the open space area and golf course. The Panel identified that it is accepted best practice that lots front onto public open space.

The Panel's September 2006 Directions Report directed that the exhibited proposal be revised so that lot orientation was consistent with revised Clause 56 (Res Code) provisions, ensuring lots fronted roads and / or public open space.

**Panel conclusion:**

**The lot orientation in the revised proposal is appropriate.**

Agreed.

### **Section 9.1.3: Trail network**

The Panel report considered the trail network proposed by Amendment C29 and the trail network proposed by the draft Apollo Bay Structure Plan.

The Panel identified that:

*The proposal includes a trail network generally in accordance with the one proposed in the structure plan except:*

- *the proposal includes an additional trail to the west of the site, and*
- *does not include a trail between the Great Ocean Road and the backwash.*

*Inclusion of the trail along the west of the site will add to the recreational opportunities provided by the development.*

*We think that a trail in this location (between the Great Ocean Road and backwash) is likely to have too great an environmental impact and consider that the trail network proposed in the Open Space Pedestrian Plan of the proposal is superior.*

**Panel conclusion:**

**The development will provide an improved public trail network that will be of benefit to the community.**

Agreed.

**There is a need to refine some details of trail location as part of the detailed design process.**

Agreed.

### **Section 9.2: The 'green break'**

The following reports were submitted by the applicant addressing landscape setting, landscape architecture and urban design:

- *The Great Ocean Green Proposed environmental, recreational and residential development Apollo Bay, Victoria, Landscape Architectural and Urban Design Assessment, Chris Dance Land Design Pty Ltd, 2003.*
- *Great Ocean Green Design Guidelines for Dwellings, Tract Consultants, 2003.*

The following expert witness report has also been prepared:

- *Independent Landscape Evidence to the Independent Panel considering AM C29, Landdance Pty Ltd in conjunction with Land Design Partnership Pty Ltd, 2006.*

- *Independent Landscape Evidence: Supplementary Evidence: Landscape / Urban Design - to the Independent Panel considering AM C29, Landdance Pty Ltd in conjunction with Land Design Partnership Pty Ltd, 2007*
- Great Ocean Green Supplementary Report (2) on Revegetation, Brett Lane and Associates, 2007.

At the June 2006 Panel hearing, Council's position was that due to impact on landscape character there be no residential development between the Great Ocean Rd & Barham River and expressed concern that the north eastern residential pod in particular could not be adequately screened.

The Apollo Bay Structure Plan reinforces this however also acknowledges that if residential development is to occur between the Barham River and Great Ocean Road, it be limited to single story to minimise visual impact.

The issues identified by the Panel are:

- the desirability of retaining a green break between Apollo Bay and Marengo, and
- the impacts on views from the Great Ocean Road including proposed height of buildings.

The primary reason that the Apollo Bay Structure Plan recommended no residential development between the Barham River and Great Ocean Rd was to ensure the green break could be adequately maintained and landscaped.

The Panel stated:

*We support the concept of maintaining a 'green break' between Marengo and Apollo Bay as a means of retaining the separate identities of the settlements. This does not preclude development in this area, but it does mean that the location and configuration of development and landscaping should provide a distinct visual experience that emphasises a predominantly natural rather than man made environment between the two settlements. We believe that this can be achieved within the broad context of the overall concept.*

Council's submission that if residential development does occur between the Barham River and Great Ocean Rd that it should be limited to single storey is dealt with in section 9.4.

#### **Panel conclusion:**

**The revised development proposal provides for a suitable 'green break' between Apollo Bay and Marengo.**

Agreed.

### **Section 9.3: Landscape treatment**

The Panel is of the opinion that there should be an overarching landscape design philosophy for the site and that this should be clearly expressed as part of the Comprehensive Development Plan. The Panel also believes that development of the site provides an opportunity to restore its environmental values through revegetation.

Council's submission to the June 2006 Panel hearing stated:

*There clearly remains doubt about the ability to successfully revegetate this site with the species proposed, particularly for the purpose of screening residential development.*

Expert evidence was provided by Brett Land and Associates in the form of an indicative pre-1750 EVC map and proposed revegetation plan based on this. The Department of Sustainability and Environment submission broadly supported the Brett Land revegetation proposal subject to several modifications that they outlined.

The Panel report raises several key issues in relation to revegetation.

- The natural landscape of the estuary needs to be largely ‘reconstructed’.
- We do not accept the argument that there are no suitable species in the local variation of the EVCs to achieve the landscaping necessary to ensure visual amenity outcomes are achieved and hence the proposal should not proceed.
- The proposal will deliver substantial environmental benefits.
- We find it difficult to identify specific issues with this site that somehow prevent revegetation.
- Some submitters have formed a view that total screening of development facing the Great Ocean Road is required whereas we are firmly of the view that filtered screening is a preferred approach.
- There is certainly the need to ensure that the civil works and fill create suitable conditions in terms of soil type and drainage to support the proposed species and the revised amendment documentation provides for this.

**Panel conclusion:**

**The assessment of pre-1750 EVCs and the landscape concept is broadly appropriate.**

Agreed.

**Species consistent with the pre-1750 EVCs on the land can provide adequate screening of development.**

Agreed, however ensuring that soil type and drainage conditions of fill is appropriate for the proposed revegetation is essential. The Schedule to the CDZ provides for this by requiring that the Land Management Plan address details of the types of soils to ensure compatibility with the proposed vegetation.

## **Section 9.4: Building design**

The schedule to the CDZ requires that Urban Design Guidelines be approved by Council at the subdivision planning permit stage.

The major issue addressed in this section is the height of dwellings between the Barham River and the Great Ocean Rd. The Panel is of the opinion that it is not of concern if some development is visible because:

- development is in the context of Apollo Bay and Marengo which are already built up,
- development will be screened in part by landscaping,
- development will be 350 metres away from the Great Ocean Road,

- development will be a narrow visual band between the revegetated river flats and the rising hills behind.

The Panel also believes that a restriction in height from two to one storey would not lessen the visual impact of the dwellings, and may have the reverse effect if it means a larger foot print and less opportunity for landscaping between the buildings.

Expert evidence and the Panel report has concluded that residential development can occur between the Barham River and Great Ocean Rd while maintaining the green break. However there was a degree of uncertainty expressed about the ultimate height of vegetation on the site given local conditions and a prudent approach, to maximise the success of filtered screening of development, may be to restrict building heights to one storey. To overcome the Panel's concerns about increasing site coverage, the planning provisions could be amended to restrict site coverage to 60% to provide for landscaping between dwellings. A 60% site coverage would result in houses of between 150 – 200 sq metres in this location, considered a reasonable size and adding to the diversity of housing choice in this location.

#### **Panel conclusions:**

**The Amendment documentation provides a clear and unambiguous role for the Residential Design Guidelines.**

Agreed.

**A height limit of 8.5 metres is appropriate for all the residential areas.**

Disagree. For the reasons outlined above, it is recommended that a one storey and 60% building site coverage apply to residential development between the Barham River and Great Ocean Rd.

## **Chapter 10: The structure of the revised provisions**

The following reports have been prepared on planning issues and the planning provisions:

- *Great Ocean Green Planning Scheme Amendment C29 – Statement of Evidence.* Andrew Biasci, Contour Consultants Australia, May 2006.
- *Statement of Town Planning Evidence: Amendment C29 to the Colac Otway Planning Scheme.* Glossop Town Planning, March 2007.

This section is an accurate outline of the proposed changes to the Colac Otway Planning Scheme.

### **Section 10.1: Policy changes**

The Panel has identified that if the development is to proceed, the Structure Plan in the existing MSS needs to be updated as does the text of the MSS. The amendment, as exhibited, proposed a local policy in conjunction with the CDZ. The local policy does not add anything that would be of assistance in terms of assessing a future planning permit application that is not contained in the proposed MSS text or the CDZ, schedule to the CDZ and Comprehensive Development Plan. Hence it is recommended that the local policy is not required.

**Panel conclusions:**

**The proposed changes to the MSS in the revised Amendment documentation are appropriate.**

Agreed, however the updated structure plan map to be inserted into the MSS must only update the map in relation to land subject to Amendment C29.

**The deletion of the proposed Local Planning Policy is appropriate.**

Agreed.

## **Section 10.2: Comprehensive Development Zone**

### **Section 10.2.1: Use of the zone**

This section is not about whether the development should go ahead or not, rather if it does, what is the best zone to apply to the land. The Comprehensive Development Zone is a tool for providing the comprehensive development of an area in accordance with an incorporated plan. Without a suitable plan for incorporation the Comprehensive Development Zone cannot be used.

The Panel identified that a number of submitters took issue with the use of this zone based more on its name ‘comprehensive development’ than any analysis of the nature of the zone proposals. The zone is not a *carte blanche* for development. It is (in its revised form) a detailed set of controls that will allow a particular development under a tight set of management plans.

The revised provisions were subject to detailed discussion over precise wording at the 2007 hearing. The refined revised zone provisions are attached as Appendix 1 of the Panel report and are supported, subject to modifications outlined in this report.

**Panel conclusions:**

**The use of the Comprehensive Development Zone is appropriate.**

Agreed. It is the most appropriate zone for this type of development.

**The revised provisions as amended and presented in Appendix 1 of this report are appropriate.**

Agreed, subject to modifications outlined in this officer assessment report.

### **Section 10.2.2: Extent of the zone**

During the April 2007 hearing Mrs Garrett who owns one of the original farm houses on a relatively small lot did not want to be part of the rezoning. There are no practical consequences to the development of excluding the Garrett land.

**Panel conclusion:**

**The rezoning (and application of overlays) exclude the Garrett and Lindsey properties.**

Agreed.

### **Section 10.2.3: Precinct plan**

The Panel has identified that while it is clear which precinct applies where, statutory interpretation of the zone would be assisted with the additions of a clear precinct plan in the Comprehensive Development Plan.

#### **Panel conclusion:**

**The Comprehensive Development Plan be amended to include an unambiguous plan depicting the extent of each precinct.**

Agreed.

### **Section 10.2.4: Sunset provisions**

The Panel has identified that there are a number of issues that require refinement as part of the ongoing design of this proposal and it is not guaranteed that the development will proceed. In these circumstances it is appropriate that a sunset clause be inserted into the provisions so that development must be commenced within a certain time frame. If development did not commence within this time a further planning scheme amendment would be required to determine the future use of the land.

#### **Panel conclusion:**

**A sunset provision specifying that development must commence within 10 years be included in the revised Comprehensive Development Zone.**

Agreed.

### **Section 10.2.5: Approval of management plans**

The schedule to the CDZ requires that a number of management plans be prepared and approved by the responsible authority as part of future planning permit applications. The Department of Sustainability and Environment has requested that its approval be required for:

- Land Management Plan,
- Construction Management Plan, and
- Golf Course Management Plan.

The revised planning provisions tabled at the hearing provided for this except the Golf Course Management Plan.

#### **Panel conclusion:**

**The zone provisions require that the Golf Course Management Plan be approved by the Department of Sustainability and Environment in addition to the Responsible Authority.**

Agreed.

### **Section 10.3: Comprehensive Development Plan**

The Panel are of the opinion that the Comprehensive Development Plan – Concept Plan could be improved removing vague expression and improving the graphic



quality of the plans. This will not alter the content or provisions of the plan but would improve its overall quality.

Further officer review of the Comprehensive Development Plan looked at the opportunity to improve the development outcomes in terms of energy efficient development. The schedule to the CDZ, specifically the Urban Design Guidelines section requires that ecological sustainable design principles be incorporated into any development. The Comprehensive Development Plan further reinforces this with a section on ecological sustainable design and objectives relating to ecological sustainable design.

It was investigated whether the CDP could be strengthened by stating that all housing and commercial development must achieve a house energy rating in accordance with the requirements of the Building Code of Australia at the time of building design (eg currently 5 Star House Energy Rating but may rise in the future). However, given this is a mandatory condition in the Building Code of Australia that all buildings must achieve, it has been concluded that the planning provisions, as drafted, in combination with the Building Code of Australia will ensure all future buildings (both dwellings and commercial) adequately cater for energy efficiency and ecological sustainable design.

**Panel conclusion:**

**The Comprehensive Development Plan be reviewed to tighten expression and to improve the legibility of maps reducing the prominence of the golf course layout on the base plan.**

Agreed.

## Chapter 11: Conclusions and Recommendations

This chapter of the Panel report lists each conclusion and recommendation of the Panel. Each conclusion and recommendation has been addressed individually in previous sections of this officer assessment report.

## Chapter 12: Council Officer Recommendations

### Section 12.1: Modifications to Planning Provisions

Following detailed consideration of the Panel report, it is recommended that the following modifications be made to the proposed planning provisions:

1. Update the exhibited Apollo Bay Framework Plan in Clause 21.04-10 to be consistent with the adopted Apollo Bay Structure Plan, as it relates to land affected by amendment C29.
2. Amend the schedule to the Comprehensive Development Zone to ensure that any residential subdivision on the C29 site is considered within the context of the growth scenarios of the Apollo Bay Structure Plan. Specifically insert an additional decision guideline into clause 3 of the schedule to the CDZ that *“Whether the timing of the proposed subdivision is consistent with the residential growth scenarios envisaged by the Apollo Bay Structure Plan.”*

3. To implement the conclusion that “*Consideration of the Amendment should continue but a permit for subdivision to create residential lots should not proceed until water supply issues are resolved*”, a sentence should be added to clause 3 (Subdivision) of the schedule to the CDZ that states: “*No subdivision creating residential lots shall occur until a reticulated potable water supply capable of servicing the lots is fully investigated and resolved to the satisfaction of the Responsible Authority and the Barwon Region Water Corporation.*”
4. The Comprehensive Development Plan be amended so that the opportunities and constraints map identify or refer to Acid Sulfate Soils.
5. While initial assessment of the appropriate degree of settlement was that a reference should be made to “appropriate settlement” or “Australian standards”, legal advice from Harwood Andrews and discussions with Council’s Municipal Building Surveyor recommended the clause relating to this matter be unchanged. Specifying a 5cm maximum settlement with time enables anyone preparing the engineering specifications to make provision for maximum settlement not exceeding 5cm. With knowledge that maximum settlement will not exceed 5cm, this standard can be provided to those preparing designs for dwellings which will enable them to accommodate a maximum settlement not exceeding 5cm.
6. Amend the wording of the Land Management Plan section of the schedule to the CDZ from “*Measures taken to identify and treat Acid Sulfate Soils*” to “*Measures taken to identify and treat Acid Sulfate Soils and ensure long term integrity of infrastructure assets.*”
7. Amend the wording of the Infrastructure Management Plan section of the schedule to the CDZ from “*The location and nature of infrastructure services to be provided*” to “*The location and nature of infrastructure services to be provided, including, but not limited to, specifications of infrastructure services relating to their long term structural integrity in compressible soils.*”
8. In section 4.1 – Infrastructure – of the Comprehensive Development Plan, insert a new requirement that states “*Infrastructure services designed and constructed to a standard to ensure long term structural integrity in compressible soils.*”
9. In section 4.11 – Residential Design Principles (Precinct 2) – of the Comprehensive Development Plan, insert a new General Design requirement that states “*each dwelling requires engineer designed footings or slab that responds to the engineering specifications of the residential pod it is on.*”
10. Amend the wording of the Construction Management Plan from “*The truck routes to be used for the importing of fill and for other construction activities*” to “*The truck routes to be used for the importing of fill and for other construction activities and any necessary maintenance, management or upgrade of the existing local road network in response to the importing of fill and other construction activities. This must include the preparation of a Dilapidation Report in respect of road pavements prior to the commencement of works.*”
11. Amend the wording of the Construction Management Plan from “*The truck routes to be used for the importing of fill must be to the satisfaction of Vic Roads*” to “*The truck routes to be used for the importing of fill must also be to the satisfaction of Vic Roads*”.
12. Amend the wording of the Application Requirements (Subdivision) in the Schedule to the CDZ from “*The provision of all necessary infrastructure including access to surrounding roads*” to “*The provision of all necessary infrastructure including access to surrounding roads and any necessary intersection upgrades*”.

13. The planning provisions be modified to provide for the future establishment of the Apollo Bay Pony Club in the north west corner of the site, specifically by making outdoor recreation a “permit required” use in the Schedule to the CDZ.
14. In relation to the Section 173 Agreement providing for details of the timing and construction standards of the golf course and club house, this is addressed in the Officer Assessment Report Addendum February 2008.
15. The schedule to the Comprehensive Development Zone and the Comprehensive Development Plan be altered to restrict dwellings between the Great Ocean Road and Barham River to a maximum of 4.5 metres height and 60% site coverage. It is recommended that this occur in section 4.0 of the Schedule to the CDZ by amending “*A dwelling must not exceed 8.5 metres in height above finished ground level in Precinct 2 of the Great Ocean Green Comprehensive Development Plan*” to “*A dwelling must not exceed 8.5 metres in height above finished ground level in Precinct 2 of the Great Ocean Green Comprehensive Development Plan except for land within Precinct 2 of the Great Ocean Green Comprehensive Development Plan that is between the Great Ocean Road and Barham River where a dwelling must be single storey and must not exceed 4.5 metres in height above finished ground level and a site coverage of 60%.*” The building envelope section of the Comprehensive Development Plan must also be altered to reflect this recommendation.
16. The rezoning (and application of overlays) exclude the Garrett and Lindsey properties.
17. The Comprehensive Development Plan be amended to include an unambiguous plan depicting the extent of each precinct.
18. The Comprehensive Development Plan be reviewed to tighten expression and to improve the legibility of maps reducing the prominence of the golf course layout on the base plan.

## **Section 12.2: Additional information required**

It is recommended that in addition to the modifications to the planning provisions outlined in section 12.1, the following information is required prior to Council making a decision about the amendment.

1. A peer review of the Panel report (to determine whether the Panel has discharged its duties appropriately) and Officer Assessment Report.
2. Legal advice about the wording of the recommended modifications to the planning provisions.
3. Legal advice about the issue of liability and whether Council, if the amendment is adopted, has discharged its duties in an appropriate manner and raised all relevant issues and considered all relevant information. This will involve review of the Panel report, Officer Assessment Report and Peer review.
4. Comment from Council’s insurers about potential future liability based on review of the Panel report, Officer Assessment Report, Peer review report and legal advice.

## Section 12.3: Further review of Planning Provisions

During January and February 2008, additional Councillor workshops were held to further review Amendment C29 and the proposed planning provisions. As a result of these workshops, further refinements to the planning provisions have been recommended, relating to the forecast impacts of climate change, staging of the development, timing of the construction of the golf course and clubhouse and screening of residential development between the Barham River and Great Ocean Road. The recommended changes are as follows.

1. Insert in the “Purpose”:  
*“...protects buildings and works from environmental effects,...”*

The purpose includes protection of the environment, inserting these words identifies that protection of the development from environmental effects is also a key purpose / consideration.

2. Insert in Clause 3.0 Subdivision:  
*“A planning permit for subdivision must not be granted until the plans and guidelines listed in Clause 4.0 have been approved by the authorities specified as approval authorities for each plan in that Clause.”*

The trigger for preparation of these plans is buildings and works that require a permit, not subdivision. Clause 3.0 does however state that subdivision must generally be in accordance with any plan prepared in accordance with Clause 4.0, but if the plan has not yet been prepared it may not have to be considered. However, the trigger for the plans is a permit required for buildings and works – which the clubhouse will require. Given this will be one of the first components of the development, the plans will be prepared very early on in the process. While it is not entirely necessary to include this provision in Clause 3.0, it does provide further clarification about when these plans must be prepared.

3. Insert in Clause 3.0 Subdivision:  
*“Staging of subdivision must be in accordance with the numbered sequencing of the staging plan included in the Great Ocean Green Comprehensive Development Plan, unless varied with the consent of the Responsible Authority.”*

The staging plan in the Great Ocean Green Comprehensive Development Plan indicates stages 1 through to 8. The common understanding throughout the Panel process and consideration by Council has been that staging will be sequenced in accordance with the numbering, i.e. stage 1 will occur first, stage 2 will occur second and so on. There is nothing in the provisions that actually specifies this. By inserting this clause, the staging must occur in this order unless a variation in staging is agreed to by Council.

4. Insert in Clause 3.0 Subdivision:  
*“Any permit for subdivision which creates residential lots shall contain a condition that where any works for any subdivision stage will commence greater than 2 years after the date of certification of the plan of subdivision for*

*the corresponding stage, then prior to the commencement of such works the permit holder must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the proposed subdivision can appropriately proceed having regard to the forecast impacts of climate change.”*

This suggested new paragraph deals with the scenario where the plan of subdivision for a stage may be certified but works not commence for greater than two years during which climate forecasts may change. After 2 years, before works commencing, the permit holder must demonstrate that the development still responds adequately to the forecast impacts of climate change. When combined with the requirements of Clause 5.0 Section 173 agreement, this issue is considered to be adequately addressed.

5. In Clause 3.0 Subdivision Application Requirements, insert:  
*“A report that demonstrates to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the development responds to the forecast impacts of climate change.”*

This ensures that a report, to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority, must be submitted with any planning permit application for subdivision that demonstrates that the development responds to the forecast impacts of climate change. This would be required to be submitted with applications for each stage of the development where a permit application is required and would be considered the “benchmark” report on this issue which would then also be signed off again at the certification of plan of subdivision stage.

6. In Clause 4.0 - Buildings and works - The Plans - 1. Land Management Plan, change the incorrect reference to the Department of Planning and Community Development to the Department of Sustainability and Environment.
7. In Clause 4.0 - Buildings and works - The Plans - 2. Flood and Inundation Management Plan, change the reference to the Lindsay property to the lot details (Lot 3 PS429486).
8. In Clause 4.0 - Buildings and works - The Plans - 2. Flood and Inundation Management Plan, insert:  
*“How the development responds to the forecast impacts of climate change.”*

While the flood and inundation plan provisions already require that all aspects of flooding must be addressed to the satisfaction of the CCMA and Council, this makes it explicit that the development must respond to the forecast impacts of climate change.

9. In Clause 4.0 - Buildings and works - The Plans - Landscape Management Plan, insert:  
*“The establishment of landscaping works that will provide adequate screening of the residential components of stages 7 and 8 (as identified in the staging plan of the Great Ocean Green Comprehensive Development Plan) prior to*

*construction of residential development in those stages when viewed from the Great Ocean Road generally to the east of the site.”*

This provision will provide further strength to ensure that residential development of stages 7 and 8 is adequately screened to maintain the ‘green break’. This builds on the requirements of the Comprehensive Development Plan:

- *To ensure the Great Ocean Green development retains a visual separation between the settlements of Apollo Bay and Marengo; and*
- *A discernable break must be provided between Marengo and Apollo Bay that maintains the separate identities of these settlements.*

10. In Clause 4.0 - Buildings and works - The Plans - 8. Construction Management Plan, change the incorrect reference to the Department of Planning and Community Development to the Department of Sustainability and Environment.
11. In Clause 5.0 Section 173 agreement, the provision for a section 173 agreement detailing timing and construction standards of the golf course and clubhouse should be amended to state:  
*Prior to a Statement of Compliance being issued for any residential lot, the first nine holes of the golf course and clubhouse must be completed to a final, finished standard; or substantially constructed **and** a bank guarantee in an amount that is to the satisfaction of the Responsible Authority which reflects the cost of any buildings and works required to bring the golf course and clubhouse to final completion to the satisfaction of the Responsible Authority. The bank guarantee will be returned upon the completion of the construction to a final, finished standard of the first nine holes and clubhouse.*

*Prior to a Statement of Compliance being issued for the 250<sup>th</sup> or greater lot the first nine holes of the golf course and clubhouse must be completed to a final, finished standard and the remaining nine holes of the golf course must be completed to final, finished standard; or substantially constructed **and** a bank guarantee in an amount that is to the satisfaction of the Responsible Authority which reflects the cost of any buildings and works required to bring the golf course to final completion to the satisfaction of the Responsible Authority. The bank guarantee will be returned upon the completion of the construction to a final, finished standard of the second nine holes.*

This provides two options in relation to course and clubhouse construction. Firstly, before a statement of compliance for any residential lot being issued, the first nine holes of the golf course and clubhouse must be completed to final, finished standard. This option does not include the ability to pay a bond. Secondly, before a statement of compliance for any residential lot being issued, the first nine holes of the golf course and clubhouse must be substantially constructed and a bank guarantee in an amount that is to the satisfaction of Council which reflects the cost of any buildings and works required to bring the golf course and clubhouse to final completion to a standard satisfactory to Council.

This would cover the scenario for example where the course construction was completed but grass had not grown, or where the clubhouse was undergoing internal fit out but stage 1 residential component was ready. Both of these options will guarantee that the first nine holes and clubhouse is developed. The same options are built into the second nine holes. In terms of the amount of the bank guarantee, this would be determined based on the value of any buildings and works required to bring the golf course and club house to final completion to a standard satisfactory to Council. The amount of the guarantee is also to be to the satisfaction of Council.

12. In Clause 5.0 Section 173 agreement, insert:  
*“A requirement that prior to the certification of any plan of subdivision which creates residential lots, the applicant must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the development responds to the forecast impacts of climate change.”*

This ensures that at each stage of subdivision, prior to certification of plans, the applicant has to demonstrate that the development still responds to the forecast impacts of climate change (ie sea level rise). This will occur by referring to the benchmark flood study undertaken and assessing its currency against the latest forecast impacts of climate change. This ensures that if a permit is issued but is not acted on for several years, Council will have the opportunity to review the development against the latest forecast impacts of climate change.

13. In Clause 5.0 Section 173 agreement, insert:  
*“A requirement that where works for any subdivision stage will commence greater than 2 years after the date of certification of the plan of subdivision for that stage, then prior to the commencement of such works the applicant must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the proposed subdivision can appropriately proceed having regard to the forecast impacts of climate change.”*

Again, this suggested new paragraph deals with the scenario where the plan of subdivision for a stage may be certified but works not commence for greater than two years during which climate forecasts may change. After 2 years, before works commencing, the permit holder must demonstrate that the development still responds adequately to the forecast impacts of climate change. When combined with the requirements of Clause 5.0 Section 173 agreement, this issue is considered to be adequately addressed.

14. In Clause 5.0 Section 173 agreement, insert:  
*“The payment of fees in lieu of the planning permit fees in order to recompense the Responsible Authority for time spent considering various plans which the planning scheme provisions require to be assessed and approved.”*

If amendment C29 is approved, the assessment of future planning permit applications will be resource intensive. The Planning Permit application fee

# Attachment 2

Consideration of Panel Report and Officer Assessment October 2007 – updated April 2008

for the proposal provided for by the Planning and Environment Regulations is estimated to be \$15,204. It is estimated that this would not cover all of the costs involved in assessing the permit application. By including the above provision, Council will be able to levy a fee that will adequately cover the costs involved in assessing future permit applications.



## **Amendment C29 to the Colac Otway Planning Scheme**

### **Report by Trevor Budge**

Colac Otway Shire Council invited me by letter to provide a peer review of the Panel's Report on Amendment C 29 to the Colac-Otway Planning Scheme. Council's letter of engagement stated,

*"Council has recently received a Panel report on the amendment. To assist Council in meeting its obligations under the Planning and Environment Act 1987 to consider the Panel report and make a decision about the amendment, Council is seeking your services to:*

- Provide an overview of the Panel report which is limited to an assessment of the Panel's consideration of the matters required of them under the Planning and Environment Act 1987, the Colac Otway Planning Scheme and all relevant Minister's Directions and Planning Practice notes. We do not require an assessment of how the Panel has arrived at conclusions about the issues, but we do require clear advice as to whether the Panel has properly considered all of the matters required of them.*
- Following review of the Panel report, provide an overview and expert opinion of the Council officer assessment of the Panel report."*

In preparing this report I wish to record that,

*I have had no personal involvement in any aspect of the preparation, evaluation or consideration of the proposal that led to the amendment or the amendment or the Panel Hearing, nor have I any involvement in any planning matters with the Shire or the site or the Apollo Bay area. I am therefore unaware of any conflict of interest relating to any matter under consideration.*

In order to undertake the preparation of this report I reviewed the following documents;

- The Planning and Environment Act 1987
- The Colac-Otway Planning Scheme
- Amendment C 29 to the Colac-Otway Planning Scheme
- Ministerial Directions relevant to the matters under consideration
- Planning Practice Notes relevant to the matters under consideration
- Panel Report on Amendment C 29 to the Colac-Otway Planning Scheme
- The Council Officer's report on the Panel Hearing

In respect to what the Council's letter has requested this report is therefore in two parts, the first part addresses the matters listed under the first dot point in the Council letter and the second part provides a review based on a reading of the Council Officer's report. I prepared the first part of this report prior to reviewing the Council Officers' assessment of the Panel Report.

## **Part One**

***An overview of the Panel report which is limited to an assessment of the Panel's consideration of the matters required of them under the Planning and Environment Act 1987, the Colac-Otway Planning Scheme and all relevant Minister's Directions and Planning Practice notes.***

### **The Act**

The duties, powers and procedures of Panels are set out in the *Planning and Environment Act 1987*. In particular Section 24 of the Act states that a Panel "must consider all submissions referred to it."

The Panel Report lists all submissions referred to it. The Panel Report adopts the style of not specifically listing each submitter and then specifically addressing the matters that each submission raises, rather it lists all the issues that the Panel has assessed that were raised in the submissions and then addresses each of the issues. In order to conclude that the Panel *has considered all submissions referred to it* I would need to review each submission and cross check the matters in the submissions with the Panel Report. I have not had access to the submissions. In respect to the other matters set out in the Act the Panel has carried out its duties and obligations.

*On the basis of examining the Panel Report I conclude that the Panel has met the requirements of the Act and by evidence of its discussion of the issues has in good faith considered all the submissions referred to it.*

### **Colac Otway Planning Scheme**

In respect to the Colac-Otway Planning Scheme the Panel Report lists and assesses the Amendment against a number of matters in the Planning Scheme, specifically in the Municipal Strategic Statement (MSS). The Panel particularly reviews clauses in the Planning Scheme relating to settlement and coastal development.

There are some elements of the Planning Scheme that the Panel could perhaps have been expected to have spent more time on in considering its written report such in the State Planning Panel Framework clause 15.08 Coastal Areas which in part states

*Decision-making by planning authorities and responsible authorities should be consistent with the hierarchy of principles for coastal planning and management as set out in the Victorian Coastal Strategy 2002, which are:*

1. *Provide for the protection of significant environmental features.*
2. *Ensure the sustainable use of natural coastal resources.*
3. *Undertake integrated planning and provide direction for the future.*

*When the above principles have been considered and addressed:*

4. *Facilitate suitable development on the coast within existing modified and resilient environments where the demand for services is evident and requires management.*

This decision making framework and process is set out in the State Coastal Strategy and then repeated in the State Policies is designed to provide a step by step process. When item 1 is satisfied the decision making process moves to item 2 and so on. While the Panel Report does not apply that process explicitly, in my reading of the Report the decision making process has been satisfied by the manner in which the Panel has addressed the issues. It would have strengthened the Panel Report if they had followed such a process

However the process followed by the Panel is a matter for the Panel and in my assessment it is reasonable to conclude from the Panel's discussion of the issues in the Report that they effectively took these matters into account when weighing the various information and material available to them and in forming a view.

*On the basis of examining the Panel Report I conclude that the Panel has met its requirements in respect of considering the provisions of the Colac Otway Planning Scheme.*

## **Ministerial Directions and Practice Notes**

In terms of Ministerial Directions, Direction No. 11 is specifically relevant. Essentially it states that a comprehensive strategic evaluation of a planning scheme amendment and the outcomes it produces is to be undertaken. The Direction requires that a planning authority must evaluate and include in the explanatory report a discussion about how the amendment addresses the following strategic considerations:

- Why is an amendment required?
- How does the amendment implement the objectives of planning in Victoria?
- How does the amendment address any environmental effects?
- How does the amendment address any relevant social and economic effects?
- Does the amendment comply with the requirements of any other Minister's Direction applicable to the amendment?
- How does the amendment support or implement the State Planning Policy

- Framework and any adopted State policy?
- How does the amendment support or implement the Local Planning Policy Framework, and specifically the Municipal Strategic Statement?
- Does the amendment make proper use of the Victoria Planning Provisions?
- How does the amendment address the views of any relevant agency?

The Practice Note *Strategic Assessment Guidelines* states that the purpose of the Guidelines is to provide a consistent framework for the evaluation of a proposed planning scheme amendment and the outcomes it produces. *The guidelines should be used by .... any planning panel and advisory committee when considering an amendment.* The list of matters is the same as the list in the Ministerial Direction as set out above.

It has become common practice for Planning Panels to use this list as a checklist in analysing the amendment content and to systematically work through these questions. The Panel Report for C 29 does not systematically work through this set of questions but in other ways in content it effectively addresses these matters. It would have assisted the capacity of the reader to review whether each element of the Direction had been addressed if the Panel Report had systematically listed these. I have listed each element below and provided a comment in respect to the Panel Report.

Planning Practice Notes relevant to the matters under consideration.

- *Why is an amendment required?*

This matter is accepted - an amendment is the appropriate action to implement the proposed use and development.

- *How does the amendment implement the objectives of planning in Victoria?*

This refers to the seven objectives listed in Section 4 of the Act. The Panel Report does not specifically refer to or address this matter. On my reading of the amendment and the panel report the amendment is consistent with the objectives. In my opinion the amendment has the capacity to implement the objectives and there is nothing inconsistent in the Panel Report with that finding.

- *How does the amendment address any environmental effects?*

The Panel Report addresses this matter and spends considerable time on a range of issues. It could be said that the list of environmental effects are only those generated because they are in the submissions but given the nature of the proposed development and the interest in it, it could be reasonably assumed that all relevant environmental effects have been covered in the list of issues in the Panel Report.

- *How does the amendment address any relevant social and economic effects?*

The Panel Report addresses this matter by virtue of its assessment of the matters raised in the submissions.

- *Does the amendment comply with the requirements of any other Minister's Direction applicable to the amendment?*

I can identify no other Ministerial Directions applicable to the amendment.

- *How does the amendment support or implement the State Planning Policy Framework and any adopted State policy?*

The Panel Report reviews this matter. I consider that more specific and explicit reference could have been made to a number of matters under various clauses in the SPPF. But these are effectively dealt with in the Panel Report

- *How does the amendment support or implement the Local Planning Policy Framework, and specifically the Municipal Strategic Statement?*

The Panel Report spends considerable time on this matter and addresses this matter

- *Does the amendment make proper use of the Victoria Planning Provisions?*

The Panel Report addresses this matter and makes various suggestions how to further this matter.

- *How does the amendment address the views of any relevant agency?*

The Panel Report addresses this matter. Various issues raised by relevant agencies are incorporated into the discussion. A common approach in many Panel Reports is to systematically list each relevant agency, then the matters raised by each agency and then how the Panel has considered them and responded. This has not been done in the Panel Report; rather matters raised by relevant agencies are incorporated into a discussion of issues. The Panel's discussion of issues assumes that all issues raised by submissions have been dealt with.

*Despite raising some issues in the above assessment I have formed the view that the Panel has met its requirements in respect of considering Ministerial Directions and Planning Practice Notes.*

## **Part Two**

### ***Following review of the Panel report, provide an overview and expert opinion of the Council officer assessment of the Panel report.***

The Council Officer's report uses a consistent format to provide an assessment of the Panel Report. The report systematically sets out the Panel's discussion, provides a commentary/assessment and a conclusion.

The Officer's report is very thorough it covers every aspect of the Panel Report. Overall the Officer's assessment report concludes on nearly every matter that the Panel has fully addressed each matter comprehensively, fairly and 'correctly', that is, the issues have been covered and a conclusion drawn or position reached which is the most appropriate given the circumstances and evidence. On that basis the Officer's Report is overwhelmingly supportive of the Panel Report.

There are a few issues where the Officer's Report queries the Panel Report, these include;

The Officer in his report questions the summary definition or explanation of the 'precautionary principle' used by the Panel in its Report. In my assessment that questioning is correct. The fuller explanation given in the quoted VCAT case is more useful. The Officer's assessment is appropriate in my assessment.

The Officer in his report questions the Panel's approach to settlement after fill, the Officer's approach is appropriate in my assessment.

I have not been *asked to provide an assessment of how the Panel has arrived at conclusions about the issues*, rather I have been asked to *provide an overview and expert opinion of the Council officer assessment of the Panel report*. Therefore I have confined myself to whether the Council Officer's report has addressed all the issues raised in the Panel Report, whether it has dealt competently and fairly with those matters and provided Council with a balanced assessment such that it can form a view.

*On the basis of examining the Officer's Report I conclude that the Report has provided Council with a comprehensive and competent report such that Council can have confidence in using the report and its conclusions to form a view on the Amendment and whether it should be adopted.*

## **Findings**

Following my review of the documents I have formed the following views in respect to the matters asked of me by Council.

1. *On the basis of examining the Panel Report I conclude that the Panel has met the requirements of the Act and in good faith has considered all the submissions referred to it.*
2. *On the basis of examining the Panel Report I conclude that the Panel has met its requirements in respect of considering the provisions of the Colac Otway Planning Scheme.*
3. *Despite raising some issues I have formed the view that the Panel has met its requirements in respect of considering Ministerial Directions and Planning Practice Notes.*
4. *On the basis of examining the Officer's Report I conclude that the Report provides Council with a comprehensive and competent report such that Council can have confidence in using the Panel Report and its conclusions to form a view on the Amendment and whether it should be adopted.*

## ELECTRONIC MAIL

To: Mr Jeff Morgan  
Senior Strategic Planner

From: Warrick Nelson

Company: Colac Otway Shire Council

Email: wnelson@harwoodandrews.com.au

Email: jeff.morgan@colacotway.vic.gov.au

Date: 23 August 2007

Your ref:

Our ref: 1WDN:8bap 2306035

Subject: Amendment C29

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Dear Jeff,

I refer to your email and attachments dated 21 August 2007 in relation to Amendment C29.

As discussed this morning, I am concerned that a thorough assessment of the task you posed cannot be provided by tomorrow, particularly as I am in VCAT tomorrow. However, as discussed I note my preliminary comments are sought by you today.

What follows is a comment on the recommendations made in section 12.1 of the August 2007 officer assessment of the Panel Report. Section 12.1 recommends amendments to the documents set out as appendix 1 and appendix 2 of the Panel Report.

1. Your second recommendation that a permit for subdivision cannot be granted until it is demonstrated to the satisfaction of the Responsibly Authority that 50% take up of the land at the C17 site has occurred is a recommendation that stems from section 6.1 of the officer assessment. There is no such recommendation in the Panel Report. Your recommendation does not include the particular words proposed or their location in the CDZ Schedule ("the Schedule"). It can be expected that such a proposal would be strongly opposed by the C29 proponent as it would make the effective commencement of their development conditional upon firstly a decision to market the C17 site and be conditional upon the commercial success of the C17 development. If the recommendation is to be adopted and the constraint on subdivision is only intended to apply to the creation of residential lots words such as the following in clause 3.0 of the Schedule to the CDZ would be required. More precise words than are contained in your recommendation 2 should be used if such a provision were to be included. I would suggest words such as:

*"No permit authorising the creation of residential lots shall be granted until at least half of the land rezoned for residential purposes by Amendment C17 to the Planning Scheme has been developed by the registration of plans of subdivision creating such lots and at least that number of residential lots have been sold by the developer."*

You will note in suggesting the above words, the standard applied is the creation of the residential lots and their sale by the developer, rather than the construction of any dwellings on the residential lots.

I am not confident that such a provision, if included in the amendment, would be approved by the Minister. A lesser requirement would be the inclusion in the decision guidelines of clause 3 of the Schedule to the CDZ a guideline such as:

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*“Whether the staging of the proposed subdivision is consistent with the residential growth scenarios envisaged by the Apollo Bay Structure Plan.”*

In suggesting these alternate words I should add that I have not looked at the Apollo Bay Structure Plan to determine whether it provides guidance on growth scenarios. If it does not then the alternate form of words should not be used.

2. Your recommendation 3 would add a decision guideline to clause 3 of the Schedule. The addition of such a guideline does not create a mandatory prohibition on a permit for subdivision issuing until water supply issues are resolved. That was the scenario that was set out in conclusion 9 of the Panel. Clause 3.0 of the Schedule to the CDZ requires that each lot must be provided with a potable water supply. That is not necessarily the provision of a reticulated potable water supply which is what I believe the Panel and you are meaning by the words used. If that is the case a sentence such as:

*“No subdivision creating residential lots shall occur until a reticulated potable water supply capable of servicing the lots can be provided to the satisfaction of the Responsible Authority and the Barwon Region Water Authority.”*

3. Your recommendation 5 would take out the specified mandatory maximum settlement allowance in favour of requiring maximum settlement to be within “engineering specification” and not cause damage to buildings and works including infrastructure services. The advantage of retaining the Panels suggested words enables anyone preparing engineering specification to make provision for maximum settlement not exceeding 5cm. There is no doubt a technical ability with engineers to design a structure could cope with a greater than 5cm settlement. With knowledge that maximum settlement does not exceed 5cm a standard can be provided to those preparing the specification which will enable them to accommodate a maximum settlement not exceeding 5cm. Your alternate words opens the door for a range of more stringent engineering specifications to be adopted which could cope with a greater than 5cm settlement. I expect your amendment would add to the difficulties of development approvals.
4. Your recommendation 9 would insert a new general design requirement in section 4.1 of the CDP. Although I have no difficulty with the requirement, it is one that would be effectively adopted by the appropriate administration of the building regulations. It seems to me that the matters dealt with in section 4.11 of the CDP relate more to design principles for the external appearance of the building rather than technical elements of the design.
5. Your recommendation 11 would insert the word “also” into the relevant sentence set out in the Panel’s proposed CDZ Schedule. The purpose for this presumably, is to reinforce the earlier requirement of the Construction Management Plan requirement, that the truck routes be approved by at least the Responsible Authority as well as VicRoads. Leaving the provision as set out in the Panel’s appendix 1 does open the door for the argument that the issue of approval of truck routes is a matter for VicRoads alone. Your suggested change does have the effect of reinforcing the need for Responsible Authority approval to the truck routes.
6. Your recommendation 13 is that the planning provisions be modified to provide for the future establishment of the Apollo Bay Pony Club in the northwest corner of the site. A pony club facility would be an outdoor recreation facility under the definition provisions of the Planning Scheme. Under the Schedule table of uses it would be a section 3 or prohibited use. To implement your recommendation would require a change to the table of uses in the Schedule. The nature of the changes is something I would like to discuss with you further as issues of road access and impact on public open space clearly arise. There is also an issue of the appropriateness of requiring provision of facilities for a third party who may or may not want to move.
7. Recommendation 14 is sensible. Recognising that the section 173 Agreement is only required to be entered into prior to the grant of any planning permit, it will be necessary for the capital sum to be inserted in clause 5.0 of the Schedule to be updated. Given that you cannot know at this stage when a planning permit may issue, it would be sensible for the clause 5.0

sum not to be a fixed sum but be a sum to be determined by say having a present day figure and a formula to index that figure by say inflation percentages applied to the present day figure. Provision should also be made to deal with inflation between the date of entry into the Section 173 Agreement and the date of construction of the facilities. Such a provision might read as follows:

*“or a bank guarantee be held by the Responsible Authority of a sum being \$ (here insert the relevant monetary sum as at say 1 November 2007) increased by the amount derived by applying Consumer Price Index (CPI) increases to the said sum for the period between 1 November 2007 and the date of entry into the section 173 Agreement. For the purposes of this clause CPI means the CPI index published by the Australian Government Statistician under the Leading All Groups Melbourne. The section 173 Agreement shall further provide that any bank guarantee sum held under the section 173 Agreement shall be increased annually to the satisfaction of the Responsible Authority by applying CPI increases to the amount secured by the bank guarantee.”*

8. Your recommendation 15 is appropriate in relation to amending section 4.0 of the Schedule to the CDZ. You go on to refer to altering the building envelope section of the CDP. There is a reference to building envelopes at page 32 of the CDP but that reference relates to precinct 2 only. I do not believe I have a copy of the indicative development precinct and layout plan referred to in the first sentence of clause 4.11 on page 31 of the CDP. This proposed amendment requires close examination and the ability to refer to all relevant precinct plans.
9. Recommendation 17 is one that I would support unless there are other CDP plans that I have not seen.
10. Recommendation 18 requiring the CDP to be reviewed to tighten expression is one that will need to be implemented prior to the Council considering the amendment for final approval. I have not in the time available, been able to review the CDP with a view to tightening its drafting but I note the review being undertaken by Trevor Budge may deal with this issue. If you wish me to offer advice on the implementation of the recommendation to tighten the drafting of the CDP please advise in due course.
11. The recommendations you make and any amendment set out in the recommendation of the officer assessment which I have not commented upon I think are in a satisfactory form.

Please contact me if you require anything further at this interim stage.

Yours faithfully,

**Warrick Nelson**  
**HARWOOD ANDREWS LAWYERS**

## ELECTRONIC MAIL

To: Mr Jeff Morgan  
Senior Strategic Planner

From: Warrick Nelson

Company: Colac Otway Shire Council

Email: wnelson@harwoodandrews.com.au

Email: jeff.morgan@colacotway.vic.gov.au

Date: 31 August 2007

Your ref:

Our ref: 1WDN:8bap 2306035

Subject: Amendment C29

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Dear Jeff,

I have reviewed the report by Trevor Budge attached to your email dated 29 August 2007. There is nothing in that report that should be of concern to either Council officers or the Council when further considering Amendment C29.

In relation to the matters raised in your letter dated 20 August 2007, my email to you dated 23 August 2007 deals with the issue of appropriateness and/or legality of the suggested drafting changes. There is nothing that I wish to add to that email on this first issue.

The second issue, upon which you seek our advice, is on the robustness of the Panel Report and Officer Assessment of the Report, and more particularly Council's position if the amendment proceeds in terms of liability and the discharge of Council's responsibilities. On this issue I can find no reason to be concerned that the Council has not to date discharged its statutory and other legal obligations in relation to the amendment. You instruct me that an extension for the purposes of section 30 of the Planning and Environment Act 1987 has been granted which would mean the amendment would not lapse until a date in November 2007 and further you have recently sought a further extension, which if granted, would allow further time to either adopt or abandon the amendment.

In conclusion, I believe Council has discharged its statutory and other legal obligations in relation to the consideration and processing of the amendment to date.

Please contact me if you have any queries.

Yours faithfully,

**Warrick Nelson**  
**HARWOOD ANDREWS LAWYERS**

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20<sup>th</sup> September 2007.

Ms Lorraine Ladhams  
Risk Management Coordinator  
Colac-Otway Shire Council  
P O Box 283  
COLAC VIC 3250

Hi Lorraine,

I refer your recent letter dated 11<sup>th</sup> September Re: Amendment C29 to the Colac Otway Planning Scheme.

As you have acknowledged, CMP already provided advice to your Council on this matter, from a CMP policy coverage perspective.

Since we last commented over two years ago, you have ask us to review the various documents etc., from various entities and Council's solicitor, who have provided their expert advice and comments to date.

Because you have requested CMP to provide updated comments on this matter, we were obligated to at least do a quick summary of the documents, where we quickly came to the decision that the information provided, is way beyond our interpretation and understanding, as your Insurer, of such expert and technical advice.

CMP's position of not being qualified to comment, also extends to the types of reports themselves, the consultants and entities that have been chosen to comment, where Council is to rely on such advice, in order to arrive at the decision of whether to proceed or not.

For this reason, we must put this back on Council to determine if all the right consultants, reports and their interpretation by Council has been deployed, for the purpose of Council's decision making process.

Therefore, from CMP 's perspective with respect to cover provided to Council under the CMP liability policy, we can only reiterate the same advice given last time, on this issue. CMP still believes that it is Council's role to ensure that all the necessary and correct advice has been sought by the right entities, consultants and solicitors etc. Please note:

In your decision to proceed, and approve the planning scheme amendment, you must approach this as though your Council had no insurance. You need to ask the question: "Provided all was done, that could be done to prevent flooding, would Council back their own decision to allow the Amendment, and be personally responsible for all damages/loss, assuming there was no insurance"?

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JLTCMLH

Ms Lorraine Ladhams  
20 September 2007  
Page 2

If in hindsight, in the event that a loss did occur, it was proven that all precautions were taken, all professional advice and opinions were sought and acted on, all calculations and computations were taken into account, and therefore believed flooding would not occur, then CMP's Liability Policy would respond to protect Council, subject to the policy terms & conditions.

It is important that you do all you can to ensure safety and not let something go on the strength that you have an insurance policy in place. A very important Condition of the CMP policy is "Condition No. 7, Reasonable Care", that requires you to take all reasonable precautions/care to prevent injury or damage. As already mentioned, it is as though you should act and make decisions on the basis that you were uninsured.

If you ignore Condition No. 7 of the CMP policy and those comments above, then it could compromise Colac-Otway's position regarding the granting of cover in the event of a loss. Especially, if it is registered that an exposure does exist (which there is evidence of such exposure), and nothing was done about the prevention of same.

Hoping the above explains CMP's position on this matter, and if Council is still uncertain whether to proceed, or abandon the C29 amendment in accordance with your rights to do so, we can only advise the following:

It is strongly suggested that you should refer the matter to your legal advisers to assist you in your "decision making" as to whether to go ahead. We are not in a position to give legal advice, and only your solicitor can advise you where you stand with respect to exposure.

Please note that we provide this advice in the capacity as your Insurance company, and it must not be construed to be legal advice. We strongly advice referral to your Solicitors in this regard. Further, notwithstanding our advice, the cover afforded to your Council is only as per the normal terms, conditions and exclusions of the CMP Broadform Policy.

Yours truly,

Frank Loschiavo  
Research & Admin. Account Executive.



## 21<sup>st</sup> Century Sea-Level Rise Estimates

There are three primary drivers of sea-level rise that contribute to projections by the IPCC and individual researchers:

- **Thermal expansion:** Expansion of water due to rising temperature.
- **Ice Sheet Mass Balance:** Contribution to sea-level rise from gradual melting of ice sheets as temperatures rise.
- **Ice Sheet Dynamics:** Effectively, the rapid break-up (potentially catastrophic) of ice sheets due to various physical processes (a secondary effect of rising temperatures). This includes such things as formation of lubricating pools of water at the base of ice sheets, the acceleration of ice flows into the ocean as floating ice shelves break-off, etc. These processes tend to accelerate the rate of ice sheet or glacier loss and, subsequently, sea-level rise.

Of the three, the first two have been quantified within a range of uncertainty. Dynamical ice sheet responses, however, are considered more difficult to quantify, but could ultimately contribute more to sea-level rise than the other two processes. Some recent, often-cited estimates for sea-level rise appear in the table below.

| Study   | Range  | Notes   |
|---|--|---|
| <b>Modelling Studies</b>                        |  |   |
| IPCC (2001a)                                    | <b>9–88 cm</b>   | Accounts for thermal expansion, glacier and ice sheet mass balance and dynamical processes.   |
| IPCC (2007)                                     | <b>18–59 cm</b>  | Accounts for thermal expansion, melting of glaciers and ice sheets (i.e., mass balance), but does not account for dynamical ice sheet discharge.  |
| IPCC (2007; with dynamical ice sheet discharge) | <b>18–76 cm</b>  | Same as above but with 0–17cm added to account for dynamical ice sheet discharge (from IPCC, 2007).   |
| <b>Empirical/Observational Approaches</b>       |  |   |
| Rahmstorf (2006)                                | <b>50–140 cm</b>   | Assumes observed rates of sea-level rise are proportional to observed changes in global mean temperature. Extrapolates future SLR from IPCC scenarios for future temperature changes.   |
| Church and White (2006)                         | <b>28–34 cm</b>  | Extrapolated from recent trends in sea-level rise acceleration. Range is consistent with median estimates from IPCC (2001 & 2007).  |
| <b>Hybrid Approaches</b>                        |  |   |
| IPCC (2007); Meier et al (2007)                 | <b>23–140 cm</b>   | Combines IPCC (2007) climate model estimates of thermal expansion for 2090-2099 with projections of glacier and ice sheet contributions by 2100 from Meier et al. (2007) that include acceleration from dynamical instability based upon observed trends.   |
| <b>Paleoclimatic Analogy</b>                    |  |   |
| Hansen et al. (2006)                            | <b>Up to 60 cm per decade (600 cm per century) post-2100</b> | Paleoclimatic evidence indicates that sea-levels were 25 metres higher when global temperatures were 2–3°C warmer. Further, dynamical ice sheet processes can lead to rapid disintegration of ice sheets and rapid rates of sea-level rise. The timing of these processes is speculative, but such rapid rates are probably not relevant over this century. |

A few thoughts on these various studies:

The largest source of uncertainty in future projections of sea-level rise is the effects of dynamical ice sheet discharge. Some of the projections included in the preceding table attempt to capture this component using varying methods. However, the latest IPCC report concluded that it was unable to attach any likelihood to different sea-level rise futures, due to the major knowledge gaps regarding this important component of sea-level rise. The most conservative way of treating these processes is to describe them as “unknown, but potentially large”.

The empirical/observations studies are probably the most useful for looking out over the next several decades as they are based upon observed trends and relationships. Church and White (2006) likely underestimate the uncertainty in future SLR – their estimates should be viewed more as a “best guess”. Rahmstorf’s (2006) study is interesting in that it produces larger estimates of sea-level rise than IPCC, and suggests that sea-level rise of approximately 1 metre is a reasonable mid-range estimate for 2100. In addition, it is possible to generate a range of future sea-level rise quite similar to Rahmstorf’s through other methods (e.g., “hybrid” methods in the table) – specifically, combining the IPCC’s (2007) estimate of future thermal expansion with recent work estimating future changes from glacier and ice sheet changes in mass balance and dynamical discharge (these estimates were not included in the IPCC report).

Regarding the use of 50cm as a guide for development, it’s worth noting that this is well below just about all of the upper ranges for future sea-level rise in the aforementioned studies, but probably higher than the mid-range estimates (except Rahmstorf and Hansen and the hybrid approach). If one is looking for an answer that is robust over the largest number of potential futures, that suggests the use of at least 1 metre as guide (assuming that the input from Hansen isn’t particularly relevant over the 21<sup>st</sup> century). However, if one is looking for a “best guess” of 21<sup>st</sup> century sea-level rise, then 50 cm would be sufficient to cover at least the IPCC ranges.

Another consideration is how long one wants to protect the proposed development. Is it acceptable for it to be at risk in 50 years. If so, then 50 cm is likely sufficiently conservative, as there is a low probability of sea-level rise of that magnitude over that time scale. If the goal is to ensure that the development remains risk-free till the end of the century, then larger estimates become relevant. Furthermore, sea-level rise will interact with storm events and the associated storm surge and coastal erosion. These processes are likely to have a greater influence on shore profiles and, subsequently, property and development than average changes in sea-level rise alone. For example, beach recession from various points along Victoria coast in response to 50 cm of sea-level rise has been estimated at 7 to 130 metres (depending on location and beach sensitivity; Port of Melbourne Authority, 1992). As such, one must give consideration not only to the height of a property above the high-tide mark, but also its distance.

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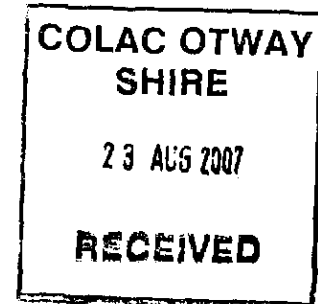
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Our Ref: 55/050/0086C  
Your Ref: GEN00451 - C29 JM  
Enquiries To: Paul Northey

August 21, 2007

Jack Green  
General Manager Sustainable Planning and Development  
Colac Otway Shire  
PO Box 283  
Colac VIC 3250



Dear Jack,

**Re: Amendments C17 & C29 - Apollo Bay off-stream water storage**

I refer to your letter dated 5 August regarding Amendments C17 (Marriner's Vue) and C29 (Great Ocean Green) to the Otway Planning Scheme. Barwon Water's response to the questions you have raised are as follows:

1. *Whether Barwon Water is of the opinion that a potable water supply to service these two developments can be provided in the future.*

As you are aware, Barwon Water has been undertaking extensive investigations to find a suitable storage facility in the Apollo Bay area. Currently the only site identified as suitable is Site 8, within the Great Ocean Green development. Detailed investigations of the Site 9 near the existing Marengo Basin showed that the site is not suitable. This leaves only one other potentially suitable site, Site 3, which Barwon Water is now proposing to investigate.

Barwon Water has made initial contact regarding the proposed investigations with the owners of Site 3, who have indicated a strong preference that the investigations are not carried out on their land. Barwon Water will continue to seek a cooperative solution with the landowners, however at this stage it is anticipated that difficulty in gaining access to the site will result in the investigations not being completed until the end of 2007. If the investigations determine that Site 3 is not suitable for the water storage, Barwon Water would not have any identified suitable storage site apart from that contained within the Great Ocean Green proposed development mentioned above. Barwon Water would then endeavour to come out with other solution to the water supply issue, however there would be no guarantees that an alternate solution would be found.

2. *Whether the provisions in the Schedule to the CDZ (Amendment C29) are adequate to ensure development will not commence until a potable water supply is available.*

Whilst the provisions in the Schedule to Amendment C29 make it clear that the development cannot commence until a potable water supply is available, Barwon Water is concern that it may be exposed to potential future action brought about by the developer if the lack of water supply prevents the development from proceeding. Therefore, Barwon Water requests that an additional provision be included in the Schedule.

3. *Whether there should be an additional decision guideline in the Schedule to the CDZ (Amendment C29) that effectively states that a subdivision permit cannot be granted until a potable water supply is available.*

Barwon Water understands that the purpose of the proposed additional guideline in the Schedule is to prevent the situation disputed above from occurring and therefore supports that proposal.

4. *Whether the aforementioned planning provisions in the Schedule to the CDZ (Amendment C29) should also be included in the planning provisions for Amendment C17.*

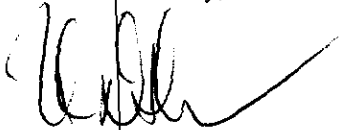
Consistent with Barwon Water's response to question 3, the proposal to also include the above planning provisions in the Schedule to the CDZ (Amendment C29) in the planning provisions for Amendment C17 is supported.

5. *Subject to agreed modifications to the planning provisions in relation to availability of a potable water supply, whether Barwon Water believes that it is appropriate that Amendments C17 and C29 be adopted by Colac Otway Shire Council.*

Barwon Water does not object to Colac Otway Shire Council adopting Amendments C17 and C29 provided the agreed modifications to the planning provisions are included.

I would be pleased to discuss this further should you have any queries.

Yours sincerely,



Paul Northey  
**Manager Strategic Planning and Sustainability**  
**Barwon Water**

Thank you for referring information on the Great Ocean Green proposal for comment on the implications of the Future Coasts project for such a proposal.

Bearing in mind that DSE has not been able to review each of the many hundreds of pages of documentation you provided, and that DSE is not able comment about the merits of this particular development, I offer the following comments about the consideration of climate change in the officer's reports, and the proposed comprehensive development zone schedule.

- When it comes to consideration of climate change impacts DSE would expect to see precautionary sea level rise figures factored into flood modelling, best available terrain modelling, and the ability to deal with uncertainty and new information as it becomes available.
- Taking these expectations into account, it appears that the information on potential climate change impacts that has been made available to decision makers here is reasonably comprehensive.
- The Future Coasts project aims to develop high (10-50cm) resolution coastal terrain and bathymetric models and an analysis of coastal vulnerability based on sea level rise and storm surge projections. It is expected that Future Coasts would add information and detail to that which is currently available, which may or may not change the outcome of flood modelling for the site, and it is important that any planning provisions are sufficiently flexible to take into account such new information as it becomes available.

Regards ...Rod

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**Rod Anderson**

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**Hydrologic Review**

**of**

**“Barham River Flood Study”**

**[Corangamite CMA Report No FPM-2007-1, 5 April 2007]**

**R G Mein**

**For Corangamite CMA**

**1 October 2007**

**R G Mein & Associates P/L**  
**Email: [Russell.mein@bigpond.com](mailto:Russell.mein@bigpond.com)**

## 1. INTRODUCTION

This report provides a peer review [termed “the Review”] of the document “Barham River Flood Study (Corangamite CMA, dated 5 April 2007)” [“the Study”]. The purpose of the Study was to determine the effect of proposed development for the Barham River Flats on flood levels in the area near the Great Ocean Road.

In terms of scope, the emphasis of this Review is on hydrologic aspects (flood flow estimation) rather than the hydraulic components (flood water levels). Further, the Review focuses on the hydrologic methodology (techniques used, parameter selection) rather than checking of input numbers (eg design rainfall parameters). Nevertheless, comments are made on the general plausibility of assumptions and acceptability of the main outcomes.

This Review is structured as follows. Section 2 provides comment on the overall methodology, followed by detailed sections on the flood frequency analyses (Sect. 3) and flood hydrograph modelling (Sect. 4). A discussion of the implications of aspects noted in Sections 3&4 of this Review, together with comment on the design sea-level rise due to climate change, is given in Section 5. A conclusion summarises the Review findings.

## 2. OVERALL METHODOLOGY

The Barham River catchment to the Great Ocean Road has an area of 80 km<sup>2</sup>. From a hydrologic perspective, an important aspect is that (some) gauged data from two of its main tributaries are available to provide information as to how *this* catchment responds to heavy rainfall events.

When observed data are available, best hydrologic practice would always include flood frequency analyses of the available streamflow records. Such analyses provide estimates of the flood peaks for a range of event severity, albeit at the sites of the gauging stations.

A second step is to calibrate a runoff-routing model with the observed data. This provides the means for estimation of design flood hydrographs (not just peaks) which are needed when flood volumes are an issue (eg because of flood plain storage). Runoff-routing models also allow the estimation of flood flows at locations other than the gauging stations, as applies in the Barham River catchment.

The separate results from frequency analysis and runoff routing modelling need to be compared, and adjusted for compatibility as appropriate (according to the data). The procedures for this are well documented in the *de facto* standard for design flood estimation in Australia, ‘Australian Rainfall and Runoff; a Guide to Flood Estimation’ [ARR87, ARR99] (Engineers Australia, 1987 and 1999).

|  |
|--|
| <p>This Review finds that the Barham River Flood Study has included all of the above three steps, and thus has followed best practice in the hydrologic methodology it adopts.</p> |
|--|

### 3. FLOOD FREQUENCY ANALYSIS

There are a number of aspects to the frequency analyses used in the Study.

- (i) **Data assembly.** Two gauge sites have been used on the East Branch of the Barham River s to record streamflows. When the first gauge (235314) on the East Branch was washed out, a second gauge (235233) was established further downstream. Hence, data from the upstream gauge needs to be ‘transferred’ to the downstream site to ‘extend’ the record there. There are a number of methodologies available to do this; the method used here (relationship derived from the runoff routing model) is considered a suitable one.
- (ii) **Gauging station ratings.** Gauging stations measure water level (not flow); hence, current-meter measurements have to be made to establish the relationship (rating table) between level and discharge. It is usual that, when major floods occur, the recorded levels are beyond the range of the rating table; the extent of extrapolation of the table needed to estimate the discharge for such events usually affects the accuracy of the flow estimate. Little information is provided in the Barham Report on the rating information for each site, but verbal advice from the CMA indicates that considerable extrapolation was involved. Thus the likelihood of uncertainties in the values of the larger observed peaks flows needs to be kept in mind.
- (iii) **Flood frequency analysis.** In the Study, a partial series was used (shown in Appendix C of the Report). The best fit curve in the figure shows a degree of negative skew in the data (although this is not excessive) so that the LP3 distribution (also shown) would likely be a safer estimate for the rarer events. [Note also the point made in the last sentence of (ii) above].
- (iv) **Treatment of the 1976 peak.** Section 2.5 of the Study indicates two ways of treating the largest event (Oct 1976) in the flood frequency analysis were used. The first is to assume it just as the largest of the observed events in the 37 years of observed data (designated HighQ); the second is to assume that it is the largest to occur in a longer period (LowQ). For the latter (technically termed a ‘historic flood’) more evidence is needed to ascertain the length of the applicable period, such as long-term residents in the area saying that Oct 1976 was the biggest in their lifetimes, or other equivalent information. The point to make here is that ‘historic floods’ are based on an extension of the flood record further *back* in time, *not forwards*. Hence the wording on Page 4 that “the LowQ value is based on the Oct 1976 peak as still being the highest recorded peak in 2020” is misplaced in concept. [The implication of this assumption is discussed in Section 5].

This Review finds that the frequency analysis of the observed data accords with best practice, apart from the (minor) issue raised in (iv).

#### 4. RORB MODELLING

There are a number of steps in the formation, calibration, and use of the RORB model for design flood estimation. Comment is made on these below.

- (i) **Catchment subdivision.** This is shown in Figure 1 of the report and accords with the requirements of using the RORB model for this catchment.
- (ii) **Calibration of the model.** The RORB model uses two related parameters ( $k_c$  and  $m$ ), and two loss parameters (initial loss and continuing loss) to determine the response of the catchment to rainfall. For gauged catchments, the first three are determined by fitting; the last (continuing loss) by a volume balance. A striking feature of the fitting done for the Barham River study is the value of  $m$  adopted after calibration. Most catchments have values in the range 0.7 to 0.85, so the value here (0.6) is considered low indeed (the lowest in the reviewer's experience!). [This aspect is discussed further in Section 5.]  
 A point to note is that the pluviographs – which indicate the storm temporal patterns – are all located outside the catchment and on the west side. The effect of this can be a variable one, ranging from a time shift in the catchment pattern to an incorrect pattern for the catchment rainfall. [Although such data anomalies are common in rainfall-runoff modelling, they need to be taken into account when assessing the fit between recorded and calculated hydrographs.]
- (iii) **Generation of design hydrographs.** Once the parameters of the model are fitted, the model can then be used to estimate design hydrographs. This requires the input of design rainfalls of different durations (to determine the critical duration), the application of an areal reduction factor, and the choice of appropriate design losses. For the Barham River Flood Study:
  - design rainfalls were determined using the techniques set out in ARR 1999, which accords with standard practice.
  - rainfall areal reduction factors were taken from ARR87. These are considered, but it should be noted that more recent ones are available and will be endorsed in the next revision of ARR; these would give lower input rainfall depths for each design storm. [This aspect is discussed further in Section 5.]
  - design loss parameters were obtained by calibration to the flood frequency curve (and thus linked to observed flood behaviour on this catchment). The Review finds this approach acceptable, but notes that the values of continuing loss are lower than what would be used if observed data were not available; hence flood estimates would tend to be conservative. The linking of initial loss and continuing loss by a factor (10:1) is certainly unusual, but not considered unacceptable in this case (given the observed data). The decrease in loss parameters with increasing ARI is not supported by recent research (Hill et al, 1996), and thus may be considered to add further conservatism to the calculated hydrograph peaks and volumes.

- the issue of global warming was canvassed but no adjustments made to storm rainfalls, due to the lack of design information and the high level of uncertainty. The Review supports the position taken on this.

The runoff routing work has been competently done. Importantly, some “departures” from what might be considered usual practice are supported by the observed data.

## 5. DISCUSSION

This section first considers the three issues raised in Sections 3 and 4 above. Comments on the assumed sea level rise magnitude adopted for design are made at the end of the section.

### *Issues raised in Sections 3&4*

- (i) **Considering the treatment of the October 1976 event as an ‘historic flood’.** This flood was easily the largest in the period of observations (37 years); the issue is whether it was the largest for a period longer than this. If so, the flood frequency calculations can treat it as an historic flood and an estimate of the applicable period is required. The extended period used in the Study was 50 years, and justified on the basis of no larger events until 2020 (ie an extra 13 years). As future flood occurrences are unknown, it is not acceptable to make such an assumption; it is the previous history that needs to be considered. Presumably, no larger flood occurred in the 13 years before records began, so the 50 years can be justified that way. It could even be an even longer period (eg it is understood a large event occurred in 1923), which would further reduce the LowQ estimates. What can be said is that the approach taken in the Study is likely to be conservative.
- (ii) **Implication of RORB parameter  $m$  being too low.** The parameter  $m$  is an indication of the degree of nonlinearity in catchment response. For a linear response (ie doubling the input rainfall-excess will double the hydrograph ordinates),  $m$  would be 1. Values of  $m$  in the range 0.7 – 0.85 are most common; a value of 0.6 is very low. Indeed, the RORB Manual states that values of  $m$  less than 0.7 should be ‘viewed with suspicion’. [This Review notes that slopes of the main streams of the Barham River catchment vary considerably; steep in the uplands, but much flatter near the outlet. Consideration could be given to incorporation slope in the reach parameters in RORB, as described in Section 2.2.2 of the RORB manual, to obtain a calibration with a larger  $m$ . It is noted that  $m$  values of 0.8 were found suitable for the nearby catchments of both the Ford and Aire Rivers (Hill et al, 1996). Using the  $k_c$  values from these catchments and adjusting for area would lead to a  $k_c$  of about 17 for the Barham at Great Ocean Road, for an  $m = 0.8$ ]

The effect of low  $m$  values on the hydrograph is to steepen the rising limb, and to advance the peak (noting that the peak flow itself has been matched to the flood frequency curve in this Study). The slope of the recession limb is reduced. Thus, we are talking about a perhaps moderate change in hydrograph



shape, rather than in its volume. The implication of this is likely to be small for a situation involving significant storage on the flood plain, as exists for the lower Barham River catchment. Nevertheless, with more of the runoff volume earlier in the event, the design hydrograph will be slightly less conservative in terms of consequent flood levels (than for a higher **m**).

- (iii) **Use of newer (higher) design loss values and (lower) areal reduction factors.** Recent work by Hill et al (1996) on design losses and by Siriwardena and Weinmann (1996) on areal reduction factors has much improved the design data available for flood estimation. The losses proposed are higher than recommended in ARR87, and the areal reduction factors to be applied to rainfall are smaller. The net effect is to reduce design flood peaks and volumes (larger loss, less net rainfall).

This Review notes that the methodology adopted in the Study would tend to offset the effects of such changes by fitting to the frequency curve. It is not considered a complete offset, however, so the calculated design hydrographs would tend to lead to conservative estimates of flood levels.

The impacts of three issues raised in Sections 4& 5 have been discussed here. Overall, their effects are each considered minor; their combined effect would lead to conservative estimates of the design flood.

#### ***Design sea-level rise (due to climate change).***

There is a large and growing body of scientific literature on climate change and its likely impacts. With respect to the effect on sea level, the most authoritative is the report of the Intergovernmental Panel on Climate Change [IPCC] (2007) because of the number of scientists and resources involved in its predictions.

The 2007 IPCC predictions are based on modelled scenarios, and include a number of assumptions. The A1F1 scenario (an average 4 degrees C rise in temperature; range 2.4 – 6.4) gives a range with the highest predicted value of sea-level rise (ie 59 cm by year 2099). This figure include the thermal expansion of the oceans and the melting of polar ice, but doesn't include the possibilities of ice 'flows' into the ocean. IPCC suggests that this could increase the rises by a further 10-20 cm. It should be noted the emphasis made by IPCC on the amount of scientific uncertainty inherent in making predictions of this kind.

The Study has adopted the 50 cm (thermal expansion, melting), added 20 cm (ice movement to the sea), and used a rounded figure of 80 cm for the design sea level rise.

This Review endorses the seemingly conservative approach used in the Study. Normally, the mean (or median) values of input variables (eg losses) would be adopted for determining events of a given probability of occurrence. However, sea-level rise is a different kind of variable, being a trend (rather than random variable about a mean). There is no suggestion that rise will stop at the arbitrary 2100 projection period. Further, there are many who argue that sea-level rises are more

likely to be near the top of the IPCC ranges than at mean values (eg Pittoch, 2007). Consequently, it is considered prudent to use the upper-range of the IPCC values.

A common approach to dealing with uncertainty in design assumptions is to perform a sensitivity analysis in which a range of values are tested. In this way, the impact of the assumed value(s) can be better assessed.

This Review endorses the design sea-level rise value used in the Study (80 cm). However, a sensitivity study to better assess the effect of this choice should be considered.

## **6. CONCLUSION**

This review has focussed on the hydrologic methodology and assumptions of the Barham River Flood Study. It has given particular consideration to the flood frequency and runoff routing aspects, and the way in which results from those two techniques have been reconciled. Some (minor) points of difference from what might be considered standard practice were discussed.

The findings of this Review are:

- (i) the hydrologic work has been competently done, and generally accords with best practice.
- (ii) the minor issues raised in this review are unlikely to lead to a much different result [they would decrease, rather than increase, the design flows (if anything)]. Thus, the calculated design flood peaks are, if anything, likely to be conservative.
- (iii) the assumed sea level rise (80 cm by 2100) for the Study, although at the upper end of the IPCC scenario ranges, is considered a reasonable figure to adopt in view of its uncertainties. A sensitivity study to assess the effect of design sea-level value should be considered.

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## About the Reviewer

Professor Russell Mein was Director of the Cooperative Research Centre for Catchment Hydrology from 1995 until his retirement from the position in 2002. He was a member of the Department of Civil Engineering at Monash University from 1971-2002. His 35 years of hydrological research and its application cover a broad field, including flood estimation, urban hydrology, and salinity. He is now active as a private consultant (R G Mein & Associates P/L) in water engineering and management, specialising in high-level review.

Russell's experience and expertise makes him particularly suited to the role as expert hydrological reviewer for flood studies. He is co-author of RORB (a flood estimation program used nationwide, and now in its 5<sup>th</sup> edition), of two books on river and reservoir yield, and of "Hydrological Recipes" (a handbook of 'rapid' methods for hydrological analyses). He was Chairman of the Advisory Committee for the 1987 edition of 'Australian Rainfall and Runoff' (the bible for flood estimation in Australia), most of which remains current, and Leader of the Flood Program of the CRC for Catchment Hydrology. He chaired the expert review panel for the design flood estimates for Brisbane. He has been a review consultant for many flood studies: these include design flood estimates for the spillways of the Warragamba, Dartmouth, Thomson, Serpentine, and Rocklands Dams.



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Management Authority  
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e info@ccma.vic.gov.au  
w www.ccma.vic.gov.au

File Ref: STP/02-0007  
Your Ref: Lawson email 12 and 15 Oct 2007

16 October 2007

Jeff Morgan  
Colac Otway Shire  
Po Box 283  
Colac Vic 3250

Dear Mr Morgan  
**Further queries raised on design tides for Great Ocean Green**

Mr Lawson has questioned the level difference between chart datum and Australian Height Datum (AHD). In the Barham River Flood Study the tidal analysis was drawn from the Lorne Tidal Station, a station that is continuously monitoring sea level and part of the Australian Baseline Sea Level Monitoring Program by the National Tidal Centre. The CCMA report states that for the Lorne station, zero m AHD is equal to 1.45m chart datum. Further analysis of averaging predicted high and low tide levels over the months April and May 2007 confirms that the difference between AHD and chart datum for this station is correct. Zero metres AHD is defined as mean sea level.

The National Tidal Centre publishes monthly and yearly reports that can be accessed via the web. Tidal data at Lorne has been recorded continuously from 1993 with this program. Automatic tide level measurements at Lorne have taken place since 1976. The reported HAT and LAT (Highest and Lowest Astronomical Tide) for Lorne Tidal Station by the National Tidal Centre are the same as the ones stated in the CCMA Report.

HAT (Lorne) = 1.3 m AHD  
LAT (Lorne) = -1.3 m AHD

Most Tidal Stations have a different chart datum to each other. Mr Lawson was quoted that the difference between the Apollo Bay Tide Gauge and AHD is 0.94m (Ref Gertzel Surveying) and this is accepted.

The tidal information used by the CCMA for the Great Ocean Green development has always been based on metres AHD and have relied on the continuously recorded tide data at Lorne for statistical analysis of the open sea level. The reported highest recorded sea level at Lorne is 1.43m AHD.

The CCMA estimated the 1 yr ARI tide level to be 2.0 m AHD. This was based on extrapolated reported frequency data available at the time for Lorne tidal data allowing 0.8m sea level rise by 2100 for greenhouse effects. The recent CSIRO Study for design tidal levels for the Gippsland Coast includes modeling astronomical tide levels in Bass Strait from Cape Otway to Lakes Entrance. The study predicted the 99<sup>th</sup> percentile of high tide heights at Apollo Bay are slightly lower than at Lorne. (Ref: Figure 12 CSIRO "Climate Change in Eastern Victoria Stage 2 Report, The effect of climate change on storm surge", June 2005)

The observed data supplied by Mr Lawson is taken from inside the Apollo Bay Harbour and likely to be influenced by wave height as waves pass/ enter the harbour.

The data recorded in the estuary for high tides will be influenced by wave runup over the sand bar and depending on the height of the waves it is likely the estuary level may exceed the ocean sea level on occasions. The tidal data recorded at Lorne is automatically averaged over 6 minute periods to give the mean sea level at any time, taking out the influence of individual surface waves. Further work will be done in the detail design phase, if the development is approved, to clarify the relationship of high tides between Apollo Bay and Lorne.

The model runs carried out by the consultant for GoG Developer has shown that the Great Ocean Road is the hydraulic control for floods on the Barham River floodplain. Tide boundary condition for the ocean can be increased to 2.5 m AHD without affecting the 100 yr ARI flood levels where the residential pods are proposed. Sensitivity analysis of all hydraulic model inputs, including the tide boundary condition, will be a condition for detail design of the development if it proceeds.

The sea level boundary condition adopted for the Barham River hydraulic model is a fixed level based on the highest surge tide level. This assumption ensures that the timing of the peak in the flood hydrograph coincides with the peak surge tide event and the peak of the astronomical high tide. This is a conservative assumption as tide surge events at Apollo Bay are likely to last less than for 1 tide cycle and just as likely to peak with the low astronomical tide.

The CCMA believes that the tide levels used for estimating flood levels for the proposed GOG development are still reasonable and the flood levels calculated for the development and presented at the Panel Hearing by the Consultants are the best estimate available.

The modeling conducted demonstrated that the residential pods can be constructed on the floodplain with no adverse flood impacts on neighbouring properties or significant increases or changes in flood velocities across the floodplain. The river is protected from development with a 50 metre re-vegetated buffers on each side of the river. It is our belief that the controls contained in the CDZ1 will ensure water quality of the Barham River is protected from residential and golf course development.

If you have any questions about this advice, please contact Tony Jones, on (03) 5232 9100.

Yours sincerely



Tony Jones  
Floodplain Manager

CC Phil Lawson (email)

*Planning and Environment Act 1987*

## **COLAC OTWAY PLANNING SCHEME**

### **AMENDMENT C29**

#### **EXPLANATORY REPORT**

#### **Who is the planning authority?**

This amendment has been prepared by the Colac Otway Shire Council, which is the planning authority for this amendment.

The amendment has been made at the request of the Urban Property Group.

#### **Land affected by the amendment.**

The amendment applies to the land known as the Barham River flats which comprises approximately 170 hectares between the settlements of Marengo and Apollo Bay. The land is generally bound by the Great Ocean Road to the east, Seymour Crescent to the north, the Otway foothills to the west and residential development to the south. The land is bisected by Barham River Valley Road and the Barham River.

The land is more particularly described as all land in Plan of Consolidation 362933N Vol. 10588 Fol. 485, Lot 1 on Plan of Subdivision 429486D, Vol. 10573 Fol. 101, Lot 1 on Plan of Subdivision 408749Q, Vol. 10453 Fol. 057, Lot 2 on Plan of Subdivision 013765 Vol. 06137 Fol. 288, Lot 1 on Plan of Subdivision 013765, Vol. 05881 Fol. 025 Lot 2 on Plan of Subdivision 440381E, Vol. 10579 Fol. 241, Lot 4 on Plan of Subdivision 408749Q Vol. 1043 Fol. 060, Reserve No. 7 on PS 337182M, Vol. 10234 Fol. 575, Lot 1 on Title Plan 706631Q, Vol. 3019 Fol. 685, Lot 1 on Title Plan 414362T, Vol. 3019 Fol. 683, Lot 1 on Title Plan 106695H, Vol. 9657 Fol. 768, Lot 1 on Title Plan 180997V Vol. 6739 Fol. 619.

The land is located on Map nos. 29 and 30 of the Colac Otway Planning Scheme.

#### **What the amendment does.**

The amendment proposes to:

- Amend clause 21.04-10 of the Municipal Strategic Statement to provide a strategic framework for the future use and development of the land for an integrated recreation and residential development and to replace the Apollo Bay Local Structure Plan;
- Rezone the land from Rural Conservation Zone and Public Park and Recreation Zone to Comprehensive Development Zone and incorporate a Comprehensive Development Plan;
- Apply an Environmental Significance Overlay to manage the impact of acid sulphate soils on infrastructure and the environment;
- Schedule permitted works within a Public Conservation and Resource Zone to enable future revegetation and access for works along land adjoining the Barham River flats;
- Schedule exclusions to the provisions of the Land Subject to Inundation Overlay so that no permit is needed for dwellings built 600 mm above the 1 in 100 year flood level and which have flood free access;

- Schedule exclusions for the removal of native vegetation if they are in accordance with an approved Environmental Management Plan; and
- Remove the Erosion Management Overlay from the Great Ocean Green Development Area.

## **Strategic assessment of the amendment**

- Why is the amendment required?

The amendment is necessary to amend the Municipal Strategic Statement to update the Apollo Bay framework plan, rezone part of the subject land to a Comprehensive Development Zone to facilitate the integrated development of the land and include an incorporated plan that sets out the future development standards and conditions to be achieved.

The amendment provides a framework to establish an integrated development comprising up to 537 house lots, an 18-hole golf championship public course and club house, an increase in public open space areas from 12.2% of the site to 34.8%, the restoration of the Anderson Creek, the revegetation of land along the Barham River and the construction of a network of public trails connecting Apollo Bay and Marengo.

Apollo Bay is recognised as a key growth area along the coast. This site provides an opportunity to provide new accommodation and residential land supplies to the town to service local and regional community demand.

The current planning controls do not enable the proposal to be implemented. An amendment is required to update the existing Colac Otway Municipal Strategic Statement and other aspects of the planning scheme to facilitate the integrated use and development of the land subject to a range of management plans and development conditions.

- How does the amendment implement the objectives of planning in Victoria?

The Amendment provides for the fair, orderly, economic and sustainable use and development of land within this part of the Apollo Bay Township.

Rezoning the land will facilitate the integrated use and development of the land, the protection and enhancement of areas of environmental sensitivity and the introduction of planning controls over future built form.

- How does the amendment address the environmental effects and any relevant social and economic effects?

The site has been subject to a series of cultural and environmental assessments.

These assessments indicate that the site is significantly degraded and many of the flora and fauna values have either been lost or continue to be threatened. Although the land is predominantly cleared of native vegetation and species, some areas of faunal habitats of potential significance were identified along the banks of the Barham River and the estuary back-wash area.

Relevant environmental and social effects are considered below.

## Cultural heritage

An archaeological assessment identified that the site of the proposed hotel contains a larger scatter of Aboriginal stone artefacts. The full lateral and vertical extent of this scatter is unknown and further investigation will be required to establish the significance of this site. A Cultural Heritage Management Plan will be prepared prior to a permit being granted for buildings and works.

## Flooding and inundation

Parts of the site are subject to inundation either through flooding caused by storm events, by the closure of the river mouth when water flow is low or by tidal inundation. The implications of these issues and the possible future impact of a rise in sea level caused by global warming have been considered and addressed.

Residential pods have been designed to ensure that future development will not be affected by flooding and that appropriate flood free access to lots can be provided. In addition, the schedule to the zone requires the preparation of a Flood and Inundation Management Plan to ensure that Lot 3 PS429486 is provided with a suitable bund with 600 mm freeboard to the 1 in 100 year flood level.

## Acid Sulphate Soils

Part of the site is affected by Acid Sulphate Soils (ASS). These soils contain iron sulphides (mainly pyrite) which can generate large amounts of sulphuric acid when exposed to air. These soils formed natural over the last 10,000 years and are safe unless dug up or drained. In response to this, the amendment includes an Environmental Significance Overlay which will ensure an appropriate management response to this is employed during construction.

## Land Management

The schedule to the zone requires the preparation of a Land Management Plan. This will address issues such as waterway management, sediment control and salinity, pest plant and animal control and the protection and enhancement of native vegetation.

## Visual impact and design control

The amendment will ensure that new development will not have an unreasonable impact when viewed from the Great Ocean Road. Relevantly, new dwellings will be limited to 4.5 metres in height in the area between the Barham River and Great Ocean Road.

A set of Urban Design Guidelines will be prepared prior to any buildings and works occurring on the land to the satisfaction of the responsible authority. All new dwellings will be consistent with these guidelines.

The following economic effects have also been considered.



## Section 173 agreement

The landowner will enter into an agreement with the Council pursuant to section 173 of the Act to ensure that it constructs the golf course, club house and other necessary infrastructure and services required by the development.

The schedule to the zone requires the preparation of an agreement that addresses the following matters:

- The availability of a potable water supply and reticulated power supply be provided prior to the commencement of any buildings and works on the land.
  - The construction of the golf course and golf club.
  - A requirement that prior to the certification of any plan of subdivision which creates residential lots, the applicant must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the development responds to the forecast impacts of climate change.
  - A requirement that where works for any subdivision stage will commence greater than 2 years after the date of certification of the plan of subdivision for that stage, then prior to the commencement of such works the applicant must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the proposed subdivision can appropriately proceed having regard to the forecast impacts of climate change.
  - The construction and maintenance of public open space.
  - An annual fish survey in the Barham River.
  - The establishment of a design panel to ensure new dwellings are consistent with the Urban Design Guidelines.
  - The establishment of legal strategies to create entities responsible for the maintenance of and management of the golf course, waterways and landscaping on public land.
  - The payment of fees in lieu of the planning permit fees in order to recompense the Responsible Authority for time spent considering various plans which the planning scheme provisions require to be assessed and approved; and
  - A contribution towards land for roads, drainage or physical infrastructure.
- Does the amendment comply with the requirements of any Minister's Direction applicable to the amendment?

The proposed amendment is not affected by any of the Minister's Directions under section 12 of the Planning and Environment Act 1987.

The amendment is consistent with the Ministerial Direction on the Form and Content of Planning Schemes under section 7 (5) of the Act.

- How does the amendment support or implement the State Planning Policy Framework?

The amendment supports the principles of land use and development planning and in particular, the policies related to settlement, environment, economic well being, management of resources and infrastructure.

Apollo Bay is recognised as a District Town in the Victorian Coastal Spaces report (DSE, April, 2006), which expects moderate growth.

The Great Ocean Road Region Strategy (DSE, August, 2006) also envisages future urban growth and expansion of Apollo Bay.

Rezoning of the land to enable part residential land use will provide for the appropriate growth of the township in accordance with Apollo Bay's identification as a town where growth outside of current settlement boundaries is expected, subject to detailed structure planning which has now occurred and identifies the subject land as suitable for a mix of open space, recreational and residential development, within the future coastal settlement boundary.

The development of the land for will provide a greater diversity of housing, the restoration of the riparian environment and the construction of an 18-hole golf club and club house. The Comprehensive Development Plan and the incorporated plan will ensure that such future development is energy efficient, flood free and constructed to a high standard of urban design and amenity. The Comprehensive Development Zone will ensure that sites of landscape and environmental value are retained and enhanced as part of the development process.

- How does the amendment support or implement the Local Planning Policy Framework?

Further growth and development of residential and tourism related activity is expected to occur in Apollo Bay.

The amendment proposes to update the MSS Apollo Bay Framework Plan at clause 24.04-10 to provide an integrated development on the site.

The updated Apollo Bay Framework Plan is consistent with the detailed structure planning undertaken for Apollo Bay and adopted by Colac Otway Shire Council in April 2007. This plan envisages that the subject land will be further developed for recreation with integrated living opportunities.

- Does the amendment make proper use of the Victoria Planning Provisions?

The amendment makes proper use of standard and local provisions from the Victoria Planning Provisions.

- How does the amendment address the views of any relevant agency?

This amendment has had regard to the views of relevant agencies and these have been included in the schedule to the Comprehensive Development Zone, where appropriate.

The content of the schedule provides the responsible authority with an opportunity to consider for the views of relevant agencies as part of the planning permit process.

Barwon Water has required a provision ensuring a planning permit for subdivision cannot be granted until water supply issues are resolved to the satisfaction of Barwon Water and Colac

Otway Shire Council. The amendment also requires the implementation of water re-use and minimisation technologies in the future use and development of the land.

The views of relevant issues such as the Corangamite Catchment Management Authority, Aboriginal Affairs Victoria and Heritage Victoria will also be considered at relevant stages in the development process.

- What impact will the new planning provisions have on the resource and administrative costs of the responsible authority?

The new planning provisions will have a minimal impact on the resource and administrative costs of Colac Otway Shire Council when assessing subsequent planning permit applications.

### **Where you may inspect this Amendment.**

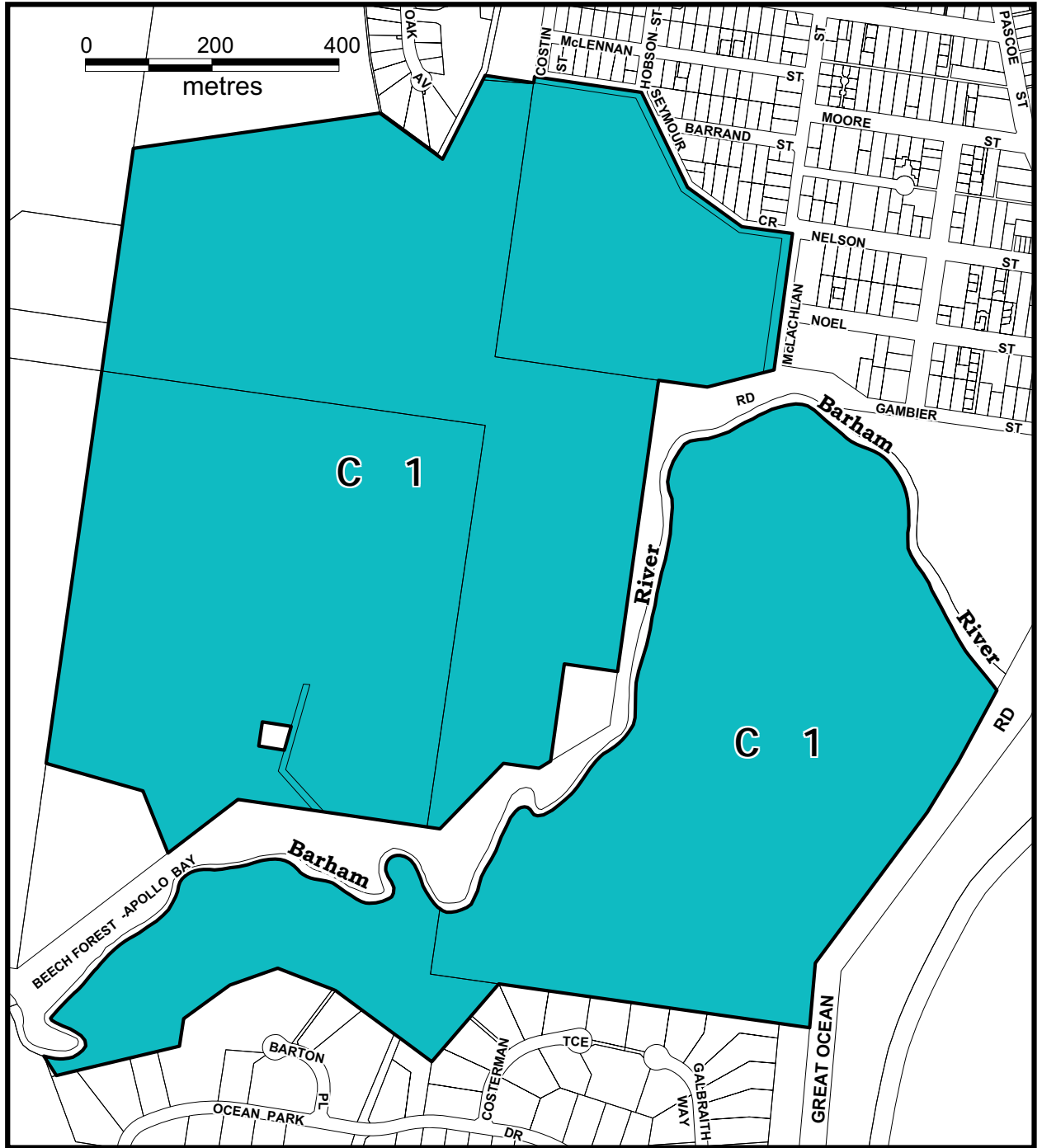
The amendment is available for public inspection, free of charge, during office hours at the following places:

Colac Otway Shire Council  
2-6 Rae Street  
COLAC VIC 3250

Colac Otway Shire Council  
Apollo Bay Customer Service Centre  
69-71 Nelson Street  
APOLLO BAY VIC 3233

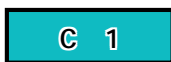
The amendment can also be inspected free of charge at the Department of Planning and Community Development web site at [www.dpcd.vic.gov.au/planning/publicinspection](http://www.dpcd.vic.gov.au/planning/publicinspection).

# COLAC OTWAY PLANNING SCHEME LOCAL PROVISION



Part of Planning Scheme Maps 27,29 & 30

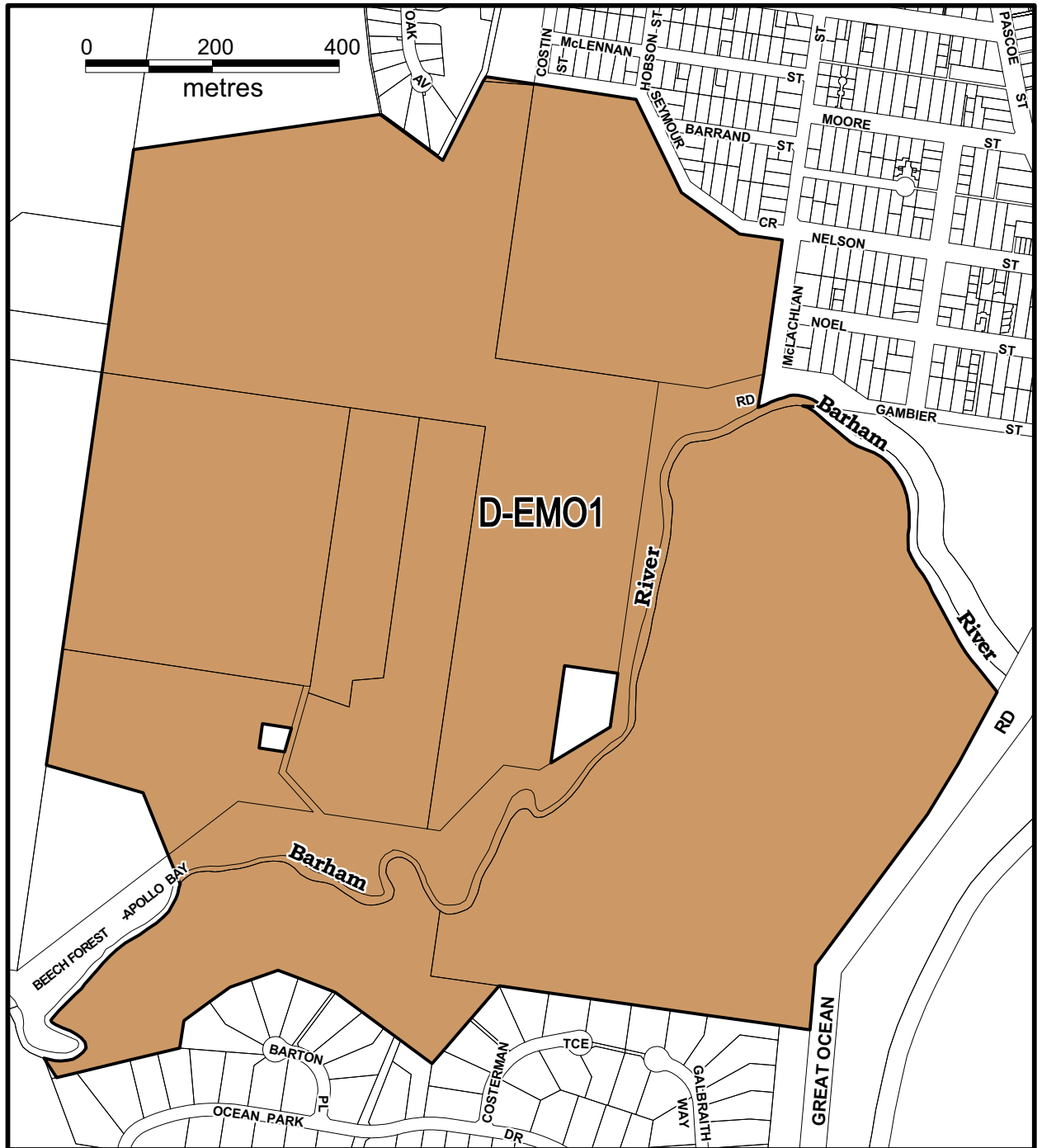
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# COLAC OTWAY PLANNING SCHEME LOCAL PROVISION



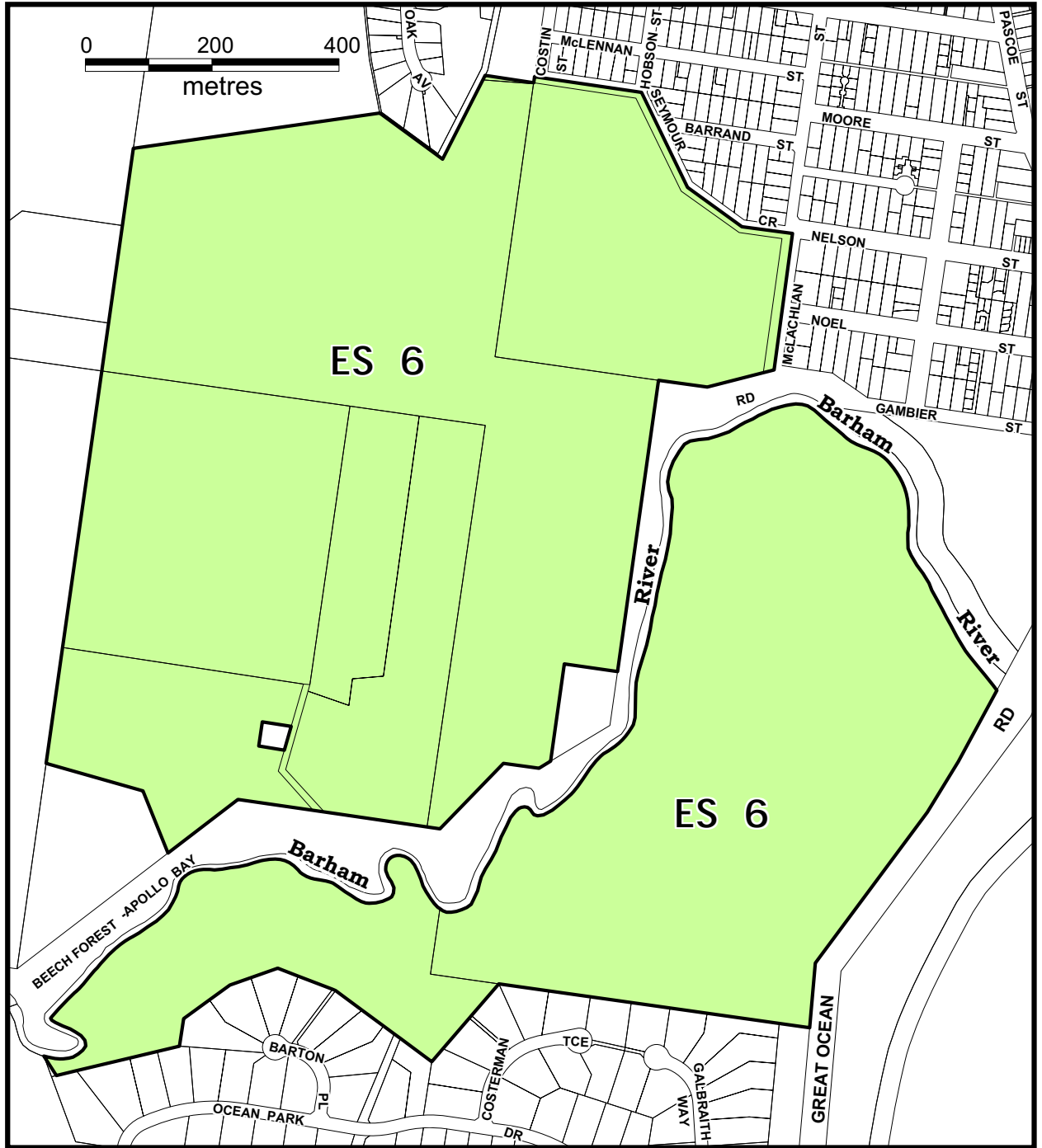
Part of Planning Scheme Maps 29EMO & 30EMO

**LEGEND**

**D-EMO** AREA TO BE DELETED FROM AN EROSION MANAGEMENT OVERLAY

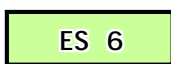
## AMENDMENT C29

# COLAC OTWAY PLANNING SCHEME LOCAL PROVISION



Part of Planning Scheme Maps 27ESO, 29ESO & 30ESO

LE E



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## **21.04 OBJECTIVES - STRATEGIES – IMPLEMENTATION**

08/02/2007  
C22

### **21.04-01 Strategic location**

19/01/2006  
VC37

#### **Key objective**

To promote the strategic location of the Shire in relation to local, regional and international markets. (From 21.01-02)

#### **Strategies to achieve the objective:**

Improve the road, rail, air and port facilities so that Colac Otway has the best possible access to international and domestic markets.

#### **Implementation will be achieved by:**

- Developing programs to promote the existing facilities in Colac Otway Shire.
- Developing strong links with the Department of State Development to ensure access to relevant state programs and policies for regional development.
- Developing strong links with other infrastructure providers to enhance the strategic location of the Shire.

### **21.04-02 The nature of the land**

19/01/2006  
VC37

#### **Natural Resources and Cultural Heritage Management**

#### **Key objective**

To manage the natural and cultural resources of the Shire in a sustainable manner to balance the needs of the future with protection for the key elements of the natural and cultural environment which are fundamental to the prosperity of the Shire. (From 21.01-03)

#### **Strategies to achieve the objective:**

Promote a co-operative regional approach to natural resource management.

#### **Implementation will be achieved by:**

- Adopting an integrated catchment management approach to the assessment and development of the Shire's natural resources.
- Maintaining and enhancing close linkages with the Corangamite Catchment Management Authority, the Victorian Coastal Council and the Department of Natural Resources and Environment in relation to the Otway Forest Management Plan to ensure regional consistency is developed where appropriate.
- Implementing consideration of land capability in the assessment of use and development proposals.
- Encouraging land management practices and land use activities that have the capacity to be sustained and protect the environment.

- Promoting the integrated management of public and private land with particular attention to the interface between the two.
- Promoting the co-ordination of information exchange on natural resource information with relevant organisations.
- Completing and implementing a Shire-wide Conservation and Heritage Strategy for significant sites and buildings.

**Strategies to achieve the objective:**

Manage the key elements of the natural environment in a sustainable manner.

**Implementation will be achieved by:**

- Ensuring water quality standards are observed in the assessment of development proposals.
- Ensuring that the maintenance in natural condition of watercourses is considered in the assessment of use and development proposals.
- Promoting the establishment of reticulated sewerage systems in townships where practicable.
- Promoting the introduction of improved septic tank systems and alternative waste treatment systems in areas where sewerage systems are not available.
- Promoting land management practices that protect soil resources from landslip, contamination, compaction and other forms of degradation.
- Encouraging land management practices that seek to improve areas of soil degradation.
- Maintaining bio-diversity through the protection of significant habitats including remnant vegetation.
- Promoting a coordinated approach to effective pest plant and animal control throughout the Shire.
- Protecting native vegetation and other significant stands of vegetation in order to prevent land degradation, maintain water quality and protect the bio-diversity of flora and fauna species.

**Strategies to achieve the objective:**

Minimise environmental hazards.

**Implementation will be achieved by:**

- Promoting floodplain management policies, which minimise loss and damage, maintain the function of the floodway to convey and store floodwater and protect areas of environmental significance.
- Encouraging the use of "constructed wetlands" as a means of storing floodwater, improving water quality and adding to natural habitats.
- Including over areas subject to inundation a Land Subject to Inundation Overlay.
- Including over areas subject to landslip an Erosion Management Overlay.
- Using the findings of the Shire's Floodplain Management Project to manage flood prone areas, floodplains and wetlands.



- Requiring new subdivisions and changes of land use to demonstrate that appropriate design and siting measures are taken to avoid fire risk and protect human safety and property.
- Promoting, in association with the CFA, fire risk strategies that support management strategies that assist in the minimisation of risk.
- In association with the Country Fire Authority, Department of Natural Resources and Environment and the Municipal Fire Prevention Officer, identifying areas subject to fire hazard.
- Implementing the Council's Roadside Weeds Program.

## **The coast and its environs**

### **Key objective**

To protect those key visual, environmental and cultural features which give the Otway Coast its character whilst facilitating a range of developments in an environmentally sensitive way to provide greater residential choice and assist in diversifying the economic base of the Shire. (From 21.01-03)

### **Strategies to achieve the objective:**

Promote a pattern of settlements in the coastal strip that recognises a balance between opportunity for growth and retention of environmental and cultural qualities.

### **Implementation will be achieved by:**

- Promotion development that demonstrates compatibility with the Victorian Coastal Strategy and the Shire's Coastal Towns Study.
- Identifying and protecting key environmental and cultural features.
- Promoting Apollo Bay as the key settlement on the coastal strip.
- Limiting expansion of other coastal settlements in accordance with environmental constraints.
- Discouraging development in the intervening land except where high quality design and minimal environmental impact can be demonstrated. A minimum lot size of 40 ha is to be introduced for these areas to prevent inappropriate subdivision.

### **Strategies to achieve the objective:**

Recognise and protect key environmental and cultural features.

### **Implementation will be achieved by:**

- Working closely with the Western Coastal Board to identify and protect key local features to complement the Victorian Coastal Strategy.
- Working with VicRoads to ensure a high quality design approach to the development of The Great Ocean Road and it's related arterial connections and signage.
- Minimising development between the Great Ocean Road and the coast to preserve views.

- Ensuring a quality design approach to new development having visual impact on the coastal area with the Siting and Design Guidelines for Structures on the Victorian Coast.
- Working with the Aboriginal Affairs Victoria to identify and protect key cultural features.

## **The Otways Ranges and Foothills**

### **Key objective**

The strategic challenge is to protect those key environmental features and catchment areas which are of National and Regional significance whilst facilitating key primary industries and a range of developments to add to the economic base of the Shire.

### **Strategies to achieve the objective:**

Support development which will provide economic and social benefits while not adversely affecting water catchments, timber production and environmental and landscape attributes.

### **Implementation will be achieved by:**

- Ensuring timber growing and harvesting is managed in accordance with the Otways Forest Management Plan and the Code of Forest Practice for Timber Production.
- Encouraging the development of activities such as eco-tourism, which can demonstrate sensitivity to the environment with economic benefit to the locality.
- Encouraging the development of small-scale activities, which are related to locally produced arts, crafts or products as a diversification of the economy.
- Working closely with Parks Victoria to develop and implement a consistent approach for land at the interface between public and private land.

## **The Northern Plains and Lakes**

### **Key objective**

To maintain the viability of large-scale agriculture and the retention of high quality land, recognising the environmental significance of key sites while allowing limited diversification into new uses and providing for the accommodation of tourist related development.

### **Strategies to achieve the objective:**

Support the retention of high quality agricultural land, lakes and other environmental assets.

### **Implementation will be achieved by:**

- Working closely with the Department of Natural Resources and Environment to identify and manage key areas of important ecological and cultural significance.
- Identifying through overlays as relevant areas of environmental quality or subject to environmental constraints.

- Encouraging land management practices that are sustainable and protect the environment.
- In association with the Country Fire Authority, Department of Natural Resources and Environment, the Municipal Fire Prevention Officer and other bodies, identifying and managing areas subject to high fire risk.
- Ensuring development is consistent with the Corangamite Regional Catchment Strategy.
- Identifying and promoting activities, which illustrate and are sensitive to local Koori history and culture.
- Ensuring that existing dairying and other agricultural producers are supported from encroachment by conflicting development such as hobby farms.
- Identifying areas within the Ranges such as the Beech Forest/Lavers Hill Ridge where appropriate agricultural uses can be promoted. A minimum lot size of 40 ha is to be introduced for these areas to prevent inappropriate subdivision and to encourage ongoing agricultural enterprises.
- Protecting viable agricultural properties by introducing an 80 ha limit east of the Ballarat Road and north of the Princes Highway, otherwise 40 ha for the rest of the Shire. The variation in minimum lot size reflects the generally more extensive nature of agricultural enterprises in the north east part of the Shire and is designed to prevent the fragmentation of viable agricultural units into small hobby farms.
- Council will generally not support the creation of small lots for the future excision of dwellings because it wishes to prevent the progressive loss of high quality agricultural land and the introduction of potential sources of conflict with the long established agricultural activities.
- Encouraging the restructure of agricultural holdings into larger units.
- Protecting the lakes from environmental degradation by limiting adjacent development and maintaining high quality wastewater treatment in Colac.
- Identifying and protecting RAMSAR wetlands as an important ecological and economic asset.
- Providing for innovative agricultural activities that do not detract from the long-term sustainability of large-scale agriculture.

### **21.04-03 Settlement patterns and rural living**

08/02/2007  
C22

#### **Key objective**

To enhance the role of Colac and Apollo Bay as key settlements, to strengthen the linkages between these and the smaller communities of the Shire and provide limited opportunities for rural living where these do not detract from the key environmental qualities of the region.

#### **Strategies to achieve the objective:**

Facilitate the development of the various settlements in accordance with the needs of each of the local communities.

#### **Implementation will be achieved by:**

- Ensuring that there is sufficient fully serviced residential land to meet the needs of the existing and future population.

- Encouraging future residential development into existing zoned and serviced areas to mitigate against an oversupply of residential zoned land, to make the most effective use of infrastructure services and hence to minimise the need for costly extensions to these facilities.
- Providing opportunities for the provision of a wide range of housing choices for residents, including for short-term holiday residents and tourist visitors.
- Using Clauses 54, 55 and 56 as the basis for assessing residential developments.
- Strictly limit rural residential development only to land close to existing settlements and which can be developed in accordance with Ministerial Direction No 6.
- Maintaining the low visual profile village character for Apollo Bay by limiting development to 8 metres or less in height.

(Also refer to Clause 21.04-10 – 21.04-16 Geographic Application for Colac, Apollo Bay, Birregurra, Skenes Creek, Kennett River, Wye River and Separation Creek and Smaller communities of the Shire)

#### **21.04-04 Demographic profile**

19/01/2006  
VC37

##### **Key objective**

To provide a sound economic base to strengthen the proportion of younger age groups in the population and to increase its socio-economic profile to encourage a higher growth rate. (From 21.01-05)

##### **Strategies to achieve the objective:**

Facilitate further economic development to provide greater employment opportunities and hence an ability to retain and increase population levels throughout the municipality.

##### **Implementation will be achieved by:**

- Promoting the expansion of employment opportunities in the Shire to encourage a wide range of people to locate in Colac Otway.
- Promoting the development of educational services in Colac to strengthen the employment skills of the population.
- Encouraging the provision of a full range of community services for all age groups to assist in the retention of the existing and future population.
- Promoting the provision of a range of residential developments to meet the needs of a changing population.

#### **21.04-05 Primary industry**

19/01/2006  
VC37

##### **Key objective**

To build on existing strengths by promoting development which is environmentally responsible whilst facilitating the development of new value-adding processes and encouraging diversification into "niche" markets, especially those providing links to the tourist industry. (From 21.01-06)

## **Strategies to achieve the objective:**

Support the development of primary industries which are ecologically sustainable, introduce diversity to the economy and contribute to the sustenance of value adding industries.

## **Implementation will be achieved by:**

- Encouraging the establishment of specialised "boutique" industries using primary production as a means of diversifying the local economy and providing a link to the development of the tourist industry.
- Encouraging the location in Colac and other settlements of value adding or processing industries that assist the local primary industries.
- Promoting in association with the Corangamite Regional Catchment Management Authority management practices that are consistent with the Regional Catchment Strategy.
- Supporting the development of infrastructure in the Shire that helps sustain primary industry and is sensitive to the local environment.

## **Strategies to achieve the objective:**

Promote the use of agricultural land for productive and sustainable agriculture.

## **Implementation will be achieved by:**

- Supporting the use of agricultural land in units which are sustainable and economically productive.
- Discouraging the subdivision of rural land where this is unrelated to maintenance of sustainable agriculture.
- Facilitating innovation and diversification by support for the development of new crops, products and techniques that do not detract from land capability.
- Enabling diversification of farm income by support for small-scale tourist related farm development where environmental impact is sustainable.
- Ensuring clear definition of the urban/rural interface to minimise disruption to agricultural practices, to maintain a stable and enduring urban edge and to reduce expectations that the primary function of non-urban land will change.
- Encouraging locational and management practices for effluent intensive agricultural activities that will prevent adverse environmental impact.

## **Strategies to achieve the objective:**

Promote the development of forest industries that are economically viable and sustainable.

## **Implementation will be achieved by:**

- Promoting an approach to the development of forest industries, including farm/private forestry, which ensures a balance between the direct development of timber resources and the retention of important environmental habitats and qualities.
- Preparing a timber strategy dealing with land use, infrastructure and environmental, economic and social impacts.

- Implementing the Code of Forest Practice in assessing and managing timber industry developments.
- Encouraging close links between the timber and tourist industries to maximise employment synergies and the potential for longer-term employment growth.
- Ensuring timber industry proposals are consistent with the Corangamite Regional Catchment Strategy and the Otway Forest Management Plan.
- Working closely with the Department of Natural Resources and Environment to determine suitable locations for plantation forestry.
- Continuing to support the Timber Towns Victoria group of Councils.

### **Strategies to achieve the objective:**

Promote the development of fishing and related activities that are economically viable and sustainable.

### **Implementation will be achieved by:**

- Implementing the Apollo Bay South East Precinct Study.
- Encouraging the location of seafood processing industries in Apollo Bay.
- Promoting Apollo Bay Harbour as a safe and accessible boating harbour as a means of supporting its fishing role.
- Promoting the opportunities for aquaculture in the region.

## **21.04-06 Manufacturing and other employment**

19/01/2006  
VC37

### **Key objective**

To promote the strategic location of Colac in relation to markets and to develop synergies between existing industries, businesses and the education sector to facilitate developments that will help diversify the employment base of the region. (From 21.01-07)

### **Strategies to achieve the objective:**

Support the development of industries that introduce diversity to the economy and contribute to the financial well being of value adding industries.

### **Implementation will be achieved by:**

- Maintaining strong linkages with all employment sectors to understand needs and opportunities for business in the region.
- Promoting the strategic location of Colac as a location for industry.
- Concentrating industrial development in existing zoned areas.
- Assisting industries within the main urban area of Colac to develop while minimising off-site effects.
- Ensuring the development approvals process clearly identifies the policies and requirements of council in facilitating development.
- Encouraging industries/businesses that seek to add value to existing primary producers throughout the region.

- Promoting the region as a location for relevant/appropriate government offices (eg Department of Natural Resources and Environment).
- Implementing recommendations contained in the report 'Planning for Industrial Development in Colac' - 1992.

## 21.04-07 Tourism

19/01/2006  
VC37

### Key objective

To encourage growth in tourism in a way that assists diversification in the economy and ensures the protection of those key environmental features that are the basis of the attraction to the area. (From 21.01-08)

### Strategies to achieve the objective:

Promote tourism that has close linkages with local industries and the environment to assist in diversification of the shire economy.

### Implementation will be achieved by:

- Using the Colac Otway Tourist Strategy 1996 as the basis for forward planning and decision making.
- Encouraging the development of tourism trails based on the cultural heritage features of the Shire, the environmental assets of the Shire and link those to wider regional trails involving western and south western Victoria and south east South Australia. These tourism trails provide opportunities to facilitate interpretative signage on the Shire's history and development, and the geological and environmental features.
- Working with the Department of Natural Resources and Environment, Parks Victoria and other government organisations on the identification, development and promotion of tourist facilities.
- Facilitating the provision of information and advice to rural landholders on establishing and managing rural tourism operations.
- Encouraging the development of agriculture based tourism industry as a means of assisting and diversifying the agricultural economy.
- Promoting heritage related businesses and the private and public gardens in towns and rural properties.
- Supporting high quality tourist and recreation developments that clearly provide linkages to other regional features such as the coast, the natural environment, the built and cultural heritage and specific local experiences.
- Implementing the Apollo Bay/Forest Eco-Centre.

### Strategies to achieve the objective:

To protect key visual and environmental features which are of major significance.

### Implementation will be achieved by:

- Protecting and enhancing those natural and physical features which contribute to providing a 'tourism experience' including the natural environment, heritage elements, landscape features and cultural activities.

- Protecting the visual qualities of the Great Ocean Road and its adjoining coastal and rural landscapes. Consolidate tourism use and development into identified activity nodes along, or located off, the Great Ocean Road.
- Requiring tourist developments to demonstrate compatibility with the immediate area including land capability, compatibility with surrounding uses and the provision of adequate infrastructure services.
- Ensuring all new tourist developments adopt a high quality design approach and can demonstrate sympathy with the local environment.
- Undertaking a heritage/conservation study of the whole Shire to identify features that warrant protection and enhancement.
- Implementing the Council's Roadside Beautification and Streetscape Strategy.

### **Strategies to achieve the objective:**

To provide a range of accommodation and related activities which encourages tourist visitation.

### **Implementation will be achieved by:**

- Facilitating the development of a more diverse range of accommodation to meet changing visitor needs.
- Supporting the development of a range of entertainment facilities in major settlements to encourage tourist retention rates.

### **Strategies to achieve the objective:**

To maintain and enhance a transport network this supports the tourist industry.

### **Implementation will be achieved by:**

- In consultation with VicRoads, developing a road program that will facilitate the development of tourism in the Shire with specific attention to visitor features such as rest areas, good visibility design and safe surfaces.
- In consultation with Vic Roads and other State agencies, improving the quality of design of signage and interpretative information on roads.

## **21.04-08 Transport and infrastructure**

19/01/2006  
VC37

### **Key objective**

To build on the competitive advantage which the Shire enjoys because of its sound infrastructure base and in particular to enhance the transport network that balances provision for key primary industries with the sensitive needs of the environment and its related tourism industry. (From 21.01-09)

### **Strategies to achieve the objective:**

Develop a balanced transport network for the needs of the region.



**Implementation will be achieved by:**

- Ensuring that decision making under the planning scheme reflects the Shire's corporate goals for Roads and Bridges as outlined in the Corporate Plan and the Roads Hierarchy Study once completed.
- Completing the Council's Public Transport Strategy.
- Continuing to support the Timber Towns Association moves to obtain greater assistance for timber carrying routes.
- In consultation with VicRoads and Tourism Victoria, identifying and improving key routes that assist in the development of the tourist industry in the region.

**Strategies to achieve the objective:**

Develop a road network which enhances the accessibility of the region.

**Implementation will be achieved by:**

- Protecting and enhancing the key highway routes, Princes Highway, Great Ocean Road, the Ballarat – Colac route via Cressy, the Colac to Apollo Bay routes via Skenes Creek/Forest and Lavers Hill as the key Shire network.
- Maintaining and developing key local routes between settlements to enhance their accessibility to services and safety in times of emergency.

**Strategies to achieve the objective:**

Improve air and train services to the region.

**Implementation will be achieved by:**

- Protecting key rail networks and facilitate, as practicable, improvements to the passenger and freight services.
- Ensuring that development of the Colac and Apollo Bay airfields is not prejudiced by encroaching urban development.

**Strategies to achieve the objective:**

Improve the availability and quality of utility infrastructure.

**Implementation will be achieved by:**

- Ensuring that appropriate infrastructure is provided to all new development and that infrastructure to existing development is, where necessary, progressively upgraded to currently accepted standards.
- Council will encourage the use of utility services and infrastructure which minimises adverse environmental impacts and which contribute to sustainable resource use.

## 21.04-09 Community services

19/01/2006  
VC37

### Key objective

To maintain and enhance a network of facilities that provides an adequate and cost effective service to communities throughout the Shire. (From 21.01-10)

### Strategies to achieve the objective:

Deliver the most cost-effective services to all the communities in the Shire.

### Implementation will be achieved by:

- Promoting Colac as a regional centre for community services to enhance its overall capability to serve the needs of the region.
- Promoting Colac as a centre of excellence in educational and health facilities and build on existing facilities to attract and maintain industry and other employment generating enterprises to the Shire
- Working closely with government agencies to encourage Consolidation of facilities and services in the Shire.
- Examining innovative ways of delivering community services to maximise cost effectiveness of Council's service.
- Completing and implementing the Council's recreation needs study.

## 21.04-10 Geographic Application

--/2007  
C29

### Apollo Bay

### Key objective

To develop Apollo Bay as an attractive residential community which provides high quality environment as a significant tourist centre.

### Strategies to achieve the objective:

Promote the development of a high quality identity for Apollo Bay.

### Implementation will be achieved by:

- Implementing the streetscape and landscape strategy for the Main Street.
- Identifying and protecting key buildings that contribute to, and can maintain the village character of Apollo Bay.
- Implementing the Apollo Bay South East Precinct Study.
- Developing a high quality environment on the Apollo Bay Foreshore.
- Facilitating the provision of a range of attractive and high quality facilities for visitors in the centre of the community.
- Protecting the high quality landscape features of the surrounding land.

## **Strategies to achieve the objective:**

Provide a range of opportunities for residential development to match the needs of the local community and visitors.

## **Implementation will be achieved by:**

- Encouraging the development of a range of house sizes and types.
- Concentrating residential development within existing zoned areas.
- Providing for adequately zoned land for approximately 10 years growth.
- Limiting further subdivision and development in the low-lying area between Apollo Bay and the surrounding hills.
- Facilitating limited rural residential development only in those areas immediately adjoining the city which meet the criteria contained in Ministerial Guideline No 6 and which are consistent with the Apollo Bay Framework Plan.
- Providing for a limited range of high quality visitor accommodation which is sympathetic to the residential environment.

## **Strategies to achieve the objective:**

Facilitate the provision of necessary infrastructure to support the development of Apollo Bay in an environmentally sensitive way.

## **Implementation will be achieved by:**

- Promoting sympathetic improvements to the Great Ocean Road in the interests of promoting tourism.
- Promoting improvements to the local road network, particularly links with Colac, to support the residential qualities of the community and encourage tourism.
- Safeguarding opportunities for improvements to the Apollo Bay Airport.
- Facilitating the maintenance and enhancement of the community's wastewater treatment facilities to cope with urban growth.
- Facilitating improvements in water quality.
- Facilitating the protection of essential water supply catchments and facilities to ensure maintenance of high quality water supplies.
- Preparing a development contributions plan for the area.

## **Strategies to achieve the objective:**

Promote provision of Community services in Apollo Bay.

## **Implementation will be achieved by:**

- Supporting further education and health services in the area as community needs change.
- Encouraging the development of ancillary services to the key institutions.
- Preparing development contributions plan for the town.

- Promote the relocation of the Apollo Bay Golf Course away from the foreshore, to implement broader directions of the Victorian Coastal Strategy to remove non-coastal dependant uses from the coast.
- Identifying the Barham River flats as an alternative site for community open space and golf course, established in a socially, environmentally and economically viable manner on private land holdings in this area. This will include the establishment of an integrated residential development to accommodate the emerging recreational living market around a golf course in accordance with the Great Ocean Green Comprehensive Development Plan February 2008.
- Promote greater integration between Apollo Bay and Marengo townships through sensitive improvements to the Barham River flats providing walking trails and open space that has active frontage to residential development.

### Strategies to achieve the objective:

Promote the commercial future of Apollo Bay.

Provide a range of opportunities for residential and recreational development to match the needs of the local community and visitors.

### Implementation will be achieved by:

- Encouraging the development of small-scale economic activities that complements existing industries.
- Encouraging the development of a variety of tourist accommodation in locations sympathetic of the residential environment.
- Providing for a limited range of high quality visitor accommodation which is sympathetic to existing land use and the built and natural environments.
- Encouraging the development of recreation and entertainment facilities to support the tourist market.
- Promoting high quality design approach to tourist developments to enhance the local environment.
- Focusing retailing facilities within the existing core commercial area.
- Ensuring that, when required, there is sufficient suitably zoned land on the west side of Pascoe Street to allow for a wide range of commercial uses to establish.

### Reference documents:

Otway Coastal Towns Study 1987

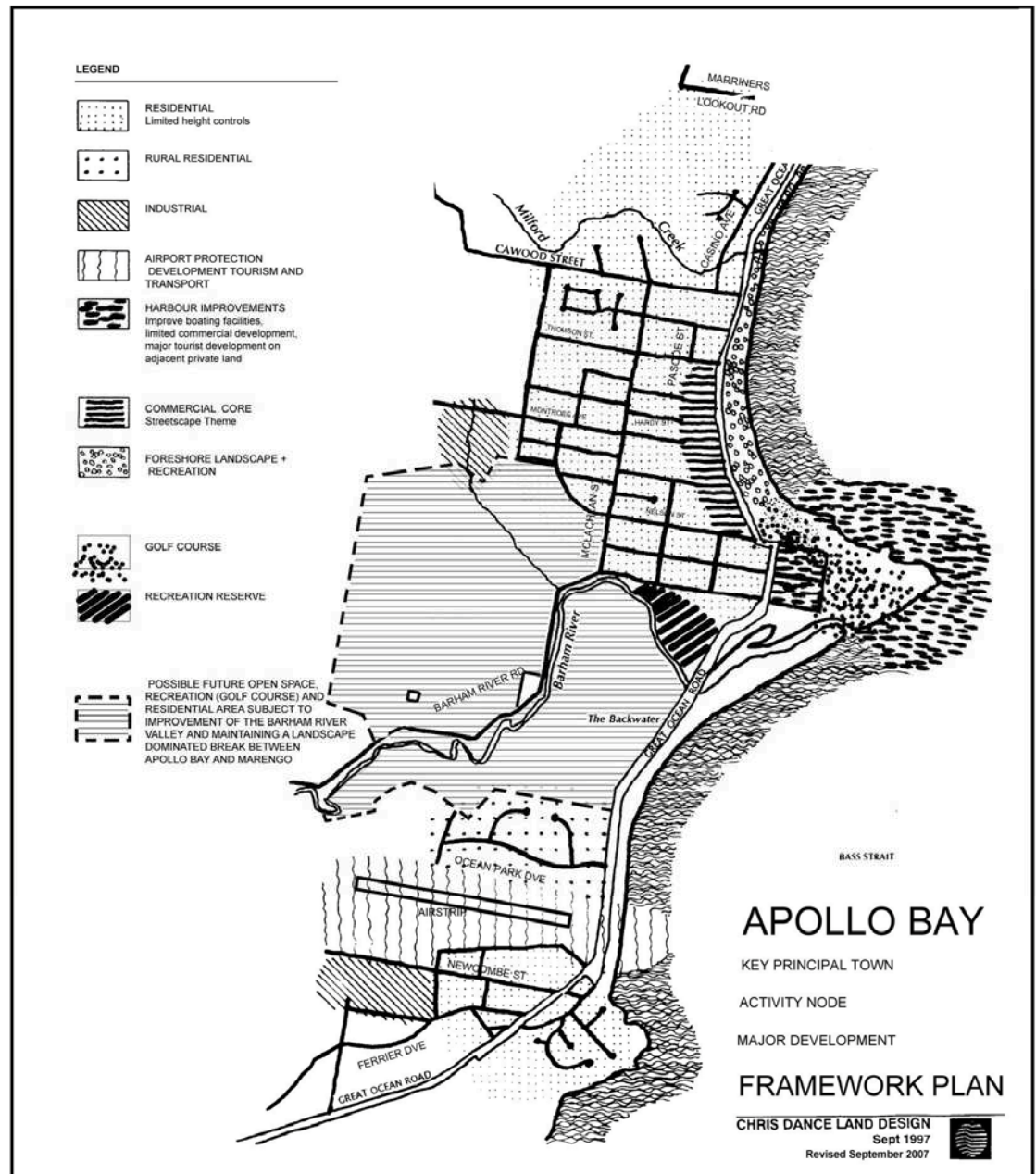
Apollo Bay - the South East Precinct - Chris Dance Land Design Pty Ltd. 1997

Colac Otway Tourism Strategy – Colac Otway Tourism – 1996

Apollo Bay Streetscape Study – Green and Dale

Apollo Bay Car Park Study – PPK

## Apollo Bay Framework Plan



### 21.04-11 Birregurra

19/01/2006  
VC37

#### Key objective

To promote Birregurra as a community with a viable economic future and an attractive residential environment.

#### Strategies to achieve the objective:

Maintain and enhance the quality of Birregurra as a residential environment.

**Implementation will be achieved by:**

- Identifying and protecting heritage and other key features of the community.
- Developing an overall streetscape and landscape policy and action plan for the community.
- Requiring all new development to provide for the retention and absorption of wastewater within the boundary of any lot in accordance with the Septic Tanks Code of Practice.
- Limiting rural residential development to the south west of the community.
- Encouraging commercial development in the existing centre to be sympathetic to existing streetscape.
- Using Clauses 54, 55 and 56 as the basis for decision making on residential developments.

**Strategies to achieve the objective:**

Facilitate the provision of necessary infrastructure to support the development of Birregurra in an environmentally sensitive way.

**Implementation will be achieved by:**

- Maintaining and protecting water supply facilities from the Barwon river by not allowing inappropriate development.
- Restricting development to levels less than the 146m contour until augmentation of water supply.
- In conjunction with Barwon Water Authority, assessing the needs and opportunities for the provision of reticulated sewerage.
- Maintaining and enhancing the local road network, particularly links with Colac, to support viability of Birregurra and encourage tourism.

**Strategies to achieve the objective:**

Promote the economic future of Birregurra.

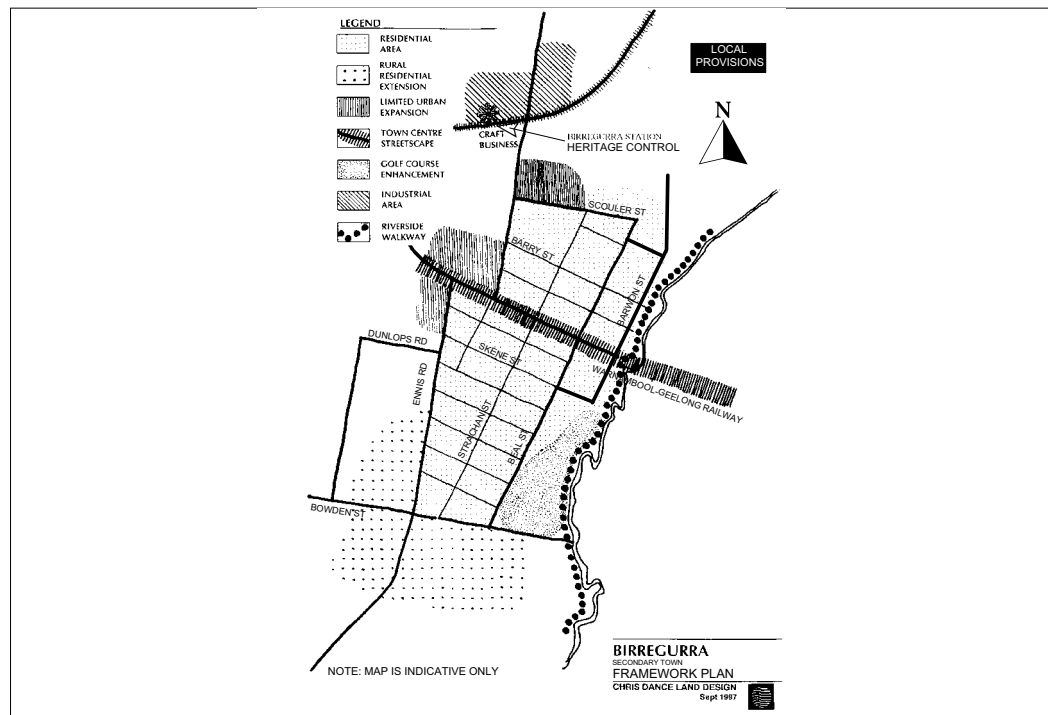
**Implementation will be achieved by:**

- Encouraging the development of small-scale economic activity which complements the resources and industries of the region and which encourages tourism.
- Encouraging the development of "linked trails" of related environmental experience.
- Encouraging the location of small-scale tourist accommodation facilities in the community.
- Facilitating new industries related to the existing sawmill.
- Encouraging use of the railway station buildings.

**Reference document:**

Birregurra Township - Structure Plan 1993

## Birregurra Framework Plan



### 21.04-12 Colac

19/01/2006  
VC37

#### Key objective

To promote the development of Colac as the key centre of economic and community focus for the Shire and the surrounding area.

#### Strategies to achieve the objective:

Promote the commercial and industrial strength of Colac.

#### Implementation will be achieved by:

- Promoting the city as a regional centre for retail and business investment.
- Concentrating commercial and retail facilities in the central area.
- Identifying key industrial uses and ensuring adequate supplies of suitable land.
- Focusing key industrial developments on major sites to east and west of the town.
- Refining the recommendations of Planning for Industrial development in Colac Report.

#### Strategies to achieve the objective:

Promote a clear identity for the city as a high quality environment.

## **Implementation will be achieved by:**

- Undertaking an urban design study for the central commercial and adjoining areas and develop clear links between key activity centres.
- Developing clear design guidelines for development on the approaches to the city from East and West.
- Implementing Streetscape improvements in approaches to strengthen the city's image and identity.
- In consultation with the commercial and retail interests continuing the program of improvements which strengthens the identity and character of the City Centre as an attractive place for residents and tourists.
- Promoting the Lake frontage as a high quality environment for visitor and local use. Complete and implement the Lake Foreshore Plan.

## **Strategies to achieve the objective:**

Promote the city as a key regional provider of Cultural and Community services.

## **Implementation will be achieved by:**

- Implementing the Council's Arts and Culture Strategy.
- Promoting the development of an Arts and Cultural Centre.
- Supporting and enhancing as practicable the further education and health services in the city.
- Encouraging the development of ancillary services to the key institutions.
- Promoting Colac as a central location for the consolidation of public and private services in the region.

## **Strategies to achieve the objective:**

Facilitate the provision of necessary infrastructure to support the growth and development of the city in an environmentally sensitive way.

## **Implementation will be achieved by:**

- Facilitating as practicable improvements to the West Coast Rail Service.
- Promoting improvements to the Princes Highway in the region.
- Promoting improvements to roads that support the growth of primary industries in the region in a way that balances with the needs of tourism and the local population.
- Implementing the Colac Traffic Management Study.
- Safeguarding opportunities for improvements to the Colac airport.
- Facilitating the maintenance and enhancement of the city's wastewater treatment facilities to cope with urban growth.
- Protecting essential water supply catchments and facilities to ensure maintenance of high quality water supplies.
- Preparing a development contributions plan for the city.



**Strategies to achieve the objective:**

Provide a range of opportunities for residential development to match the changing needs of the local community.

**Implementation will be achieved by:**

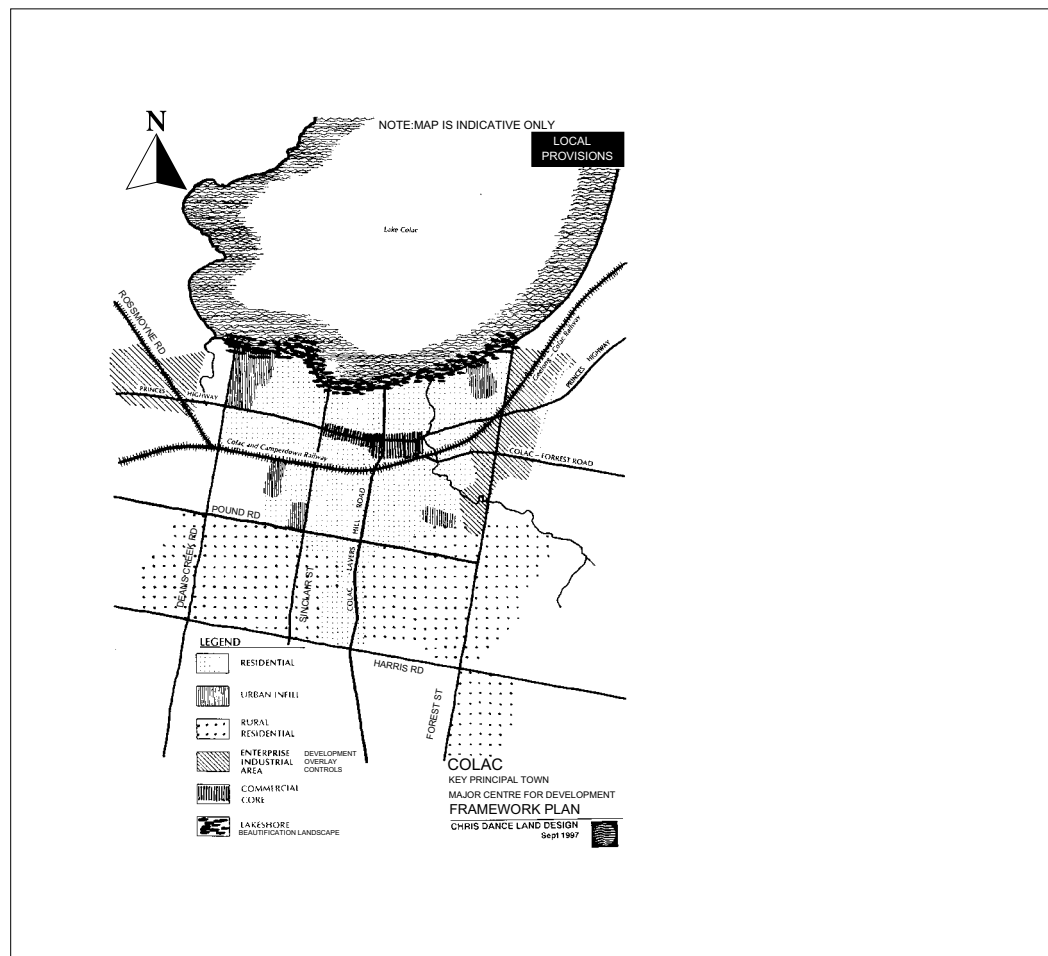
- Encouraging the development of a range of dwelling sizes and types to meet the needs of the community.
- Concentrating residential development within existing zoned areas.
- Providing for adequately zoned land for approx. 10 years growth.
- Limiting further subdivision and development in the low-lying area between Colac and Elliminyt until an environmental assessment is carried out.
- Facilitating appropriate rural residential development only in those areas immediately adjoining the city which meet the criteria contained in Ministerial Guideline No 6 and which are consistent with the Colac Framework Plan.

**Reference documents:**

Colac Central Area Business Area Strategy Plan 1993

Colac Housing and Accommodation Strategy 2002

## Colac Framework Plan



**21.04-13**    **Skenes Creek**  
08/02/2007  
C22

### Key Objective

To protect the nationally significant Great Ocean Road Region landscape and the distinctive landscape qualities and coastal setting of Skenes Creek township.

### Strategies to achieve the objective:

Ensure new development achieves the Vision and Preferred Character Statement for the Skenes Creek Character Areas identified in the Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, 2005 (Planisphere). See the map of the Skenes Creek Character Precincts for boundaries.

### Vision

Skenes Creek is a coastal hamlet set on rolling topography at the base of the Otway Ranges. There is a sense of openness to the town created by the spacious siting of buildings and expansive views to the coast and hillsides. A green wedge corridor through the centre of the township links the town with a vegetated hillside backdrop and is enhanced by

regeneration of indigenous and appropriate coastal shrubs around dwellings and public areas.

### *Preferred Character Statements*

#### **Skenes Creek 1**

This precinct provides a native 'green wedge' for the whole township, extending from the hillslopes behind the town to the Great Ocean Road. The character of the precinct will be strengthened by the planting and regeneration of indigenous and native vegetation. Dwellings will be set far enough apart to accommodate substantial native bush areas including canopy trees, and will be set substantially below the vegetation canopy. The semi-rural feel of the area will be retained by the lack of fencing and frequent unmade roads. Views to the dwellings will be softened by native vegetation in frontages to major roads and in the public domain along road verges.

#### **Skenes Creek 2**

This precinct will continue to be characterised by diverse coastal dwellings set amongst established coastal gardens. The sense of openness will be maintained by setting the buildings apart, minimising intrusive front fencing, and encouraging building forms that respect views to the surrounding hills and coast. The precinct will be united by consistent mature plantings of native and exotic coastal species in the public and private domains.

#### **Implementation will be achieved by:**

- Using the Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, 2005 (Planisphere) when assessing applications for new developments.
- Applying the Significant Landscape Overlay to protect the distinctive qualities and landscape significance of the Skenes Creek township.
- Applying the Neighbourhood Character Overlay to ensure that new development achieves the Preferred Character of the Skenes Creek township.
- Applying the Design and Development Overlay to ensure that the siting and design of new development achieves the neighbourhood character Vision and Preferred Character of precincts within the Skenes Creek township.

#### **Reference Documents:**

Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, Planisphere 2005, including Precinct Brochures.

## Map of Skenes Creek Character Precincts



### 21.04-14 Kennett River

08/02/2007  
C22

#### Key Objective

To protect the nationally significant Great Ocean Road Region landscape and the distinctive landscape qualities and coastal setting of Kennett River township.

**Strategies to achieve the objective:**

Ensure new development achieves the Vision and Preferred Character Statement for the Kennett River Character Areas identified in the Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, 2005 (Planisphere). See the map of the Kennett River Character Precincts for boundaries.

***Vision***

The Kennett River township nestles into the vegetated ridges and hillslopes that form the Kennett River Valley. In the flatter areas of the town established native trees and vegetation around houses, the River, and wetlands provide natural links to the adjoining heavily vegetated hill faces. Bushy ridgelines surround the town and development in prominent locations and slopes is hidden from view.

***Preferred Character Statements*****Kennett River 1**

This precinct will be dominated by continuous native bush, with dwellings set below and amongst remnant canopy trees. Frontages will be open and consist of diverse native understorey that screens views of buildings from roads. The low scale dwellings will avoid prominent locations and ridgelines, and will be sited to provide for the reasonable sharing of views to the coast where available. Vegetation will be retained or replaced with any new developments to screen buildings when viewed from the Great Ocean Road. Innovative house styles will be encouraged of a scale, materials and colours that blend with the bush character and follow the topography. The informal bush character of the precinct will be assisted by the streetscape planting and lack of formal kerbing.

**Kennett River 2**

This precinct will consist of coastal style dwellings set amongst gardens of native species. A spacious garden character will be maintained by setting buildings apart and encouraging landscaping between dwellings. Dwellings will be carefully designed, sited and landscaped to be unobtrusive when viewed from roads and to provide for a sharing of views to the coast where available. Trees in both public and private domains will provide a sense of continuity through the precinct and visually link with the adjacent bushland areas.

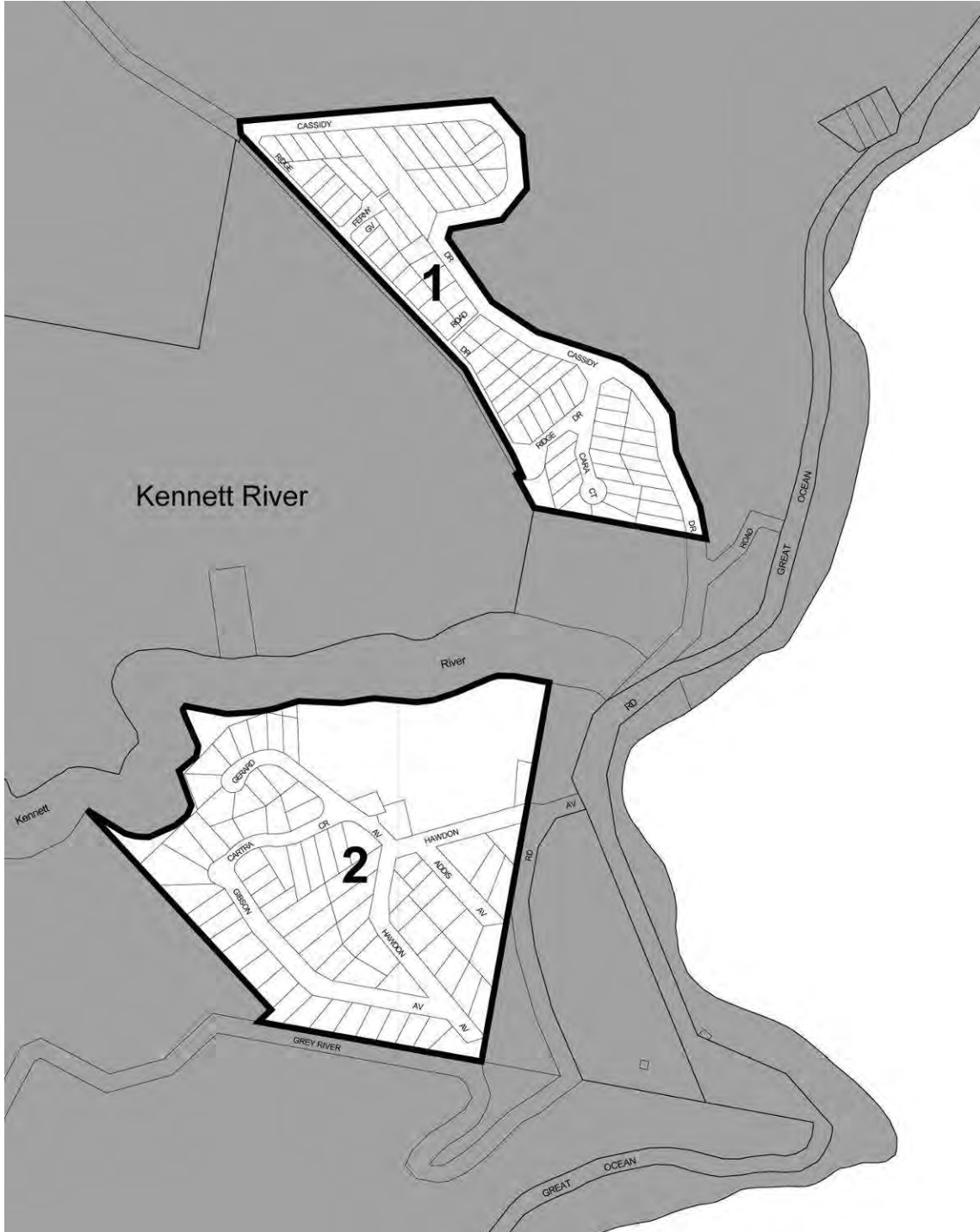
**Implementation will be achieved by:**

- Using the Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, 2005 (Planisphere) when assessing applications for new developments.
- Applying the Significant Landscape Overlay to protect the distinctive qualities and landscape significance of the Kennett River township.
- Applying the Neighbourhood Character Overlay to ensure that new development achieves the Preferred Character of the Kennett River township.
- Applying the Design and Development Overlay to ensure that the siting and design of new development achieves the neighbourhood character Vision and Preferred Character of precincts within the Kennett River township.

**Reference Documents:**

Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, Planisphere 2005, including Precinct Brochures.

Map of Kennett River Character Precincts



**21.04-15 Wye River and Separation Creek**08/02/2007  
C22**Key Objective**

To protect the nationally significant Great Ocean Road Region landscape and the distinctive landscape qualities and coastal setting of Wye River and Separation Creek townships

**Strategies to achieve the objective:**

Ensure new development achieves the Vision and Preferred Character Statement for the Wye River and Separation Creek Character Areas identified in the Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, 2005 (Planisphere). See the map of the Wye River and Separation Creek Character Precincts for boundaries.

***Vision***

Wye River and Separation Creek together form a loosely defined residential settlement at the base of the Otway hills. The watercourses dividing the residential areas are key focal points and retain indigenous vegetation, which is reflected in private gardens and streetscapes. The forested hillsides and coast are important and visible features throughout the settlements. Housing on the steeper slopes is set into the landscape and is largely hidden from view from the Great Ocean Road.

***Preferred Character Statements*****Wye River 1**

This precinct will continue to be characterised by dominant native bush that forms a consistent canopy, linking to the adjacent bushland. Dwelling scale, bulk and siting will respond to the site and topography, allowing space and setbacks to maintain native bush, both as canopy and understorey. Buildings will be set beneath the canopy, and appropriately sited and designed so as to allow for the sharing of views to the coast where available, and to be hidden from view from the Great Ocean Road. The informality of the streetscapes will be retained by the lack of front fencing, frequent unmade roads and remnant vegetation.

**Wye River 2**

This precinct will achieve a more consistent native vegetation coverage to provide a unifying feature throughout. Space around dwellings will be sufficient to maintain trees and understorey, and minimises the appearance of building bulk and density. On hill slopes, buildings will relate to topography and be set amongst and beneath a dominant, native tree canopy. Buildings and structures in prominent locations when viewed from the Great Ocean Road will be designed to reduce their visual intrusion. Retention and planting of canopy trees in the public domain and around dwellings will be encouraged to establish a consistent tree canopy.

**Separation Creek 1**

This precinct will consist of a mix of low, coastal style dwellings and newer coastal styles, in established gardens and amongst native canopy trees in the vegetated hillfaces. Dwellings will be of materials and colours that reflect the coastal setting, and be designed and sited so as to minimise intrusion into views from roads, public spaces and adjacent dwellings and impact on the topography. Establishment of native and coastal trees in

public and private gardens will unite the precinct and provide visual links to the surrounding bushland and creek environs.

**Implementation will be achieved by:**

- Using the Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, 2005 (Planisphere) when assessing applications for new developments.
- Applying the Significant Landscape Overlay to protect the distinctive qualities and landscape significance of the Wye River and Separation Creek townships.
- Applying the Neighbourhood Character Overlay to ensure that new development reflects the Preferred Character of the Wye River and Separation Creek townships.
- Applying the Design and Development Overlay to ensure that the siting and design of new development achieves the neighbourhood character Vision and Preferred Character of precincts within the Wye River and Separation Creek townships.

**Reference Documents:**

Wye River Structure Plan

Skenes Creek, Kennett River, Wye River and Separation Creek Neighbourhood Character Study, Planisphere 2005, including Precinct Brochures.



## Map of Wye River / Separation Creek Character Precincts



**21.04-16 Smaller communities of the Shire (Lavers Hill, Forrest Beech Forest, Barwon Downs, Beeac, Cressy, Swan Marsh, Warrion, Pirron Yallock, Coragulac, Cororooke and Gellibrand)**

08/02/2006  
C22

### Key objective

To provide an attractive, safe, residential environment and strengthen the economic future of the small communities in the Shire.

### Strategies to achieve the objective:

Promote the economic future of small communities.

### Implementation will be achieved by:

- Encouraging the development of small-scale economic activity which complements the resources and industries of the region.
- Encouraging in conjunction with the Department of Sustainability and Environment and related organisations the development of linked network of tourist facilities that focus on the natural environment and local communities.
- Encouraging the development of "linked trails" of related environmental experience.
- Encouraging the location of tourist accommodation facilities within small communities in the region.

### Strategies to achieve the objective:

Facilitate the provision of necessary infrastructure to support the development of small communities in an environmentally sensitive way.

### Implementation will be achieved by:

- Promoting sympathetic improvements to the Great Ocean Road and to the local road network, particularly links with Colac, to support viability of the local communities and encourage tourism.
- Maintaining and enhancing the availability of community services to small communities in the most cost-effective way.

### Strategies to achieve the objective:

Maintain and enhance the environmental quality of small towns.

### Implementation will be achieved by:

- Encouraging the development of high quality design input to development in small communities.
- Identifying and promoting key features of local communities that highlight their identity.
- Restricting the expansion of communities in areas of landslip and high fire risk.

- Encouraging the implementation of landscape features that recognise indigenous flora and fauna.

**Reference Documents:**

Otway Coastal Towns Study 1987

Colac Otway Tourism Strategy 1996

Otway Rural Hinterland and Coastal Area Study - Strategic Planning Pty Ltd. 1993

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## SCHEDULE TO THE PUBLIC CONSERVATION AND RESOURCE ZONE

| Public land  | Use or development  | Conditions |
|--|---|------------|
| That part of the Barham River and land adjacent to it in between the land zoned Comprehensive Development Zone – Great Ocean Green | Works and use associated with road and access provisions as generally provided for in the Great Ocean Green Comprehensive Development Plan – February 2008. | Nil        |

| Land           | Advertising Sign Category |
|----------------|---------------------------|
| None specified |                           |

## 37.02

19/01/2006  
VC37

### COMPREHENSIVE DEVELOPMENT ZONE

Shown on the planning scheme map as **CDZ** with a number.

#### Purpose

To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

To provide for a range of uses and the development of land in accordance with a comprehensive development plan incorporated in this scheme.

## 37.02-1

19/01/2006  
VC37

### Table of uses

#### Section 1 - Permit not required

| USE   | CONDITION   |
|---|---|
| Any use in Section 1 of the schedule to this zone | Must comply with any condition in Section 1 of the schedule to this zone. |

#### Section 2 - Permit required

| USE  | CONDITION   |
|--|---|
| Any use in Section 2 of the schedule to this zone                | Must comply with any condition in Section 2 of the schedule to this zone. |
| Any other use not in Section 1 or 3 of the schedule to this zone |   |

#### Section 3 - Prohibited

| USE   |
|---|
| Any use in Section 3 of the schedule to this zone |

## 37.02-2

19/01/2006  
VC37

### Use of land

Any requirement in the schedule to this zone must be met.

#### Application requirements

An application to use land must be accompanied by any information specified in the schedule to this zone.

#### Exemption from notice and review

The schedule to this zone may specify that an application is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

#### Decision guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- Any guidelines in the schedule to this zone.

**37.02-3**  
09/10/2006  
VC42

## **Subdivision**

### **Permit requirement**

A permit is required to subdivide land.

Any requirement in the schedule to this zone must be met.

### **Application requirements**

An application to subdivide land for residential development, other than an application to subdivide land into lots each containing an existing dwelling or car parking space, must meet the requirements of Clause 56 and:

- Must meet all of the objectives included in the clauses specified in the following table.
- Should meet all of the standards included in the clauses specified in the following table.

| Class of subdivision | Objectives and standards to be met   |
|----------------------|--|
| 60 or more lots      | All except Clause 56.03-5.   |
| 16 – 59 lots         | All except Clauses 56.03-1 to 56.03-3, 56.03-5, 56.06-1 and 56.06-3.                   |
| 3 – 15 lots          | All except Clauses 56.02-1, 56.03-1 to 56.03-4, 56.05-2, 56.06-1, 56.06-3 and 56.06-6. |
| 2 lots               | Clauses 56.03-5, 56.04-2, 56.04-3, 56.04-5, 56.06-8 to 56.09-2.                        |

An application to subdivide land must be accompanied by any information specified in the schedule to this zone.

### **Exemption from notice and review**

The schedule to this zone may specify that an application is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

### **Decision guidelines**

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- The objectives and standards of Clause 56.
- Any guidelines in the schedule to this zone.

## 37.02-4

19/01/2006  
VC37

### Buildings and works

#### Permit requirement

A permit is required to construct a building or construct or carry out works unless the schedule to this zone specifies otherwise.

Any requirement in the schedule to this zone must be met.

#### Application requirements

An application to construct a building or construct or carry out works must be accompanied by any information specified in the schedule to this zone.

#### Exemption from notice and review

An application is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act if it is generally consistent with the comprehensive development plan.

The schedule to this zone may specify that other applications are also exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

#### Decision guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- Any guidelines in the schedule to this zone.

## 37.02-5

19/01/2006  
VC37

### Advertising signs

Advertising sign requirements are at Clause 52.05. This zone is in Category 3 unless a schedule to this zone specifies a different category.

#### Notes:

*Refer to the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement, for strategies and policies which may affect the use and development of land.*

*Check whether an overlay also applies to the land.*

*Other requirements may also apply. These can be found at Particular Provisions.*

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C29

## SCHEDULE 1 TO THE COMPREHENSIVE DEVELOPMENT ZONE

Shown on the planning scheme map as **CDZ1**.

### **GREAT OCEAN GREEN DEVELOPMENT PLAN**

#### **Land**

The land is known as Great Ocean Green, which comprises 170 ha on the Great Ocean Road, Apollo Bay. The land is shown and described in the *Great Ocean Green Comprehensive Development Plan*, February 2008.

#### **Purpose**

To establish an integrated recreational, residential, tourism and resort use and development focused on a high quality golf course within a restored natural environment generally in accordance with the Great Ocean Green Comprehensive Development Plan.

To establish a framework for the approval of use and development on the land which will facilitate the creation of the desired mix of land uses, ensure that buildings and works are thoroughly investigated and carried out in a manner that ensures the protection of the environment, protects buildings and works from environmental effects, creates a regime for the long term maintenance and management of the recreational and environmental assets created by the project, and which provides for the creation of a Design Review Committee to review and approve the architectural form of each individual house built on the residential lots in Precinct 2.

#### **1.0**

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C29

#### **Table of uses**

##### **Section 1 - Permit not required**

| <b>USE</b>   | <b>CONDITION</b>  |
|--|---|
| <b>Bed and Breakfast</b>                           | <p>Must be located in Precinct 2 of the Great Ocean Green Development Plan.</p> <p>No more than 6 persons may be accommodated away from their normal place of residence.</p> <p>At least 1 car parking space must be provided for each 2 persons able to be accommodated away from their normal place of residence.</p> |
| <b>Animal keeping (other than Animal boarding)</b> | Must be no more than 2 animals.   |
| <b>Apiculture</b>                                  | Must meet the requirements of the Apiary Code of Practice, May 1997.  |
| <b>Carnival</b>                                    | Must meet the requirements of 'A Good Neighbour' Code of Practice for a Circus or Carnival, October 1997.   |
| <b>Circus</b>                                      | Must meet the requirements of 'A Good Neighbour' Code of Practice for a Circus or Carnival, October 1997.   |



|  |  |
|--|--|
| <b>Dependent Persons Unit</b>                  | Must be located within Precinct 2 of the Great Ocean Green Comprehensive Development Plan and must be the only dependent person's unit on the lot.                     |
| <b>Display Home</b>                            | Must be located within Precinct 2 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Dwelling (other than Bed and Breakfast)</b> | Must be located within Precinct 2 of the Great Ocean Green Comprehensive Development Plan.<br><br>The total number of dwellings within Precinct 2 must not exceed 537. |
| <b>Golf course</b>                             | Must be generally in accordance with the Great Ocean Green Comprehensive Development Plan.   |
| <b>Golf driving range</b>                      | Must be located within Precinct 1 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Home Occupation</b>                         |  |
| <b>Informal outdoor recreation</b>             |  |
| <b>Mineral exploration</b>                     |  |
| <b>Mining</b>                                  | Must meet the requirements of Clause 52.08-2 of this Scheme.   |
| <b>Minor utility installation</b>              |  |
| <b>Natural systems</b>                         |  |
| <b>Railway</b>                                 |  |
| <b>Restricted recreation facility</b>          | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Road</b>                                    |  |
| <b>Search for stone</b>                        | Must not be costeaning or bulk sampling.   |
| <b>Telecommunications facility</b>             | Buildings and works must meet the requirements of Clause 52.19.  |
| <b>Tramway</b>                                 |  |

## Section 2 - Permit required

| USE  | CONDITION                       |
|--|---------------------------------|
| <b>Animal keeping (other than Animal boarding)</b> | Must be no more than 5 animals. |

|   |  |
|---|--|
| <b>Art and craft centre</b>   | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Caretaker's house</b>  | Must be located within Precincts 2 & 3 of the Great Ocean Green Comprehensive Development Plan.  |
| <b>Car park</b>   | Must be located in Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Convenience shop</b>   | Must not be located in Precinct 2 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Dwelling</b>   | If Section 1 condition is not met.<br><br>Must not be located in Precinct 1 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Exhibition centre</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Function centre</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Food and drink premises</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Group accommodation</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Office</b>   | Must be associated with leisure and recreation or accommodation facilities of the Great Ocean Green development.<br><br>Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan. |
| <b>Outdoor recreation</b>   | Must be located within Precinct 1 of the Great Ocean Green Comprehensive Development Plan.   |
| <b>Place of assembly (other than Cabaret, Carnival, Cinema, Circus, Drive-in theatre and Nightclub)</b>                       | Must be associated with leisure and recreation or accommodation facilities of the Great Ocean Green development.<br><br>Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan. |
| <b>Mineral, stone, or soil extraction (other than Extractive Industry, Mineral exploration, Mining, and Search for stone)</b> |  |

|   |  |
|---|--|
| <b>Residential hotel</b>  | Must be located within Precinct 3 of the Great Ocean Green Comprehensive Development Plan.                                   |
| <b>Shop</b>   | The combined leaseable floor area for all shops must not exceed 500m <sup>2</sup> .<br><br>Must not be located in Precinct 2 |
| <b>Utility installation (other than minor utility installation and Telecommunications facility)</b> |  |
| <b>Any use in Section 1 if the condition is not met</b>   |  |

### Section 3 - Prohibited

#### USE

Any use not listed in Section 1 or 2

## 2.0

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C29

### *Use of land*

A use must be generally in accordance with the Great Ocean Green Comprehensive Development Plan.

Development must commence within 10 years of the date of approval of this zone.

#### **Application Requirements**

In addition to any other material submitted with an application to use land, an application must be accompanied by the following information, as appropriate:

- The purpose of the use and the type of activities which will be carried out.
- The likely effects, if any, on adjoining land, including noise levels, traffic, the hours of delivery and dispatch of goods and materials, hours of operation and light spill, solar access and glare.
- The means of maintaining land not required for immediate use.

#### **Management Plans**

Land must not be used for the purpose of a hotel or tavern until a Management Plan has been approved by the Responsible Authority. The Management Plan must include, but is not limited to, measures to manage patron behaviour, security and measures to ensure that the operation of the use does not detrimentally affect the amenity of the locality. The use must operate in accordance with the approved Management Plan to the satisfaction of the Responsible Authority.

## 3.0

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### *Subdivision*

Subdivision of land must generally be in accordance with the Great Ocean Green Comprehensive Development Plan and any plan prepared in accordance with Clause 4.0.

A planning permit for subdivision must not be granted until the plans and guidelines listed in Clause 4.0 have been approved by the authorities specified as approval authorities for each plan in that Clause.

Staging of subdivision must be in accordance with the numbered sequencing of the staging plan included in the Great Ocean Green Comprehensive Development Plan, unless varied with the consent of the Responsible Authority.

Any permit for subdivision which creates residential lots shall contain a condition that where any works for any subdivision stage will commence greater than 2 years after the date of certification of the plan of subdivision for the corresponding stage, then prior to the commencement of such works the permit holder must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the proposed subdivision can appropriately proceed having regard to the forecast impacts of climate change.

Subdivision of the land must provide for the creation of not more than 537 residential lots.

Each lot created for a dwelling in Precinct 2 must be at least 300 square metres.

Each lot must be provided with:

- A potable water supply
- Reticulated sewerage;
- Reticulated Class A recycled water supply; and
- Reticulated underground supply of electricity.

No subdivision creating residential lots shall occur until a reticulated potable water supply capable of servicing the lots is fully investigated and resolved to the satisfaction of the Responsible Authority and the Barwon Region Water Corporation.

Flood free vehicular access to all residential areas during a 1 in 100 year flood event must be provided to the satisfaction of the Responsible Authority and the Corangamite Catchment Management Authority. This is to be achieved by:

- An all weather raised Barham Valley Road over the floodplain adjacent to the proposed development with dimensions adequate to accommodate emergency vehicles;
- Alternative access to the existing street network; or
- A combination of the two.

Prior to a statement of compliance for any subdivision creating a residential lot, design guidelines for residential development must be prepared to the satisfaction of the Responsible Authority.

### **Application Requirements**

An application for subdivision must be accompanied by the following information:

- A plan drawn to scale which shows:
  - The boundaries and dimensions of the site.
  - Adjoining roads.
  - Relevant ground levels.
  - The layout of existing and proposed allotments, including any areas of common property.
  - Landscape areas and their proposed treatment.
  - The purpose or purposes for which each lot is intended to be used.
  - Details of all drainage works and cross over points to all lots.
  - The constructed level of any road to provide all weather safe access and egress to all allotments.
  - The location and staging of road works to be undertaken.
  - The stages by which development of the land is proposed to proceed.
  - The proposed internal road layout pattern and traffic management measures.
  - The location and nature of all pedestrian trails within the development including the separation of pedestrian and vehicular traffic movements.

- The provision of all necessary infrastructure including access to surrounding roads and any necessary intersection upgrades.
- A report that demonstrates to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the development responds to the forecast impacts of climate change.

#### **Exemption from notice and review**

An application that is generally in accordance with the Great Ocean Green Comprehensive Development Plan is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

#### **Decision guidelines**

Before deciding on an application to subdivide land, the Responsible Authority must consider, as appropriate:

- Whether the timing of the proposed subdivision is consistent with the residential growth scenarios envisaged by the Apollo Bay Structure Plan (2007).
- The Great Ocean Green Comprehensive Development Plan.
- The views of the Department of Planning and Community Development, the Corangamite Catchment Management Authority and the Barwon Region Water Corporation.

#### **4.0**

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#### ***Buildings and works***

A permit is not required to construct a building or to construct or carry out works where those buildings or works to be constructed are:

- associated with a Section 1 use; and
- located on a designated residential lot in Precinct 2 of the Comprehensive Development Plan provided the lot is:
  - connected to potable water, sewerage and drainage; and .
  - developed with a building designed in accordance with any urban design guidelines required by this clause and approved by the Great Ocean Green Design Panel if one has been appointed.

This exemption does not apply to two or more dwellings on a lot. Developments of two or more dwellings on a lot must meet the requirements of Clause 55.

A dwelling must not exceed 8.5 metres in height above finished ground level in Precinct 2 of the Comprehensive Development Plan except for land within Precinct 2 of the Great Ocean Green Comprehensive Development Plan that is between the Great Ocean Road and Barham River where a dwelling must be single storey and must not exceed 4.5 metres in height above finished ground level and must not exceed 60% building site coverage.

#### **Requirements**

A planning permit for buildings and works must not be granted until the following plans and guidelines have been approved by the authorities specified as approval authorities for each plan.

- Land Management Plan
- Flood and Inundation Management Plan
- Cultural Heritage Management Plan
- Golf Course and Open Space Management Plan

- Landscape Management Plan
- Infrastructure Management Plan
- Urban Design Guidelines
- Construction Management Plan

Each plan must be generally in accordance with the requirements of the Great Ocean Green Comprehensive Development Plan.

Each of these plans may be prepared in stages.

A Land Management Plan and a Flood and Inundation Management Plan for any stage must be approved before any other plan for that stage listed in this schedule or at the same time as all of the other plans for that stage listed in this schedule.

Subject to the other provisions of this clause all plans for any stage should be submitted and approved in the order that appears in the following sections of this schedule unless otherwise agreed by the Responsible Authority.

An application for buildings and works that exceeds a height of 9 metres in Precinct 3 of the Great Ocean Green Comprehensive Development Plan must be referred to Apollo Bay Airport Owner pursuant to Section 55 of the Act.

## **The Plans**

### **1. Land Management Plan**

The Land Management Plan must identify any environmental constraints and opportunities on the land, the appropriate strategies and solutions to address these based on best land management practice.

The Plan must be approved by the Department of Sustainability and Environment and the Responsible Authority and address the following matters:

- A flora and fauna assessment of the land.
- Actions to be taken to ensure that any environmental and amenity impacts are minimised and that environmental threats are reduced.
- Details of the layout of the land, including works related to the golf course, open spaces, roads, car parking, pedestrian links and proposed buildings.
- Broad details of the methods of construction of any housing pod to ensure their long term stability.
- Details of how the fill for the residential pods will be engineered to ensure that the maximum settlement with time does not exceed 5 cm.
- Requirements that a trial fill site be established at an early stage to demonstrate that maximum settlement rates will not be exceeded.
- Details of the soil and fill material to be imported onto the land.
- Details of the types of soils to ensure compatibility with the proposed vegetation.
- Details of the selection of species of trees, grasses and other vegetation to be planted on the land with an emphasis on indigenous plant species.
- Details of how the development will manage and enhance native vegetation of the land, including an assessment of how the plan addresses:
  - “Victoria’s Native Vegetation Management – A Framework for Action” and the achievement of net gain outcomes as defined in the framework.
  - The native vegetation strategy on any relevant catchment management strategy.

- Details of how the development will address waterway management, including the protection of flooding and enhancement of water quality including treatments required during flooding events.
- Details of how the development will address sediment control, salinity, nutrient control and pollution control.
- Details of annual fish monitoring in the Barham River and Andersons Creek.
- Measures taken to identify and treat Acid Sulphate Soils and ensure the long-term integrity of infrastructure assets.
- Details of pest plant and animal control.

## **2. Flood and Inundation Management Plan**

The Flood and Inundation Management Plan must be approved by the Corangamite Catchment Management Authority and the Responsible Authority and address the following matters:

- How water quality systems will be capable of recovery after flood events.
- Measures to ensure flood protection with a 600mm freeboard to dwelling floor levels for new residential development. Lot 3 PS429486 is to be protected from flood waters with a suitable bund which has a 600mm freeboard.
- How the development will maintain the free passage and temporary storage of flood waters, will minimise flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.
- A continuation of the natural cycle of estuarine wetting and drying
- How the development will function when the estuary is inundated.
- The affects of the development on environmental values such as natural habitat, stream stability, erosion, water quality and sites of scientific significance.
- The potential flood risk to life, health and safety associated with the development.
- How the development responds to the forecast impacts of climate change.

## **3. Cultural Heritage Management Plan**

The Cultural Heritage Management Plan must be approved by the Responsible Authority provide for the following:

- The identification, protection and management of Aboriginal cultural heritage values.
- The identification, protection and management of post contact cultural heritage values.
- A report from a suitably qualified archaeologist demonstrating that the impact of proposed development on Aboriginal cultural heritage have been addressed, including subsurface testing and appropriate mitigation in Precinct 3.
- A report from a suitably qualified archaeologist demonstrating that the impacts of proposed development on post contact cultural heritage have been addressed.
- Representatives of the local Aboriginal communities be involved in making recommendations about the management of sites of Aboriginal cultural significance.
- The views of Aboriginal Affairs Victoria and Heritage Victoria as appropriate.

## **4. Golf Course and Open Space Management Plan**

The Golf Course and Open Space Management Plan must be approved by the Responsible Authority and provide for the following:

- Measures for the protection and enhancement of indigenous vegetation.
- Measures for the eradication of environmental weed species, particularly adjacent to waterways.

- The selection of grass and other drought tolerant plant species appropriate to the locality.
- Methods of controlling untreated runoff into nearby waterways.
- The storage and use of pesticides, fungicides and fertilisers.

#### **5. Landscape Management Plan**

The Landscape Management Plan must be approved by the Responsible Authority and address the following matters:

- The establishment of landscaping works as provided for in the Landscape Concept Plan forming part of the Comprehensive Development Plan.
- The establishment of landscaping works that will provide adequate screening of the residential components of stages 7 and 8 (as identified in the staging plan of the Great Ocean Green Comprehensive Development Plan) prior to construction of residential development in those stages when viewed from the Great Ocean Road generally to the east of the site.
- The maintenance of all landscaped areas in Precincts 1 and 3.
- Details outlining the person or persons responsible for maintaining landscape buffer areas on private land.

#### **6. Infrastructure Management Plan**

The Infrastructure Management Plan must be approved by the Corangamite Catchment Management Authority and the Responsible Authority, must be based on the Land Management Plan and must address the following matters:

- The proposed source of all water required for each component of the development.
- The location and nature of infrastructure services to be provided, including, but not limited to, specifications of infrastructure services relating to their long term structural integrity in compressible soils.
- Environmentally sustainable design principles for all infrastructure, where appropriate, including the use of treated effluent.
- How the stormwater management system, golf course irrigation system and the sewerage system responds to principles of water sensitive design.
- Details of any reticulated sewerage system.
- Details of any storm water management system.
- How it is proposed to supply potable water to the land.
- The staging and timing of any proposed infrastructure.

#### **7. Urban Design Guidelines**

The Urban Design Guidelines must be approved by the Responsible Authority.

The Urban Design Guidelines apply to Precinct 2 of the Comprehensive Development Plan and must contain and address the following matters:

- The method of establishment, membership and operation of the Great Ocean Green Design Panel for all the land and the mechanisms by which the Panel will be required to approve the design of any building or works proposed on any residential lot where the use of a dwelling is as of right.
- Ecological sustainable design principles to be incorporated into any development.
- Planning and design objectives for each component of the development.
- Specific design criteria for each component of the development.
- Appropriate design criteria which are consistent with the objectives of Clause 54, 55 and 56 of the scheme.



- Mechanisms to achieve vegetation and landscaping outcomes on private land that are consistent with the landscape design objectives of the Land Management Plan and Landscape Management Plan.

The Urban Design Guidelines must be generally in accordance with any design or siting objective contained in the Great Ocean Green Comprehensive Development Plan.

The Urban Design Guidelines may be amended with the approval of the Responsible Authority as required.

## 8. Construction Management Plan

The Construction Management plan must be approved by the Corangamite Catchment Management Authority, the Department of Sustainability and Environment and the Responsible Authority and must address the following matters:

- How all works will be carried out in accordance with EPA Publication No. 272 “Construction Techniques for Sediment Pollution Control” and EPA Publication No. 480 “Guidelines for Major Construction sites in Victoria”.
- The methods by which the construction of buildings and works carried out on the land will comply with the requirements of the *Heritage Act* 1995 (Vic), the *Aboriginal Heritage Act* 2006 (Vic) and the Cultural Heritage Management Plan approved under this schedule, in particular the procedures to be followed for the identification and preservation of any archaeological material discovered during construction.
- The truck routes to be used for the importing of fill and for other construction activities and any necessary maintenance, management or upgrade of the existing local road network in response to the importing of fill and other construction activities. This must include the preparation of a Dilapidation Report in respect of road pavements prior to the commencement of works.
- The proposed methods of dust control during construction.
- Noise abatement to the EPA requirements during the construction phase.
- A protocol for the identification and treatment of Acid Sulphate Soils (ASS) if exposed during construction or pre-construction works.
- Any other matters required by the Responsible Authority.

The truck routes to be used for the importing of fill must also be to the satisfaction of VicRoads.

### Exemption from notice and review

An application for buildings and works located within Precinct 1 and 2 and generally in accordance with the Great Ocean Green Comprehensive Development Plan is exempt from the notice requirements of Section 52(1)(a), (b) and (d), the decision requirements of Section 64(1), (2) and (3) and the review rights of Section 82(1) of the Act.

### Decision Guidelines

Before deciding on an application, the Responsible Authority must consider, as appropriate:

- The Great Ocean Green Comprehensive Development Plan.
- Any plan prepared under Clause 4.0 for the site.
- Any design guidelines approved by the Responsible Authority.
- Where relevant, the views of the Department of Planning and Community Development and the Corangamite Catchment Management Authority.
- The effect of the development on the natural environment and character of the area.
- The availability of and connection to services.

- How the design responds to the site topography through the layout of roads, living spaces and open space.
- The impact of cut and fill on the natural environment.

## 5.0 Section 173 Agreement

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Prior to the granting of any planning permit, an agreement under Section 173 of the Act must be entered into to provide for:

- The availability of a potable water supply and reticulated power supply prior to the commencement of any buildings and works.
- Details of the timing and construction standards to be undertaken in establishing the golf course including that:
  - Prior to a Statement of Compliance being issued for any residential lot, the first nine holes of the golf course and clubhouse must be completed to a final, finished standard; or substantially constructed and a bank guarantee in an amount that is to the satisfaction of the Responsible Authority which reflects the cost of any buildings and works required to bring the golf course and club house to final completion to the satisfaction of the Responsible Authority. The bank guarantee will be returned upon the completion of the construction to a final, finished standard of the first nine holes and clubhouse.
  - Prior to a Statement of Compliance being issued for the 250<sup>th</sup> or greater lot the first nine holes of the golf course and clubhouse must be completed to a final, finished standard and the remaining nine holes of the golf course must be completed to final, finished standard; or substantially constructed and a bank guarantee in an amount that is to the satisfaction of the Responsible Authority which reflects the cost of any buildings and works required to bring the golf course to final completion to the satisfaction of the Responsible Authority. The bank guarantee will be returned upon the completion of the construction to a final, finished standard of the second nine holes.
- A requirement that prior to the certification of any plan of subdivision which creates residential lots, the applicant must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the development responds to the forecast impacts of climate change.
- A requirement that where works for any subdivision stage will commence greater than 2 years after the date of certification of the plan of subdivision for that stage, then prior to the commencement of such works the applicant must demonstrate to the satisfaction of the Corangamite Catchment Management Authority and the Responsible Authority that the proposed subdivision can appropriately proceed having regard to the forecast impacts of climate change.
- Provision for the construction and continuous maintenance of open space to a suitable standard satisfactory to the Responsible Authority.
- A requirement for each residential lot created through the development to include a covenant that requires each subsequent land owner to contribute toward the ongoing cost of open space maintenance.
- The timing and transfer of open space associated with the development to Council including a provision that development of the open space be

undertaken at a rate of 1000 square metres per residential lot until all the open space is constructed.

- An annual fish survey be conducted to determine the present status of the Australian Grayling and to determine the nature of any management measures that may be needed as a result of the survey.
- A requirement that the owner of the land must establish the Great Ocean Green Design Panel. The agreement must describe the method by which any residential development in Precinct 2 will be assessed, to the satisfaction of the Responsible Authority by:
  - The owner of land preparing plans to an appropriate standard in accordance with the approved urban design guidelines; and
  - The submission for approval of these plans to the Great Ocean Green Design Panel.
- The establishment of legal strategies to create entities responsible for the ongoing maintenance and management of the golf course, waterways and landscape on public land to the satisfaction of the Responsible Authority. The object of any legal strategy is to create legally enforceable obligations on the entity responsible for the particular matter and may include an agreement under Section 173 of the Act and the creation of unlimited bodies corporate.
- The payment of fees in lieu of the planning permit fees in order to recompense the Responsible Authority for time spent considering various plans which the planning scheme provisions require to be assessed and approved.

Prior to a statement of compliance being issued to create a residential lot, an agreement under Section 173 of the Act must be entered into to provide for:

- Any contribution through monetary contribution, construction or provision of land for roads, drainage or physical infrastructure as reasonably required by the Responsible Authority. This may include the provision of pedestrian access between the land and the Great Ocean Road as well as pedestrian access within the areas zoned Public Park and Recreation, adjoining the land.

## 6.0

### ***Advertising signs***

--/20--  
C29

Advertising signs requirements are at Clause 52.05.

Category 4 applies to Precinct 1

Category 3 applies to Precincts 2 and 3

--/20--  
C--

## SCHEDULE 6 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

Shown on the planning scheme map as **ESO6**.

### **GREAT OCEAN GREEN – ACID SULFATE SOILS**

#### 1.0

--/20--  
C--

#### **Statement of environmental significance**

Acid Sulfate Soils are defined as ‘*a soil or soil horizon which contains sulphides or an acid soil horizon affected by oxidation of sulphides*’. The oxidation of sulphides in the presence of moisture generates sulphuric acid which may lower the pH of receiving waters, increasing levels of metals in the receiving waters (particularly iron and aluminium) and strip the natural neutralising capacity of from the receiving waters. Heavy metals mobilised in an acidic environment can become toxic to aquatic life. The quantity of sulphides required to constitute a hazard depends on the nature of the soil properties and sensitivity of the receiving environment.

Actual Acid Sulfate Soils (AASS) are soils that have undergone some degree of oxidation, resulting in the release of sulphuric acid. Potential Acid Sulfate Soils (PASS) are soils that have not yet been oxidised but still present a potential environmental hazard if disturbed or managed incorrectly.

The Great Ocean Green site is located on the flood plain of the Barham River and an intertidal area located behind the beach area of Mounts Bay. The general elevation of area is between 1.9m to 5.5m AHD, rising to a maximum of 12.2 AHD in the northwestern corner of the Site. The level of the majority of the site is below the 5m AHD threshold level, which is associated, or may have the potential to have developed AASS and PASS.

The Barham River has been identified as a river of ecological significance, providing habitat for a number of protected freshwater fish, such as the Australian Grayling. Recent restoration programs along the Barham River have concentrated on restoring the Barham River estuary habitat for native fish such as estuary perch and for Australian water birds such as Cormorants and Herons.

Acidic leachate formed from Acid Sulfate Soils can also pose a risk to underground services and facilities such as reticulated water, sewer and drainage mains and in ground swimming pools. Infrastructure comprised of concrete and paving materials are particularly susceptible to acidic corrosion that can reduce the integrity and lifespan of associated structures.

#### 2.0

--/20--  
C--

#### **Environmental objective to be achieved**

- To encourage development that is responsive to the physical characteristics and constraints of the land.
- To identify land that is subject to risks associated with the presence of Acid Sulfate Soils.
- To prevent detrimental impacts on the Barham River and nearby groundwater caused by the lowering of pH levels resulting from exposure to sulphuric Acid.
- To prevent detrimental impacts to the environment through careful development planning and site specific management procedures.
- To avoid the disturbance of Acid Sulfate Soils wherever possible.
- To ensure Best Practice Environmental Management techniques that minimise short and long term environmental impacts caused by the disturbance of Acid Sulfate Soils are implemented.

- To ensure Best Practice Environmental Management techniques and strategies in the neutralisation of Acid Sulfate Soils are implemented.

### 3.0 **Permit requirement**

--/20--  
C--

A permit is not required to construct a building or construct or carry out works that, either:

- Are to be carried out in accordance with an Acid Sulfate Soils Management Plan prepared by a suitably qualified Environmental Scientist to the satisfaction of the Responsible Authority, generally in accordance with the Great Ocean Green Comprehensive Development Plan February 2008; or
- Meet the following requirements:
  - Are only above finished ground level, or
  - Require less than 0.6 metres of excavation below finished ground level on a residential pod within Precinct 2 as defined in Schedule 1 of the Comprehensive Development Zone, or
  - Require less than 0.5 metres of excavation below finished ground level in any other location.

A permit is not required to subdivide land.

A permit is not required to remove, destroy or lop any vegetation.

### 4.0 **Decision guidelines**

--/20--  
C--

Before deciding on an application, the responsible authority must consider as appropriate:

- The effect, if any, on the environmental values of the area.
- An Acid Sulfate Soil Management Report from a suitably qualified Environmental Scientist that addresses the suitability of the site for the proposed development and any measures required to ensure the neutralisation of Acid Sulfate Soils.

--/20--  
C29

## **SCHEDULE TO THE LAND SUBJECT TO INUNDATION OVERLAY**

Shown on the planning scheme map as **LSIO**.

### **1.0**

#### ***Permit requirement***

--/20--  
C29

Within the bounds of the Great Ocean Green Comprehensive Development Zone, indicated as CDZ1 on maps 27, 29 and 30 of the Colac Otway Planning Scheme, no permit is required for a dwelling where there is at least 600mm freeboard to the floor level of the dwelling from the 1 in 100 year flood level and which has in such circumstances, all weather access.

--/20--  
C29

## SCHEDULE TO CLAUSE 52.17

### 1.0

#### Scheduled area

--/20--  
C29

| Area   | Description of native vegetation for which no permit is required to remove, destroy or lop  |
|--|---|
| Land zoned Great Ocean Green Comprehensive Development Zone, Apollo Bay. | Vegetation which is detailed in an Environmental Management Plan approved in accordance with the Provisions of the Great Ocean Green Comprehensive Development Plan, February 2008. |

### 2.0

#### Native vegetation precinct plan

--/20--  
C29

| Name of plan   |
|----------------|
| None specified |

—/—/200—  
C29

## SCHEDULE TO CLAUSE 81.01

### Name of Document

Australian Standard AS2021-2000, Acoustics – Aircraft Noise Intrusion – Building Siting and Construction, Standards Australia International Ltd, 2000

Great Ocean Green Comprehensive Development Plan, February 2008.

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GREAT OCEAN GREEN  
COMPREHENSIVE DEVELOPMENT  
PLAN

An Incorporated Plan of the Colac Otway  
Planning Scheme pursuant to s 6 (2)(j) of the  
*Planning and Environment Act 1987*

Barham River flats, Apollo Bay

Prepared by Glossop Town Planning Pty Ltd  
On behalf of the Urban Property Corporation  
(Great Ocean Green) Pty Ltd

February 2008

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## **PART 1: INTRODUCTION**

### **1.1 Name of the Plan**

This document is known as the Great Ocean Green Comprehensive Development Plan (“the Comprehensive Development Plan”) and is an incorporated document of the Colac Otway Planning Scheme (“the Planning Scheme”) pursuant to s 6(2)(j) of the *Planning and Environment Act 1987* (“the Act”).

As an incorporated document the responsible authority (‘the Council’) for the administration of the Planning Scheme (“the Scheme”) must have regard to the Comprehensive Development Plan into account when assessing planning permit applications for the use and development of the Great Ocean Green Estate (“the land”).

This Comprehensive Development Plan has been prepared in accordance with the requirements of Schedule 1 to the Comprehensive Development Zone (CDZ1) – *Great Ocean Green Development Plan* of the Planning Scheme.

The provisions of the Act, Regulations and any State Environmental Planning Policy will apply irrespective of this Development Plan.

The Comprehensive Development Plan comprises both text and plans, with the latter forming Attachments 1 – 15. Specifically reference is made to the following key plans:

1. The Opportunities and Constraints Plan
2. Interpretation of Pre-1750 EVC Plan
3. Application of EVC Plan
4. Comprehensive Development Plan (Part 1) and Precinct Plan (Part 2)
5. Proposed Public Open Space Networks Plan
6. Landscape Concept (Golf Overlay) Plan
7. Precinct Three Plan
8. Landscape Sections Plan (2 parts)

9. Staging Plan
10. Flood Extent and Levels Plan (4 parts)
11. Tidal Inundation Plan
12. Overall Water Strategy Plan
13. Overall Drainage Strategy Plan
14. Overall Sewer Strategy Plan
15. The location of the 15 ANEF Contour Plan

The Opportunities and Constraints Plan is appended as Attachment 1 and documents the opportunities and constraints of the site and the land use and physical contexts of the land.

Plans 2 -15 variously show:

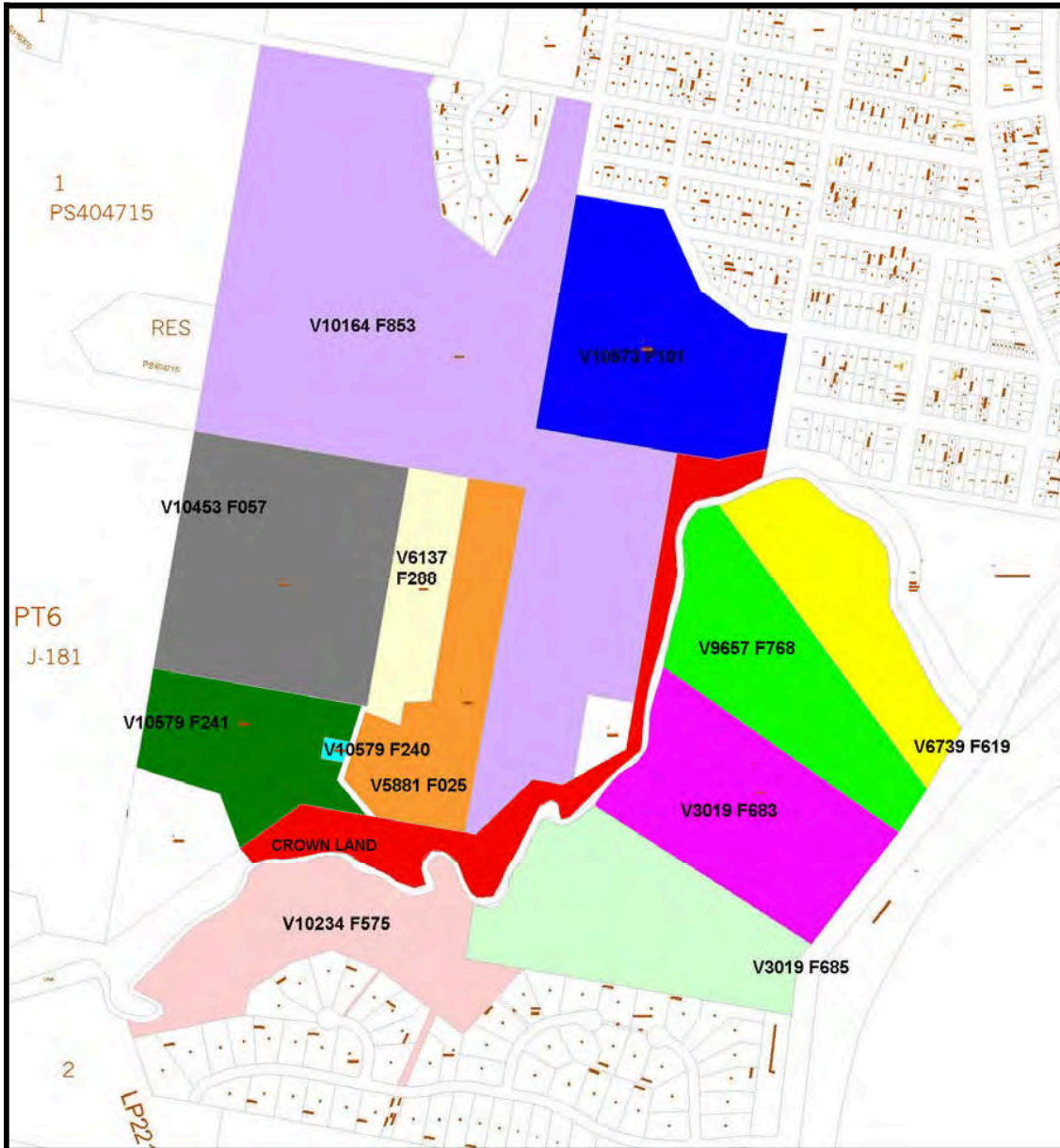
- The location of use and development precincts, including indicative lot layouts, existing and proposed road and pedestrian networks, Title boundaries, location of key facilities, and golf course layout;
- The location of existing and proposed watercourses;
- The location and type of pre-1750 Ecological Vegetation Classes ('EVCs');
- Indicative land uses, building locations, setbacks and heights, car park and vehicle access layouts and landscape buffer treatments for Precinct 3;
- The location of proposed public open space networks including landscape buffers;
- An indicative landscape concept design and philosophy;
- The extent of flood prone land;
- The extent of land subject to tidal inundation;
- The location of existing and proposed reticulated sewer, water and reticulated drainage infrastructure; and

- The proposed staging of development.

## **1.2 What does the Development Plan apply to?**

Land to which the Comprehensive Development Plan applies is collectively known as Great Ocean Green and comprises 170 hectares of land adjacent to the Great Ocean Road, Apollo Bay. The land is situated between the Heathfield Estate and the Apollo Bay Football Oval and is shown and described in Figure 1.

**FIGURE 1: LAND TO WHICH THE GREAT OCEAN GREEN DEVELOPMENT PLAN APPLIES**



1. Land in Plan of Consolidation 362933N  
Vol 10588 Fol 485
2. Lot 1 on Plan of Subdivision 429486D  
Vol 10573 Fol 101
3. Lot 1 on Plan of Subdivision 408749Q  
Vol 10453 Fol 057
4. Lot 2 on Plan of Subdivision 013765  
Vol 06137 Fol 288
5. Lot 1 on Plan of Subdivision 013765  
Vol 05881 Fol 025 (*N.B. Error on Title - Lodged  
for rectification at Titles Office 19 Jan 2004*)
6. Lot 2 on Plan of Subdivision 440381E  
Vol 10579 Fol 241
7. Lot 4 On Plan of Subdivision 408749Q  
Vol 1043 Fol 060
8. Reserve No. 7 on PS 337182M,  
Vol 10234 Fol 575
9. Lot 1 on Title Plan 706631Q (formerly known as  
part of Crown Allotment X Parish of Krambruk)  
Vol 3019 Fol 685
10. Lot 1 on Title Plan 414362T (formerly known as  
part of Crown Allotment X Parish of Krambruk)  
Vol 3019 Fol 683
11. Lot 1 on Title Plan 106695H (formerly known as  
part of Crown Allotment X Parish of Krambruk)  
Vol 9657 Fol 768
12. Lot 1 on Title Plan 180997V (formerly known as  
part of Crown Allotment X Parish of Krambruk)  
Vol 6739 Fol 619

## **1.3 Consent Requirements**

The provisions of the Comprehensive Development Zone Schedule 1 ('CDZ1') set out the planning permit requirements in respect of land use and development.

Specifically, a permit is required for the following:

- The subdivision of land;
- Buildings and works other than in association with a dwelling in Precinct 2 provided with services and approved to the satisfaction of any appointed design panel;
- Use of land for a range of purposes including but not limited to a Convenience shop; Exhibition centre; Function centre; Group accommodation; Office; Residential hotel; Dwelling (if located in Precinct 3) or where the Section 1 Condition is not met; and Shop; and
- A range of outdoor advertising signage.

Additionally, design guidelines which direct the form and design of residential dwellings within the development are to be used as a means of establishing a defined residential character for the precinct. Specifically the guidelines:

- Will be implemented by a design review committee established, administered and funded by the developer of the property; and
- Will not be a statutory document under the Colac Otway Planning Scheme and will not be enforced by the Colac Otway Shire.

The design review committee will include one or more experts in urban design, architecture or town planning.

Compliance with the numerical/quantitative standards of this Incorporated Plan does not mean an automatic approval as the planning objectives must also be satisfied. Some flexibility in satisfying requirements may be allowed if the overall objectives for the development of Great Ocean Green are satisfied. Any proposal which does not satisfy the requirements should clearly outline and justify any departures and demonstrate how the objectives will be achieved.



## **1.4 The Great Ocean Green Concept**

### **1.4.1 Development Vision**

The principle aims of the Development Plan include:

- To develop a mix of recreational, residential and employment opportunities within the site based on an integrated golf course and residential development.
- To establish an environmental and recreation based living environment, based on the re-vegetation of the river flats to a golf course based recreation and living area.
- To encourage a well managed traffic and living environment.
- To encourage residential development that responds to site conditions.
- To create a sense of place that provides visual separation between the settlements of Apollo Bay and Marengo but allows physical connections via road and trail.
- To encourage a mix of residential choice and diversity to broaden the range of living opportunities within the Apollo Bay area.
- To encourage the mixed use precinct off Great Ocean Road that will include the future provision of a residential hotel and facilities related to the Great Ocean Green Golf Course.
- To promote passive frontage to Great Ocean Road and the rehabilitation of the site's riparian values along the Barham River.
- To encourage sustainable development practices including waste water re-use, storm water management and energy efficiency in design.
- Create safe living and pedestrian spaces and encourage a connection between the settlements of Apollo Bay and Marengo.
- To provide clear vehicle and pedestrian linkages to and through the site.

## **1.4.2 Design Philosophy**

The philosophy for the site is to create an integrated recreational living environment that is both interactive with the broader Apollo Bay community whilst enhancing the site's natural environment. This is to be achieved by utilizing the full potential of the site for recreational development and associated diverse living and working opportunities.

The design principles underlying the concept include:

- Building on the site's intrinsic values including river and foreshore environs.
- Supporting the re-vegetation of the Barham River environs.
- Maximising opportunities to support walkable neighbourhoods.
- Establishing housing that can complement the environmental and recreation programs to be undertaken as part of the development through the establishment of low key, environmentally sustainable designed homes.
- Providing for residential and commercial buildings that are carefully sited and detailed to ensure that they minimize any visual impact from adjoining roads or viewing points from the town.
- Encouraging a safe pedestrian and living environment.
- Promoting ecological sustainable development where possible through the promotion of solar orientation of buildings, use of on-site water tanks and recycling of water for irrigation and potential domestic use.

## **PART 2: GUIDING PRINCIPLES**

### **2.1 The Site and its Context**

#### **2.1.1 Regional Context**

The townships of Apollo Bay and Marengo are located on Great Ocean Road, approximately 2.5 to 3 hours drive from Melbourne.

The Great Ocean Green land (recognized as Barham River flats) comprises a number of former agricultural landholdings of approximately 170ha positioned between these two settlements.

With a population of approximately 21,500 people, Colac Otway is a rural shire encompassing 3,500 square kilometers south west of Victoria's two major urban centres of Melbourne and Geelong. It is bounded to the north by the Hamilton Highway and to the south by the Great Ocean Road coast line.

The Colac Otway Shire contains a variety of landscapes including Cape Otway, the Otway Ranges, inland lake systems and scenic coastal reserves.

Economic activities in the Shire include agriculture and food processing, forestry and timber harvesting, tourism, business services, commercial fishing and retailing.

Major townships within the municipality include Colac and Apollo Bay with major access provided via the Princes Highway, Hamilton Highway, the Great Ocean Road and the West Coast Railway.

#### **2.1.2 Local Context**

Apollo Bay is recognized as an activity centre in the Victorian Coastal Strategy. The town's resident population of 1,000 people increases during holiday periods by up to 10,000 people in summer months. It is the only

fully serviced township along the Colac Otway section of the Great Ocean Road.

Being located between Marengo and Apollo Bay, the site is within close proximity to town amenities including the Apollo Bay Community Health Centre and the town's retail hub.

### **2.1.3 Site Context**

The Great Ocean Green land is bounded by: -

- Low density residential development and open space links to the Heathfield Estate to the south;
- The Great Ocean Road, Mounts Bay and beach to the east;
- Limited residential development in Seymour Crescent and Noel Street to the north;
- Apollo Bay wastewater treatment plant and future industrial development to the northwest; and
- Agricultural land to the west.

## **2.2 Opportunities & Constraints**

The following opportunities and constraints of the land and its environs have been identified as key considerations in the development of the land:

Opportunities

- Access to the Apollo Bay township and the strategic importance of this settlement in terms of future residential growth.
- Views available from the land.
- The fragmented nature of the landholdings (north and south of the Barham River Road).
- The highly modified status of the landscape comprised predominantly of pasture.

- The availability of most utility services.
- Proximity to the Great Ocean Road and Victoria's southern coastline and all the benefits that they bring.

## Constraints

- The proximity of the land to the Apollo Bay airfield.
- The proximity of the land to the Apollo Bay Wastewater Treatment Plant.
- The potential significance of the land in respect of cultural heritage including indigenous and post European contact values.
- The presence of acid sulfate soils.
- The availability of potable water of sufficient capacity to cater for new residential development.
- The availability of a reticulated power supply of sufficient capacity to cater for new development.
- The flood prone nature of the land.
- The need to maintain and enhance water quality within the Barham River and Anderson Creek.
- The need to protect and enhance indigenous flora and fauna communities and their habitats.
- The need to maintain an appropriate buffer to the Apollo Bay waste water treatment plant.
- Limited vehicle access opportunities.
- The visual sensitivity of the site, including views of the land from the Great Ocean Road.

## **2.3 Background Information**

The Colac Otway Strategic Development Masterplan: *Apollo Bay Structure Plan - 2001* and the *Apollo Bay – South East Precinct Study 1997* promote the relocation

of the Apollo Bay Golf Course from its existing site as it conflicts with coastal strategies.

The strategy notes that whilst the golf course is an important recreation facility to the town, its current location hinders public access to the foreshore and redevelopment of the harbour precinct.

The structure plan recommends that a new 18 hole golf course be established in a non-foreshore location in Apollo Bay or Marengo. The strategic plan identifies the Barham river flats for public open space or recreation. Parts of the land are also identified for low density development or rural residential development.

The strategic masterplan also provides direction to encourage greater pedestrian links between Marengo and Apollo Bay through the site and recommends that tourist development be promoted that does not impact on the amenity of existing residential areas.

The strategic masterplan notes that the Barham River flats have been precluded from development due to the low lying nature of the land and the potential for the land to plan.

## **2.4 The Plans**

Concept Plans for the Development of Great Ocean Green have been prepared after consideration of the various environmental, landscape and servicing issues affecting the site. This includes the floodplain layout for the area. The concept plans are detailed in **Attachments 2 - 15**.

The concept facilitates the relocation of the existing Apollo Bay golf course to an 18 hole golf course, available to the public within the area identified in the Colac Otway Strategic Development Masterplan.

The area includes land also identified for low density and rural residential development, creating an overall integrated recreation and residential precinct.

This is supported by the strategic directions of Clause 21.04-10 of the planning scheme to promote limited development within the Barham River Flats. The

integration of residential development with a golf course in this area is important to the directions to relocate the existing Apollo Bay Golf Course in a manner that is economically, environmentally and socially viable to the community of Apollo Bay and Marengo.

Development should be generally in accordance with the concept plans.

From the concept plans a number of land use precincts have been determined. Each precinct reflects the particular land use and development objectives for that part of the land. The precincts are identified in **Attachment 4 - Part 2**. Land use should be generally in accordance with the precincts identified in this Attachment. It should be noted that upon final flood modeling undertaken prior to construction minor amendments may need to be made to the layout of the precincts.

#### **2.4.1 Precinct 1 - Golf Recreation with landscape and access works**

Objectives for development and works within this area are to:

- Promote opportunities for the provision of passive and active open space.
- Promote opportunities for land system rehabilitation and habitat diversity.
- Provide safe pedestrian activity with movement to and through the site.
- Create a vibrant passive environment.
- Integrate golf course land (including water bodies) with other precincts and uses.
- Promote opportunities to include a formal pedestrian plaza to the future Golf Clubhouse and Residential Hotel sites.

This precinct is crucial to the development as it forms the primary recreational use of the Great Ocean Green development.

## **2.4.2 Precinct 2 - Residential development with integrated landscape works**

Objectives for development within this precinct are to:

- Provide a mixture of residential opportunities through a range of lot sizes.
- Encourage active frontages with peripheral screenings.
- Encourage buildings fronting golf course and nature reserves to create a sense of place and encourage safe pedestrian spaces and surveillance.
- Provide appropriate traffic management devices to the satisfaction of the Responsible Authority.

This precinct establishes new residential communities with a maximum of 537 lots through a range of residential lot sizes from 300 square metres to over 600 square metres.

## **2.4.3 Precinct 3 - Sites for tourist and leisure activities including club house facilities, residential hotel, serviced apartments and mixed use activities**

Objectives for development within this precinct include:

- To provide appropriate services to golf patrons and tourists.
- To provide minor convenience services to residents within the Great Ocean Green development area.
- To provide a focus of activity relating to the envisaged leisure based development.
- Provide accommodation services for visitors seeking higher order facilities through a residential hotel, serviced apartments or a combination of both.

A series of complementary uses may also be considered appropriate, including a resort, spa, food and drink premises etc, provided they form part of a broader tourist / hotel complex in the precinct.



The development of this area will be dependant upon architectural drawings to be provided to the satisfaction of the Responsible Authority and appropriate investigations with regard to traffic function and demand created by the development.

Accommodation may include, but is not limited to, keyed rooms within a residential hotel, as well as villa units or serviced apartments. Given the terrain and height restrictions, the general form of the hotel building will likely be linear, with a series of fully serviced interconnected apartments.

Generally, buildings should not exceed 10 metres above ground level.

It is expected that built forms within this precinct will be of a contemporary nature that will respond to the site's location. This will be a key site for the success of the golf course. Main buildings should be oriented towards the golf land.

## **PART 3: DESIGN OBJECTIVES**

### **3.1 Detailed Design**

Prior to the grant of a permit under the Comprehensive Development Zone the following detailed management and design plans must be prepared to the satisfaction of the Responsible Authority. It is intended that plans described below will be prepared and submitted in the order set out below (1-8) or all be submitted at the same time:

1. Land Management
2. Flood and Inundation Management
3. Cultural Heritage Management
4. Golf Course and Open Space Management
5. Landscape Management
6. Infrastructure Management
7. Urban Design Guidelines
8. Construction Management

Each detailed management and design plan will be informed by the following applicable objectives and requirements set out below. Importantly the following lists of objectives are not management plans. The objectives and requirements convey principles upon which area based detailed design plans will be developed.

### **3.2 Legal Strategies**

Legal strategies will be prepared to ensure there is a shared responsibility on the part of the owners and operators of all the residential, commercial and recreational components of Great Ocean Green for the implementation of the management strategies listed in Section 3.1.

The zone provides for the establishment of legal strategies to create entities responsible for the ongoing maintenance and management of the golf course, waterways and landscape on public land, to the satisfaction of the responsible authority.

The object of any legal strategy is to create legally enforceable obligations on the entity responsible for the particular matter and may include agreements under Section 173 of the *Planning and Environment Act 1987* and the creation of unlimited bodies corporate.

Prior to the development of any part of the Great Ocean Green development, the owner of the land must enter into an agreement under Section 173 of the *Planning and Environment Act 1987* to require that open space as generally identified in Attachment 5 be developed and maintained to the satisfaction of the Responsible Authority and at the cost of the landowners within the development (other than the Apollo Bay Golf Club).

## **PART 4: DEVELOPMENT REQUIREMENTS**

This section relates to the preparation of management plans and concept plans.

The development provisions within this Incorporated Plan are organized into sections within which objectives and requirements are generally satisfied.

Normally all relevant requirements are to be met. If one or more of the requirements is not met, then justification must be provided to show that the specific objectives of the section and the general objectives of this Incorporated Plan are met.

### **4.1 Infrastructure**

#### **Objectives**

- To ensure an appropriate range of services are provided.
- To provide infrastructure that meets the needs of the community of Great Ocean Green.
- To maximize the opportunities for potable water substitution for residential and non-residential components of the development using water sources that are fit for purpose.
- To encourage a best practice approach in the provision and delivery of infrastructure.

#### **Requirements**

- Residential development must not be commenced until a suitable potable water supply can be made available.
- Development other than subdivision must not be commenced until a suitable electricity supply can be made available.
- Reticulated drainage, sewerage, electricity and communications must be provided to all lots.
- Development must provide reliable services to the residents of Great Ocean Green.

- Infrastructure services designed and constructed to a standard to ensure long term structural integrity in compressible soils.

## **4.2 Street Network and Street Design**

### **Objectives**

- To encourage more sustainable movement networks.
- To respond to or capitalize upon site constraints and opportunities.
- To ensure efficiencies in street layout, services and costs between related development parcels of land.
- To encourage a safe pedestrian and living environment adjacent to the Great Ocean Road.
- To encourage the development of an access network that draws people through the site with particular emphasis on improving the integration of the site with the surrounding road networks and creating better access to the Barham River, foreshore and townships.
- To encourage the reduced use of motor vehicles by linking with existing street and pedestrian networks.

### **Requirements**

- Bicycle and pedestrian networks must be provided generally in accordance with the indicative development plan; the landscape principles plan and Precinct Plans 1 – 3.
- Road and lot layouts must ensure that lots address areas of public open space appropriately.
- The street network is to incorporate appropriate traffic calming devices as necessary.
- Direct public access is to be maintained throughout the neighbourhood street network.
- Road networks connect with the existing town network.

- All streets are to read as part of the overall open space network and revegetation framework.
- Multi purpose trails are to be created to enhance permeability for local users beyond the immediate site.

### **4.3 Parklands and Public Recreation**

#### **Objectives**

- To encourage quality accessible public open spaces of appropriate proportions and utility.
- To ensure that the public open space elements identified within the Great Ocean Green precinct are developed and maintained to the satisfaction of the responsible authority and at the cost of the landowners within the development (other than the Apollo Bay Golf Club).
- To encourage the provision of open space areas that provide for both passive and active recreation.
- To provide open space within convenient walking distance of each dwelling.

#### **Requirements**

- Details of open spaces that will be available to the public must be shown, together with the location of any facilities, structures or visitor access nodes in the public open space.
- The area in hectares of the different types of open spaces before and after the development must be calculated and shown on a plan.
- Open spaces are to be located within 400 metres of every dwelling.
- An open space management plan must be prepared.

## **4.4 Golf Course and Open Space**

### **Objectives**

- To encourage Best Practice management techniques for the Great Ocean Green Golf Course.

### **Requirements**

- The use of treated effluent should be investigated and if possible, utilised to the satisfaction of the Responsible Authority. Water conservation techniques are to be employed at all times.
- No synthetic or chemical pesticide or fungicide is to be used in the construction or maintenance of the golf course.
- Waterways are to be rehabilitated through the removal of non-indigenous and weed species and the planting of indigenous plant species of local provenance.
- Grass types requiring minimum irrigation are to be selected and areas of turf requiring intensive irrigation are to be rationalised. Grasses are to be selected that are best suited to local environmental conditions including drought tolerance.
- Where practicable, fairways and green surrounds are to be contoured so as to minimise the potential of runoff from entering existing waterways. Surface runoff and sub surface drainage is to be directed into bio-retention systems or similar to ensure that water is treated prior to entering waterways.
- Organic pest control and fertilizer programmes are to be adopted and used infrequently.
- All fertilizers and other organic compounds used in the management of the golf course are to be stored in a maintenance shed or similar building and elevated above finished floor level.

## **4.5 Flood Plain and Inundation Management**

### **Objectives**

- To ensure that the development is designed in accordance with best management principles.
- To ensure that reasonable measures are taken to manage water quality during high rainfall flood events and estuarine inundation events.
- To protect receiving water quality during rain events and ensure ongoing protection after major flood events.
- To ensure that the development responds to the forecast impacts of climate change.

### **Requirements**

- Development must maintain the free passage and temporary storage of floodwaters such that it does not cause any significant rise in flood level or flow velocity, minimize flood damage and be compatible with the flood hazard and local drainage conditions.
- Water quality systems must be capable of recovery after flood events.
- Development must reasonably ensure that the long term viability of water quality treatment measures is not compromised when the design event of that treatment device is exceeded.
- The storage of plant, equipment and chemicals for the golf course must be done such that water quality is protected during flood events.
- The application of fertilizers or chemicals to the golf course should ensure that there is no spillage or drift of fertilizers or chemicals to the estuarine water. Fertilizers or chemicals should not be applied to areas that are subject to periodic estuarine inundation.
- Flood protection with a 600mm freeboard to dwelling floor levels must be provided to new residential development. Lot 3 PS429486 must be



protected from flood waters with a suitable bund which has a 600mm freeboard.

- Flood free access to all residential areas must be provided by either a raised Barham Valley Road over the floodplain adjacent to the proposed development or alternate access to the existing street network or a combination of the two.
- A trail network must be provided outside of the area that is subject to natural periodic inundation.
- The development must provide for the continuation of the natural cycle of estuarine wetting and drying.
- The development must be able to continue to function when the estuary is inundated.
- Flood waters are to be conveyed within the street network or directly from the lots to the golf course.

## **4.6 Cultural Heritage**

### **Objectives**

- To identify and provide protection and appropriate mitigation for indigenous and post European sites and artifacts of cultural heritage significance.
- To assess the impact of the development footprint on cultural heritage resources.

### **Requirements**

- The views of the relevant Aboriginal communities are to be sought in relation to the suitability of Precinct 3 for the proposed activities.
- Appropriate consents are to be obtained from the relevant authorities.

## **4.7 Watercourses and Environs**

### **Objectives**

- To encourage the reinstatement of riparian vegetation along the Barham River and Andersons Creek.
- To restore Anderson Creek as near as practicable to its natural course and function.

### **Requirements**

- Restoration and revegetation works are to be carried out generally in accordance with the Landscape Concept Plan.
- The natural function of Anderson Creek is to be reinstated as near as practicable to that of a natural waterway.
- A 10 metre wide vegetated buffer is to be provided either side of Andersons Creek that reinstates appropriate pre-1750 Ecological Vegetation Classes (EVCs).
- A 50 metre wide vegetated buffer that reinstates appropriate pre-1750 EVCs is to be provided on the Barham River where it abuts the subject land.
- Restoration and replanting of species characteristic of Estuarine Swamp Scrub is to be undertaken on the floodplain around the Backwater and on adjacent, lower reaches of the Barham River, including the golf course in the area estimated to have historically supported this EVC.
- Restoration and replanting of species characteristic of Swamp Scrub is to be undertaken in areas of floodplain near the upper reaches of the Barham River on the site and in the adjacent floodplain in the golf course.
- Replanting of Riparian Forest species on the natural levee banks and associated existing and new elevated land on and near the Barham River banks, including around proposed housing areas near the river, opposite the Great Ocean Road.

## **4.8 Ecological Sustainable Design**

### **Objectives**

- To encourage ecological sustainable design for all aspects of the development.
- To ensure that all areas of environmental significance are protected and enhanced.
- To incorporate energy efficient design principles into the design and siting of development.
- To encourage energy efficiency in housing and subdivision designs.
- To encourage soft engineering techniques and solutions including water sensitive urban design features.
- To encourage the use of low water use indigenous and native plants in private gardens.
- To encourage the capture, treatment and reuse of storm water and rainwater as appropriate.
- To adopt an 'Integrated Water Management' approach to the management of the site.

### **Requirements**

- The development must provide for the continuation of the natural cycle of estuarine wetting and drying.
- The location and indicative treatment of water sensitive urban design features are to be shown, including but not necessarily limited to filtration swales and rain gardens for the collection of street runoff for treatment prior to discharge into the Barham River.
- Where appropriate, potable water use is to be substituted with alternative water which is fit for the purposes of golf course irrigation, external

domestic irrigation, toilet flushing and other uses where approved by the relevant authority.

- All nutrient discharge is to achieve nutrient removal to industry best practice (i.e. 80% removal of suspended solids, 45% removal of Phosphorous and 45% removal of Nitrogen).
- The possible location for the construction of a bird hide is to be shown.
- Lots with desirable solar orientation are to be maximized.
- Use of drought tolerant indigenous and native plant species is to be maximized in private gardens.

## **4.9 Urban Design and Landscape**

### **Objectives**

- To facilitate development of the Great Ocean Green Precinct land based upon the sites intrinsic values including river and foreshore environs.
- To respond to or capitalize upon site constraints and opportunities.
- To create an enriched and meaningful landscape character.
- To provide structured and un-structured outdoor leisure services and facilities around an 18 hole golf course available to the public.
- To ensure an appropriate development buffer is provided from the Great Ocean Road reserve.
- To ensure the Great Ocean Green development retains a visual separation between the settlements of Apollo Bay and Marengo.
- To ensure an appropriate interface between residential land and future parkland is provided.
- To ensure that residential development fosters social interaction and creates a unique sense of place and identity.

- To integrate new residential development with the golf course and land environs.
- To encourage a range of dwelling allotments in discreet, clustered locations through the development area, which do not significantly impact on the flood flows across the site.
- To provide lots with areas and dimensions that enable the appropriate siting and construction of a dwelling, solar access, private open space, vehicle access and parking, water management, easements and the retention of significant vegetation and site features.
- To provide variation in dwelling types and densities.
- To provide a lot layout that contributes to community social interaction, personal safety and property security.
- To encourage the use of indigenous vegetation on publicly and privately owned land.

## **Requirements**

- A 350 metre development buffer from the Great Ocean Road reserve (excluding Precinct 3) is to be provided.
- An integrated landscape architecture and urban design concept for the treatment of the interface between the future parkland and the land to be subdivided for residential purposes must be prepared.
- A discernable break must be provided between Marengo and Apollo Bay that maintains the separate identities of these settlements.
- Restoration and infill planting of shrubs is to be undertaken on the dune on which the Great Ocean Road is located in a narrow zone on the site's southern boundary.
- Road and lot layouts must ensure that lots address areas of public open space appropriately.

- Vegetation/landscape precincts that indicate the type of vegetation to be planted and the general landscape outcome to be achieved must be identified.
- Introduction of a transformed visual environment offering both short and long term views.
- Small neighbourhood nodes within a landscape dominated setting are to be formed.
- An indigenous plant palette within the public realm and beyond is to be utilised.
- New habitat opportunities for native fauna are to be created.
- Streets are to read as part of the overall open space network and revegetated framework.
- Clear visual connections from all lots to adjacent open space connectors or open space are to be provided.

## **4.10 Precinct 3**

The objectives and requirements in this Section are in addition to the objectives and requirements in Sections 4.1 – 4.8 inclusive. Where there is any discrepancy between the provisions, the following objectives and requirements take precedence:

### **Objectives**

- To encourage use and development generally in accordance with the Precinct 3 Concept Plan.
- To ensure development is not adversely affected by aircraft noise associated with the nearby Apollo Bay Airfield.
- To ensure inappropriate development that may prejudice the operation and future expansion of the Apollo Bay Airfield is not permitted.

- To create a landscape setting for the development to filter and frame desirable views from the Great Ocean Road.
- To minimize the visibility of development from the Great Ocean Road and its impact on the landscape values of the area.
- To provide an appropriate interface with the adjoining Heathfield low density residential subdivision that minimizes off-site amenity impacts.
- To ensure safe vehicle access is provided from the Great Ocean Road.
- To ensure that any cultural heritage values attached to the land are managed appropriately.

## **Requirements**

- All buildings are to be constructed to comply with Section 3 of Australian Standard AS 2021-2000, *Acoustics - Aircraft Noise Intrusion - Building Siting and Construction* to the satisfaction of the Apollo Bay Airfield owner.
- An appropriate building setback is to be provided along the full length of the southern boundary. The setback area is to be appropriately landscaped with screen planting utilizing indigenous plant species generally in accordance with the Landscape Concept Plan.
- Buildings should not exceed a height of 10 metres.
- The final vehicle access location from Great Ocean Road is to be determined in consultation with VicRoads.
- Buildings must complement the natural environment and recreational living character of the area in terms of form, colours and materials.
- Roofs must not be highly reflective and all external colours should be predominantly muted or recessive.
- The use of indigenous plant species (excluding environmental weed species) is to be maximized.

## **4.11 Residential Design Principles (Precinct 2)**

This section applies to Precinct 2 as shown on the Indicative Development, Precinct and Layout Plan.

Residential Design Guidelines (“the guidelines”) must be prepared prior to a planning permit being granted.

The guidelines are to be prepared to the satisfaction of the Responsible Authority and are to be administered by an independent design panel. Prior to the development on lots within Precinct 2, development plans must be submitted to and approved by the independent design panel, generally as outlined in the guidelines. The responsible authority will play no role in the approval of development plans once the guidelines have been approved.

The objectives and requirements in this Section are in addition to the objectives and requirements in Sections 4.1 – 4.9 inclusive. Where there is any discrepancy between the provisions, the following objectives and requirements take precedence.

### **Objectives**

- To encourage use and development that is generally in accordance with the Precinct 2 Concept Plan.
- To facilitate residential development that is site responsive and of high quality contemporary design and construction and which minimizes unreasonable off-site amenity impacts.
- To ensure development is respectful of the coastal landscape setting and integrates positively with adjoining open spaces.
- To ensure Ecological Sustainable Design features are incorporated in all development.
- To ensure that development is consistent with the approved Residential Design Guidelines.



- To encourage a consistent approach to the consideration of development proposals in Precinct 2.
- To provide a high degree of certainty in respect of development outcomes for all stakeholders.

## **Requirements**

Residential Development Guidelines are to be developed along the following themes and requirements, to the satisfaction of the Responsible Authority:

### Building Envelope

- All buildings and structures including gazebos, clotheslines, swimming pools, outbuildings and tennis courts but not including fences are to be located within the building envelope on an approved Plan of Subdivision, unless exemplary design circumstances exist and written approval to the proposed design has been obtained from any adjoining land owners.
- Dwellings must not exceed 8.5 metres in height, except for land in Precinct 2 that is between the Great Ocean Road and the Barham River, where a dwelling must be single storey and must not exceed 4.5 metres in height above natural ground level and must not exceed 60% building site coverage.

### Driveways

- Driveways must only be constructed within a designated driveway envelope.
- Driveways must have a maximum width of 4 metres except for a splayed section where a wider driveway is required to access a multiple garage or for visitor parking.
- Driveways should be set back a minimum of 1 metre from side boundaries to facilitate landscaping along the side boundary and enhance privacy between lots. This requirement may be waived on lots less than 450 square

metres provided a landscape area abuts an adjoining lot along the immediate boundary.

- Lots must have only one crossover.

## Ecological Sustainable Design

- Each lot of 450 square metres or greater must provide for a water tank. The tank must be connected to the dwelling to provide for appropriate substitution of potable water uses.
- Dwelling service systems should make use of alternative water sources that are 'fit for purpose' for toilet flushing and/or garden irrigation use and other uses as appropriate.
- Paved gardens should be designed to direct stormwater runoff into garden areas.

## General Design

- Dwellings must complement the natural environment and recreational living character of the area in terms of form, colours and materials.
- Roofs must not be highly reflective and all external colours should be predominantly muted or recessive.
- Garages and carports should either be located under the main roof of the dwelling or be of a freestanding design that complements the main building design and recessive to the front wall of the dwelling.
- All garage doors should be a slim line panel type.
- Water tanks should be inconspicuously located and not be readily visible from any public area.
- Each dwelling requires engineer designed footings or slab that responds to the engineering specifications of the residential pod that it is on.

## Landscaping

- The use of indigenous plant species (excluding environmental weed species) is to be maximized.
- Front fences are not permitted.

**LEGEND**

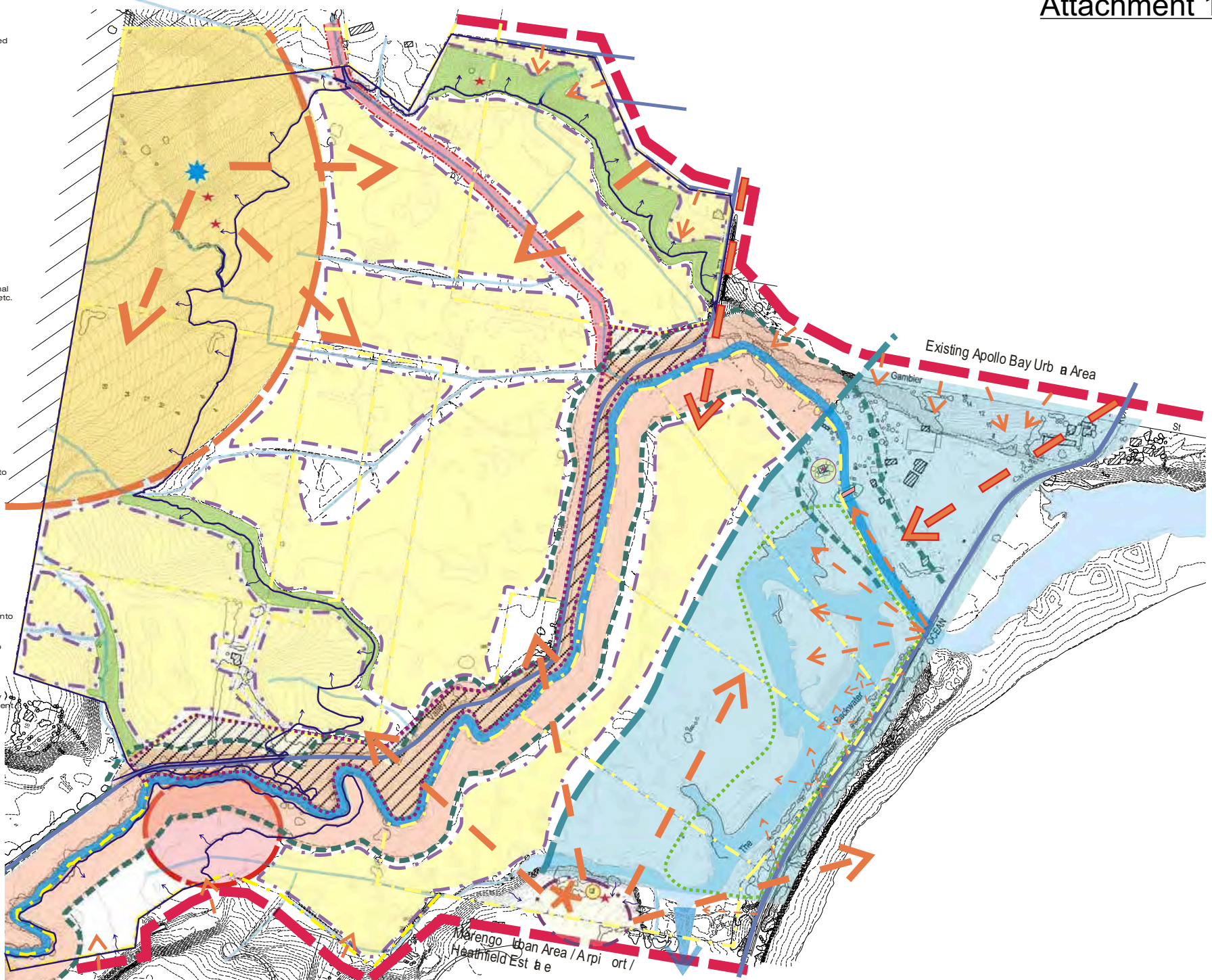
- Title Boundary (Dimension should be confirmed against title folios)
- Crown Land Boundary
- Existing Roads
- Existing river crossing
- Existing 'Urban' Area

**CONSTRAINTS**

- Andersons Creek 10m Buffer Zone
- Barham River 50m Buffer Zone
- Great Ocean Road 350m Buffer Zone
- Treatment Buffer Zone Residential development not allowed - suited to Recreational uses such as Golf, walking, etc.
- Drainage Lines
- Embankment
- Link to Dune Backwater
- Major Floodway constraint
- Land outside subject site ownership
- Area identified with potential to contain Aboriginal artefacts
- Registered Aboriginal Historical Site
- Historic Building - Cawood Property
- Registered European Historical Site (Bridge, circa 1853)
- Flora and Fauna Reserve
- Long Views Into Site
- Short Views / Filtered views into site
- Acid Sulphate soils thought to be above 5 metre contour

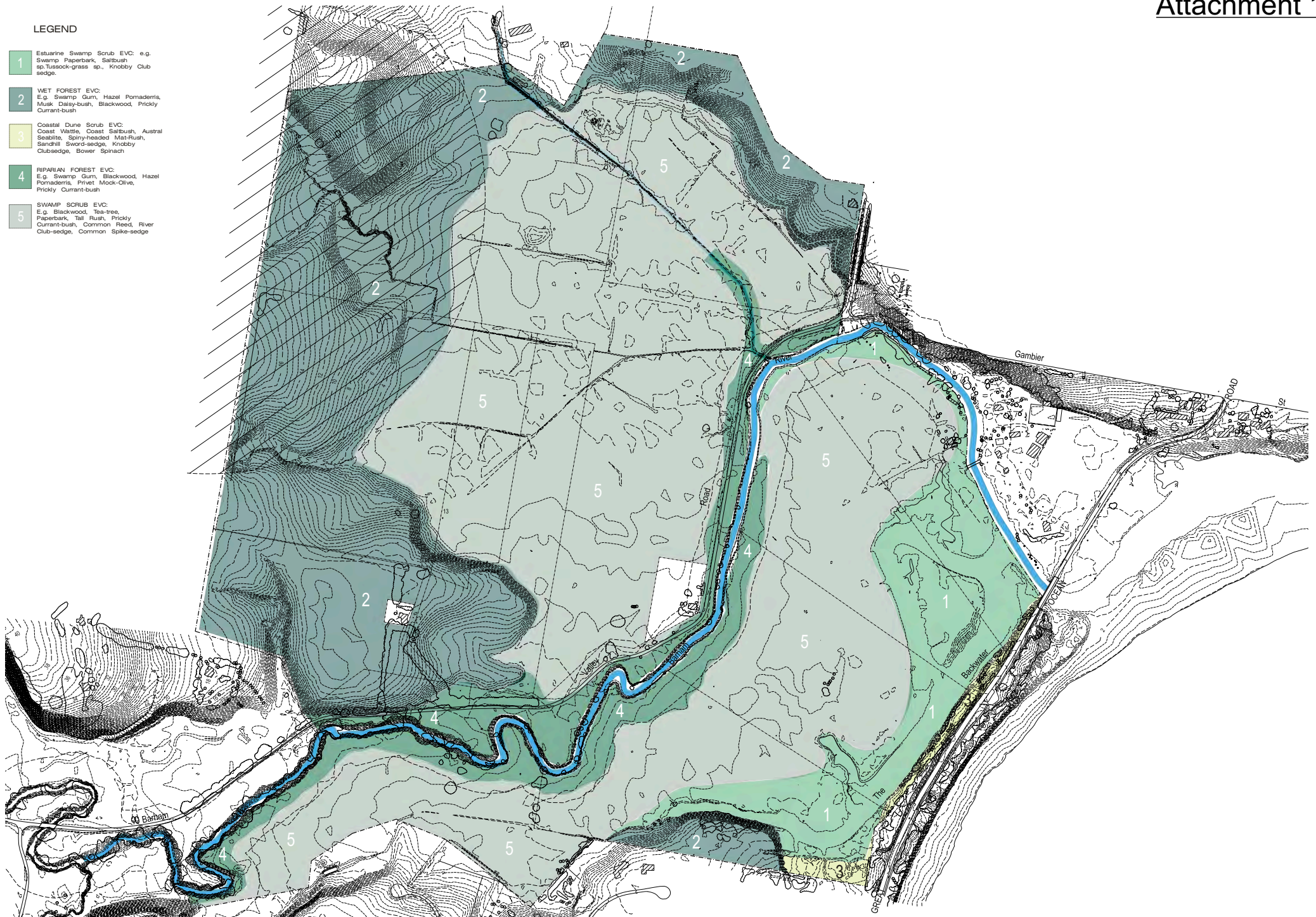
**OPPORTUNITIES**

- Major Development Opportunity (existing development on adjacent site, long views)
- Lookout Opportunity
- Land suitable for development
- Long Views Across Site



LEGEND

- 1 Estuarine Swamp Scrub EVC: e.g. Swamp Paperbark, Saltbush sp, Tussock-grass sp., Knobby Club sedge.
- 2 WET FOREST EVC: E.g. Swamp Gum, Hazel Pomaderris, Musk Daisy-bush, Blackwood, Prickly Currant-bush
- 3 Coastal Dune Scrub EVC: Coast Wattle, Coast Saltbush, Austral Sea-lavender, Spiny-headed Mat-Rush, Sandhill Sword-sedge, Knobby Club-sedge, Bower Spinach
- 4 RIPARIAN FOREST EVC: E.g. Swamp Gum, Blackwood, Hazel Pomaderris, Privet Mock-Olive, Prickly Currant-bush
- 5 SWAMP SCRUB EVC: E.g. Blackwood, Tea-tree, Paperbark, Tall Rush, Prickly Currant-bush, Common Reed, River Club-sedge, Common Spike-sedge






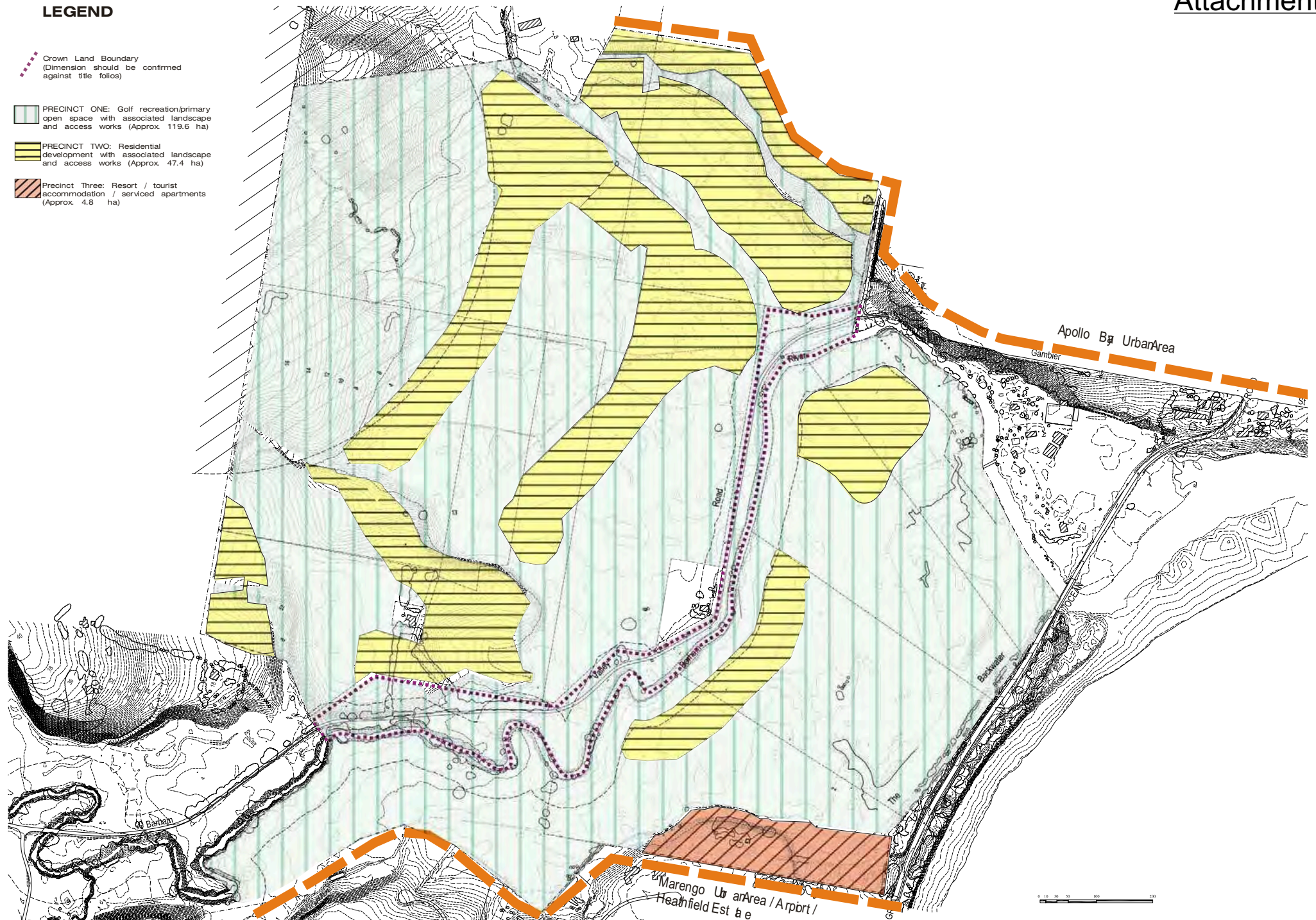
LEGEND

- Adjacent Existing Urban Area
- 1 ESTUARINE SWAMP SCRUB EVC: e.g. Swamp Paperbark, Saltbush sp., Tussock-grass sp., Knobby Club sedge.
- 2 WET FOREST EVC: E.g. Swamp Gum or Mountain Ash, Hazel Pomaderris, Musk Daisy-bush, Blackwood.
- 3 COASTAL DUNE SCRUB EVC: Coast Wattle, Coast Saltbush, Austral Seablite, Spiny-headed Mat-Rush, Sandhill Sword-sedge, Knobby Club-sedge, Bower.
- 4 RIPARIAN FOREST EVC: E.g. Swamp Gum, Blackwood, Hazel Pomaderris, Privet, Mock-Olive, Prickly Currant-bush.
- 5 SWAMP SCRUB EVC: E.g. Blackwood, Tea-tree, Paperbark, Tall Rush, Prickly Currant-bush, Common Reed, River Club-sedge, Common Spike-sedge.
- Residential Cells
- Precinct Three




**LEGEND**

-  Crown Land Boundary  
(Dimension should be confirmed against title folios)
-  PRECINCT ONE: Golf recreation/primary open space with associated landscape and access works (Approx. 119.6 ha)
-  PRECINCT TWO: Residential development with associated landscape and access works (Approx. 47.4 ha)
-  Precinct Three: Resort / tourist accommodation / serviced apartments (Approx. 4.8 ha)



LEGEND

-  Crown Land Boundary
-  Road network as linkages
-  Emergency access track
-  Primary recreational circuit (Approx 7.3 kms) (public open space to future title, minimum 3 metres wide)
-  Minor connections to primary recreational circuit (Approx 1.35 kms)
-  Lookout
-  Proposed Club House
-  Proposed Maintenance / Storage Facility for Golf Course operations.
-  Proposed Amenities Block
-  Proposed Convenience Store
-  Proposed Resort
-  Primary recreational access nodes
-  Existing river crossing
-  Potential river crossing (Recreational and golf purposes only)
-  Potential river crossing (Vehicular, recreational and golf purposes)
-  Western open space corridor (Approx 11.5 ha)
-  Central open space corridor (Total approx 17 ha)
-  Eastern open space corridor (Approx 14.8 ha)
-  Northern open space corridor (Approx 5.2 ha)



**GREAT OCEAN GREEN**  
Apollo Bay Victoria

THOMSON PERRETT  
golf course architects



LANDANCE PTY LTD  
Landscape Architect & Consultant



Proposed Public Open Space Networks

DATE: September 2007

SCALE: 1:2000@A0  
DWG NO. 5



**LEGEND**

-  Crown Land Boundary  
(Dimension should be confirmed against title folios)
-  Proposed Golf Club House
-  Proposed Maintenance / Storage Facility for Golf Course operations.
-  Proposed Amenities Block
-  Proposed Convenience Store
-  Proposed Resort



**GREAT OCEAN GREEN**  
Apollo Bay Victoria

THOMPSON PERRETT  
GOLF COURSE ARCHITECTS



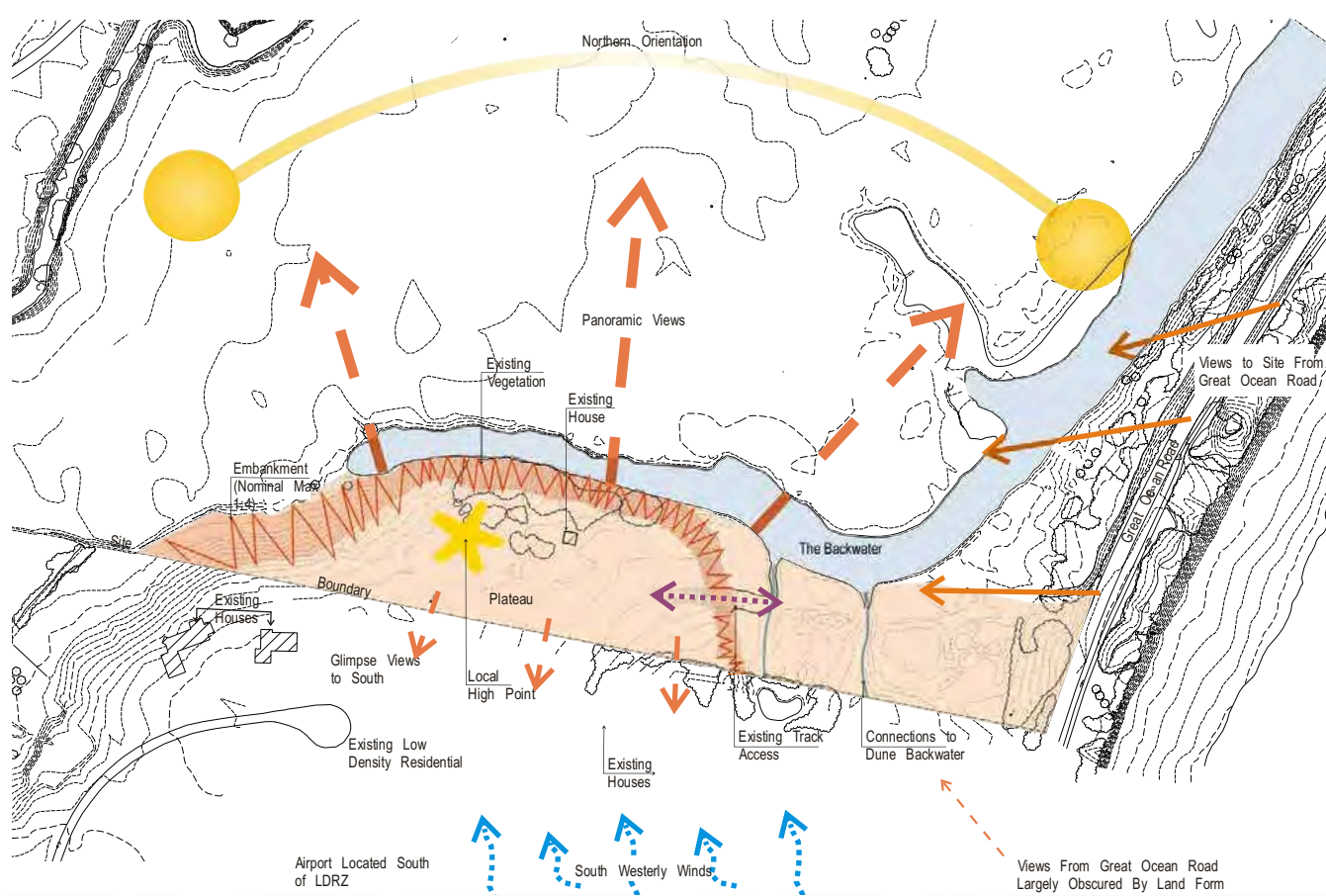
LANDANCE PTY LTD  
Landscape Architects & Consultants



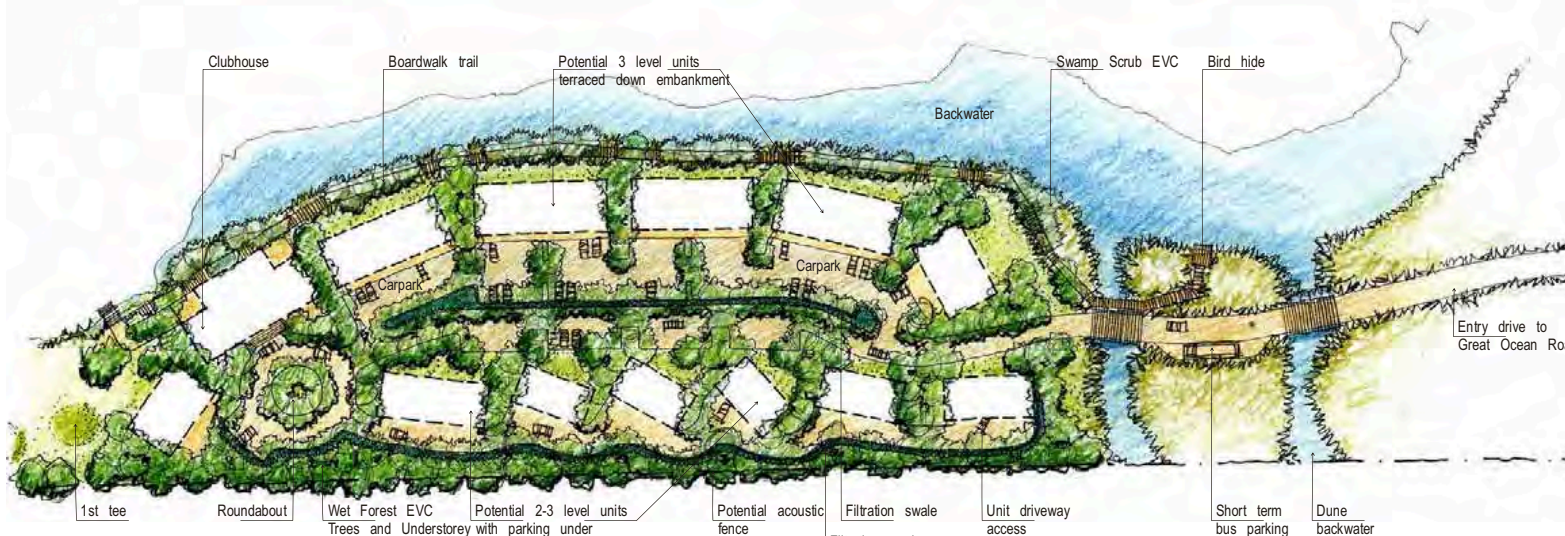
Landscape Concept - Golf Overlay

DATE: September 2007

SCALE: 1:2000(I/A0)  
DWG NO. 8



PRECINCT 3 SITE ANALYSIS  
Scale: 1:1000 @ A0



PRECINCT 3 CONCEPT  
Scale: 1:500 @ A0





Section C-C  
1:1000



Section D-D  
1:1000

|                          |   |                      |
|--------------------------|---|----------------------|
| <p>GREAT OCEAN GREEN</p> | <p>LANDSCAPE SECTIONS C &amp; D DRAFT</p> |                      |
|                          | <p>DATE: FEBRUARY 2009</p>                | <p>SCALE: 1:1000</p> |



LEGEND

- Proposed Golf Club House
- Proposed Maintenance / Storage Facility for Golf Course operations.



FINAL: 26 FEB 2007



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Apollo Bay Victoria

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Landscape Architects



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Landscape Architect & Consultant



Staging

DATE: September 2007

SCALE: 1:2000@A0  
DWG NO. 10

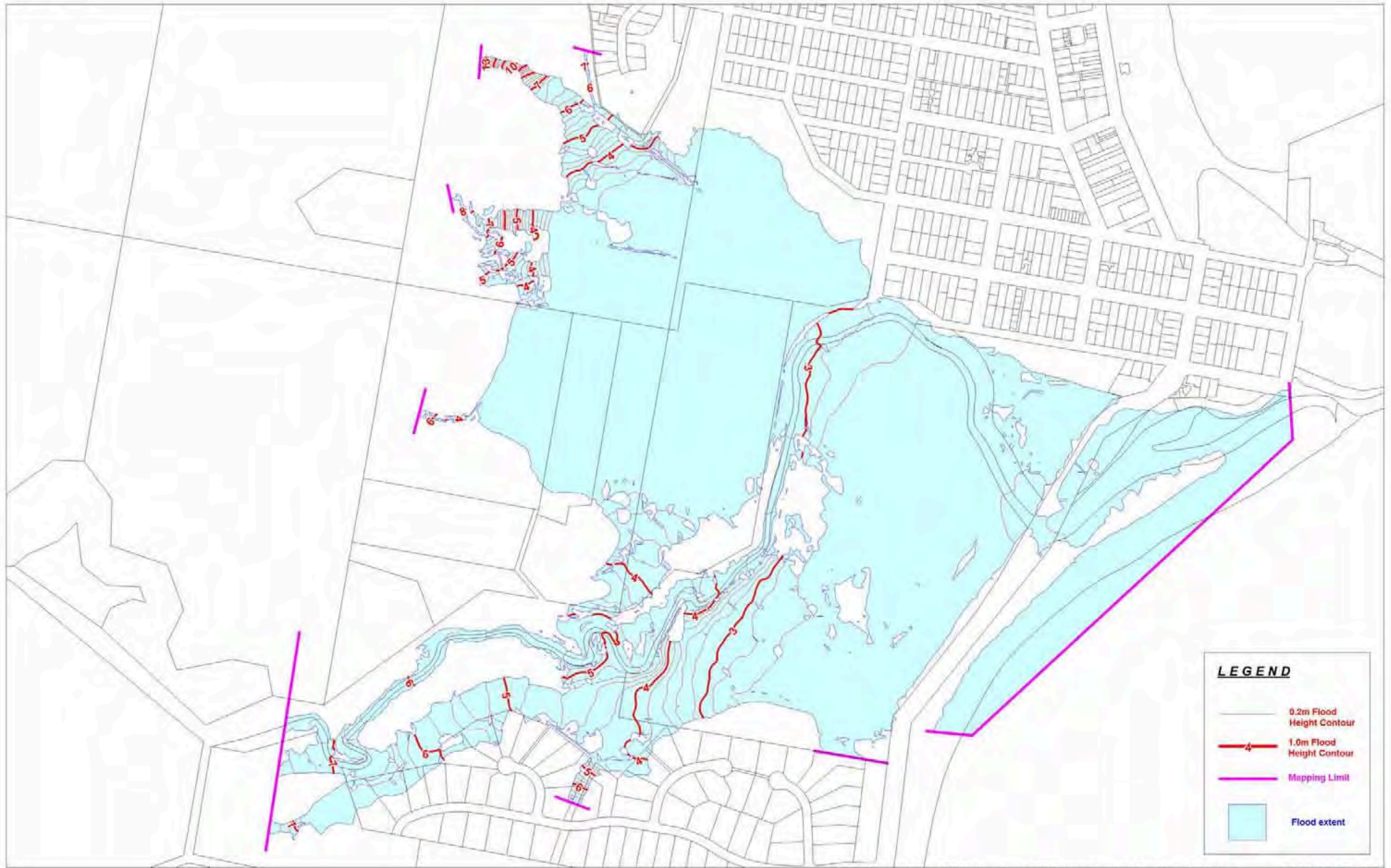


100 Year Flood Extent and Levels - Existing Case

FIGURE A-1

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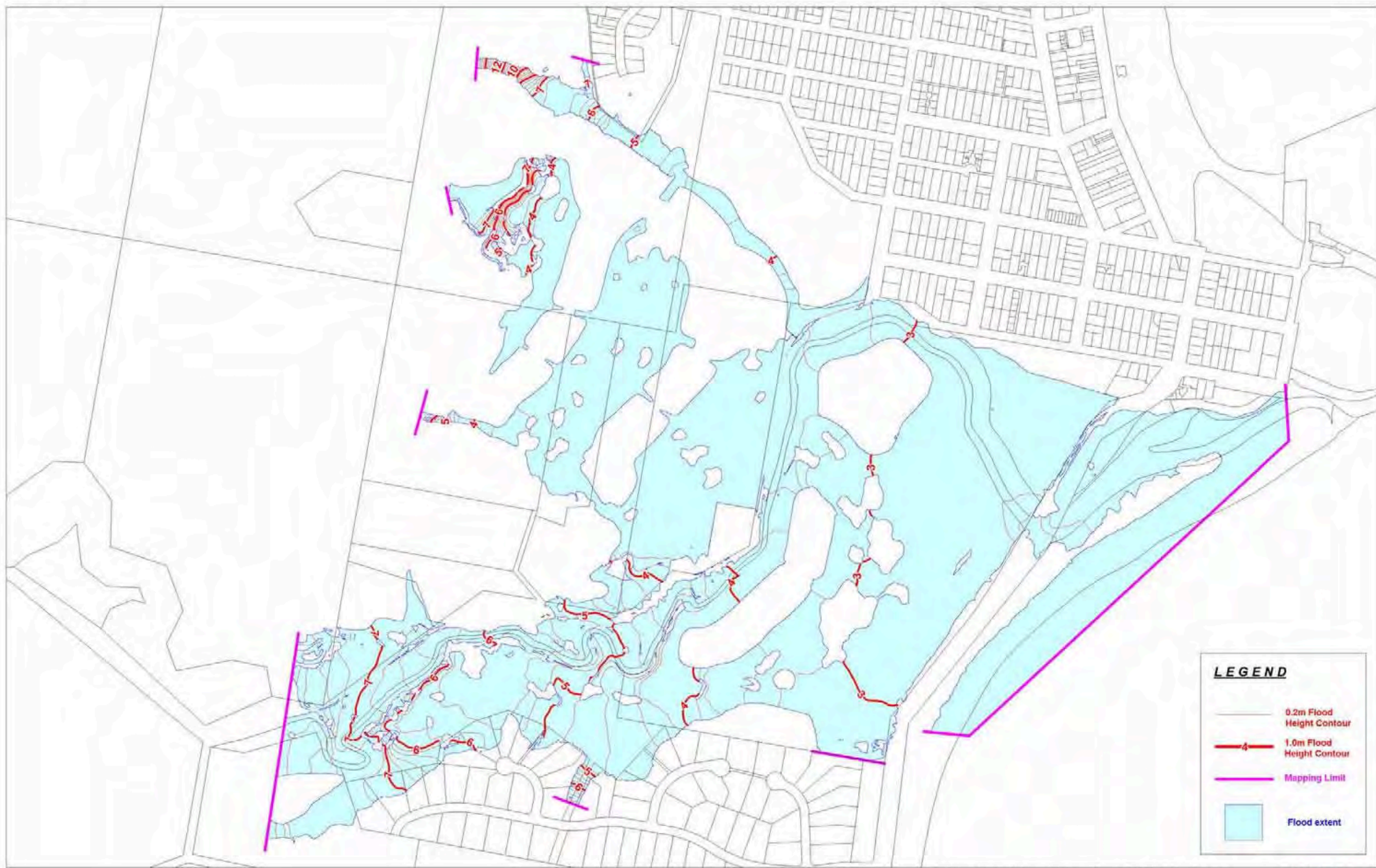
10 Year Flood Extent and Levels - Existing Case

FIGURE A-2

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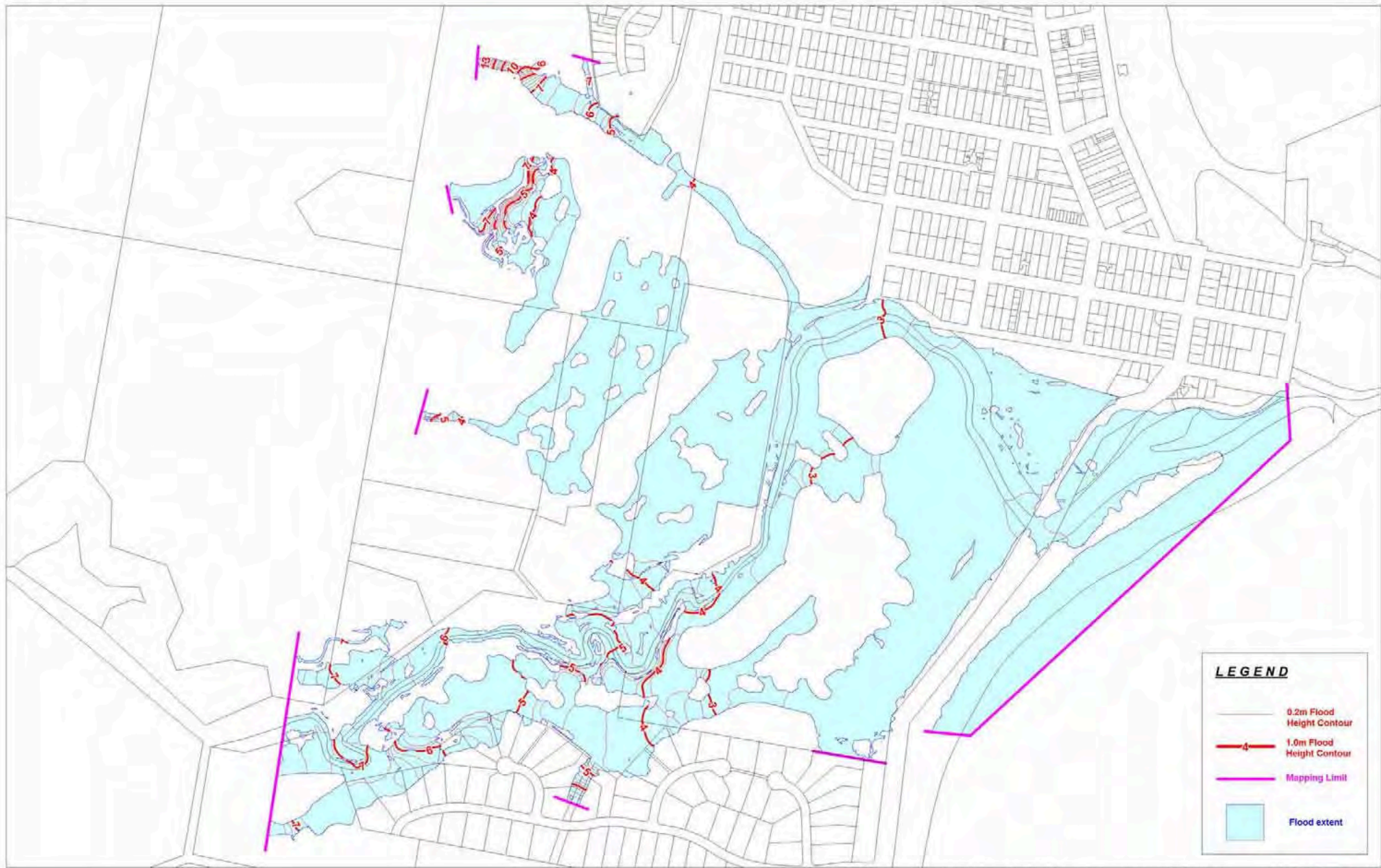




100 Year Flood Extent and Levels - Developed Case FIGURE A-3

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10 Year Flood Extent and Levels - Developed Case

FIGURE A-4

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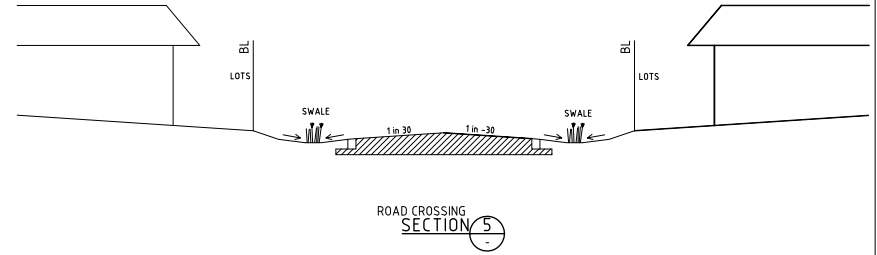
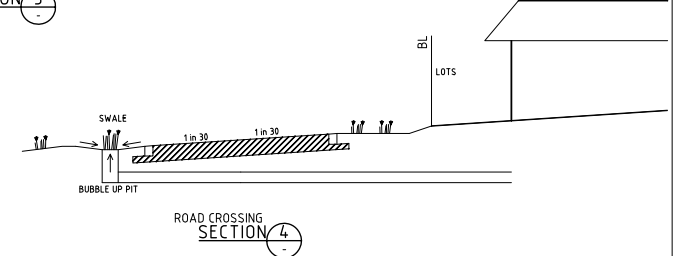
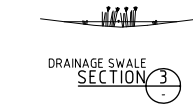
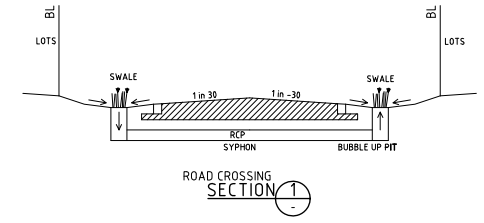
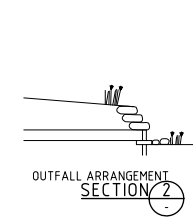
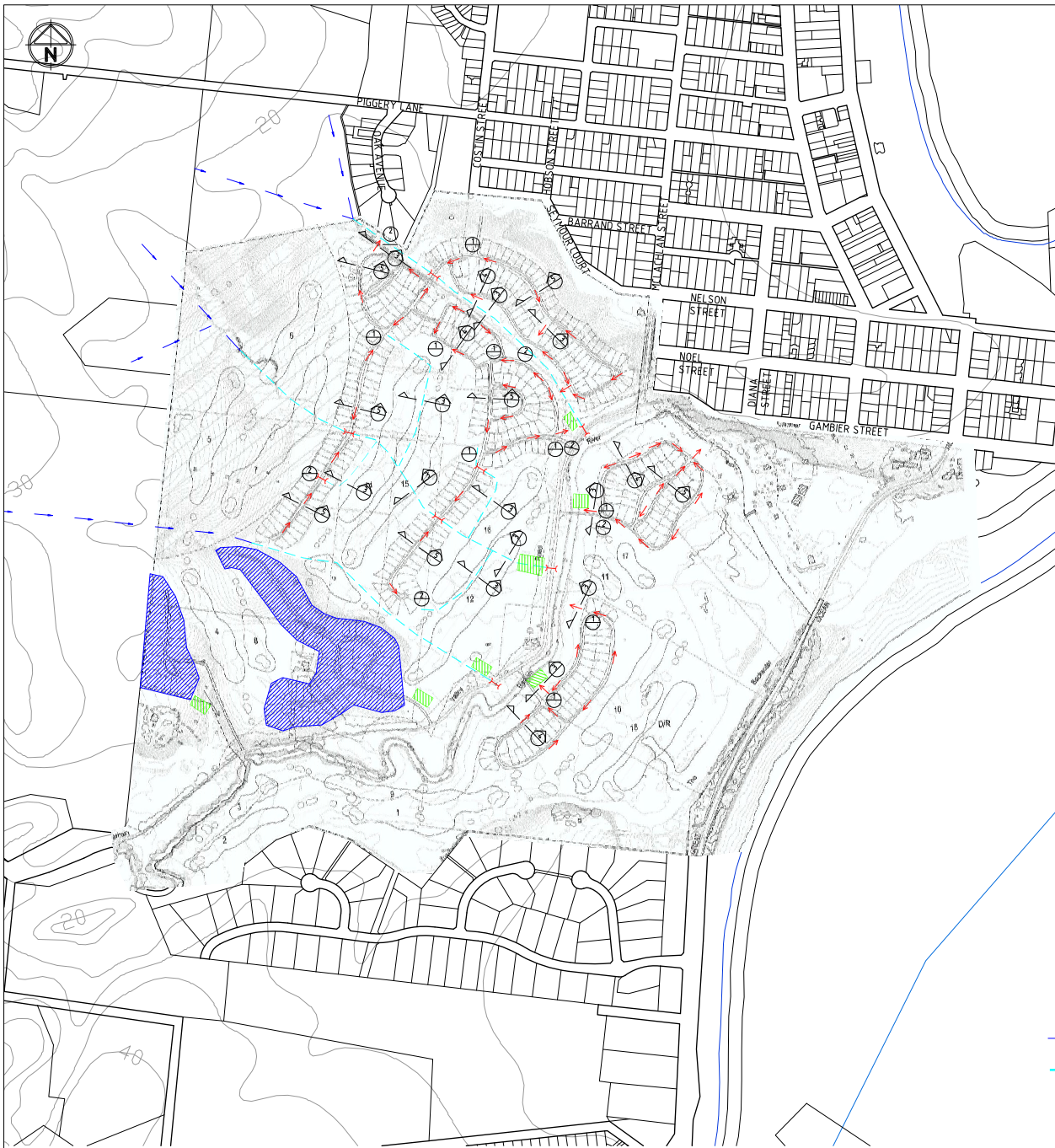


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**Inundation Extent with Water Level = 1.95 m AHD  
Developed Conditions**

**Figure B1**





- LEGEND**
- ELEVATED LOTS WITH NO DRAINAGE CONSTRAINTS
  - POSSIBLE RAIN GARDEN LOCATIONS FOR WATER QUALITY
  - DRAINAGE SWALES
  - EXISTING DRAINAGE LOW POINT
  - PROPOSED DRAINAGE CHANNEL
  - CULVERTS

| Rev | Amendments                     | App'd | Date     |
|-----|--------------------------------|-------|----------|
| A   | ISSUED FOR EXPERT PANEL REPORT | CJB   | 15-02-07 |

file name 131473G09 Drainage strategy.dwg layout name 131473G09 Scale 1 : 5000, A1  
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 © Coomes Consulting Group Pty Ltd Standard Drawing RDA1 - Version 20060301

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**Designed** 15-02-07  
**CJB**  
**Checked** 16-02-07  
**JK**  
**Authorised** 16-02-07  
**KDH**

**Map Reference** Melway  
**Sheet Number**  
**Drg Status** PRELIMINARY

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 Engineering Surveying Planning Urban Design Landscape Architecture  
 Sustainability and Environment Agribusiness Project Management

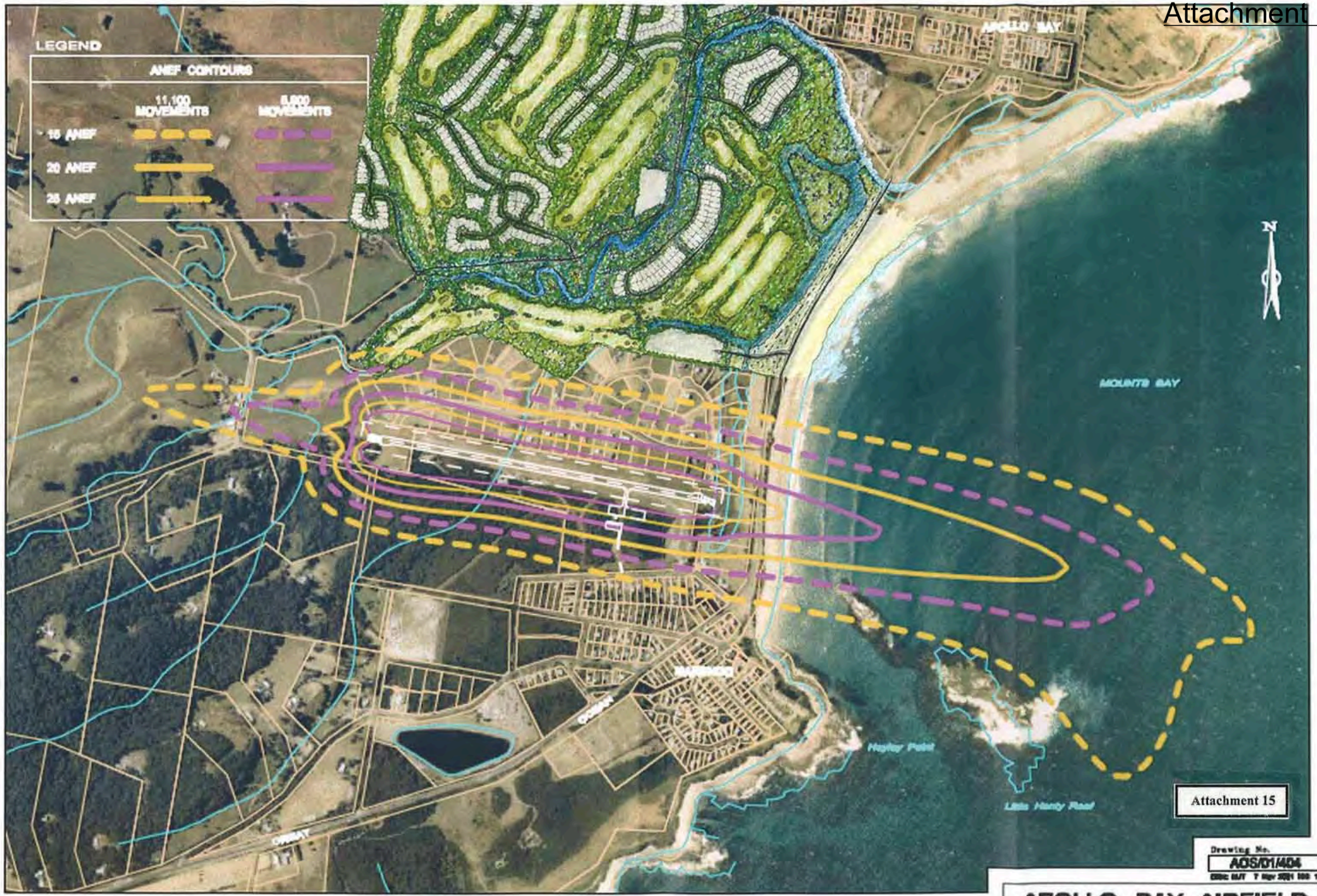
**GREAT OCEAN GREEN OVERALL DRAINAGE STRATEGY**

URBAN PROPERTY CORP  
 COLAC OTWAY SHIRE

Rev A  
 Drg No 131473G09

**coomes consulting**





**LEGEND**

|         | ANEF CONTOURS    |                 |
|---------|------------------|-----------------|
|         | 11,100 MOVEMENTS | 8,000 MOVEMENTS |
| 15 ANEF |                  |                 |
| 20 ANEF |                  |                 |
| 25 ANEF |                  |                 |

Attachment 15

Drawing No.  
**AOS/D1404**  
ISSUE 01/7 Apr 2021 100 1

**APOLLO BAY AIRFIELD**  
 DEVELOPMENT STUDY  
 2022 ANEF  
 COMPARISON PLAN

