

ASSESSMENT GUIDELINES
ENVIRONMENT EFFECTS STATEMENT (EES)

FOR THE
WELLINGTON WATERS CANAL ESTATE

Wellington Waters

MAY 2002



Foreword

The Minister for Planning has determined that an Environment Effects Statement (EES) is required for the Wellington Waters Canal Estate project under the *Environment Effects Act 1978*.

On 27 July 2001, the Commonwealth Minister for the Environment and Heritage determined that the project is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The controlling provisions are sections 16 and 17B relating to wetlands of international importance and sections 20 and 20A relating to listed migratory species. The Commonwealth Minister accredited the Victorian EES process for the Wellington Waters Canal Estate project. The Commonwealth Minister will decide to approve the project under the EPBC Act after receiving the assessment of the Victorian Planning Minister.

These Assessment Guidelines conform to the requirements for the EES process accredited by the Commonwealth Minister for the Environment and Heritage on the 16 November 2001.

This document contains the final Assessment Guidelines for an Environment Effects Statement (EES) for the Wellington Waters Canal Estate project. These Assessment Guidelines have been forwarded to the proponent, Wellington Waters. It is now the task of Wellington Waters to prepare the EES in accordance with these Assessment Guidelines.

The Department of Infrastructure (DOI) would like to thank the individuals, agencies and organisations who made submissions on the Draft Assessment Guidelines. All submissions were taken into account in preparing the Assessment Guidelines for the Wellington Waters Canal Estate project.

Finalising the Assessment Guidelines does not mark the end of the public's opportunity to have input into the EES process. There will be a formal opportunity for public comment on the EES and Planning Scheme Amendment when these are exhibited. An Independent Inquiry Panel is likely to be appointed by the Minister for Planning to review submissions on the EES and Amendment. Anyone who has made a submission on the EES will have the opportunity to make a presentation at the Public Hearings of the Inquiry Panel.

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GENERAL INFORMATION FOR THE PROPONENT

The Guidelines

The Assessment Guidelines set out the assessment requirements for an Environment Effects Statement (EES) for the Wellington Waters Canal Estate as required under the *Environment Effects Act 1978*.

The Draft Assessment Guidelines for the Wellington Waters Canal Estate were advertised for public comment in the general news section of the *Australian* and the *Age* on Saturday 13 April 2002, the *Sale Gippsland Times* on 16 April 2002, and in the *Koori Mail* on 1 May 2002.

The final Guidelines incorporate relevant matters raised in the public submissions received during the 28 day public comment period in April-May.

Input on the Draft Guidelines from a number of government agencies was sought via the Agency Contact Group. This input has also been taken into account in the final Assessment Guidelines.

These Assessment Guidelines attempt to identify all of the major issues associated with the Wellington Waters Canal Estate proposal. However, the guidelines may not be a complete compilation of relevant issues, as other issues may emerge from environmental, social and economic studies during the preparation of the EES.

The Wellington Waters Canal Estate Project

The Wellington Waters Canal Estate (formerly known as Pelican Cove) proposal involves construction of a waterway residential/tourist development on a 2900ha property at Seacombe, approximately 20 kms east of Sale, Victoria.

The proponent is Wellington Waters. It is proposed to incorporate construction of:

- 500 residential lots, each with canal frontage and its own private or shared jetty or mooring;
- An 8km long canal, with a width of 46 metres, depth of 3 metres;
- A 4 star health resort;
- Possible use of geothermal groundwater for the health resort. (The aquifer is located between 750 and 1080 metres depth with a temperature of between 45 and 59 degrees Celsius);
- A marina with associated facilities such as boat fuel, sewage pump out facilities, general store, boat ramp, and possible boat maintenance facility; and
- A wildlife refuge of approximately 574ha.

Overview of EES

The EES should contain details of:

- The project (including all components) and the existing environment in the vicinity of the project site;

- All significant environmental effects associated with the project; and
- Proposed measures to avoid or reduce potential adverse environmental effects.

More specifically, the EES should contain:

- An executive summary of potential impacts of the proposed project;
- A description of the project objectives and components;
- A description of the project as well as of feasible alternatives capable of substantially meeting the project objectives;
- An outline of the various approvals required for the project to proceed;
- A description of the existing environment, where this is relevant to the assessment of effects;
- Predictions of significant environmental, social and economic effects of the proposal and alternatives (relative to the “no project” scenario) and their consequences, direct and indirect, short and long term and cumulative, beneficial and adverse, with an estimation of the degree of uncertainty involved;
- Where a preferred alternative is nominated, an outline of the reasons for its choice;
- A program for minimising, ameliorating, managing and monitoring impacts, including a statement of commitments by Wellington Waters Pty Ltd to implement the program;
- As far as practical, responses to issues raised during public and agency review.

The main EES report should be written in a clear and concise style that is easily understood by the general reader. Technical terminology should be minimised as far as possible. The detailed technical data and supplementary reports necessary to support the main text should be included in appendices. All sources of information should be referenced. An indication must also be given of the currency and reliability of the information used.

A summary brochure for the EES is also to be prepared for free distribution to interested parties. Details of the exhibition of the EES, including the availability of the EES and summary brochures, as well as the location of EES displays, should be provided in the EES.

Close consultation with the Department of Infrastructure by the proponent and its consultants during the preparation of the EES is recommended to minimise the need for revision prior to the EES being endorsed for public release.

ASSESSMENT AND APPROVALS PROCESS

The Wellington Waters Canal Estate proposal will be assessed under the provisions of the Victorian *Environment Effects Act 1978* and *Planning and Environment Act 1987*. The approvals required for the project include:

- Planning Scheme Amendment and Planning Permit under the *Planning and Environment Act 1987*;
- potentially a Works Approval and Licence under the *Environment Protection Act 1970* for a sewage treatment plant; and
- approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). As noted above, the Commonwealth Minister for Environment and Heritage has accredited the Victorian EES process to satisfy assessment requirements under the EPBC Act.

The key steps in the EES process are:

1. Appointment of an Agency Contact Group;
2. Stakeholder scoping workshop;
3. Draft Assessment Guidelines issued by the Department of Infrastructure for public comment;
4. Assessment Guidelines finalised by the Department of Infrastructure;
5. EES prepared and finalised by Wellington Waters Pty Ltd;
6. EES endorsed as satisfactory for exhibition by Department of Infrastructure;
7. EES, Planning Scheme Amendment/Permit applications, and EPA Works Approval jointly exhibited for two months;
8. Public submissions received;
9. An independent Panel may be appointed by the Minister for Planning to review submissions, hold a Panel Hearing and report to the Minister for Planning.
10. The Minister for Planning provides her Assessment under the *Environment Effects Act* to Victorian decision-makers and to the Commonwealth Minister for Environment and Heritage.

Agency Contact Group

An Agency Contact Group (ACG) has been established to provide advice to Wellington Waters and the Department of Infrastructure on the preparation of the EES.

The ACG includes representatives of the Environment Protection Authority (EPA), Department of Natural Resources and Environment (DNRE), the Gippsland Cultural Heritage Unit, the Gippsland and East Gippsland Aboriginal Corporation, Aboriginal Affairs Victoria, Gippsland Coastal Board, Gippsland Water, Parks Victoria and Environment Australia.

The role of the ACG is to advise the Department of Infrastructure on the scoping and adequacy of the EES studies, in particular on:

- Statutory provisions and policy relevant to the assessment of environmental effects;
- Draft assessment guidelines for the scope of the EES;
- Appropriate studies to assess potential effects; and
- The adequacy of the draft EES documentation.

Public Advertisement of Draft Assessment Guidelines

The Draft Guidelines were made available (and are still available) on the DoI website www.doi.vic.gov.au/environment. Hard copies of the Draft Guidelines were available from the Wellington Shire Council and the DoI Eastern Regional Office.

Planning Scheme Amendment / Permit Application

A Planning Scheme Amendment and Planning Permit application are required for the proposal under the Wellington Shire Planning Scheme. A Works Approval application under the *Environment Protection Act* may also be required for a sewage treatment plant. The EES, Amendment/permit and Works Approval can be exhibited at the same time.

Panel Hearing

After the EES has been exhibited, the Minister for Planning is likely to appoint an Independent Panel to review the public submissions on the EES, Planning Scheme Amendment and planning permit and Works Approval application. All submitters are offered the opportunity to make a presentation to the Panel. Panel hearings are open to the public.

Minister's Assessment

The final step in the EES process under the *Environment Effects Act* is the provision of an Assessment of environmental effects by the Minister for Planning. When the Minister's Assessment is printed, copies are made available to the public together with the Panel's report. Decision-makers under Victorian law must consider the Minister's Assessment prior to making a decision. The Assessment will also be provided to the Commonwealth Minister for Environment and Heritage to inform his decision under the EPBC Act.

CONTENTS OF THE ENVIRONMENT EFFECTS STATEMENT

The matters to be addressed in the EES are set out below. The structure of the EES should be agreed with the Department of Infrastructure.

1. PROJECT CONTEXT

The EES should provide information on the following:

- Name and address of the proponent and relevant background information such as an overview of the company structure, relevant experience and environmental management system (if applicable). Australian Company Number and Registered Office address and general contact details for the proponent should be included.
- Objectives, rationale and general benefits of the project
- Development concept and general location of the project;
- The process of identifying the preferred site;
- The project strategy, including:
 - implementation timeframe and project life, any phases for the development;
 - anticipated establishment costs;
 - possibilities for future expansion; and
 - the consequences of the project not proceeding.
- Description of how the project relates to any other projects or actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the project.
- Details of the public communication and consultation process undertaken, or to be undertaken, during project formulation and planning and preparation of the EES, as well as any proposals for further public consultation during and beyond project implementation. The EES should identify any issues raised during consultation and how these issues were addressed.
- The project management section should provide information on the proponent's project management arrangements, co-ordination with statutory processes and the proposed project program and time schedule.

2. RELEVANT LEGISLATION, POLICIES AND STRATEGIES

The EES should outline the:

- Legislative framework, including the Commonwealth, State and Local Government approvals required for the project to proceed;
- Overall assessment and approvals process, explaining the role of the EES in the process;
- Other relevant legislation, including the *Coastal Management Act*, *Aboriginal and Torres Strait Islander Heritage Protection Act*, *Archaeological and Aboriginal Relics Preservation Act*, *Native Title Act*, *Crown Lands Reserve Act*, *Water Act* etc, especially where consents or permits from statutory authorities are required; and

- Policies, strategies, standards and guidelines that will be applicable, and their specific implication, in particular:
 - State Planning Policy Framework;
 - Local Planning Policy Framework of the Wellington Shire Planning Scheme;
 - Victoria's Biodiversity Strategy;
 - Victorian Coastal Strategy;
 - Gippsland Lakes Coastal Action Plan;
 - Draft Integrated Coastal Planning for Gippsland – Coastal Action Plan (2001);
 - Lake Wellington Wetlands Draft Management Plan (1997); and
 - Gippsland Lakes Management Plan (1991).

3. PROJECT OUTLINE

3.1 Project Site and Design

A detailed description of the location, land use and development of the area of investigation should be provided, making use of maps, diagrams, and plans.

The project outline should include a detailed description of key physical components of the project, including the design of the proposed canal system and associated hydraulic mechanisms, the plan of the proposed residential, tourist and related development including the canal and groyne construction, volumes of soil removal, reuse/treatment of soil and ongoing maintenance of the 8km canal should be provided. The location of specific facilities should be clearly indicated.

Details on equipment and on-site facilities including sewage and wastewater treatment, chemical storage, transmission lines (above or underground) and ancillary facilities such as control stations, maintenance facilities and access routes, and fire control facilities should be included. The EES also needs to provide details of the water supply, treatment and storage of water and the disposal of wastes from water in the treatment system.

3.2 Existing Environment

A description of the physical characteristics of the site's environment and surrounding areas, topography, geology, geomorphology, soils and surface drainage (waterways, lakes, wetlands, coastal areas), including:

- Assessment of the land use and development options;
- Any areas vulnerable to natural risk (eg flooding, fire, sinkholes, landslip, and seismic activity);
- A description of the biological characteristics (flora, fauna, ecological communities) of the project site and adjoining areas;
- Occurrence of listed threatened and migratory species and ecological communities listed under the EPBC Act or *Flora and Fauna Guarantee Act* (FFG Act);

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- Any identified areas or habitats of conservation significance, including designated conservation areas, areas relating to the requirements of international treaties (JAMBA, CAMBA and Ramsar wetlands);
 - Listed Aboriginal heritage sites and non-Aboriginal cultural sites and places;
 - Any areas of potentially contaminated land within the project site;
 - A description of the existing social and economic environment, including information on:
 - Social/demographic characteristics of the population of the Wellington Shire, particularly of those living in the vicinity of the project site; and
 - Summary of the characteristics of the local and regional economy (employment trends, land values).

3.3 Construction Phase

The following information regarding the construction phase of the project should be provided:

- Outline the proposed timetable for major construction phase activities for the 8km canal, housing allotments, estate development, marina, associated roads and infrastructure, sewage treatment works and wildlife refuge;
- Outline sediment pollution control measures during canal construction and site development works and methods to control stormwater runoff;
- An outline of proposed site preparation works for the proposal including removal of vegetation;
- Measures to avoid or minimise impacts on identified Aboriginal archaeological sites;
- Transportation routes and assembly points for construction materials;
- Vehicle movements during construction and operation should be indicated;
- Estimates of the quantities of major raw materials required for construction activities (such as aggregate, fill, etc) and their likely sources;
- The number of construction workers required in the various stages of construction;
- The proposed days of the week and time periods for construction activities; and
- Proposed methods for the management and treatment of acid sulphate soils.

3.4 Operational Aspects

Information on operational aspects proposed for the project, including:

- The proposed hours of operation of the marina including any on-site variations or seasonal variations;
- A timetable for construction, commissioning (including any staged development) and decommissioning of the project;
- Operational and maintenance requirements for the wildlife refuge, canal, housing estate, marina, sewage treatment plant and other infrastructure should be detailed;
- A Management Plan and arrangements for the wildlife refuge;

- Responsibility for ongoing maintenance for all aspects of the proposal must be clearly stated, including land management arrangements and responsibilities for proposed canal and adjacent land and waters;
- All major sources of noise and emissions; and
- The nature, quantity and storage location of all environmentally hazardous materials must be included.

3.5 Infrastructure and associated facilities

Any new infrastructure or off-site ancillary facilities required to allow the project to proceed should be described, including:

- Requirements for new transport infrastructure or upgraded or new road links should be identified.
- Provision of infrastructure, including the installation of additional infrastructure.
- Provision of sewage treatment and associated works.
- Provision and storage of water.

3.6 Site Plans

Site plans are required which provide details on the following:

- Location of all major components of the proposal, including facilities and access routes on the site, and their position relative to property boundaries;
- The route of any underground/overhead cables or pipelines on the site;
- Location of the sewage treatment plant (if applicable) and any grey water recycling system.
- The location of dangerous and hazardous materials (including waste) storage sites.

4. PERFORMANCE CRITERIA

The EES should set out performance criteria for assessing the merits and effects of the proposed development on the site. These performance criteria should address factors influencing:

- project feasibility,
- environmental outcomes,
- policy implementation, and
- sustainability principles.

5. OPTION EVALUATION AND IDENTIFICATION OF ALTERNATIVES

Discussion of the rationale, process and criteria used to identify the proposed site of the canal estate, including the sieving of options. The process for refining the proposed development, including layout and design as part of the EES investigations, should be described.

The potential performance and impact issues associated with key options should be addressed in the appropriate section of the EES.

6. ENVIRONMENTAL EFFECTS

6.1 General

The key or potentially significant impacts of the Wellington Waters Canal Estate proposal need to be identified and systematically addressed in the EES. These impacts include significant environmental, social and economic issues associated with the project as well as associated infrastructure use and development.

Environmental effects include impacts on, or risks to, biological and physical systems and resources, objects and places of value to people or of scientific interest, as well as impacts on or risks to the health and safety of people living, working or engaging in other activities nearby. Demands on social and physical infrastructure (including costs), effects on the level of economic activity in the local, State and National economies, and distributional or equity effects should also be included. In addition, the consistency of the project with relevant National, State and local policies should be evaluated.

The environmental effects should be predicted and assessed relative to relevant performance criteria. Measures proposed to be taken to avoid or reduce potential adverse environmental effects associated with the project, especially to meet any relevant environmental performance standards, need to be addressed. For unavoidable residual adverse effects, any compensation requirements proposed should be clearly identified.

Predictions of environmental effects should be based on scientifically supported studies. The methodologies used or relied on should be referenced, together with the relevant research and investigations supporting the studies. Assumptions and scientific judgments should be stated clearly, the nature and magnitude of uncertainties should be clearly defined and any risk assessment methodology clearly explained in terms of its reliability.

Relevant impacts include, but may not be limited to, the following:

6.2 Biodiversity Impacts

The Gippsland Lakes area is recognised for its high habitat values, in particular the variety of bird species. In this context, the EES needs to consider the implications of the proposal with respect to Victoria's Biodiversity Strategy and requirements under the FFG Act and EPBC Act.

The EPBC Act listed migratory species that should be specifically considered are:

- Eastern Curlew, *Numenius madagascariensis*
- Great Egret, *Ardea alba*
- Sharp-tailed Sandpiper, *Calidris acuminata*
- Red-necked Stint, *Calidris ruficollis*; and
- Common Greenshank, *Tringa nebularia*.

The EES should provide an assessment of any potential effects of the canal, the marina and housing estate construction and operation on biodiversity, the ecological character of the Ramsar wetland and the potential effects the development could have on these and other conservation values of Lake Wellington. The potential effects of the proposal and key options or variations, both in the absence of and with mitigation measures, should be described.

Specifically, the EES should:

- Identify and assess any effects the project may have on flora and vegetation communities, the significance of these effects, and proposed mitigation/compensation measures;
- Assess any effects on fauna, including effects on species, communities and habitats of local, regional and national significance, together with measures to preserve their integrity;
- Identify and assess any effects the project may have on the biodiversity and ecological character of Ramsar and adjoining wetlands in the context of the Australian Ramsar management principles;
- Make particular reference to rare and endangered species, with specific reference to threatened and migratory species listed under the FFG Act or EPBC Act;
- Impacts of the dredging in Lake Wellington on seagrass and other in-lake values;
- Describe potential impacts on areas of wilderness, scientific or other special conservation significance. Reference should be made to existing formal reserves, which may be affected by the project;
- Assess the potential ecological impacts of mosquito control spraying, if this is required; and
- Detail means of minimising the introduction and spread of weeds and plant disease as a result of the project works.

Detailed plans, including ongoing management, of the Wildlife Refuge should also be included.

6.3 Hydrology and Hydrogeology

Once completed, the canal could have significant flows of water passing through it which may impact on water quality, rates of deposition, and erosion. Consequently, impacts to the hydrology and hydrogeology of the site and Lake Wellington should be assessed. In particular, documentation is needed on potential effects on:

- Surface water flows and water quality;
- Levels, flow rates and quality of proposed groundwater extraction;

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- Effects of canal, groyne, marina and housing construction on water quality and hydrology of nearby waterways such as Salt Creek;
 - Effects of altered water regimes, increased nutrient levels and turbidity;
 - Disposal of geothermal waters, if extracted for use at the proposed health resort.

Other potential impacts relating to Lake Wellington which need to be assessed in the EES include:

- Impact of the canal entrance and proposed entrance groynes on coastal geomorphological processes i.e. sediment movement;
- Potential blue-green algal blooms in the proposed canals, implications for blooms in Lake Wellington and how such impacts will be avoided/mitigated;

Details of water supply to the site should also be included and if proposed to use bore water, an assessment of the impacts to regional water resources should be undertaken.

6.4 Geomorphology and Geotechnical issues

The impacts of the project on the geomorphology of the area should be assessed.

The EES should assess erosion and sedimentation hazards associated with construction of the canal and groynes and proposed control measures. Sediment control measures will need to be applied during earth moving operations. The EES should demonstrate how the EPA Dredging Protocol will be adhered to for the construction of the canal and groynes.

The EES should provide an assessment of the presence of acid sulphate soils and their implications for the development, the environmental effects of their excavation and disposal and the potential measures for treatment and management of acid sulphate soils is to be detailed.

A geotechnical assessment of stability issues associated with the various components of the project (i.e. canal construction, housing allotments, roads and other infrastructure) is needed.

6.5 Site Discharges

The EES should also provide details of the proposed method for the management of wastewater, including sewage, stormwater runoff extracted from the project site. The ongoing runoff associated with the canal frontage allotments also needs to be investigated and mitigation and control measures detailed in the EES.

If geothermal waters are to be used for the health resort, details of possible disposal of these waters including volumes needs to be included.

A detailed EMP will need to be prepared for the site, covering many of these issues.

6.6 Aboriginal Cultural Heritage

The effect of the project on known and unknown Aboriginal archaeological sites, including the impacts relating to the development of infrastructure associated with the project, should be evaluated. Information on the significance of sites and the views and values of Aboriginal custodians should be provided. Details should be provided regarding the manner in which all individual features of archaeological and cultural significance will be managed. Reference should be made to the appropriate application of protection, conservation, and adaptive re-use measures.

Information provided should be on any proposed cooperative, mitigation or compensatory actions and their implications for Aboriginal cultural and heritage values and interests as part of the proposed development. Surveys should be carried out in accordance with the *State Archaeological and Aboriginal Relics Preservation Act 1972* and Part IIA of the *Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

Native Title issues, where relevant, should also be included in the EES.

6.7 Recreational and Tourism Impacts

The EES should assess effects of the project on access to and use of lands in the vicinity of the project, for existing or potential tourist or recreation use (eg coastal reserves, camping areas, picnic areas, walking tracks, horse riding tracks), or existing or potential commercial use.

Both beneficial and adverse impacts of the project on tourism should be discussed, specifically in relation to the marina and associated facilities. The project objective of providing a safe harbour on the south side of Lake Wellington should be detailed, including access to and capacity of the marina, provision of accommodation, and fuelling and provisioning.

6.8 Amenity Impact

Assess the amenity and visual impact of the proposed project especially on any sites or areas of natural, landscape, or aesthetic value as well as any measures proposed to avoid, mitigate for adverse effects in relation to amenity and recreational values. The assessment of visual amenity and impacts should:

- Provide details, (including illustrations, photographs and other graphic representations), of the appearance of the canal estate and associated infrastructure from all significant vantage points, including major roads, tourist routes, tourist facilities and Lake Wellington;
- Provide an assessment of how the project might affect the amenity and visual quality of the area and from the adjoining State Park. Identify any measures proposed to minimise the visual effects of the project, such as height, size, design, colour, and location of housing allotments;
- Provide conceptual outlines of the proposed design concepts and details of proposed controls.

6.9 Health

The EES needs to describe the potential health risk from mosquitos, as well as proposed control measures eg pesticide spraying.

6.10 Fire Safety and Chemical Management

The site is located in a declared Bushfire Prone Area in Wellington Shire and therefore all dwellings constructed on site must meet the requirements of AS3959 *The Standard for Construction of Buildings in Bushfire Prone Areas* prior to obtaining a Building Permit.

Potential for increased fire risk to the adjoining land should be considered and fire and emergency control measures documented in the EES.

The EES should include site plans indicating location of chemical stores, including fuel storage and procedures for management of spills.

6.11 Socio-economic aspects

The EES should address the relevant State and local planning policies in evaluating the social and economic effects of the project. Information on the following should be included in the EES:

- Total capital investment for the project;
- Employment opportunities to be created by the project and extent to which employees will be sourced locally;
- Extent to which raw materials and related services will be sourced locally;
- Any implications for State and local infrastructure;
- Proposals to enhance or provide additional community services or facilities;
- Impacts on current land use;
- Impacts on tourism; and
- Economic value-adding/multipliers.

7. MANAGEMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

7.1 Environmental Management

Relevant performance standards required by either Victorian or Commonwealth statutes should be identified and evidence provided to demonstrate that these could be complied with. These standards or requirements may be specified in legislation, regulations, codes of practice or state policies.

If adverse environmental effects from the project are considered unavoidable despite implementation of proposed mitigation measures adopted, (for example loss of conservation values, community assets or amenities), intended measures to compensate for the lost values should be indicated.

The EES should also detail the proponent's Environmental Management System, Environmental Management Plan and commitments. The EMP should identify responsibilities for environmental outcomes between the project developer/owner and contractor(s).

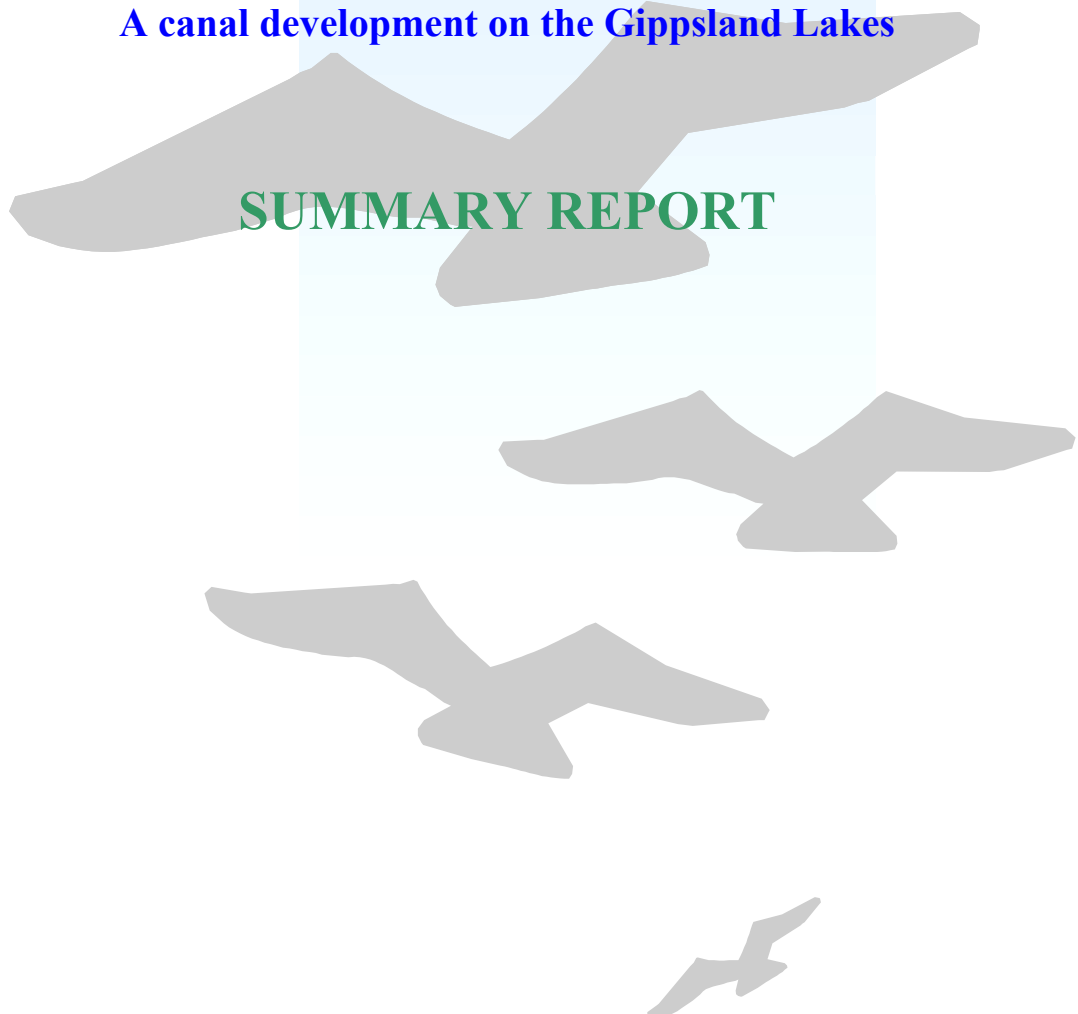


ENVIRONMENT EFFECTS STUDY

WELLINGTON WATERS

A canal development on the Gippsland Lakes

SUMMARY REPORT



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FOR THE

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All dialogue shown in black is an extract from the Assessment Guidelines for this project.

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CONSULTANT TEAM

A team of experts has been commissioned to prepare the studies and reports that are the basis of this EES report.

Wherever a particular question in the Assessment Guidelines has been covered in one or other of the reports prepared by the consultants then the item within the report is cross referenced accordingly.

CONSULTANT REPORTS

A.	EXECUTIVE SUMMARY	
B.	PROJECT DESCRIPTION AND DESIGN DEVELOPMENT	
C.	PLANNING	ERM
D.	BIODIVERSITY	Australian Corporate Environmental
E.	HYDRAULICS	Coastal Engineering
F.	ECONOMIC & SOCIOLOGICAL	Essential Economics
G.	SEWERAGE & INFRASTRUCTURE	Meinhardt Engineering
H.	SOILS	Meinhardt Engineering
I.	LANDSCAPING PLAN	Tract Consultants
J.	DESIGN GUIDELINES	Peddle Thorp
K.	ESD	Peddle Thorp
L.	PLANS & MAPS	
M.	PHOTOGRAPHS	
N.	PROGRAM	Davis Langdon Australia
O.	DRAFT EMP	Davis Langdon Australia

At the commencement of each report is a Contents page and list of the attached Appendices

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The Wellington Waters Canal Estate proposal involves construction of a waterway residential/tourist development on a 736 ha property at Seacombe, approximately 20 kms east of Sale, Victoria.

The proponent is Wellington Waters. It is proposed to incorporate construction of:

- 1000 residential lots, each with canal frontage and its own private or shared jetty or mooring;
- A 10 km long canal, with a width of 60 metres, depth of 2 metres;
- A 4 star health resort;
- Possible use of geothermal groundwater for the health resort. (The aquifer is located between 750 and 1080 metres depth with a temperature of between 45 and 59 degrees Celsius);
- A marina with associated facilities such as boat fuel, sewage pump out facilities, general store, boat ramp, and possible boat maintenance facility; and
- A wildlife refuge of approximately 574ha.

(Changes to the original concept are shown in blue above and are discussed within the body of the report.)

Overview of EES

The EES should contain details of:

- The project (including all components) and the existing environment in the vicinity of the project site;
- All significant environmental effects associated with the project; and
- Proposed measures to avoid or reduce potential adverse environmental effects.

More specifically, the EES should contain:

- An executive summary of potential impacts of the proposed project;

[see Report A - Executive Summary](#)

- A description of the project objectives and components;

[see Report B - Project Description and Design Development](#)

- A description of the project as well as of feasible alternatives capable of substantially meeting the project objectives;

[see Report B - Project Description and Design Development](#)

- An outline of the various approvals required for the project to proceed;

[see Report C - Planning](#)

- A description of the existing environment, where this is relevant to the assessment of effects;

[see Report D - Biodiversity](#)

- Predictions of significant environmental, social and economic effects of the proposal and alternatives (relative to the “no project” scenario) and their consequences, direct and indirect, short and long term and cumulative, beneficial and adverse, with an estimation of the degree of uncertainty involved;

[see Report B - Project Description and Design Development](#)

[see Report D - Biodiversity](#)

[see Report F – Economic and Sociological](#)

- Where a preferred alternative is nominated, an outline of the reasons for its choice;

[see Report B - Project Description and Design Development](#)

□ A program for minimising, ameliorating, managing and monitoring impacts, including a statement of commitments by Wellington Waters to implement the program;

see Report D - Biodiversity

□ As far as practical, responses to issues raised during public and agency review.

The main EES report should be written in a clear and concise style that is easily understood by the general reader. Technical terminology should be minimised as far as possible. The detailed technical data and supplementary reports necessary to support the main text should be included in appendices. All sources of information should be referenced. An indication must also be given of the currency and reliability of the information used.

A summary brochure for the EES is also to be prepared for free distribution to interested parties. Details of the exhibition of the EES, including the availability of the EES and summary brochures, as well as the location of EES displays, should be provided in the EES.

ASSESSMENT AND APPROVALS PROCESS

The Wellington Waters Canal Estate proposal will be assessed under the provisions of the Victorian *Environment Effects Act 1978* and *Planning and Environment Act 1987*. The approvals required for the project include:

- Planning Scheme Amendment and Planning Permit under the *Planning and Environment Act 1987*;
- potentially a Works Approval and Licence under the *Environment Protection Act 1970* for a sewage treatment plant; and
- approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). As noted above, the Commonwealth Minister for Environment and Heritage has accredited the Victorian EES process to satisfy assessment requirements under the EPBC Act.

The key steps in the EES process are:

1. Appointment of an Agency Contact Group;
2. Stakeholder scoping workshop;
3. Draft Assessment Guidelines issued by the Department of Infrastructure for public comment;
4. Assessment Guidelines finalised by the Department of Infrastructure;
5. EES prepared and finalised by Wellington Waters;
6. EES endorsed as satisfactory for exhibition by Department of Infrastructure;
7. EES, Planning Scheme Amendment/Permit applications, and EPA Works Approval jointly exhibited for two months;
8. Public submissions received;

9. An independent Panel may be appointed by the Minister for Planning to review submissions, hold a Panel Hearing and report to the Minister for Planning.
10. The Minister for Planning provides her Assessment under the *Environment Effects Act* to Victorian decision-makers and to the Commonwealth Minister for Environment and Heritage.

Agency Contact Group

An Agency Contact Group (ACG) has been established to provide advice to Wellington Waters and the Department of Infrastructure on the preparation of the EES.

The ACG includes representatives of the Environment Protection Authority (EPA), Department of Sustainability and Environment (DSE), the Gippsland Cultural Heritage Unit, the Gippsland and East Gippsland Aboriginal Corporation, Aboriginal Affairs Victoria, Gippsland Coastal Board, Gippsland Water, Parks Victoria and Environment Australia.

The role of the ACG is to advise the Department of Infrastructure on the scoping and adequacy of the EES studies, in particular on:

- Statutory provisions and policy relevant to the assessment of environmental effects;
- Draft assessment guidelines for the scope of the EES;
- Appropriate studies to assess potential effects; and
- The adequacy of the draft EES documentation.

Planning Scheme Amendment / Permit Application

A Planning Scheme Amendment and Planning Permit application are required for the proposal under the Wellington Shire Planning Scheme. A Works Approval application under the *Environment Protection Act* may also be required for a sewage treatment plant. The EES, Amendment/permit and Works Approval can be exhibited at the same time.

Panel Hearing

After the EES has been exhibited, the Minister for Planning is likely to appoint an Independent Panel to review the public submissions on the EES, Planning Scheme Amendment and planning permit and Works Approval application. All submitters are offered the opportunity to make a presentation to the Panel. Panel hearings are open to the public.

Minister's Assessment

The final step in the EES process under the *Environment Effects Act* is the provision of an Assessment of environmental effects by the Minister for Planning. When the Minister's Assessment is printed, copies are made available to the public together with the Panel's report. Decision-makers under Victorian law must consider the Minister's Assessment

prior to making a decision. The Assessment will also be provided to the Commonwealth Minister for Environment and Heritage to inform his decision under the EPBC Act.

CONTENTS OF THE ENVIRONMENT EFFECTS STATEMENT

The matters to be addressed in the EES are set out below. The structure of the EES should be agreed with the Department of Infrastructure.

1. PROJECT CONTEXT

The EES should provide information on the following:

- Name and address of the proponent and relevant background information such as an overview of the company structure, relevant experience and environmental management system (if applicable). Australian Company Number and Registered Office address and general contact details for the proponent should be included.

Lake Wellington Estates
Level 19, 350 Queen St
Melbourne 3000

Contact: James Troedel
Tel: 03 99338800 Fax: 03 99338801
Email: jtroedel@davislangdon.com.au

The proponent has been involved in the property industry for over 30 years as a builder, a developer of residential, commercial and land subdivision projects and as a Project Manager on major government (over \$300 million in value) and private projects.

He has owned the property (Wellington Park), on which the proposed development is located, for over 20 years which has been run as a sheep grazing enterprise.

He was a member of the West Gippsland Wetlands Consultative Committee for 5 years.

- Objectives, rationale and general benefits of the project

The objective is to create a new canal based residential township on the southern shore of Lake Wellington that encompasses environmental benefits. It is a visionary project where 60% of the land will be dedicated to public open space and wildlife refuge and funds raised within the project will be utilized to greatly enhance that area on a significant scale. It will add to the existing neighbouring RAMSAR sites through providing superior habitat to those sites for the migratory species that utilize the area.

The site is unique in that it is the only large, privately owned freehold land left that is suitable for a canal based development on the Gippsland Lakes.

The land in question is currently in a degraded state and is deteriorating. The development will arrest this degradation and create an enhanced environment particularly for the species that utilize and benefit from healthy and secure wetlands.

The project will deliver significant economic development to the Shire and the Region and also provide high quality tourist development to the under utilized western end of the Gippsland Lakes. It will incorporate numerous public facilities and will provide a destination point and safe harbour midway between Paynesville and Sale.

Development concept and general location of the project;

see Report L – Plans and Maps

The process of identifying the preferred site;

The site was already owned by the proponent

The project strategy, including:

- implementation timeframe and project life, any phases for the development;

Once Planning Approval has been obtained, detailed civil design will be carried out prior to commencement of major construction works. The project will be staged with stage 1 being adjacent to the western entrance and as shown see Report L – Plans and Maps

Stage 1a represents 33 lots and stage 1b a further 50 lots, a marina with public facilities and a pub/general store. The speed of commencement of later stages will be dependent on market take up of developed lots, however, it is anticipated the total project will be spread over a 10 year period.

Prior to the completion of the Planning Approval process, expressions of interest will be sought to more accurately ascertain the demand for the sites.

- anticipated establishment costs;

Stage 1 will be in the order of \$5 million and the total project between \$25 to \$30 million.

- possibilities for future expansion; and

The plan as developed represents the whole project with possibilities of incorporating a golf estate, a holiday park, a spa resort, further shopping facilities and associated community facilities and an industrial area that is linked to boating, eg. Boat building, boat servicing, boat sales, boat hire, etc.

There are also plans in the future to fence off the whole of Wellington Park (7000 acres), remove exotic feral animals and develop it as a wildlife sanctuary for native animals.

- the consequences of the project not proceeding.

The consequences depend upon the stage the project is at when it is halted.

If construction has not begun then the land will revert to its current status as a grazing property.

Construction work will not commence until sufficient forward sales are achieved to underpin each stage's viability. In this way the completion of each stage will be ensured. From interest shown to date this position should not be difficult.

Each stage will be designed to be sustainable as a stand alone project with its own sewerage treatment works, etc, so the project could stop at the end of any stage without being detrimental to the environment.

Description of how the project relates to any other projects or actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the project.

To our knowledge there are no other projects planned or being undertaken in the region that will impact on this one.

Details of the public communication and consultation process undertaken, or to be undertaken, during project formulation and planning and preparation of the EES, as well as any proposals for further public consultation during and beyond project implementation. The EES should identify any issues raised during consultation and how these issues were addressed.

The Draft Assessment Guidelines were advertised and placed on public display for a month in May, 2002. There were no responses that needed to be considered from this process.

Apart from the interaction with the Action Contact Group the EES will be advertised and put on public display for two months in line with the Guidelines requirements.

The project web site is being constantly updated with all current plans and reports and is available to the public.

Both WIN TV and ABC radio have run items which have greatly increased public awareness of the project. To date all public responses received by the proponent have been positive in nature.

The project management section should provide information on the proponent's project management arrangements, co-ordination with statutory processes and the proposed project program and time schedule.

Davis Langdon Australia who are a leading Project Management practice internationally are co-ordinating the process and once through the EES process will be managing the project on their web based Project Management system.

A program is attached in [Report N Program](#)

2. RELEVANT LEGISLATION, POLICIES AND STRATEGIES

The EES should outline the:

- Legislative framework, including the Commonwealth, State and Local Government approvals required for the project to proceed;

[This is outlined above.](#)

- Overall assessment and approvals process, explaining the role of the EES in the process;

[This is outlined above.](#)

- Other relevant legislation, including the *Coastal Management Act*, *Aboriginal and Torres Strait Islander Heritage Protection Act*, *Archaeological and Aboriginal Relics Preservation Act*, *Native Title Act*, *Crown Lands Reserve Act*, *Water Act* etc, especially where consents or permits from statutory authorities are required; and
- Policies, strategies, standards and guidelines that will be applicable, and their specific implication, in particular:
 - State Planning Policy Framework;
 - Local Planning Policy Framework of the Wellington Shire Planning Scheme;
 - Victoria's Biodiversity Strategy;
 - Victorian Coastal Strategy;
 - Gippsland Lakes Coastal Action Plan;
 - Draft Integrated Coastal Planning for Gippsland – Coastal Action Plan (2001);
 - Lake Wellington Wetlands Draft Management Plan (1997); and
 - Gippsland Lakes Management Plan (1991).

[See Report C - Planning](#)

3. PROJECT OUTLINE

3.1 Project Site and Design

A detailed description of the location, land use and development of the area of investigation should be provided, making use of maps, diagrams, and plans.

[see Report B - Project Description and Design Development](#)

[see Report L – Plans and Maps](#)

The project outline should include a detailed description of key physical components of the project, including the design of the proposed canal system and associated hydraulic mechanisms, the plan of the proposed residential, tourist and related development including the canal and groyne construction, volumes of soil removal, reuse/treatment of

soil and ongoing maintenance of the 8km canal should be provided. The location of specific facilities should be clearly indicated.

see Report B - Project Description and Design Development

see Report E – Hydraulics

see Report G – Sewerage and Infrastructure

see Report H - Soils – Soils

see Report J – Design Guidelines

see Report L – Plans and Maps

Details on equipment and on-site facilities including sewage and wastewater treatment, chemical storage, transmission lines (above or underground) and ancillary facilities such as control stations, maintenance facilities and access routes, and fire control facilities should be included. The EES also needs to provide details of the water supply, treatment and storage of water and the disposal of wastes from water in the treatment system.

see Report G - Sewerage and Infrastructure

3.2 Existing Environment

A description of the physical characteristics of the site's environment and surrounding areas, topography, geology, geomorphology, soils and surface drainage (waterways, lakes, wetlands, coastal areas), including:

Assessment of the land use and development options;

see Report B - Project Description and Design Development

see Report D – Biodiversity

see Report H - Soils – Soils

Any areas vulnerable to natural risk (eg flooding, fire, sinkholes, landslip, and seismic activity);

see Report B - Project Description and Design Development

A description of the biological characteristics (flora, fauna, ecological communities) of the project site and adjoining areas;

see Report D - Biodiversity

Occurrence of listed threatened and migratory species and ecological communities listed under the EPBC Act or *Flora and Fauna Guarantee Act* (FFG Act);

see Report D - Biodiversity

Any identified areas or habitats of conservation significance, including designated conservation areas, areas relating to the requirements of international treaties (JAMBA, CAMBA and Ramsar wetlands);

see Report D - Biodiversity

- Listed Aboriginal heritage sites and non-Aboriginal cultural sites and places;

see Report B - Project Description and Design Development

- Any areas of potentially contaminated land within the project site;

There are none. The land has only ever been used for broad acre grazing.

- A description of the existing social and economic environment, including information on:

- Social/demographic characteristics of the population of the Wellington Shire, particularly of those living in the vicinity of the project site; and
- Summary of the characteristics of the local and regional economy (employment trends, land values).

see Report F - Economic and Sociological

3.3 Construction Phase

The following information regarding the construction phase of the project should be provided:

- Outline the proposed timetable for major construction phase activities for the 8km canal, housing allotments, estate development, marina, associated roads and infrastructure, sewage treatment works and wildlife refuge;

see Report N - Program

- Outline sediment pollution control measures during canal construction and site development works and methods to control stormwater runoff;

All construction works have to comply to standard EPA and BCA requirements and they will be specified in the detailed documentation. The Contractor will be required to provide an approved EMS prior to commencement of construction. See Report O – Draft EMP

- An outline of proposed site preparation works for the proposal including removal of vegetation;

See Report O – Draft EMP

- Measures to avoid or minimise impacts on identified Aboriginal archaeological sites;

There are no identified Aboriginal archaeological sites on the site. The most likely area for any unidentified Aboriginal archaeological sites on the site will be on the lake

foreshore. No development will occur within 100 metres of the foreshore except for the two canal entrances.

- Transportation routes and assembly points for construction materials;

Not applicable

- Vehicle movements during construction and operation should be indicated;

The road layout for the development is shown on the plans. see Report L – Plans and Maps

- Estimates of the quantities of major raw materials required for construction activities (such as aggregate, fill, etc) and their likely sources;

Earthworks will be balanced cut and fill. Other materials will be sourced from local suppliers.

- The number of construction workers required in the various stages of construction;

see Report F - Economic and Sociological

- The proposed days of the week and time periods for construction activities; and

Not applicable as there are no neighbours who might be disturbed by construction activity.

- Proposed methods for the management and treatment of acid sulphate soils.

see Report H - Soils

3.4 Operational Aspects

Information on operational aspects proposed for the project, including:

- The proposed hours of operation of the marina including any on-site variations or seasonal variations;

The marina will be open at all times. The sewerage pumpout facility will be self operated. The fuel will be available when the general store is open.

- A timetable for construction, commissioning (including any staged development) and decommissioning of the project;

see Report N - Program

- Operational and maintenance requirements for the wildlife refuge, canal, housing estate, marina, sewage treatment plant and other infrastructure should be detailed;

see Report O – Draft EMP

- A Management Plan and arrangements for the wildlife refuge;

see Report O – Draft EMP

- Responsibility for ongoing maintenance for all aspects of the proposal must be clearly stated, including land management arrangements and responsibilities for proposed canal and adjacent land and waters;

The project will be managed and maintained by a two level Body Corporate structure.

The Precinct Body Corporate will be responsible for the sewerage treatment works servicing the precinct as well as their local parks and gardens.

The Project Body Corporate will be responsible for the whole site including the waterways, wildlife refuges, roadways, the project intranet, etc.

This two level structure has been successfully utilized on other similar projects.

- All major sources of noise and emissions; and

Construction noise will be localized and similar to current tractor activity. There are no neighbours who might be affected. Responsible speed limits will apply to both the waterways and the internal roads. Any repair/industrial type activities will be in a separate area away from residential areas and where necessary will be conducted in enclosed buildings.

- The nature, quantity and storage location of all environmentally hazardous materials must be included.

Fuel storages for both construction and boat operations will be contained in properly constructed storage facilities all to EPA standards for such facilities.

3.5 Infrastructure and associated facilities

Any new infrastructure or off-site ancillary facilities required to allow the project to proceed should be described, including:

- Requirements for new transport infrastructure or upgraded or new road links should be identified.

The existing main road servicing Loch Sport is adequate. Entrances, turning lanes and bus stops will be provided to VicRoads and Shire requirements.

- Provision of infrastructure, including the installation of additional infrastructure.

see Report G - Sewerage and Infrastructure

- Provision of sewage treatment and associated works.

see Report G - Sewerage and Infrastructure

- Provision and storage of water.

see Report G - Sewerage and Infrastructure

3.6 Site Plans

Site plans are required which provide details on the following:

- Location of all major components of the proposal, including facilities and access routes on the site, and their position relative to property boundaries;

see Report L – Plans and Maps

- The route of any underground/overhead cables or pipelines on the site;

There are no existing pipes or cables on the site. Any future requirements will be designed during detailed engineering documentation.

- Location of the sewage treatment plant (if applicable) and any grey water recycling system.

see Report G - Sewerage and Infrastructure

- The location of dangerous and hazardous materials (including waste) storage sites.

Fuel storage will be appropriately located adjacent to the marina and will be designed to be unaffected by floods and to meet all EPA requirements. During construction all fuel storage will be away from and above any areas subject to flooding.

4. PERFORMANCE CRITERIA

The EES should set out performance criteria for assessing the merits and effects of the proposed development on the site. These performance criteria should address factors influencing:

- project feasibility,
- environmental outcomes,
- policy implementation, and
- sustainability principles.

These are contained within the relevant reports

5. OPTION EVALUATION AND IDENTIFICATION OF ALTERNATIVES

Discussion of the rationale, process and criteria used to identify the proposed site of the canal estate, including the sieving of options. The process for refining the proposed development, including layout and design as part of the EES investigations, should be described.

[see Report B - Project Description and Design Development](#)

The potential performance and impact issues associated with key options should be addressed in the appropriate section of the EES.

6. ENVIRONMENTAL EFFECTS

6.1 General

The key or potentially significant impacts of the Wellington Waters Canal Estate proposal need to be identified and systematically addressed in the EES. These impacts include significant environmental, social and economic issues associated with the project as well as associated infrastructure use and development.

[see Report B - Project Description and Design Development](#)

[see Report D - Biodiversity](#)

[see Report F - Economic and Sociological](#)

[see Report G - Sewerage and Infrastructure](#)

Environmental effects include impacts on, or risks to, biological and physical systems and resources, objects and places of value to people or of scientific interest, as well as impacts on or risks to the health and safety of people living, working or engaging in other activities nearby. Demands on social and physical infrastructure (including costs), effects on the level of economic activity in the local, State and National economies, and distributional or equity effects should also be included. In addition, the consistency of the project with relevant National, State and local policies should be evaluated.

[The only people living or working nearby are those working on Wellington Park and there will be no risks to their health or safety as a result of this development.](#)

[see Report B - Project Description and Design Development](#)

[see Report D - Biodiversity](#)

[see Report F - Economic and Sociological](#)

The environmental effects should be predicted and assessed relative to relevant performance criteria. Measures proposed to be taken to avoid or reduce potential adverse environmental effects associated with the project, especially to meet any relevant environmental performance standards, need to be addressed. For unavoidable residual adverse effects, any compensation requirements proposed should be clearly identified.

Predictions of environmental effects should be based on scientifically supported studies. The methodologies used or relied on should be referenced, together with the relevant research and investigations supporting the studies. Assumptions and scientific judgments should be stated clearly, the nature and magnitude of uncertainties should be clearly defined and any risk assessment methodology clearly explained in terms of its reliability.

Relevant impacts include, but may not be limited to, the following:

6.2 Biodiversity Impacts

The Gippsland Lakes area is recognised for its high habitat values, in particular the variety of bird species. In this context, the EES needs to consider the implications of the proposal with respect to Victoria's Biodiversity Strategy and requirements under the FFG Act and EPBC Act.

The EPBC Act listed migratory species that should be specifically considered are:

- Eastern Curlew, *Numenius madagascariensis*
- Great Egret, *Ardea alba*
- Sharp-tailed Sandpiper, *Calidris acuminata*
- Red-necked Stint, *Calidris ruficollis*; and
- Common Greenshank, *Tringa nebularia*.

The EES should provide an assessment of any potential effects of the canal, the marina and housing estate construction and operation on biodiversity, the ecological character of the Ramsar wetland and the potential effects the development could have on these and other conservation values of Lake Wellington. The potential effects of the proposal and key options or variations, both in the absence of and with mitigation measures, should be described.

Specifically, the EES should:

- Identify and assess any effects the project may have on flora and vegetation communities, the significance of these effects, and proposed mitigation/compensation measures;

[see Report D - Biodiversity](#)

- Assess any effects on fauna, including effects on species, communities and habitats of local, regional and national significance, together with measures to preserve their integrity;

[see Report D - Biodiversity](#)

- Identify and assess any effects the project may have on the biodiversity and ecological character of Ramsar and adjoining wetlands in the context of the Australian Ramsar management principles;

see Report D - Biodiversity

- Make particular reference to rare and endangered species, with specific reference to threatened and migratory species listed under the FFG Act or EPBC Act;

see Report D - Biodiversity

- Impacts of the dredging in Lake Wellington on seagrass and other in-lake values;

The area where dredging is to occur has a sandy sea floor. see Report E - Hydraulics

- Describe potential impacts on areas of wilderness, scientific or other special conservation significance. Reference should be made to existing formal reserves, which may be affected by the project;

There are no areas of wilderness, scientific or other special conservation significance in the vicinity of the project. see Report D - Biodiversity

- Assess the potential ecological impacts of mosquito control spraying, if this is required; and

see Report D - Biodiversity

- Detail means of minimising the introduction and spread of weeds and plant disease as a result of the project works.

All new planting will be of species that are native and indigenous to the locality.

All soils will be sourced from the site.

All construction equipment will be cleaned prior to arrival on site.

see Report O – Draft EMP

Detailed plans, including ongoing management, of the Wildlife Refuge should also be included.

see Report D - Biodiversity

6.3 Hydrology and Hydrogeology

Once completed, the canal could have significant flows of water passing through it which may impact on water quality, rates of deposition, and erosion. Consequently, impacts to the hydrology and hydrogeology of the site and Lake Wellington should be assessed. In particular, documentation is needed on potential effects on:

- Surface water flows and water quality;

see Report E - Hydraulics

- Levels, flow rates and quality of proposed groundwater extraction;

There is no proposal to extract groundwater except for occasional top up of residential water supplies during drought. This water will be supplied from the existing bore on Wellington Park.

- Effects of canal, groyne, marina and housing construction on water quality and hydrology of nearby waterways such as Salt Creek;

Turbidity during construction will be controlled using standard engineering methodology for such works. Special care will be taken to ensure all contractors comply with the requirements of the specification prepared by Meinhardt which will define in detail the procedures to be followed. The success of the project will be dependent on best possible water quality being achieved both in the canals and nearby waterways.

Salt Creek will be separated from the works during construction.

- Effects of altered water regimes, increased nutrient levels and turbidity;

The altered water regimes will help prevent the salination processes currently degrading the area and therefore will have a beneficial effect. There will be no increase in nutrient levels or turbidity as a result of the development. Water quality within the canals will be equal to the water quality in Lake Wellington.

see Report D - Biodiversity
see Report E - Hydraulics

- Disposal of geothermal waters, if extracted for use at the proposed health resort.

There is no proposal to extract geothermal waters.

Other potential impacts relating to Lake Wellington which need to be assessed in the EES include:

- Impact of the canal entrance and proposed entrance groynes on coastal geomorphological processes i.e. sediment movement;

see Report E - Hydraulics

- Potential blue-green algal blooms in the proposed canals, implications for blooms in Lake Wellington and how such impacts will be avoided/mitigated;

Blue-green algal blooms have to date been confined to Lake Victoria and Lake King. They are caused by increase in nutrient levels particularly nitrogen and phosphorous. The project has been designed to ensure there is no nutrient discharge from the development to the canals or Lake Wellington so that the current situation in Lake Wellington will be unaffected by the proposal.

see Report G - Sewerage and Infrastructure

Details of water supply to the site should also be included and if proposed to use bore water, an assessment of the impacts to regional water resources should be undertaken.

see Report G - Sewerage and Infrastructure

6.4 Geomorphology and Geotechnical issues

The impacts of the project on the geomorphology of the area should be assessed.

The EES should assess erosion and sedimentation hazards associated with construction of the canal and groynes and proposed control measures. Sediment control measures will need to be applied during earth moving operations. The EES should demonstrate how the EPA Dredging Protocol will be adhered to for the construction of the canal and groynes.

All civil construction works will be designed and managed by Meinhardt Engineering who have extensive experience in the above issues on many projects. The Contract Specification will detail the procedures to be followed to ensure there is no additional erosion or sedimentation as a result of the construction works.

The EES should provide an assessment of the presence of acid sulphate soils and their implications for the development, the environmental effects of their excavation and disposal and the potential measures for treatment and management of acid sulphate soils is to be detailed.

see Report H - Soils

A geotechnical assessment of stability issues associated with the various components of the project (i.e. canal construction, housing allotments, roads and other infrastructure) is needed.

This is part of standard engineering design which will be the responsibility of Meinhardt Engineering who have extensive experience in the design and construction of civil engineering infrastructure. The batters on both the cut and fill areas have been designed to be very flat to ensure stability. On the housing side of the canal revetment walls will be constructed to define and stabilize the canal edge and elsewhere the canal will have an almost flat interface to encourage rushes and reeds to stabilize the edge and protect it from wave and wash action. Should the fill material not provide adequate compaction for housing then the houses will be built on micro-piles.

6.5 Site Discharges

The EES should also provide details of the proposed method for the management of wastewater, including sewage, stormwater runoff extracted from the project site. The ongoing runoff associated with the canal frontage allotments also needs to be investigated and mitigation and control measures detailed in the EES.

see Report G - Sewerage and Infrastructure

If geothermal waters are to be used for the health resort, details of possible disposal of these waters including volumes needs to be included.

There are no plans at this stage to utilize the geothermal waters. If in the future such usage is proposed then it will be subject to a separate application.

A detailed EMP will need to be prepared for the site, covering many of these issues.

see Report O – Draft EMP

6.6 Aboriginal Cultural Heritage

The effect of the project on known and unknown Aboriginal archaeological sites, including the impacts relating to the development of infrastructure associated with the project, should be evaluated. Information on the significance of sites and the views and values of Aboriginal custodians should be provided. Details should be provided regarding the manner in which all individual features of archaeological and cultural significance will be managed. Reference should be made to the appropriate application of protection, conservation, and adaptive re-use measures.

Information provided should be on any proposed cooperative, mitigation or compensatory actions and their implications for Aboriginal cultural and heritage values and interests as part of the proposed development. Surveys should be carried out in accordance with the State *Archaeological and Aboriginal Relics Preservation Act 1972* and Part IIA of the Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

A meeting and site visit was held in 2002 between the proponent and representatives of the local Aboriginal Community and an officer from NRE.

Specifically those in attendance included:

The Chairman of the local Aboriginal Heritage Committee : Mr Arthur Mullett

The Research Officer from Aboriginal Heritage: Mr Gerry Laughton

The NRE Representative :

During the visit it was acknowledged that there were no known archaeological sites on Wellington Park, however, the NRE Representative was to carry out further checks and if anything was discovered was to report back to the proponent. No further contact has been made.

It was further agreed during that visit that any likely unknown archaeological sites would occur along the lake foreshore within a short distance of the waters edge. As it is proposed that no development occur within 100 metres of the lake edge any such unknown sites would be unaffected by the proposal apart from the construction of the canal entrances.

It was further agreed that Mr. Laughton would undertake further detailed inspections during construction activities. No further work was required to be undertaken at this time.

Native Title issues, where relevant, should also be included in the EES.

Discussions are underway between DSE and The Gippsland Aboriginal Heritage Committee concerning Native Title issues affecting the site. The existing freehold titles have a 1.5 chain strip of land along the foreshore that is *permanently reserved for Public Use*. This strip has been diminished over time through erosion but is still in existence and as crown land is subject to a native title claim. Although the proposal includes no development within 100 metres of the foreshore the canal entrances cross this land and the groynes run into the lake which also impacts on Native Title issues.

Negotiations are continuing on these issues between the respective parties.

6.7 Recreational and Tourism Impacts

The EES should assess effects of the project on access to and use of lands in the vicinity of the project, for existing or potential tourist or recreation use (eg coastal reserves, camping areas, picnic areas, walking tracks, horse riding tracks), or existing or potential commercial use.

Both beneficial and adverse impacts of the project on tourism should be discussed, specifically in relation to the marina and associated facilities. The project objective of providing a safe harbour on the south side of Lake Wellington should be detailed, including access to and capacity of the marina, provision of accommodation, and fuelling and provisioning.

see Report B - Project Description and Design Development

6.8 Amenity Impact

Assess the amenity and visual impact of the proposed project especially on any sites or areas of natural, landscape, or aesthetic value as well as any measures proposed to avoid, mitigate for adverse effects in relation to amenity and recreational values. The assessment of visual amenity and impacts should:

- Provide details, (including illustrations, photographs and other graphic representations), of the appearance of the canal estate and associated infrastructure from all significant vantage points, including major roads, tourist routes, tourist facilities and Lake Wellington;
- Provide an assessment of how the project might affect the amenity and visual quality of the area and from the adjoining State Park. Identify any measures proposed to minimize

the visual effects of the project, such as height, size, design, colour, and location of housing allotments;

□ Provide conceptual outlines of the proposed design concepts and details of proposed controls.

see Report B - Project Description and Design Development
see Report J – Design Guidelines

6.9 Health

The EES needs to describe the potential health risk from mosquitos, as well as proposed control measures eg pesticide spraying.

see Report B - Project Description and Design Development
see Report D – Biodiversity
see Report J – Design Guidelines

6.10 Fire Safety and Chemical Management

The site is located in a declared Bushfire Prone Area in Wellington Shire and therefore all dwellings constructed on site must meet the requirements of AS3959 *The Standard for Construction of Buildings in Bushfire Prone Areas* prior to obtaining a Building Permit.

This will be a condition that must be met prior to achieving a Building Permit and is noted.

Potential for increased fire risk to the adjoining land should be considered and fire and emergency control measures documented in the EES.

The construction of the canals will provide additional barriers to the spread of wildfire. Access to the canals will be provided at regular intervals for filling fire tenders. Wellington Park is currently managed to diminish the risk of wildfire and this management will continue.

see Report B - Project Description and Design Development

The EES should include site plans indicating location of chemical stores, including fuel storage and procedures for management of spills.

Fuel for boats will be available at the marinas and will utilize bowsers established and operated in accordance with standard practice as currently operating at Metung, Paynesville and Loch Sport.

Storage facilities will be adjacent to these areas and be established and operated in accordance with standard EPA Guidelines for the storage and handling of Hazardous materials.

6.11 Socio-economic aspects

The EES should address the relevant State and local planning policies in evaluating the social and economic effects of the project. Information on the following should be included in the EES:

- Total capital investment for the project;
- Employment opportunities to be created by the project and extent to which employees will be sourced locally;
- Extent to which raw materials and related services will be sourced locally;
- Any implications for State and local infrastructure;
- Proposals to enhance or provide additional community services or facilities;
- Impacts on current land use;
- Impacts on tourism; and
- Economic value-adding/multipliers.

see Report F - Economic and Sociological

The proponent has agreed to provide land free of charge to the Shire at a suitable location close to the Loch Sport Road and adjacent to the entrance road for the project for the establishment of Shire facilities such as a Public Library or Community Health Centre. It is envisaged these facilities will be included at a later stage in the development once numbers are established on site.

7. MANAGEMENT OF POTENTIAL ENVIRONMENTAL EFFECTS

7.1 Environmental Management

Relevant performance standards required by either Victorian or Commonwealth statutes should be identified and evidence provided to demonstrate that these could be complied with.

These standards or requirements may be specified in legislation, regulations, codes of practice or state policies.

see Report O – Draft EMP

If adverse environmental effects from the project are considered unavoidable despite implementation of proposed mitigation measures adopted, (for example loss of conservation values, community assets or amenities), intended measures to compensate for the lost values should be indicated.

see Report D - Biodiversity

The EES should also detail the proponent's Environmental Management System, Environmental Management Plan and commitments. The EMP should identify responsibilities for environmental outcomes between the project developer/owner and contractor(s).

see Report O – Draft EMP