

FISHERMAN'S LANDING PORT EXPANSION

TERMS OF REFERENCE

FOR AN

ENVIRONMENTAL IMPACT STATEMENT

**UNDER PART (4) OF THE QUEENSLAND *STATE DEVELOPMENT AND
PUBLIC WORKS ORGANISATION ACT 1971***

The Coordinator-General

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PREFACE

The Project was declared to be a “significant project” under Section 26 of the Queensland *State Development and Public Works Organisation Act 1971 (SDPWOA)* by the Coordinator-General (CG) on 29 September 2005. Matters considered by the CG in making this declaration included information in an Initial Advice Statement prepared by the Proponent, the level of investment necessary for the Project, employment opportunities provided by the Project, potential impact on the environment, potential effects on relevant infrastructure and the significance of the Project to the region and State. The declaration initiates the statutory environmental impact assessment procedure of Part 4 of this Act, which requires the Proponent to prepare an Environmental Impact Statement (EIS) for the Project.

The Coordinator-General’s Office (CGO) is responsible for managing the environmental impact assessment process on behalf of the CG. CGO has invited relevant State and Local Government representatives and authorities to participate in the process as Advisory Agencies.

The first step in the impact assessment procedure is the development of Terms of Reference (ToR) for the preparation of an EIS. The process involves the formulation of draft ToR which are made available for public and government agency comment. The CG has regard to all comments received on the Draft ToR in finalising the ToR, which will be presented to the Proponent. This document represents the Draft ToR for public comment.

The Proponent will prepare a draft EIS to address the ToR. Once the EIS has been prepared to the satisfaction of the CG, a public notice is advertised in relevant newspapers circulating in the district and the State. The notice will state: where copies of the EIS are available for inspection and how it can be purchased; that submissions may be made to the CG about the EIS; and the submission period. The Proponent may be required to prepare a Supplementary Report to the EIS to address specific matters raised in submissions on the EIS.

At the completion of the EIS phase, the CG will prepare a report evaluating the EIS and other related material, pursuant to Section 35 of *SDPWOA*. The CG Report will include an evaluation of the environmental effects of the proposed Project and any related matters. The Report will reach a conclusion about the environmental effects and any associated mitigation measures, taking into account all of the relevant material including: the EIS; all properly made submissions and other submissions accepted by the CG; and any other material the CG considers is relevant to the Project, such as a Supplementary Report to the EIS, comments and advice from Advisory Agencies, technical reports on specific components of the Project and legal advice.

The Project involves development that would require an application for development approval for material change of use and/or impact assessment under the *Integrated Planning Act 1997 (IPA)*. Consequently, the CG Report may, under s.39 of *SDPWOA*, state for the assessment manager one or more of the following:

- the conditions that must attach to the development approval;
- that the development approval must be for part only of the development;
- that the approval must be preliminary approval only.

Alternatively the Report must state for the assessment manager –

- that there are no conditions or requirements for the Project; or
- that the application for development approval be refused.

Further, the Report must:

- give reasons for the statements (above); and
- be given to the assessment manager for the application by the CG.

Further to the above *IPA* approvals, other approvals under a range of legislation including, but not limited to, the *Coastal Protection and Management Act 1995*, *Environmental Protection Act 1994* and *Fisheries Act 1994* are likely to be required.

These ToR provides information in two broad categories:

- Part A – Information and advice on the preparation of the EIS.
- Part B – Content of the EIS.

For further inquiries about the EIS process for the Project, please contact:

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*** *The term environment refers to:***

- (a) *ecosystems and their constituent parts, including people and communities;***
- (b) *all natural and physical resources;***
- (c) *the qualities and characteristics of locations, places and areas, regardless of size, that stimulate biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community;***
- (d) *the social, economic, aesthetic and cultural conditions which influence, or are affected by, the entities and attributes mentioned in paragraphs (a) to (c); and***
- (e) *the local, regional, Queensland and Australian populations and labour markets.***

Part A: INFORMATION AND ADVICE ON PREPARATION OF THE EIS

Project Proponent

Central Queensland Ports Authority (CQPA).

CQPA is a Government Owned Corporation under the *Government Owned Corporation Act 1993*.

Project Description

CQPA proposes to reclaim an area of 153 ha in Port Curtis adjacent to the existing port facility at Fisherman's Landing. The additional land would provide future adjacent wharves with the space required for transport, storage and loading and unloading facilities.

The construction of the reclamation would be staged to meet development demands.

The first stage of the development would require the construction of the revetment wall to cater for the construction of an additional three berths and the disposal of dredged material to cater for these berths. The timing of the second stage would then be determined by the demand for land and wharf development.

For both stages the reclamation will be developed to allow for the disposal of dredged material and associated settlement ponds necessary for the discharge of clean water into the harbour.

The proposed wharf facilities (i.e. six wharves plus backup land) will serve future industries to be located within the Gladstone State Development Area (GSDA) and will be linked via the Materials Transport Corridor. The proposed reclamation is not within the GSDA.

Purpose of the Terms of Reference

These ToR essentially outline the issues that should be considered in preparing the EIS. Furthermore, the ToR provides the framework for the EIS, including information on the purpose and role of the EIS and the factors considered to be most significant for the proposal. It indicates the types of studies and the data that should be provided in the EIS. All potentially significant impacts of the proposed development on the environment are to be investigated, and requirements for the mitigation of any adverse impacts are to be detailed in the EIS. Any prudent and feasible alternatives should be discussed and treated in sufficient detail. The reasons for selection of the preferred option should be clearly identified. The nature and level of investigations should be relative to the likely extent and gravity of impacts. These guidelines should, however, not be interpreted as excluding from consideration any matters which are currently unforeseen, which may arise during ongoing scientific studies or which may arise from any changes in the nature of the proposal during the preparation of the Draft EIS, the community consultation process and associated documentation.

The EIS should address at least the requirements as set out in these ToR.

EIS Guidelines

The objective of the EIS is to identify potential environmental impacts and to ensure that negative impacts are avoided where possible. Where unavoidable, negative impacts must be examined fully and addressed so that the development is based on sound environmental protection and management criteria. Positive impacts should be highlighted.

The EIS process followed will be as specified in the *State Development and Public Works Organisation Act 1971*.

An EIS should provide:

- a description of the relevant aspects of the existing social, economic, natural and built environment;
- a description of the development proposal and means of achieving the development objectives;
- definition and analysis of the likely impacts of the development on the environment;

- a framework against which Government decision-makers can consider the environmental aspects of the proposal and set conditions for approval to ensure environmentally sound development;
- a definition of all significant impacts and measures proposed to mitigate adverse effects; and
- recommendations on the need for and contents of any environmental management plans and/or operational plans to mitigate adverse effects.

EIS Objectives and Key Issues

Objectives

The objectives of the EIS are as follows:

- to provide information on the proposal and development process to the community and decision makers;
- to comprehensively identify and evaluate all relevant issues associated with the proposal;
- to identify all potential environmental, cultural, social, transport and land use planning impacts of the preferred concept, and recommend infrastructure and facilities needs together with other design and operational measures required to minimise or compensate for adverse impacts and enhanced benefits;
- to consult with the community and relevant stakeholders in the process of identifying, assessing and responding to the impacts of the proposal;
- to ensure that the proposal considers the effects of and impacts on other proposed developments nearby and within the Central Queensland Port Authority and Gladstone State Development Areas on the transport infrastructure;
- to identify all necessary licences, planning and environmental approvals including approval requirements pursuant to the *Coastal Protection and Management Act 1995*, *Integrated Planning Act 1997*, *Environmental Protection Act 1994*, *Fisheries Act 1992* and other legislation; and
- to provide an input to the decision-making process, assisting with the determination of whether to accept or modify the proposal, approve it with conditions or carry out further studies.

Key Issues

The issues to be addressed as part of the EIS can be divided into the following categories:

- detailed project description;
- project justification and alternatives;
- impacts on the terrestrial environment;
- impacts of marine flora and fauna;
- impacts on the coastal environment and marine processes;
- impacts on water quality;
- impacts on areas of cultural heritage value or Indigenous significance;
- air emissions and impacts;
- impacts of noise and vibration;
- impacts on transport infrastructure and road use;
- impacts on surrounding land uses and land use planning;
- economic issues (including impacts on local and regional businesses);
- safety and emergency; and
- waste management.

The EIS will be required to consider in detail relevant issues under each of these categories and all other impacts on the physical and social environment. The information required is described in the following sections.

Public Consultation on Terms of Reference

The Draft Terms of Reference was publicly notified in *The Courier Mail* and *The Gladstone Observer* newspapers and the CQPA website, inviting comment on the Draft TOR for the Project. The closing date for submissions was Monday 13 February 2006.

The TOR is available on the CG website - www.coordinatorgeneral.qld.gov.au.

Part B: CONTENT OF THE EIS

Executive Summary

The function of the executive summary is to convey the most important aspects and options relating to the project to the reader in a concise and readable form. It should use plain English and avoid the use of jargon and esoteric terms. The structure of the executive summary should follow that of the EIS, and focus strongly on the key issues and conclusions.

Glossary of Terms

A glossary of technical terms, acronyms and abbreviations should be provided.

1 Introduction

The function of the introduction is to explain why the EIS has been prepared and what it sets out to achieve. In particular, the introduction should address the level of detail of information required to meet the level of approval being sought (for example, whether the proponent is seeking only a preliminary approval through the Integrated Development Assessment System (IDAS) or a full approval with all permits). It should also define the audience to whom it is directed, and contain an overview of the structure of the document. Throughout the EIS, factual information contained in the document should be referenced.

1.1 Project proponent

Provide details about the proponent including contact details for key project staff and project consultants.

1.2 Project description

A brief description of the key elements of the project should be provided and illustrated. Any major associated infrastructure requirements should also be summarised. Detailed descriptions of the project should follow in Section 3.

A brief description should be provided of studies or surveys that have been undertaken for the purposes of developing the project and preparing the EIS. This should include reference to relevant baseline studies or investigations undertaken previously.

1.3 Project objectives and scope

A statement of the objectives which have led to the development of the proposal and a brief outline of the events leading up to the proposal's formulation, including alternatives, envisaged time scale for implementation and project life, anticipated establishment costs and actions already undertaken within the project area.

Describe the current status of the project and outline the relationship of the project to other developments or actions that may relate whether or not they have been approved.

The consequences of not proceeding with the project should also be discussed.

1.4 The Environmental Impact Statement process

The purpose of this section is to make clear the methodology and objectives of the environmental impact statement under the relevant legislation.

1.4.1 Methodology of the EIS

This section should provide a description of the EIS process steps, timing and decisions to be made for relevant stages of the project. This section should also indicate how the consultation process (which will be described in detail in section 1.5) would integrate with the other components of the impact assessment, including the stages, timing and mechanisms for public input and participation. The information in this section is required to ensure:

- that relevant legislation is addressed;

- readers are informed of the process to be followed; and
- that stakeholders are aware of any opportunities for input and participation.

1.4.2 Objectives of the EIS

Having described the methodology of the EIS, a succinct statement should be made of the EIS objectives. The structure of the EIS can then be outlined as an explanation of how the EIS will meet its objectives. The reader should be able to distinguish the EIS as the key environmental document providing advice to decision makers considering approvals for the project.

While the terms of reference provide guidance on the scope of the EIS studies, they should not be seen as exhaustive or limiting. It is important for Proponent and their consultants to recognise that there cannot be perfect knowledge in advance of undertaking an EIS of what the EIS studies may find.

If it transpires during the preparation of the EIS that previously unforeseen matters not addressed in the terms of reference are found to be relevant to the assessment of impacts of the proposal, those matters should be included in the EIS.

In addition, it is essential that the main text of the EIS should address all relevant matters concerning environmental values, impacts on those values and proposed mitigation measures. No relevant matter should be raised for the first time in an appendix or the draft EM Plan.

When considering whether an impact is or is not significant, the proponent should take account of both the intensity of the impact and the context in which it would occur.

The EIS is a public document. Its purpose is not only to provide information to regulatory agencies, but also to inform the public of the scope, impacts and mitigation measures of the proposal. As such the main text should be written in plain English avoiding jargon as much as possible. Additional technical detail may be provided in appendices. The main text should not assume that a reader would have a prior knowledge of the project site. It should not be necessary for the reader to have visited the site to understand the issues involved in the proposal.

In brief, the EIS objectives should be to provide public information on the need for and likely effects of the project, to set out acceptable standards and levels of impacts (both beneficial and adverse) on environmental values, and demonstrate how environmental impacts can be managed through the protection and enhancement of the environmental values. Discussion of options and alternatives and their likely relative environmental management outcomes is a key aspect of the EIS.

The role of the EIS in providing the project's draft environmental management plan (EM Plan) should also be discussed, with particular reference to the EM Plan's role in providing management measures that can be carried over into conditions that would attach to any approval(s), environmental authorities and permits for the project.

1.4.3 Submissions

The reader should be informed as to how and when public submissions on the EIS will be addressed and taken into account in the decision-making process.

1.5 Public consultation process

To facilitate the assessment process, the Proponent is strongly encouraged to regularly consult with Advisory Agencies and other appropriate stakeholders throughout the EIS process.

It is the responsibility of the Proponent, in consultation with Advisory Agencies, to identify legislation, policies and methodologies relevant to the EIS process, and to determine appropriate parts of the community which should be consulted during the EIS preparation stage. It is recommended that an open community consultation process be carried out in addition to the legislated environmental impact assessment process. Copies of the draft EIS will be provided to all Advisory Agencies and on request to relevant individuals and peak groups with an interest in the Project.

The public consultation program should provide opportunities for community involvement and education. It may include interviews with individuals, public meetings, interest group meetings, production of regular summary information and updates, and other consultation mechanisms to encourage and facilitate active public consultation.

The public consultation process should identify broad issues of concern to local community and interest groups and should continue from project planning through to operations.

1.6 Project approvals

1.6.1 Relevant legislation and policy requirements

This section should explain the legislation and policies controlling the approvals process. Reference should be made to the *State Development and Public Works Organisation Act 1971*, *Environmental Protection Act 1994*, *Coastal Protection and Management Act 1995*, *Fisheries Act 1994*, *Integrated Planning Act 1997* and other relevant Queensland laws.

Local Government planning controls, local laws and policies applying to the development should be described, and a list provided of the approvals required for the project and the expected program for approval of applications.

The information provided in the EIS should be sufficient to allow assessment against the relevant legislation and policies, and the development of reasonable and relevant conditions of approval to be included in the Coordinator-General's Report. Guidance on the extent and nature of information required should be obtained from each administering authority.

1.6.2 Planning processes and standards

This section should discuss the project's consistency with existing land uses or long-term policy framework for the area (e.g. as reflected in local and regional plans), and with legislation, standards, codes or guidelines available to monitor and control operations on site. This section should refer to all relevant State and regional planning policies and would include:

- any planning controls, by-laws and policies relating to the study area and adjacent lands;
- details of all licences, planning and environmental approvals required;
- regional strategies or plans that relate to the study area or proposal (existing or in preparation);
- transport and road plans at a network and link level; and
- relationship to other significant developments (existing or proposed) in the study area or surrounding areas including the cumulative effect of these projects on matters such as the transport system.

This should include an assessment of the project's consistency with the Gladstone Port Authority Land Use Plan, Calliope Shire Planning Scheme and the GBRMP zoning of any offshore areas potentially impacted by the project. This information is required to demonstrate how the proposal conforms with State, regional and local plans for the area.

Details should be provided on the process for obtaining Resource Entitlement. (Note: Allocation of tenure must occur prior to Resource Entitlement.)

2 Project need and alternatives

2.1 Project justification

The justification for the project should be described, with particular reference made to the economic and social benefits, including employment and spin-off business development, which the project may provide. The status of the project should be discussed in a regional, State and national context.

2.2 Alternatives to the Project

This section should describe feasible alternatives, including conceptual, technological and locality alternatives to the project, and discussion of the consequences of not proceeding with the project. Availability of other sites within the Port area which have been reclaimed and/or are currently being reclaimed such as Auckland Creek and the Calliope estuary should be discussed. Alternatives should be discussed in sufficient detail to enable an understanding of the reasons for preferring certain options and courses of action and rejecting others. Comparative environmental impacts of each alternative should be summarised.

The interdependencies of the proposal components should be explained, particularly in regard to how each of any industrial developments, or various combinations of industrial developments, and any infrastructure requirements relate to the viability of the proposal. Should water supply, power, transport and/or storage infrastructure be included as an element of the proposal, this section should include a description of and rationale for such infrastructure.

Reasons for selecting the preferred options should include technical, commercial, social and natural environment aspects. In particular, the principals of ESD and sustainable development should be included. The relationship of options chosen for waste management and any emissions produced should be detailed.

This information is required to assess why the scope of the proposal is as it is and to ensure that the ESD principles and sustainable development aspects have been considered and incorporated during the scoping and planning of the proposal.

3 Description of the project

The objective of this section is to describe the project through its lifetime of construction. This information is required to allow assessment of all aspects of a proposal including all phases of the proposal from planning to staging of construction. It also allows further assessment of which approvals may be required and how they may be managed through the life of the proposal.

3.1 Location

3.1.1 Regional context

The regional context of the proposal should be described and illustrated on maps at suitable scales.

3.1.2 Local context

The local context of the proposal should be described and illustrated on maps at suitable scales.

3.2 Dredging and Spoil Disposal

The methods proposed for the dredging should be described including:

- the type and method of dredging proposed;
- the dredge equipment, including any turtle protection measures proposed;
- the expected length and timing of the dredging campaign; and
- the amount of spoil to be relocated.

Discuss the nature of the spoil to be generated and any treatment that may be required to neutralise the spoil before its disposal.

The method, location and issues associated with the disposal of dredged material should be described including:

- the on-shore and off-shore spoil disposal areas proposed; and
- quality of spoil material.

Any proposed offshore disposal sites should be discussed with the local Queensland Seafood Industry Association and Sunfish while any proposed onshore sites should be documented in terms of the impacts on intertidal lands, directly through dumping or indirectly through runoff.

The characteristics and environmental values of the on-shore and off-shore sites should be described in the appropriate sections of Chapter 4, with particular reference to: the ecological and physical properties of the on-shore site that will influence its erosion potential and stability, stormwater run-off quality, rehabilitation, future use and management; and the sediment movement from, and recovery of the benthos of, the off-shore site.

A plan of the land to be reclaimed (drawn to a scale of not less than 1:1500) should be provided.

If a development permit is required provide three (3) copies of all drawings detailing the type, location and extent of the tidal works proposed (eg. proposed measures to protect reclamation area from erosion by the sea).

A detailed assessment, with appropriate staging plans, to demonstrate that the quality of the water discharged from dredge spoil disposal in the reclamation area will meet standards necessary to maintain receiving water quality (consistent with water quality objectives defined in accordance with the ANZECC guidelines) and therefore maintain receiving water environmental values throughout the period of dredge spoil disposal on land. Consideration should be given to:

- quantities of tailwater likely to be generated from dredging activities;
- the settling rate of fine sediments from all dredge material types;
- the residence time within settling ponds prior to discharge (related to dredge pumping rate, ratio of solids to water in spoil, settling rates, available capacity of the disposal and settling areas, potential bulking factor, intensity and duration of rainfall events with consideration given to the worst case scenario for these factors);

- source of material for bunds and bund wall stability;
- measures to limit channelling and sediment resuspension in settling ponds;
- measures to limit erosion and sediment resuspension in discharge channels;
- contingency measures in the event that discharge limits are exceeded.

Note: Dredging with disposal of spoil on land (above mean high water springs) requires an allocation of quarry material or dredge management plan, under the provisions of the *Coastal Protection and Management Act 1995*, prior to application for tidal works approval under the *Integrated Planning Act 1997*. Detailed information on dredge management could be supplied subsequent to the EIS but only if all material is to be disposed of on land.

3.3 Construction

The extent and nature of the project's construction phase should be described. The description should include:

- the type and methods of construction;
- the construction equipment to be used;
- the items of plant to be transported onto the construction site as well as the method of and route for transport; and
- best management practices to be installed and maintained to prevent runoff onto adjacent tidal lands.

Any staging of the proposal should be described and illustrated showing site boundaries, development sequencing and timeframes.

The estimated numbers of people to be employed in the project construction phase should also be provided with a brief description of where those people may be accommodated and/or how they will be transported to the site. A description of employment accommodation demands should take into account the cumulative impacts from this and other major projects that are likely to be constructed concurrently with this project.

Describe and assess the sourcing of material required for off-shore construction including approvals granted for such work.

3.4 Location and Tenure

Summarise the results of studies and surveys undertaken to identify the natural resources required to implement the proposal. The location, volume, tonnage and quality of natural resources required should be described (eg land, water, energy, etc.). Maps at suitable scales should be provided showing the precise location of the project area, and in particular:

- the location and boundaries of land tenures, in place or proposed, to which the project area is or will be subject; and
- the location of any proposed buffers surrounding the working areas.

Consideration should be given to providing a rectified air photo enlargement to illustrate components of the project in relation to the land and natural and built features of the area.

3.5 Infrastructure Requirements

This section should provide descriptions, with concept and layout plans, of requirements for constructing, upgrading or relocating all infrastructure in the vicinity of the project area. The matters to be considered include such infrastructure as roads, rail, bridges, tracks and pathways, power lines and other cables, wireless technology (e.g. microwave telecommunications), and pipelines for any services (whether underground or above).

3.5.1 Transport—road/rail/ship

Describe arrangements for the transport of plant, equipment, products, wastes and personnel during the construction phase of the project. The description should address the use of existing facilities and all requirements for the construction, upgrading or relocation of any transport related infrastructure.

Information should be provided on road and road transportation requirements on public roads for construction phase, including:

- the volume, composition (types and quantities), origin and destination of goods to be moved including construction materials, plant, raw materials, wastes, hazardous materials;
- the volume and origin/destination of traffic generated by workforce personnel, visitors and service vehicles;
- method of movement (including vehicle types and number of vehicles likely to be used);
- anticipated times at which movements may occur;
- details of vehicle traffic and transport of heavy and over-dimensional loads (including types and composition, daily trip generation);
- the proposed transport routes;
- need for increased road maintenance and upgrading; and
- lost capacity on local roads as a result of the project.

3.5.2 Energy

The EIS should describe all energy requirements, including electricity, natural gas, and/or solid and liquid fuel requirements for the construction of the proposal. Energy conservation should be briefly described in the context of any Commonwealth, State and local government policies.

3.5.3 Water supply and storage

The EIS should provide information on the proposed water usage by the project, including the quality and quantity of all water supplied to the site during the construction and operational phases. In particular, the proposed sources of water supply should be described (eg bores, any surface storages) and any approvals required under the *Water Act 2000*.

Estimated rates of supply from each source (average and maximum rates) should be given. Any proposed water conservation and management measures (including treatment and recycling of waste water) should be described.

Determination of potable water demand should be made for the project, including the temporary demands during the construction period. Details should be provided of any existing town water supply to meet such requirements. If water storage and treatment is proposed on site, for use by the site workforce, then this should be described.

3.5.4 Stormwater drainage

A description and concept plan should be provided for the proposed stormwater drainage system and the proposed disposal arrangements, including treatment measures and proposed discharge points.

If new stormwater drainage systems are proposed to discharge to tidal waters, a development permit to undertake operational work within the coastal management district and/or tidal work will be required. If a development permit is required information will need to be provided in accordance with EPA's guidelines *Operational work on State coastal land and/or Constructing tidal works*. It will be necessary to demonstrate that any discharge will not adversely affect the receiving environment.

3.5.5 Sewerage

This section should describe, in general terms, the sewerage infrastructure required by the project. If it is intended that industrial effluent or relatively large amounts of domestic effluent are to be discharged into an existing sewerage system, an assessment of the capacity of the existing system to accept the effluent should be provided in Section 4.6 (Waste management). For industrial effluent, this should include detail of the physical and chemical characteristics of the effluent(s).

Describe contingency measures to be implemented when the capacity of existing sewage treatment system is unable to cope with the load from the proposed project.

3.5.6 Telecommunications

The EIS should describe any impacts on existing telecommunications infrastructure (such as optical cables, microwave towers, etc.) and identify the owners of that infrastructure.

3.6 Waste management

3.6.1 Character and quantities of waste materials

Provide an inventory of all wastes to be generated by the proposal during the construction phase of the project. In addition to the expected total volumes of each waste produced, include an inventory of the following per unit volume of product produced:

- the tonnage of raw materials processed;
- the amount of resulting process wastes; and
- the volume and tonnage of any re-usable by-products.

Having regard for best practice waste management strategies and the Environmental Protection (Waste Management) Policy 2000, the proposals for waste avoidance, reuse, recycling, treatment and disposal should be described in the appropriate sub-section below. Information should also be provided on the variability, composition and generation rates of all waste generated at the site.

3.6.1.1 Air emissions

Describe in detail the quantity and quality of all air emissions (including particulates, fumes and odours) from the project during construction. Particulate emissions include those that would be produced by any industrial process, or disturbed by wind action on stockpiles and conveyors, or by transportation equipment (e.g. trucks, either by entrainment from the load or by passage on unsealed roads).

The methods to be employed in the mitigation of impacts from air emissions should be described in section 4.5.

3.6.1.2 Solid waste disposal

The proposed location, site suitability, dimensions and volume of any landfill, including its method of construction, should be shown.

The solid waste disposal facility should be described in terms of measures, such as impermeable barriers to be incorporated to ensure no material leaches into adjacent intertidal fish habitats.

3.6.1.3 Liquid waste

A description should be presented of the origin, quality and quantity of wastewater and any immiscible liquid waste originating from the project. Particular attention should be given to the capacity of wastes to generate acid, and saline or sodic waste water.

The EIS should consider the following effects:

- groundwater from excavations;
- rainfall directly onto disturbed surface areas;
- drainage (i.e. run-off plus any seepage or leakage);
- seepage from other waste storages;
- water usage for:
 - process use,
 - dust suppression,
 - domestic purposes; and
- disposal of liquid waste;
- evaporation.

4 Environmental values and management of impacts

The functions of this section are:

- To describe the existing environmental values of the area which may be affected by the proposal. Environmental values are defined in section 9 of the *Environmental Protection Act 1994*, environmental protection policies and other documents such as the ANZECC 2000 guidelines. Environmental values may also be derived following recognised procedures, such as described in the ANZECC 2000 guidelines. Environmental values should be described by reference to background information and studies, which should be included as appendices to the EIS.
- To describe the potential adverse and beneficial impacts of the proposal on the identified environmental values. Any likely environmental harm on the environmental values should be described.
- To describe any cumulative impacts on environmental values caused by the proposal, either in isolation or by combination with other known existing or planned sources of contamination.
- To present environmental protection objectives and the standards and measurable indicators to be achieved. and
- To examine viable alternative strategies for managing impacts. These alternatives should be presented and compared in view of the stated objectives and standards to be achieved. Available techniques, including best practice, to control and manage impacts to the nominated objectives should be discussed. This section should detail the environmental protection measures incorporated in the planning, construction and associated works for the proposal. Measures should minimise environmental harm and maximise socio-economic and environmental benefits of the proposal. Preferred measures should be identified and described in more detail than other alternatives.

Environmental protection objectives may be derived from legislative and planning requirements which apply to the proposal including Commonwealth strategies, State planning policies, local authority strategic plans, environmental protection policies under the *Environmental Protection Act 1994*, and any catchment management plans prepared by local water boards or land care groups. Special attention should be given to those mitigation strategies designed to protect the values of any sensitive areas and any identified ecosystems of high conservation value within the area of possible proposal impact.

This section should address all elements of the environment, (such as land, water, coast, air, waste, noise, nature conservation, cultural heritage, social and community, health and safety, economy, hazards and risk) in a way that is comprehensive and clear. To achieve this, the following issues should be considered for each environmental value relevant to the project:

- Environmental values affected: describe the existing environmental values of the area to be affected including values and areas that may be affected by any cumulative impacts (refer to any background studies in Appendices - note such studies may be required over several seasons). It should be explained how the environmental values were derived (e.g. by citing published documents or by following a recognised procedure to derive the values).
- Impact on environmental values: describe quantitatively the likely impact of the proposal on the identified environmental values of the area. The cumulative impacts of the proposal must be considered over time or in combination with other (all) impacts in the dimensions of scale, intensity, duration or frequency of the impacts. In particular, any requirements and recommendations of relevant State planning policies, environmental protection policies, national environmental protection measures and integrated catchment management plans should be addressed.

Cumulative impacts on the environmental values of land, air and water and cumulative impacts on public health and the health of terrestrial, aquatic and marine ecosystems must be discussed in the relevant sections. This assessment may include air and water sheds affected by the proposal and other proposals competing for use of the local air and water sheds.

Where impacts from the proposal will not be felt in isolation to other sources of impact, it is recommended that the proponent develop consultative arrangements with other industries in the proposal's area to undertake cooperative monitoring and/or management of environmental parameters. Such arrangements should be described in the EIS.

- Environmental protection objectives: describe qualitatively and quantitatively the proposed objectives for enhancing or protecting each environmental value. Include proposed indicators to be monitored to demonstrate the extent of achievement of the objective as well as the numerical standard that defines the achievement of the objective (this standard must be auditable). The measurable indicators and standards can be determined from legislation, support policies and government policies as well as the expected performance of control strategies.
- Monitoring programs: describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals.
- Auditing programs: describe how progress towards achievement of the objectives will be measured, reported and whether external auditors will be employed. Include scope, methods and frequency of auditing proposed.
- Management strategies: describe the strategies to be used to ensure the environmental protection objectives are achieved and control strategies implemented eg. continuous improvement framework including details of corrective action options, reporting (including any public reporting), monitoring, staff training, management responsibility pathway, and any environmental management systems and how they are relevant to each element of the environment.
- Information quality: information given under each element should also state the sources of the information, how recent the information is, how any background studies were undertaken (e.g. intensity of field work sampling), how the reliability of the information was tested, and what uncertainties (if any) are in the information.

It is recommended that the EIS follow the heading structure shown below. The mitigation measures, monitoring programs, etc., identified in this section of the EIS should be used to develop the environmental monitoring program for the project (see section 5).

4.1 Site Area

4.1.1 Description of environmental values

This section describes the existing environment values of the site area that may be affected by the proposal, including associated infrastructure. It should also define and describe the objectives and practical measures for protecting or enhancing land-based environmental values, describe how nominated quantitative standards and indicators may be achieved, and how the achievement of the objectives will be monitored, audited and managed.

4.1.1.1 Topography/geomorphology

Maps should be provided locating the project in both regional and local contexts. The topography of the proposal site should be detailed with contours at suitable increments and the locations of the Highest Astronomical Tide (HAT), Mean High Water Springs (MHWS) and Lowest Astronomical Tide (LAT), shown with respect to Australian Height Datum (AHD). Significant features of the locality should be included on the maps. Such features would include any locations subsequently referred to in the EIS (e.g. the nearest noise sensitive locations) that are not included on other maps in Section 4.1. Commentary on the maps should be provided highlighting the significant topographical features.

4.1.1.2 Geology

The EIS should provide a description, map and a series of cross-sections of the geology of the proposal area, with particular reference to the physical and chemical properties of materials and geological structures within the proposed areas of disturbance. Geological properties that may influence ground stability (including seismic activity, if relevant), occupational health and safety, rehabilitation programs, or the quality of wastewater leaving any area disturbed by the proposal should be described.

4.1.1.3 Soils

A soil survey of the sites affected by the proposal should be conducted at a suitable scale, with particular reference to the physical and chemical properties of the materials that will influence erosion potential, storm water run-off quality, rehabilitation and agricultural productivity of the land. Information should also be provided on soil stability and suitability for construction of proposal facilities.

An assessment of acid sulphate soils in accordance with the Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998 (Revision 4.0) should be carried out for all areas subject to excavation or filling below the level of 5 metres AHD where the Department of Natural Resources,

Mines and Water (NRM&W) cannot provide adequate mapping at a sampling frequency to be determined in consultation with NRM&W and EPA, and for wetland areas where the natural hydrology (surface or groundwater) may be affected by the proposal such that oxidation of potential ASS may occur. An Acid Sulfate Soil Management Plan must be prepared in consultation with officers of NRM&W and EPA. The State Planning Policy SPP 2/02, Planning and Managing Development Involving Acid Sulfate Soils, should also be addressed.

The acid sulfate soil investigation and management plan should place particular emphasis on filling activities as outlined in the SPP2/02 Guideline. Medium intensity acid sulfate soil mapping is available from NRM&W for much of the proposed development area.

Soil profiles should be mapped at a suitable scale and described according to the Australian Soil and Land Survey Field Handbook (McDonald et al, 1990) and Australian Soil Classification (Isbell, 1996). Information should be presented according to the requirements of the State Planning Policy 1/92: Development and the Conservation of Agricultural Land.

4.1.1.4 Land use

The EIS should provide a description of current land tenures and land uses in the proposal area, with particular mention of land with special purposes.

Maps at suitable scales showing existing land uses and tenures, and the proposal location, should be provided for the entire proposal area and surrounding land that could be affected by the development. The maps should identify areas of conservation value and marine areas in any locality that may be impacted by the proposal. The location of existing dwellings, and the zoning of all affected lands according to any existing town or strategic plan should be included.

4.1.1.5 Infrastructure

The location and owner/custodians of all tenures, reserves, roads and road reserves, railways and rail reserves and the like, covering the affected land should be shown on maps of a suitable scale. Indicate locations of gas and water pipelines, power lines and any other easements. Describe the environmental values affected by this infrastructure.

4.1.1.6 Sensitive environmental areas

The EIS should identify whether areas that are environmentally sensitive could be affected, directly and indirectly, by the proposal. Areas sensitive to environmental harm caused by the proposal can be determined through site-specific environmental impact assessment.

In particular, the EIS should indicate if the land affected by the proposal is, or is likely, to become part of the protected area estate, or is subject to any treaty. Consideration should be given to national parks, conservation parks, declared fish habitat areas and dugong protection areas, wilderness areas, aquatic reserves, heritage/historic areas or items, national estates, world heritage listings and sites covered by international treaties or agreements (e.g. Ramsar, JAMBA, CAMBA), areas of cultural significance and scientific reserves (see section 4.7 for further guidance on sensitive areas).

To obtain copies of plans of declared fish habitat areas contact Department of Primary Industries and Fisheries.

The proximity of the proposal elements to any of these areas should be identified.

4.1.1.7 Visual Amenity

This section should describe existing landscape features, panoramas and views that have, or could be expected to have, value to the community whether of local, regional, State-wide, national or international significance. Information in the form of maps, sections, elevations and photographs is to be used, particularly where addressing the following issues:

- identification of elements within the proposal and surrounding area that contribute to their image of the town/city as discussed in the any local government strategic plan - city image and townscape objectives and associated maps;
- major views, view sheds, existing viewing outlooks, ridgelines and other features contributing to the amenity of the area, including assessment from private residences in the affected area along the route;

- focal points, landmarks (built form or topography), gateways associated with project site and immediate surrounding areas, waterways, and other features contributing to the visual quality of the area and the project site;
- character of the local and surrounding areas including character of built form (scale, form, materials and colours) and vegetation (natural and cultural vegetation) directional signage and land use;
- identification of the areas of the proposal that have the capacity to absorb land use changes without detriment to the existing visual quality and landscape character; and
- the value of existing vegetation as a visual screen.

4.1.1.8 Native Title

This section should describe the location and owner/custodians of native title in the area. Details of native claims should be provided.

Discuss the tenure history of the site and whether there have been any native title extinguishing events and if native title may continue to exist.

4.1.2 Potential impacts and mitigation measures

This section defines and describes the objectives and practical measures for protecting or enhancing the environmental values identified through the studies outlined in the previous section. It should describe how nominated quantitative standards and indicators may be achieved, and how the achievement of the objectives will be monitored, audited and managed.

4.1.2.1 Land use suitability

The potential for the construction of the proposal to change existing and potential land uses of the proposal site and adjacent areas should be detailed.

Outline incompatible land uses, whether existing or potential, adjacent to all aspects of the project, including essential and proposed ancillary developments or activities and areas directly or indirectly affected by the construction and operation of these activities should be identified and measures to avoid unacceptable impacts defined.

4.1.2.2 Land Contamination

The EIS should describe the possible contamination from aspects of the proposals including waste, reject product and acid generation from exposed sulfidic material.

The means of preventing contamination (within the meaning of the *Queensland Environmental Protection Act 1994*) should be addressed. Methods proposed for preventing, recording, containing and remediating any contamination should be outlined.

A Preliminary Site Investigation (PSI) of the site consistent with the EPA's "Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland" (Refer to References section – Queensland EPA, 1998) should be undertaken to determine background contamination levels. The results of the PSI should be summarised in the EIS and provided in detail in an appendix.

If the results of the preliminary site investigation indicate potential or actual contamination, a detailed site investigation progressively managed in accordance with the stages outlined in Appendix 5 of the Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland should be undertaken.

In short, the following information may be required in the EIS:

- mapping of any areas listed on the Environmental Management Register or Contaminated Land Register under the *Environmental Protection Act 1994*;
- identification of any potentially contaminated sites not on the registers which may need remediation; and
- a description of the nature and extent of contamination at each site and a remediation plan and validation sampling.

The EIS should address management of any existing or potential contamination in addition to preventing and managing a contamination resulting from project activities. The Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland can be downloaded from the EPA website at:

www.epa.qld.gov.au/environment/business/contaminated). Proponent should refer study proposals to the EPA for review prior to commencement (Consult with the Contaminated Land Section in the Queensland EPA).

4.1.2.3 Land-based fill

Details of the quantity, source and quality of any external or internal fill should be provided. If fill is obtained from a site which may contain acid sulfate soils (below 5m AHD), it should be investigated for acid sulfate content.

4.1.2.4 Soil erosion

For all permanent and temporary landforms, possible erosion rates and management techniques should be described. For each soil type identified, erosion potential (wind, water and sea) and erosion management techniques should be outlined. An erosion-monitoring program, including rehabilitation measures for erosion problems identified during monitoring, should also be outlined. Mitigation strategies should be developed to achieve acceptable soil loss rates, levels of sediment in rainfall runoff and wind-generated dust concentrations.

Methods proposed to prevent or control erosion should be specified and should be developed with regard to (a) preventing soil loss in order to maintain land capability/suitability, and (b) preventing significant degradation of local waterways by suspended solids.

Management of acid sulfate soils should be based on assessment in accordance with the *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998 (Revision 4.0)* and management and monitoring plans prepared in consultation with officers of the Department of Natural Resources and Mines.

4.1.2.5 Visual amenity

This section should analyse and discuss the visual impact of the proposal on particular panoramas and outlooks. It should be written in terms of the extent and significance of the changed skyline as viewed from places of residence, work, and recreation, from road, from the air and other known vantage points day and night, during all stages of the project as it relates to the surrounding landscape. The assessment is to address the visual impacts of the project structures, using appropriate simulation. Sketches, diagrams, computer imaging and photos are to be used where possible to portray the near views and far views of the completed structures and their surroundings from visually sensitive locations. Special consideration is to be given to public roads, public thoroughfares, and places of residence or work, which are within the line-of-sight of the project.

Detail should be provided of all management options to be implemented and how these will mitigate or avoid the identified impacts.

4.1.2.5.1 Lighting

Management of the lighting of the project, during all stages, is to be provided, with particular reference to objectives to be achieved and management methods to be implemented to mitigate or avoid:

- the visual impact at night;
- night operations/maintenance and effects of lighting on fauna and residents;
- the potential impact of increased vehicular traffic; and
- changed habitat conditions for nocturnal fauna and associated impacts.

4.2 Transport

4.2.1 Description of environmental values

Describe the current transport system with respect to the infrastructure, the road operation and road uses as well as the interaction with other transport infrastructure and industry.

4.2.2 Potential impacts and mitigation measures

The EIS should provide sufficient information and analysis to make an independent assessment of how the State-controlled and local government road networks will be affected. Sufficient information should also be provided to enable an independent assessment of how the rail network (including infrastructure)

will be affected. In both cases the impact on stakeholders along the whole route should be detailed and how any impacts will be managed.

Details should be provided of the impacts on environmental values of any new roads or road realignments. The EIS should include detailed analysis of probable impact of identified construction traffic generated by the project with particular concern to impacts on road infrastructure, road users and road safety.

The EIS needs to identify impacts on the State-controlled and local government road networks and to indicate clearly the road infrastructure improvements necessary to address adverse road impacts and the costs involved. This will require the proponent to compare the traffic situation and road conditions with, and without, the project.

Information about the impacts and proposed measures for dealing with those impacts, should be prepared by the proponent in close consultation with the Central Queensland Regional and Central District Office of the Department of Main Roads. The *Transport Infrastructure Act of 1994*, the *Transport Planning and Coordination Act of 1994*, the *Transport Operations (Road Use Management) Act of 1995* and the Main Roads 'Guidelines for Assessment of Road Impacts of Development Proposals' should be used as a guide when considering the impacts or mitigation measures for transport infrastructure and operations.

The EIS should provide details of the impact on any current or proposed rail infrastructure.

Provide information on product spill contingency plans and the adequacy of equipment and facilities to deal with possible spills for the transport nodes of the proposal. Indicate whether there is a need to update the plans based on increase in frequency of traffic and volumes to be transported.

The EIS should also address the potential impacts on privately owned or port authority operated ports and State-controlled, Commonwealth-controlled or privately owned airports.

4.3 Climate

This section should describe the rainfall patterns (including magnitude and seasonal variability of rainfall), air temperatures, humidity, wind (direction and speed) and any other special factors (e.g. temperature inversions) that may affect air quality within the environs of the proposal. Extremes of climate (droughts, floods, cyclones, etc) should also be discussed with particular reference to water management at the proposal site. The vulnerability of the area to natural or induced hazards, such as floods, storm tides and bushfires, should also be addressed. The relative frequency, magnitude and risk of these events should be considered.

The potential impacts due to climatic factors should be addressed in the relevant sections of the EIS (e.g. Section 4.2 Transport). The impacts of rainfall on soil erosion should be addressed and the impacts of winds, rain, humidity and temperature inversions on air quality should also be addressed.

Provide an assessment of storm tides on the proposed expansion.

Evaluate the proposed expansion against State Planning Policy 1/03 *Mitigating the impacts of flood, bushfire and landslide* and section 2.2.4 *Coastal Hazards* in the State Coastal Management Plan.

4.4 Marine Water and Sediment

4.4.1 Description of environmental values

Provide baseline information on seawater quality, including pH and turbidity. Describe the environmental values of the coastal seas of the affected area in terms of:

- values identified in the *Environmental Protection (Water) Policy 1997*;
- the State Coastal Management Plan; and
- the Curtis Coast Regional Coastal Management Plan.

An assessment of physical and chemical characteristics of sediments should be provided in:

- the area to be dredged associated with the full extent of development; and
- if offshore disposal is proposed, the disposal location for dredged material.

Any contaminants and implications for management of the dredged material should be described.

The description of sediment characteristics should be based on the results of sediment sampling and analysis conducted as per a Sampling and Analysis Plan (SAP) approved under the *Environment Protection*

(Sea Dumping) Act 1981. The chemical and physical characteristics of the material to be dredged, the spoil ground and control sites should be summarised. If the material is to be disposed in an offshore area, a statement as to the suitability of the sediment for unconfined ocean disposal should be made using the framework within the National Ocean Disposal Guidelines for Dredged Material – NODGDM (DEH 2002). Disposal of dredge spoil offshore at a site not consistent with existing approved sites will require a development permit. If a development permit is required, provide information in accordance with EPA's guideline *Disposing of material in tidal water*.

Provide testing of marine sediments near the offshore facilities for coal or other operational contaminants from past operation and examine any environmental impacts that have occurred.

4.4.2 Potential impacts and mitigation measures

Impacts on water quality due to increased water turbidity and nutrients from the sediment due to dredging and sea disposal of material, if required, should be addressed and strategies developed to address potential impacts.

In addition to the above considerations, the following guidelines and standards should be considered:

- the *Environmental Protection (Water) Policy 1997*, and any recent or proposed amendments that incorporate recommendations of the National Environment Protection Measures;
- ANZECC Australian Water Quality Guidelines for Fresh and Marine Waters (2000);
- Reef Water Quality Protection Plan;
- amelioration or mitigation measures to address each activity identified to impact on local and regional water quality; and
- any monitoring of water quality recommended during the dredging activities to ensure environmental values are protected.

The potential impacts of sediment quality on the marine environment should be discussed. This assessment will be guided by the suitability of the sediment for ocean disposal as determined by the framework outlined in the National Ocean Disposal Guidelines for Dredged Material (DEH 2002).

A discussion on the dredge spoil disposal site should include reference to Policy 2.1.8 Dredging of the State Coastal Management Plan.

“When deciding where dredged material comprising muds, clays and silts will be placed, the choice of site is to provide the best coastal management outcome, having regard to the nature of the spoil, the cost of alternative sites, and potential impacts on coastal resources and their values. Disposal of dredge spoil should be located so as to not adversely affect areas of state significance (natural resources), such as significant coastal wetlands.”

The preparation and implementation of a dredge management plan for maintenance dredging should be described.

Geotechnical details of marine sediments within the proposed reclamation area should be provided. Detail the potential for displacement of marine sediments from bund wall construction, based on geotechnical information. Describe measures to minimise the impact from the displaced sediment on the marine environment.

4.5 Coastal Processes

4.5.1 Description of environmental values

Describe the physical processes of the adjacent marine environment, including but not limited to currents, tides, and storm surges and their interaction in relation to the assimilation and transport of pollutants entering marine waters from, or adjacent to the proposal area. Information should be provided on the flushing efficiency of waters into which any proposed discharges (e.g. stormwater, dredge tailwater) will occur.

Describe the environmental values of the coastal resources of the affected area in terms of the physical integrity and morphology of landforms created or modified by coastal processes. Assessment should be based on hydrodynamic investigations and include a description of:

- The physical properties of the sediments likely to be dredged.
- Existing siltation that has occurred within the existing port and implications for the construction of the expansion.

The relationship of these processes to marine flora and fauna and biological processes within the study area should also be discussed. The relationship between currents, wave actions and extreme events (such as cyclones) and how they influence coastal processes should also be discussed. Include reference to proposed maritime infrastructure and effect on coastal processes having regard to the *State Coastal Management Plan - Queensland's Coastal Policy* and the Curtis Coast Regional Coastal Management Plan.

4.5.2 Potential impacts and mitigation measures

The impacts of development of the expanded port area on hydrodynamic processes (including flushing efficient) within the study area should be described and quantified (where practicable). A verified hydrodynamic model should be used to detail and quantify predicted changes. In particular, impacts on siltation and sediment transport (particularly in the area to the west of the reclamation area) and any implications for maintenance dredging requirements, marine flora and fauna and/or biological processes should be discussed, including generation and migration of turbid plumes.

Describe the potential impacts associated with and the frequency of maintenance dredging requirements of the expanded port area, and the long-term options for disposal of dredge spoil. Consideration needs to be given to the intended size of vessels proposed to access the facility and associated dredging of access channels. Provide details of the capacity and lifespan of proposed (including existing approved) reclamation areas to deal with capital and future maintenance dredging to the full extent of development proposed.

If rock is identified within the areas to be dredged, provide details on measures proposed to remove such material and mitigation measures.

Information on currents in the region should be used to predict impacts from dredging, construction of the reclamation area boundary walls, spoil disposal and these impacts on marine environmental values and coastal processes should be assessed.

The potential environmental harm caused by the proposal on coastal resources and processes should be described in the context of controlling such effects. The State Planning Policy – Planning and Managing Development involving Acid Sulfate Soils 2002 should be addressed as should the State Coastal Management Plan 2001 and QDPI Guidelines for Marine Areas.

The role of buffer zones in sustaining fisheries resources through maintaining connectivity between coastal and riparian vegetation and estuarine and freshwater reaches of catchments should be discussed. A plan identifying the buffer zones to be provided within the site boundaries should be provided.

4.6 Noise and vibration

4.6.1 Description of environmental values

This section describes the existing environment values that may be affected by noise and vibration from the proposal.

If the proposed activity could adversely impact on the noise environment, baseline monitoring should be undertaken at a selection of sensitive sites affected by the proposal. Noise sensitive places are defined in the Environmental Protection (Noise) Policy 1997. Long-term measured background noise levels that take into account seasonal variations are required. The locations of sensitive sites should be identified on a map at a suitable scale. The results of any baseline monitoring of noise and vibration in the proposed vicinity of the proposal should be described.

Sufficient data should be gathered to provide a baseline for later studies. The daily variation of background noise levels at nearby sensitive sites should be monitored and reported in the EIS, with particular regard given to detailing variations at different periods of the night. Monitoring methods should adhere to relevant Environmental Protection Agency Guidelines and Australian Standards, and any relevant requirements of the Environmental Protection (Noise) Policy 1997.

Comment should be provided on any current activities near the proposal area that may cause a background level of ground vibration (for example: major roads, quarrying activities, etc.).

4.6.2 Potential impacts and mitigation measures

This section defines and describes the objectives and practical measures for protecting or enhancing environmental values from impacts by noise and vibration, describes how nominated quantitative standards and indicators may be achieved for noise and vibration management, and how the achievement of the objectives will be monitored, audited and managed.

Information, including mapped noise contours from a suitable acoustic model, should be submitted on the proposed generation of noise. The potential environmental harm of noise and vibration at all potentially sensitive places, in particular, any place of work or residence should be quantified in terms of objectives, standards and indicators to be achieved. This should also include environmental harm on terrestrial and marine animals and avifauna particularly migratory species. Proposals for buffers to minimise or eliminate these effects including details of any screening, lining, enclosing or bunding should be provided. Timing schedules for construction should be discussed with respect to minimising environmental impacts from noise.

Information should be supplied on blasting which might cause ground vibration or fly rock on or adjacent to the site with particular attention given to places of work or residence, recreation, worship and general amenity. The magnitude, duration and frequency of any vibration should be discussed. Measures to prevent or minimise environmental harm, including nuisance, should be discussed.

4.7 Nature conservation

4.7.1 Description of environmental values

This section describes the existing environment values for nature conservation that may be affected by the proposal.

Describe the environmental values of nature conservation for the affected area in terms of:

- integrity of ecological processes, including habitats of rare and threatened species;
- conservation of resources;
- biological diversity, including habitats of rare and threatened species;
- integrity of landscapes and places including wilderness and similar natural places; and
- aquatic and terrestrial ecosystems.

A discussion should be presented on the nature conservation values of the areas likely to be affected by the proposal. The flora and fauna communities which are rare or threatened, environmentally sensitive localities including the marine environment, waterways, riparian zone, and littoral zone, rainforest remnants, old growth indigenous forests, wilderness and habitat corridors should be described. The description should include a plant species list, a vegetation map at appropriate scale and an assessment of the significance of native vegetation, from a local and regional and state perspective. The description should indicate any areas of state or regional significance identified in an approved biodiversity planning assessment (BPA) produced by the EPA.

The EIS should identify issues relevant to sensitive areas, or areas, which may have, low resilience to environmental change. Areas of special sensitivity include the marine environment and wetlands, wildlife breeding or roosting areas, any significant habitat or relevant bird flight paths for migratory species, bat roosting and breeding caves including existing structures such as adits and shafts, and habitat of threatened plants, animals and communities. The capacity of the environment to assimilate discharges/emissions should be assessed. Proposal proximity to any biologically sensitive areas should be described.

Reference should be made to both State and Commonwealth endangered species legislation and the proximity of the area to the Great Barrier Reef World Heritage Property.

The Queensland *Vegetation Management Act 1999* and the findings of any regional vegetation management plan should also be referenced.

The occurrence of pest plants and animals in the project area should be described.

Key flora and fauna indicators should be identified for future ongoing monitoring. Surveys of flora and fauna need to be conducted throughout the year to reflect seasonal variation in communities and to identify migratory species.

The EPA should be consulted on the scope of any biological studies before they are undertaken.

4.7.1.1 Terrestrial flora

For terrestrial vegetation a map at a suitable scale should be provided, with descriptions of the units mapped. Sensitive or important vegetation types should be highlighted, including any marine littoral and subtidal zone and riparian vegetation, and their value as habitat for fauna and conservation of specific rare floral and faunal assemblages or community types. The existence of rare or threatened species should be specifically addressed. The surveys should include species structure, assemblage, diversity and abundance. The description should contain a review of published information regarding the assessment of the significance of the vegetation to conservation, recreation, scientific, educational and historical interests.

The location of any horticultural crops in the vicinity of the site should be shown. The existence of important local and regional weed species should also be discussed.

Vegetation mapping should provide vegetation mapping for all relevant project sites including new transport infrastructure, port facilities and irrigation land if relevant. Adjacent areas may also require mapping.

The terrestrial vegetation communities within the affected areas should be described at an appropriate scale (i.e. 1:10,000) with mapping produced from aerial photographs and ground truthing, showing the following:

- location and extent of vegetation types using the EPA's regional ecosystem type descriptions in accordance with The Conservation Status of Queensland's Bioregional Ecosystems. (Sattler P.S. & Williams R.D. 1997 2nd edition) and the EPA's web site listing the conservation status of regional ecosystems;
- location of vegetation types of conservation significance based on EPA's regional ecosystem types and occurrence of species listed as Protected Plants under the Nature Conservation (Wildlife) Regulation 1994 and subsequent amendments, as well as areas subject to the *Vegetation Management Act 1999*;
- the current extent (bioregional and catchment) of protected vegetation types of conservation significance within the protected area estate (National Parks, Conservation Parks, Resource Reserves, Nature Refuges);
- any plant communities of cultural, commercial or recreational significance should be identified; and
- location and abundance of any exotic or weed species.

A list of species present at each site and their abundance should be recorded. Methodology used for flora surveys and species lists should be specified in the appendices to the report.

4.7.1.2 Terrestrial fauna

The terrestrial, and riparian fauna occurring in the areas affected by the proposal should be described, noting the broad distribution patterns in relation to vegetation, topography and substrate. The description of the fauna present or likely to be present in the area should include:

- species diversity (i.e. a species list) and abundance of animals, including amphibians, birds, reptiles, mammals and bats;
- any species that are poorly known but suspected of being rare or threatened;
- habitat requirements and sensitivity to changes; including movement corridors and barriers to movement;
- the existence of feral or exotic animals;
- existence of any rare, threatened or otherwise noteworthy species/communities in the study area, including discussion of range, habitat, breeding, recruitment, feeding and movement requirements, and current level of protection (e.g. any requirements of Protected Area Management Plans); and
- use of the area by migratory birds, nomadic birds, fish and terrestrial fauna.

The EIS should indicate how well any affected communities are represented and protected elsewhere in the province where the site of the proposal occurs.

4.7.1.3 Aquatic biology

Field studies should be undertaken where inadequate information is available to sufficiently describe the marine communities.

Specific issues to be addressed include:

- presence and frequency of use of the project area by dugongs, turtles and other marine mammals;
- sea floor habitat and benthic macroinvertebrate communities in the vicinity of the reclamation area and spoil disposal area/s;
- seagrass beds which may be directly or indirectly affected by the proposal and their significance to the local and regional population of dugong and turtles; and
- the local and regional biodiversity conservation significance of the seagrass communities which contain *Halophila decipiens* with *Halophila ovalis*.

Reference the protected marine plants under the *Fisheries Act 1994* and any declared fish habitat areas or proposals for these. Incorporate details of any fishing activities, recreational and commercial, and the key species targeted.

4.7.2 Potential impacts and mitigation measures

4.7.2.1 Terrestrial

This section defines and describes the objectives and objectives and practical measures for protecting or enhancing nature conservation environmental values, describes how nominated quantitative standards and indicators may be achieved for nature conservation management, and how the achievement of the objectives will be monitored, audited and managed.

The discussion should cover all likely direct and indirect environmental harm on flora and fauna particularly sensitive areas as listed below. Terrestrial environments should also be covered.

Strategies for collecting and preserving any significant fossils should be described.

The potential environmental harm to the ecological values of the area arising from the construction, operation and decommissioning of the project including clearing, salvaging or removal of vegetation should be described, and the indirect effects on remaining vegetation should be discussed. Short-term and long-term effects should be considered with comment on whether the impacts are reversible or irreversible. Mitigation measures and/or offsets should be proposed for adverse impacts. Any departure from no-net-loss of ecological values should be justified.

The potential environmental harm on flora and fauna of any alterations to the local surface and ground water environment should be discussed with specific reference to environmental harms on riparian vegetation or other sensitive vegetation communities. Measures to mitigate the environmental harm to habitat or the inhibition of normal movement, propagation or feeding patterns, and change to food chains should be described.

The provision of buffer zones and movement corridors, and strategies to minimise environmental harm on migratory, nomadic and aquatic animals should be incorporated.

Areas regarded as sensitive with respect to flora and fauna have one or more of the following features (and which should be identified, mapped, avoided or effects minimised):

- important habitats of species listed under the *Nature Conservation Act 1992* and/or *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* as presumed extinct, endangered, vulnerable or rare;
- regional ecosystems recognised by the Environmental Protection Agency as 'endangered' or 'of concern' and/or ecosystems listed as presumed extinct, endangered or vulnerable under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*;
- good representative examples of remnant regional ecosystems or regional ecosystems which are poorly represented in protected areas;
- sites listed under international treaties such as RAMSAR wetlands and World Heritage areas;

- sites containing near threatened or bio-regionally significant species or essential, viable habitat for near threatened or bio-regionally significant species;
- sites in, or adjacent to, areas containing important resting, feeding or breeding sites for migratory species of conservation concern listed under the Convention of Migratory Species of Wild Animals, and/or bilateral agreements between Australia and Japan (JAMBA) and between Australia and China (CAMBA);
- sites adjacent to nesting beaches, feeding, resting or calving areas of species of special interest; for example, marine turtles and cetaceans;
- sites containing high biodiversity that are of a suitable size or with connectivity to corridors/protected areas to ensure survival in the longer term; such land may contain:
 - natural vegetation in good condition or other habitat in good condition (e.g. wetlands); and/or
 - degraded vegetation or other habitats that still supports high levels of biodiversity or acts as an important corridor for maintaining high levels of biodiversity in the area;
- a site containing other special ecological values, for example, high habitat diversity and areas of high endemism;
- ecosystems which provide important ecological functions such as: wetlands of national, state and regional significance; coral reefs; riparian vegetation; important buffer to a protected area or important habitat corridor between areas;
- sites of palaeontologic significance such as fossil sites;
- sites of geomorphological significance, such as lava tubes or karst;
- protected areas which have been proclaimed under the *Nature Conservation Act 1992* and *Marine Parks Act 1982* or are under consideration for proclamation;
- declared fish habitat areas; and/ or
- areas of major interest, or critical habitat declared under the *Nature Conservation Act 1992* or high nature conservation value areas or areas vulnerable to land degradation under the *Vegetation Management Act 1999*.

4.7.2.2 Aquatic

This section defines and describes the objectives and practical measures for protecting or enhancing the aquatic biology values, describes how nominated quantitative standards and indicators may be achieved for aquatic biology management, and how the achievement of the objectives will be monitored, audited and managed.

The discussion should cover all likely direct and indirect environmental harm on aquatic flora and fauna, particularly in areas of high biodiversity conservation value including declared fish habitat areas;

Strategies for protecting the Great Barrier Reef Marine Park and World Heritage Property, and any rare or threatened species should be described, and any obligations imposed by State or Commonwealth legislation or policy or international treaty obligations (i.e. JAMBA, CAMBA) should be discussed. Emphasis should be given to potential environmental harm to benthic and intertidal communities and marine plant communities such as seagrass beds and mangroves. Short-term and long-term effects should be considered with comment on whether the impacts are reversible or irreversible.

Mitigation measures and/or offsets should be proposed for adverse impacts. Any departure from no-net-loss of ecological values should be justified. Measures to mitigate the environmental harm to habitat or the inhibition of normal movement, propagation or feeding patterns, and change to food chains should be described.

If the potential establishment of intertidal seagrass meadows in the sheltered embayment to be created to the west of the reclamation area is to be considered as a mitigation measure, provide detailed information on the means by which this area will be protected from future infrastructure development associated with the operation of the reclamation area and associated berths.

4.8 Cultural heritage

4.8.1 Description of environmental values

This section describes the existing cultural heritage values that may be affected by the proposal. Describe the environmental values of the cultural landscapes of the affected area in terms of the physical and cultural integrity of the landforms.

A cultural heritage study is required that will describe Indigenous and non-Indigenous cultural heritage sites and places, and their values.

4.8.1.1 Indigenous Cultural Heritage

An Indigenous cultural heritage study is a specific process under the *Aboriginal Cultural Heritage Act 2003* (ACHA) the sole purpose of which is to have an area/object recognised and recorded on the Aboriginal Cultural Heritage Register. A requirement of the Act is that a Cultural Heritage Management Plan (CHMP) is an essential element of any EIS. All work must be conducted by a suitably qualified expert that is agreed upon between the parties and must include the following:

- notification, as required by the ACHA, to the Chief Executive of the Department of Natural Resources, Mines and Water (NRM&W), Gladstone City Council (only if owner or occupier of the subject land), and the registered Native Title Claimants, who are the Aboriginal Parties under the ACHA;
- endorsement of those Aboriginal Parties who respond to the notification;
- consultation with the Aboriginal Parties about their involvement in the development of the CHMP, and about outcomes;
- compliance with the Duty of Care Guidelines and the CHMP Guidelines as gazetted;
- seeking approval of the CHMP from the Chief Executive, NRM&W, through the EIS process;
- liaison with the Aboriginal Parties concerning:
 - places of significance to that community (including archaeological sites, natural sites, story sites etc);
 - appropriate community involvement in field surveys;
- any requirements by communities and /or informants relating to confidentiality of site data must be highlighted. Non-Indigenous communities may also have relevant information;
- a systematic survey of the proposed development area to locate and record Indigenous cultural heritage places;
- significant assessment of any cultural heritage sites/places located;
- the impact of the proposed development on cultural heritage values; and
- a report of work done which includes background research, relevant environmental data and methodology, as well as results of field surveys, significance assessment and recommendations.

4.8.1.2 Non-Indigenous Cultural Heritage

The cultural heritage study must be conducted by a suitably qualified expert and will require:

- a permit to conduct the research and survey will be required under the provisions of the *Queensland Heritage Act 1992*. The EPA regional manager should be consulted for the provision of general advice including the appropriate conduct of cultural heritage surveys and the necessary permit;
- a systematic survey of the proposed development area to locate and record non-Indigenous cultural heritage places;
- significant assessment of any cultural heritage sites/places located;
- the impact of the proposed development on cultural heritage values; and
- a report of work done which includes background research, relevant environmental data and methodology, as well as results of field surveys, significance assessment and recommendations;

4.8.2 Potential impacts and mitigation measures

This section defines and describes the objectives and practical measures for protecting or enhancing cultural heritage environmental values, describes how nominated quantitative standards and indicators may be achieved for cultural heritage management, and how the achievement of the objectives will be monitored, audited and managed.

The environmental harm to cultural heritage values in the vicinity of the project should be managed under a CHMP developed specifically for the project. The CHMP will provide a process for the management of cultural heritage places both identified and sub-surface at the project sites. It is usual practice for the CHMP to be based on information contained in archaeological and/or anthropological reports on the survey area and cultural reports and/or information from the relevant Aboriginal party. The CHMP should address and include the following:

- a process for including Aboriginal/Torres Strait Islander people associated with the development areas in protection and management of Indigenous cultural heritage;
- processes for mitigation, management and protection of identified cultural heritage places and material in the project areas, including associated infrastructure developments, both during the construction and operational phases of the project;
- provisions for the management of the accidental discovery of cultural material, including burials;
- the monitoring of foundation excavations and other associated earthwork activities for possible sub-surface cultural material;
- cultural awareness training or programs for project staff; and
- a conflict resolution process.

The development of the CHMP should be negotiated between the relevant parties i.e. the project proponents and the relevant Aboriginal party.

Any collection of artefact material as part of a mitigation strategy will need to be done by a suitably qualified expert as agreed between the relevant parties.

Some aspects of the above matters can be referred to the Land and Resources Tribunal. The Land and Resources Tribunal can provide mediation assistance in the course of developing a CHMP or make a recommendation of the suitability of the CHMP if the parties cannot reach agreement.

4.9 Social

4.9.1 Description of environmental values

This section describes the existing social values that may be affected by the proposal.

The amenity and use of the proposal area and adjacent areas for fishing and recreational purposes should be described. Consideration should be given to:

- community infrastructure and services, access and mobility;
- population and demographics of the affected community;
- local community values, vitality and lifestyles;
- recreational, cultural, leisure and sporting facilities and activities in relation to the affected area; and
- number of properties directly affected by the project.

Describe the social values for the affected area in terms of:

- the integrity of social conditions, including amenity and liveability, harmony and well being, sense of community, access to recreation, and access to social and community services and infrastructure.; and
- public health and safety.

Social, economic and cultural values are not as easily separated as physical and ecological values. Therefore it may be necessary for some material in this section to be cross referenced with in section 4.7 Cultural Heritage and Section 4.11 Economy.

4.9.2 Potential impacts and mitigation measures

This section defines and describes the objectives and practical measures for protecting or enhancing social values, describes how nominated quantitative standards and indicators may be achieved for social impacts management, and how the achievement of the objectives will be monitored, audited and managed.

The social impact assessment of the project should consider the information gathered in the community consultation program and the analysis of the existing socio-economic environment, and describe the project's impact, both beneficial and adverse, on the local community. The impacts of the project on local and regional residents, community services and recreational activities are to be analysed and discussed for all stages of the development. The nature and extent of the community consultation program are to be described and a summary of the results incorporated in the EIS.

The social impact assessment of the project is to be carried out in consultation with the Department of Communities. The assessment of impacts should describe the likely response of affected communities and identify possible beneficial and adverse impacts (both immediate and cumulative). These impacts should be considered both at the regional and local level.

Attention should be paid to:

- impacts on demographic, social, cultural and economic profiles;
- impacts on local residents, current land uses and existing lifestyles and enterprises;
- impacts on local and state labour markets, with regard to the source of the workforce. This information is to be presented according to occupational groupings of the workforce. The impacts of both construction and operational workforces and associated contractors on housing demand, community services and community cohesion is to be addressed. The capability of the existing housing stock, including rental accommodation, to meet any additional demands created by the project is to be discussed;
- impacts on local residents values and aspirations; and
- in regard to affected Indigenous and non-Indigenous communities respectively, particular attention should be paid to the effects on:
 - the ability of both Indigenous and non-Indigenous people, to live in accordance with their own values and priorities;
 - the use of and access to culturally important areas and landscapes;
 - the access to existing human and commercial services and housing;
 - the ability to participate in regional and local employment and training opportunities; and
 - the new project workforce and their families.

The effects of the proposal on local and regional residents, including land acquisition and relocation issues and property valuation and marketability, community services and recreational activities should be described for the construction phase of the development.

The potential environmental harm on the amenity of adjacent areas used for cropping, grazing, forestry, recreation, industry, education, aesthetics, or scientific or residential purposes should be discussed. The implications of the proposal for future developments in the local area including constraints on surrounding land uses should be described.

For identified impacts to social values, suggest mitigation and enhancement strategies and facilitate initial negotiations towards acceptance of these strategies. Practical monitoring regimes should also be recommended.

4.10 Health and safety

4.10.1 Description of environmental values

This section describes the existing community values for public health and safety that may be affected by the proposal. For projects proposing air emissions, and/or those with the potential to emit odours, nearby

and other potentially affected populations should be identified and described. Particular attention should be paid to those sections of the population, such as children and the elderly, who are especially sensitive to environmental health factors.

4.10.2 Potential impacts and mitigation measures

This section defines and describes the objectives and practical measures for protecting or enhancing health and safety community values, describes how nominated quantitative standards and indicators may be achieved for social impacts management, and how the achievement of the objectives will be monitored, audited and managed.

The EIS should assess the effects on the project workforce of occupational health and safety risks and the impacts on the community in terms of health, safety, and quality of life from project operations and emissions.

Measures to control mosquito and biting midge breeding should be described.

Practical monitoring regimes should also be recommended in this section.

4.11 Economy

4.11.1 Description of environmental values

This section describes the existing economic environment that may be affected by the proposal. The character and basis of the local and regional economies should be described including:

- existing housing market, particularly rental accommodation which may be available for the project workforce;
- economic viability (including economic base and economic activity, future economic opportunities, current local and regional economic trends, in particular drought and rural downturn etc); and
- historical descriptions of large-scale resource developments and their effects in the region.

The economic impact statement should include estimates of the opportunity cost of the project and the value of ecosystem services provided by natural or modified ecosystems to be disturbed or removed during development.

4.11.2 Potential impacts and mitigation measures

The function of this section is to define and describe the objectives and practical measures for protecting or enhancing economic values, to describe how nominated quantitative standards and indicators may be achieved for economic management, and how the achievement of the objectives will be monitored, audited and managed.

The effect on local and State labour markets should be discussed with regard to the source of the workforce. This information should be presented according to occupational groupings of the workforce. In relation to the source of the workforce, clarification is required as to whether the proponent, or contractors, are likely to employ locally or through other means and whether there are initiatives for local employment opportunities. The impacts of both construction and operational workforces and associated contractors on housing demand should be addressed. The capability of the existing housing stock, particularly rental accommodation, to meet any additional demands created by the project should be discussed.

Any new skills and training to be introduced in relation to the project should be identified. Adequate provision should be made for apprenticeship and worker training schemes. If possible, the occupational skill groups required and potential skill shortages anticipated should be indicated.

An economic analysis, including a cost-benefit analysis, should be presented from national, state, regional and local perspectives as appropriate to the scale of the project. The general economic benefits from the project should be described. The analysis is to include:

- the significance of this proposal on the local and regional economic context;
- the long and short-term beneficial (eg. job creation) and adverse (eg. competition with local small business) impacts that are likely to result from the development;
- the potential, if any, for direct equity investment in the project by local businesses or communities;

- the cost to all levels of government of any additional infrastructure provision;
- implications for future development in the locality (including constraints on surrounding land uses and existing industry);
- the potential economic impact of any major hazard identified in section 4.12;
- the distributional effects of the proposal including proposals to mitigate any negative impact on disadvantaged groups;
- the value of lost opportunities or gained opportunities for other economic activities anticipated in the future; and
- impacts on local property values.

Identify and discuss the economic impacts on the local fishing industry, recreation and commercial.

Consideration of the impacts of the project in relation to energy self-sufficiency, security of supply and balance of payments benefits may be discussed. Attention should be directed to the long and short-term effects of the project on the land-use of the surrounding area and existing industries, regional income and employment and the state economy. The scope of any studies should be referred to the government for input before undertaking the studies.

For identified impacts to economic values, suggest mitigatory and enhancement strategies and facilitate initial negotiations towards acceptance of these strategies. Practical monitoring regimes should also be recommended.

4.12 Hazard and risk

4.12.1 Description of environmental values

This section describes the potential hazards and risk that may be associated with the proposal.

Detail the environmental values likely to be affected by any hazardous materials and actions incorporated in the proposal. The degree and sensitivity of risk should be detailed.

An analysis is to be conducted into the potential impacts of both natural and induced emergency situations and counter disaster and rescue procedures as a result of the proposal on sensitive areas and resources such as forests, water reserves, State and local Government controlled roads, places of residence and work, and recreational areas.

4.12.2 Potential impacts and mitigation measures

This section defines and describes the objectives and practical measures for protecting people and places from hazards and risk, describes how nominated quantitative standards and indicators may be achieved for hazard and risk management, and how the achievement of the objectives will be monitored, audited and managed.

The proponent should develop an integrated risk management plan for the whole of the life of the project including construction and operation phases.

4.13 Cross-reference with the terms of reference

This section provides a cross reference of the findings of the relevant sections of the EIS, where the potential impacts and mitigation measures associated with the project are described, with the corresponding sections of the TOR.

5 Environmental management plan

The environmental management plan (EM Plan) should be developed from the mitigation measures detailed in part 4 of the EIS. Its purpose is to set out the Proponent's commitments to environmental management. That is, how environmental values will be protected and enhanced.

The EM Plan is an integral part of the EIS, but should be capable of being read as a stand-alone document without reference to other parts of the EIS. The general contents of the EM Plan should comprise:

- the mechanisms for implementation of the EM Plan in association with the various phases of the development (construction etc) and the associated staging of the development of the timing of the staging, and ongoing management once the development is completed;
- the Proponent's commitments to acceptable levels of environmental performance, including environmental objectives, i.e. levels of expected environmental harm, performance standards and associated measurable indicators, performance monitoring and reporting;
- impact prevention or mitigation actions to implement the commitments; and
- corrective actions to rectify any deviation from performance standards.

Through the EM Plan, the EIS's commitments to environmental performance can be used as regulatory controls through conditions to comply with those commitments. Therefore, the EM Plan is a relevant document for project approvals, environmental authorities and permits, and may be referenced by them.

For further information, see the EPA guideline "**Preparing environmental management plans**".

6 Proponent's environmental record

Pursuant to the *State Development and Public Works Organisation Regulation 1999*, CQPA needs to provide details of any Australian proceedings relating to an environmental law against it. Information regarding any applicants for permits under an environmental law for the project must be supplied by CQPA. Furthermore, details of CQPA's environmental policy and planning framework must be incorporated into the EIS.

7 References

All references consulted should be presented in the EIS in a recognised format.

8 Recommended appendices

8.1 Final terms of reference for this EIS

A copy of the final TOR should be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the TOR at least should be bound with the main body of the EIS for ease of cross-referencing. A summary, cross-referencing specific items of the TOR to the relevant section of the EIS, should also be provided in the EIS. For this purpose the TOR should be line numbered.

8.2 Development approvals

A list of the development approvals required by the project should be presented including the type of approval desired under the *Integrated Planning Act 1997*:

- Development approval with conditions;
- Preliminary approval.

Any development approvals that are not required to be dealt with in the Coordinator-General's Report should be identified.

8.3 The standard criteria

A brief summary of the proposal's compatibility with ESD policy and other relevant policy instruments such as the standard criteria as defined by the Environmental Protection Act (Qld) should be presented. Consideration should focus on The National Strategy for Ecologically Sustainable Development, published by the Commonwealth Government in December 1992 (available from the Australian Government Publishing Service). Each principle should be discussed and conclusions drawn as to how the proposal conforms. A life-of-project perspective should be shown.

8.4 Research

Proposals for researching alternative environmental management strategies or for obtaining any further necessary information should be outlined in an appendix.

8.5 Consultation Report

The summary Consultation Report appendix for an EIS under the EP Act should commence by including the details of affected and interested persons, and the statement of planned consultation with those persons, originally provided with the draft terms of reference. It should describe how 'interested' and 'affected persons,' and any 'affected parties' as defined in the EPBC Act, were identified.

A further list should be provided that includes the Commonwealth, state and local government agencies consulted, and the individuals and groups of stakeholders consulted.

The Consultation Report appendix should summarise the results of the community consultation program, providing a summary of the groups and individuals consulted, the issues raised, and the means by which the issues were addressed. The discussion should include the methodology used in the community consultation program including criteria for identifying stakeholders and the communication methods used.

8.6 Study Team

The qualifications and experience of the study team and specialist sub-consultants and expert reviewers should be provided.

8.7 Specialist Studies

All reports generated on specialist studies undertaken as part of the EIS are to be included as appendices. These may include:

- geology;
- soil survey and land suitability studies;
- waterway hydrology;

- hydrodynamic studies;
- groundwater;
- flora and fauna studies;
- traffic and road impacts;
- economic studies, Cost Benefit Analysis; and
- hazard and risk studies.