

**Terms of reference for an
environmental impact statement:
Etheridge Integrated Agricultural Project**

March 2014

The Department State Development, Infrastructure and Planning is responsible for driving the economic development of Queensland.

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Part A. About these terms of reference

1. Statutory basis

- 1.1 The Coordinator-General has declared the Etheridge Integrated Agricultural Project to be a 'coordinated project for which an environmental impact statement (EIS) is required' under section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act). This declaration initiates the statutory environmental impact assessment procedure of Part 4 of the Act, which requires a proponent to prepare an EIS for the project.
- 1.2 These terms of reference (TOR) set out the matters the proponent must address in an EIS for the project and are approved by the Coordinator-General under section 30 of the SDPWO Act.

2. EIS guidelines

- 2.1 This TOR must be read in conjunction with *Preparing an environmental impact statement: Guideline for proponents*, which explains the following:
 - participants in the EIS process
 - consultation requirements
 - EIS format and copy requirements.
- 2.2 Refer to Appendix 1 for subject specific policies and guidelines.

3. More information

- 3.1 For information about the project or the EIS process conducted under the SDPWO Act, visit www.dsdip.qld.gov.au/cg

Part B. Content of the EIS

1. General approach

- 1.1 For the purposes of the EIS process, 'environment' is defined in Schedule 2 of the SDPWO Act and includes social and economic matters.
- 1.2 The EIS should give priority to the critical matters associated with the project (specified in section 7 of this TOR).
- 1.3 The detail at which the EIS deals with matters relevant to the project should be proportional to the scale of the impacts on environmental values. When determining the scale of an impact, consider its intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offsets provisions.

- 1.4 Where relevant, the EIS should address the relevant State Development Assessment Provisions (SDAP), which set out the matters of interest to the state for development assessment, where the chief executive administering the *Sustainable Planning Act 2009* (SPA) is responsible for assessing or deciding development applications.

2. Mandatory requirements of an EIS

- 2.1 For all the relevant matters, the EIS must identify and describe the environmental values¹ and ecological characteristics that must be protected. Environmental values are specified in the *Environmental Protection Act 1994* (EP Act), the Environmental Protection Regulation 2008 (EP Regulation), environmental protection policies (EPPs) and relevant guidelines.²
- 2.2 The assessment should cover both the short and long terms and state whether any relevant impacts are likely to be irreversible. Also discuss scenarios of unknown, unpredictable impacts.
- 2.3 Provide all available baseline information relevant to the environmental risks of the project. Provide details about the *quality* of the information provided, in particular: the source of the information; how recent the information is; how the reliability of the information was tested; and any uncertainties in the information.
- 2.4 Provide detailed strategies in regard to all critical matters for the protection, or enhancement as desirable, of all relevant environmental values and ecological characteristics in terms of outcomes and possible conditions that can be measured and audited. In general, the preferred hierarchy for managing likely impacts is: (a) to avoid; (b) to minimise/mitigate; and (c) if necessary, and possible, to offset.
- 2.5 Impact minimisation measures should include ongoing monitoring and proposals for an adaptive management approach, as relevant, based on monitoring. The proposed measures should give confidence that, based on current technologies, the impacts can be effectively minimised over the long-term.
- 2.6 Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes. Discuss the consequences of not proceeding with the project.
- 2.7 Demonstrate how the construction and operation (to the extent known) of the project would meet all statutory and regulatory requirements of the State and Commonwealth and that the intended outcomes are consistent with current state and Commonwealth policies and guidelines.

3. Further requirements of an EIS

- 3.1 The assessment and supporting information should be sufficient for the administering authorities to decide whether an approval should be granted. Where applicable, sufficient information should be included to enable approval conditions.

¹ Defined in section 9 of the EP Act.

² For example, the *Queensland Water Quality Guidelines* and the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (refer to Appendix 1 for details).

- 3.2 To the extent of the information available, the assessment should endeavour to predict the cumulative impact³ of the project on environmental values over time and in combination with impacts created by the activities of other adjacent and upstream and downstream developments and landholders—as detected by baseline monitoring. This will inform the decision on the EIS and the setting of conditions. The EIS should also outline ways in which the cumulative impact assessment and management could subsequently be progressed further.
- 3.3 Include a consolidated description of all the proponent’s commitments to implement management measures (including monitoring programs). Should the project proceed, these should be able to be carried over into the approval conditions as relevant.
- 3.4 Provide all geographical coordinates throughout the EIS in latitude and longitude against the Geocentric Datum of Australia 1994 (GDA94) and make spatial datasets for EIS mapping available to government agencies where required for assessment purposes.
- 3.5 An EIS should also describe the expected benefits and opportunities associated with the project.
- 3.6 An appropriate public consultation program is essential to the impact assessment process. The proponent should consult with Local, State and Commonwealth government agencies, and potentially affected local communities and native title holders.
- 3.7 The EIS should describe the consultation that has taken place and how the responses from the community and agencies have been incorporated into the design and outcomes of the project.
- 3.8 Include, as an appendix, a public consultation report detailing how the public consultation plan was implemented, and the results.

4. Executive summary

- 4.1 The executive summary should describe the project and convey the most important and preferred aspects and environmental management options relating to the project in a concise and readable form. It should use plain English, avoid jargon, be written as a stand-alone document and be structured to follow the EIS. It should be easy to reproduce and distribute on request to those who may not wish to read or purchase the whole EIS.

5. Introduction

- 5.1 Clearly explain the function of the EIS, why it has been prepared and what it sets out to achieve. Include an overview of the structure of the document.

Project proponent

- 5.2 Describe the proponent’s experience, including:
 - (a) the designated proponent’s full name, postal address and ABN, if relevant (including details of any joint venture partners)

³ Cumulative impact is defined as ‘combined impacts from all relevant sources (developments and other activities in the area)’.

- (b) the nature and extent of business activities
- (c) experience
- (d) environmental record, including a list of any breach of relevant environmental laws during the previous ten years
- (e) the proponent's environmental, health, safety and community policies.

The environmental impact assessment process

- 5.3 Provide an outline of the environmental impact assessment process, including the role of the EIS in the Coordinator-General's decision making process. The information in this section is required to ensure readers are informed of the process to be followed and are aware of any opportunities for input and participation.
- 5.4 Inform the reader how and when properly made public submissions on the EIS will be addressed and taken into account in the decision-making process.

Project approvals process

- 5.5 Provide an outline of the approvals required to enable the project to be constructed and operated. Explain how the environmental impact assessment process (and the EIS itself) informs the issue of the leases/licences/permits/consents required by the proponent before construction can commence. Provide a flow chart indicating the key approvals and opportunities for public comment.

6. Project description

Proposed development

- 6.1 The EIS must describe and illustrate at least the following specific information about the proposed project:
 - (a) the project's title
 - (b) the project, its objectives, and expected capital expenditure
 - (c) rationale for the project
 - (d) the regional and local context of the project's footprint (with maps at suitable scales)
 - (e) relationship to other major projects and / or developments (of which the proponent should reasonably be aware)
 - (f) the workforce numbers to be employed by the project during its various phases, where personnel would be accommodated and, where relevant, the likely recruitment and rostering arrangements to be adopted for the proposed construction staging and likely schedule of works.

Site description

- 6.2 Provide real property descriptions of the project land and adjacent properties; any easements; any underlying tenures; and identification number of any resource activity lease for the project land that is subject to application. Key transport, state-controlled roads, rail, air, port/sea and other infrastructure or services in the region and to the site should be described and mapped.

- 6.3 Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Maps should have contours at suitable increments relevant to the scale, location, potential impacts and type of project, shown with respect to Australian Height Datum (AHD) and drafted to GDA94. Maps should incorporate the Queensland Waterways for Waterway Barrier Works spatial data layer.
- 6.4 Describe and illustrate specific information about the proposed project including the precise location of the proposed development in relation to designated and protected areas and to watercourses.
- 6.5 Where relevant, describe and map in plan and cross-sections the geology and landforms, including catchments and watercourses of the project area. Show geological structures such as aquifers, faults and economic resources (e.g. agricultural products) that could have an influence on, or be influenced by, the project's activities.
- 6.6 Describe, map and illustrate soil types and profiles of the project area (including proposed irrigation and cropping areas) at a scale relevant to the proposed project. Identify soils (including topsoils) that would require particular management due to wetness, erosivity, depth, acidity, salinity or other features.
- 6.7 Plans and drawings provided must be detailed enough to enable the Coordinator-General and advisory agencies to adequately assess the application.

Climate

- 6.8 Describe the site's climate patterns that are relevant to the environmental assessment, with particular regard to discharges to water and air and the propagation of noise. Climate information should be presented in a statistical form including long-term averages and extreme values, as necessary.

Proposed construction and operations

- 6.9 Describe the following information about the proposal:
- (a) all pre-construction activities (e.g. vegetation clearing, site access, interference with watercourses and floodplain areas, including wetlands)
 - (b) existing infrastructure and easements on the potentially affected land
 - (c) the proposed construction methods, associated equipment and techniques
 - (d) location, design and capacity of water supply and storage, telecommunications, power generation and transmission infrastructure
 - (e) any infrastructure alternatives, justified in terms of ecological sustainable development (including energy and water conservation)
 - (f) all energy requirements, including electricity, natural gas, and/or solid and liquid fuel
 - (g) the sequencing and staging of activities
 - (h) hours of operation for proposed construction works, including night time works
 - (i) the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used

- (j) the known locations of new or altered works and structures and infrastructure necessary to enable the construction and operation of the development
- (k) any activity that is a prescribed ERA
- (l) location of quarry operations the project may source materials from
- (m) location of any blasting activities
- (n) the range of land uses and site layout
- (o) built form and design specifics (including proposed cropping methods and crop performance assumptions)
- (p) detail of operation including but not limited to, hours of operation for bioprocessing precinct, and land management for a mixed agricultural site (e.g. livestock and cropping).

Infrastructure requirements

- 6.10 This section should detail, with concept and layout plans, requirements for new infrastructure, or the upgrading and/or relocating of existing infrastructure to service the project. Infrastructure to be considered should include roads, water supply and storage, energy supply, telecommunications, stormwater, waste disposal and sewerage. Consider likely peak utilisation of water and wastewater facilities, demand management strategies and when/if additional capacity is required.
- 6.11 This section should discuss key approvals external providers will require for the proposed development to be constructed and operated.

7. Assessment of critical matters

- 7.1 This section sets out the scope of critical matters that should be given detailed treatment in the EIS. A critical matter is an aspect of the proposal that has one or more of the following characteristics:
 - (a) a high or medium probability of causing serious or material environmental harm or a high probability of causing an environmental nuisance
 - (b) considered contentious in the public domain, for example, has been the subject of extensive media coverage and/or there is a public perception that an activity has the potential to cause serious or material environmental harm or an environmental nuisance (regardless of the likelihood of occurrence)
- 7.2 The final scope of critical matters will be determined by the Coordinator-General when finalising the TOR. In the course of preparing the EIS, information may become available that warrants a change of scope.

Land use

Objectives

Development should be designed and operated to:

- (a) improve environmental outcomes
- (b) contribute to community wellbeing
- (c) attract employment and investment
- (d) contribute to social, economic and environmental sustainability.

Information requirements

- 7.3 Provide a copy of the proposed plan of development (or local area plan) explaining how the plan may vary from the Etheridge Shire Planning Scheme.
- 7.4 Discuss the compatibility of the project with the surrounding area and the Gulf Savannah region, taking into consideration the proposed measures that would be used to avoid or minimise impacts. The discussion should include:
- (a) existing and proposed land uses, in and around the project area, referring to regional plans and the Local Government planning scheme
 - (b) any tenures overlying and adjacent to the project site, and any to be applied for as part of this project
 - (c) state interests identified in the State Planning Policy
 - (d) locational factors (including soil suitability) influencing the choice of site.
- 7.5 Discuss the proposal in the context of the Gulf Regional Development Plan 2000.
- 7.6 Describe and illustrate the visual impact of the construction and operation of the project. Include major views, view sheds, outlooks, and features contributing to the amenity of the area, including assessment from private residences.
- 7.7 Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes.
- 7.8 Detail any known or potential sources of contaminated land. Describe how any proposed land use may result in land becoming contaminated.
- 7.9 Identify existing and potential native title rights and interests possibly impacted by the project and the potential for managing those impacts by an Indigenous Land Use Agreement or other measure.

Hazards, health and safety

Objectives

- (a) The risk of, and the adverse impacts from, natural hazards are avoided, minimised or mitigated to protect people and property and enhance the community's resilience to natural hazards.
- (b) Developments are to be appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.

Information requirements

General

- 7.10 Describe the potential risks to people and property that may be associated with the project in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards. The assessment should include:
- (a) potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence
 - (b) identifying all hazardous substances to be used, stored, processed or produced and the rate of usage

- (c) potential wildlife hazards, natural events (for example, cyclone, storm tide inundation, flooding, bushfire, landslide) and implications related to climate change
 - (d) how the project may potentially affect hazards away from the project site (for example, changing flooding characteristics).
- 7.11 Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. Where a government plan is relevant to the activity or site where the activity is proposed, describe the activity's consistency with that plan.
 - 7.12 Outline measures required to ensure that the proposed project avoids the release of hazardous materials as a result of a natural hazard event.
 - 7.13 Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.
 - 7.14 Describe flood risk for a range of annual exceedance probabilities (including Probable Maximum Flood) for the site, and assess how the project may change flooding characteristics. Include a discussion of historical events.
 - 7.15 The assessment should consider all infrastructure associated with the project including levees, roads and linear infrastructure and all proposed measures to avoid or minimise risks to life, property, community (including damage to other properties) and the environment during flood events.
 - 7.16 Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.
 - 7.17 Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.
 - 7.18 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

Flora and fauna

Objective

Matters of environmental significance (both State and Commonwealth) are valued and appropriately safeguarded to support healthy and resilient ecosystems and ensure the sustainable, long-term conservation of biodiversity and the social, economic, cultural and environmental benefits it provides.

Information requirements

- 7.19 Describe the likely impacts on the biodiversity, natural environmental values, ecological characteristics, listed threatened species and ecological communities, and migratory species of affected areas arising from the construction and operation of the project. Take into account any proposed avoidance and/or mitigation measures. The assessment should include, but not be limited to, the following key elements:

- (a) matters of state environmental significance and national environmental significance
 - (b) terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interaction
 - (c) biological diversity including listed flora and fauna species and regional ecosystems, having regard to relevant State and Commonwealth government guidelines and relevant to matters protected under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999*
 - (d) the existing integrity of ecological processes and the connectivity between rivers, floodplains and estuaries including habitats of threatened, near-threatened or special least-concern species
 - (e) potential changes to in-stream ecology due to the harvesting of overland flow, runoff and discharges (controlled and uncontrolled) of nutrients, pesticides and other contaminants
 - (f) the integrity of landscapes and places, including wilderness and similar natural places
 - (g) actions of the project that require an authority under the *Nature Conservation Act 1992* and *Water Act 2000* (for example, riverine protection permits) and/or would be assessable development for the purposes of the *Vegetation Management Act 1999* (VMA) or the *Fisheries Act 1994*
 - (h) chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
 - (i) impacts on native fauna due to proximity to the site and site impacts (e.g. vegetation clearing, lighting, noise, waste).
- 7.20 Describe how the field survey methodologies and efforts undertaken to detect threatened flora and fauna are in accordance with State and Commonwealth survey guidelines.
- 7.21 Propose practical measures for protecting or enhancing natural values, and assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any threatened or near-threatened species.
- 7.22 Discuss any obligations imposed by state or Commonwealth legislation or policy, or international treaty obligations (that is, Japan–Australia Migratory Birds Agreement (JAMBA), China–Australia Migratory Birds Agreement (CAMBA) and Republic Of Korea–Australia Migratory Birds Agreement (ROKAMBA)).
- 7.23 Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors, and propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation.
- 7.24 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

Offsets

- 7.25 Where Queensland legislation or policy requires an offset for a significant residual impact on a particular natural environmental value, the offset proposal(s) shall be presented in a form consistent with relevant legislation and policy.

Water resources

Objectives

The construction and operation of the project should aim to meet the following objectives:

- (a) equitable, sustainable and efficient use of water resources
- (b) environmental flows, water quality, in-stream habitat diversity, and naturally occurring inputs from riparian zones support the long term maintenance of the ecology of aquatic biotic communities
- (c) the condition and natural functions of surface water bodies and watercourses, including lakes, springs, rivers, wetlands are maintained—including the stability of beds and banks of watercourses
- (d) volumes and quality of groundwater are maintained and current lawful users of water (such as entitlement holders and stock and domestic users) and other beneficial uses of water (such as spring flows and groundwater-dependent ecosystems) are not adversely impacted by the development.

Information requirements

- 7.26 Identify in the EIS any potential effects on existing water users, downstream environmental flows and any impacts by the project on meeting future town water supplies, and strategies to mitigate these effects.⁴
- 7.27 Provide details of any proposed impoundment, extraction, discharge, injection, use or loss of surface water or groundwater. Identify any approval or allocation that would be needed under the *Water Act 2000*.
- 7.28 Detail any significant diversion or interception of overland flow. Include maps of suitable scale showing the location of diversions and other water-related infrastructure.
- 7.29 Develop hydrological models as necessary to describe the inputs, movements, exchanges and outputs of all significant quantities and resources of surface water and groundwater that may be affected by the project. The models should address the range of climatic conditions that may be experienced at the site, and adequately assess the potential impacts of the project on water resources. The models should include a site water balance. This should enable a description of the project's impacts at the local scale and in a regional context including proposed:
 - (a) changes in flow regimes from structures and water take
 - (b) alterations to riparian vegetation and bank and channel morphology
 - (c) direct and indirect impacts arising from the development.
- 7.30 Describe proposed sources of water supply given the implication of any approvals required under the *Water Act 2000*. Estimated rates of supply from each source (average and maximum rates) must be given and proposed water conservation and management measures must be described.

⁴ Additional guidance, as may be relevant, is provided in "*Water Resource Assessment for the Etheridge Tropical Bio-Processing Project - Terms of Reference*" (Department of Natural Resources and Mines, 2013)

- 7.31 Describe how the development will impact or alter the North West Queensland Regional Water Supply Strategy (current draft expected to be finalised in early 2014) and the National Water Initiative 2004. Utilise the available tools and findings of CSIRO investigations developed under the North Queensland Irrigated Agriculture Strategy in assessing these matters.
- 7.32 Describe proposed sources of water supply with reference to any approval required under the *Water Supply (Safety and Reliability) Act 2008*.

Water quality

Objective

Development is planned, designed, constructed and operated to protect environmental values of Queensland waters and supports the achievement of water quality objectives.

Information requirements

- 7.33 Detail the chemical and physical characteristics of surface waters and groundwater within the area that may be affected by the project. Include a description of water quality variability associated with climatic and seasonal factors, variability of freshwater flows and extreme events.
- 7.34 Identify the quantity, quality and location of all potential discharges of water and waste water by the project, whether as point sources (such as controlled discharges) or diffuse sources (such as irrigation to land and aquaculture ponds).
- 7.35 Describe the proposed management of existing and/or constructed water bodies on the project site to maintain water quality.
- 7.36 Assess the potential impacts of any discharges on the quality and quantity of receiving waters. Consider the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts.
- 7.37 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed. Describe mitigation strategies and contingency plans for:
- (a) potential accidental discharges of contaminants and sediments during construction and operation
 - (b) stormwater run-off from cropping areas, and other project facilities and associated infrastructure during construction and operation
 - (c) flooding of relevant river systems, the effects of tropical cyclones and other extreme events.

Social and economic

Objectives

The construction and operation of the project should aim to:

- (a) avoid or mitigate adverse social and economic impacts arising from the project
- (b) capitalise on opportunities potentially available to affected communities
- (c) demonstrate a net economic benefit to the region and State.

Information requirements

- 7.38 In accordance with the Coordinator-General's draft *Social impact assessment guideline*, describe the likely social impacts (positive and negative) on affected communities, taking into account proposed mitigation measures.
- 7.39 Describe the direct and indirect economic impacts to the locality, region and State arising from all stages of the project. The analysis should include the qualitative and quantitative measures required to demonstrate the net present economic value of the project—i.e. the difference between discounted costs and benefits.
- 7.40 Economic benefits include but are not limited to direct and indirect employment generation and project expenditure (excluding capital investment), and royalties payments to the State. Economic costs include but are not limited to the direct and indirect short and long-term lost opportunities for other industries and land uses.
- 7.41 Prepare an Indigenous participation plan.

8. Assessment of routine matters

- 8.1 The following subsections list the routine matters for coordinated projects, with (where applicable) a reference to the objectives defined in the EP Regulation. In some cases, not all the matters may be relevant, while in others the list may not be exhaustive. Where applicable, refer to the objective of the EP Regulation (Schedule 5, Part 3) to ensure ecologically sustainable development is achieved.
- 8.2 The proponent is not required to list every conceivable impact, but instead focus research and primary studies on impacts that were identified in the IAS and/or scoping meetings with the Office of the Coordinator-General.
- 8.3 For each routine matter identified below, the level of detail should be proportional to the risk or magnitude of impacts. As a minimum, the proponent should supply sufficient information that confirms the risks/impacts are not significant

Air

Objective

Development is planned, designed, constructed and operated to protect the environmental values of air.

Information requirements

- 8.4 Fully describe the characteristics of any contaminants or materials that may be released as a result of the construction or operations of the proposal, including point source and fugitive emissions. Emissions (point source and fugitive) during construction, commissioning, operations and upset conditions should be described.
- 8.5 Predict the impacts of the releases from the activity on environmental values of the receiving environment using recognised quality assured methods. The description of impacts should take into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must:

- (a) address residual impacts on the environmental values (including appropriate indicators and air quality objectives) of the air receiving environment, with reference to sensitive receptors. This should include all relevant values potentially impacted by the activity, under the EP Act, EP Regulation and Environmental Protection (Air) Policy 2008 (EPP (Air))
 - (b) address the cumulative impact of the release with other known releases of contaminants, materials or wastes associated with existing development and possible future development (as described by approved plans and existing project approvals)
 - (c) quantify the human health risk and amenity impacts associated with emissions from the project for all contaminants whether or not they are covered by the National Environmental Protection (Ambient Air Quality) Measure or the EPP (Air).
- 8.6 Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. Where a government plan is relevant to the activity or site where the activity is proposed, describe the activity's consistency with that plan.
- 8.7 Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

Noise and vibration

Objective

Development is planned, designed, constructed and operated to protect the environmental values of the acoustic environment.

Information requirements

- 8.8 Fully describe the characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source and general emissions). Noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning, upset conditions, and operation should be described.
- 8.9 Predict the impacts of the noise emissions from the construction and operation of the project on the environmental values of the receiving environment, with reference to sensitive receptors, using recognised quality assured methods. Discuss separately the key project components likely to present an impact on noise and vibration for the construction and operation phases of the project.
- 8.10 Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the:
- (a) activity's consistency with the objectives
 - (b) cumulative impact of the noise with other known emissions of noise associated with existing development and possible future development (as described by approved plans)
 - (c) potential impacts of any low-frequency (<200 Hz) noise emissions.

- 8.11 Describe how the proposed activity, and in particular, the key project components described above, would be managed to be consistent with best practice environmental management for the activity. Where a government plan is relevant to the activity, or the site where the activity is proposed, describe the activity's consistency with that plan.
- 8.12 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

Biosecurity

Objective

The construction and operation of the project should aim to ensure:

- (a) the spread of weeds and pest animals is minimised
- (b) existing weeds and pests are controlled.

Information requirements

- 8.13 Propose detailed measures to control and limit the spread of pests and weeds on the project site and adjacent areas, particularly declared plants under the *Plant Protection Act 1989* and the *Land Protection (Pest and Stock Route Management) Regulation 2003* and weeds of national significance. The measures should also demonstrate how weeds and pest animals that are harmful to threatened species or ecological communities will be managed.
- 8.14 Describe how weed and pest animal management plans align with the Local Government's pest management plan.

Waste management

Objective

Any waste transported, generated, or received as part of carrying out the activity is managed in a way that protects all environmental values.

Information requirements

- 8.15 For wastes besides wastewater (which is addressed in paragraph 7.34), describe all the expected significant waste streams from the proposed project activities during the construction and operational phases of the project.
- 8.16 Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes. Take into account best practice waste management strategies (including means for reduction, re-use, recycling and recovery of waste and the Environmental Protection (Waste) Policy 2000 and the Environmental Protection (Waste) Regulation 2000.
- 8.17 Assess the proposed management measures against the preferred waste management hierarchy, namely: avoid waste generation; cleaner production; recycle; re-use; reprocess and reclaim; waste to energy; treatment; and disposal. This includes the generation and storage of waste.

- 8.18 Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives would be monitored, audited and managed.
- 8.19 Provide details on natural resource use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product re-use as shown in a material/energy flow analysis.

Cultural heritage

Objective

The construction and operation of the project should aim to ensure that the nature and scale of the project does not compromise the cultural heritage significance of a heritage place or heritage area.

Information requirements

- 8.20 Undertake research/studies as required under the *Aboriginal Cultural Heritage Act 2003* (ACH Act) and develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of the ACH Act.
- 8.21 For non-Indigenous historical heritage, undertake a study of, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the project. Any such study should be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.

Transport

Objectives

The construction and operation of the project should aim to:

- (a) maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users
- (b) avoid or mitigate impacts on the condition of transport infrastructure
- (c) ensure any required works are compatible with existing infrastructure and future transport corridors.

Information requirements

- 8.22 The EIS should include a clear summary of the total transport task for the project, including workforce, inputs and outputs, during the construction and operational phases. The transport task should take into consideration potential changes to operations in the wet season due to accessibility issues.
- 8.23 Present the transport assessment in separate sections for each project-affected mode (road, rail, air and sea and passenger transport) as appropriate for each phase of the project.

- 8.24 Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (e.g. local roads and state-controlled roads and ports).
- 8.25 Undertake a Road Impact Assessment. Include details of the adopted assessment methodology for impacts on roads within the road impact assessment report in accordance with the *Guidelines for Assessment of Road Impacts of Development*.
- 8.26 Discuss and recommend how identified impacts will be mitigated. Mitigation strategies are to be prepared in close consultation with relevant transport authorities (including Local Government).

Project infrastructure

Objectives

The project should provide the necessary infrastructure to service the development that:

- (a) maintains or enhances services to existing users
- (b) ensures any required works are compatible with existing infrastructure.

Information requirements

- 8.27 This section should detail requirements for new infrastructure, or the upgrading and/or relocating of existing infrastructure to service the project.
- 8.28 Assess and identify any trunk infrastructure, existing or proposed, that would be impacted by the development and describe any upgrading that may be required to cater for the development. Identify all proposed connection points to council's networks.

9. Appendices to the EIS

- 9.1 Appendices should provide the complete technical evidence used to develop assertions and findings in the main text of the EIS.
- 9.2 No significant issue or matter should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.
- 9.3 Include a table listing the section of the EIS where each requirement of the TOR is addressed.
- 9.4 Include a glossary of terms and a list of acronyms and abbreviations.

Acronyms and abbreviations

The following acronyms and abbreviations have been used in this document.

Acronym/abbreviation	Definition
AHD	Australian Height Datum
EIS	environmental impact statement
EP Act	<i>Environmental Protection Act 1994</i>
EP Regulation	<i>Environmental Protection Regulation 2008</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwlth)
EPP	Environmental Protection Policy (under the EP Act)
GDA94	Geocentric Datum of Australia 1994
MNES	matters of national environmental significance (under the EPBC Act)
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>
TOR	terms of reference
VMA	<i>Vegetation Management Act 1999</i>

Appendix 1. Policies and guidelines

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand 2000, *The Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian Water Association (Artarmon) and NZ Water and Wastes Association (Auckland), viewed 22 November 2013, www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html

The Coordinator-General, 2013, *Preparing an environmental impact statement: Guideline for proponents*, Department of State Development, Infrastructure and Planning, Brisbane, viewed 22 November 2013, www.dsdip.qld.gov.au/fact-sheets-and-guidelines/coordinated-projects.html

The Coordinator-General, 2013, *Social impact assessment guideline*, Department of State Development, Infrastructure and Planning, Brisbane, viewed 22 November 2013, <http://www.dsdip.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf>

Department of Environment and Heritage Protection 2009, *Queensland Water Quality Guidelines, Version 3*, Department of Environment and Heritage Protection, Brisbane, viewed 22 November 2013, <http://www.ehp.qld.gov.au/water/pdf/water-quality-guidelines.pdf>

Department of Main Roads, *Guidelines for Assessment of Road Impacts of Development*, Department of Main Roads, Brisbane, 2006, viewed 22 November 2013, www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guidelines-for-assessment-of-road-impacts-of-development.aspx

Department of Natural Resources and Mines, "Guidelines for land suitability and financial viability requirements for high-value and irrigated high-value agriculture" Brisbane, viewed 25 February 2014, www.dnrm.qld.gov.au/__data/assets/pdf_file/0003/111297/guideline-land-suitability-financial-viability.pdf

Department of State Development, Infrastructure and Planning 2013, *State Planning Policy*, Department of State Development, Infrastructure and Planning, Brisbane, viewed 5 December 2013, <http://www.dsdip.qld.gov.au/about-planning/state-planning-policy.html>

Etheridge Shire Council, *Etheridge Shire Planning Scheme*, 2005, Georgetown, viewed 19 December 2013, <http://www.etheridge.qld.gov.au/planning>

Gulf Regional Planning Advisory Committee, 2000, *Gulf Regional Development Plan*, Georgetown, viewed 19 December 2013, http://www.dsdip.qld.gov.au/resources/plan/gulf-region/grdp_dec_2000.pdf

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